

City of South Burlington

Comprehensive Plan



Adopted by the South Burlington City Council
March 9, 2011

SOUTH BURLINGTON COMPREHENSIVE PLAN
Amended and Adopted MARCH 9, 2011

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CHAPTER I

INTRODUCTION

A. COMPREHENSIVE PLAN

The Comprehensive Plan is a framework and guide for accomplishing community aspirations and intentions. It states goals and objectives and recommends courses of action for future growth and development of land, public facilities and services, and environmental protection. This plan presents a vision of what the City desires to be and look like in 20 years. It is based upon inventories, studies, analyses of current and projected trends, and most importantly, the desires of the community. The plan is implemented through various City ordinances and regulations, involvement with state and federal agencies, fiscal practices, and through the actions and lives of City residents and business owners.

This plan recommends a number of actions and practices which should be undertaken by the City to help achieve the goals and objectives of the plan. It is important to note that these recommendations are not mandates, but are suggestions to help guide the operations of the City and its citizens. This plan and recommendations therein are intended to aid the City as it prepares and adopts regulations, prepares capital budgets and annual work programs, and forms citizen committees to study a particular concern. These recommendations shall be implemented only after considerable thought, discussion and analysis.

B. AUTHORITY

The authority to prepare and implement the comprehensive plan is granted to the City through the Vermont Planning and Development Act, Title 24 of the Vermont Statutes Annotated, Chapter 117. It is the purpose of the Act to "... encourage the appropriate development of all lands in this state... in a manner which will promote the public health, safety against fire, floods, explosions and other dangers ... and to provide means and methods for the municipalities and regions of this state to plan for the prevention, minimization and future elimination of such land development problems as may presently exist or which may be foreseen and to implement those plans when and where appropriate."

C. PLANNING PROCESS

The development of this plan involved extensive participation between the citizens of South Burlington, City Officials, regional entities and the business community. It has evolved into its present form based largely on committee work, special studies, policy formulation, discussion and debate conducted over the last thirty-five years in the development and adoption of previous comprehensive plans.

The process specific to developing this 2001 update to the comprehensive plan began with a unique city wide planning process involving hundreds of citizens. The City convened the "South Burlington Town Meeting Forum Project" on October 7, 1999 and hired professional facilitator Peter Cole to lead the series. Public forums were held on 10/21/99 and 12/18/99. Action teams discussed and produced action recommendations in the areas of Transportation/Land Use/Open Space, Housing, and Economic Development and Governance. Over 200 individuals attended the forum and more than 90 worked on the action teams. A final report was issued on January 27, 2000 and is available for public review.

The Planning Commission, in developing the 2001 update, reviewed the 1996 plan and the work done by the Town Meeting Forum project. This process provided a good understanding of the challenging hard work involved in successfully carrying out the policies and desires as outlined on the plan. This review also gave the Commission a preliminary indication of whether the City's priorities may have changed over the last five years.

In addition to the citizen participation forums, the Planning Commission has held numerous public meetings to review, discuss and debate the various sections of the plan. The drafting of these sections involved considerable input by City officials and the School District; various committees such as the Natural Resources Committee, Recreation Path Committee and Economic Development Committee; regional entities such as the Chittenden County Regional Planning Commission, Champlain Water District, Chittenden County Transit Authority and Chittenden Solid Waste District; and private organizations such as utility companies and the Greater Burlington Industrial Corporation.

The extensive public input involved in developing the plan will be continued in its implementation. In addition, the Vermont Planning and Development Act requires the comprehensive plan to be updated

and readopted every five years. This is important to address change which is so prevalent in our lives. Even before the five year limit, the City will continue to reevaluate this plan and implementation process in order to best assure a quality living environment and future for the residents and visitors of South Burlington.

D. CONSISTENCY WITH ADJOINING MUNICIPAL AND REGIONAL PLANS

The development of the South Burlington Comprehensive Plan involved significant consideration of potential compatibility with the plans of adjoining municipalities and the region. The proposed plans of adjoining municipalities and the CCRPC were consulted at great length and discussions were held with the municipal and regional staff planners.

A detailed comparison of the proposed plans of South Burlington and adjoining municipalities is provided in Appendix D. It appears that South Burlington's proposed 2001 Comprehensive Plan is compatible with the proposed plans of adjoining municipalities. As South Burlington implements its plan, adjoining municipalities shall be consulted and invited to comment on projects and studies which may affect an adjoining town or City.

South Burlington's plan is for the most part consistent with the regional plan. The City's proposed land use and City Center/Mixed Use growth center concept is largely consistent with the region's proposed growth center concept. In addition, proposed transportation improvements are consistent as are the recommendations for provision of affordable housing and protection of watercourses, natural resources, and Lake Champlain.

The CCRPC is currently updating and rewriting the Chittenden County Regional Plan. Following adoption of that plan, the City plan should be reviewed again to determine compliance.

CHAPTER II SOUTH BURLINGTON PLANNING HISTORY

In the face of urban pressures, changing land uses and expanding needs, South Burlington has attempted to plan and control development and the use of land and water. The first zoning ordinance was adopted in 1947. It zoned the town into residential, business and industrial districts. The Official Municipal Plan adopted in 1953 was the first such plan in the State of Vermont. It delineated new streets with services, schoolhouses, playgrounds and public buildings. The 1947 Zoning Ordinance was amended to implement the plan. In 1962, a Comprehensive Plan was drawn up by the firm of Sargent-Webster-Crenshaw and Foley, of Syracuse, New York and approved by the voters. Suggested in this plan were several capital improvement guidelines for development. A new Zoning Ordinance was approved in 1964 based on the 1962 plan. It separated the town into two types of residential districts, two types of business districts, an industrial district and a planned district. The Comprehensive Plan was amended in 1962 with the assistance of Larry Moore, Technical Planning Associates of New Haven, Connecticut. The plan incorporated a Conservation and Recreational Plan - the first in Vermont - that was produced by the Chittenden County Natural Resources Committee. That study is the basis of South Burlington's recent efforts to preserve a quality environment in the community.

During the 1960's South Burlington was the fastest growing municipality in the State of Vermont and this rapid growth intensified the problem of providing sewage disposal, streets, traffic control, fire and police protection, schools, sanitary landfill and other municipal services. A new Comprehensive Plan in 1974 responded to this rapid growth rate with a growth policy that called for an increase in residential units and in population of 2 percent, or the rate of growth in the county, whichever was greater.

During the 1970's, South Burlington's population increase slowed considerably. Residential construction, consisting almost entirely of multi-family units, increased rapidly during the late 1970's. Also, commercial activity had been substantial and several major industries (Digital, New England Telephone and Semicon) located in the City.

During the period between the 1981 Comprehensive Plan and the 1985 plan, the plan itself remained essentially the same in an environment of physical, social, and economic change. The 1985 plan

reflected a continuing commitment to the basic philosophy and goals of the previous plan. The changes in the 1985 plan were based on more current planning data and the experience gained by the various City boards and commissions in encountering planning issues. The magnitude of the change during this period within and around South Burlington strongly suggests the need for a continuing comprehensive planning effort. In 1987, this plan was amended to include a discussion on a proposed city center for the Dorset Street area.

The 1991 Comprehensive Plan continued to promote the general philosophy of those goals and recommendations contained in the 1985 plan. However, greater emphasis and fine-tuning was placed on certain important issues facing the community. These included strengthening the City's desire for a City Center, preserving the special character of the Southeast Quadrant, and encouraging the transformation of the City's Williston Road and Shelburne Road corridors into a more attractive, mixed-use, traffic safe environment.

In 1996, the Comprehensive Plan was refined to respond to continuing growth in the City which required renewed planning efforts to maintain the adequacy of municipal services, to direct residential, commercial, and industrial growth to appropriate areas, and to respond to traffic and other problems that have resulted from development patterns of previous years.

Since that time, the City has continued to address these issues. Several new initiatives have been undertaken, including the formation of a City Center Design Review Committee as well as a streetscape plan for San Remo Drive. The City has begun the process of developing an Open Space Plan to address the appropriate areas for growth by guiding development away from important natural and cultural resources as well as to prioritize areas for conservation by the City, State, or other organizations and developers. The 2001 Comprehensive Plan has been formulated to address the continued planning efforts of the City and also to address the new initiatives undertaken.

CHAPTER III

COMPREHENSIVE PLAN GOALS

This plan has been drawn to insure that the needs of the citizens of South Burlington for employment opportunity, education, housing, health, safety, culture, recreation and social well-being are met now and in the future through efficient use of our limited human, financial, and natural resources.

Regional Cooperation

Through reciprocal cooperation with neighboring towns, regional agencies and entities with regional influence, the City plans to promote economical and efficient administration of certain public services including water supply, fire and police protection, transportation, parks, water quality improvement, and waste disposal. In addition, the City recognizes its role within a larger regional context and shall plan in cooperation with neighboring municipalities and other towns in the region.

City Identity & City Center

The City shall strive to establish a vital and dynamic focal point consisting of residential and commercial uses and public spaces in the Dorset Street area. This City Center shall welcome travelers to the City and provide an exciting area for residents and visitors to live, work, shop and recreate. It is a goal of this City to strive to establish a vital and dynamic focal point consisting of residential and commercial uses and public spaces in the Dorset Street area. This City Center will welcome travelers to the City and provide an exciting area for residents and visitors to live, work, shop and recreate.

Population & Balanced Rate of Growth

It is a goal of this City to promote through appropriate growth management techniques a reasonable rate of population growth and development to ensure a vital and healthy community.

Quality Environment

The City plans to protect the aesthetic quality and maintain the diversity of the living environment, both natural and man-made,

through open space preservation; minimized view disruption; acquisition of adequate lakeshore properties; protection of watercourses, wetlands, and wildlife habitats; requirements for landscaping, buffers, and setbacks; protection for historic and cultural resources; and maintenance of ample outdoor recreation facilities. Both fiscal and statutory resources shall be used to this end.

It should be the goal of the City to allow for responsible development that positively contributes to the landscape while preserving the essential elements of the City's landscape that define South Burlington for future generations to enjoy. The City shall promote improved energy efficiency, affordable energy, and lessen our reliance (per capita) on non-renewable energy resources.

The City of South Burlington has diverse historic resources many of which are not readily visible. Paleoindian archeological sites, landscape features such as stonewalls, historic farmsteads, Craftsman Style bungalows, International Style buildings, post World War II cul-de-sacs, and a variety of roadside architecture make up the cultural landscape and history of South Burlington. These historic resources are visual representations of the City's history. Historically significant resources should be preserved whenever appropriate.

Land Use Distribution

The City shall encourage a land use pattern generally consisting of a higher density, compact urban core in the Dorset Street/Market Street area (i.e., proposed City Center), continued investment and growth in the City's existing developed corridors (i.e., Shelburne Road and Williston Road corridors), and generally decreasing densities and less intensive uses toward the more rural communities to the south and southeast. The City shall strive to maintain an appropriate balance between residential, commercial and industrial development and open space and natural resource preservation.

Open Space Planning

Democratic planning requires citizen participation in decision-making. The City invites and will encourage and utilize citizen participation through public meetings, citizen committees, forums and the media.

It is a goal of this City to promote the conservation and restoration of

its natural resources in planning for the City's future while allowing for the City's continued growth as an urban center.

The City plans to assist, support, and promote agricultural use of land wherever possible. In order to encourage the continuance of agricultural use, the City shall explore such means as transfer of development rights and land trusts.

The City shall promote a pattern of land use and development that respects and maintains the open and special character of the Southeast Quadrant. The City will strive to encourage well planned residential development at densities and layouts that protect and preserve large contiguous areas of open space, important natural areas and scenic views.

Housing

Shelter is a basic need and providing for housing is a fundamental element of the Plan. The availability of quality housing, and quality affordable housing, is important in attracting and retaining a qualified work force.

Existing and developing residential neighborhoods shall be identified and protected through appropriate zoning and responsible site planning. Many of these residences constitute an irreplaceable, lower cost segment of the City's existing housing stock.

Schools

It is a goal of this City to provide a quality education system through its public school system and promotion of other public and private educational programs.

Recreation

A goal of the City is to provide for the varied recreational needs and interests of its citizens by providing areas and facilities for passive recreation, active sports, cultural and educational programs.

The City should become a community in which residents have safe and pleasant alternatives to roads and automobiles for both recreation and transportation by providing safe off-road connections a) adjoining municipalities, and b) among neighborhoods, schools, parks, and natural areas within South Burlington.

Economic Development

The City will promote a stable and orderly rate of economic development in order to maintain existing jobs and provide new employment opportunities. The City will remain aware of the substantial secondary effects of this development, such as increased demand for new housing, more numerous and extensive municipal services, and potential environmental degradation, and work to properly address such effects.

Transportation

It is a goal of this City to improve and expand all modes of transportation including private automobile, public transit, air, rail, biking, walking, ride sharing and private sector involvement. Such expansion and improvement shall be consonant with equal access for all income levels and abilities, reasonable costs, orderly and continued economic growth, existing and proposed land use, the fixed supply of land, the increasing cost of energy, and other goals of this plan.

Public Utilities and Services

It is a goal of this City to provide quality public and quasi-public utilities and services to all residents and businesses in a manner that is efficient, cost-effective and environmentally sound.

Land Use through Zoning

The City plans to zone land for its best use, taking into consideration the physical nature of the land, the economics of its development, its relation to existing uses, and the needs of the community as a whole.

CHAPTER IV

POPULATION

GOAL STATEMENT: It is a goal of this City to promote through appropriate growth management techniques a reasonable rate of population growth and development to ensure a vital and healthy community.

Population is a basic index of community growth, and population projections are a key element in determining a community's growth-management policies. Schools, roads, police, water and sewer, recreational opportunities, preservation of natural resources, scenic views, congestion, tax rates, and many other determinants of the quality of life are directly affected by growth of a community's population.

A. PAST TRENDS

Table 4-1 compares the population growth trends of South Burlington, Chittenden County and the State of Vermont from 1960 through 1998. Except for the period during the 1970's, the City has experienced a rate of growth greater than both the County and State for the period 1960 - 1998. This higher rate of growth can most likely be attributed to a combination of the following factors: the City's location in the most populous county in the state, its abundance of open, developable land, and a high quality of life.

In order to assess properly current and future needs and impacts on City services and other quality of life issues, the characteristics of the community's population should be evaluated. Table 4-2 shows number of births and deaths for South Burlington for the years 1970 through 1998. Table 4-3 compares the birth rates of South Burlington to those of the County and State. Birth rates can be of particular interest in terms of future impacts on elementary school enrollments, recreation activities and provision of day care. Declining birth rates occurred throughout the country in the late 1970's and have continued to decline in the State of Vermont as a whole through the 1980's and 1990's. Conversely, the City's birth rate rose during the early and mid-1980's but has been more erratic in recent years. The County's birth rate leveled off during the 1980's and has experienced a decline in the 1990's.

A large part of the slow down in South Burlington's growth rate between 1970 and 1980 can be explained by net-migration, the second major component of population change. From 1970 to 1980, total population increased by 647. Of this increase, 99% was due to natural increase while only 1% was due to net-migration increase. Conversely, for the period 1980 - 1990, the City's population increased by 2130. Of this increase, 36% was due to natural increase while 64% was due to net-migration. Similarly, in the first eight years of the 1990's, the City's population increased by 1,454 persons, whereby 37% was due to natural increase and 63% due to net-migration increase. Net-migration is typically considered to be the major element producing population increases in a rapidly growing community or region.

Table 4-4 shows the City's population by age group for the years 1970, 1980 and 1990. During the 1970's, the percentage of adult (18-64) and elderly (65 +) population increased while the percentage of school age (5-17) and pre-school (under 5) population declined. During the 1980's, the percentage of adult and elderly population continued to increase while the school age population continued to decline. The percentage of pre-school population experienced an increase during this time period.

Two underlying population indicators can account for the increase in population between 1980 and 1998: 1) Number of births have exceeded number of deaths, and 2) net-migration, where in-migration has exceeded out-migration. The important factor for South Burlington to address is how to insure that adequate housing and services are provided for a growing and changing population.

B. PROJECTIONS

Table 4-5 lists population projections for South Burlington through the year 2020. These projections assume an average annual growth rate of 1.5%, which is similar to the growth rate experienced by the City during the 1980's. It is estimated that the City will reach a total population of 20,021 by the year 2020. This represents an increase in population of 34.7% during the twenty year period between 2000 and 2020. Figure 4-1 presents a graphic illustration of population growth trends and projections for South Burlington.

It is the City's responsibility to provide opportunities for a fair and reasonable amount of new population and housing units. While both

"excessive growth" and "stagnation" have their disadvantages, most citizens of the City accept a moderate rate of growth as normal and healthy for the community. The City, therefore, sees no compelling advantage to becoming a "magnet" for new population in the County, nor to adopting a "no growth" policy.

With these factors in mind, the City finds the population projections (Table 4-5) to be reasonable and representative of a rate of growth which is desirable. The City feels an average annual growth rate of 1.5% is sufficient to provide the beneficial effects of growth such as a large employment base, broad tax base and cultural diversity. Yet, such a rate of growth is still manageable in terms of providing adequate city services and preserving important natural resources.

It is important to note that the annual growth rate described above is an average. There will be periods within the next 20 years when the annual growth rate either exceeds or falls below the anticipated 1.5% rate. It is during prolonged periods of either excessive or regressive population growth that the City may experience difficulty in promoting the goals described above and throughout this plan.

In terms of high growth, the City should consider average annual growth rates of 2.0% - 2.5% or higher to be a type of "red flag." It is during prolonged periods of this rate of growth that the City may need to pay more attention to growth management techniques such as development phasing.

C. OBJECTIVES

The City's policy on population growth has the following objective:

1. Encourage, through appropriate growth management techniques, a reasonable rate of population growth in the vicinity of 1.5% per year in order to promote a vital and healthy community.

D. RECOMMENDED ACTIONS

1. The City should monitor on an annual basis the rate of population growth, and housing and non-residential development occurring in the City.
2. During prolonged periods of growth in population and in housing

and non-residential development, at annual rates higher than 2.0% - 2.5%, the City should review the impacts of such growth and consider imposing reasonable growth management techniques that are designed to slow the rate of growth, such as development phasing.

TABLE 4-1

POPULATION
TRENDS
So. Burlington, Chittenden County and State
of Vermont

1960 - 1998

			%		%		%		%
	1960	1970	Change 60 - 70	1980	Change 70 - 80	1990	Change 80 - 90	1998	Change 90 - 98
So. Burlington	6,903	10,032	45.3	10,679	6.4	12,809	19.9	14,263	11.4
Chittenden Co.	74,425	99,151	33.2	115,534	16.5	131,761	14.0	143,491	8.9
Vermont	389,811	444,732	14.1	511,456	15.0	562,758	10.0	590,883	5.0

SOURCE: 1960, 1970, 1980, 1990 - U.S. Census Reports; Vt
Dept. of Health

TABLE 4-
2

Year	No. of Births	No. of Deaths	Natural Increase
1970	183	32	151
1971	156	41	115
1972	110	42	68
1973	108	32	76
1974	97	43	54
1975	82	37	45
1976	77	52	25
1977	88	51	37
1978	81	47	34
1979	96	59	37
1980	111	65	46
1981	98	64	34
1982	135	49	86
1983	144	50	94
1984	148	67	81
1985	151	72	79
1986	167	73	94
1987	169	86	83
1988	140	70	70
1989	159	70	89
1990	126	65	61
1991	150	68	82
1992	139	81	58
1993	177	80	97
1994	168	83	85
1995	160	96	64
1996	143	104	39
1997	165	93	72
1998	144	104	40
Total	3872	1876	1996

TABLE 4-3

CHANGE IN BIRTH RATES
South Burlington, Chittenden County, and State
of Vermont

Year	South Burlington		Chittenden County		Vermont	
	No.	Rate (per 1,000 pop.)	No.	Rate (per 1,000 pop.)	No.	Rate (per 1,000 pop.)
1970	183	18.2	2,049	20.7	8,420	18.9
1978	81	8.0	1,506	13.5	7,064	14.5
1980	111	10.4	1,621	14.0	7,783	15.2
1983	144	12.8	1,826	15.3	7,950	15.1
1985	151	12.7	1,890	15.4	8,027	15.0
1987	169	13.6	1,942	15.3	8,124	14.8
1988	140	11.4	1,993	15.4	8,116	14.6
1989	159	12.6	2,082	16.0	8,490	15.2
1990	126	9.8	1,980	15.0	8,292	14.7
1991	150	11.7	1,936	14.5	7,963	14.1
1992	139	10.7	1,924	14.4	7,729	13.6
1993	177	13.4	1,975	14.4	7,446	12.9
1994	168	13.9	1,956	14.1	7,396	12.7
1995	160	13.0	1,731	12.3	6,783	11.6
1996	143	9.9	1,683	11.9	6,752	11.5
1997	165	11.5	1,719	12.1	6,602	11.2
1998	144	10.1	1,646	11.5	6,569	11.1

Source: Vt. Department of
Health

TABLE
4-4

SO. BURLINGTON POPULATION BY
AGE GROUP

Year	Under 5	5 - 17		18 - 64		65+		Total	
	No.	% of Total	No.	% of Total	No.	% of Total	No.		% of Total
1970	989	10%	3,147	31%	5,468	55%	428	4%	10,032
1978	589	6%	2,589	25%	6,538	64%	503	5%	10,219
1980	461	4%	2,424	23%	6,982	65%	812	8%	10,679
1990	737	6%	2,042	16%	8,694	68%	1,336	10%	12,809

Source: U.S. Census
Reports

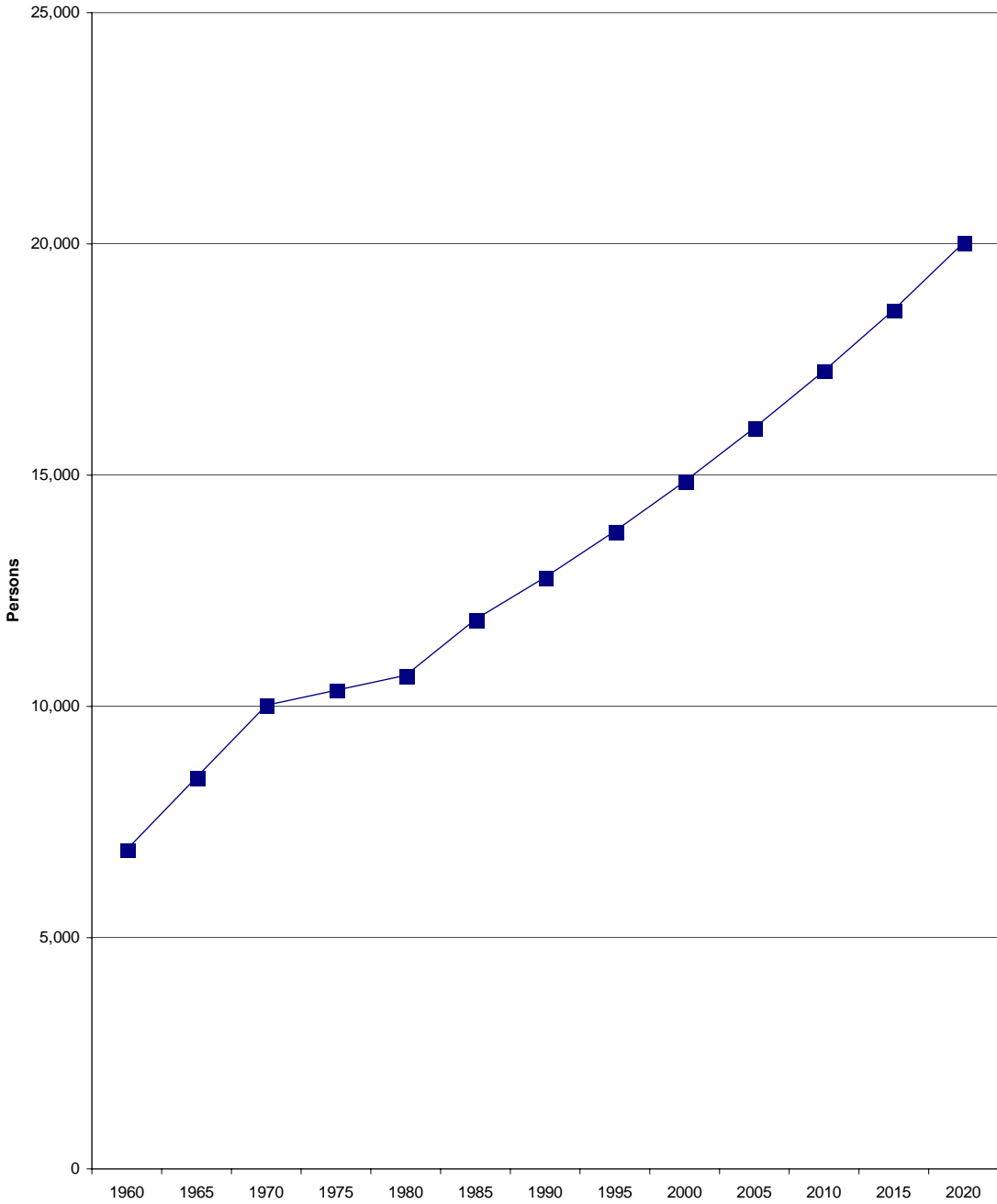
TABLE 4-5

POPULATION
PROJECTIONS
So.
Burlington
1990-2020

	1990	1995	2000	2005	2010	2015	2020	% Change 2000- 2020	Annual Growth Rate
South Burlington Population	12,809	13,799	14,865	16,014	17,252	18,585	20,021	0.346855029	0.014999164

NOTE: Projections assume an annual growth rate of 1.5%. See discussion of population projections contained in the South Burlington Capital Budget and Program adopted October 4, 1993

Figure 4-1 So. Burlington Population: 1960 - 2020



CHAPTER V

LAND USE

GOAL STATEMENT: It is a goal of this City to encourage a land use pattern generally consisting of a higher density, compact urban core in the Dorset Street/Market Street area (i.e., proposed City Center), continued investment and growth in the City's existing developed corridors (i.e., Shelburne Road and Williston Road corridors), and generally decreasing densities and less intensive uses toward the more rural communities to the south and southeast. The City shall strive to maintain an appropriate balance between residential, commercial and industrial development and open space and natural resource preservation.

The quality of life, character, livability and viability of a community is largely dependent on its land use pattern. Decisions made over time on how to use the land greatly influences the quality and livability of our residential neighborhoods, economic viability of our businesses, transportation efficiency and safety, accessibility to work, shopping, and school, quality of air and water, and the overall character or image of a community. The land use plan is the fundamental element of the overall comprehensive plan. It provides a strong guideline for all future development and redevelopment in the community and directly affects all other elements contained in the plan.

A. LAND USE TRENDS

The City of South Burlington covers approximately 10,600 acres in the western part of Chittenden County. It is bounded to the northwest by Burlington, the largest City in Vermont. The Winooski River serves as the northern boundary between South Burlington, Colchester and Essex. To the east, Muddy Brook runs the entire length of South Burlington and separates the City from Williston. Shelburne bounds the City on the south. The southwest section of the City lies on Lake Champlain with 12,000 feet of shoreline.

Table 5-1 shows the existing distribution of land use by type in the City as of January 1996. The clear majority of land remains as open space, encompassing 60% of the City's 10,600 acres. The next highest land use type is residential (17%). Transportation, including the Burlington International Airport, accounts for approximately 13% of the City's land area; followed by commercial and services (6.3%) and

industrial (1.3%) land uses. The City's existing land use distribution is graphically presented on Map 1.

South Burlington has experienced significant change from its rural agricultural beginning in 1865. The population of the City has grown significantly since 1960, more than doubling to over 14,200 people. The City's growth has largely been due to its location in rapidly growing Chittenden County, proximity to high employment industries including major industries in our own City, the availability of Burlington International Airport and Interstate-89, and proximity to the University of Vermont which straddles the Burlington-South Burlington city line.

Table 5-2 helps to indicate change which has occurred in the City's land use during the 1980's and first half of the 1990's. Between 1980 and 1990 the number of residential and commercial parcels in the City increased substantially by 58% and 56%, respectively. The number of parcels devoted to industrial plants and utilities remained relatively unchanged. The number of farm parcels declined slightly by three or 17%. In the first half of the 1990's, the number of residential and commercial parcels has continued to grow, but at a slower rate than that experienced in the 1980's. The number of residential parcels increased by 6% while the number of commercial parcels increased by 11%. The number of other land use parcels has remained virtually unchanged since 1990.

A major access to Interstate-89 runs through the northern part of the City, and access to Interstate-189 lies to the south. Two major traffic arteries, Shelburne Road (Route 7) and Williston Road (Route 2), also bisect the City. These major highways divide the City into several distinct sections as follows:

1. The Shelburne Road Area - Southwest

Both business and residential areas are heavily concentrated along Shelburne Road. The Central Vermont Railway line runs north and south midway between Shelburne Road and Lake Champlain. The lakeward side of this section has three small residential neighborhoods - the Bartlett Bay area, Queen City Park, and the Landings development. Most of the lakeshore property is privately owned and largely undeveloped. The City owns 4,700 feet of lakeshore property in Red Rocks Park which was purchased for recreation purposes in 1970. Only 700 feet of beach give access to the waters of the lake, since most of the park is on an elevated rocky

promontory. Both sides of the Shelburne Road frontage are heavily developed commercial strips; however, there is still land available for planned in-depth commercial growth. A multi-family residential development known as Olde Orchard is located on the west side of Shelburne Road.

To the east of Shelburne Road lies the heaviest residential concentration in this area of the City. This large area is bounded on the north by Swift Street, on the east by Spear Street, on the south by Allen Road and on the west by Shelburne Road. This large area contains several distinct neighborhoods such as the Brewer Parkway section, Laurel Hill and Laurel Hill South, Twin Orchard, Stonehedge, Meadowood at Spear, Summit at Spear, Bay Court and Harbor Heights. There is a smaller residential neighborhood north of I-89 in the Hadley Road - Proctor Avenue area.

Almost all houses in the area are serviced by municipal sewers. Orchard School provides public elementary education to area children and Rice High School, a private parochial school, serves Chittenden County students on a tuition basis.

2. The Williston Road Area - Northern Half of the City

This area is generally north of Kennedy Drive and east of I-89. There is a heavy mix of commercial and residential development on both sides of Williston Road, Dorset Street, Hinesburg Road, White Street, Patchen Road and Airport Drive. The residential neighborhoods consist predominantly of moderate density single-family homes. In the Kennedy Drive area there has been a considerable amount of higher density multi-family condominium and apartment units constructed since the late 1970's. An increasing amount of multi-family development has also occurred in recent years along Patchen Road. Three relatively isolated neighborhoods - Spear Street and East Terrace, Country Club Estates and the Clinton-Shunpike area residences - complete the neighborhoods in this area of the City.

Most of the older South Burlington residential neighborhoods are located in the Williston Road area, and it is the City's intention to protect existing neighborhoods from commercial encroachment and traffic disruption. These homes are relatively low-cost by today's standards. These neighborhoods are home to many of the City's long-time residents and provide reasonably priced starter homes on the market for young families.

Cloverleaf access to the Interstate at Williston Road has encouraged several large shopping centers and major motel chains to cluster in an area that already has heavy concentrations of traffic. In 1987, the area surrounding Dorset Street and Market Street was designated as the future City Center of South Burlington. This area is planned to be a downtown consisting of higher density, mixed uses including residential, retail, office, and the municipal and school complex. This area is planned to be the focus or physical center of the City where people and visitors can live, work and shop within a physically attractive, pedestrian friendly environment. Several developments and conversions have taken place that are in keeping with the City Center vision, including the Barnes & Noble/Healthy Living development, Beacon Row Townhomes, the Hawthorne Suites, and the redevelopment at 366 and 368 Dorset Street.

The City Hall on Dorset Street houses the City's administrative offices as well as the Fire and Police Departments. The former sanitary landfill, highway department and the O'Brien civic center are on Patchen Road. Municipal sewers serve all sections.

Two elementary schools serve neighborhood children. These include Central School on Williston Road and Chamberlain School on White Street. The Middle School-High School complex on Dorset Street is located near the geographic center of the city and serves all sections of the community.

3. The Southeast Quadrant

This area contains about 37% of the land area in South Burlington and is a mixture of agricultural, open space, and both neighborhood and rural residential uses, as well as an industrial area in the northeast corner of the Quadrant. Several large farm parcels have been subdivided into 10-acre residential lots and houses on 1 and 2 acre parcels front on the four major roads - Hinesburg Road, Dorset Street, Spear Street, and Swift Street. Several planned residential projects and subdivisions have been approved or have already been built in the last decade. These include Ridgewood, Indian Creek, Ledgeknoll, Butler Farms, Oak Creek Village, the Village at Dorset Park, Pinnacle at Spear, Dorset Farms and the Golf Course development.

The Vermont National Country Club and golf course located along Dorset Street opened in 1999. This development includes an 18-hole golf course, clubhouse with tennis courts and pool, and several new residential neighborhoods lining the golf course.

Much of the Quadrant still has a rural-agricultural atmosphere and there are magnificent views of the Green Mountains, Lake Champlain and the Adirondacks. While there are a few active farms, most of the land is used for grazing and pasture, haying, and idle open land. A more detailed discussion of the Southeast Quadrant is provided in Chapter XV, "Southeast Quadrant".

4. Industrial/Office Areas

The Kimball Avenue/Shunpike Road Corridor off Williston Road has experienced significant growth over the last 20 years in corporate headquarters, general office and industrial use. A sleeve under I-89 has allowed the extension of public sewer facilities to industrial lots south of the interstate including Verizon, Lane Press and Dynapower.

Areas adjacent to the 535 acre Burlington International Airport in the northeast section of the city contain airport-related and other industrial uses and may continue to be developed for those purposes. Several industrial parks contained in this area include the Muddy Brook Industrial Park, Gregory and Daughters Park, Greentree Park, Technology Park and the Ethan Allen Farm Industrial Park.

B. FUTURE LAND USE

The City's historic development pattern, as described in the previous section, is one largely representative of a sprawling or scattered development pattern. This is evidenced in the City's commercial strips along major arterials, large lots with single buildings surrounded by large paved parking facilities, and predominately low-rise buildings. Even with recent efforts to encourage more compact, mixed-use and clustered development, the image is still predominantly scattered. This development pattern has resulted in an over-reliance on the automobile, contributed to traffic congestion on the City's arterials and has failed to provide an identity or focal point for the City.

The City's 1985 Comprehensive Plan set in place a number of policies which attempted to redirect the City's historic development pattern. The plan called for directing development to the City's existing urban core via higher densities and infrastructure investment, creating a mixed-use, high density city center, and encouraging more pedestrian and transit friendly development along the City's major arterials.

Both the 1991 and 1996 plans set out to continue and also strengthen the land use policies contained in the 1985 plan. As stated in the previous section, the City has begun to realize its vision of a City Center with the recent construction of several projects in the core area of the City.

During the fall of 1999, the City held a series of public participation forums in anticipation of this plan. City residents met in groups for three months identifying and discussing the most pressing issues facing the City. One of the priority recommendations to come out of those forums was for the City to direct most of its growth and development into the already largely developed core area of the City through increased density and careful, mixed-use development. Simultaneously, it was recommended that the City increase its efforts to protect important natural areas and open spaces, namely in the Southeast Quadrant.

Map 6 shows the future land use plan for the City of South Burlington. It is important that the City's land use patterns maintain an appropriate balance between residential, commercial and industrial development, as well as, open space and natural resource preservation. The plan calls for a future land use pattern generally consisting of a higher density, compact urban core in the Dorset Street/Market Street area (i.e., proposed City Center), continued investment and growth in the City's existing developed corridors (i.e., Shelburne Road and Williston Road corridors), and generally decreasing densities and less intensive uses toward the more rural communities to the south and southeast.

Even in areas designated for higher density growth, it is important to note that development in these areas is dependent on availability of adequate public services and infrastructure. For example, there must be available sewer capacity, adequate capacity on surrounding roads, and adequate police protection to handle all new development and growth. In addition, preservation of important sensitive natural resources and conveniently located recreational areas should be encouraged. Therefore, the future land use plan is closely tied to the objectives and recommendations contained in other chapters of this plan (e.g. Transportation, Public utilities and Services, Recreation, etc.)

A discussion of the various land use categories identified on Map 6 is provided below:

1. Core Area

The core area of the City shall be defined as those areas lying north of I-89 and I-189, and lying west of Spear Street. It is recommended that the majority of development density and new development over the next 20 years be directed to the core area of the City. It should be noted that within the core area, there will be sub-areas of varying uses and densities, natural resource preservation areas, parks and open spaces, and transportation facilities. Many of these sub-areas, such as the City Center, commercial centers and residential areas are discussed below.

2. City Center/Mixed Use Growth Center

This growth center is designated for the Dorset Street/Market Street area of the City. It is intended to consist of higher density, mixed uses including residential, retail, office, and the municipal and school complex. This area is planned to be the focus or physical center of the City where people and visitors can live, work and shop within a physically attractive, pedestrian friendly environment. A more detailed discussion of the proposed City Center is contained within Chapter XVI of this plan.

3. Commercial Centers

These areas generally follow the Shelburne Road and Williston Road Corridors. These areas are intended to consist predominantly of commercial uses, however, residential and industrial can be mixed throughout the area. These centers are generally already developed with commercial establishments. Therefore, growth will occur primarily as infill or conversion development. The City encourages mixed-use development in these areas (e.g. mixed residential/commercial or mixed retail/office/restaurant) to encourage pedestrian movement, use of public transportation services, and shared parking opportunities. These areas are intended to meet both local and regional shopping and employment needs.

4. Industrial Center

This area is located in the northern and eastern portions of the City surrounding the Burlington International Airport and extending southward to immediately south of I-89 along Route 116. This area is intended to consist predominantly of industrial and office uses,

however, it may include a mix of commercial and limited residential use. This area will serve as both a local and regional employment center. This area of the City is most appropriate for industrial and office uses as it provides direct, easy access to the airport and is compatible with airport activities such as airplane noise and approach cones.

5. Residential Areas

The Proposed Land Use Map designates areas of varying residential character which are defined as follows:

- o High density: 10 5.1 units/acre and greater
- o Moderate density: 1.1 units/acre - 9.9 5 units/acre
- o Low Density: 1 unit/acre and lower
- o Residential and Open Space: low moderate density residential use with an emphasis on innovative design and layout (e.g. clustering) to promote and preserve open space, natural features, scenic views and continued agricultural use.

In light of the goals described in this section, the City recommends a general land use pattern of higher residential densities in the City Center urban core with a transition to lower densities on the periphery. As shown on Map 8, high density residential is proposed in the City's proposed urban center (i.e., city center and Kennedy Drive areas). Moving outward from the proposed urban core, residential densities transition to moderate density in the Williston Road/White Street area and Shelburne Road corridor, and then to low moderate density outside of the "core area" and on the periphery of the City, namely within the SEQ. It should be noted that Map 6 presents a general land use pattern and that there will be areas of open space, recreation, and varying density neighborhoods (i.e., single family and multi-family) scattered throughout each residential use category.

6. Southeast Quadrant (SEQ)

The Southeast Quadrant is the area within the City lying south of I-89 and east of Spear Street. Much of this area still retains an open, rural character and affords numerous spectacular views of the Green Mountains, Adirondack Mountains and Lake Champlain. Considering South Burlington's location in relation to the County's urban core, the SEQ has experienced intense development pressures over the last decade and will continue to experience such pressures in the coming

years. While the City intends to accommodate residential growth in the majority of the SEQ, the City will stress innovative designs and layouts which work to preserve open space, natural resources and scenic views, and promote the continuance of agricultural use. A more detail discussion of the City's SEQ is contained within Chapter XV of this plan.

C. OBJECTIVES

The City's land use policy is based on several objectives:

1. Strive for a diversity in land use types including safe residential neighborhoods, healthy commercial and industrial centers, accessible public facilities, schools and recreation areas, well protected natural areas and resources, adequate open space and continued agricultural use.
2. Support the growth center concept adopted by the region and state through promotion of a land use pattern in the City generally consisting of a higher density, compact urban core in the Dorset Street/Market Street area, continued investment and growth in the City's existing developed corridors (i.e., Williston and Shelburne Roads), and generally decreasing densities and less intensive uses toward the more rural communities to the south and southeast.
3. Allow for continued growth and development while at the same time avoiding unmitigated negative impacts to the environment, important natural resources and scenic views, City infrastructure and services, and the overall quality of life of the City's residents.
4. Establish a stable and proportional tax effort for existing and future residents and businesses.
5. Accept a "fair share" of the burdens and benefits as a member of a regional community in housing, commerce, and industry.

D. RECOMMENDATIONS

1. The City should encourage, through its zoning and subdivision regulations and capital investment policies, future development and redevelopment to occur in accordance with the general land use pattern depicted on Map 6, Future Land Use.

2. City Center - The City should work to direct a majority of the City's future commercial development to occur in the designated City Center along Dorset Street, Market Street and San Remo Drive. The types, density and pattern of development in this area of the City should be in accord with the City Center Master Plan (see also detailed discussion and recommendations contained in Chapter XVI of this plan).

3. Commercial Corridors

a) The City should explore and encourage, through whatever means available, mixed-use development and redevelopment in its existing commercial corridors (i.e., Williston Road and Shelburne Road). The City should review its zoning regulations and consider increasing residential densities or providing other incentives to encourage more mixed residential/commercial development.

b) Similarly, the City should encourage through its zoning regulations development which promotes improved aesthetics, public transportation and traffic improvements, and pedestrian amenities.

4. Residential Neighborhoods

a) The City should strive to protect existing neighborhoods from incompatible commercial encroachment and traffic disruption through strict adherence to and enforcement of zoning regulations. In addition, the City should consider the provision of traffic calming improvements in neighborhoods experiencing large volumes of cut-through traffic.

b) The City should consider increasing the residential zoning densities in areas that are planned for residential use, are located in the core area, and are currently undeveloped.

5. Southeast Quadrant - The Quadrant should be developed in a gradual, well planned manner that provides a variety of development patterns. An overall density in the low moderate range should be maintained and development designs stressed which preserve the open, special character of the SEQ (see also more detailed discussion and recommendations contained in Chapter XV, Southeast Quadrant).

6. The City should impose phasing requirements on individual projects as needed to ensure that development occur only in conformance with the City's ability to provide services.

7. The City should participate in Act 250 reviews on both local and regional projects which affect the City, especially where local jurisdiction may be inadequate.

8. In order to encourage adequate open space and natural resource preservation, provision for recreation activities, continued agricultural uses and other creative uses of the land, the City should consider alternative ownership arrangements of large parcels of land created by clustered development such as, but not limited to, land banking or involvement of a land trust.

TABLE 5-1
EXISTING LAND USE DISTRIBUTION
South Burlington
1999

LAND USE TYPE	ACRES	%
Residential	1,837	17.34%
Commercial & Services	685	6.46%
Industrial or Utility	176	1.66%
Institutional, Government or Military	324	3.05%
Recreation, Park or Urban Open Land	914	8.63%
Agricultural - Crop/Pasture (1)	2,318	21.88%
Agricultural - Other (2)	156	1.47%
Forest	1,496	14.12%
Transition between Open and Forest	1,206	11.38%
Transportation	1,363	12.87%
Gravel Pit or Quarry	7	.1%
Water	108	1.01%
TOTAL	10,590	100.0%

Notes:

1. Includes tilled cropland and non-tilled agricultural land such as pasture and hayed land.
2. Includes orchards, farmsteads, and vegetable stands.

TABLE 5-2 SO. BURLINGTON GRAND LIST PARCELS							
Land Use Type	1980	1990	% Change 1980- 1990	1995	% Change 1990- 1995	2000	% Change 1995- 2000
RESIDENTIAL	3,039	4,781	57%	5,060	6%	5,475	8%
MOBILE HOMES	4	3	-25%	2	-33%	2	0%
VACATION	10	5	-50%	5	0%	6	20%
COMMERCIAL	319	498	56%	552	11%	590	7%
INDUSTRIAL	1	2	100%	2	0%	2	0%
PLANT							
UTILITI	5	5	0%	5	0%	4	-20%
ES							
FARM	18	15	-17%	14	-7%	9	-36%
WOODLAND	0	0	0%	0	0%	0	0%
MISCELLANEOU	210	220	5%	197	-10%	431	219%
S							
TOTAL	3,606	5,529	53%	5,837	6%	6,519	12%
Source: So. Burlington Assessor's Office							

CHAPTER VI

HOUSING

Goal Statement: Shelter is a basic need and providing for housing is a fundamental element of the Plan. The availability of quality housing, and quality affordable housing, is important in attracting and retaining a qualified work force.

A. HOUSING SUPPLY

The housing supply in South Burlington has grown steadily in the past 30 years. During the 1970's and 1980's, the total number of housing units in the City increased by 38% and 37%, respectively (Table 6-1). This represents an average annual growth rate of about 3.2% during each decade between 1970 and 1990. In the first three years of the 1990's, the City's housing growth slowed somewhat to an average annual growth rate of roughly 1.5% to reach a total of 5,688 units in 1993. Between 1990 and 1998 the total number of housing units in the City continued to grow by 9%, although this number does not reflect the construction boom currently experienced by the City beginning in 1998. While the City has continued to expand its housing stock and the City's housing growth has slightly outpaced the county's housing growth, there are indicators that the City and the County are experiencing a housing shortage. A 2000 study conducted by Allen & Cable found that Chittenden County had a vacancy rate of 0.56% which continues a four year pattern of a less than 1% vacancy rate for the County. This number is concerning and is indicative of a housing shortage within the County. The majority of vacant units identified in this Allen & Cable Study were within Burlington and Winooski although the City's share of the County's housing stock, as indicated in table 6-1, is continuing to increase. As the need for housing grows in Chittenden County, the City should plan for continued residential expansion while at the same time ensuring continued economic development to prevent the community from merely becoming a bedroom community to neighboring communities.

The City experienced rapid housing growth during the period from the latter 1970's through the mid-1980's (Figure B-1, Appendix B). As can be seen in Figure B-1 of Appendix B, the rapid increase was due largely to multi-family development. During the latter 1980's and early 1990's, the City experienced a slower rate of housing growth and a shift to predominantly single-family detached development. Still it should be noted that between 1970 and 1998 the total number of

housing units in the City more than doubled.

B. HOUSING COSTS

The costs of single-family detached housing in South Burlington increased steadily in the mid and late 1980's to a peak in 1990 of \$156,000 (Figure 6-1). Between 1990 and 1993 housing costs leveled to an average sales price of approximately \$145,000. Housing costs remained generally level throughout the 1990s with a slight increase in the closing years of this decade with the 1999 average sales price rising to approximately \$165,000. The average sales price for new homes in 1999 is \$208,000 indicating that the housing units being added to the City are perhaps a factor in the increasing average sales price. There are a variety of factors that have contributed to higher sales prices and an overall decrease in the affordability of housing within the City. Mortgage rates have remained low and a heated economy has pushed homeownership rates to a national all time high. Vacancy rates have remained low indicating a housing shortage which has created a "sellers' market" in which potential homebuyers must compete for available housing. The recent introduction of Act 60 for educational funding has increased taxes in the City without creating a net benefit as the City is a sending town which contributes more to the state fund for education than it receives back. These incremental increases in the cost of homeownership have resulted in decreasing the affordability of housing within the City. Figure 6-1 also indicates that housing costs in the City have in general remained slightly above the County average.

The cost of rental housing is also important for the City to consider. Table 6-2 presents average monthly costs for rental units in South Burlington. This information was collected annually by the CCRPC through review of classified advertisements placed in the "Burlington Free Press" (1,2,12) through 1994. As shown in Table 6-2, rental costs fluctuated from year to year and range in costs from approximately \$300/month for efficiency units to \$660/month for two bedroom units. While the CCRPC has discontinued its collection of rental cost information, a 2000 Allen and Cable report has indicated that apartment rents have risen slightly with costs from approximately \$492/month for efficiency units to \$719/month for two bedroom units. This represents an increase in cost of the most affordably priced units. This increase in cost at the lowest end of the market may be a result of increased demand without an increase in supply resulting in a market consisting of a high margin of mid to high range

units.

The City has no direct control over such cost factors as increases in labor, materials, down payments, or mortgage-rates and availability. However, the City can influence housing cost factors in other areas such as amount and density of land zoned for different types of residential uses including positively promoting mixed use developments, length and consistency of governmental reviews, and extent of "front end" subdivision improvements and other expenses.

C. FUTURE HOUSING

Population data presented in Tables 4-1 and 4-5 of the Population Section indicate that the South Burlington population increased approximately 6% during the 1970's and approximately 20% during the 1980's. In comparison, the City's housing stock increased 38% and 37% during the 1970's and 1980's, respectively. During the first three years of the 1990's, the City's population increased 3.1% while its housing stock increased 4.6%. Much of this difference in growth rates between population and housing can be attributed to the development of a large number of multi-family housing units which tend to be smaller in size, and a trend of declining household size experienced in South Burlington and nationwide. Table 6-3 presents the declining trend of household size for the City and Chittenden County during the 1970's, 1980's and early 1990's. The average household size in 1993 was 2.32 persons per unit for South Burlington and 2.55 persons per unit for the County. The average household size slightly increased in 1998 in South Burlington to 2.41 persons per unit and to 2.56 for the County. From 1990 to 1998 the City's population grew 11.8% while the housing stock increased only 9%. This population increase can perhaps be attributed to a low vacancy rate and increase in single family homes being built. In 1998, the City permitted a relatively balanced number of new single family units and multifamily units. In 1999, the number of permitted multi-family units rose sharply indicating that the trend in declining household size is continuing despite the 1990s statistics.

It is difficult to predict whether household size will stabilize or continue to shift in one direction or another. The possibility of continued shifting makes it difficult to estimate housing needs on the basis of population projections. Table 6-4 projects future housing growth assuming that average household size remains at the 1990 level. The housing growth estimates are derived by applying the

assumed average household size to the population projected for each five year increment to the year 2015. Based on this methodology it can be assumed that the City will need approximately 7,875 housing units to serve the City's year 2015 population. This represents approximately 2,190 new housing units in the 22 year period between 1993 and 2015, or an average of 100 new housing units each year. Comparatively, between 1970 and 1990, the City's housing supply grew by 2,558 units, or an average of 128 new housing units each year.

As the City continues to develop, in-fill development must be looked to in the older sections of the City. The City may wish to consider increasing densities in already developed areas to provide more opportunities for residential development as well as housing that is centrally located to services, public transportation, and places of work. The proposed City Center should incorporate a variety of housing that includes affordable housing as well as townhouse style units to create a diverse and sustainable growth center. Housing units should be an essential element to the City Center in order to promote a mix of uses that attracts a variety of users. The permissible density of older residential neighborhoods should be examined as well to identify potential opportunities for new housing units. Height restrictions should also be examined to identify potential areas, such as the City Center, where density can be increased by building upward in a manner that would not negatively affect quality of life or safety. Mixed use developments should be encouraged that integrate housing into commercial and retail areas where there is ready access to public transportation and services.

D. AFFORDABLE HOUSING

An adequate supply of affordable housing is important to the City for a number of reasons. Affordable housing helps to retain and attract a qualified work force and provides an opportunity for first-time home buyers and the elderly to remain in the City. The State of Vermont defines housing as being affordable if households with incomes at or below 100% of the median income spend no more than 30% of their incomes on housing costs (3). Housing costs for homeowners include principal, interest, property taxes, and property insurance. Housing costs for renters include rent and utilities (including heat, hot water, trash removal, and electric). Income levels and affordable housing can be further categorized as follows:

80-100% of median income = moderate income

51-80% of median income = low income

50% of median income and below = very low income

The 2000 median income for the Burlington Metropolitan Statistical Area (MSA) was listed at \$52,300 for a household of four people up from \$45,700 in 1995. Table 6-5 presents income and housing cost requirements for first time home buyers earning 100%, 80%, and 50% of median income. As indicated, an affordable home for a home buyer earning 100% of the median income would be approximately \$145,306. An affordable home for a home buyer earning 100% of the median income in 1995 was \$128,600. This increase in housing costs is considerable for a five year period. An affordable home to a buyer earning 80% or 50% of the median income would be approximately \$115,620 and \$70,309, respectively.

Table 6-5 also indicates the number of housing units that exist in the City which are considered to be affordable under the State's definition. The estimated fair market value of these units is based on the City Assessor's sales data, there are currently 3,122 units existing in the City that fall into the definition of affordable. This represents 54% of all units in the city (not including apartment units). Of these 3,122 units, 1,955 or 34% are affordable to moderate income buyers, 1,633 or 16% are affordable to low income buyers, and 222 or 4% are affordable to very low income buyers. Based on these numbers, it appears that the City is doing relatively well in terms of providing its fair share of affordably priced or valued housing in the region, although the number of housing units in South Burlington that are affordable has been decreasing steadily during the past five years. In 1995 twenty percent more of the City's housing stock was considered affordable with 3,819 units or 74.7% of the housing units being affordable.

As stated previously, an objective of the City is that an adequate supply of affordable housing be provided for all income levels including moderate, low and very low income levels. The City has recently undertaken partnerships with regional housing organizations such as the Lake Champlain Housing Development Corporation in an effort to provide new affordable housing opportunities within the City. The Anderson Parkway project developed by Lake Champlain Housing is an example of a recent affordable housing project geared to a variety of users within an already developed area of the City close to services and commercial uses. The City is currently applying for funding with Lake Champlain Housing to develop 130 affordable

rental units within the recently approved O'Dell Parkway planned unit development between Farrell Street and O'Dell Parkway. This is an example of new infill development that promotes a variety of commercial, retail, residential, and service oriented business commonly referred to as mixed use. Affordable housing should be located near schools, parks, shopping centers, employment centers, day care facilities, transportation corridors and public transportation. Most of the City's neighborhoods meet some or all of these criteria. Housing for households earning less than 80% of the median income, who might be more dependent upon public transportation, should be located in areas where there is available service.

Techniques which can be used to encourage the development or maintenance of affordable housing include, but are not limited to, the following:

- Creative site development, such as clustering, to reduce lot size and site development costs.
- Density bonuses or incentives to encourage the development of affordable housing.
- Higher densities and smaller lot sizes.
- Formation of an affordable housing "task force" to study the issue and make recommendations to the City.
- Involvement of housing organizations such as the Lake Champlain Housing Development Corporation or Burlington Community Land Trust to construct or rehabilitate affordable housing in the City.
- Permit transfer of development rights as a method of achieving higher densities necessary for developing affordable housing.
- Promotion of mixed use developments that create a variety of housing opportunities within commercial areas located centrally to public transportation and other services.

E. HOUSING QUALITY

A central element in any housing policy is the assurance of good quality in both existing units and new construction. The quality of building workmanship, design, and materials used in the City's existing housing stock appears to not pose a threat to the health and safety of the City's residents. However, because of the vast increase in residential units that share common surfaces, and as units age or are subdivided into new units, the need for enforcement of building, plumbing, and electrical codes will increase. The existence of such

codes can decrease insurance premiums as well as minimize the future requirements for firemen and equipment in maintaining the same degree of fire protection. The City does not have required building codes. The construction of housing in the City is regulated to some extent by the Vermont Department of Labor and Industry. New housing should be served by municipal services, specifically water supply and sewage disposal, wherever possible. Access to all developments must be adequate for emergency vehicles.

Existing residential neighborhoods should be protected from inappropriate, out-of-character transitions in land use such as commercial uses which generate significant traffic and noise. Alternative uses which are compatible with residential neighborhoods should be encouraged in neighborhoods such as appropriate in-home occupations and apartments for family members.

F. OBJECTIVES

1. Help foster the creation of housing opportunities for people of all ages, income levels and degrees of mobility;
2. Identify and protect existing and developing residential neighborhoods;
3. Locate higher density, affordable and elderly housing near schools, parks, shopping areas, employment centers, and transportation links so as to provide convenient access and minimize energy consumption;
4. Plan for an adequate supply of units in conformance with the City's policies on planned growth and economic development as well as the needs of the regional housing market;
5. Maintain a variety of housing types, in terms of rental vs. owner-occupied, density, design, and configuration; and
6. Assure safe and sanitary shelter where the dangers of fire, flooding, faulty construction, inadequate sewage disposal and water supply are minimized.
7. Develop a City Center that promotes mixed use development including a variety of housing units and high densities.

F. RECOMMENDATIONS

1. Housing opportunities for all -

- a) Preserve the housing stock in existing residential neighborhoods to maintain the supply of relatively modestly priced homes.
- b) Provide a range of residential zoning densities throughout the City in accordance with the Land Use section of this plan, including at least some high-density districts.
- c) Encourage the use of Planned Residential Development (PRD) provisions under which lot sizes, frontages and setbacks may be reduced.
- d) Encourage a variety of housing types that are affordable to very low, low and moderate income persons as defined by the State. Possible methods include: (1) creative site development, such as clustering, which would promote aesthetics, preserve open space, conserve energy, and reduce lot size and site development costs; (2) incentive zoning techniques, such as density bonuses and use of T.D.R.'s; (3) Actively work with affordable housing organizations such as the Lake Champlain Housing Development Corporation or Burlington Community Land Trust; (4) streamlined administrative policy for affordable housing; and (5) reduction or elimination of impact fees for affordable housing; (5) encourage mixed use planned unit developments that locate housing in proximity to places of work, services, and public transportation.
- e) Form an affordable housing task force whereby City representatives would work with developers, engineers, site planners, architects, business leaders, utility representatives, housing professionals, bankers, and residents to: (1) find means for facilitating affordable housing; (2) explore long and short term affordability strategies, such as those listed in (d) above; and (3) develop policies and make recommendations to the City.

2. Protection of neighborhoods -

- a) Provide prompt, equitable enforcement of the zoning ordinance to maintain the character of existing residential neighborhoods.
- b) Create additional landscaping and setback requirements around the perimeter of residential neighborhoods which abut higher intensity,

potentially incompatible land uses such as commercial and industrial.

c) Encourage multiple street and pedestrian connections to and between residential neighborhoods in order to provide adequate emergency access and traffic distribution. However, such connections should be designed in a circuitous manner in order to discourage through-traffic (i.e., traffic which does not originate or terminate in the neighborhood) so as to sustain a safe, quiet living environment.

3. Location of new housing -

a) Locate higher-density, affordable and elderly housing where the broadest range of services and amenities, both public and private, presently exist or are planned especially within the City Center area.

b) To encourage more rental housing, consider new locations within or near certain non-residential uses, in the rehabilitation of larger, historically significant structures, and as buffers between residential neighborhoods and commercial land uses.

4. Supply of new housing -

establish residential districts of sufficient size and density in accordance with the Land Use section of this plan to allow for continued construction of new housing.

5. Variety of housing types -

a) Establish a mix of zoning densities and provide other incentives to encourage a variety of housing types.

b) Encourage a variety of housing configurations through innovative use of PRD provisions.

c) Consider the establishment and use of design control district provisions to allow review of building design, particularly in the proposed City Center.

6. Safe and sanitary shelter -

a) Explore the costs and benefits of adopting and enforcing local building, plumbing, electrical and fire codes for the protection and safety of the public, employees and property.

- b) Require new developments to install connections to municipal water and sewer systems.
- c) Insure that adequate emergency access is available to all development and devise ways to prevent emergency accesses from being obstructed.

7. Supplemental Recommended Actions, Added 2006

- a) The City will use the Chittenden County MSA median income figures as the baseline for determining affordable housing prices and rents.
- b) The City will continue to partner with regional housing providers to develop new affordable housing and continue to expand the range of housing options available at all price and rent levels in South Burlington.

TABLE 6-1							
Housing Unit Growth Trends So. Burlington and Chittenden Co. 1970 - 1998							
	Units 1970	Total Housing			Percent Change		
		1980	1990	1998	70 - 80	80 - 90	90 - 98
So. Burlington	2879	3972	5420	5909	0.3796 46	0.3645 52	0.0902 21
Chittenden Co.	30664	41339	52095	55978	0.3481 28	0.2601 9	0.0745 37
So. Burlington as Percent of County	0.0938 89	0.0960 84	0.1040 41	0.1055 59			
SOURCE: U.S. Census 1970, 1980, 1990, 1998; Vt. Dept. of Health							

TABLE 6-
2
UNFURNISHED APARTMENT RENTAL
COSTS
SO.
BURLINGTON
1980 - 2000

Year	Efficiency # Units A.R.P.	1 - Bedroom # Units A.R.P.	2 - Bedroom # Units A.R.P.	3 - Bedroom # Units A.R.P.	4 - Bedroom # Units A.R.P.
1980	1 250	1 265	3 269	2 325	--- ---
1981	1 160	1 200	2 405	--- ---	--- ---
1982	2 265	--- ---	1 525	--- ---	--- ---
1983	1 280	--- ---	1 495	--- ---	--- ---
1984	2 293	--- ---	--- ---	--- ---	--- ---
1985	1 250	2 330	--- ---	--- ---	--- ---
1986	3 192	3 325	--- ---	--- ---	--- ---
1987	--- ---	1 450	--- ---	--- ---	--- ---
1988	1 300	5 385	--- ---	1 750	--- ---
1989	2 340	1 380	1 500	--- ---	--- ---
1990	--- ---	--- ---	--- ---	--- ---	--- ---
1991	2 420	2 463	1 660	--- ---	--- ---
1992	1 300	3 310	--- ---	1 450	--- ---
1993	1 325	2 448	--- ---	--- ---	--- ---
1994	1 400	3 465	1 625	--- ---	--- ---
2000	--- 492	--- 562	--- 719	--- 971	---

NOTES: A.R.P. = Average Monthly Rental
Price

SOURCE: Chittenden County Housing - 1989, 1990,
1993-94 CCRPC;
Allen & Cable Report September
2000

TABLE 6-3		
AVERAGE HOUSEHOLD SIZE		
SO. BURLINGTON AND CHITTENDEN CO.		
1970 - 1998		
Year	Average Household Size	
	So. Burlington	Chittenden Co.
1970	3.49	3.23
1980	2.69	2.80
1990	2.36	2.53
1993	2.32	2.55
1998	2.41	2.56
NOTE: Average household size is the average persons per housing unit.		

TABLE 6-4						
HOUSING PROJECTIONS SO. BURLINGTON 1995 - 2015						
Ave. Household Size	1998	2000	Total Housing Units 2005	2010	2015	2020
2.4 Persons/Unit(1):	5909	6194	6673	7188	7744	8342
NOTES: (1) 2.4 persons/unit represents So. Burlington's 1998 average household size.						
SOURCE: Derived from information contained in Tables 4-5 and 6-3 of this plan.						

TABLE 6-5				
AFFORDABLE HOUSING COST AND INCOME REQUIREMENTS IN BURLINGTON MSA				
2000				
% Median	Income	House Cost(1)	Housing Units in City # Within Cost Range(2)	% of Total
81% - 100%	\$42,363 - \$52,300	\$115,621 - \$145,306	1955	0.3378 85
51% - 80%	\$26,673 - \$41,840	\$70,310 - \$115,620	945	0.1633 25
0 - 50%	\$0 - \$26,150	\$0 - \$70,309	222	0.0383 68
Total			3122	0.5395 78
NOTES:				
(1) Assumes family size of 4 persons; financing at 7.1%; 5% downpayment; 30 year term; taxes \$2.25 per \$100 of purchase price; annual hazard insurance \$300; and annual mortgage insurance of .67%.				
(2) Based on City's Assessor's sales data. Does not include apartment units.				
SOURCE: Vermont Housing Finance Agency; City Assessor's Office				

CHAPTER VII

CITY CENTER

GOAL STATEMENT: It is a goal of this City to strive to establish a vital and dynamic focal point consisting of residential and commercial uses and public spaces in the Dorset Street area. This City Center will welcome travelers to the City and provide an exciting area for residents and visitors to live, work, shop and recreate.

In response to growing public concern regarding an identity for South Burlington, the City Council formed a committee of citizens in 1986 to study the feasibility of developing a physical "center" of the city in the Dorset Street area. Foremost in the committee's discussion was the need to develop the city center as a place where citizens could come together in a variety of social, economic and civic activities. Substantial increases in both the density and the diversity of allowed uses were felt to be essential to develop the necessary "critical mass" of a vital, bustling central core. It was also felt that the clustering of activity may further promote the preservation or conservation of outlying agricultural and natural landscapes by directing intense development to an identified area and through implementing such means as transfer of development rights and density bonuses.

The central core or "City Center" plan recognizes the importance of directing and focusing the incremental development of a center around a strong framework of public infrastructure (i.e., streets, sewer, water and public space). Mixed-use buildings (retail, office and residential) orient directly onto the public way to maximize the interaction between public and private activity. Amenities such as benches, on-street parking, attractive lighting and signs, large windows, etc., further animate the street life. Off-street parking needs are substantially reduced by the mixed-use, pedestrian character of the center. Walk-up, townhouse-type units would provide a more residential character as a transition to surrounding neighborhoods. The entire area is anchored by a central pedestrian corridor comprised of connecting promenades, marketplaces, square and greens. The core area will be connected to the municipal center and the planned Dorset Park and surrounding neighborhoods via the reconstructed Dorset Street boulevard and a network of greenbelt trails.

Several steps are recommended to implement the plan. A new mixed-

use city center zoning district (i.e., Central District) was adopted in 1988 which encompasses the San Remo Dr./Market Street area. Increased density is recommended in exchange for provision of public amenities. The City Center zoning district includes primarily residential and office use for the undeveloped area west of Dorset Street. Other recommended aids to implementation include the formation of a local development corporation, tax incremental financing, transfer of development rights, a design control district and an official map. Together these changes can work to build a center where South Burlingtonians of all ages can meet and exchange the shared spirit of their community.

Integral to the City Center plan was the Dorset Street reconstruction project. This was seen as the foundation -- the backbone-- of the City Center. Originally planned as a five-lane road (65 feet curb to curb) with uncontrolled left turns and little or no pedestrian amenities, the project created significant concern among the City, the School Board and adjoining neighborhoods. Many were concerned about Dorset Street becoming another Shelburne Road or Williston Road strip. Concerns about safety, traffic congestion, aesthetics and pedestrian amenities led to the redesign of the road as a tree lined boulevard.

The introduction of the median strip works to move traffic more safely and efficiently by consolidating left hand turning movements to the median breaks at major intersections. This drastically reduces the number of "conflict points" and thus increases both vehicular safety and capacity. Furthermore, the limited island breaks will cause future development along the corridor to consolidate access at major intersections. This, in conjunction with the consolidation of Dorset Street driveways and relocation of driveways to side streets will prevent the throttling of economic growth by traffic congestion and will promote a more orderly future development.

The boulevard design also sets a strong tone and character for the city center. Parallel rows of large shade trees and a landscaped median create a linear park at the heart of the city. Parallel sidewalks and bikepaths along both sides provide an inviting and safe environment for evening strollers, joggers and children on their way to school. Crosswalks and crossing signals as well as use of the center median as a resting area reduce the intimidation and danger of a major street crossing. The under-grounding of visually obtrusive overhead power lines completed the transformation of the previous unattractive roadway into a pleasing focal point of the city center. In the future, extending the concept south under the interstate to Swift Street will

help to integrate the developing park and southeast quadrant with the planned activities in the city center core.

On January 5, 1987 the City Council endorsed the concepts of the plan entitled "City Center, South Burlington, Vermont: A Planning Study for the Dorset Street Corridor" (26) This Comprehensive Plan hereby incorporates the Dorset Street Planning study as the foundation for implementation of the above mentioned goals and objectives.

Since adoption of the City Center plan and related amendments to the zoning regulations in 1987 and 1988, the City has learned that implementing the City Center concept has been and will continue to be a great challenge. It is clear that the public and private sectors will need to work in partnership to achieve this vision. As previously stated, the City has already contributed financially to the implementation of the plan through the completion of the Dorset Street project. Other areas where a public/private partnership may prove to be beneficial include the completion of Market Street through to Hinesburg Road and joint loan applications for parking facilities.

The City conducted, in 1999, a feasibility study of establishing a local development corporation. It was recommended in the study that the City establish such an organization. The purpose of the organization would be to promote South Burlington and its City Center as a good place to live, work and shop, support existing and new businesses, create jobs, and improve the City's infrastructure in support of economic development and residential neighborhoods. A primary focus of the local development corporation, as recommended in the study, would be to facilitate development of the City Center. It was felt that a local development corporation could work with both the City and businesses to properly plan the City Center, secure funding for infrastructure improvements, and offer any other support that existing and new businesses may need.

A. OBJECTIVES

In considering the specific needs of South Burlington in relation to the criteria for successful town and city centers, the following objective and supporting recommendations have been established to guide the planning process:

1. To create through the blending and arranging of an appropriate mix of uses, a diverse, dynamic and people-oriented South Burlington

City Center .

B. RECOMMENDATIONS

1. Promote through the zoning and subdivision regulations an appropriate level of density (coverage and building heights) to provide a "critical mass" of activity.
2. Require developers to provide necessary public amenities (e.g. open space, sidewalks, trees, parking, lighting, and public transit amenities such as bus lanes, shelters and benches) in exchange for increased densities.
3. Create a well defined central open space as a focus of a city center district. This should include development of Dumont Park into an accessible, usable downtown park to enhance the City Center.
4. Continue to promote the development of an aesthetically pleasing environment through design control of buildings and related open space (signs, materials, landscaping, etc.)
5. Provide public street environments in which pedestrians, vehicles, bicyclists, joggers and school children can co-exist safely. The City should work with developers to implement streetscape improvements as development occurs. Simultaneously, the City should seek funding to implement streetscape improvements in critical areas which may not be directly adjacent to developing properties.
6. Develop an efficient, convenient and attractive parking plan to serve the center area. The City should seek funding to acquire land and construct public parking facilities.
7. The City should conduct a study to design and evaluate a new government complex consisting of a new City Hall and possibly a library, regional and state offices, and a post office (i.e., retail portion only).
8. Preserve and protect existing residential areas and encourage new, mixed-use residential development.
9. The City should establish a non-profit South Burlington Community Development Corporation as recommended in the report entitled, "Establishing a Local Development Corporation in South

Burlington", dated December, 1999. The primary focus of this organization should be facilitating development in the City Center. For initial funding of this CDC, the City should place an item on the ballot asking voters to approve \$100,000 per year for at least three years.

10. Explore such means as a local development corporation, tax increment financing, transfer of development rights, density bonus program, and parking trust fund to aid in implementing the City Center plan.

11. Work with existing landowners and developers to develop a stream alteration and wetland mitigation plan, and obtain necessary permits to implement such plan.

12. Pursue completion of the construction of Market Street through to Hinesburg Road.

13. Pursue planning and funding for extending the Dorset Street Boulevard concept southward to the proposed Dorset Street Park.

14. Continue refining the Central District Zoning Ordinance to promote the plans goals and objectives.

CHAPTER VIII

SOUTHEAST QUADRANT

GOAL STATEMENT: It is a goal of this City to support a planned strategy for land conservation and neighborhood development in the Southeast Quadrant that preserves areas of ecological significance, creates a cohesive and publicly accessible open space system, and encourages neighborhood development patterns, including street systems, that create walkable neighborhoods, a range of housing choices, and a strong sense of place. It is a further goal of this City to create a small, appropriately-scaled and designed neighborhood service center in the SEQ, and a circulation system that balances automobile transportation with bicycle, pedestrian and transit modes in a safe, integrated system..

The development and ultimate land use pattern in the Southeast Quadrant of South Burlington is of critical importance to South Burlington's future. Creating a balance between housing, complimentary land uses, and conservation, especially conservation of key natural communities and habitat features, will happen through continuous planning, public involvement, and the thoughtful use of the City's land acquisition funds and regulatory tools.

From 2001 through 2005, the Planning Commission embarked on a series of studies and plans that underpin this Chapter of the Comprehensive Plan. The findings and goals of the Open Space Strategy (2002), Ecological Assessment (2004), Bird Habitat Study (2004), and SEQ Concept Plan (2005), are embodied in the goals and objectives of this Comprehensive Plan. Implementing these goals and objectives will ensure that the SEQ becomes a vibrant, ecologically healthy district over the long term.

A. Land Use Setting

The Southeast Quadrant (SEQ) comprises 3,900 acres or 37% of South Burlington's land area, and is the focus of much of the City's future land use planning and land conservation effort. For purposes of this chapter, the SEQ is bounded by Spear Street to the west, Interstate 89 to the north, the Muddy Brook to the east, and the Shelburne town line to the south. It includes all of the Southeast Quadrant zoning district, and portions of the Industrial-Open Space, Parks and Recreation, and Residential-2 zoning districts.

The SEQ, which has developed and changed substantially since the early 1990s, has a remarkable variety of land uses. It remains South Burlington's least developed and most open land use district. It is home to several significant natural areas, such as the Great Swamp and Cheese Factory Swamp, which include areas with largely intact natural communities; a patchwork of hayfields, pastures and early successional "old fields" reflecting the area's agricultural heritage; and several of the City's largest stands of hardwoods. It is also home to the Vermont National Country Club and roughly nine hundred homes, with another six hundred homes in various stages of permitting.

Dorset Park, located at the district's far northwest end, is now home to two ice rinks and the City's largest concentration of recreation fields. Dorset Park has become an important community gathering place for the entire City, with its constant flow of activity and hub of recreation path connections.

Commercial uses in the residential portions of the Southeast Quadrant have declined in recent years, particularly with the closing of the area's last dairy farm in 2004. The Chittenden Cider Mill, however, continues its retail operations and is a well-known landmark and neighborhood store. Larger-scale commercial and light industrial uses in the far northwest of the district, within the Industrial-Open Space district, include Verizon, CBA, Dynapower, the Lane Press, and more recent office construction. The Ireland Quarry continues operations along the Interstate near the Muddy Brook.

B. Natural Resources Setting

The SEQ's natural resources are among the City's finest environmental assets. Marked by a pair of distinct north-south ridges between Spear and Dorset Streets, and between Dorset Street and Hinesburg Road, the SEQ also contains the headwaters of Shelburne Pond, Monroe Brook, Bartlett Brook and Potash Brook, and a large swath of the Muddy Brook basin. These resources, particularly the natural communities, were documented in the 2004 report "Wildlife and Natural Communities Assessment of the Southeast Quadrant, South Burlington, Vermont" by Arrowwood Environmental (the "SEQ Assessment"). The six focus areas defined in the SEQ Assessment are summarized below, along with descriptions of other important natural resource characteristics of the SEQ.

General Environmental Conditions: Soils, Ridges, and Watersheds

Soils: The SEQ's soils are characterized by a shallow depth to groundwater and moderate permeability, with many rock outcrops found throughout the area. The soil types are chiefly Vergennes and Covington clays with gentle slopes, which are classified as having moderately high agricultural potential. Additional soil types include smaller areas of Stockbridge and Farmington soils.

Ridges and Watersheds: Two north-south ridges define the watersheds in the SEQ. The first begins at Dorset Park, south of the interstate between Dorset Street and Hinesburg Road, and heads south to the City line. Water falling to the west of this ridge goes into Lake Champlain via Bartlett Brook and North Brook.

The second ridge roughly parallels Hinesburg Road, and continues south to the City line. Water falling east of this ridge feeds into Muddy Brook and flows north to the Winooski River. The fate of water falling between the two ridges is complex. An imaginary line south of Old Cross Road and extending east to Muddy Brook roughly defines the direction of flow. South of this line, water will flow south through the watershed, into Shelburne Pond, and out into Muddy Brook. North of the line, water flows into Potash Brook and then Shelburne Bay.

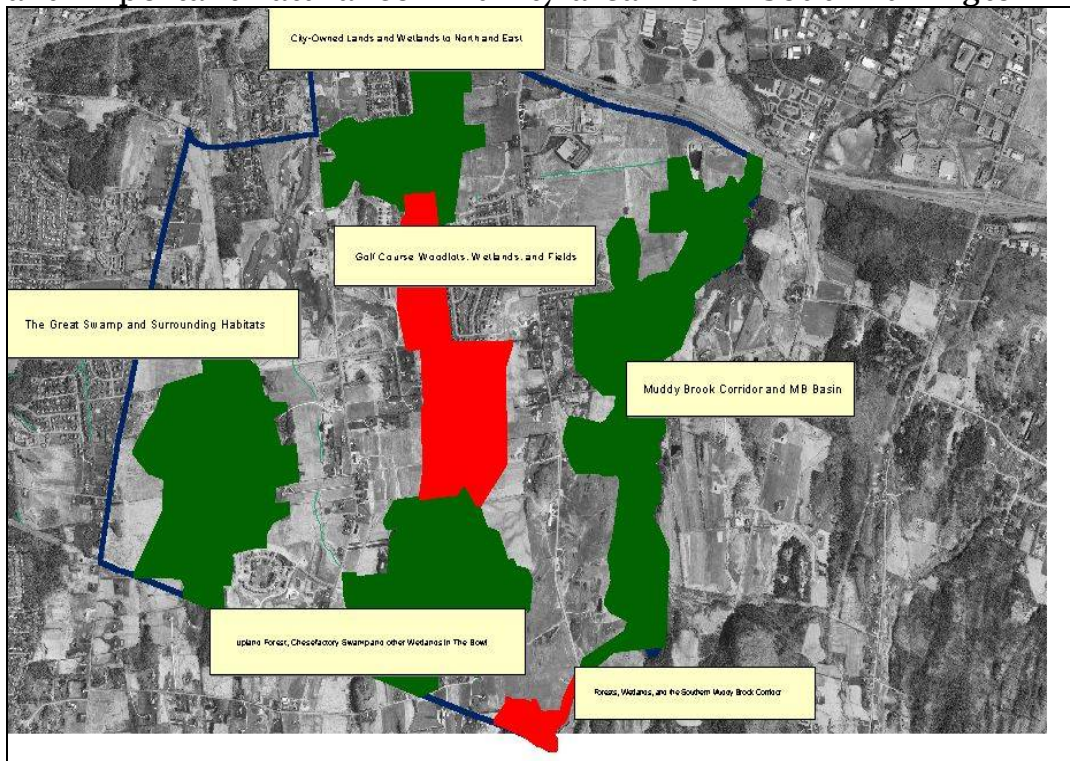
Natural Communities and Habitat Areas

Within the SEQ, the SEQ Assessment determined that there are six distinct groupings of natural features that form unique habitat areas, each with different resource, aesthetic, and habitat values. These sub-areas, and their key values, are summarized below, and in Map 9: Southeast Quadrant Natural Communities and Buffers.

#1 Muddy Brook Corridor: The Muddy Brook corridor at the northeastern end of the SEQ includes the brook, its surrounding wetlands, and adjacent upland forest and early successional agricultural fields. The area has a high vegetative diversity, which along with the Brook helps support habitat for a variety of wildlife including mink, muskrat, herons and fish. Noted natural community areas associated with the corridor include the Dubois Swamp, a flooded red maple-black ash swamp, and the Van Sicklen Woods, a 12-acre Clay Plain forest that has been assessed as part of a statewide Clay Plain forest inventory.

#2 Muddy Brook Basin: The Muddy Brook Basin in the southeastern corner of the SEQ includes the Muddy Brook, its associated wetlands, the adjacent farm fields and pastures, and nearby small woodlots. Field visits during the SEQ Assessment found evidence that this area is used by gray and red fox, mink, river otter, muskrat, and coyote, as well as by many hydrophilic birds. Ecologically, this area extends well beyond South Burlington into the adjacent areas of Williston, Shelburne, and St. George.

#3 The Great Swamp: The Great Swamp area, perhaps the City's most unique and important natural area, is centered on a hardwood swamp on the ridge east of Spear Street. It includes upland forests, shrubby successional fields, and wetlands. The large Red Maple-Black Ash swamp, which is notable among other features for the lack of invasive species present within it, appears to be the "Higbee Swamp" that is referred to in a variety of historical scientific collections at the University of Vermont. Five rare plant species were found in this swamp near the turn of the last century. While these species are not likely to have persisted, the Great Swamp is perhaps the most intact and important natural community area within South Burlington.



Natural Communities and Generalized Habitat Areas in the SEQ
Source: Arrowwood Environmental, January 2005

#4 Spear Street frontage: The area east of Spear Street and west of the Great Swamp is a mix of small wooded areas, old agricultural fields, and shrubby and emergent wetlands. This area's key significance is that it acts as an ecological buffer between the Great Swamp and the more developed areas to the west.

#5 The Bowl: This area, in the south-central portion of the SEQ, contains some of the most substantial concentrations of wetland and wildlife resources in the SEQ and has been the focus of the city's land conservation efforts since 2002. The large wetland complex called the "Cheese Factory Swamp" straddling Cheese Factory Road, and the mixed hardwood communities just north and west of the swamp, are key parts of this area. Field inventories during the SEQ Assessment found signs that the area is home to bobcat, gray and red fox, coyote, wild turkey, and numerous other animal and bird species.

#6 Calkins Property and Associated Lands: The City-owned Calkins property just north of the SEQ zoning boundary was found during the SEQ Assessment to be an important haven for wildlife. It is comprised of a series of open spaces and small woodlots on the Golf Course, and other nearby properties, along with some old field areas and wetlands. The diverse combination and proximity of different wetlands, streams, hardwood forest, and old field areas makes this an important "cluster" of features that act as wildlife habitat.

Views

The SEQ affords some of the City's most scenic views of the Adirondacks, Camel's Hump, and the ridges and valleys stretching south to Shelburne Pond. The City has protected what are deemed to be the most important public views from existing and proposed public properties through the View Protection Overlay Zone (VPZ). Other significant views have been evaluated through the SEQ Concept Plan. Areas that should be protected through height and site plan standards in the Land Development Regulations and design guidelines have been identified through the SEQ Planning Process.

Historic and Cultural Resources

The SEQ contains many remnants of the City's agricultural heritage, including old barns, stone walls, hedgerows, and some of the City's very few structures eligible for listing on the National Register of Historic Places. The Old Stone House at the corner of Hinesburg and Van Sicklen Roads was renovated recently, greatly enhancing the

visual quality of Van Sicklen Road.

Conservation and adaptive re-use of these structures is important and should be encouraged where possible; staff assistance in seeking grant funding can be an important way of accomplishing this goal. Allowing an expanded use of the Chittenden Cider Mill is intended, in part, to ensure longer-term preservation of the building as a historic and cultural resource.

C. Housing Patterns and Housing Demand

The past ten years have seen a great deal of housing development in the SEQ zoning district and adjacent areas, ranging from large single-family houses to more densely-developed triplex units. The past five years have seen a marked trend towards duplex and smaller single-family units in the SEQ, where previously larger single-family homes made up most of the new housing supply.

Residential Developments in the SEQ, 1985-2005

Name	Year Permitted	# of Single-Family Units	# of Duplex/Multi-Family Units	Zoning District
Ledge Knoll	1986	57	0	SEQ
Butler Farms	1989	155	0	SEQ
Oak Creek Village	1992	115	0	SEQ
Village at Dorset Park		63	104	SEQ
Indian Creek			59	R2
Swift Estates		16	0	R2
Vermont National				SEQ
Country Club	1996-ongoing	96+	200+	
Heatherfields	2004		89	R2
Pinnacle at Spear Dorset Farms		80	0	SEQ
Chittenden Cider Mill	1994	160	60	SEQ
Shea Subdivision	2004	59	90	SEQ
Goldberg subdivision	2005	4	0	SEQ
Anderson subdivision	2003	4	0	SEQ
Ridgewood Estates	2004	3	0	SEQ
Stonehouse Village		0	55	R2
South Pointe	2002	48	0	SEQ
	2005	32	0	SEQ

Developments proposed during the preparation of this Comprehensive Plan chapter have shown a change back towards more single-family units. The lack of new single-family housing in Chittenden County was leading developers to propose more single-family housing and more new types of single-family, such as smaller “cottage” homes.

Residential Developments Proposed as of 2005:

Name	Year Permitted	# of Single-Family Units	# of Duplex/Multi-Family Units	Zoning District
South Village	2005	Total of 336	To be determined	SEQ
Marceau Meadows	Under review	51	71	SEQ
Farrell Subdivision	Under review	17	12	SEQ
Williams Subdivision	Under review	4	0	SEQ

Residential Development Patterns and Densities

With the exception of a few very small subdivisions, new housing built in the SEQ since 1992 has been built under the zoning provisions that allow for an overall density of 1.2 housing units per acre, with the units built in a clustered manner at 4 housing units per acre. This clustering option has created a pronounced change in site development patterns, away from the standard, larger-lot developments like Butler Farms, Oak Creek (below left) or Ledge Knoll to a more compact pattern exemplified in Stonehouse Village (below right).



Butler Farms/Oak Creek



Stonehouse Village

More recently, with the completion of the Open Space Strategy and Arrowwood Assessment, there has been a strong interest in building neighborhoods at higher densities in order to conserve more of the SEQ's priority open space lands. The SEQ zoning regulations do provide for the transfer of development rights between non-contiguous parcels, and thus provide a way for this to happen. The SEQ Concept Plan was charged with evaluating whether and how to adjust the "sending" and "receiving" densities within the zoning to provide more incentive for this type of transfer to happen.

Affordable Housing in the SEQ

South Burlington's Comprehensive Plan recognizes that while the City has been a leader in the provision of affordable housing, very little has been built in the SEQ relative to other areas of the City. The very high cost of land in the SEQ, and the lack of access to public transit, and distance from available services, have limited the introduction of affordable housing into the SEQ.

Nonetheless, affordable ownership units were included in Dorset Farms, and are included in the proposed South Village project as well. The SEQ Concept Plan has evaluated how increased "buildable" densities might increase the opportunity for affordable housing as well.

The City's Comprehensive Plan policy in the past has been to encourage housing affordable to moderate-income households, rather than housing for low- or very-low-income households, because of the lack of access to public transit and services in the SEQ. This policy continues to be appropriate for the next five years, particularly since bus transit options still are not as strong as is needed to support lower-income housing within the SEQ. In addition, the City has partnered very successfully with area housing providers to build more low- and very-low-income housing in more transit-accessible locations.

D. Non-Residential Land Uses in the SEQ

While predominantly residential, the SEQ district also includes many non-residential land uses. These are found chiefly in the Industrial-Open Space (IO) Zoning District at the northeastern edge of the SEQ, but are also found

at the Chittenden Cider Mill on Dorset Street, but throughout the district is a scattering of churches, schools, recreation areas, and home-based businesses.

Industrial Open Space District

The Industrial-Open Space zoning district was intended originally to provide land for high-quality, large-lot industries and offices whose buildings and operations are consistent with a location in an environmentally healthy and visually sensitive area adjacent to residential neighborhoods. The Lane Press, Dynapower, Nynex, CBA and a new dental office all operate within the IO district.

Recently, there have been significant concerns about the suitability of this district for warehousing, particularly in areas adjacent to existing residential neighborhoods. While this area is close to the Airport and the planned highway interchange at Route 116 and I-89, the noise and visual impacts associated with truck traffic are potentially very disruptive to residential neighborhoods. This issue has been discussed during the SEQ Concept Plan; among the ideas evaluated were the creation of a warehousing sub-district adjacent to the Interstate. In any case, there was strong consensus that the zoning regulations for the IO district regarding warehousing should be re-evaluated.

Institutional Land Uses

Institutional uses in the SEQ are varied and provide important visual focal points within this district. These uses include four churches, all located at the north end of the SEQ near the Interstate (the Church of Jesus Christ of Latter-Day Saints, Temple Sinai, All Saints' Episcopal, and United Methodist). A private elementary school, The Schoolhouse, is located on one of the out-parcels near the Dorset Farms subdivision, and the plans pending for South Village include a site for a private school along Spear Street.

The City's land uses in the district center on recreation and open space. Dorset Park is the City's main active recreation center, with two skating rinks, heavily used playing fields, and playground equipment. The adjacent, 100-acre Calkins natural area was studied extensively in the Arrowwood Assessment and has unusually high value as wooded wildlife habitat. A network of unpaved walking paths has been developed through

the Recreation Path Committee. Most recently, the City added the 40-acre Scott property in the center of the SEQ zoning district to its recreation lands. Accessible via a pedestrian easement network from Dorset Street, this property may be developed in the future with additional recreation paths and walking areas once the city has exercised its option to purchase fee title to the property.

The Vermont National Country Club

One of the most prominent features of the SEQ is the Vermont National Country Club, which began construction in 1996 and continues developing today. This 450-acre complex straddles Dorset Street and extends from Swift Street south to Nowland Farm Road. It includes 264 residential units ranging from large single-family homes to triplex townhouses, an eighteen-hole golf course that draws players from throughout Vermont, and a clubhouse complex overlooking the swath of wetlands and golf course stretching southwest from the ridge near Dorset Park.

Development of this large and very visible section of the SEQ as a golf course has helped to keep wetland areas and some very attractive views open, but has also raised concerns and legal conflicts relating to the location of some associated residential areas. To accommodate the golf course itself, housing has been built on some of the more visible and prominent areas of the property, such as the ridge facing east towards Route 116. A proposal in 2001 to site ten single-family homes in a woodlot at the 13th hole was denied by the Development Review Board and appealed to the Vermont Environmental Court, and the DRB's denial of two proposed development areas in 2004 was likewise appealed.

Nonetheless, the Vermont National Country Club is a very visible and important part of the SEQ's landscape, and the City's overall network of open spaces and recreation lands.

Retail and Services in the SEQ

The sole remaining retail and service use in the SEQ is the Chittenden Cider Mill. The Cider Mill has remained open for retail and a small-scale auto repair facility despite major damage to one of the adjacent barns. It functions today as a local landmark and gathering spot for the SEQ.

The 2001 Comprehensive Plan stated that “A basic level of support services will eventually be required by the residences of the Quadrant. Such services would allow Quadrant residences to drive only a short distance, walk or ride a bike rather than requiring the residences to drive all the way to Shelburne or Wiliston Roads ‘just for a gallon of milk.’”

It stated further that “Neighborhood commercial uses in the Quadrant should be limited in size and type; should respect surrounding residential uses; and should be designed to blend in with the residential and open character of the Quadrant.”

In light of the growth that has taken place and been proposed in the SEQ in the past five years, the Planning Commission has carefully considered whether the need for retail services articulated in the 2001 Comprehensive Plan. From both public input and the analysis performed in the SEQ Concept Plan, described in more detail later in this Chapter, it is clear that there has been sufficient population growth to warrant creation of a small retail and service sub-district in the SEQ at this time. The recommendations of the 2001 Plan still hold: such a district must be limited in size and type, respect and contribute to the quality of the surrounding neighborhoods, and utilize design features that contribute to the traditional, Vermont vernacular that characterizes the visual quality of the SEQ.

Agricultural Lands and Land Uses

Agricultural operations, from hayfields to dairy farming, have shaped the SEQ’s landscape over the past two centuries and contributed greatly to its natural beauty. In the past five years, however, it has become clear that the economic prospects for traditional, larger-scale farming, especially dairy farming, have faded in the SEQ. The last two herds of dairy cows in the SEQ were sold in 2003 and 2004, leaving only hayfields and other limited operations in business. The planning discussion has shifted to new and emerging forms of agriculture that can thrive even in a suburbanizing environment.

A number of agricultural uses are continuing, however, in the SEQ and in adjacent areas of Shelburne. Active hayfields and pastures continue to be found throughout the SEQ, and the Scott property conservation easement allows for continued haying and agricultural use. Also in 2004, the Town of Shelburne and Vermont Housing & Conservation Board conserved a working

farm just south of the Shelburne-South Burlington town line. The City supported Shelburne's efforts to conserve this farm, as it supports the important City and regional goal of creating a conserved corridor stretching south to Shelburne Pond.

More recently, a proposal was submitted by the Intervale Foundation and Retrovest Companies to establish an organic farm as part of the new South Village subdivision off of Spear Street. This type of farming use, as well as the community gardens found on Spear Street on the University of Vermont Wheelock Farm, can be an important part of the SEQ's visual character, quality of life and environmental health into the future.

These examples demonstrate that South Burlington can facilitate a new future for agriculture in the SEQ, but at a different scale and with different priorities than the past focus on protecting traditional, large farming operations. Both the Arrowwood Assessment and the SEQ Concept Plan highlight the importance of these types of agricultural uses to the landscape and ecology of the SEQ.

E. Recreation Facilities in the Southeast Quadrant

South Burlington has worked aggressively over the past twenty years to provide a wide range of recreation lands, facilities, and opportunities to its citizens. These efforts and goals are described in detail in Chapter 10. As the City looks to the next five and ten years, it is clear that the population and housing growth in the SEQ will increase the need for recreation and open space opportunities, and the need for the City and developers to provide for these needs as development occurs.

Developed recreation areas

Dorset Park, with 220 acres of land, playing fields, playground equipment, and two hockey rinks, is one of South Burlington's "crown jewels" and a major community gathering place. It functions as a City-wide facility, but also as a neighborhood park for SEQ residents and, along with the Calkins natural area, the "green lungs" of the City Center.

Dorset Park acts as the southern anchor of the City's core area flanking Dorset Street from Williston Road at the north to Swift Street at the south. It

also has an important role as a transitional area between the City Center just to the north, and the more open lands of the Vermont National Country Club and SEQ to the south.

The very heavy scheduled use of Dorset Park's playing fields indicates that the park's capacity for providing active recreation space has been reached. Thus it is recognized in this plan, and detailed in the Recreation chapter, that the anticipated housing growth in the SEQ (including projects built since 2001 and those undergoing review) will necessitate acquisition of additional lands for active and passive recreation, as well as continued expansion of the recreation path system, to ensure that there are sufficient recreation areas within walking or biking distance of all SEQ neighborhoods. A near-term focus should be on providing new opportunities for active recreation, including soccer/playing fields and playground equipment.

Recreation paths

The SEQ is increasingly well-served by recreation paths, and all new developments have incorporated extensive public recreation paths in their designs. In the summer of 2004, a section of the path was built on the east side of Dorset Street stretching north from Midland Avenue. This will eventually connect to the new Chittenden Cider Mill development, forming a link all the way from the City Center to Midland Avenue. Construction of the South Village project eventually will provide a loop from Dorset to Spear Street.

The Recreation Path Committee has identified five priority improvements within or directly related to the SEQ district as its priorities for the area: (1) completing the path from Dorset Farms to Nowland Farm Road; (2) completing the connector from Midland Avenue to Allen Road and Spear Street through the South Village project; (3) extension of the path from Spear Street and Allen Road to Shelburne Road; (4) completing a path on the west side of Dorset Street from Swift Street north to the United Methodist Church; and (5) constructing a path along Van Sicklen Road from the Muddy Brook to the existing path terminus on Old Cross Road.

Natural areas

The 110-acre Calkins natural area adjacent to Dorset Park is the City's largest natural area. This property includes areas of hardwood forest,

ledge, and wetlands, and has been documented as one of the most important areas of wildlife habitat in the City. The City intends to maintain this as a natural area, with unpaved walking trails the only type of improvement to be constructed within the property.

The recent conservation of the Scott property provided a much-needed addition to the City's inventory of natural lands. It will be available for low-impact, non-motorized recreation activities such as hiking, biking and skiing. The Open Space Strategy focused on this area, "The Bowl," as a critical area of the SEQ for further natural area conservation. Ideally, a conserved network of natural areas and farmland with public walking paths will be created extending south to Shelburne Pond.

F. Southeast Quadrant Infrastructure

Public Water and Wastewater

The availability of municipal wastewater and water has been a significant factor enabling housing development in the SEQ. Facilities planning for both systems has incorporated and considered both the demand for new housing and the City's conservation goals in determining how much capacity is required to serve the long-term needs in this district, as well as in helping to determine where extensions of service lines are and are not appropriate.

Water system: The water system serving the SEQ underwent a major upgrade in 2004-2005, following a successful bond vote in May, 2004. The water main on Dorset Street was upgraded and "looped" through the City right-of-way along Old Cross Road to improve storage, pressure, and firefighting capacity. In a remarkable engineering and construction project, the Dorset Street water storage tank was raised by 35 feet to provide greater water pressure and fire protection capacity for the SEQ. Finally, a "twin" water tank was built by the existing Allen Road tank, providing improved storage, fire protection and pressure to the service area along Spear Street. This complex project received the 2004 Grand Award for Engineering Excellence from the Vermont Chapter of the American Council of Consulting Engineers, recognizing the creative work of the South Burlington Water Department and Forcier Aldrich & Associates, the project's engineers.

The one remaining water infrastructure item for the SEQ is to secure a water tank site on the high point of the AuClair farm to serve the City's 20- to 25-year pressure and storage needs. This should be added to the Official Map, and incorporated into any development plans for the AuClair farm.

Municipal Wastewater System: Municipal wastewater service for the SEQ is provided both at the Airport Parkway and Bartlett Bay wastewater treatment facilities. While a very small number of properties continue to use on-site wastewater systems, the location and availability of municipal sewer infrastructure has a major role in determining the amount and location of new neighborhoods within the SEQ.

Municipal wastewater service for the SEQ is provided both at the Bartlett Bay and Airport Parkway wastewater treatment plants. Facilities plans for both treatment plants have included projected future growth in the SEQ based on the current zoning density of 1.2 units per acre. During the facilities planning process for the upcoming expansion of capacity at the Airport Parkway Wastewater Treatment Facility, the City and ANR carefully reviewed zoning, conservation, and development plans for the SEQ to ensure that increased sewer capacity at Airport Parkway would be consistent with State growth policies. The State's determination that the SEQ plans are consistent with State wastewater and growth policies was made in February, 2005, and allowed plans for the plant upgrade to proceed. As a result, wastewater treatment plant capacity will not be a limitation on growth in South Burlington as a whole or the SEQ in particular.

However, the City has recognized that there are certain planned conservation areas where the installation of sewer lines is not an appropriate investment. Sewer lines are not recommended for extension in or through any of the Primary Natural Communities identified in the Arrowwood Assessment, in "The Bowl" area identified for future conservation. The limited number of housing units and low densities planned for this area can be served by On-site septic systems if development occurs. The Public Utilities Map (Map #5: Public Utilities #2) shows the areas where sewer lines are not planned to be extended within the SEQ.

The Public Utilities Map does show specific pump stations and force mains that should be upgraded in order to provide better service to existing and planned development areas in the SEQ. These improvements and upgrades,

which have been incorporated into the facilities plan for upgrading the Airport Parkway Wastewater Treatment Facility, are consistent with the planning principles and goals for the SEQ and should be completed.

Public Safety

As development increases in the SEQ, and as decisions are made regarding the new public safety facility, the City must monitor the need for substations in the SEQ. Any new public building in the SEQ should include space for public meetings, as this has been sorely lacking in the SEQ.

F. Transportation Network

The provision of an integrated network of roadways, recreation paths, sidewalks and walking trails that balances the needs of SEQ residents, the City as a whole, and the City's natural environment is an ongoing challenge that requires thoughtful discussion, planning, and technical assistance. While automobile transportation will be the chief mode of moving through and around the SEQ for the foreseeable future, the City must recognize and plan for all modes of travel in a balanced way.

The main north-south routes through the SEQ have very different functions.

Spear Street acts as a quasi-rural corridor carrying substantial amounts of commuter traffic northbound into Burlington each morning. This has created difficulties for the local traffic, particularly the houses with driveways on Spear Street, between Allen Road and Swift Street. The corridor's open character is protected in some stretches by the University of Vermont's farm and natural area lands that flank the road in parts of South Burlington, particularly north of Swift Street through to Williston Road.

The recent Spear Street Corridor Study, completed in 2004, provided the City with a detailed series of recommended improvements intended to maintain Spear Street as a hybrid local and collector road that is able to carry the through traffic demand without creating a need for additional lanes. Citizens expressed a strong desire to keep Spear Street as a two-lane profile throughout South Burlington, while making improvements to the Spear and Swift intersection and providing better recreation path connections throughout.

A new design for the chronic problem spot in this corridor, the intersection of Spear Street and Swift Street, was developed as part of the Corridor Study. Some parts of this design were implemented by the Public Works Department in late 2004, and the remaining improvements are planned for 2006.

Other problem spots addressed in 2004 were the pedestrian crossing near Overlook Park, which received new signs and striping, and the intersection of Allen Road and Spear Street. This intersection became very congested with the start of the Shelburne Road reconstruction, leading the Department of Public Works to recommend a three-way stop sign plan that was installed in November, 2004. This has improved traffic safety and flow and is working as a short-term measure. Future development affecting Allen Road will likely require signalization of this busy intersection.

Dorset Street functions more as a local collector roadway and carries far less commuter or through traffic in the SEQ than do Spear Street and Hinesburg Road. Dorset Street is likely to be affected by increased volumes of local traffic as more development occurs, especially in the SEQ. The very visible presence of important local landmarks such as Dorset Park, the water tank, the Vermont National Country Club golf course and club house, and the Chittenden Cider Mill right on Dorset Street make Dorset Street very much the “main street” of South Burlington, both in the SEQ and farther north in the City Center.

These visual features make it appropriate to bring new housing and other uses closer to Dorset Street, especially in the area south of Old Cross Road as identified in the SEQ Concept Plan, and to ensure that its profile enhances its use as a local “main street.” This will require careful design review to ensure that new development contributes to the attractive visual quality that has been developing along Dorset Street.

Hinesburg Road (Vermont Route 116) is an important regional transportation corridor that carries an increasing amount of through traffic, including trucks, from Addison and southern Chittenden County north to Williston, South Burlington and Burlington.

The State has begun the formal scoping process, with the full support of Williston and South Burlington, for a full interchange at Hinesburg Road and

Interstate 89. This is expected to reduce the use of Van Sicklen Road as a cut-over to Exit 12 in Williston, provide more direct airport access, and service the truck demand from the industrial parks north and south of the Interstate in both communities. And, while essential to the regional economy, the interchange will lead to increased through traffic on Route 116. Therefore, careful provisions for recreation path and pedestrian crossings and strict limits on new curb cuts through this corridor are essential.

East-West and Neighborhood Connector Roads: One of the most difficult issues for South Burlington has been the provision of east-west connector roads between Spear Street, Dorset Street, and Hinesburg Road, and provision of connections between adjacent subdivisions.

Despite the fact that a network of east-west roads has been shown on the City's Official Map and included in the Comprehensive Plan for over 40 years, at the present time, the only full connection between the north-south roads in the SEQ is Cheese Factory Road. Nowland Farm Road terminates at Dorset Heights; Swift Street terminates at the Village at Dorset Park; and Midland Avenue terminates within Dorset Farms.

The lack of east-west roadways means, effectively, that the SEQ presently has over 1,000 housing units and regional traffic moving through a farming community's roadway network. The lack of east-west connections increases travel times and miles traveled between, for example, Butler Farms and Dorset Park, or Dorset Farms and Shelburne Road. When east-west and neighborhood connector roads are lacking, school bus routes and emergency service responses also are lengthened, and there is less physical connectivity between neighborhoods, creating an isolating development, transportation, infrastructure and social network in the SEQ.

The flip side of this discussion relates to the potential environmental impacts of new roadways on wetlands and other environmental resources, and the desire of many residents to have as little "through traffic" as possible able to drive through their neighborhoods. Proposed roadway connections between new and existing neighborhoods are a frequent source of conflict in the development review process, and, unfortunately, the DRB has in some cases allowed one-way or "emergency only" roadways as a way to allow projects to proceed.

Also, wetland regulations are often interpreted in a manner that considers connector roads an “unnecessary impact” or an easy way to reduce wetland impacts. This interpretation is often self-defeating from an environmental perspective, since it leads to greater vehicle miles traveled by new residents when neighborhoods do not connect to other neighborhoods and the street network.

One key issue where there has been increasing agreement on all sides is the need to design east-west and neighborhood connector roads with narrower profiles and other environmental design features, such as box or open-bottom culverts instead of pipes for wetland and stream crossings, narrower road profiles (especially at crossing points), wildlife-friendly landscaping, and other traffic-calming features. These approaches, which can be incorporated with the City’s public service and roadway maintenance practices, should become “standard operating procedure” for new development in the SEQ.

With these issues in mind, the Planning Commission evaluated the planned cross-town roads on the Official Map in 2003 and proposed a series of amendments that were adopted by City Council in December, 2003. Based on projected population and traffic growth, the Open Space Strategy, and public input, the new Official Map reaffirms the planned extensions of Swift Street through to Hinesburg Road; Midland Avenue through to Spear Street; Old Cross Road between Dorset Street and Hinesburg Road; and a connection between the proposed Marceau Meadows and Chittenden Cider Mill subdivisions. The new Official Map does NOT include the north-south and east-west proposed roads throughout “The Bowl” that had been proposed for decades, including a connector road at Autumn Hill Road through the Scott Property¹. This Comprehensive Plan reaffirms that the remaining proposed roadways through the SEQ that are shown on the Official Map should be constructed.

Based on all of these evaluations and actions, it is a goal of the City and this Comprehensive Plan to complete the planned network of east-west roads in the Southeast Quadrant, at appropriate locations and with environmentally-appropriate roadway profiles and pedestrian features, creating an integrated transportation network and a series of inter-connected neighborhoods throughout the SEQ, in support of better social, infrastructure,

transportation and recreation connections among neighborhoods and uses.

OBJECTIVES

1. Preserve areas of Ecological Significance as identified in the SEQ Concept Plan
2. Create a cohesive open space system, including substantial areas and resources with public access, serving multiple objectives:
3. Protect land for wildlife habitat and a network of open lands, both public and private;
4. Protect environmentally sensitive lands as identified in the SEQ Concept Plan;
5. Provide a connected system of trails that can be used for recreation, non-vehicular transportation, and environmental restoration and education;
6. Maintain opportunities for traditional and emerging forms of agriculture that can be complimentary with a growing city, and help support continued productivity of South Burlington's lands;
7. Maintain and enhance cultural and historic resources that are valued in the community, such as the Calkins House and gardens, farm structures, and prominent landscape features; and
8. Preserve the ability of the public to enjoy significant vistas, such as the Golf Course, Green Mountains and Adirondacks, from public lands and public roads.
9. Encourage development patterns that create walkable neighborhoods, a range of housing choices, and a unique sense of place.
10. Create a village center for the SEQ along Dorset Street south of Old Cross Road, connected to the recreation path system.
11. Create a circulation system that balances automobile circulation with bicycle, pedestrian and transit modes.
12. Maintain Spear Street as a north-south collector using access and traffic management techniques
13. Maintain Hinesburg Road as the major north-south through road, with safe, convenient and attractive provisions for pedestrian crossings and bicycle use;

14. Enhance Dorset Street as the SEQ’s “main street” with traffic calming techniques and a roadway profile suited to its intended local traffic function.

RECOMMENDED ACTIONS

1. Land Use and Zoning, General

1.1 Take an active role, through cooperative planning and projects, policy discussions, zoning, and land conservation, in promoting new or revitalized agricultural and other open space uses, such as community gardens, orchards, nurseries, and community-supported agriculture, in the SEQ that can be compatible with residential neighborhood and village center uses, in order to promote continued agricultural uses in the SEQ as planned neighborhoods and village centers are developed.

1.2 Continue to promote TDRs among non-contiguous parcels within the SEQ zoning district and into the IO zoning district to achieve the goals of the SEQ Concept Plan.

1.3 Strongly discourage land use planning and permitting decisions to be based solely on the location of certain soil classes on individual parcels rather than overall planning and environmental goals. Participate in State proceedings to advance the City’s position on open space, housing and agricultural use issues as they relate to soil classes.

1.4 Cooperate with the towns of Williston and Shelburne to plan compatible uses and densities along town boundary lines.

1.5 Support the re-consideration of previously-permitted projects that could be altered to better achieve the goals of this Plan and the SEQ Concept Plan.

2. Land Use and Zoning, SEQ Zoning District

2.1 Evaluate and revise the Land Development Regulations applicable to the SEQ, including the PUD, landscaping and Master Plan standards, to implement this Plan’s recommendations and achieve the objectives for the SEQ.

2.2 In doing so, Maintain the present residential density of 1.2 dwelling units per gross acre of land as the basic limitation on the ultimate buildout of the SEQ zoning district.

2.3 Further consistent with the SEQ Concept Plan, through revisions to the LDRs and SEQ Zoning Map, create neighborhood areas with a buildable density of between four and eight units per acre, using development rights transferred from areas in the SEQ designated for conservation or protection.

2.4 Further consistent with the SEQ Concept Plan, create a neighborhood commercial center along Dorset Street in the area of the Chittenden Cider Mill. Consider the inclusion of a gas station as an allowable use, provided such use incorporates neighborhood retail, and include strict architectural design standards to ensure that all such development is compatible with the Vermont vernacular architectural styles and landscape quality of surrounding residential and agricultural uses.

3. Land Use and Zoning, IO Zoning District

3.1 Revise the Land Development Regulations for the Industrial-Open Space District to enable the development of a residential neighborhood in the west of the district with density from on transferred development rights from conserved properties in the SEQ, and not from an as-of-right allowance.

3.2 Consider establishing a small mixed-use commercial node similar to the R7-NC district within the IO district, near Hinesburg Road.

3.3 Continue to limit uses in the Industrial-Open Space District to Clean, high quality light manufacturing, research and testing, and office uses, and take steps through zoning and development review to limit potential adverse impacts on adjacent natural areas and residential neighborhoods.

3.4 Revise the LDRs to ensure that all truck-intensive uses in the IO district are located a sufficient distance away from residentially-zoned lands to prevent adverse noise, air quality, light, and visual impacts.

4. Housing

4.1 Continue to permit single-family, duplex and multi-family housing in the SEQ zoning district.

4.2 Through development review and the LDRs, encourage and consider incentivising neighborhoods that use a mix housing types and integrate different types next to each other, rather than creating a mono-culture of one type of housing.

4.3 Observe the general height limit of 45 feet for housing and most non-residential structures, unless specific aesthetic considerations or site conditions warrant an increased height. In such cases, require architectural design review to ensure that the proposed structures are consistent with the vernacular architectural styles and visual quality of the SEQ [separate policy encouraging wind turbines?]

5. Affordable Housing

5.1 The City will continue to strongly encourage, but not require, affordable housing to be incorporated within new residential neighborhoods within the SEQ.

5.2 The City will encourage developers to make use of the affordable housing density bonus provisions in Section 13.14(B) of the Land Development Regulations to carry out this goal.

5.3 The Planning Commission will consider suggestions to modify this section of the LDRs to increase these incentives for including affordable housing in new SEQ residential projects.

5.4 The City will continue to work with CCTA to expand public transit options throughout the SEQ for the benefit of all residents and workers.

6. Land Conservation

6.1 Continue to work with Shelburne on strategies to create a conserved agricultural and natural area, with appropriate public access and paths, from Shelburne Pond and Pond Road north to the Chittenden Cider Mill,

consistent with the goals of the Open Space Strategy.

6.2 Continue to support the use of the one-cent-on-the-tax-rate open space fund to conserve key properties, leveraging funds from other conservation agencies and organizations.

6.3 Work with Shelburne, Hinesburg and the Addison County Regional Planning Commission to explore ways to create of a regional greenbelt with public access extending north and south of Shelburne Pond.

6.4 Work with the owners of major SEQ lands with agricultural use or potential to ensure the appropriate use of TDRs for land conservation, consistent with the SEQ Concept Plan and Open Space Strategy.

6.5 Through the development review process, land conservation initiatives, and development of Zoning Map amendments for the SEQ, work towards the addition of supplemental conserved areas adjacent and connected to existing open space lands, including the Scott Property, Calkins natural area, Dorset Park, and the Vermont

6.6 Evaluate standards in the Land Development Regulations regarding the provision of open spaces and buffer areas in the SEQ in new neighborhoods, and ensure that these provisions are consistent with the SEQ Concept Plan and lead to the creation of usable, attractive conserved spaces.

7. Ecology and Environment

7.1 Designate the Primary Natural Areas [Map 9: Southeast Quadrant Natural Communities and Buffers] as “restricted” or “TDR sending” areas on the SEQ Zoning Map and adopt regulations in the LDRs to severely limit any development, subdivision or disturbance within these areas.

7.2 Designate a three hundred foot buffer around the perimeter of the Great Swamp and Cheese Factory Swamp (Map in Appendix B, SEQ Natural Communities and Buffers) as an additional primary natural area subject to the same limits on disturbance, development or subdivision.

7.3 Designate the lands within a three hundred foot buffer area around the perimeter of the other Primary Natural Areas, and the lands within

Secondary Natural Areas, as a supplemental restricted area with limitations on development, subdivision, and disturbance.

7.4 Adopt measures in the LDRs and SEQ zoning map to ensure that open spaces in all developments affecting secondary natural areas be designed in a manner to ensure continued connectivity between other open spaces and the preservation of “stepping stone” or other pockets of important wildlife habitat.

7.5 Consult the Arrowwood Environmental SEQ Environmental Assessment regarding environmental resources, conditions, and possible strategies for protecting wildlife habitat values through conservation, restoration and development.

7.6 Seek funding to have a VYCC crew or other volunteers assist with invasive species removal and control on the Calkins property.

7.7 Work with property owners and the Vermont Agency of Natural Resources to establish treed buffers along tributaries of Potash Brook on the Calkins property, Hill Farm, and Meadowlands Industrial Park where the stream buffer is not forested.

7.8 Work with the Chittenden County Regional Planning Commission and local land owners to develop a land management plan with recommended strategies for conserving the ecological function of the primary natural areas and adjacent lands, as identified in the Arrowwood Assessment.

7.9 Revise the Surface Water Protection Standards in the LDRs to create a one hundred foot setback along the Muddy Brook in the SEQ and IO zoning districts.

7.10 Develop a habitat and watershed restoration plan for the SEQ to identify locations where ecological strategies, such as reforestation or wetland creation, can contribute to improved ecological function. Once such a plan is developed, pursue available funding sources and programs for implementation.

7.11 Fully support Burlington International Airport’s wetland mitigation project along the Muddy Brook, and seek opportunities to expand this type of mitigation and enhancement work in the Muddy Brook corridor.

7.12 Revise the planned residential development and site plan standards for the SEQ and IO zoning districts to incorporate landscaping, buffer, stormwater management, surface water protection, and lighting standards that will enhance the habitat value of the area's undeveloped lands, and reduce conflicts between development, human activity, and wildlife.

7.13 Limit the development of paved recreation paths and lighting within Primary Natural Areas, unless required to make a planned connection among path segments.

7.14 Explore incentives and strategies to encourage builders to use LEED and other energy-efficient building techniques throughout the SEQ and IO zoning districts.

7.15 With the Recreation Department, landowners, and the DRB, promote the use of unpaved recreation paths and leash requirements within Primary Natural Areas to ensure public access, while causing as little disturbance as possible.

8. Public Utilities

8.1 Work with the Water Department and Water Pollution Control Department to develop infrastructure plans that limit disturbance within Primary and Secondary Natural Areas.

8.2 Work with the Water Department and land owner to secure a site for a water tank as identified in the twenty-year facilities plan for the water system in the SEQ.

8.3 Work with the Water Department and through the development review process to implement the twenty-year facilities plan for the water system in the SEQ.

9. Transportation

9.1 Evaluate the roadway design standards in the LDRs to ensure there is sufficient flexibility, consistent with public safety requirements as set forth by the Fire Chief and Director of Public Works, to reduce required roadway widths and curbing requirements to create more pedestrian-friendly and

neighborhood-scaled roadways.

9.2 Where new roads must cross primary or secondary natural areas, or associated buffers as set forth in the recommendations above, utilize measures such as landscaping, signage, and wide, vegetated underpasses or culverts to ensure that such roads create as little disruption as possible.

9.3 Continue to work with the Recreation Path Committee and Recreation Department to extend the planned network of recreation paths.

9.4 Allow paths to vary from eight feet in width to ten feet depending upon the projected level of use.

9.5 Require, through the LDRs and development review, the inclusion of sidewalks and recreation paths in all new residential neighborhoods.

9.6 New residential development shall be connected to adjacent developments, and the cross-town roadways identified in this Plan and on the Official Map shall be constructed by the developer (unless otherwise determined by the DRB and City Council) when development occurs on parcels where these roadways and connections are located.

9.7 Recreation path only, emergency-only and one-way connections will be insufficient in most cases to accomplish this City goal; therefore, roadways allowing safe two-way vehicular traffic and a recreation path are the minimum necessary for neighborhood connections and consistency with this Comprehensive Plan.

CHAPTER IX

NATURAL RESOURCES

GOAL STATEMENT: It is a goal of this City to promote the conservation and restoration of its natural resources in planning for the City's future while allowing for the City's continued growth as an urban center.

Natural resources constitute an element of planning for South Burlington's future that cuts across all other pieces of the plan. Housing, transportation, economic development, education, recreation, and aesthetics are all important elements, but in every case implementation of these elements should take account of the limitations, usefulness, and inherent economic and social value of underlying natural resources. Natural areas, such as those illustrated in Map 2, should be preserved as areas of South Burlington that support natural communities and recreational opportunities. Water resources and important vistas, as depicted on Map 7, are important features that should be preserved and enhanced in order to preserve the essential character of South Burlington's landscape as it develops.

A. CLIMATE

South Burlington's northerly latitude assures a variety of weather and a vigorous, cool climate. The average annual temperature is 45 degrees, the average summer temperature is 65 degrees. The average annual frost free growing season of 145 days is largely due to the moderating influence of Lake Champlain. South Burlington is one of the cloudiest areas in the U.S. with an average of 199 cloudy days a year. Precipitation is well distributed throughout the year and averages 32 inches annually in the form of rain and 80 inches annually in the form of snow. Winds are predominantly north-south in direction paralleling the Champlain Valley. Winds of damaging force are rare and occur mostly as thunderstorms.

The climate of the area is documented in the UVM Agricultural Experiment Station publication "Climate of Burlington, Vermont" (4). The severity and duration of the winter shorten the construction season. Careful design and construction of foundations, utility lines, and roadways become necessary

to minimize damage from frost heaving and icing. As learned from the ice storm of January 1998, undergrounding of utilities is important. Priority should be given to requiring underground utilities in all new development. As the amount of development in the City increases, special care in design will be required to accommodate precipitation. For example, inadequate or improper snow storage impinges on parking and circulation areas and can seriously damage landscaping. Increased paved surfaces result in higher volumes and rates of stormwater discharge, which must be accommodated by improved drainageway planning and wetland protection and enhancement to prevent property damage and environmental degradation. Attention should be given to protect these drainageways from polluted runoff in order to prevent pollution of Lake Champlain and our drinking water supply.

B. TOPOGRAPHY

South Burlington has a varied topography from 473 foot ridges to the 95 foot level of Lake Champlain. The area is drained by 5 watersheds. Within each watershed there are significant wetlands. There are a five hills or ridges in South Burlington: 1) south of Swift Estates and extending southward a short distance; 2) east of Dorset Street and south of Swift Street and also aligned in a north-south direction; 3) north-west of the intersection of Hinesburg and Van Sicklen Roads; 4) on Hinesburg Road south of Interstate 89; and 5) along Old Farm Road. Steep slopes, shallow soils, and extensive bedrock outcroppings severely limit the potential of these areas for intensive development. The views of the Adirondacks and the Green Mountains from these high spots are unparalleled. The high value attached to these views is implicit in real estate values in adjacent residential areas as well as to the residents of South Burlington. It is important to protect view sheds, for economic, environmental, and aesthetic reasons. Building height limits should be carefully defined and monitored.

North of the ridge system is a flat, well drained deltaic deposit. This flat area is drained by a network of drainage ways towards Potash Brook to the south and tributaries of the Winooski River to the north. Burlington International Airport is located in this area. Two other distinctive flat areas are found in the Southeast Quadrant. The smaller area is located to the east of Butler Farms. It contains a large wetland which is the source of Potash Brook. The larger area is located to the east of Meadowood at Spear. This

area has a large wetland in its geographic center which drains into Shelburne Pond, a designated natural area.

Floodplains and wetlands are found in the lowlands near rivers, streams and drainageways in association with the Winooski River, Potash Brook, Muddy Brook and their tributaries.

C. SURFICIAL GEOLOGY

The City's soils are mapped in the Chittenden County Soil Survey by the Soil Conservation Service (6). This general information, plus detailed on-site soils data, is necessary to evaluate suitability for on site sewage disposal, as well as load-bearing capacity, depth to seasonal high water or bedrock, stoniness, and ground water recharge capability. Specific information is needed on a case-by-case basis. The characteristics of the soils determine the location, intensity and type of environmentally sound development.

In South Burlington today, USDA-SCS soils information is particularly germane to the future plans for development. Particular attention should be paid to the Southeast Quadrant where all studies indicate a moderately high potential for farming and a very low suitability for houses with on-site sewage disposal due to the presence of poorly drained soils and wetlands. Areas near the airport and east of Route 7 near the horticulture farm have a low potential for farming and few limitations for housing due to the presence of sandy soil.

D. BEDROCK GEOLOGY

The bedrock geology of the City relates to planning in many ways. First, shallow depth to bedrock and the presence of bedrock outcrops dictate the location of roads, leachfields, underground utility lines, and building foundations. Second, bedrock aquifers supply many wells in South Burlington. The quantity and quality of this groundwater must be maintained at least as long as citizens rely on private wells for their domestic water supplies. The effects of development on recharge areas as far as natural systems are concerned should also be borne in mind. Housing and industrial development reduces recharge capability at the surface by increasing impermeable surfaces, such as rooftops, paved areas

and lawns.

E. VEGETATION

Trees, shrubs, and other soil cover are more than aesthetic amenities. They prevent erosion, improve air quality, provide visual and aural buffers, and furnish shade and protection from wind. Several remaining large wooded tracts are owned by the City or the University of Vermont and maintained essentially in their natural state (see discussion on forest lands). Remnants of apple orchards and hedgerows along property lines and abandoned town roads are historic reminders of the City's agricultural heritage and past land use patterns.

As land is subdivided and developed, existing vegetation along drainageways and property lines and around building clusters should be retained and/or supplemented by new plantings. Conservation of specimen trees or groves of trees is justified by the fact that it is impossible to successfully replant trees larger than 10" or 12" in diameter. Examples of this kind of growth include the wooded area in Fire District #1 which has old growth American beech trees, and the row of mature maples on the former Calkins parcel (i.e., Dorset Park) and Economou property located immediately to the south. The City should make an effort to preserve the existing inventory of street trees and increase both the variety and number of street trees. Efforts should be made to maintain and restore known historic streetscapes with species that are native and tolerant of an urban environment. Street trees serve to calm traffic, contribute to urban beauty, air quality, and noise reduction.

F. RIVERS AND STREAMS

Flowing water is a critical aspect of the character of any geographical region. As well as being important for recreation and wildlife of many kinds, rivers and streams are a major element of our aesthetic sense of the countryside. Geologically, rivers and streams have taken their present forms over thousands, even millions, of years. Their present shapes and flows are controlled by surface and bedrock geology. Stream channels are naturally dynamic systems. They erode and deposit sediments in predictable patterns based on the velocity and volume carried by the

stream. Streams naturally meander across their floodplains. Upstream activities that change the erosion/deposition balance will change downstream dynamics. During periods of high water and storm events, streams drain flood water. Storm events flush impermeable surfaces of refuse and parking lot runoff, including petroleum products, into Lake Champlain. Natural buffers and restored buffer areas can serve to filter out harmful contaminants as well as decrease water velocity and its potential to erode.

The City's major rivers and streams include the Winooski River, Muddy Brook and Potash Brook. These water resources are described below. South Burlington has a network of minor streams that includes tributaries to the major streams as well as the Shelburne Pond watershed and small watersheds such as Bartlett Bay.

Winooski River - Forming the northern border of South Burlington, the Winooski River is a natural feature that brings South Burlington into partnership with many other communities. The lower Winooski, more than any other river in Vermont, is used to capacity to support the high level of human activity that surrounds it.

Throughout its lower reaches, the Winooski is tapped for its ability to produce electric power. Each community along the river uses it to carry away treated sewage. The agricultural soils of its floodplain are still important in our regional economy. The river valley is Chittenden County's central transportation corridor. And yet, the lower Winooski retains much of the feeling of a natural river. Scenic vistas abound from its banks. Spectacular gorges offer access to the drama of nature and to the geologic past. A canoe trip down the river is a blend of modern vitality and natural beauty.

Muddy Brook - Muddy Brook flows northbound for approximately 5.7 miles, forming the eastern boundary of the City's Southeast Quadrant plus the Shelburne Pond natural area. Future pedestrian trails and Recreation paths are planned along the entire length of Muddy Brook. Water quality of the brook will be affected by the nature and extent of surface runoff from the Southeast Quadrant area.

Potash Brook - Potash Brook has its source within the City limits and flows southwesterly into Lake Champlain. Potash Brook has been and will

continue to be a substantial stormwater discharge system. Potash Brook also parallels a major line in the City's pedestrian trail system. The water quality of Potash Brook is directly affected by the degree of treatment of stormwater discharges and by the number and adequacy of on-site sewage disposal systems permitted within its watershed, and the extent of culverted areas.

Alterations to the major rivers and streams, as well as minor streams and tributaries, can often have unexpected downstream effects. Natural flows of surface runoff from surrounding uplands is important in maintaining the nature of any stream. Stream and river protection have long been recognized as the first step in maintaining a healthy natural environment including Lake Champlain.

G. WETLANDS

South Burlington's wetlands are a vital link in the maintenance of the quality of surface and ground water. Wetlands serve as stormwater storage and control the flow of streams. They are natural filters for sediments and surface runoff contaminants. Wetlands provide habitat that supports many species of plants and animals including game fish in Lake Champlain and ducks. Wetlands are critical part of open space preservation and cannot be replaced once they have been disturbed. Disturbance of wetlands can include seemingly harmless practices such as mowing, the use of fertilizers, and the use of pesticides.

The time has passed in which swamps, bogs, and marshes were seen as wasted space and nuisance areas. At every level of government, wetlands are being recognized for the values they contribute. As South Burlington continues commercial and residential development into the City's open space, we need to take special care that the remaining wetlands are carefully protected and others restored. The City should work with the state and federal wetlands programs, in order to make most efficient use of all resources. Even small, incremental reduction of minor wetlands can cause cumulative damage to the wetlands ability to both filter pollution and mitigate storm and flooding events.

H. LAKE CHAMPLAIN

South Burlington has 2.3 miles of frontage along Lake Champlain, a superlative scenic and recreational resource that is widely used by both residents and visitors nearly year round. The lake is used as a water supply for the Champlain Water District and some private water intakes. It is relied upon to dilute storm drainage and discharge of treated municipal waste. The City should join in efforts with other communities to curb non-point source pollution of the lake through its policies.

Lake Champlain has been the target of attention both regionally and internationally in recent times. The governors of Vermont and the Province of Quebec, have entered into an agreement to pursue long-term management of the lake as a critical natural resource. In another very significant action, the United Nation's Man and the Biosphere Program recently designated Lake Champlain and its basin as one of its International Biosphere Reserves. There are only a few hundred representative ecosystems in the world that are so designated and most are wilderness areas. Lake Champlain is the first Biosphere Reserve that contains a substantial human population. As a part of this international laboratory, South Burlington is one player in a significant process of coming to grips with the stewardship of a very special natural resource. In planning for the future of the lake, the elimination of non-native intrusive species such as zebra mussels or lamprey should be weighed carefully and precautions taken to find solutions which will not create new problems.

Further documentation on Lake Champlain as a multi-purpose resource is found in the Chittenden County Regional Plan, the State Comprehensive Outdoor Recreation Plan, the Lake Champlain Basin Studies, and the Vermont Historic Preservation Plan. Currently, the Lake Champlain Basin is being evaluated for status as a Heritage Corridor. South Burlington's lakeshore is dominated by Red Rocks Park, the Queen City Park and Bartlett's Bay neighborhoods. The remainder, which constitutes more than half of all the usable frontage, is a large landholding known as Allenwood. While there are great pressures for private and public access to the lake, South Burlington's lake frontage is largely undeveloped. As development occurs near the lake shore, it is important that care be taken to design it in a manner that respects and protects the quality of the lake and the aesthetics of the shoreline.

I. AQUIFERS

Groundwater is a precious natural resource. It is the water that has filtered into the ground, and travels slowly through the pores of soil and cracks of rock. Groundwater is a source of water supply for approximately 275 people in South Burlington. Several homes in the Southeast Quadrant get their water from private wells. In the Queen City Park neighborhood, about 80 homes are hooked into the Fire District #1 water supply, which is fed by a well at the end of Pavilion Avenue. This Fire District well is the only municipal groundwater supply in the City.

Contamination of groundwater can pose health or other water quality problems. Such materials as road salt, hydrocarbons, pesticides, and fertilizer are typical of the water soluble toxins that are known pollutants of aquifers. Rock that make for good aquifers are those that allow the free flow of water and therefore any other soluble contaminants including infiltration of contaminated surface water. Wells have been known to be contaminated with as little as a small amount of spilled gasoline. Known aquifers should be adequately protected through compatible land use planning activities.

Development over aquifer recharge areas should maintain adequate open space and stormwater retention facilities to allow for the infiltration of clean water into the aquifer (to keep out contaminants that are dissolved in surface runoff). The City may pursue an Aquifer Overlay District to allow greater protection of aquifers from contaminants such as pesticides.

J. WATERSHEDS

A watershed is the region from which a river or stream receives its supply of water. It is now recognized that the major sources of pollution into the waters of Vermont fall into the category of "non-point sources". This includes any pollution source that can not be identified with any particular point or outfall. What the major non-point sources are in any given area depends on the land use of the region which includes the runoff from roads, parking lots, lawns, and agricultural areas. The components of non-point pollution include nutrients from fertilizers, pesticides, and the particulate and hydrocarbon pollution from motor vehicle exhaust and petroleum products.

Buffer strips, or conservation zones, along a stream or lakeshore help in terms of filtering and treating the surface runoff that flows through them. Wetlands act as filters for particulates as well as nutrients and toxins dissolved in the water. The difficult aspect is that the actual source of the pollution materials is activity that happens throughout the entire drainage basin. Nonpoint source pollution is difficult to control because the source of the pollution is activity that occurs throughout a watershed at homes, farms, and businesses rather than at a single point such as a wastewater treatment plant.

Non-point pollution is a problem in the Champlain Valley and the problem is worse in some places than in others. Shelburne Pond is one of the most severely impacted water bodies in Vermont with a phosphorus level of over 100 micrograms per liter. Phosphorus, a major component of non-point pollution, is the nutrient most responsible for massive algae blooms and nuisance vegetation. For a comparison, Lake Champlain has a phosphorus level of 10-54 micrograms per liter.

One technique that can be used to protect important watersheds is through the establishment of a watershed quality district. In such a district, an effort is made to minimize the impact of development on the watershed. One of the features of development that leads to increased nutrient export is the covering of land area with impermeable surfaces, specifically buildings, pavement and lawns. Limiting coverage of land with impermeable surfaces in a watershed protection district is a key element of water quality protection. Where possible, permeable pavement materials (such as stone) should be utilized in parking lots and driveways. When pavement is necessary extensive retention devices to allow settling of surface runoff should be provided. Take advantage of permeable soils by engineering groundwater recharge rather than simply adding to stream flows.

K. VIEWS

There are a number of outstanding scenic views offered in the City. From numerous locations in the City, one can see spectacular views of the Green Mountains to the east, and the Adirondacks and Lake Champlain to the west. Sources which have identified important views include Map 7 of this plan,

Natural Resources Inventory Report #1 "Potential Recreation and Conservation Sites" (7), and the "Public Improvements/Scenic Views and Natural Area Inventory Study, Phases I and II" (8, 9).

The preservation of these outstanding scenic views is important to the City. Building heights should be carefully defined, monitored, and enforced. Through careful planning, appropriate development design, and through acquisitions and easements, these views should be protected for future generations to enjoy.

L. AIR QUALITY

As the City continues to grow, and especially as the county around us becomes more urbanized, certain parts of South Burlington will experience air quality problems. Land uses and activities with the greatest potential for air quality problems include certain manufacturing uses, quarry operations and congested intersections where vehicle stacking and queuing is substantial. Air quality is primarily regulated by state and federal authorities.

M. WILDLIFE

South Burlington is home to many animals from the smallest insects and worms in the soils, to the many small mammals that pack almost any available wooded lot or open field, to the larger mammals like beaver, fox, and deer. Residents share the densely populated urban and suburban areas and open spaces with this diverse population of wildlife.

Every additional building lot that is converted to human residential or commercial use takes away its incremental share of wildlife habitat. This is one inevitable part of the urbanization process.

The City should make every effort at preserving open space to help with the maintenance of wildlife habitat. The City should make full use of available planning and legal tools to preserve suitable habitat. It is important to create and maintain connections between open and natural areas for wildlife corridors. Flora and fauna in an area reach equilibrium, with minor fluctuations in individual species in any given year. When this balance is

disturbed, new equilibrium will be reached. For example, where the bat population is extirpated from an area, the insect population will increase until a new predator enters the area. Efforts should be made to preserve and increase the City's wildlife diversity.

N. NATURAL AREAS

Several "natural areas" in South Burlington have been identified by the Vermont Natural Resource Council and Vermont Resources Research Center (10). These natural areas are environments that have only slightly been altered by man, and include unusual communities of plants and animals, rare species, and exceptional geological features. These natural areas are shown on Map 2 and are discussed below.

Spear Street Sand Dune Field - This site is an example of Pleistocene "fossil" sand dunes, associated with the Champlain Sea about 10,000 to 12,000 years ago. This sand dune field is located predominantly on UVM land on the west side of Spear Street approximately midway between I-189 and Swift Street. The occurrence of this phenomenon is rather rare and the report of the VNRC states that this site is in need of physical management to maintain its unique state. This site is threatened with destruction. This sand dune field exists in a sensitive and fragile form within an urban environment. These dunes are considered to be significant on both the local and state levels. This site is in private ownership.

Red Rocks Park - Red Rocks Park is owned by the City. It exhibits rock outcrops and glacial erosional features with above average visual impact and is of local and state significance. The area is considered (by the VNRC) to be safe from destruction indefinitely as long as it remains in public ownership. Zoning provisions should be enacted to provide an adequate buffer as protection from contiguous development on adjoining land, and ordinances to prevent littering, destruction and other abuses should be enacted and enforced.

East Woods - East Woods is a 40 acre parcel with an old age stand of hardwoods with groves of huge hemlock and red pine. A great variety of shrubs, including viburnums and dogwoods, grow here along with a rich herbaceous flora. This type of forest is considered to be rare and is of local, regional and state importance. It is owned by the University of Vermont. In

April, 1971, the University Board of Trustees adopted a resolution designating East Woods a Natural Area.

Centennial Pine Woods - Centennial Pine Woods is a 40 acre forest site of old age softwoods dominated by white pine, red pine and hemlock. Hardwoods characterized by red maple make up the underscore. Forests such as this are not uncommon. It is considered to be of local, regional and state importance. It is owned by the University of Vermont. It was designated by the University Board of Trustees in April, 1971 as a Natural Area.

UVM Horticultural Research Center Site - An old Indian village and artifact site are located on this land. The site has broad significance and should be protected.

Kennedy Drive Natural Area - This area encompassed a 36.1 acre parcel located at the northwest side of Kennedy Drive. Potash Brook runs through this land and there are many natural springs forming a wetland. Forest cover contains white pine and some mixture of hemlock, elm and red maple trees. This site is immediately contiguous to a 23 acre natural area already owned by the City. Any damage to the ecological balance of this land could have serious effect on the natural area which the City owns. The site was listed as a Natural Area in "South Burlington Natural Resource Inventory", September, 1967.

In the late 1970's, this parcel was partially developed with multi-family residential buildings (Tree Top Condominiums). As part of this development, 17 acres were set aside to protect Potash Brook. This undisturbed area, along with the City owned parcel, creates a 40 acre natural area of significant ecological value by providing the functions of a wetland in a populated area. This area should be protected.

O. FOREST LANDS

Forest lands are an important natural resource. Due to the urban character of the City, forest lands are more important for their recreational, educational, wildlife habitat and aesthetic amenities as opposed to their use for timber production. Trees serve as temperature control, wind breaks and noise baffles. Therefore, programs and methods to protect these lands should focus on public access and enjoyment, and wildlife preservation.

Several goals in 24 V.S.A. Chapter 117 promote the preservation of important forest lands by discouraging the fragmentation and high density use of these lands. South Burlington should encourage tree plantings, in areas of new development as well as in established areas.

Several important forest land areas already identified in the previous subsection include Red Rocks Park, Centennial Woods, East Wood Natural Area and the Kennedy Drive Natural Area. These areas should remain in public ownership for public use.

Other important forest lands include the forested ravine area bounded by I-89, Patchen Road and Williston Road, and the 20 acre forested wetland/bog located in the southern end of the City between Spear and Dorset Streets. These important forest lands under private ownership should be protected through conservation easements and other creative land use practices.

P. OBJECTIVES

The City's policy on natural resource protection has the following objectives:

1. Promote well planned development that protects the City's important natural resources, open spaces, wildlife habitat, scenic views, air, and water resources.
2. Protect the City's watersheds from polluted runoff and increased erosion in an effort to preserve and enhance the water quality of Lake Champlain and other surface waters.
3. Protect the City's important scenic vistas and view sheds.
4. Maintain the quantity and quality of groundwater.
5. Important wetland ecosystems should be carefully protected and others restored.
6. Make efforts to preserve and increase the City's wildlife diversity.
7. Encourage tree plantings in areas of new development as well as in

established areas, especially street tree plantings that replicate known historic streetscapes and promote diverse plantings.

8. Protect the quality of the City's air.

Q. RECOMMENDED ACTIONS

1. Continue to provide adequate, undisturbed conservation zones along both sides of major rivers and streams, as well as well defined smaller streams, tributaries, lakes, ponds, and wetlands. Provide naturally vegetated and restored buffers along all water courses in the watershed. As an ongoing task, these resources should be inventoried and mapped and it should be realized that watersheds often span over City boundaries. The City should pursue any possibilities for acquisition of open space along these resources and actively enforce encroachment in the conservation zone to protect these resources.
2. Pursue storm water runoff modeling for watersheds, such as Bartlett Bay, that include both erosion and pollution evaluation in reference to the Environmental Protection Agency's total maximum daily loads. Education initiatives, best management practices, and requirements for erosion control measures and elicit monitoring should also be pursued to minimize polluted storm water runoff.
3. An inventory of public and private stormwater facilities should be developed that notes the condition of the facilities. The City should pursue developing a recommended method for maintaining both existing and proposed stormwater facilities in an effort to improve water quality.
4. Any proposed construction near a rivers, or streams, wetlands, ponds, or lakes should be reviewed by the Natural Resources Committee. Care should be taken to design lakeshore development in a manner that respects and protects the quality of the lake and the aesthetics of the shoreline.
5. Continue to support the development of pedestrian and bicycle access along the lakeshore.
6. Protect the lake from non-native intrusive species. In planning for the

future of the lake, the elimination of non-native intrusive species such as zebra mussels or lamprey should be weighed carefully and precautions taken to find solutions which will not create new problems.

7. As part of planning for the future use of the Southeast Quadrant, the City should consider designating the entire portion of the Shelburne Pond watershed that is within the boundaries of South Burlington as a Watershed Quality District. The City should undertake discussions with the towns of Shelburne and Williston to make the Watershed Quality District a regional effort.

8. The City should undertake study to locate the extent of the aquifers in South Burlington and characterize the quality of the water. The study should begin with the aquifer for Fire District #1, and other aquifers serving private wells in the Southeast Quadrant. As a preliminary step, a consultant should be hired to provide an assessment of available data and to outline the needed scope of study.

9. The City should encourage the preservation of important scenic views from public ways including roadways, parkland, pedestrian trails and recreation paths. Views can be protected through acquisition and through appropriate development design whereby buildings and landscaping are placed so as to minimize disruption to the scenic view.

10. The City should consider establishing view protection overlay districts in other areas of the City and encourage designs that are visually harmonious with the natural landscape in view protection districts. Building heights should be carefully defined, monitored, and enforced.

11. The City should acquire land along the ridge on the easterly side of Spear Street for a multi-purpose park, including view preservation of the Adirondacks, Lake Champlain and Shelburne Point. This land should be acquired through outright purchase or subdivision exaction.

12. The City should pursue whatever options it has to establish air quality monitoring at critical places, especially near major transportation routes. This could include a mobile air quality station and investigation of traffic flow patterns and alternative options for flow should be pursued. In evaluating potential impacts on air quality, attention should be given to cumulative impacts, both from traffic generated within South Burlington

and from traffic generated in other communities.

13. The City's natural areas and forest lands which are currently under public ownership should remain in public ownership for public use. The City's natural areas and forest lands which are under private ownership should be preserved through creative land use practices such as cluster development.

14. Complete street tree inventories and encourage tree plantings wherever possible. The City should make an effort to preserve the existing inventory of street trees and increase both the variety and number of street trees. Efforts should be made to maintain and restore known historic streetscapes. Encourage public education about tree functions in urban areas through cooperation with the UVM Horticultural Farm and Vermont Department of Forest Parks, and Recreation, Urban and Community Forestry Program..

15. The City should encourage through its zoning and subdivision regulations development patterns that preserve open space areas of sufficient size in order to maintain important wildlife populations. Individual lot design should fit in with adjacent and nearby lots, to provide clusters and corridors of wooded or field vegetation, left in a natural state sufficient in size to naturally maintain present wildlife populations.

16. Larger districts, such as the Southeast Quadrant, should be planned so that development is concentrated. Larger tracts of open space, essential to many of the larger species, should be maintained.

17. Require underground utilities in all new development.

18. Pursue developing an open space plan that would map and identify South Burlington's natural and cultural resources in order to plan for their protection. This plan should prioritize areas for conservation by the City, State, or other organization as well as assist in guiding development away from important natural resources.

CHAPTER X

RECREATION

Goal Statement: A goal of the City is to provide for the varied recreational needs and interests of its citizens by providing areas and facilities, for passive recreation, active sports, cultural and educational programs

A. EXISTING CONDITIONS

The City's recreation plan must consider the nature and extent of demand for various recreation areas, programs and facilities. Demand for recreation runs the full gamut from passive recreation to active sports and cultural and educational programs. It varies in relation to the density and location of housing and to the economic and educational levels of the citizens. Supplying recreational areas, programs and the facilities in which to conduct them is primarily the City's responsibility. However, the City's role is supplemented to various degrees by assorted private, regional, commercial and institutional entities. Recreation areas and facilities owned and managed by the City, as well as others, are shown on Map 2 and described in Appendix C , Tables 2 and 3 .

Institutions such as the University of Vermont satisfy some very minimal recreation demand, although this is difficult to quantify in a city-wide context. University facilities are, for the most part, limited to use by students and staff. Similarly, commercial enterprises in the City with golf, tennis, racquetball, or swimming facilities have a favorable yet indeterminate impact on demand. Moreover, the City's role as a supplier of recreation land and facilities is being augmented by private "project" parks (discussed later in this chapter) and the Winooski Valley Park District.

Turning to municipal recreation land and facilities, some insight into the nature of demand for recreation has been gained through a review of recent residential growth trends and the Town Meeting Forum Project. The rate, location, and type of new residential construction present a variety of considerations for recreation planning.

1) Until existing undeveloped park sites in the north end are more fully utilized, some congestion and/or overcrowding of developed neighborhood parks in the north end can be reasonably expected. The problem remains that the people in the neighborhoods around some of the undeveloped park lands wish them to remain under-developed. They prefer natural areas to developed parks.

2) The impact of the clustered, multi-family developments, unit by unit, tend to be less than that of comparable single-family developments because of decreased household size and the provision for private recreation facilities on site.

B. RECREATION LANDS AND FACILITIES

The City's recreation needs are and/or will be met primarily by recreation lands and facilities that fall into the following general categories: 1) private parks, 2) mini-parks, 3) neighborhood parks, 4) school parks 5) community parks 6) sports complex, 7) natural resource areas, and 8) regional park. Proposals for the

acquisition and development of recreation lands and facilities are based on the following definitions and standards:

1. Private Park: would include swimming pool, tennis courts, and club houses, generally within a residential area, developed for the exclusive use of residential and all maintained through a neighborhood association. Size and complexity of facilities are dictated by the developer, lending institution and/or homeowners association. The private parks should be located on the project site so as to minimize intrusion on private residences. Existing private parks in the City are listed under private recreation facilities in Appendix C , Table 2 .

2. Mini-Park: generally is between 2500 square feet and 1 acres in size. Parking is typically not required. It is mainly for passive use such as picnic areas, plantings and sitting areas.

3. Neighborhood Park: The focus is on informal active and passive recreation. It should be centrally located within its service area encompassing 1/4 to 1/2 mile distance. It should be accessible by way of

interconnecting trails, sidewalks, or low volume residential streets. 5 acres is considered the minimum size, 5-10 acres is optimal. Neighborhood Parks are not intended to be used for program activities that result in overuse, noise, parking problems, and congestion. It should achieve a balance between active and passive park uses.

4. School Parks: Designed to serve the recreation, social and educational opportunities for the area in which the school is located. There is no specified size for the school park. The site should allow for both active and passive activities.

5. Community Parks: are larger in size and serve a broader purpose than neighborhood parks. The optimal size for community parks is between 20-50 acres. It should provide for both active and passive recreation use. It should include play structures, game courts, ball fields, tennis courts, swimming pool, etc.

6. Sports Complexes: are community wide facilities rather than serving neighborhoods or areas. The site should be a minimum of 48 acres with 80-150 acres being optimal. They are intended for programs of athletic use and should include ball fields, soccer fields, skating rinks, tennis courts, play structures. It should also provide picnic areas and shelters. Support facilities include multi purpose building, restrooms, and common space.

7. City Park: In the case of South Burlington our City Park specifically designed and intended to serve all city residents is a combination of the previously described community park and sports complex. The concept is to centralize municipal facilities and programs and to provide facilities that are inappropriate in neighborhoods such as recreation centers, aquatics, etc. South Burlington has two such facilities, Dorset Park and Red Rocks Park. Each serving different diverse community needs.

8. Natural Resources Area: This will be lands set aside for preservation of significant natural resources, open spaces, visual aesthetics and buffering. These lands consisting of sites exhibiting natural resources are unsuitable for development but offers natural resources potential. These resources may include geological features, watersheds, protection of rare threatened or endangered species, forests/woodsheds, wild life habitat.

9. Regional Parks: These may serve City residents as well as all other residents of some specifically defined region in which the City is located. Uses may include any of those activities found in a City Park. In the Winooski Valley Park region, the Winooski Valley Park District is an intermunicipal organization charged with land acquisition and management for conservation and recreation purposes. A recent project includes the development of the restored Allen House in Burlington at the Ethan Allen Homestead as a visitor center with programs that are open to the public and school children. The district's holdings and its 5-year acquisition and development program are listed in Appendix , Tables and .

C. FUNDING

1. LWCF: Land and Water Conservation Fund is on the verge of being restored by Congress. In past years South Burlington has taken great advantage of this program acquiring areas including Red Rocks Park, Jaycee Park, Szymanski Park. The Garvey Property, The Dumont Property, The DeGraff Property and has developed Red Rocks Park, lighted the ball field at Jaycee, developed Szymanski Park, developed Jaycee Park. Built the City Tennis Courts located behind South Burlington High School and constructed Phase II of the Recreation Path. This program will fund the acquisition and development of outdoor recreation lands and facilities requires a 50% local match and because of the limited amount of money coming into Vermont is a very competitive program.

2. Recreation Impact Fees: Another implementation measure used to acquire parkland is through the assessment of recreation impact fees on new development. The City adopted its Impact Fee Ordinance, which includes recreation fees, in 1995. The payment of an impact fee is preferred where it is not practical to dedicate a park site due to the size, density or location of a proposed subdivision. There is a strict requirement as to how this money can be spent and there is also a time limit as to how it can be spent.

3. Annual Appropriation: The City has been setting aside funds in the Annual Budget to be used for the acquisition or the purchase of options toward acquisition on lands for recreation and open space and recently approved a ballot item to establish a conservation fund.

4. Open Space Dedicated Tax:

The City voters, in May 2000, approved a special dedicated property tax of 1 cent to purchase open space or development rights to open space. The tax will yield approximately \$125,000 per year.

D. OBJECTIVES

1. Provide for the varied recreational needs of its residents.
2. Provide space for recreation suitable to the needs of various users including active sports, passive recreation, cultural and education programs.
3. Provide a balance between developed recreation areas and natural recreation areas.
4. Work with private developers to integrate private parks into the recreation system to allow private parks to reduce the usage at city parks.
5. Consistent with the proposed use of a recreation parcel and activity, make recreation areas accessible to all residents regardless of physical ability.

E. RECOMMENDED ACTIONS

1. Private Parks

a. City authorities should be involved in the design, type and number of facilities so as to ensure that the facilities will take some pressure off of City facilities.

b. In support of such parks some credit against recreation impact fees should be considered providing that the size and type of facility meet city approval.

2. Neighborhood Parks and Mini-Parks

a. Based upon the sentiments expressed during the Town Meeting Forum the following goals should be established.

1. Each neighborhood should have access to a park or open space area within a mile safe walk.

2. Each neighborhood should have a small park "mini-park or neighborhood park or a community green or meeting area".

b. The mini-park and/or neighborhood should be designed to meet the express needs of the neighborhood they serve.

3. City Lands

a. These sites based upon location, size, and other factors have the ability to met the needs of the whole South Burlington community in keeping with the goal statement.

1. Dumont Property - because of its location this site will lend itself as an outdoor area to compliment the City Center. It could have benches, fountain, walking path and green areas. It is imperative to preserve the uniqueness of the surrounding neighborhood by maintaining substantial natural areas.

2. Dorset Park - this is the hub of community activity because of its location and its size. The outdoor facilities have offered numerous opportunities for community activity. A provision for a community center and aquatics facilities as proposed in the Dorset Street Park Master Plan dated May 1989, should be pursued so as to enhance community recreation opportunities and community activities.

3. Red Rocks - Red Rocks Park currently provides the city's only public access to the water. It also provides a great opportunity for viewing natural areas, wildlife, etc. Stewardship through either city expense or volunteer groups must be expanded to better protect the trails and other natural areas in the park to ensure the future of this unique nature area. The City should study the possibility of a new access at Red Rocks or other

property that would facilitate the community's enjoyment of Lake Champlain and allow instruction for the use of small boats, kayaks, rowing shells, etc.

CHAPTER XI

PATH SYSTEM

GOAL STATEMENT: A goal of this City is to become a community in which residents have safe and pleasant alternatives to roads and automobiles for both recreation and transportation by providing safe off-road connections a) to adjoining municipalities, and b) among neighborhoods, schools, parks, and natural areas within South Burlington.

I. EXISTING CONDITIONS

1. Recreation Path

The existing recreation path system has its origins in a grass roots citizen effort begun in 1989 to provide for safe travel routes away from automobiles. After extensive public canvassing and input, the group prepared and presented a recreation path proposal to the City Council in the summer of 1989. The Council enthusiastically endorsed the project and designated an official City committee to oversee the path system. While the Recreation Path was initially envisioned as the only responsibility of the Recreation Path Committee, the need for the Committee to coordinate the planning and development of paths, trails, and sidewalks has become increasingly apparent.

Phases I and II of the path system were completed in 1992 paid for by a City bond and Land and Water Conservation funds. Phase I provides a connection to the Burlington Bike Path along Queen City Park Road and runs on Lindenwood Drive, through Farrell Park, east through the UVM Wheelock Farm, along Swift Street to Dorset Park. From Dorset Park Phase I continues north along Dorset Street (on both sides north of Kennedy Drive), and east along Kennedy Drive to Williston Road. Phase II runs south from Dorset Park along Dorset Street, east along Old Cross Road, and then through the Vermont National Golf Course to connect to the Butler Farms and Oak Creek Neighborhoods. Phases I and II are paved paths.

Phase III, consisting of 2.6 miles of parallel paved path gravel path, is currently under construction. It runs from Gutterson Field House at UVM, south along Spear Street and then west along the north side of I-189 to

Farrell Street. On Farrell Street, Phase III consists of sidewalk and a bike lane up to the intersection with Swift Street. A widened sidewalk along Swift Street, and section of path along the Farrell Park driveway (to be paved by the City Public Works Department in 2001) will complete the connection between Phase III and Phase I. Phase III will connect to Farrell Park (and Phase I) via sidewalk along Farrell Street. Phase III was made possible by a 1992 VT AOT grant and City funds.

Other short sections of paths have been built, usually in association with the development of residential properties. These new sections of path connect to previous path sections or existing sidewalk or will connect when other planned sections of path are constructed. They include sections on the Vermont National Country Club, along Nowland Farm Road, between Harbor View Road and Allen Road, along Midland Avenue, and between Williston Road and Lynn Avenue across Community Lutheran Church Land and the Garvey Property (a City owned parcel.) Where the path crosses private property, easements have been donated by landowners. Frequently the developer has constructed the path.

The current Recreation Path Network consists of approximately 14.4 miles of Class I (off-road) path (including Phase III), and an unknown number of miles of Class II (on-road) path.

Class I Path (12/31/00)

Paved Path

Dorset Street	
Williston Rd. to Kennedy Dr. (Both sides)	2.3
Kennedy Dr. to Swift St.	0.6
Swift St. to Old Cross Rd.	1.0
Kennedy Drive	
Dorset St. to Williston Rd.	1.3
Williston Road to Lynn Avenue	0.3
Swift Street	
Dorset St. to Spear St.	0.6
Spear St. to Farrell Park	1.7

Swift Street to Farrell Park	0.1
Wheelock Farm woods to Overlook Park	1.1
Overlook Park to Butler Farms	1.7
Golf Course	
Old Cross Rd. to Dorset St.	1.1
Path Near Red Rocks Park	0.1
Phase III	2.5

Total Phases I and II and III	14.4

2. Pedestrian Trails

A pedestrian trail network is designed to follow waterways and buffer areas and to coincide with property lines and/or utility easements. Pedestrian trails are intended to remain in an unpaved, natural state, while recreation paths are intended to be paved for more intensive uses such as bicycling and in-line skating. The two networks should be complementary and interconnected. Planning for a public pedestrian trail network began in 1969 and culminated in specific proposals in the 1974 Comprehensive Plan. These proposals have been implemented through site plan and subdivision review. Also, requests for critical trail links have been made directly to landowners irrespective of any development plans.

Existing and proposed pedestrian trails are shown on Map Two, and are described in Appendix C, Table 5. Currently there are 10.3 miles of formally recognized pedestrian paths in the City. There are numerous other short sections of path created informally in various neighborhoods.

3. Sidewalks

Sidewalks are intended to provide a safe route for pedestrians and cyclists adjacent to roads. They are an important component of the alternative transportation network envisioned to provide safe non-motorized

interconnections both within South Burlington and between the City and adjoining municipalities. Currently there are 71 miles of sidewalk in the City. Most residential and commercial streets have sidewalks on at least one side and all new developments are required to provide sidewalks or their equivalent. However, sections of major roads, such as Shelburne Road, Spear Street, Allen Road, Airport Parkway, Kimball Avenue, and Swift Street lack sidewalks, and frequently where there is sidewalk, it ends abruptly. Increasingly the Path Committee is considering the availability and need for sidewalks when planning additions to the path system.

Most neighborhoods are connected by path, trail, or sidewalk to other parts of the City. Neighborhoods, which still have poor or no connections include Country Club Estates, Queen City Park, the Bartlett Bay Road neighborhood, and most of the City north of Williston Road.

South Burlington ordinances allow bicycle riding on sidewalks.

4. Easements

Easements obtained over private land are the main means of locating paths and trails in the City. Easements are usually obtained during the process of development review. Typically the Path Committee makes recommendations on desirable easements to the Development Review Board. The DRB and Planning Staff then negotiate with the landowner. While this process has worked extremely well over the years, a major weakness has been in the area of easement mapping and documentation. There is no comprehensive easement inventory or map so it is nearly impossible to know what easements are available for path or trail development. The Path Committee undertook an inventory of path and trail easements in 1997. However, funds were not available to inventory utility and other types of easements that potentially could be utilized for path and trail development. The Committee finds the lack of an easement inventory to be one of its greatest obstacles in planning the expansion of the path/trail network.

5. Funding

The Committee has an operating budget of \$400 year. These funds have been spent on signs, reflectors, flyers, maps, and other miscellaneous items. Funding for path planning and construction has come from a

combination of grants, state and federal funds, City appropriations, and impact fees. Path maintenance costs have been borne by the City's Public Works Department.

6. Maintenance

Path maintenance is carried out by occasional Committee-organized volunteer efforts, but primarily through the efforts of the City Public Works Department. Public Works repairs, paves, sweeps, mows, and plows the path, as necessary.

7. Monitoring

During the summer months, the path system is patrolled by staff hired and supervised by the South Burlington Police Department. Throughout the year, the Committee periodically inspects the path system for maintenance and safety problems.

8. Coordination

Within the City, the Recreation Path Committee seeks guidance on path development from City Council, the Planning Commission, the Development Review Board, other City committees, and the general public. The Committee holds regular monthly meetings, which are open to the public. The Committee also coordinates its planning efforts both with surrounding communities (Burlington, Shelburne, Williston, Essex, Colchester, and Winooski) and with regional, state, and national path-related programs. Committee members actively participate in the efforts of the Chittenden County Regional Planning Commission, the Metropolitan Planning Organization, VT Trails and Greenways Council, Lake Champlain Bikeways, Cross VT Biketrail, Governor's Council on Physical Fitness and Sports, VTrans, VT Bike and Pedestrian Coalition, the Green Mountain Bicycle Club, and other organizations.

9. Education and Outreach

The Committee promotes use of the path system and reminds the public about safety rules via occasional articles in *The Other Paper*. The Committee also recommends pavement marking and signage both on the path and on the roads to improve safety for pedestrians and cyclists. From

time to time the South Burlington Police Department holds bicycle safety classes and inspections.

B. OBJECTIVES:

In developing the path system, the City has the following objectives:

1. The path system should connect all city neighborhoods in a safe manner and should encourage multiple uses of the path. The path system should consider wildlife corridors and open spaces so that path development does not unduly interfere with these areas.
2. The recreation path shall be fully accessible to all non-motorized uses to the greatest extent possible.
3. The integration of the recreation path, pedestrian trails and city sidewalks should be seamless as possible and encourage non-motorized commuting.
4. New developments in the City should take the path system into account during site planning and should be encouraged to donate easements necessary to extension of the path system.
5. Sidewalks or recreation paths should be encouraged in all new residential and commercial developments.
6. Protected pedestrian crossings, including dedicated traffic signals, shall be encouraged on all high-traffic streets.
7. Funds necessary to maintain the existing system and to build future links must be made available through the City budget and/or outside grants.
8. A quick response to safety and maintenance issues must be ensured by working with the City Public Works Department and Vtrans.
9. Public input into the operation, expansion, and improvement of the path system should continue.

C. RECOMMENDED ACTIONS

1. Develop the proposed path segments described in Appendix C, Table 6.

a. Continue easement acquisition and path construction as part of development review and permitting process

b. Take advantage of state and federal transportation projects as opportunities for adding paths, bike lanes, and other facilities.

c. Continue coordination with adjoining municipalities and with regional, state, and national path efforts

2. Improve mapping and documentation of existing paths and easements

a. Make specific recommendations to City planning staff on digital map and database needs. Develop a complete inventory of recreation and pedestrian path easements.

b. Provide information on new paths and easements to Planning Staff for inclusion on digital map and in database

c. Receive quarterly updates of digital path and easement maps

3. Develop a sidewalk plan that includes, at a minimum, the following elements:

a. identification of areas, usually along older roadways, where conflicts between pedestrian and vehicles are most severe.

b. location of sidewalks, both within and outside street rights-of-way, to link various neighborhood and community focal points.

c. sidewalks and/or paths should be required where it is appropriate during site plan and subdivision review.

4. Investigate the use of raised, imprinted cross walks, mini-roundabouts, and other methods of traffic calming to improve cyclist and pedestrian safety in high (automobile) traffic areas.

5. Through zoning and subdivision regulations, support and encourage mixed-use and high density development to promote pedestrian movement

and to reduce the reliance on the automobile for local circulation.

6. Where appropriate, include bicycle and pedestrian improvements in all transportation projects carried out in the City.

7. Funding

a. Annually recommend appropriate high priority construction/maintenance projects for inclusion in Public Works budget

b. Explore outside grant opportunities for construction of path and related amenities as well as for planning needs (e.g. intern to research easements).

8. Monitoring

a. Continue use of summer monitors to assure path safety during high usage months.

b. Continue periodic inspections of the path system for safety and maintenance needs by the Committee.

CHAPTER XII

TRANSPORTATION

GOAL STATEMENT: It is a goal of this City to improve and expand of all modes of transportation including private automobile, public bus transit, air, rail, water, biking, walking, ride sharing and private sector involvement. Such expansion and improvement shall be consonant with equal access for all income levels and abilities, reasonable costs, orderly and continued economic growth, existing and proposed land use, the fixed supply of land, the increasing cost of energy, and other goals of this plan.

The conveyance of people, goods, and services is of paramount importance. Transportation systems should be designed to provide every resident, regardless of economic status, age, or disability, access to all services whenever possible. In addition, transportation systems should provide for the orderly and continued economic growth of our community. The improvements and expansion of transportation systems should also proceed in a way that complements the pattern of existing and proposed land uses. Planning of such systems should be geared to the limited supply of energy and land.

South Burlington's transportation system is only a part of a larger regional transportation network. Proper transportation planning requires a regional perspective. In an effort to work with adjacent communities and properly plan and maintain a quality regional transportation network, the City became a member of the Chittenden County Metropolitan Planning Organization (CCMPO). The CCMPO was created in 1983 to achieve a "continuing, comprehensive and cooperative" transportation planning process for the Burlington urbanized area. The primary functions of the CCMPO include preparation of a long-range transportation plan, setting of project priorities through the Transportation Improvement Program (TIP), providing technical assistance to local communities and transportation advocacy at the State and federal levels.

A. PEDESTRIAN/BICYCLE

Walking and bicycling are healthful transportation modes that until the

1990's recently were largely overlooked in the City's spending and planning priorities. Greater incentives to promote walking and bicycling can and should be implemented to minimize complete dependence on the automobile for local circulation. In addition, pedestrians in an automobile-oriented environment must receive appropriate consideration. A detailed discussion on pedestrian and bicycle facilities and related recommended actions are provided in Chapter XI, Path System.

Pedestrian links are needed between neighborhoods, schools, parks, shopping and employment centers, other transportation modes, and other community focal points. In order to promote such links as transportation facilities, pedestrian ways generally should follow direct travel routes whenever possible, rather than paralleling roadways. In addition, pedestrian/bicycle ways should be designed to reduce conflicts with motorized vehicles. The City's proposed pedestrian trail and recreation path systems are examples of a safe, attractive pedestrian transportation system. These facilities are discussed in more detail in the recreation section.

Sidewalks and pedestrian ways which parallel roadways should be constructed on both sides of arterial streets, on one or both sides of collector streets, and on at least one side of local streets. Sidewalks and pedestrian ways should be ramped at all street and drive crossings and properly graded so as to accommodate the elderly and handicapped. In addition, it is important that all signalized intersections include a pedestrian phase in order to allow pedestrians to safely cross a busy road.

Bicycling and jogging continue to become increasingly popular for both recreation and transportation. Along arterial streets, separate or shared facilities for bicycle/pedestrian use should be provided. This need is particularly strong along the Williston Road and Shelburne Road corridors. On collector streets, bike/pedestrian routes should be designated by signs in conjunction with pavement widening and painted lines. On local streets where traffic volumes and speeds are low enough to pose few hazards to cyclists, bike/jogging route designations by signing alone should suffice. In addition, the University of Vermont, as a major focal point, must be closely involved with pedestrian and bicycle planning, particularly along Spear Street where its major holdings are located. Serious consideration must be given to planning and implementing safe provisions for cyclists when constructing, modifying and/or upgrading roadways.

Pedestrian travel can also be promoted through land use policies. Mixed-use developments consisting of residential and non-residential uses, or office, restaurant and retail, enhance pedestrian movement by congregating services and facilities within walking distance. In addition, compact, mixed-use city or village centers create a more pedestrian friendly environment as opposed to linear strip development patterns along arterial roadways.

B. BUS

The Chittenden County Transportation Authority (CCTA) was formed in 1973 to serve the mass transit needs of the four original member communities - Burlington, South Burlington, Winooski, and Essex/Essex Junction. Shelburne became the fifth CCTA member in 1979. Since 1973, the number of passenger trips has remained stable. Over the years, CCTA has invested in new buses to replace the aging fleet and increase the number of buses on the road. This should allow for modest route expansion and improvement in quality of service.

Bus service is best rendered to well-planned, intensively used compact areas. Higher intensity development should be directed towards existing bus routes or to areas where bus service can conveniently expand. In addition, specific development proposals should be carefully evaluated at site plan or subdivision review with regard to the need for bus turn-out lanes, patron shelters, and other factors affecting bus stop location. Highway planning should specifically incorporate provisions for existing and potential bus service, such as relocation of bus stops to minimize obstructions or delays to "through" automotive traffic. CCTA and the City should investigate alternatives to the pulse system, such as a multi-model facility in the vicinity of the Southlands development on Shelburne Road.

C. RAIL

The Vermont Railway and the Central Vermont Railway both maintain tracks through South Burlington. These routes are presently used on a rather limited basis for freight service and the Sugarbush Express summer tourist train. The Vermont Railway, which parallels Route 7, holds the potential not only for north-south intercity freight and passenger service, but also for

direct service to the commercially zoned properties fronting on its east side. Rail siding potential for these properties should be maintained wherever feasible in the layout of proposed development. As the intensity of development increases on the lands west of the tracks, improvements to the grade crossings (Bartlett Bay Road, Holmes Road, Inn Road) will be necessary, possibly to the extent of providing grade-separated crossings.

The Vermont Agency of Transportation is currently implementing a project to run commuter rail service between Burlington and Charlotte on the Vermont Railway along Route 7. This trial service began in December 2000. VTRANS is also studying the potential for Amtrack service between New York City and Burlington.

D. AIR

Burlington International Airport, which is managed by the City of Burlington and the Federal government, dominates land use in the northeastern area of the City. It is a vital element in economic development and transportation for the County and surrounding region. The Airport's Master Plan, updated in 1991, documents the existing status as well as future proposals for the Airport through the next 10 to 20 years (15, 16, 31).

The continued success and expansion of the Airport will be characterized by increased aircraft operations and associated runway and terminal improvements. In the areas of economic development and transportation, the interests of the City and the Airport are very closely aligned. Improved roads and bus service in the City generally enhance use of the airport, and the attraction of further "light industry to the City will be influenced by proximity to an airfield with the broadest possible range of air service.

There are some areas of conflict that the City and the Airport shall strive to ameliorate. Principally, these are the pre-existing residential neighborhoods in the immediate environs of the Airport. These neighborhoods will continue to be subjected to high levels and duration of noise as aircraft operations expand. The effect of enlarged aircraft approach and departure areas should be minimized over existing residential neighborhoods. In addition, as the terminal area develops and Airport Drive is extended, conflicts between commercial and residential uses will grow.

In 1988, BIA completed an airport noise compatibility planning study (17). This study mapped future noise contours in the vicinity of the Airport and recommended strategies which could be taken to minimize noise impacts on surrounding properties. Land use recommendations included the establishment of Airport Overlay Districts (zoning out sensitive uses).

E. HIGHWAY

1. Highway Classification

a) Functional Classification - Highways have two functions: to provide mobility "through" and to provide land access "to". From a design standpoint, these functions are incompatible, since mobility is enhanced by higher traffic speed and fewer turning movements, and land access is enhanced by lower traffic speeds and unrestricted turns. Streets may be classified by function, depending on whether they are intended to move through traffic, provide unrestricted land accesses, or some combination of both.

Arterial Roads - These link the Interstate and/or other arterials and carry inter and intra-city traffic. Geometric and/or traffic control measures are used to expedite through-traffic. Access to abutting properties is restricted. The potential for partial barrier medians, frontage roads, and service access connecting the rear of roadside properties should be maintained and encouraged. Consolidation and alignment of curb cuts is warranted to minimize conflicting turning movements.

Significant traffic problems on Route 7 may be alleviated by improving the geometry and traffic control measures at bottlenecks and various intersections. Long term solutions include the closure of all curb cuts and provision of land access by service roads. Such improvements may be required of developers prior to the construction of any new or expanded development.

Collector Roads - Their function is divided between "to" and "through" traffic. These link the arterial to the local street system, carry intra-city traffic, provide land access, and to a lesser extent, are used for inter-city travel.

Local Roads - Their sole function is provision of access to adjacent property for all land uses. Design and specifications are largely governed by types and intensity of land use. Such roads may either have a cul-de-sac or a continuous, low speed configuration.

Design and performance standards are associated with each functional classification and are essential for a variety of planning applications. These include land for future roads, capital budgeting, maintenance of a reasonable "level of service" (a traffic engineering guideline for evaluating congestion), review of curb-cut locations, land exactions for road widening, etc. Map 3 and Table 12-1 show functional classifications for existing and proposed City roads.

b) Administrative Classifications refer to the various jurisdiction of private, local, State, and Federal authorities over funding and access control. The City's general highway map and the Urban Systems map display these various classifications. Even where jurisdiction overlaps there have been no irreconcilable differences in the area of access control since the City's requirements have usually been more stringent and have been accepted by other agencies. Consequently, the use of these administrative classifications is primarily for budgetary applications.

2. Discussion

a) Arterial Roads - The City's existing arterial street network is of vital importance to the residents of the City and the region for both transportation and commerce. Accommodation of "through" traffic carries a higher priority than access to frontage properties. The general pattern of existing and approved developments on Kennedy Drive and Kimball Avenue epitomizes a reasonable configuration of an arterial highway (i.e., few curb cuts and provision of service roads). Along Route 2 and most of Route 7, where highly fragmented ownership patterns have evolved over many decades there are extreme conflicts between "to" and "through" traffic. Consequently, even greater congestion in these areas can be reasonably anticipated for the foreseeable future. There are several techniques and improvements that could be implemented, and at least should be explored, in order to ameliorate these pre-existing problems, provide for anticipated future growth, and maintain the safety and an adequate level of service on existing arterial streets. These include: , the policy of the City shall be to:

Implement access management improvements - Access management can greatly improve the safety and efficiency of arterial streets by reducing the conflict between "through" and "local" traffic. Examples of access management include techniques to reduce conflicting midblock turning movements through down zoning, alignment, consolidation, and proper spacing of curb cuts, at site plan and subdivision review; and improvements to improve local internal circulation by requiring service access to the rear of roadside properties, providing for access between adjoining properties, and/or allowing for frontage roads;

Construct alternate travel routes - explore and support, and if necessary construct if necessary alternate travel routes to relieve some of the pressure on the existing arterial network. Some examples of alternate travel routes identified in this plan include such as a local road system paralleling Route 7 between Route 7 and the Vermont Railway, Dorset-Hinesburg Connector (i.e., Market Street Corporate Way), and the Airport Drive Extension to Airport Parkway.

Implement geometric/capacity improvements - Certain geometric improvements can be made to improve safety and maximize capacity. Examples include and safety through installation of proper signing, striping, and control equipment; or provision of stacking lanes at mid block and intersection locations to segregate "to" and "through" lanes. (this may require purchase or exaction of land for road widening of substandard rights-of-way); and

Maintain and improve traffic safety and efficiency through bylaws - Bylaws such as zoning and subdivision regulations and an official map can be used to promote traffic safety and efficiency along the City's arterial streets. For example, the regulations can require new development to maintain a certain level of service structure development approvals to avoid exceeding D levels of service or better at peak roadway hours at signalized intersections, and zoning can be used to limit high traffic generating uses in certain locations.

establish traffic overlay zones to restrict new or expanded uses that exceed a stated level of additional traffic in specific areas of the City.

Collector Roads - Planning for existing and proposed collector streets should shall be implemented in accord with their functional characteristics.

Because there is a considerable variety in the function of the various collector streets, specific determinations will be made on a case-by-case basis. Many techniques that can be used to improve safety and efficiency along collector roads include those that are recommended for arterial roadways such as access management and geometric improvements.

Local Roads - Local streets serving residential and nonresidential uses should shall be reviewed on a case-by-case basis in general accord with their functional classification and the following goals: Proper planning for local streets should incorporate the following elements:

- privately owned and maintained roadways shall be strongly discouraged;
- the speed and volume of "through" traffic are to be minimized;
- more than one access point onto collector or arterial streets should be considered for larger or higher density projects (may include limited, emergency access points);
- the subdivision of lots without public road frontage should be strongly discouraged;
- adequate access for emergency vehicles is essential, and turnarounds for maintenance vehicles and school buses should be provided; and
- design and construction standards shall be commensurate with density.

d) All roads - When street improvements include widening of substandard rights-of-way, land should be secured at site plan or subdivision review. The ongoing maintenance of a data volume base on traffic control equipment, signs, and striping; 24-hour volume count; turning movements; and volume-to-capacity ratios is essential to equitable review of new development. These factors also affect the cost efficiency and proper timing of new roads or improvements plus maintenance of reasonable levels of service.

F. OBJECTIVES

The City's policy on transportation has several objectives: In light of these needs, goals, and constraints, the City adopts the following guidelines for transportation planning.

1. Promote a well-rounded transportation system that should provides, in as economical a manner as possible, safety, efficiency, attractiveness, convenience and service commensurate with need. Expenditures for transportation systems should be proportional to present and expected use trends of the automobile and various other modes of transportation
2. The City Encourage greater use of mass transit of all forms, and other alternative modes of transportation including walking, biking and ride sharing. It should be recognized that high residential densities and high intensity land use often provide opportunities for great use of mass transit. Such use will increase mobility for all, enhance land values in South Burlington and other commercial and institution areas by making them more accessible, conserve energy, and reduce environmental deterioration and unnecessary use of land.
3. Promote good access management when planning new roads, improving existing roads, and reviewing new development.
4. Support the concept of a transportation corridor where should be adhered to as fully as possible. Under this concept, multiple use of a single right-of-way is used by different modes of transportation thereby resulting in fewer land use conflicts and greater efficiency in the use of remaining land.
5. Promote the expansion and improvement of transportation systems within should be confined to existing corridors, rights-of-way, or property lines, unless alternative locations that conform with the balance of the plan are necessary.

H. RECOMMENDATIONS

1. Pedestrians and bicycles

See recommendations pertaining to pedestrians and bicycles in Chapter XI, Path System.

- a) The City should continue to plan, acquire land and construct the proposed pedestrian trail and recreation path network as shown on Map .
- b) The City should develop a sidewalk plan that includes, at a minimum, the following elements should be implemented:
 - 1) identification of areas, usually along older substandard roadways, where conflicts between pedestrian and vehicles are most severe. The annual appropriation for curb and sidewalk construction should be directed initially to those areas.
 - 2) location of walkways, both within and outside street rights-of-way, to link various neighborhood and community focal points.
- c) Sidewalks and/or walkways should be required where it is appropriate during site plan and subdivision review.
- d) Funding applications for new roads and roadway improvements should include sidewalks, crosswalks, and crossing signals where necessary, and where appropriate, should include bicycle paths.
- e) Through its zoning and subdivision regulations, the City should continue to support and encourage mixed-use development, and direct growth to the mixed-use City Center area, to promote pedestrian movement and less reliance on the automobile for local circulation.

2. Bicycles

- a) The City should continue to work towards acquiring land and easements, and constructing a trail and pathway system as shown on Maps 2 and 3. Existing and proposed bikeways are shown on Map 3 while existing and the proposed recreation paths (i.e., bicycles path) are shown on Map 2. Implementation should follow these recommendations, listed in order of importance (from most to least):
 - a) Construct Phase III of the South Burlington Recreation Path which would extend from the UVM Gutterson Field House area, along Spear Street

and I-189, to the existing path system in Farrell Park.

i) Construct "short paths" which would provide important, relatively low-cost recreation path connections between the existing path network and neighborhoods. The Recreation Path Committee should work with the City to identify and prioritize recommended locations for "short path" construction.

ii) Construct Phase IV of the South Burlington Recreation Path which would extend from the Dorset Street/City Center area, through the Patchen Road and Kirby Road neighborhoods, along Airport Parkway, and into Colchester over the Lime Kiln bridge.

d) Construct later Phases of the South Burlington Recreation Path as recommended in the "South Burlington Alternate Transportation Path Master Plan" (29).

b) The City should require, during site plan and subdivision review, the construction of the trails and pathways that appear on Maps 2 and 3.

3. Buses

a) The City should continue its membership in CCTA to ensure continued bus service in and through South Burlington. The City should ensure that new routes are should be implemented to meet the needs of changing populations.

b) The City should work with CCTA to study the feasibility of a new bus route that should be studied to provides direct service between the Williston Road and Shelburne Road sectors of the City without having to connect via crowded Burlington routes.

c) Development proposals should consider design aspects to accommodate bus service.

d) CCTA and the City should explore more frequent bus service during peak travel periods (e.g., 10 minute headways).

e) The City and CCTA should study and encourage the implementation of improvements to make Williston and Shelburne Roads more "transit

friendly". Such improvements may include more bus shelters; the provision of transit information at most bus stops; adequate lighting at bus stops; medians to provide protection for pedestrian crossings; and transit information centers.

4. Transportation Management Association

a) In an effort to encourage less reliance on the single-occupant automobile and greater use of alternative modes of transportation, the City should work with business owners to establish a Shelburne Road Corridor Transportation Management Association (TMA) (18).

5. Transportation Demand Management

The City should work with the private sector to explore implementation of transportation demand management techniques such as ride sharing programs, bus vouchers, and flexible work hours. Such techniques should be explored as possible mitigation to potential negative traffic impacts resulting from new development.

6. Air

The City should explore and implement such techniques as an Airport Overlay District (Zoning out sensitive uses) as recommended in the BIA Master Plan Update to assure a continued compatible relationship between the City and BIA.

7. Rail

a) The City should encourage The layout of proposed developments along the Vermont Railway and Central Vermont Railway tracks should to consider in their layout and site design the potential for future rail stations.

b) During site plan and subdivision review, the City should encourage new and expanding development to consider the use of rail freight for the delivery of materials and merchandise.

c) The City should work with VTRANS and the Vermont Transit Authority to give commuter rail every opportunity for success during the demonstration period.

8. Highways

a) Access Management - The City should continue to require during site plan and subdivision review encourage the provision of access management techniques (e.g. limit curb cuts, service roads, etc.) along high volume arterial and collector roadways. Such techniques should be implemented in the design of new roads and improvements to existing roads.

b) The City shall continue to pursue planning, funding and construction of needed roadway and bridge improvements. The number one priority of the City is to properly maintain its existing roadway and bridge network. Provided below is a list of priority street and bridge improvements. This listing shall act as a guide in the timing of funding applications or capital budgeting for roadway and bridge construction projects. The locations of proposed roadway and bridge improvement projects are shown on Map 3 and are summarized below.

Complete Market Street through to Hinesburg Road and open it to the public. Develop a Dorset Street-Hinesburg Road connector (i.e., Market Street Corporate Way).

- Replace Lime Kiln bridge.
- Replace Poor Farm Road and Van Sicklen Road bridges.
- Study the Williston Road corridor, particularly from Exit 14 to Hinesburg Road, and develop a plan to improve traffic safety, traffic capacity, and pedestrian safety. Upgrade Williston Road from Interstate 89 to Hinesburg Road as recommended by the Williston Road Study Committee (19).
- Improve Airport Parkway/Shamrock Road/Ethan Allen Drive intersection.
- Widen Shelburne Road from Imperial Drive to Shelburne Town line and beyond.
- Modify the Dorset Street/Kennedy Drive/Interstate 89 Interchange to include a north bound on-ramp.
- Improve Kennedy Drive from Dorset Street to Williston Road (i.e., reconstruct and widen to four lanes).
- Establish an interchange at Hinesburg Road and Interstate 89.
- Upgrade Swift Street/Spear Street intersection (i.e., add a roundabout).
- Extend Swift Street to Hinesburg Road.
- Construct a connector from Airport Parkway near Treatment Plant to

Patchen Road.

- Develop a local road network west of and parallel to Route 7 between Queen City Park Road and Holmes Road.
- Develop a new corridor along "Midas Road" from Williston Road to Market Street Corporate Way.
- Extend Airport Drive from White Street to Airport Parkway.
- Upgrade Airport Drive from Williston Road to White Street (i.e., widen and add turn lanes where necessary to serve airport).
- Upgrade Williston Road to four lanes as far as the Williston Town line.
- Upgrade Hinesburg Road from Interstate 89 to Kennedy Drive (i.e., widen and add lanes where necessary in conjunction with new I-89/Hinesburg Road interchange).
- Upgrade Swift Street-Dorset Street intersection.
- Evaluate the feasibility and impacts of constructing a service road from Patchen Road to the Best Western Econolodge entrance to provide access for properties on north side of Williston Road.
- Construct a collector road to tie Hinesburg Road to Kimball Avenue and Community Drive.
- Upgrade Poor Farm Road from present paved area to Muddy Brook.
- All other proposed street and intersection improvements, as shown on Map 3, shall be implemented by the City and/or private developers as warranted by the scope of new development.
- Significant improvements to intersection geometry and signalization may be required of developers during subdivision and site plan approval.

The City should study the issue of "traffic calming" and develop a plan of recommended traffic calming techniques. The plan should identify neighborhood streets that are in need of traffic calming improvements and include specific improvements for those neighborhoods.

The City should support construction of arterial roads which improve inter and intra-city traffic.

The City may consider constructing important proposed and planned roads which benefit the community by providing efficient means of transportation and by connecting neighborhoods.

TABLE 12-1

SOUTH BURLINGTON STREET CLASSIFICATIONS

CLASSIFICATION	EXISTING STREETS	PROPOSED STREETS
Arterial	Rte. 2; Rte 7; Rte. 116 from Williston Rd. to Williston Town line; Kennedy Dr.	
Collector	Dorset St.; Swift St.; Kimball Ave.; Allen Rd.; Bartlett Bay Rd.; Queen City Park Rd.; Farrell St.; Spear St.; Patchen Rd.; White St.; Airport Pkwy.; National Guard Ave.; and Shunpike Rd.; Nowland Farm Road	Laurel Hill Ave. Ext.; Holmes Rd. west; Inn Rd. west; Dorset-Hinesburg Connector; ext. of Airport Dr.; relocated Airport Pkwy.; Airport Pkwy - Patchen Rd. connector; Allen Rd., Swift St. and Holmes Rd. Extensions; O'Dell Pkwy.
Local	All others	All others

7. Supplemental Recommended Actions, Added 2006

Continue to work with and press VTrans and the Chittenden County MPO to carry out the funded EIS work for full interstate interchange at Hinesburg Road and I-89, and to program funds for subsequent years and work into the TIP.

Work with Williston on cooperative strategies for managing the impacts of travel to and from Tafts Corners on the character, safety, and condition of Van Sicklen Road.

Work with the Addison County Regional Planning Commission and Chittenden County Regional Planning Commission to develop strategies for

managing the Route 116 corridor, including provisions for the potential impacts of the new interchange at Hinesburg Road.

CHAPTER XIII

ECONOMIC DEVELOPMENT

GOAL STATEMENT: It is a goal of this City is to promote a stable and orderly rate of economic development in order to maintain existing jobs and provide new employment opportunities. The City will remain aware of the substantial secondary effects of this development, such as increased demand for new housing, more numerous and extensive municipal services, and potential environmental degradation, and work to properly address such effects.

South Burlington is a regional trade and transportation center. Two major assets contributing to South Burlington's prominence are its abundance of shopping areas and its arterial transportation network. This network includes the State's largest airport and direct access to Interstates 89 (I-89) and 189 (I-189). It is traversed by two arterial highways, one two railway, and has nearby destination points for large ferry routes. Furthermore, a quality public school system is supplemented by the proximity to the University of Vermont, three private colleges and Community College of Vermont. A major health care institution, Fletcher Allen, along with a contingent of family doctors and specialists in the area, provide excellent health care services. In addition to these amenities, South Burlington's spectacular scenic and recreational setting adjacent to Burlington's downtown amenities urban core add to the likelihood of sustained economic development for South Burlington as well as the entire region.

The continued economic health of the City depends heavily on the continued prosperity of its businesses and industries. The City's dependence on a single firm or firms engaged in similar enterprises should be minimized. An adequate diversity of economic development will help assure vital flow of revenue from the business community. Consequently, the City should strive, through whatever means are available, to maintain a healthy diversity of businesses and industries.

A. ECONOMIC TRENDS

Data for employment and wages by industry are presented in Tables 13-1

and 13-2. Table 13-1 indicates that the majority of jobs in South Burlington, Chittenden County, and the State of Vermont in 1993 are in the service and retail trade industries which represent the lowest wages of the various categories. South Burlington's significantly high proportion of retail employment is a clear indication of the many retail establishments existing in the City (e.g., Dorset Street, Shelburne Road and Williston Road developments).

Table 13-2 presents the employment trends in South Burlington during the 1980's and early 1990's. Between 1980 and 1990, employment increased in all categories except for construction, which experienced a decline in employment of 21%. The industries which experienced the greatest employment growth include finance (187% increase), services (156%), and transportation/ utilities (155% increase). These industries also experienced significant increase in terms of percentage of total employment. Other industries which increased their standing as a percentage of total jobs in South Burlington included wholesale and manufacturing.

Between 1990 and 1998, the City's employment grew by 2,700 jobs (20 % increase). The greatest increase occurred in the government services industry which experienced a 115% 35.6% increase in the number of jobs. The services industry continued to grow at a significant rate with a 60% increase in the number of jobs. Several industries experienced declines in employment during this time period including manufacturing (-20% -42.2%), and wholesale (-23%) . transportation/utilities (-22.3%), and retail (-2.2%).

Information on recent economic trends can also be measured by building permit data. Appendix B presents various building permit data by use, including housing, retail/service, industrial/warehouse, office and institutional. Figures B-2 through B-6 indicate that South Burlington experienced substantial commercial growth during the 1980's, averaging approximately 261,000 square feet of permitted commercial development each year. In the first half of the 1990's, the City's commercial development slowed somewhat to an average of approximately 194,000 90,000 square feet of new commercial development each year.

Economic growth trends can also be measured by the grand list. The grand list is the combined value of all real property in the City. In order to hold property taxes at their lowest possible level, an appropriate ratio To reduce the rate at which taxes increase, a proper balance (i.e., 1:1 ratio) should be

maintained between residential and non-residential development. This can be affected by adjustments in the zoning regulations which are based on the rate development has occurred or has been approved.

Figure 13-1 shows the breakdown of the grand list as a percentage of residential property and commercial property. "Commercial property" includes commercial, vacation, farm, industrial and utility property. The data shows that the City has maintained been quite successful in maintaining nearly a 50/50 balance between residential and commercial property value. The greatest variance occurred during the early to mid - 1980's when the commercial property value accounted for up to 57% of the total real value of property in South Burlington. Maintaining this 50/50 balance between residential and commercial has been a long-time policy of the City. However, since passage of Act 60, this 50/50 ratio may no longer be appropriate. It is important that the City evaluate the impacts of Act 60 on economic development and tax policies, and determine an appropriate ratio between residential and commercial property value.

The City supports several groups devoted to promoting economic development. One group is the Greater Burlington Industrial Corporation (GBIC), a nonprofit organization devoted to job growth through the expansion of industry and the attraction of new employers. Another group is the Lake Champlain Regional Chamber of Commerce. GBIC has been instrumental in attracting a number of industries to the area. In addition, the City established in 1994 the South Burlington Economic Development Committee whose mission is to promote the City as the best place to establish or expand a commercial business or industry in Chittenden County and Vermont.

In 1999, the City conducted a feasibility study of establishing a local development corporation. It was recommended in the study that the City establish such an organization. The purpose of the organization would be to promote South Burlington, in particular its City Center, as a good place to live, work and shop, support existing and new businesses, create jobs, and improve the City's infrastructure in support of economic development and residential neighborhoods. A primary focus of the local development corporation, as recommended in the study, would be to facilitate development of the City Center. It was felt that a local development corporation could work with both the City and businesses to properly plan the City Center, secure funding for infrastructure improvements, and offer

any other support that existing and new businesses may need.

There are several concerns associated with economic growth. The advantages of creating new jobs are at least partially offset by the increased demand for public services and reduced state aid to education. Other concerns include the pressures that adjacent municipalities impose on each other. For example, while tax benefits may accrue to the community in which a business locates, the burden of educating its employees' children may rest on a neighboring community. Traffic congestion, and air and water pollution are other examples. The City should maintain an appropriate balance between economic growth and preservation of natural resources and other health and safety issues which affect the quality of life in and around South Burlington. The City of South Burlington should work in concert with its neighbors and the Chittenden County Regional Planning Commission (CCRPC) to resolve such spill-over effects of economic growth.

B. OBJECTIVES

The City's policy on economic development has several objectives:

1. Promote an appropriate balance between Encourage economic growth/development and preservation of adequate while maintaining an adequate amount of open space, protecting the City's most important natural resources, and promoting a healthy and safe environment.
2. Promote Assure a diverse economic base that will reduce the City's susceptibility to cyclical fluctuations of the national economy reliability on any one sector.
3. Maintain a fiscal balance an appropriate ratio between the residential and non-residential sectors of the grand list in order to provide and the provision of necessary municipal services at the lowest tax rate to the citizens.
4. Support those agencies, companies and groups whose role is to provide new jobs and maintain existing jobs in the area.
5. Work cooperatively with adjoining municipalities and regional organizations to resolve amicably Support the Chittenden County Regional

Planning Commission, particularly with regard to the resolution of the impacts of new or expanding employers on area municipalities.

6. Maintain a balance of housing stock for all economic levels of the community.
7. Work to ensure that adequate infrastructure and municipal services are available to facilitate a rate of economic growth that is consonant with the balance of this plan.
8. Promote an educational system that supports the needs of local and regional employers.
9. The City should encourage the expansion development of telecommunications, such as fiber optic and wireless technologies, in support of economic development.

C. RECOMMENDED ACTIONS

1. The City should conduct a study to determine the impacts, both existing and potential, of Act 60 on economic development, housing growth, and taxes.
2. The City should determine the appropriate ratio between the residential and non-residential sectors of the grand list in order to provide necessary municipal services at the lowest property tax rate. The City should review annually development that has occurred and which has been approved and shall estimate vacant land by zoning district. The City should review annually, zoning designations and provisions, as well as other economic development policies, and make necessary adjustments should be reevaluated and adjusted if necessary in order to maintain the appropriate ratio a 50/50 balance between residential and commercial property value.
3. The City should consider establishing a non-profit South Burlington Community Development Corporation as recommended in the report entitled, "Establishing a Local Development Corporation in South Burlington", dated December, 1999. For initial funding of this CDC, the City should place an item on the ballot asking voters to approve \$100,000 per year for at least three years.

2. Preliminary planning for future industrial sites should be initiated in concert with GBIC in advance of actual need.
4. The City should work to ensure that adequate infrastructure and municipal services (primarily highways, water supply, and sewage disposal) are available to facilitate a rate of economic growth that is consonant with the balance of this plan and that assumes a fair share of the region's growth.
4. In an effort The City should work with adjoining municipalities and the CCRPC to resolve potential negative regional effects resulting from economic growth and development, the City should continue its membership and active involvement in regional organizations such as the CCRPC, Chittenden County Metropolitan Planning Organization (CCMPO), Chittenden County Transit Authority (CCTA), Chittenden Water District (CWD), and Chittenden Solid Waste District (CSWD).
5. The City should take a more active role in expanding and attracting higher paying industries, such as manufacturing such as through the establishment of a community development corporation, continued involvement in GBIC, and pursuing grants and low interest loans for economic development.
6. See Housing and School chapters of this plan for recommendations pertaining to the provision of an adequate housing stock and quality school system.

TABLE 13-

1

EMPLOYMENT AND WAGES BY INDUSTRY

1998

Industry	So. Burlington		Chittenden Co.				Vermont		
	Avg Ann Emp	% of Total	Avg Ann Wage	Avg Ann Emp	% of Total	Avg Ann Wage	Avg Ann Emp	% of Total	Avg Ann Wage
AGRICULT	117	0.7%	19,977	701	0.8%	17,846	3452	1.2%	18,094
MINING	N/A	N/A	N/A	36	0.0%	40,870	609	0.2%	31,543
CONSTRUCT	1026	6.3%	35,957	4835	5.5%	32,032	13973	5.0%	27,875
MANUFACT	1292	7.9%	35,083	15514	17.6%	47,207	47235	16.9%	35,924
TRANS/UTIL	1288	7.9%	42,045	4449	5.0%	33,901	11967	4.3%	33,887
WHOLESALE	838	5.2%	38,019	4352	4.9%	35,793	12459	4.4%	32,996
RETAIL	4719	29.0%	16,953	15642	17.7%	15,830	52979	18.9%	15,187
FINANCE	699	4.3%	35,274	4172	4.7%	41,355	11846	4.2%	35,855
SERVICES	5037	31.0%	28,750	26781	30.4%	28,185	81733	29.2%	24,200
GOVERNMENT	1238	7.6%	36,590	11665	13.2%	33,890	44040	15.7%	28,853
TOTAL	16254		28,629	88147		31,517	280293		26,624

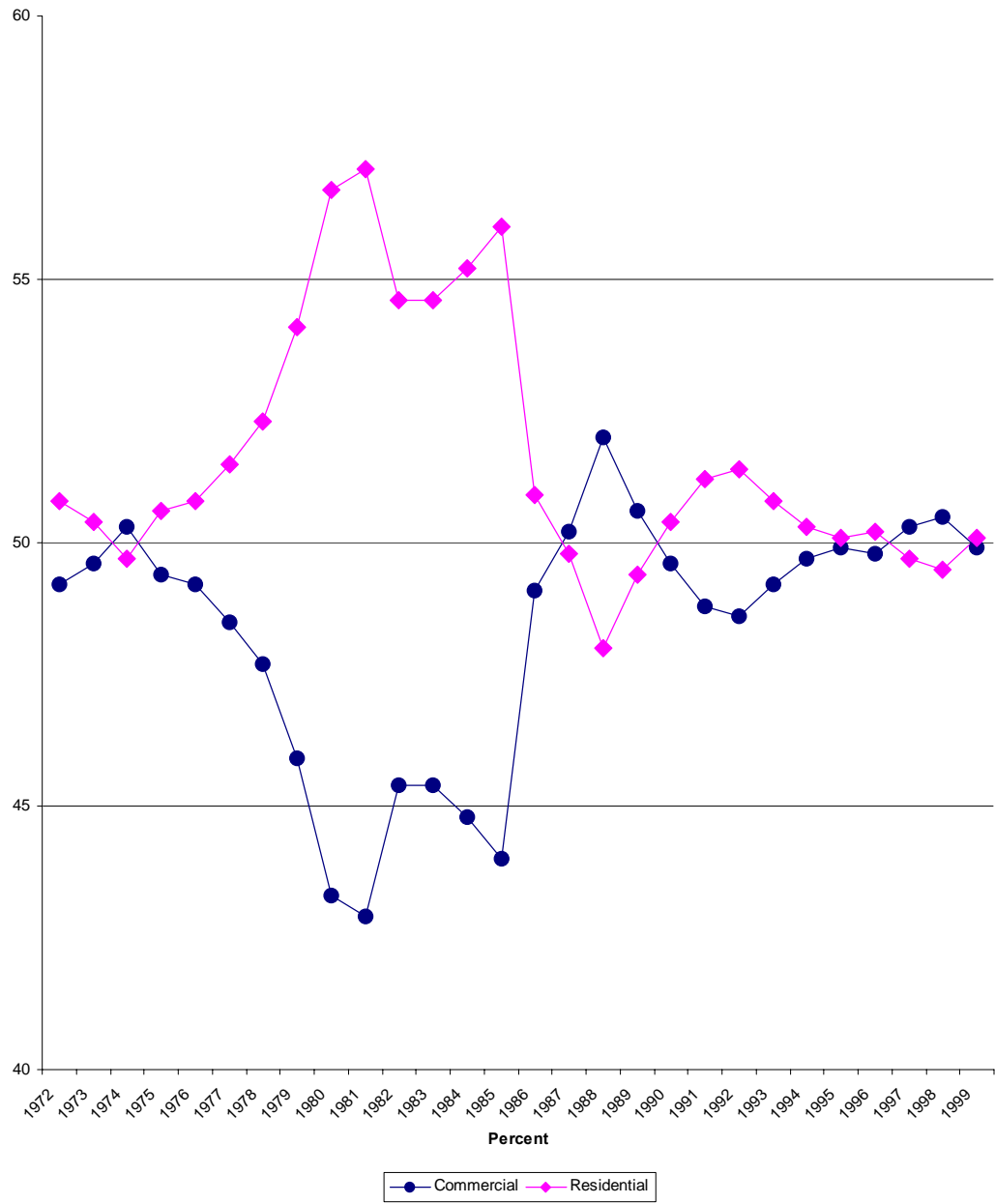
Source: Vermont Dept. of Employment and Training

TABLE 13-2

EMPLOYMENT TRENDS

Industry	1980		1990		% Change 1980 - 1990	1998		% Change 1990 - 1998
	# Jobs	% of Total	# Jobs	% of Total		# Jobs	% of Total	
AGRICULT	52	1%	61	0%	17%	117	1%	92%
CONSTRUCT	818	11%	647	5%	-21%	1026	6%	59%
MANUFACT	815	11%	1,616	12%	98%	1292	8%	-20%
TRANS/UTIL	472	6%	1,204	9%	155%	1288	8%	7%
WHOLESALE	475	6%	1,084	8%	128%	838	5%	-23%
RETAIL	2,885	39%	4,701	35%	63%	4719	29%	0%
FINANCE	181	2%	519	4%	187%	699	4%	35%
SERVICES	1,228	17%	3,139	23%	156%	5037	31%	60%
GOVERNMENT	484	7%	575	4%	19%	1238	8%	115%
Total	7410		13546		83%	16254		20%

Figure 13-1 Grandlist Breakdown 1972-1999



CHAPTER XIV PUBLIC UTILITIES AND SERVICES

GOAL STATEMENT: It is a goal of this City to provide quality public and quasi-public utilities and services to all residents and businesses in a manner that is efficient, cost-effective and environmentally sound.

The quality and location of public utilities quite often determine the intensity and location of future development. The benefits and cost of public utilities are, in many cases, not reasonably or logically related to municipal boundary lines. Numerous areas of overlapping and/or conflicting jurisdictional authority exist. Regionalization of these services, as has occurred with the Champlain Water District (CWD) and Chittenden Solid Waste District (CSWD), may be the most cost-effective method of providing such services.

The high costs of installing and maintaining public utilities warrant careful advance planning, particularly since there are no assurances that state and local funding share for the construction of new facilities will be maintained.

A. WATER

The Champlain Water District, a regional water supplier serving twelve municipal water systems, manages the City Water Department. The CWD offices and water treatment facility located on Queen City Park Road has a nominal capacity of 20 million gallons per day. The FY 1999-2000 daily demand was 11.26 million gallons, or 56% of capacity. Peak demand, however, may be up to 50% higher than average daily demand. There is a projected 3% yearly increased in average daily demand.

The north end of the City is served entirely by municipal water. The south end is also served by the public water system, with the exceptions of parts of Bartlett Bay (with individual wells and municipal sewage disposal) and Queen City Park (whose water source is a deep rock well and whose supply is managed by Fire District #1). The Southeast Quadrant is served by public

water along Spear Street and Dorset Street.

Expansion of the City's water system occurs in accordance with the South Burlington Water Department Master Plan, which specifies the location and size of future water mains (20). The location and size of future water mains is depicted on Map 4. The cost of expansion is borne by those requesting it. Water supply plans for new developments are also reviewed with regard to fire protection to insure adequate fire flows.

CWD is starting a 20 year Master Plan in November 2000 which will analyze local storage requirements in CWD's twelve served municipal water systems. Future investment by the City may be necessary to increase local storage tank volumes. Current expansion plans for CWD include a three million gallon per day increase in plant capacity. The City Water Department is planning to replace the South Burlington Section of the Shelburne Road 12" water main in conjunction with the Route 7 widening project. Upgrades to the existing water mains in the City shall continue to be determined by maintenance demands and other utility infrastructure improvements.

B. SEWAGE DISPOSAL

At present the City is served by three (3) wastewater treatment facilities; Airport Parkway, Bartlett Bay and the City of Burlington Main Wastewater Treatment Plant. A small portion of City homeowners also rely on subsurface sewage disposal systems, commonly referred to as septic systems.

The service areas for each of the three (3) wastewater treatment facilities are presented on Map 5. Airport Parkway is the City's largest treatment facility and serves 65% of the population (27). The plant was upgraded in 1987 and has a design capacity of 2.3 million gallons per day (MGD). Current flows are at 1.35 MGD, with an average of 0.27 MGD contributed by the Town of Colchester. The wastewater facility at Bartlett Bay presently serves an estimated 26% of the City's population (27). This facility was last upgraded in 1999 and has a permitted capacity of 1.25 MGD. Flows at Bartlett Bay are at 0.63 MGD, or 50% of permitted capacity.

A small portion of the City, called the Eastwoods Area, is serviced by the

Main Wastewater Treatment Plant in the City of Burlington. This arrangement was developed in conjunction with pollution abatement in the Englesby Ravine Area dividing the City of South Burlington and Burlington. Less than 4% of the population of South Burlington is served by the City of Burlington (27).

The location and extent of these service areas are dictated by the original and supplemental engineering feasibility studies, the intensity of development that has taken place, and the capacity of the mains and pumping stations within the collection network (21,22,23,27). Less than 5% of City residents have on-site septic disposal systems, a majority of which are located in the Southeast Quadrant (27).

Future sewer main construction will be primarily by private developers. Future main extensions can be allowed beyond the basic service areas only if appropriate improvements to the existing network are made. Recommended locations for future sewer main and pump station locations for the Southeast Quadrant are shown on Map 5.

The voters recently approved a 4.9 million dollar bond in 1995 to expand the Bartlett Bay treatment facility to 1.25 MGD. This expansion will include the diversion of the Eastwoods Area sewer system to the Bartlett Bay facility. Section 11, 10 V.S.A. of the Vermont State Statutes will allow the Bartlett Bay plant to be expanded only if it can be done in a manner which does not increase the facility's current level of mass pollutant loading. This strict limitation will help maintain the waters of Shelburne Bay as a quality recreation area and regional drinking water source. Construction was completed in fall of 1999.

As the capacity of both of these facilities is approached and expansion plans are contemplated, two key issues have emerged: 1) how to allocate the remaining capacity of a public service or facility when demand approaches or exceeds the remaining available capacity, and 2) how to deal with external factors that limit the potential for future expansion, such as water quality.

The Planning Commission adopted a revised sewer policy in 1991 to ensure an equitable, rational, and orderly method of allocating the remaining capacity of the Airport Parkway and Bartlett Bay Treatment Plants to the various projects seeking to use the facilities (24). This policy reaffirms the

Commission's commitment to municipal sewage disposal in the service areas designated for such (off-site) disposal. This policy should continue to be applied in the review and approval of development projects.

External factors play an increasingly significant role in planning for future sewage disposal. Discharge of treated effluent from the Bartlett Bay Plant into Lake Champlain and into the Winooski River from the Airport Parkway Plant is governed by State discharge permits. Assignment of a water quality designation by the State limits the quantity and quality of the effluent the City may discharge. This is particularly important in Shelburne Bay, which assimilates waste from the Bartlett Bay treatment plant (and Town of Shelburne) and is also the raw water source for the Champlain Water District. Perhaps even more important is the Winooski River, which is relied upon by abutting communities for sewage plant outfall. Because of State-imposed water quality standards for the Winooski, it has become apparent the assimilative capacity of the river is limited. However, this limit may be exceeded by the demands of the communities bordering it. The City must continue to actively and diligently participate in the wasteload allocation plan for the lower Winooski River.

The City sends the sludge created by the Airport Parkway and Bartlett Bay treatment facilities to the Chittenden Solid Waste District (CSWD). The sludge is composted at a specialized facility in southern Quebec through a contract with New England Organic's.

C. SOLID WASTE

The City is a member of the Chittenden Solid Waste District (CSWD). The CSWD was formed in March 1987 to collectively provide for the efficient, economical and environmentally sound management of solid waste generated by residents and businesses within its member municipalities. Current membership in the District consists of seventeen (17) Chittenden County municipalities.

In 2000 an estimated 160,000 tons of mixed solid waste and special waste will be generated in Chittenden County. Another 14,000 tons of biosolids will be generated by wastewater treatment plants in the County. Based on projected population and economic growth, approximately 190,000 tons of mixed solid waste and special waste will be generated in the year 2005,

together with approximately 15,400 tons of biosolids.

Before District programs and facilities came on line, approximately 11 percent of the mixed solid waste was recycled. All of the biosolids were land applied. Currently, approximately 34% of the mixed solid waste is diverted by recycling, reuse or source reduction excluding biosolids (39%).

The District is currently in the process of acquiring land for a long-term landfill in Williston. The outcome of the condemnation process will determine the timeline for the long-term landfill. The interim landfill site in Williston opened in December of 1992 and reached capacity in fall of 1995. Short term disposal has been contracted with the Town of Randolph lined landfill facility. Alternative interim disposal options are being developed and will be implemented to provide lined landfill or other certified disposal capacity to member town until the long-term District landfill is operational. Disposal of all solid waste is at two private facilities, in Coventry, Vermont and Moretown, Vermont.

Based on the conceptual design of the long-term District landfill, it is expected that the landfill will have a design capacity of approximately 3,300,000 cubic yards. Based on projected waste generation, projected waste reduction and recycling goals, the District landfill will have sufficient capacity for approximately twenty years.

CSWD currently operates a drop-off center at the City's old landfill site on Patchen Road. The drop-off center accepts solid waste, recyclables and special wastes such as tires, scrap metal and leaves and brush.

D. STORM DRAINAGE

The City has not yet undertaken any detailed or comprehensive storm drainage planning. However, the need for comprehensive, long-range planning will increase as the amount of development and extent of paved surfaces increase. In addition, coordination with the City of Burlington will be required to provide proper drainage for the two watersheds that straddle the municipal boundary line.

One significant problem has been the Bartlett Brook Watershed area. The Planning Commission hired the firm of Wagner, Heindel and Noyes (WHN) in

1984 to complete a study of the area and to recommend steps to decrease the velocity of runoff that is deteriorating downstream properties. All developments in this area are required to submit data at their expense to WHN in order to design a suitable drainage plan that will not contribute to the erosion. This does not, however, address the existing deteriorating condition of the stream banks; it only stops from aggravating it. Furthermore, increased upstream development and poor on-site erosion control methods contribute to the increasing siltation that eventually empties into the lake.

Non-point source pollution will need to be addressed in relation to stormwater runoff and models created that further address water quality in South Burlington. Comprehensive storm drainage planning should also include education initiatives, best management practices, and requirements for erosion control measures and elicited monitoring.

E. NATURAL GAS

Vermont Gas Systems, Inc., supplies natural gas to the City. Better coordination between the City and the Gas Company may be achieved by exchanging future construction plans. Through improved communication, construction projects may be implemented at lower costs, with less earth disturbance, and with fewer disruptions. In addition, the review of new private development projects should include the effects of any necessary gas main extensions. Further discussion on energy use is provided in Chapter XIV, Energy Conservation.

F. ELECTRICITY/TELECOMMUNICATIONS

Green Mountain Power Company supplies electrical power to South Burlington through a network of transmission lines, substations, and distribution lines. Vermont Electric Power (VELCO) has a 115 KV transmission line that extends south along the railroad tracks from Burlington to Shelburne, then turns east to head toward Williston.

Future utility lines, including power as well as phone and cable TV, are encouraged to be underground. Only if there is appropriate screening and unusually severe conditions that make undergrounding prohibitively

expensive, should waivers for the above ground utilities be considered. Future transmission lines should be confined to existing utility corridors, and placed underground if possible. Further discussion on energy use is provided in Chapter XIV, Energy Conservation.

Telecommunications, including traditional phone service, cell phone and wireless service, cable television and Internet access are playing an increasingly central role in the city's economic and recreational life. Private utilities which provide these services should provide state-of-art technologies. Siting of telecommunications towers should consider issues of aesthetics, safety and health as well as efficiency.

G. POLICE PROTECTION

The need for and challenge of providing adequate police protection, a fundamental municipal service, increases as the population grows and businesses expand or locate in the City. The increasing pressures on the City caused by population growth, traffic, commercial and residential development all pose significant concerns for local planners, as well as, police officials.

During the period 01 Jul 99 and ending on 30 Jun 00 reported crime was down 6.52% over the period 01 Jul 97 and ending on 30 Jun 98. During this same period overall reported incidents increased by 37.93%.

The police department has undertaken a number of actions to improve services to the community. In 1994, the department was initially accredited by the Commission on Accreditation for Law Enforcement Agencies, and subsequently re-accredited in 1999. This successful review of the entire operation was a significant step in the enhancement of the City's police services. An inventory of employees, vehicles and facilities was conducted and provided for a basis of improvement in needed areas.

The department also launched a Traffic Safety Unit which has served as an educational and enforcement tool for the City. The dedication of a full-time officer, the purchase of a Speed Monitoring Awareness radar trailer (SMART) and the implementation of laser technology to speed enforcement helped to increase enforcement to 42%).

In addition, the department has maintained its commitment to proactive prevention oriented programs such as DARE, Kids and Kops, Quest Neighborhood Watch, Business Watch, Recreation Path Patrol, National Night Out, and other partnerships with the community designed to reduce crime. The police department is committed to expanding programs according to a prevention model. The department seeks the cooperation and guidance of the community in this effort. The Department works closely with the City Recreation Department in a collaborative effort.

On the regional level the police department continues to support CUSA (Chittenden Unit for Special Investigations), SHARP (Safe Highway accident Reduction Program), and START (Stop Teen Alcohol Related Tragedies).

It is important that political leaders and the public not develop unrealistic expectations for community policing in terms of crime deterrence or speed of implementation. Community policing calls for long-term commitment; it is not a quick fix. Achieving ongoing partnerships with the community and eradicating the underlying causes of crime will take planning, flexibility, time, and patience. Political and community leaders must be regularly informed of the progress of community policing efforts to keep them interested and involved. The police organization must stress that the success of community policing depends on sustained joint efforts of the police, local government, public and private agencies, and members of the community. This cooperation is indispensable to deterring crime and revitalizing our neighborhoods.

H. FIRE PROTECTION

While there is no such thing as absolute protection, the degree of fire risk should be restricted to an acceptable level as the City grows. The best available source for fire protection standards has been the Insurance Services Office (ISO), which is a nonprofit organization financed by insurance underwriters and charged with the task of evaluating fire protection services in order to establish fire insurance rates.

The City's fire protection plan consists of two components: 1) using ISO survey recommendations as a guideline for budgeting future operating and capital costs for fire protection, and 2) including fire protection as a criterion in the review of new development (i.e. roads and access, building

locations and materials, hydrant spacing, etc.).

The City's main fire station is located within the City Hall complex on Dorset Street. In 1988 the City added a fire substation at 3 Holmes Road. This substation is currently staffed by two full time firefighters per shift. As the number of calls increase and growth in the south end continues, staffing levels will need to be expanded. Further development in the Southeast Quadrant will eventually necessitate another substation in that area of the City. The City has updated its vehicle fleet which now includes two (2) 1996 pumpers, a 1987 and a 1988 pumper and a 1986 tower truck. The City is studying the implementation of a fire impact fee. The City is in compliance with federal fire safety rules requiring two-in/two-out at a structure fire.

Increased east-west access between Shelburne Road, Spear Street and Dorset Street is necessary for the Fire Department to be assured fast access to all parts of the City.

I. HIGHWAY DEPARTMENT

The Highway Department is responsible for maintaining streets, sidewalks, storm drains, sewer lines, and City Parks. Analysis of manpower and equipment improvements will be necessary to maintain the same quality of service to which the City's residents are accustomed.

J. HOSPITALS AND RESCUE SERVICE

Hospital health care is provided by two major hospital units of Fletcher Allen Health Care. One unit, the former Medical Center Hospital of Vermont, is located on the UVM campus in Burlington. The other unit, the former Fanny Allen Hospital, is located in Colchester. The City contracts with UVM Rescue to provide rescue service for the City.

K. LIBRARY

The City's community library is located at the high school on Dorset Street. Total circulation is approximately 72,000 items per year. The library

sponsors a number of programs including adult reading series, story time for children, holiday and school vacation activities, and many more. The library benefits greatly from loyal volunteers. The City is currently considering if a separate library should be constructed in the City Center area to serve the community.

L. OBJECTIVES

The City's policy on Future planning for public utilities and services has several shall incorporate the following objectives:

1. Maintain the quality of existing utilities or services and remedy recognized deficiencies.
2. Expand public utilities and services that complement and reinforce the land use and development recommendations contained in Chapter V; "infilling" is preferred to expansion of existing service areas.
3. Improve the coordination among the various public and private utilities and services to minimize the amount of earth disturbance and other costs involved.
4. Adjust the capacity of public utilities and services in concert with that of other municipal services to ensure a stable and appropriate rate of development.

M. RECOMMENDATIONS

1. The City should continue to support and participate in the Chittenden County Solid Waste Management District to develop responsible, economical and environmentally safe solutions to solid waste disposal in Chittenden County.
2. The City should designate and acquire land in the Southeast Quadrant for a Fire Department substation. In addition the City should pursue the construction of Holmes Road between Shelburne Road and Spear Street to allow for improved emergency access.

3. The City should continue final design and construction of improvements to expand the Bartlett Bay Sewage Treatment Plant while assuring the maintenance of the Lake as a high quality recreational resource and source of drinking water.
3. The City should develop a sewer facilities and allocation plan as a method of monitoring and guiding future development, coordinating future sewer construction with the existing system, and locating optimum areas for City-owned pumping stations, sewer mains, and other facilities.
4. The City should find a suitable remedy to the Bartlett Brook watershed erosion problem such as stream restoration or in severe cases rip-rapping the brook banks, so that homes and properties in the area are not adversely affected by increased development and the velocity of the stream and brook.
6. The City should continue to work with the State and Regional Planning Commission to investigate the establishment of a 911 emergency telephone number for South Burlington residents and businesses.
5. The City, in particular the police and fire departments, should continue to work with the Local Emergency Planning Committee to develop plans and procedures for dealing with civil defense, and natural and man-made disasters.
6. The police and fire departments should continue to provide input into the review of development projects to assess their impacts on public safety.
7. The City should continue water system design and improvement planning that would result in improved fire protection flows and circulation.
8. New water lines should continue to be constructed and inspected to standards that will ensure low long-term maintenance costs and the reduction of non-revenue water loss.
9. The City should undertake a comprehensive inventory of storm drainage and develop a plan for future growth of the system and protection of the environment from storm sewer effluent.

CHAPTER XV

SCHOOLS

Goal Statement: It is a goal of this City to provide a quality education system through its public school system and promotion of other public and private educational programs.

The provision of a quality education system helps ensure a well-educated citizenry, a well educated and highly skilled work force, and a strong and stable economic base. The City's primary influence on providing quality education is through the public school system. However, the City can further promote education through support of other public and private educational programs such as those provided by colleges and universities, private schools and vocational/technical programs.

The City's central location provides convenient access to numerous colleges and universities including the University of Vermont, Champlain College, St. Michael's College, and Burlington College. The University of Vermont owns roughly 560 acres of land in the City. These parcels are used primarily for agricultural, horticultural and open space preservation purposes. An inventory of UVM owned parcels including acreage is provided in Table 15-1.

The public school system in the City is administered by the South Burlington School District. This district includes three elementary schools, a middle school, and a high school. Table 15-2 identified existing school sites including acreage.

Rice High School, a private school, is also located in South Burlington. Rice High School is located on Proctor Avenue and encompasses approximately 36 acres.

A. PUBLIC SCHOOLS

High-quality education for all children in the community is one of the most significant and basic services that the City of South Burlington must provide. The importance of this service is represented, in part, by the amount of funds allocated to the school system. Public education accounts for approximately 69% of municipal expenditures in South Burlington

locally. In addition to local expenses, South Burlington spends another 10% of its' collected property tax revenues to support education throughout the state in less property wealthy communities.

The tradition of close cooperation and communication between the School Board and the various municipal boards and commissions should be maintained. This is important in light of the shared interest of all City residents in the quality of the education system and in the increasing use of school facilities by community members.

Having recently completed a comprehensive planning process that involved more than 300 members of the school community, the School Board has adopted a Strategic Plan that has prescribed the educational and program needs of the school district for the next millennium. Consistent with this Strategic Plan, the School Board has identified the following objectives for the South Burlington Comprehensive Plan.

- To maintain a quality school system for both present and future residents which is essential to the quality of life in the City and provides the City with a community focus and sense of pride.
- To keep quality education affordable services require a continued balance between residential and commercial growth and a balanced tax base.
- To encourage the provision of open space and dedicated park land which accentuates the educational goals of the School District by providing for experiential and applied learning experiences.
- Continue the neighborhood school concept, which is paramount to a continued sense of community, a sense of belonging and affiliation, and encourages strong families and community values.
- Continue the shared use of school and other public facilities when possible, which provides the community with a sense of ownership and appreciation for the resources of the City; resulting in responsible use and public commitment to facility maintenance.

1. School System Capacity

The district's capacity is determined through a number of interrelated and frequently changing variables. Among these variables are Vermont Department of Education regulations, Federal laws such as those which relate to special education, required support services and programs, teacher

union contract provisions and the Board of School Director's goals and value judgements on issues such as public/teacher ratios, etc. The school system's capacity is expressed as an aggregate number, based upon room utilization, with qualitative adjustment factors so that the actual calculated capacity can be modified without amending the Comprehensive Plan. Based upon the factors enumerated above, the mathematical maximum capacity of the K-12 physical plant after completion of the School Improvement Project of 1995-96 is estimated to be 4165 pupils (1675 K-5 elementary; 2490 6-12 secondary). This absolute capacity assumes 25 students per classroom with even distribution across all grades and all schools. Such distribution is never realized due to the actual demographics of age and location of students in the City and exceeds the recommended average class size. The School District applies an effective factor of 85% to reflect the reality of age, location and scheduling of the student population to achieve an adjusted program capacity of 3541 students (K-12). This effective capacity is the reasonable number of students, which may be scheduled within the existing program with current class size as a normative value. For purposes of planning for future facilities, the School District further applies a factor of 90% of that adjusted program capacity number to determine the "action point" at which an additional facility is warranted for consideration. This action point is 3366 pupils. Prior to that action point, the committee recognized that while building may not need to occur at the secondary level to accommodate program capacity, renovation of existing space did need to occur to reclaim classroom and office space currently utilized for other purposes. In addition, Core space functions such as gymnasium space, cafeteria space, and auditorium space are restrictive to a smaller student population and should be expanded in the future by construction or alternate use plans.

2. Enrollment Projections

In order to ensure the availability of quality education the school district conducts yearly population projection study to determine future needs. Other planning considerations that pertain to schools include an active effort by the School Board to recruit and retain tuition students. Although resulting in increased enrollments, tuition revenue is in excess of 1 million dollars and provides for a critical student mass and permits a comprehensive program of studies. Resident student enrollment projections (as calculated in October, 1999) in combination with anticipated tuition students indicates that the School District will reach its action point

for grades 6-12 in the fall of 2008 with 1900 students. Taken independently, the 6-8 population will not reach action point in the foreseeable next 20 years, while the 9-12 population will reach action point in 2002. Without tuition students, the 9-12 action point is not reached until 2013.

3. Generation Impact and School Quality

The quality and reputation of the South Burlington schools continues to attract families to the City. As our school system evolves during the 21st century, many established families who moved to the community so that their children could receive their education here are reaching the age of retirement and their homes are being resold to a new generation of parents who wish the same opportunity for their children. These changes in home ownership are not predictable and have resulted in additional students in excess of the population projection referenced above. A survey in 1999 of families with students new to South Burlington indicated that more than 80% moved here because of the City's reputation for a quality school system.

4. Impact of New Housing on the School System

To ensure equal treatment of developers and to minimize the impact of new housing on school facilities, standards are used to estimate the number of school children generated by new projects.

This number is based on the unit configuration (single or multi-family), unit costs, whether it is renter or owner occupied, and size (#of bedrooms, square footage). The values assigned to these factors are confirmed and adjusted by periodic school department reviews. Such reviews are increasingly important as some of the City's schools near their capacity. Of great concern to the School Directors has been the continued build out of the SE Quadrant and the local property tax revenue due to Act 60. It is evident too, that the collective impact of growth must be considered and not just the single impact of a project on the school district. While one project of 50 anticipated school age students may be able to be absorbed by the district, 10 such projects cannot be.

5. New School Sites and School Site Expansion

Current State - Secondary Schools (6-12): The School Board is evaluating the

continued existence of one High School/Middle School complex due to enrollment projections. The potential exists at this site for additional classrooms to be converted from existing space to respond to increases in enrollment but core space such as the auditorium and gymnasium are inadequate to respond to increases in enrollment. A single 6-12 school site also provides for educational program and staffing efficiency as well as for an economy of scale.

Elementary Schools (K-5): Effective planning by the School Board and Administration has sought and received the support of the community for a major upgrade of facilities programs to meet the current educational needs of the community's elementary children. With the conclusion of the School Improvement Project in 1996, the School District will have met these immediate educational needs of the projected elementary school population through the year 2020.

Future State - By application of the principles included in sub-section 1 to population projections in sub-section 2, compounded with the unknown factors in sub-section 3, it becomes evident that an expansion to the secondary schools and new school may be necessary in the next millennium - conceivably by the year 2010. This need may be accelerated by the scope of new units approved by the City and by the turnover of existing homes to new families with children.

6. Transportation

Neighborhood schools minimize the need for transportation for those students within walking distance as established by Board policy. Sidewalks and signals cross walks should be provided during the review process of new developments to allow students to walk safely to school. Similarly for those students outside of walking distance sidewalks should be provided to school bus stops. These stops should be located away from residences or appropriately buffered so that waiting groups of students do not disturb residents. In general, City Streets and sidewalks, especially along arterial and collectors, should be constructed to serve new residential developments and provide safe pickup stops for school busses that do not impede high volume of through traffic.

The City Public Works Department and the School District have begun a joint Public Works facility that was approved by the voters in May 2000.

The facility represents a cooperative relationship between these two public entities that should allow for increased efficiency and economy of scale.

B. UNIVERSITY OF VERMONT PROPERTIES

As stated previously, the University of Vermont owns 586 acres of land in South Burlington. These properties are devoted primarily to research and support activities related to agricultural, horticultural and natural area preservation. The two existing natural areas which are designated as such by the University (i.e., Centennial Woods Natural Area and Eastwoods Natural Area) provide a tremendous benefit to the City and region in terms of open space preservation and passive recreation. In regards to the remaining parcels in South Burlington, it is the City's desire that the properties continue to be used for educational, research and agricultural purposes. These lands are well suited to an educational emphasis due to their proximity to the main campus of the University of Vermont. In addition, the provision of higher education services contributes a far-reaching benefit to the welfare of the community and region, including quality education for the citizenry, attraction and retention of business, and relatively high paying jobs

C. OBJECTIVES

1. Maintain a quality school system for both present and future residents which enhances the quality of life in the City and provides the City with a community focus and sense of pride.
2. Keep a continued balance between residential and commercial growth and a balanced tax base in order to sustain quality affordable education services.
3. Encouraging the provision of open space and dedicated park land which provide for experiential and applied learning experiences.
4. Continue when possible the neighborhood school concept, which is paramount to a continued sense of community, a sense of belonging and affiliation, and encourages strong families and community values.
5. Continue the shared use of school and other public facilities when possible, which provides the community with a sense of ownership and appreciation for the resources of the City; resulting in responsible use and public commitment to facility maintenance.

6. Promote the continued the use of existing University of Vermont lands for educational, research and agricultural purposes.
7. Promote higher education services which benefit the welfare of the community and region, including quality education for the citizenry, attraction and retention of business, and relatively high paying jobs.

D. RECOMMENDATIONS

1. The City should designate the recommended school site in the Southeast Quadrant on City owned land in order to meet the projected student population.
2. The City should assure safe pedestrian and bike access to all schools such as through the encouragement of developers to install sidewalks, signal crosswalks or bike paths whenever appropriate and possible.
3. The City should continue to strive for an appropriate balance between residential and commercial growth.
4. The City should encourage uses, which continue an educational and research emphasis on the lands currently owned by the University of Vermont.
5. The City and School Department should work closely together on the impact of Act 60 on the community's resources for the schools to insure that the quality of education, available to students - a major component to our community identify - is not jeopardized. The City should monitor closely the impacts of Act 60 and develop a strategy for minimizing any negative effects resulting from Act 60.

TABLE 15-1 UNIVERSITY OF VERMONT PROPERTIES			
	PROPERTY	USE	ACRES
1.	East of I-89, north of Williston Rd.	Centennial Woods Natural Area, commuter lot, open land leased to City for rec field	92
2.	West of Spear St., south of Williston Rd.	Portions of athletic playing fields, parking lots, open space	16
3.	498-500 Spear St.	University Farm	68
4.	650 Spear St. (east side)	Agriculture, research	33
5.	699 Spear St.	Agriculture, research	39
6.	705 Spear St.	Maple Research Center	12
7.	1195 Spear St.	Open land	43
8.	1220 Spear St.	Agricultural crop land	18
9.	300 Swift Street	Open land	4
10.	1251 Spear St.	Wheelock Tract, west of Spear	100
11.	1260 Spear St.	Wheelock Tract, east of Spear	12
12.	100 Swift St.	East Woods Natural Area	50
13.	65 Green Mtn. Dr.	Blasberg Horticultural Farm, research	97
14.	Hinesburg Road	H. Laurence Achilles Natural Area	2
TOTAL			586

TABLE 15-2 PUBLIC SCHOOL PROPERTIES		
	SCHOOL	ACRES
1.	Central	11.8
2.	Chamberlain	10.2
3.	Orchard	13.4
4.	Highschool/ Middle School	80
TOTAL		115.4

CHAPTER XVI

ENERGY CONSERVATION

GOAL STATEMENT: It is a goal of this City to promote improved energy efficiency, affordable energy, and lessen our reliance (per capita) on non-renewable energy resources.

As the City of South Burlington continues to grow, access to affordable energy will play an important role. Energy and access to energy are vital to a thriving economy and community. The cost of energy adds to the cost of living and doing business, therefore energy conservation and lower energy prices help make the City attractive to both homeowners and businesses. Energy is also a natural resource, to be used effectively and efficiently.

A. TRENDS

According to the Vermont Comprehensive Energy Plan published by the Department of Public Service (30), statewide energy demand is expected to increase by 46% over the twenty year period between 1990 and 2010 next two decades (1990 - 2010). The largest increase in energy demand is in the transportation sector which is anticipated to account for almost half (i.e., 47%) of all statewide energy demand in 2010. The next highest sector is residential which will account for 28% of all energy demand. The commercial and industrial sectors will account for 12% and 13%, respectively. The substantial increase in transportation and residential energy use is associated with increasing demand for motor fuels and heating oil.

The headquarters of the two largest providers of energy in Chittenden County, Green Mountain Power and Vermont Gas, are both located in South Burlington. Both companies indicate they have sufficient capacity to adequately serve growth in the City over the life of this plan. Both companies also offer energy conservation programs and incentives to both businesses and residences. Map 4 shows the areas in the City served by Vermont Gas.

The City's primary energy use consists of electricity, natural gas and motor

fuel. The City's largest energy expenditure is for operation of the sewage treatment facilities. The City can work to reduce energy costs through the implementation of conservation measures.

South Burlington can promote reduced transportation energy use through the development of alternative transportation modes and through appropriate land use planning. For example, the City is attempting to become a more pedestrian-oriented city. The development of foot and bicycle paths, green ways and other trails provide alternative ways of accessing the City's commercial, residential and recreation areas. With the development of City Center, the City is taking steps to make the use of public transportation easier. The City Center, with its mix of commercial and residential uses, will also promote walking and therefore reduce the need for automobiles.

Other actions the City can take to further enhance energy efficiency is to encourage innovative site planning techniques. Planned unit developments, for example, can provide for a more effective public transportation system through the clustering of buildings and uses and also allow for comprehensive designs that support the use of energy conserving measures. Creative landscaping design can enhance energy efficiency through the use of deciduous trees close to buildings and in parking lots to provide shade during the summer and allow access to sun light during the winter months. Evergreen trees can be placed so as to act as wind breaks.

The importance of energy efficiency is recognized and addressed in other sections of the Comprehensive Plan including Housing, Recreation, Transportation, and Public Utilities and Services.

B. OBJECTIVES

The City's policy on energy conservation has several objectives:

1. Reduce transportation energy use by lessening reliance on use of single-occupant vehicle travel and decreasing vehicle miles traveled.
2. Promote energy efficiency through well designed buildings and sites, and encouragement of increased demand side management programs.

3. Improve the energy efficiency of city-owned buildings and equipment.

C. RECOMMENDED ACTIONS

1. The City should continue implementation of the mixed-use City Center plan, as well as and promote higher density, mixed-use development along Shelburne and Williston Roads to allow for both residential and commercial development in order to promote pedestrian movement, reduced travel distance, and increased transit use. The City should consider amending its zoning ordinance to increase residential density along the Williston and Shelburne Road corridors and provide incentives for constructing mixed residential/commercial projects.
2. The City should continue support of alternative modes of transportation by maintaining its membership in the Chittenden County Transit Authority, and continuing its support, acquisition and construction of pedestrian trails and recreation/bicycle paths.
3. During site plan and subdivision review, the City should encourage innovative site planning techniques to enhance energy efficiency. Such techniques could include the clustering of buildings, maximizing access to solar energy, and the use of creative landscaping design.
4. Public buildings and facilities should be designed and improved to be as energy efficient as possible. City vehicles should be maintained at peak fuel efficiency.
5. The City should explore the feasibility and location of car and vanpooling parking lots in order to encourage ride sharing.
6. The City should encourage businesses to explore the possibility, and feasibility, of cogeneration in mixed-use, commercial, and industrial areas.
7. The City should encourage both existing energy users as well as new development to take advantage of programs offered by Efficiency Vermont.
8. The City should develop a policy on how to address private energy generators, such as wood, gas, diesel, and coal fired generators, from the perspective of public safety and welfare.

CHAPTER XVII SOUTH BURLINGTON’S HISTORIC RESOURCES

GOAL STATEMENT: The City of South Burlington has diverse historic resources many of which are not readily visible. Paleoindian archeological sites, landscape features such as stonewalls, historic farmsteads, Craftsman Style bungalows, International Style buildings, post World War II cul-de-sacs, and a variety of roadside architecture make up the cultural landscape and history of South Burlington. These historic resources are visual representations of the City’s history. Historically significant resources should be preserved whenever appropriate

A. HISTORIC RESOURCES

The City of South Burlington’s geographic location, natural resources, and natural features have made the City a desirable place for settlement since prehistoric times. The City is located within the Champlain Lowland which is located between the Green Mountains and Lake Champlain. There is archaeological evidence that suggests human populations occupied the area as early as 8,000 BC. South Burlington lies between Lake Champlain, the Winooski River, and the Shelburne Pond watershed. South Burlington’s location between these major drainage areas and bodies of water, as well as its natural resources made the area naturally suited to occupation throughout prehistoric times.

With the arrival of European settlers to the close of the eighteenth century, South Burlington was transformed into a dispersed farming community. Governor Benning Wentworth of New Hampshire chartered the area that became Burlington in 1763 of which South Burlington was a part. The area is well suited to agriculture due to its gently rolling, fertile soils and scattered farms soon took hold. Industrial activity also arose around Winooski Falls and the natural lime rock was extracted and refined through kilns. The introduction of the Winooski Turnpike and a stage coach route along what is now Hinesburg Road made South Burlington a central location in the early years of the nineteenth century. Shunpike Road originated as a popular route around the toll house on the Winooski Turnpike, which is now Williston Road. Some taverns and other commercial structures sporadically sprung up along these transportation routes. Development was hampered

by shared services and utilities with Burlington which grew to be the financial and service center of the area. In 1865, the town of South Burlington separated from Burlington although continuing to rely on Burlington for many of its services.

Burlington, for many years, continued to be South Burlington’s business district. Farmers brought their goods to Burlington and exchanged for manufactured goods. Monkton quartzite was quarried from the eastern edge of the town and utilized in many Burlington foundations. The introduction of the railroad along the shores of Lake Champlain brought tourists to the area. Queen City Park became a popular religious summer camp and eventually developed a railroad stop of its own and the Burlington Trolley line was extended to service the area in the closing years of the nineteenth century.

Growth continued slowly for South Burlington through the first years of the twentieth century. With the introduction of the automobile, development shifted to major roads such as Williston Road. In 1919, work was begun on the airport which would become the Burlington International Airport. South Burlington began to become a transportation hub for Chittenden County. With the economic expansion post World War II, development took off in both the commercial/industrial and residential sectors. Major residential developments close to the airport, begun prior to World War II, were quickly constructed after the war in the 1940s and 1950s.

The City adopted zoning in 1947 in an effort to provide order to the exploding growth. Between 1940 and 1950 the City’s population grew from 1,737 to 3,729 people. Pre-war efforts to extend municipal water services from Burlington came to fruition along Williston Road. Between 1950 and 1960 the population doubled again rising to 6,903 people. Many service oriented businesses sprung up along Williston Road and Shelburne Road. Diners, motels, restaurants, as well as retail shops and offices began to dot these popular strips. Many of these service oriented businesses developed distinctive designs and signs to stand out to the motorist. Farmland was quickly converted to dense development. Conversely, areas such as the Southeast Quadrant and the Lakeshore saw little development during this time period. International Business Machines opened in Essex in the 1950s and industry finally began to take hold in South Burlington.

The City of South Burlington formally was granted City status in 1971. The

City has continued to grow and now faces growth pressures in previously undeveloped areas such as the Southeast Quadrant as well as redevelopment within its older neighborhoods and business districts. While most would consider the 1930’s through 1950’s architecture of South Burlington not to be historic, many of these buildings are historically significant and perhaps eligible for the National Register of Historic Places. A large portion of South Burlington’s built environment was created during the years following World War II. Care must be taken to appreciate South Burlington’s cultural landscape as evolving over time. A variety of the components that make up South Burlington’s cultural landscape must be preserved in order to preserve elements of the City’s history.

As the City develops, care should be taken to make development sensitive to the City’s historic and archaeological sites and structures. These sites and structures serve as visible reminders of the community’s past. Archaeological sites offer insight into the more distant past when people did not write and provide information about events and activities. To the extent possible, important archaeological sites should be preserved for future generations when new technologies can answer important scientific and cultural questions. If an important site can not be preserved, archaeological investigations can be conducted to recover information contained in the site. Predictive modeling of archaeological sites can be used to locate potentially important sites and assist developers in recognizing archaeological resources before site plans are developed.

The City should pursue an inventory of its historic resources through an open space plan. Important historic resources should be identified and prioritized. The State Register of Historic Places listings for the City should be used to help assess the significance of historic buildings and structures. Significant historic structures as well as associated landscape features, such as stone walls, should be preserved. It should be recognized that preserving historic structures often requires repair or rehabilitation to provide continued use. Changes to historic structures should be sympathetic to the structure and, to the extent possible, in accordance with the Secretary of Interior’s Standards for the Treatment of Historic Properties. The City may consider a local landmarks program or creating historic or design review districts to define and help preserve significant archaeological sites and historic sites and structures.

South Burlington’s pre-contact and historic period archaeological sites and

historic buildings and structures constitute its unique and diverse historic resources. Once these resources are gone, they can never be replaced. For certain time periods of history, these historic resources may be the only clues to our past. Destroying historic resources can sometimes permanently destroy opportunities to interpret and understand our history. As South Burlington continues to develop, the historic resources that represent the City’s past should be recognized and preserved as we plan for its future.

B. OBJECTIVES

1. As the City develops, care should be taken to make development sensitive to the City’s historic and archaeological sites and structures.
2. To the extent possible, important archaeological sites should be preserved for future generations when new technologies can answer important scientific and cultural questions.
3. The City should identify and prioritize its historic resources.
4. Preserving historic structures often requires repair or rehabilitation to provide continued use. Changes to historic structures should be sympathetic to the structure.
5. The City should consider a local landmarks program or creating historic or design review districts to define and help preserve significant archaeological sites and historic sites and structures.
6. As South Burlington continues to develop, the historic resources that represent the City’s past should be recognized and preserved as we plan for its future.

C. RECOMMENDATIONS

1. The City should update and expand upon the State Register listing of historic properties within South Burlington. Road side architecture and post World War II construction should be considered in listing historic properties.

2. The City should investigate incorporating historic resources into an open space plan. Significant historic resources should be preserved through the development review process, conservation easements, or other proactive measures. Adverse effect to the qualities that define a significant historic resource should be avoided.
3. An archaeological sensitivity model should be developed to assist developers in recognizing potentially important archeological resources and incorporating historic resources into project designs.
4. The Sign Ordinance should be amended to allow for the preservation of historically significant signs.
5. The City should participate in appropriate reviews such as Act 250 or highway corridor hearings to protect important historical and cultural resources which may be threatened.
6. The City should consider implementing a local landmarks program and design or historic districts to preserve the City’s important historic resources. It should be recognized that not all historic resources are significant and worth preserving. Additions, alterations, structures, homes, and other resources that are not historically significant should not have the same importance as other historically significant resources.
7. Destruction of significant historic resources should require significant documentation of the resource. The City Planning Office should receive copies of all documentation of historic resources done as part of local, state, or federal project review and should make these documents accessible to the public.
8. Significant properties that still serve their historic function, such as farms should be preserved through the development review process, conservation easements, or other proactive measures.
9. The City should utilize the Secretary of Interior’s Standards for the Treatment of Historic Properties in projects that affect significant publicly owned historic resources, such as the Calkins property.

CHAPTER XVIII SOUTH BURLINGTON’S VISUAL DESIGN

GOAL STATEMENT: It should be the goal of the City to allow for responsible development that positively contributes to the landscape while preserving the essential elements of the City’s landscape that define South Burlington for future generations to enjoy.

There are defined aesthetic qualities that affect the perception of South Burlington. The built environment, open spaces, scenic views, and natural areas help to define the City as well as its various neighborhoods and business districts. New design should respect the existing landscape and positively contribute to it. Open spaces and natural areas essential to scenic views and historic landscapes should be identified and preserved for future generations. It should be the goal of the City to allow for responsible development that positively contributes to the landscape while preserving the essential elements of the City’s landscape that define South Burlington for future generations to enjoy.

A. THE BUILT ENVIRONMENT

The City has successfully implemented several Design Review Districts within its City Center. This effort has proved successful and it is a concept that should perhaps be explored in other business districts within the City. It is in the interest of the City to improve its appearance in order to enhance the "quality of life" for the City's residents, businesses and visitors. Improvements to the appearance and aesthetics of the City can be accomplished by such actions as placing overhead utilities underground, planting trees and landscaping along City streets, and fully enforcing sign regulations. New road construction and road improvements are opportune times to consolidate overhead utilities or place them underground, unless the costs are prohibitive. In addition, the planting of street trees as part of a roadway reconstruction project should be encouraged. These concepts of replacing overhead utilities with underground utilities and street tree planting was incorporated into the Dorset Street reconstruction project. All new subdivisions should include underground utilities and street trees.

Several existing features in the Zoning Ordinance should be maintained and applied in order to improve the aesthetic quality of the City. These include landscaping requirements, setbacks, buffers around project perimeters, conservation of existing vegetation, shielding large parking areas with landscaping or buildings, and buffers between conflicting land uses. Storm water is becoming an increasingly important issue in urban design as storm water facilities are often subject to neglected maintenance and can become visually displeasing when placed within the front yard area of a lot. The City should explore a maintenance policy for these stormwater facilities as well as the use of natural wetlands and wetland restoration to filter and disperse stormwater. The equitable application of new landscaping requirements should include reasonable allowances for existing or transplanted vegetation, consideration of screening for outdoor materials storage and to reduce glare, noise, and other nuisances, evaluation of the need for property or building perimeter plantings, and avoidance of excessive planting cost requirements when the desired objectives may be achieved at a lower cost. The City should encourage the retention of historic landscapes and the restoration of others. Outdoor lighting should be properly focused and oriented, preferably with concealed sources. The use of additional alternatives to achieve improved aesthetics should be explored, such as requiring variable setbacks, the use of high quality traditional building materials, and locating parking to the rear of commercial establishments. It has been a trend in many sectors of the retail area to construct cheap structural shells that are easily changed to accommodate market fluctuations. The City should guard against poorly built structures that are designed to last less than 50 years. Poor construction of new building could degrade the quality of the City’s built environment as these buildings become used well beyond their expected life span. The recent digital revolution has also created a number of new satellite dishes, antennas, and transmitters that have sprung up haphazardly throughout the City. The City may wish to consider limiting towers and large antennas to certain Zoning Districts as well as minimizing the aesthetic impacts of telecommunication utilities in the Zoning Regulations. Also, the utility corridor concept should be implemented as fully as possible to prevent the haphazard and piecemeal development of overhead power lines, new roadways, and the like.

B. OBJECTIVES

1. Utilities should be located in a manner that improves the appearance and aesthetics of the City.
2. Streetscapes should include green belts and appropriate street trees.
3. The intent of Zoning Ordinance requirements should be maintained and applied in order to improve the aesthetic quality of the City.
4. Inclusive landscape plans should be encouraged. Existing landscaping should be preserved where possible, significant historic landscapes should be retained or restored, and new landscaping should be introduced whenever feasible.
5. Exterior lighting should be recognized as having a visible impact on the landscape and should be addressed through regulations as well as policies.
6. The City should continue to implement the City Center development plan and refine the zoning standards for this area to create a dynamic, exciting and attractive focal point for the City.
7. Quality construction should be encouraged that utilizes high quality traditional or innovative materials.
8. The City should guide the placement of telecommunications utilities to encourage inclusive designs instead of sporadic and poorly planned installations.
9. The City should address the visual impacts of storm water treatment facilities through its regulations and policies.
10. The City should encourage through site plan and subdivision review, the incorporation of techniques designed to improve the aesthetics of new and existing development.

C. RECOMMENDATIONS

1. The City should maintain the design guidelines for the City Center in order to promote the goals and policies of the City Center Plan. The City should consider creating and publishing a design guidelines booklet to

assist applicants in understanding the design review process.

2. New development review techniques should be implemented that should could include, but are not limited to, the use of landscaping or attractive fencing to screen typically unsightly areas such as outdoor storage, dumpsters and loading docks, the use of landscaping and berms to lessen the visual impacts of large parking lots, and use of downcasting and shielded exterior lighting.

3. In reviewing and approving developments, especially along Dorset Street, Route 7 and Route 2, the City should require landscaping and buffers between residential and commercial uses, encourage preservation of existing landscaping, and locate parking to the rear of buildings wherever possible.

4. The City should reevaluate its sign ordinance on a continuing basis to improve the aesthetics along the City's streets, in particular, the City's arterial gateways, Route 7 and Route 2.

5. The City should implement the utility corridor concept as fully as possible.

6. An outdoor lighting guide or policy should be investigated by the City. The Zoning Regulations should be revised to incorporate specific outdoor lighting policies. An outdoor lighting policy should incorporate the need for downcasting and shielded lights, lights that promote a true color spectrum such as metal halide, and energy efficiency.

7. The City should consider a stormwater maintenance ordinance or policy. The design and location of storm water facilities should be addressed in the development review process. The concept of bonding for maintenance of storm water facilities and the use of man-made wetlands to treat stormwater should be explored.

8. Telecommunications utilities, such as satellite dishes, antennas, towers, and transmitters, should be addressed more thoroughly in the Zoning Regulations. The City should consider limiting towers to certain Zoning Districts. Guidelines for the placement of satellite dishes, antennas, and transmitters on buildings should also be created in order to minimize the visual impact of these utilities.

9. The City should pursue the possibility of implement additional design review districts within existing business districts to promote high quality new construction, additions, and alterations.

10. The City should pursue an Open Space Plan to identify important open spaces, natural areas, and view points. These areas should then be conserved through the development review process, conservation easements, or other proactive measures.

11. Guidelines for new construction should be developed that address the quality of construction, the use of exterior materials, and the visual effect of the project for large projects that may present a high level of impact to the landscape of South Burlington.

12. The City should participate in appropriate reviews such as Act 250 or highway corridor hearings to protect important aesthetic resources which may be threatened.

CHAPTER XIX

IMPLEMENTATION

There are many tools and techniques available to the City which can be used to implement the Comprehensive Plan. This section describes the general mechanisms which are in place or could be developed to implement the goals, objectives and policies of the City. Other more specific mechanisms for implementation are identified throughout the other sections of this plan. The timing and funding of the following tasks will be determined by the annual work program.

A. LAND USE REGULATIONS AND TECHNIQUES

One of the most fundamental police powers granted to local governments is the power to regulate the use of land. The State of Vermont, under Chapter 117 of Title 24, allows municipalities to adopt bylaws to use as tools to implement the Comprehensive Plan. These bylaws include zoning regulations, subdivision regulations and the official map.

1. Zoning Regulations

The most commonly used bylaw for controlling development at the local level is conventional zoning. Zoning controls the use of land and structures, and the density, height and bulk of development. In addition to these general provisions, the following specific provisions either currently exist or should be added to the City of South Burlington Zoning Regulations.

a) Site Plan Review:

The Site plan review process affords the City Development Review Board with an opportunity to review and impose appropriate conditions and safeguards on all development in the City other than agricultural and forestry uses and one and two family-dwellings on single lots. The submission requirements and approval process for site plan reviews should be reviewed in context with this plan.

b) Cluster Developments:

The City zoning regulations contain provisions for Planned Commercial

Developments (PCD's), Planned Industrial Developments (PID's) Planned Unit Developments (PUD's), and Planned Residential Developments (PRD's) These provisions are designed to encourage innovation of design and layout and a more efficient use of land for commercial, industrial and residential developments. These provisions should be reviewed in context with the changes made to the Comprehensive Plan.

c) View Protection Zones:

View protection zones are effective means in which to preserve and protect important scenic views. Such zones are designed to limit the height and placement of structures and landscaping in order to preserve spectacular views from public lands and r.o.w.s. There have been six view protection zones established in the City, predominantly in the Southeast Quadrant. The City should consider establishing similar protection zones in other areas of the City which afford spectacular views.

d) Central District Zones:

The Central District was formed in order to encourage the location of a balanced and coordinated mixture of residential, commercial, public and private uses adjacent to Dorset Street that support the City Center goals and objectives contained in the Comprehensive Plan. It is designed to promote efficient use of land by concentrating these mixed uses within a well-defined Central District. The entire Central District should be reviewed in context with the Comprehensive Plan. The Central District zoning should continue to be refined in order to create a dynamic and attractive focal point for the City.

e) Conservation Zones:

Conservation zones have been established to protect rivers, streams, drainageways, open land and wildlife corridors, wetlands and the Lake Champlain shoreline.

f) Traffic Overlay District:

This district was formed in order to control traffic congestion and to prevent worsening of existing conditions in areas of high-volume traffic flow. New uses are restricted according to the volume of traffic they are

expected to generate. This section should be reviewed in context with the latest available volume flow data for the major highways and streets in the City.

g) Watershed Protection Overlay District:

This district was formed in order to control stormwater runoff and prevent worsening of erosion problems in the Bartlett Brook and North Brook watersheds. The City should consider establishing similar protection districts for other important watersheds. An inventory of existing holding ponds should be developed. The City should consider legal options to place responsibility for maintenance and yearly inspection of these retention ponds on their private owners.

h) Transferable Development Rights:

Transferable development rights (TDR's) allow for the separation of development rights for land from the ownership of land. Such a provision would allow a landowner in a designated "sending area" which is identified for conservation to sell his or her development rights to a landowner in a designated "receiving area" where the rights could be used for increased development. Such a technique is useful to preserve wild life corridors, open space or prime agricultural lands and provide an opportunity for a land owner to better realize the development value of his or her land. The City currently allows the transfer of development rights between non-contiguous parcels in the Southeast Quadrant zoning district.

i) Design Review Regulations

The City has adopted design review regulations for the City Center district and appointed a Design Review Committee to implement those regulations. The regulations will help ensure that development of the City Center conforms to the goals of this plan and to the goals of the City Center plan. The City should consider the implementing of other design review districts, as needed.

j) Tax Increment Financing and Tax Stabilization

The City can designate certain areas of the City, such as City Center, as a tax increment financing (TIF) district. In Tiff's, the cost of infrastructure

improvements are funded through the tax revenue generated by development which utilizes such improvements. Tiff's are a new development tool in Vermont and can operate for a ten year period in a district. It is envisioned that TIFs will be an important developmental tool in the City Center. Tax Stabilization agreements can also encourage development in areas the city prefers. Due to Act 60, care must be taken with tax stabilization agreements to insure that approved agreements have been exempted by the State from the educational grand list.

2. Subdivision Regulations

The subdivision regulations are used to control the division of land into smaller parcels and the creation of streets and other public improvements. These regulations should be completely reviewed and revised where appropriate in the context of this Comprehensive Plan.

3. Official Map

The official map is a bylaw which reserves land for streets, drainage, parks, schools and other public facilities. The City's official map should be completely reviewed and revised where appropriate in the context of this Comprehensive Plan.

B. OTHER REGULATIONS:

1. Sign Ordinance:

The sign ordinance, which was adopted in 1973, is intended to reduce sign distractions and obstructions that may contribute to traffic accidents, to reduce hazards that may be caused by signs in disrepair or of faulty construction, and to curb deterioration of the natural beauty, open space and community environment. The sign ordinance should be reviewed in context with the Comprehensive Plan.

2. Sewer Ordinance:

The sewer regulation ordinance, which was adopted in 1969, is intended to require the proper disposal of sewage through regulation of public and private sewers and drains, private sewage disposal systems, and the

discharge of waters and wastes into the public sewer system. An updated Sewer Use Ordinance is currently being drafted and should be adopted by City Council.

C. LAND ACQUISITION

The acquisition of land will be required in order to implement several goals and recommendations contained in the plan such as for the construction of public facilities including parkland, schools, sewer and water facilities, roads and recreation paths. Land may be acquired through fee simple acquisition. However, land for roadway rights-of-way, parkland, utilities, and easements for recreation paths and pedestrian trails can be acquired through subdivision exactions.

The City should consider the purchase of conservation easements to protect important natural areas, open spaces, and prime agricultural lands. The City should encourage the formation of local land trusts or work with the Vermont Land Trust to purchase development rights on lands for the purposes of preserving the natural resources described above. In May, 2000 voters approved 1 cent tax dedicated to purchase of open space or rights to open space. An open space plan is being developed to guide use of these funds.

D. CAPITAL EXPENDITURES

1. Capital Budget and Program

The City adopted a capital budget and program in accordance with 24 V.S.A., Section 4426. The capital budget, the principal guide for public spending, describes the capital projects to be undertaken during the coming fiscal year, including the estimated costs and method of financing. The capital program is a similar plan of capital projects to be undertaken during each of the following five years. The capital budget and program includes such projects as roadway and intersection improvements, water and sewer improvements, school improvements, sidewalk construction, and police and fire expenditures. The capital budget and program should be updated on an annual basis.

2. Impact Fees:

The City adopted an impact fee program in accordance with 24 V.S.A., Chapter 131. Impact fees are a means by which developments are required to pay for their "fair share" of public capital expenditures needed as a result of their development. Impact fees have been developed for roadway improvements, recreation improvements, and school improvements. The City should also evaluate the feasibility of charging impact fees for police and fire capital improvements. The adoption of impact fees requires the adoption of a capital budget and program. Impact fees will be updated in 2001.

3. Special Assessment Districts:

Special assessment districts are designated areas in which property owners are charged to cover the costs of installing capital improvements from which the property owners will benefit. Typical improvements funded by special assessment include water and sewer service, sidewalk construction and street improvements. Special assessment districts should appear in the capital budget program.

E. REGIONAL, STATE AND FEDERAL COOPERATION

The City should continue to cooperate with regional, state and federal agencies as necessary to further the goals and policies of this plan.

1. Regional - The City should continue to work closely with the Chittenden County Regional Planning Commission (CCRPC) and adjoining municipalities on planning issues. The City should continue to work with and participate in regional organizations such as the CCRPC, Chittenden Metropolitan Planning Organization, Chittenden Solid Waste District, Champlain Water District, Lake Champlain Housing Development Corporation, and Lake Champlain Chamber of Commerce.

2. State - This plan will represent the City's goals and policies in various state wide forums such as Act 250 proceedings, Section 248 hearings, Transportation Board hearings, and State agency plan development. The City should continue to work with State agencies involved in land development within the City boundaries.

3. Federal - The City should continue to participate when necessary in the federal environmental impact review process which is mandated by the National Environmental Policy Act for federally subsidized development projects. The City should also continue to advise congressional delegates on matters related to the goals and policies of this plan.

F. ONGOING PLANNING AND STUDIES

The City shall continue to update the Comprehensive Plan every five years as required by 24 V.S.A., Section 4387. In addition to a regular review and update of the plan, and notwithstanding other recommendations contained in this plan, the City should undertake the following studies and actions:

1. With completion of the City's reappraisal, a housing inventory should be conducted to categorize all housing units in the City by value in order to determine the City's existing stock of "affordable housing".
2. The City should review the Central District zoning ordinance including the development of a design control district, parking fund program and density bonus program. The City has conducted studies to determine the feasibility of establishing a Local Development Corporation (LDC) to provide focus and leadership for the development of City Center. The Study Committee recommended the establishment of a LDC, but funding sources (estimated at \$100,000 per year) have not been identified.
3. The City should develop a strategic plan to implement the City Center objectives and recommendations. Such a plan should include a realistic assessment of the City's and outside resources, the City's strengths and weaknesses, and identify and prioritize the action steps which are necessary to implement and eventually realize the City Center goals. The City Center Streetscape Design Guidelines Handbook should be revised to include the San Remo Streetscape, and the Market Street canopy system.
4. Transportation improvement studies and plans should be conducted as necessary.
5. The City should continue to work with the GIS service center at CCRPC to transfer and develop important information, such as the City's Official Map

and Southeast Quadrant Official Zoning Map onto the Geographic Information System (GIS) system. Parcel maps are updated on a calendar year basis.

6. The City has begun development of an Open Space Plan under the direction of the Natural Resource Committee.
7. The project to produce orthophoto maps of the City on a 1:1250 scale is proceeding and should be completed shortly.

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APPENDIX A

CITIZEN PARTICIPATION

South Burlington Town Meeting Forum Project

Final Report

Executive Summary

January 27, 2000

1. Original intent

As envisioned by the South Burlington City Council, the Town Meeting Series design had three primary objectives:

Engage the public.

Focus on Act 60 ramifications, residential/commercial development & community identity issues.

Community-based strategic planning initiatives that can serve as a framework for the Comprehensive Plan update.

2. The Process

The intent of the original design was to communicate as broadly as possible, in an effort to engage community members in whatever capacity they were comfortable participating. Some would probably stay involved by reading about the process in the local papers and watching a little on public access. Some might elect to only attend the general Town Meeting sessions. Some might go a step further and participate in an action planning format that was designed to take participants from a personal vision of what South Burlington will look like in 15-20 years, through team dialog encouraging common themes and goals, to a set of formal recommendations.

The project was divided into phases, as follows:

Phase 1 – two community meetings; informational then action oriented, dividing interested participants into three sub-groups; and, publication and distribution of two newsletters to inform and engage the public.

Phase 2 – nine weeks of action team meetings, using a variation of the Future Search method where groups move from their personal visions and aspirations towards a collective view of what's best for the entire community, ending w/ specific strategic objectives. Langley's Process Improvement Model served as the basis for reflection and organization of teams. A number of community facilitator volunteers assisted, through a coordinated effort led by Cole Consulting.

Phase 3 – a final town meeting where results were presented, dialog between action teams clarified positions and intent, and then prioritization of goals by town meeting participants took place in an affinity exercise. South

Burlington

3. Outcomes

Approximately 200 people were involved in one form or another.

‘Experts’ and stakeholder representatives provided valuable information on challenges South Burlington faces.

Over 90 people worked on action teams.

A Final Report, including all action team minutes, newsletters and recommendations, is presented here and totals over 150 pages.

There are strong expectations that political action will take place prior to the adoption of the new Comprehensive Plan.

4. Cole Consulting Assessment

Good news:

There is a strong, sincere desire to maintain, and possibly enhance the active participation by the community in planning and implementing goals and objectives developed during this process.

Throughout this entire process, the majority of participants expressed a clear and passionate commitment to exemplary education in South Burlington, and to enhancing the general quality of life for the entire community.

There is a significant ‘wealthy’ resource base to tap in our community, both in the area of possible public/private partnerships, as well as relating to the first bullet above.

Not so good news:

The majority of respondents to the newsletter questionnaire as well as most people who spoke up at the meetings voiced concern that our growth needs to be better managed to preserve our quality of life.

A significant number of participants expressed a feeling of powerlessness to effect what they see as ‘positive influences’ in moving South Burlington away from sprawl toward ‘smart growth.’

There is a Perception/Reality disconnect: although the Steering Committee is taking positive steps to remedy the challenges we face, public perception remains fixed, and more effort needs to be made to bridge this gap.

Bad news:

Act 60 continues to eat away at the quality of our school system. Congestion is projected to increase 3 to 4 times the rate of population and employment growth over the next twenty years.

5. Recommendations

As presented by the three action teams, and prioritized at the final town meeting:

Increase density in the core areas.

Prepare & distribute a report on the impact of Act 60 on our community.

Adopt a 1-cent property tax earmarked for development and/or open space.

Stabilize our tax rate to ensure affordable living.

Provide vehicles for greater citizen participation.

Ensure that we give priority to building & maintaining an exemplary education system.

Incorporate the design of pedestrian friendly access throughout the entire city.

Encourage bike/pedestrian transportation.

Design traffic to move efficiently but with minor impact on residential neighborhoods.

Protect our natural resources.

Provide open space within walking distance of every neighborhood.

As seen through the eyes of the facilitator:

Although it ranked in the middle of the pack during our affinity exercise, the request for more vehicles for greater citizen participation is the most exciting of all the outcomes we realized in this process. What I find particularly impressive is not so much the request, but the context within which it was made, from a highly participatory group of concerned, committed citizens. I believe that we have many valuable resources in South Burlington, many untapped, but this one area could prove to be our richest of all. The issue is how do we tap it. And how do we include the silent majority and the stakeholder groups who were not represented at any of these meetings; particularly those that are economically challenged, and our kids. As was voiced during the end of the final town meeting, everyone has the opportunity to attend any of the regularly scheduled council, board or commission meetings. Most don't. Therefore, either those meetings need to find a way of engaging the public in a more proactive fashion, or we need some other venue (such as annual town meetings), or both. I recommend both.

During many of the discussions at the town meetings and throughout the work done by the action teams, Act 60 hung like an albatross around our collective necks. The biggest impediment, surprisingly, wasn't the actual current fiscal reality of Act 60, but the uncertainty of how it will affect us in the future and what course of actions we might take in response. As a community, I believe that we must begin to deal with Act 60 proactively, assertively and from a united position. Moreover, it is imperative that the public is informed and educated about the perils and possibilities. It's likely that there is an opportunity to combine these first two recommendations.

The other major theme I heard during this entire process was the desire to see the realization of City Center as something everyone will be proud of. A district that will serve as a desirable meeting place for those that live in other parts of our city and as a place people will want to live. To raise families. To retire to. To work in. With shops, restaurants, museums, movie theatres, and parks. A place that will provide a sense of community identity that has a distinctiveness that doesn't so much compete with Burlington, as much as complement it. A place that builds on what is already being created by the good efforts underway surrounding Dorset Park as the center of our community. My recommendation here is to proceed as quickly as possible with the kind of public/private partnerships that will steer this vision swiftly, decisively, and vigilantly.

Zoning Bylaws and subdivision regulations need to be carefully worded to make sure they are workable and enforceable, and consistent with the vision and goals of our new Comprehensive Plan.

6. Conclusion

We were successful in our primary objective; we engaged a significant number of community members. We shared with them the specifics of the challenges we face and they drove us to ask more questions than we had answers for. This entire line of inquiry was performed with respectful, productive and vigorous dialog. The challenge now is to ensure that all of that industrious work is leveraged to actualized results.

Some things the Steering committee can do towards this end:
Read this entire report. Although daunting in size, there are many gems contained within the meeting minutes and the personal, reflective

submissions contained in Sections III and IV.

Make at least one major initiative ACTIVE right now. Yes, continue to plan, study, and reflect on actions that we need to take in the future. However, find one thing you have consensus on and move now. Then communicate that action as broadly and consistently as possible.

Build & maintain an active mailing list of people involved in this process (~150 now), both in email format and snail-mail, and use it often to inform and engage those that have expressed an interest.

Celebrate the positive aspects of our community and regularly acknowledge & reward those that are making significant contributions.

I'd like to thank the entire City Manager's office and staff for their dedication and support in ensuring the success of this project. In addition, many thanks to the volunteer facilitators who worked long and hard to provide a respectful environment to discuss and debate what were often emotional topics. Finally, thanks to the City Council for your commitment to a public process that was broader and richer than anything undertaken in the recent past.

7/6/00

SOUTH BURLINGTON COMPREHENSIVE PLAN UPDATE

GROWTH AND LAND USE DISCUSSION PAPER

In preparation for the 7/11/00 Planning Commission meeting, I have attempted to identify what I understand to be the most pressing issues regarding growth and land use in South Burlington. This paper is intended to help focus and guide our discussion on Tuesday. Many of the issues are presented as questions.

GROWTH

As was presented at the last Commission meeting, it is anticipated that over the next 20 years, the City will add approximately 5,200 new people for a total population of 20,021. In order to accommodate this population, approximately 2,200 new housing units will be needed for a total of 8,342 housing units in the City. This equates to an average of 107 new housing units each year.

In terms of commercial/industrial growth, based on past trends, the City can expect to see 4,640,000 square feet of new commercial/industrial/institutional development over the next 20 years. This represents an average of 230,000 square feet of new commercial/industrial development each year. This 230,000 square feet of new development is equivalent to one new University Mall every three years (for one story structures) or two new IDX's every year (for multiple story structures).

The growth projections discussed above are comparable to the growth that the City has experienced over the last 20 - 30 years.

Based on the City's current situation and it's location in the State's most populous county, do the growth projections described above represent a reasonable rate of growth for which the City should be planning to accommodate?

Or, should the City be planning for a higher or slower rate of growth? When

discussing this issue, I feel it is important that the City consider its role and location in the region and any potential impacts that its decision may have on other municipalities in the region.

LAND USE

Assuming the City accepts the growth projections described above to be reasonable, the next question is where and how do we accommodate this growth. Are there certain areas where we want to direct this growth? Are there certain areas where we don't want growth to occur at all? In the areas where we want growth, in what format or pattern do we want it to occur? Do we want to encourage high-density, mixed-use downtown type development in areas other than the city center? Do we want to continue to encourage lower-density, office/industrial park development in certain areas of the city? Do we want to encourage neighborhood type retail and services in existing and new neighborhoods? These are all important questions that need to be discussed and are addressed in the following categories:

CORE AREA

The #1 recommendation that came out of the Town Meeting Forum Project was to increase density in the core areas of the City. However, the core areas were not defined.

What should be considered the core area or areas of the City into which we want to direct the majority of growth over the next 20 years? Should the core area include all land located north of I-89 and I-189, and west of Spear Street? Or, should it be smaller and include only the city center and maybe a subcore area along Shelburne Road? Should it be expanded to also include some areas located in the Southeast Quadrant? Or, should it be decreased in size - for example, not include land located along the lake west of the railroad tracks?

Once the "core area" is defined, what type of density and development pattern do we want to encourage in this area? For example, the city center area currently allows for high-density, mixed-use development. Do we want to encourage similar development patterns in other areas of the City, such as in the Shelburne Road corridor, or along Williston Road east of Kennedy Drive, or along Kimball Ave?

Housing Growth

As stated above, the City will need about 2,200 new housing units over the next 20 years to accommodate the anticipated population growth. There currently are approximately 600 units approved in the city which have not yet been built. Therefore, we need to decide where we want to encourage the remaining 1,800 new units and in what style (e.g., high density multi-family, high density single family, low density single family, etc.).

Is it appropriate to upzone existing residential neighborhoods to accommodate new growth or encourage redevelopment? Most of the City's existing single family neighborhoods are zoned 4 units per acre. Should these be changed to 6 or 8 units per acre?

Is it more appropriate to identify larger undeveloped parcels in the City's "core" area and upzone these to say 7 - 12 units per acre? Some examples include the property located behind the former Econolodge/Windjammer on Williston Road which also fronts Patchen Road, or the O'Brien land bounded by Kennedy Drive, Hinesburg Road and Old Farm Road.

The City currently allows residential development at a density of up to 7 units per acre in its commercial corridors along Shelburne and Williston Roads. Should the density in these areas be increased to say 15 - 20 units per acre in order to encourage mixed use development? Perhaps even allow a 25% density bonus for mixed use developments that incorporate certain features deemed desirable by the City.

There are currently approximately 100 acres of undeveloped land located along the lake west of the railroad tracks. This land is currently zoned for residential use. 70 acres allow up to 3 units per acre while the remaining 30 acres allow only one unit per acre. What does the City envision for this area? If residential use is envisioned, should it be considered a growth area and accommodate higher residential densities? Or, should the densities remain relatively low in order to better protect the Lake's water quality and the visual integrity of the lake shore?

Commercial/Industrial Growth

The City has been experiencing about 230,000 square feet of new

commercial, industrial and institutional development each year over the last 15 - 20 years. If we assume that this growth will continue over the next 20 years, where do we want to direct this growth and in what pattern? Do we want to continue to encourage mostly moderate density, single-use development such as retail centers and office/industrial parks? Or, should we be doing more to encourage more compact, mixed use development projects? These issues are discussed in more detail below:

Shelburne Road/Williston Road Corridors

The current plan recommends “mixed-use development in these areas to encourage pedestrian movement, use of public transportation services, and shared parking opportunities”. However, the predominant form of development still tends to be single-use retail and auto oriented.

Should the City be doing more to encourage mixed-use and more pedestrian/transit friendly development in these corridors? For example, should incentives be offered to encourage mixed commercial as well as mixed residential use? Should the City be more strict in requiring buildings to be located up on the street frontage rather than fronting the street with paved parking lots?

Industrial/warehousing Areas

The current plan designates the following areas for industrial, warehouse and office development: Kimball Avenue, airport environs, Williston Road east of Kennedy Drive, and Hinesburg Road just south of I-89. The predominant form of development we have experienced is single use, office/industrial park type development.

Is the relatively low-density, single use, office/industrial park development that we have experienced acceptable for these areas of the City? Or, should the City be encouraging more compact, mixed use development in these areas?

Should residential use be encouraged in these areas?

Are there other areas in the City that we should be encouraging industrial and warehouse type development?

NON-CORE AREAS (Southeast Quadrant)

The above discussion focused on the “core” areas of the City and the type of development and growth we envision for these areas. The next question is what do we envision for the “non-core” area of the City. If we assume the core area to be everything located north of I-89/I189 and west of Spear Street, this leaves the Southeast Quadrant as the non-core area of the City.

What does the City envision for the “non-core” area (i.e., Southeast Quadrant)? Should the City designate this as a no-growth area? Or, should we continue to allow moderate density development but try and do a better job in protecting important open spaces and wildlife corridors? Or, should the City designate the Southeast Quadrant or a portion thereof as a growth area and promote denser, more community oriented neighborhoods with a grid of streets, neighborhood retail uses, and community parks/open space?

Should agricultural protection/preservation be a goal for the City? For example, should the City be working with landowners and the Vermont Land Trust to purchase conservation easements to retain agricultural use in the quadrant?

If the City determines that moderate density growth is appropriate for the quadrant, should it designate an area or areas in the Quadrant for a small neighborhood retail/service area? For example, perhaps at the intersection of Dorset Street/Nowland Farm Road/Old Cross Road, or surrounding the Chittenden Cider Mill?

If the City determines that the SEQ or a portion thereof should be a “no-growth” area, how should the City go about implementing that? Should the area be downzoned to 1 unit per 5 acres, or one unit per 10 acres? Should transfer of development rights be incorporated into any downzoning proposal?

APPENDIX B

BUILDING PERMIT DATA

*South Burlington Comprehensive Plan
Appendix B – Building Permit Data*

	PERMITTED DEVELOPMENT						TOTAL	TOTAL
	SF	MF	RET/SEV	IND/WRHS E	OFFICE	INST	RES UNITS	COM/IND/INS T
1975	34	13	39.6	24.4	23.8	4.2	47	92
1976	29	0	236.4	24.5	3.4	0.8	29	265.1
1977	55	192	86.8	313.5	44.3	1.3	247	445.9
1978	46	267	64.5	109.5	12.5	0	313	186.5
1979	14	164	43.7	121.8	17	12.2	178	194.7
1980	48	237	14.8	29.8	9	1	285	54.6
1981	11	118	9.9	200.5	33.7	4.1	129	248.2
1982	10	113	9	65.5	54.4	4.4	123	133.3
1983	24	208	78.2	41	15.8	8.5	232	143.5
1984	35	134	86	126	277.2	0	169	489.2
1985	92	164	32.2	138.1	65.9	0	256	236.2
1986	83	78	58.8	48	78	0	161	184.8
1987	56	18	167.3	153.9	80.1	8.4	74	409.7
1988	62	36	202.4	196	137.9	39	98	575.3
1989	60	37	52.4	83.4	0	0.4	97	136.2
1990	17	14	12.3	33.1	90.6	3.9	31	139.9
1991	40	15	96.736	12	5.978	5.1	55	119.814
1992	39	25	29.958	4.8	22.774	5	64	62.532
1993	41	90	38.01	20.82	5.16	5.25	131	69.24
1994	39	18	20.05	16.42	18.5	0	57	54.97
						155.82		
1995	30	97	46.108	59.66	10.2	1	127	271.789
						115.99		
1996	26	39	49.452	126.825	126.816	8	65	419.091
1997	21	5	304.7	43.8	40.1	54	26	442.6
1998	60	80	27.16	104.68	29.12	15.73	140	176.69
1999	67	149	138.741	20.107	8.664	15.616	216	183.128
NOTE: SF and MF expressed in units; all other expressed in thousands of square feet.								

FIGURE B-1

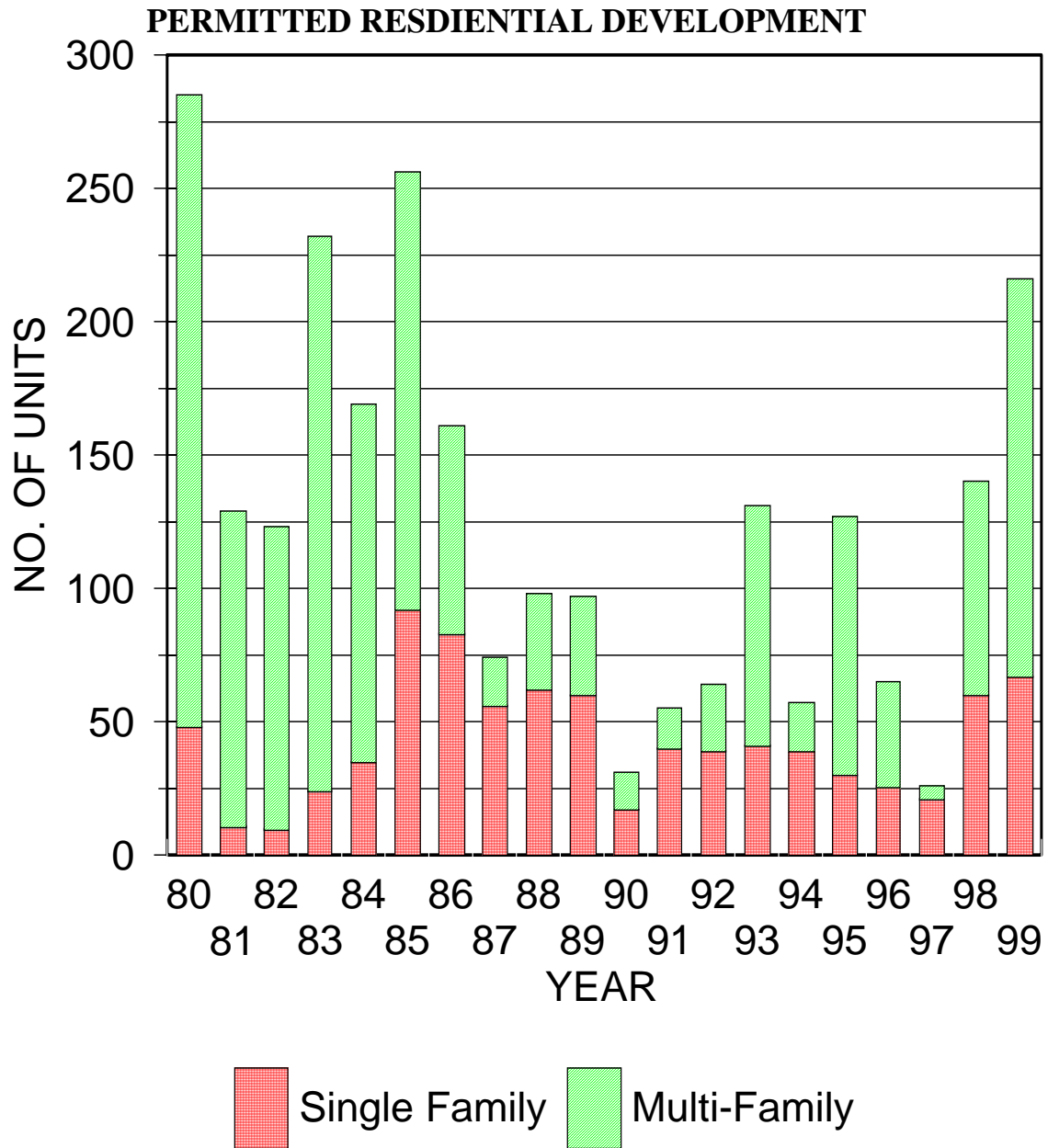


FIGURE B-2
PERMITTED COM/IND/INST DEVELOPMENT

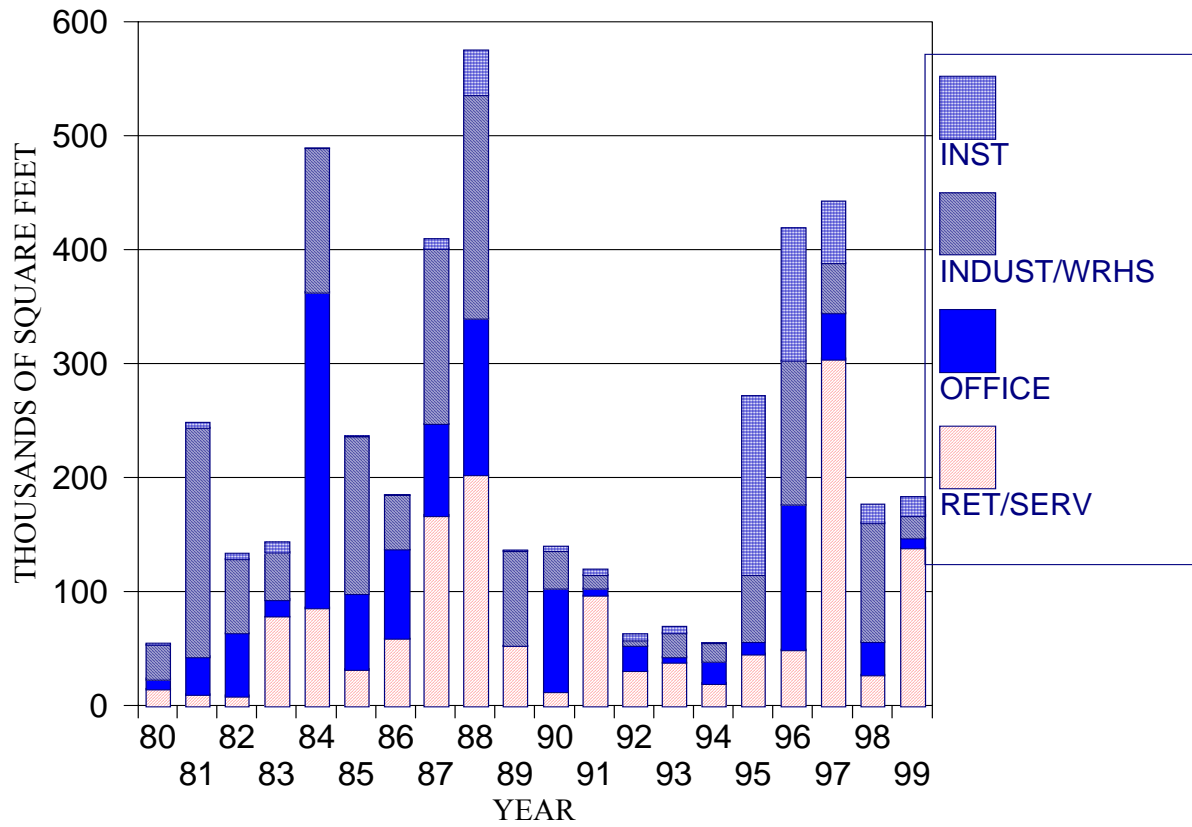


FIGURE B-3
PERMITTED RETAIL/SERVICE DEVELOPMENT

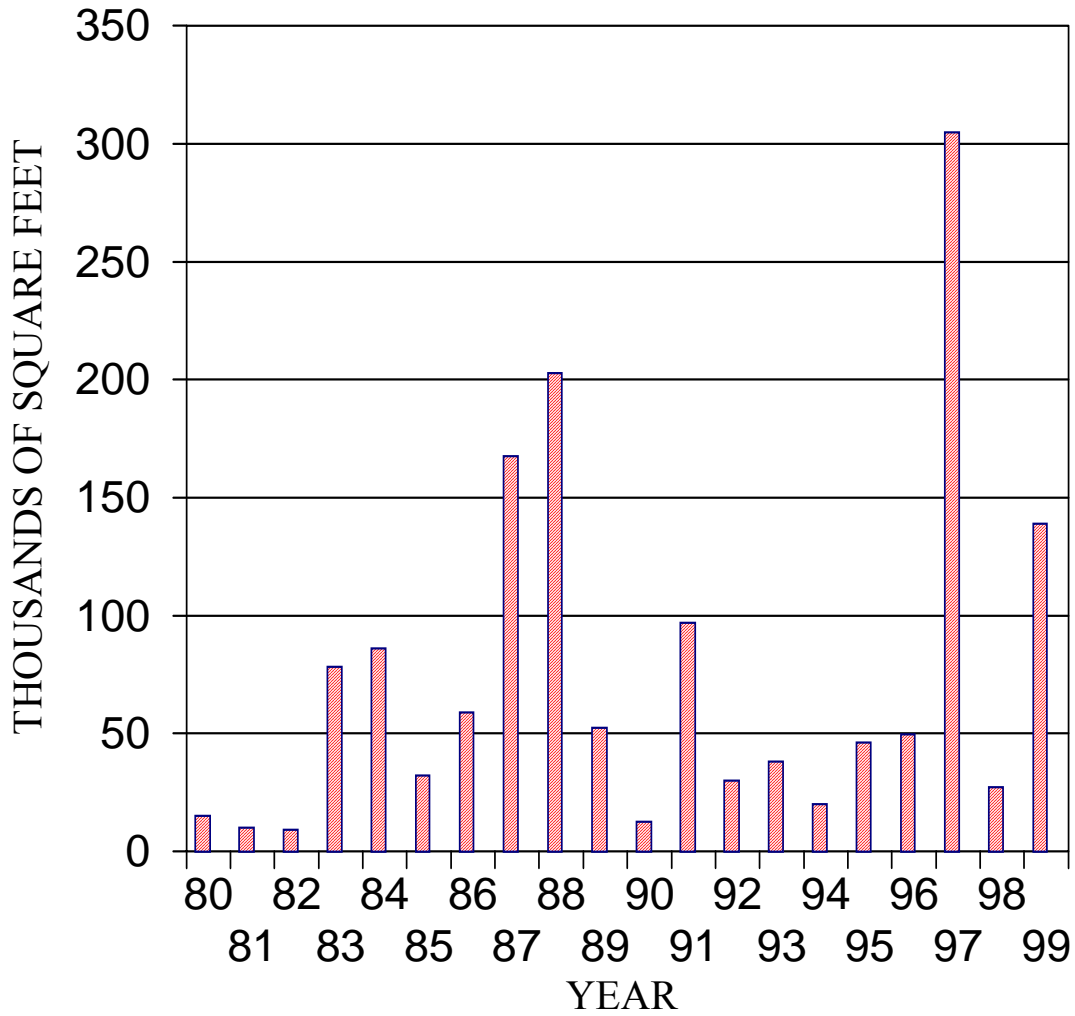


FIGURE B-4
PERMITTED OFFICE DEVELOPMENT

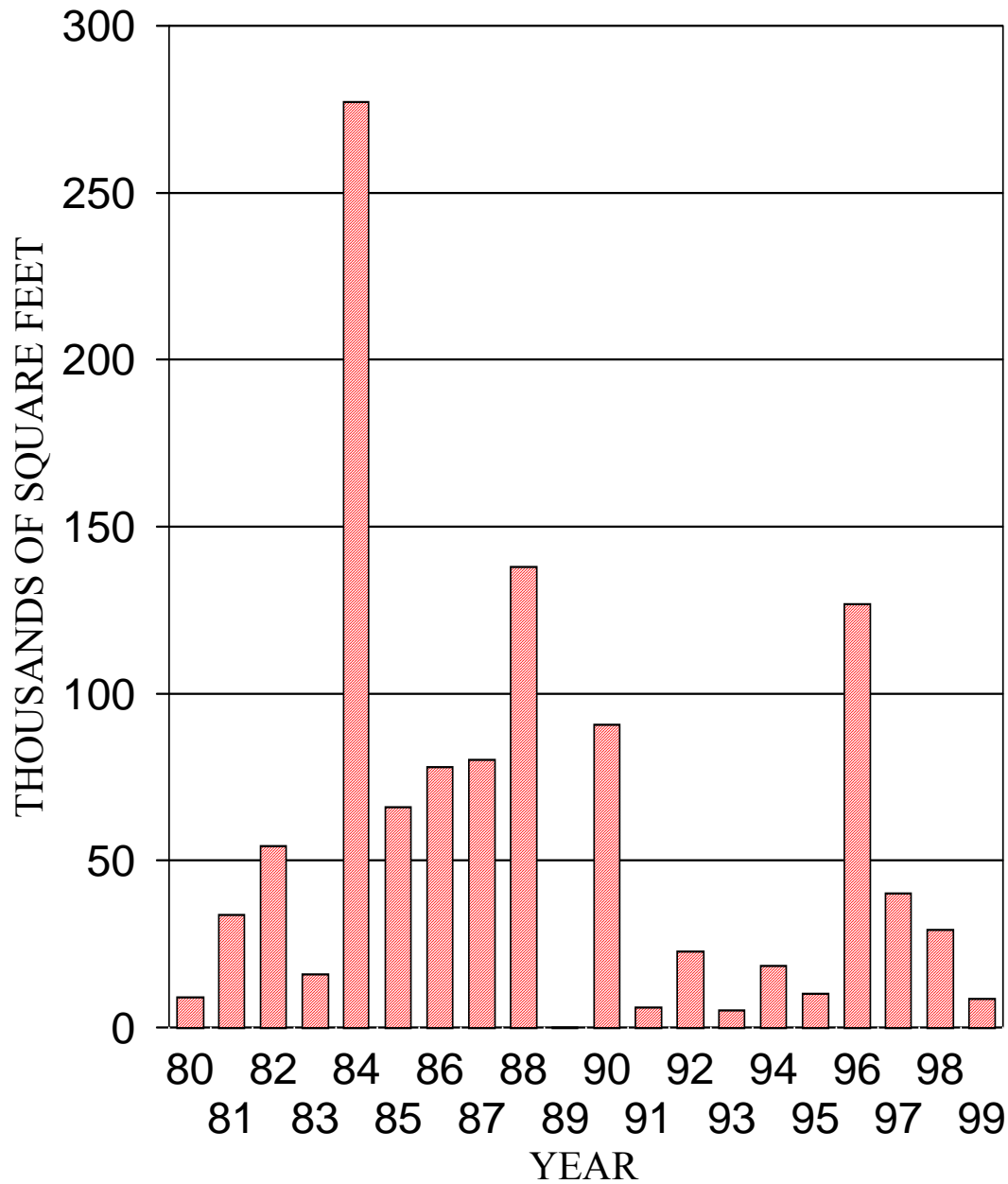
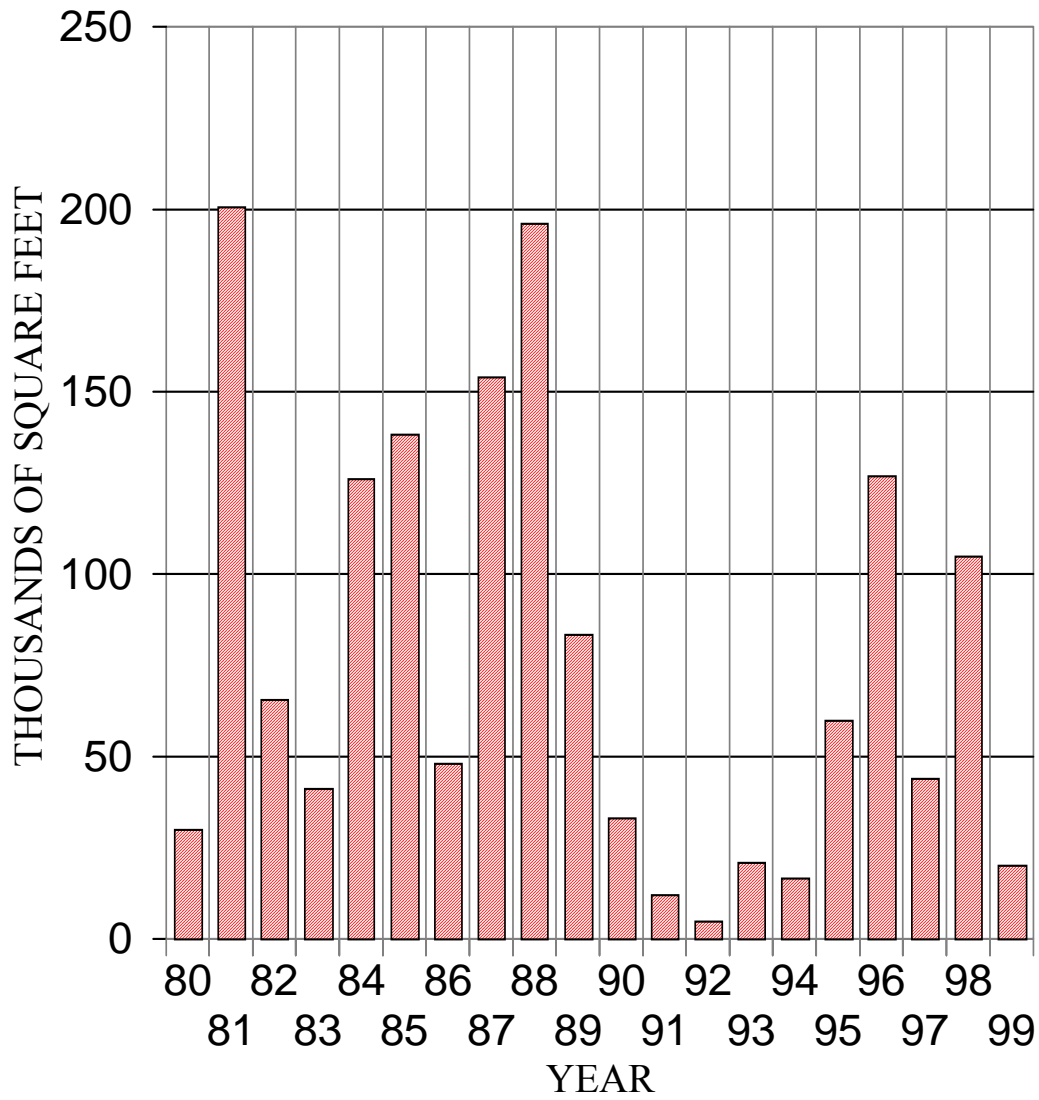
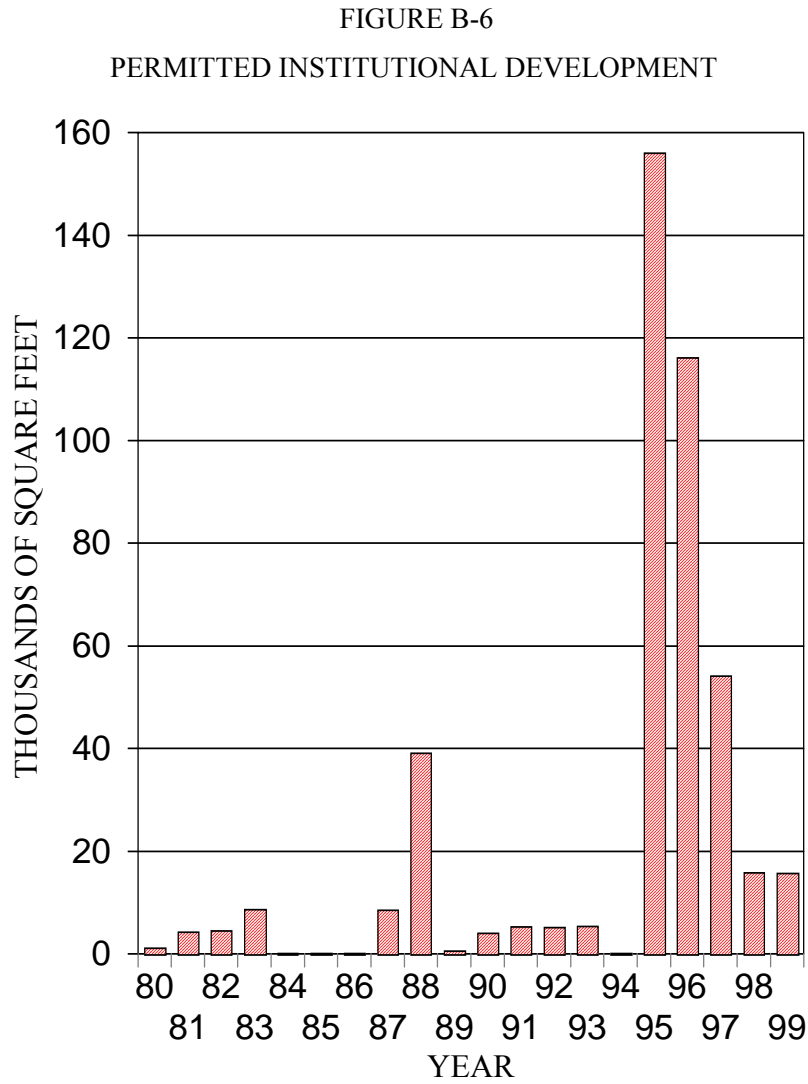


FIGURE B-5
PERMITTED INDUST/WRHSE DEVELOPMENT





APPENDIX C

RECREATION AREAS

TABLE 1. PUBLIC RECREATION FACILITIES, CITY OF SOUTH BURLINGTON

City Parks

1. Red Rocks Park: 100 acres on Shelburne Bay; mostly wooded, kept in natural condition; 700 feet of public beach; several miles of trails for hiking, jogging, snow shoeing, and cross country skiing; parking; and picnicking.

2. Farrell Park: 22.89 acres, located on Swift Street; developed facilities include 1 fenced youth baseball field (little league size) and 1 regulation size field which can be used for baseball, softball and soccer, and picnic tables. The Recreation Path goes through this park, a playground is planned for 2001. Parking is available.

Dorset Park: A 170 acre city park providing both passive and active recreational activities, located immediately south of I-89 and east of Dorset Street. Dorset Park is divided into two segments, the City Park and Country Park. The 70 acre City Park currently has two soccer fields, one regulation and two youth baseball fields, two unlighted tennis courts, picnic pavilion with tables, restrooms, open field space, indoor ice arena (privately operated) and parking. The 100+ acre country park is undeveloped but 20 acres has been leased to the Natural Gardening Association. Walking paths and access to several scenic areas are planned.

4. Dumont property: 7.65 acres, (Iby Street Park) purchased as a neighborhood park; has not been developed and is primarily wooded; has the potential for some development with the City Center.

5. Jaycee Park: 6.9 acres on Patchen Road; has 1lighted youth baseball/adult softball field, small picnic area with shelter, 2 basketball courts, playground, parking, adjacent building with heat and rest rooms, house for community meetings, and open field area for field sports.

6. Mayfair Park: 33.86 acres, primarily a wooded area with some trail

development; much of the area is wet.

7. Szymanski Park: 20 acres in the south end of the City, reached by way of Andrews Avenue or Cranwell Drive. Park includes 2 lighted tennis courts, picnic tables, basketball court, tot lot, parking, and fitness trail, The Recreation Path goes through this park.

8. Garvey property: 7.37 acres, located between Mills Avenue and Victory Drive in the Williston Road area; primarily wooded and undeveloped, with a small open area. The Recreation Path goes through this park.

9. Degraff Property: 11.2 acres, located at the end of Duval Street primarily wooded and undeveloped.

10. Patchen Road: 5 acres, located west of I-89, softball field; multiple use field area leased from UVM.

11. Meadowood at Spear: 1.65 acres located at the west end of Quail Run.

12. Bartlett Development: 1.69 acres located on the south side of Bay Crest; graded open land.

13. Overlook Park: 1.7 acres located on the west side of Spear Street, north of Deerfield Drive; viewing and picnic tables; parking provided.

14. Butler Farms: 10 + acres located on the west side of Hinesburg Road, 4 open space building lots.

15. Oak Creek Village: 6 acres located on the west side of Hinesburg Road.

School Sites

1. Orchard School: 13.4 acres, including building; includes 1 basketball court, 1 ballfield, and playground equipment, ice skating is available in the winter months.

2. Central School: 11.8 acres, including building; playground equipment, 1 ball field, and multiple use field area. Ice skating is available in the winter months.

3. Chamberlin School: 10.2 acres including building; includes 1 basketball court, playground equipment, ball field, multiple use field area. Ice skating is available in the winter months.

4. High School - Middle School: 80 acres, including buildings; has 2 regulation size baseball fields, 2 fields that can be used for youth baseball or softball, 3 tennis courts owned by the City (lighted), 1 running track, 1 soccer field, and 1 football field; use of soccer field and football field limited due to maintenance concerns.

Gross Acreage	City land	446	acres
	School land	115	acres
	Total	561	acres

Developed Recreation Land	City land	127	acres
	School land	96	acres
	Total	223	acres

TABLE 2. PRIVATE RECREATIONAL FACILITIES, SOUTH BURLINGTON

Institutional and Quasi Public

1. University of Vermont: playing fields, jogging trail, numerous outdoor tennis courts, indoor squash and racquetball courts, gym facilities, indoor track and hockey rink; available to students (full and part time) and staff but not to general public; other University holdings available to the public on a limited basis for special events, i.e., the Horticultural Farm, the Spear Street Farm, Centennial Woods, and East Woods.

2. Winooski Valley Park: Riverine trails and recreation site, existing or proposed, located at Salmon Hole, Ethan Allen Farms, and at the confluence of Muddy Brook and the Winooski.

3. Burlington Country Club: Pool and golf course available to members only.

Queen City Park: Neighborhood play field of 1.4 acres owned and maintained by the Fire District.

Rice High School: 30 acres, including buildings: includes 1 baseball field, 1 football field, 1 field hockey area, and 1 running track.

Country Club Estates:

Commercial

1. Vermont National Golf Course: 18 hole Jack Nicholas Signature golf course, 2 tennis courts, a driving range, a 25 meter Junior Olympic pool, a skating rink, and snow shoeing and cross country skiing trails open to the public.
2. Twin Oaks Tennis Center, Twin Oaks Terrace: 4 outdoor and 6 indoor tennis courts, outdoor pool, volleyball court, and 1 paddle ball court, racquet and squash courts.
3. Twin Oaks Tennis and Swim Club, Farrell St.: 4 outdoor and 6 indoor tennis courts, indoor pool, indoor basketball court and track.
4. Twin Oaks Kids and Fitness Farrell Dr.
5. The Olympiad: 7 racquetball courts, 2 squash courts, jogging trails, outdoor basketball court, outdoor volleyball court, and outdoor pool.
6. Quarry Hill Club: 5 tennis courts and 2 pools, all outdoors.
7. Burlington Tennis Club: 8 tennis courts and 1 pool, all outdoor, and community building.
8. All American Fitness and Tanning Williston Road

Private

1. Ridgewood Estates: 2 tennis courts and pool, all outdoor, and community building.

2. Swift Estates: 1 outdoor tennis court on a 1.4 acre private park area.
3. Meadowood at Spear: 1.5 acre private park, undeveloped.
4. Meadowbrook Condominiums: 2 tennis courts and pool, all outdoor.
5. Horizon heights apartments: 1 tennis court and pool, both outdoor.
6. 435 Dorset Apartments: 1 outdoor pool and tot lot.
7. Forest Park Condominiums: 1 outdoor pool and tot lot.
8. Georgetown Condominiums: 1 outdoor pool.
9. Manor Woods: 1 outdoor pool and tot lot.
10. Treetops Condominiums: 1 pool and 2 tennis courts, all outdoor and community buildings.
11. Country Park Apartments: common meeting room.
12. Country Club Estates: 2 tennis courts and pool, all outdoors.
13. Indian Creek: swimming pool, 2 tennis courts, all outdoors.
14. Twin Oaks Condominiums: 1 outdoor pool
15. Stonehedge: 2 outdoor pools, 2 tennis courts.
16. The Landings: 2 tennis courts and an outdoor pool.
17. Overlook at Spear: 1 outdoor pool, 2 tennis courts.
18. Village at Dorset Park: 1 outdoor pool, 2 tennis courts, community building.

TABLE 3. WINOOSKI VALLEY PARK DISTRICT PROPERTY, JUNE 1990

Winooski Valley Park District

Name	Location	Owner/Acreage Leased	Water Frontage	(FT)
Colchester Pond 13,750 Natural Area	Colchester & Essex	Owned 693		
Delta Park	Colchester	Owned 55	5300	
Derway Isle Nature Pres.	Burlington North Ave.	Owned 148	9920	
Donohue Sea Caves	Burlington	Owned 15	0	
Essex Overlook Park	Essex	Owned 5	0	
Ethan Allen 9500 Homestead	Burlington - Rte 127	Owned 284		
Heinberg Wetlands	Burlington	Owned 12	1170	
Macrea Farm 6400	Colchester, Macrea Road	Owned 288		
Mayes Landing	Burlington	Owned 0.69	335	
Milyard Canoe	Winooski	Leased 1 From GMP	730	
Muddy Brook 1450 Park	So.Burlington, Poor Farm Road	Leased from Griswold Corp.	8	
Old Mill Park	Jericho	Owned	12	

Fiscal Year Share	Project	Acquisition or Development	Cost	Total	Local
1997-98	Colchester Pond	Acquisition/Development	\$300,200	\$4,000	
1998-99	Five Tree	Acquisition/Development	Unknown	none	
1999-01	Interpretive Signage System	Development	Unknown	none	

South Burlington Comprehensive Plan
Appendix C – Recreation Facilities
TOTAL \$300,200 + \$4,000 +

TABLE 5. INVENTORY OF PEDESTRIAN TRAILS

Pedestrian Easements

PEDESTRIAN EASEMENTS (FT)	APPROX. EASEMENT LENGTH
Horizon Heights, Quarry Hill Road	875
McBean, Dorset Heights	1,666
Nowland, Spear Street	3,000
435 Dorset Common, Dorset Street	1,350
Veve Associates	
Meadowood at Spear	630
Wheelock, Swift Street	500
Twin Oaks, Kennedy Drive	1,200
Treetop, Kennedy Drive	2,000
Grandview, Kennedy Drive	2,250
Chastenay, Kirby Road	300
Muddy Brook Industrial Park	1,547
Smart Associates, Hinesburg Road	2,400
Business Park North, Kimball Avenue	2,555
Stonehedge, Spear Street	500
Lozon Estates, Allen Road (Pepsi-Cola)	400
Ridgewood Estates, Swift Street	2,100
and Indian Creek	
Brookwood, Brookwood Drive	650
Dr. French, Van Sicklen Road	70
Townhouses at Timberlane/Cardinal Woods	1,150
Gregory and Daughters Industrial Park	650
Scanlon, Dorset Street	1,000
Lang, Dorset Street	1,500
Mt. View Industrial Park	3,000
Corporate Circle	950
Winding Brook, Kennedy Drive	600
The Landings, Bartletts Bay	3,300
State of Vermont: I-89	3,900

*South Burlington Comprehensive Plan
Appendix C – Recreation Facilities*

Bartlett Property, Shelburne Road	2,800
GMP, Green Mt. Drive	1,100
Valley Ridge, Patchen Road	1,800
Cardinal Woods/Foxcroft	992
Oak Creek Village	50
Village at Dorset Park	335
Summer Woods, Patchen Road	700
O'Brien Brothers, Patchen Road	15
Woodlands Common, Kimball Avenue	960
Patchen Place, Patchen Road	335
Mary Street to Corporate Way	185
Nowland II, Spear Street	1,100
L&M Park, Shelburne Road	1,320
Southland, Shelburne Road	1,560
Cupola, Quarry Hill Road	830---
TOTAL	54,025

TABLE 6

Future Path Development List

Future path system development list will be modified and prioritized according to changing development needs of City.

A. Connections to Other Communities (keyed to map)

1. 1. Lime Kiln Bridge to Colchester, Essex and Winooski. - This connection is a county priority and depends on the construction of a new bridge.
2. Poor Farm Road to Williston.
3. Technology Park/Kimball Ave (north of I89) to Williston Muddy Brook. - Bridge. Location is subject of recently completed scoping study.
4. Van Sicklen Road to Williston.
5. Route 116. State is putting wide shoulders on state roads. (Class II)
6. Muddy Brook pedestrian trail.
7. Cheese Factory Lane extension - Access to Shelburne Pond.
8. Dorset Street to Shelburne. - Continuation of Phase II.
9. Spear Street - Wide shoulders on both sides; two way bicycle traffic (Class II).
10. Ascension Lutheran Church to Shelburne.

11. Shelburne Road - Vtrans Preliminary plans indicate adjacent off-road paths and bike lanes between the LaPlatte River bridge and Imperial Drive, South Burlington should participate in a Charlotte-to-Burlington off-road commuter path, paralleling Shelburne Road and the commuter rail, located between Shelburne Road and Shelburne Bay.
12. Railroad tracks. - Railroad right of way connect to Shelburne.
13. Improve connection to Burlington Bike Path at Queen City Park Road and Pine Street.
14. O'Dell Parkway. - Paths included in final plat application; connection to Burlington.
15. Proctor Avenue to Flynn Avenue, Burlington part of Lake Champlain Bikeways from Farrell Park through Farrell Street and Meadow Avenue.
16. Williston Road to Burlington. - Vtrans bridge improvements currently underway will improve bike and pedestrian safety.
17. Patchen Road to Burlington.
18. Williston Road to Williston. - Class I or II.

B. Intra-city paths (keyed to map)

1. Paved (multi-use) paths
2. Country Club Estates needs a connection to the rest of the city
3. White Street neighborhood From Williston Road and Patchen Road to the Airport. (Key intersection at Kennedy Drive and Williston Road.)
4. From Lime Kiln Bridge to Kennedy Drive on a path that borders the airport.
5. Connect Garvey Property, Chamberlin School, the Ravine Park and Jaycee Park.
6. Off-road connection (over old landfill) from Airport Parkway to Patchen Road.
7. City Center should have good bicycle access; streets designed for cars should be bicycle friendly.
8. Off road path from the High School following water line to Hinesburg Road, to Prouty Parkway, to Mayfair Park, to Garvey property.
9. Dorset Park to Oak Creek
10. Butler Farms to Ledge Knoll and Van Sicklen Road neighborhoods

11. Dorset Farms to Dorset Park (continuation of Phase II)
12. Dorset Farms to Allen Road/Spear Street
13. Bartlett Bay Road to Harbor Heights neighborhood
14. Laurel Hill South neighborhood through Bartlett Bay Road to Queen City Park via Allenwood property
15. Green Mountain Drive to Laurel Hill South neighborhood
1. 16. I-89 crossing between Williston Road and Kennedy Drive connecting Phase III to Phase I.
16. Swift Street Extension

C. Pedestrian Trails

1. Old Cross Road to Cheese Factory Lane
2. Nowland Farm Road to Dorset Farms via network of existing hiking and skiing trails

APPENDIX D PLAN CONSISTENCY

Table D-1 compares South Burlington's future land use map to those of abutting municipalities. The rating symbol is defined as follows:

I = Incompatible

C = Compatible

C(a) = Compatibility due to adequate boundary or buffer between land uses (i.e., access controlled highway, major watercourse, topographical change, floodplain, etc.).

C(b) = Compatibility promoted through consideration and proper site planning.

C(c) = Compatibility due to current development of similar uses. Compatibility between future uses shall be maintained through proper site planning.

C(d) = Adjoining areas already developed with potentially incompatible land uses. Present compatibility shall be maintained through consideration and proper site planning.

TABLE D-1
FUTURE LAND USE COMPARISON
SOUTH BURLINGTON AND ABUTTING MUNICIPALITIES

BOUNDARY LOCATION RATING	PROPOSED LAND USE	
	SO. BURL.	ABUTTING TOWN
<hr/> WILLISTON <hr/>		
1. I-89 - So. City Line		
o I-89 - Van Sicklen Rd. C(a)	Res/OS + Ind.	AG./Rural Res.
o Van Sicklen - City Line So.	Res/Open Space	AG./Rural Res. C
2. I-89 - Winooski River C	Industrial	Industrial
<hr/> SHELBURNE <hr/>		
1. Route 7 - Lake Champlain		
o Lakeshore - R.R. Density C	Res. - Mod. Density	Res. - Mod.
o R.R. - Route 7 C	Commercial	Res./Commercial
2. Route 7 - Spear St.		
o Rte. 7 - East of Spear St. C	Commercial	Commercial/Res.
o East of Spear St. - Spear St. C(b)	Res.-Mod. Density	Residential
3. Spear St. (area) - City Line East	Res/Open Space	Rural/Res. Low Density C
<hr/> BURLINGTON <hr/>		
1. Lake Champlain - Rte. 7		

*South Burlington Comprehensive Plan
Appendix D – Plan Consistency*

o Lakeshore - Central Ave. C	Recreation	Res.-Low Density
o Central Ave. - R.R. C(c)	Res.-Mod. Density	Industrial
o R.R. - Pine St. C(d)	Commercial	Res.-Low Density
o Pine St. - Route 7 Commercial C	Commercial	Mixed
2. Route 7		
o I-89 - Home Ave. Commercial C	Commercial	Mixed
Home - Proctor Ave. C(d)	Commercial	Res. -20 units/acre
3. Rte. 7 - Spear St.		
o Rte. 7 - So. Prospect St. C	Res.-Mod. Density	Res.-Low Density
o So. Prospect St. - Spear St. Space/ C	Public/Quasi Public	Rec/Cons/Open University
4. Spear St. Space/ C		
	Res.-Mod. Density/ Public/Quasi- Public	Rec/Cons/Open University
5. Route 2 - Patchen Road		
o Route 2 - Cent. Woods Space C	Commercial	University Campus Rec/Cons/Open
o Cent. Woods - Patchen Rd. C	Cons./Open Space	
		Res. - Low Density
6. Patchen Rd. - Winooski		
	Res. - Mod. Density	

C
River

WINOOSKI

- | | |
|------------------------|------------------------------|
| 1. Winooski River
C | Floodplain + Ind. Commercial |
|------------------------|------------------------------|

COLCHESTER

- | | | |
|--|----------------------|---------------|
| 1. Winooski River | | |
| o City Line West - Airport
C(a)
Pkw. | Floodpln./Ind.+ Res. | Growth Center |
| o Airport Pkw. - City Line
C(a)
East | Floodplain + Res. | Growth Center |

ESSEX

- | | | |
|------------------------|------------------|------------------|
| 1. Winooski River
C | Cons./Floodplain | Cons./Floodplain |
|------------------------|------------------|------------------|

ESSEX JUNCTION

- | | | |
|--|------------------------------|------------|
| 1. Winooski River | | |
| o City Line No. - Country
C
Club Estates | Cons./Floodplain | Floodplain |
| o Country Club Estates
C | /AG./Res.
Res./Floodplain | Floodplain |
| o Muddy Brook | /AG./Res.
AG./Res. | C(a) |

Map #1

Current Land Use

South Burlington, Vermont

- 1999 Land Use:**
- Residential
 - Commercial and services
 - Industrial or utility
 - Institutional, government, or military
 - Transportation
 - Recreation, park, or urban open land
 - Gravel pit or quarry
 - Agriculture - crop and pasture
 - Agriculture - other
 - Forest
 - Transitional between open and forest
 - Water

Sources:
 1999 Land Use - updated 1996 land use data using digital orthophotos and city planning dept input.
 Road centerlines - October 2000 e911 data.
 Surface Waters - Stream centerlines from 1:24000 USGS topographic quadrangles with additions from 1:5000 1988 orthophotos; shorelines from 1:15840 SCS soil survey. Lake Champlain shoreline from 1988 1:50000 orthophotos.
 All data in NAD83, Vermont State Plane coordinate system.
 Production by Chittenden County Regional Planning Commission, 66 Pearl St., Essex Junction, Vermont 05453. PH: 802.872.1600



Disclaimer:
 The accuracy of information presented is determined by its sources; errors and omissions may exist. The City of South Burlington and Chittenden County Regional Planning Commission are not responsible for these. Questions of on-the-ground location can only be resolved by site inspections, and/or surveys by a registered surveyor. Hence this map is not sufficient for delineation of features on-the-ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.

0 1000 2000 Feet

0 1 Mile



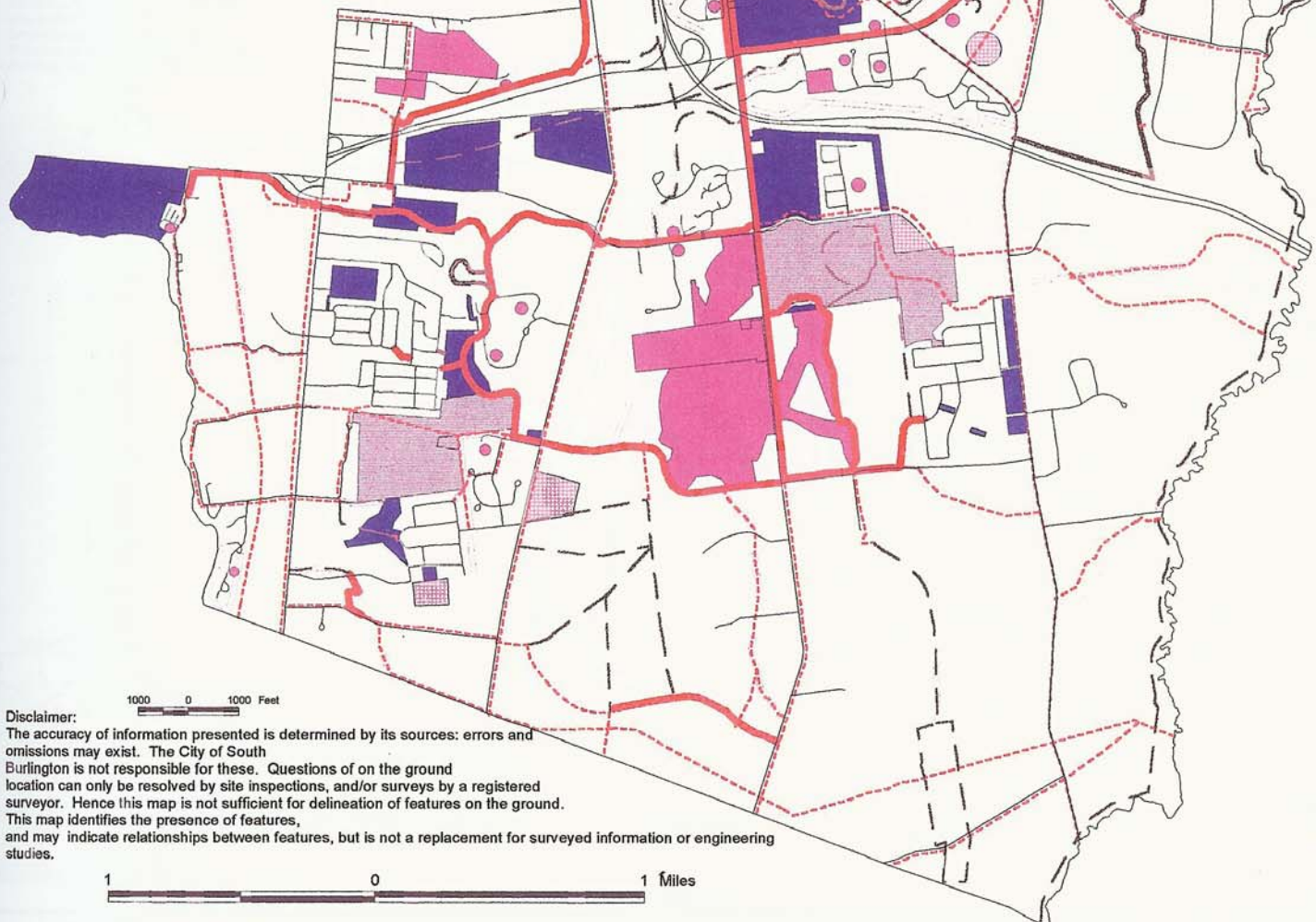
010301-5

Map 2 Recreation South Burlington, Vermont



- Town Boundary
- Roads
- Proposed Paths**
 - Pedestrian
 - Recreation
- Existing Paths**
 - Pedestrian
 - Recreation
- Dedicated Easement
- Rec Areas**
 - Natural Area
 - Proposed Recreation Area
 - Existing Recreation Area - Public
 - Existing Recreation Area - Private

Sources:
 1:5,000 1999 Digital Orthophotos.
 City Assessor's Office.
 1996 E-911 VCGI Coverages.
 All data in NAD83, Vermont State Plan
 coordinate system.
 Production by City of South Burlington
 Dept. of Planning & Zoning, 575 Dorset St.,
 South Burlington, VT 05403. PH: 802-846-4106.



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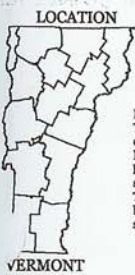
Map 3

Transportation

South Burlington, Vermont



Sources:
 Improvement data - from CCMPO Transportation Improvement Program (TIP) FY 2000-2001.
 CCTA bus route - data updated by CCRPC 7/2000.
 Updates provided by CCTA.
 Existing and proposed bike lanes - 1:12000 city base map per 1996 city plan.
 Road centerlines - October 2000 e911 data.
 Surface Waters - Stream centerlines from 1:24000 USGS topographic quadrangles with additions from 1:5000 1988 orthophotos; shorelines from 1:15840 SCS soil survey. Lake Champlain shoreline from 1988 1:5000 orthophotos.
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





1000 0 1000 Feet



010301-6

Map 4

Public Utilities #1 South Burlington, Vermont

-  Vermont Gas Systems service area
-  Vermont Gas Systems transmission line
-  water line
-  Champlain Water District line
-  City water line
-  Fire District water line
-  Planned water line
-  Champlain Water District water tank

Disclaimer:
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Sources:
Vermont Gas Systems (VGS) Service Area - Generated by buffering (250-ft) the distribution lines. Data was updated in 2000 using VGS maps and 1999 orthophotos.
Champlain Water District (CWD) Water lines and Tanks - 1:50,000 orthophoto-base data from CWD. Updated in 2000.
City and Fire District Water Lines - Data was updated in 2000 from maps provided by town and 1999 digital orthophotos.
Road centerlines - October 2000 ESRI data.
Surface Waters - Stream centerlines from 1:24,000 USGS topographic quadrangles with additions from 1:50,000 1984 orthophotos; shorelines from 1:50,000 SCS soil survey. Lake Champlain shoreline from 1988 1:50,000 orthophotos.
All data in NAD83, Vermont State Plane coordinate system.
Production by Chittenden County Regional Planning Commission, 66 Pearl St., Essex Junction, Vermont 05453. PH: 802.879.1600

1000 0 1000 Feet

0 1 Mile

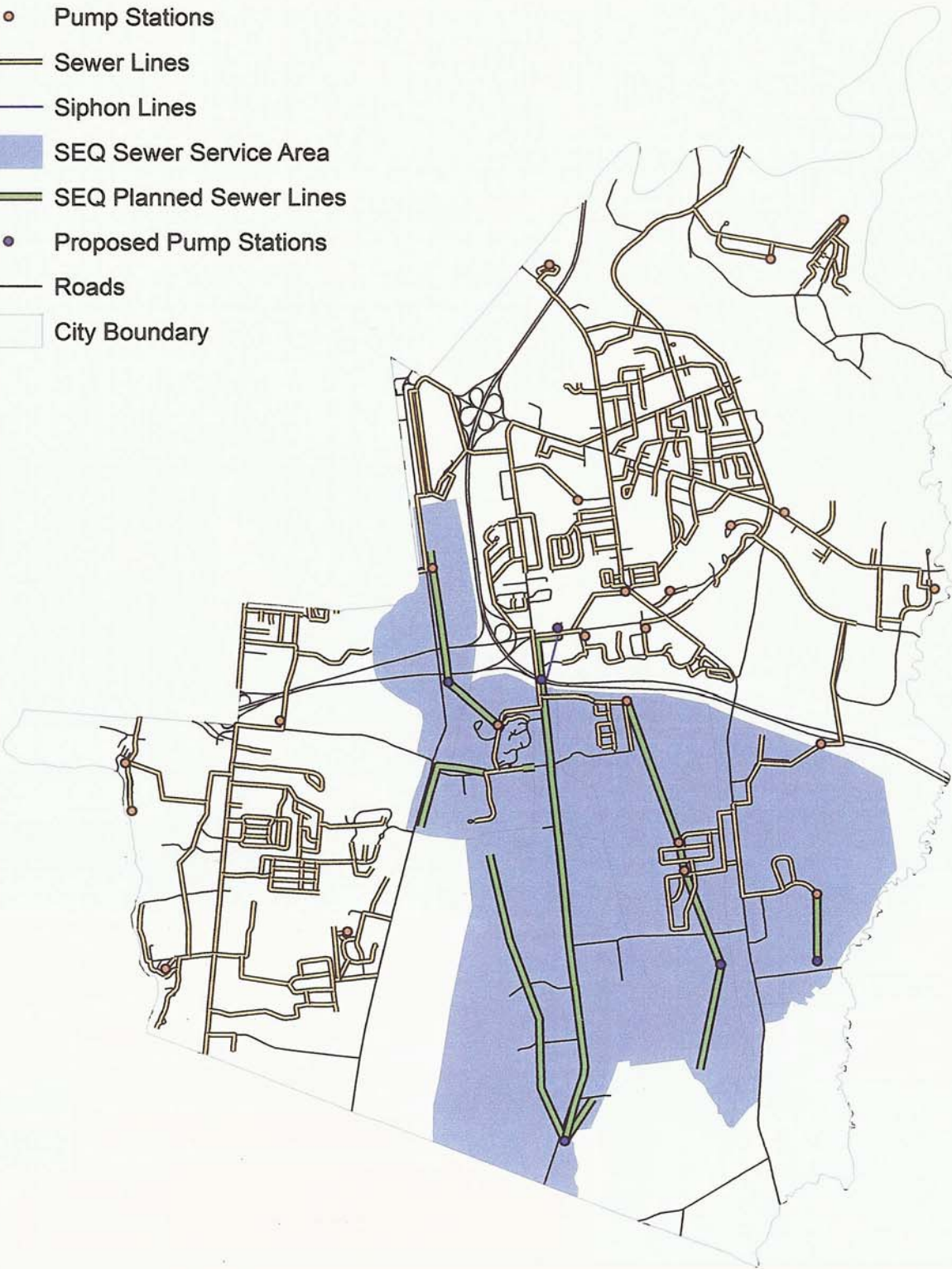


010301-7

PUBLIC UTILITIES MAP #2

Legend

- Pump Stations
- == Sewer Lines
- Siphon Lines
- SEQ Sewer Service Area
- == SEQ Planned Sewer Lines
- Proposed Pump Stations
- Roads
- City Boundary

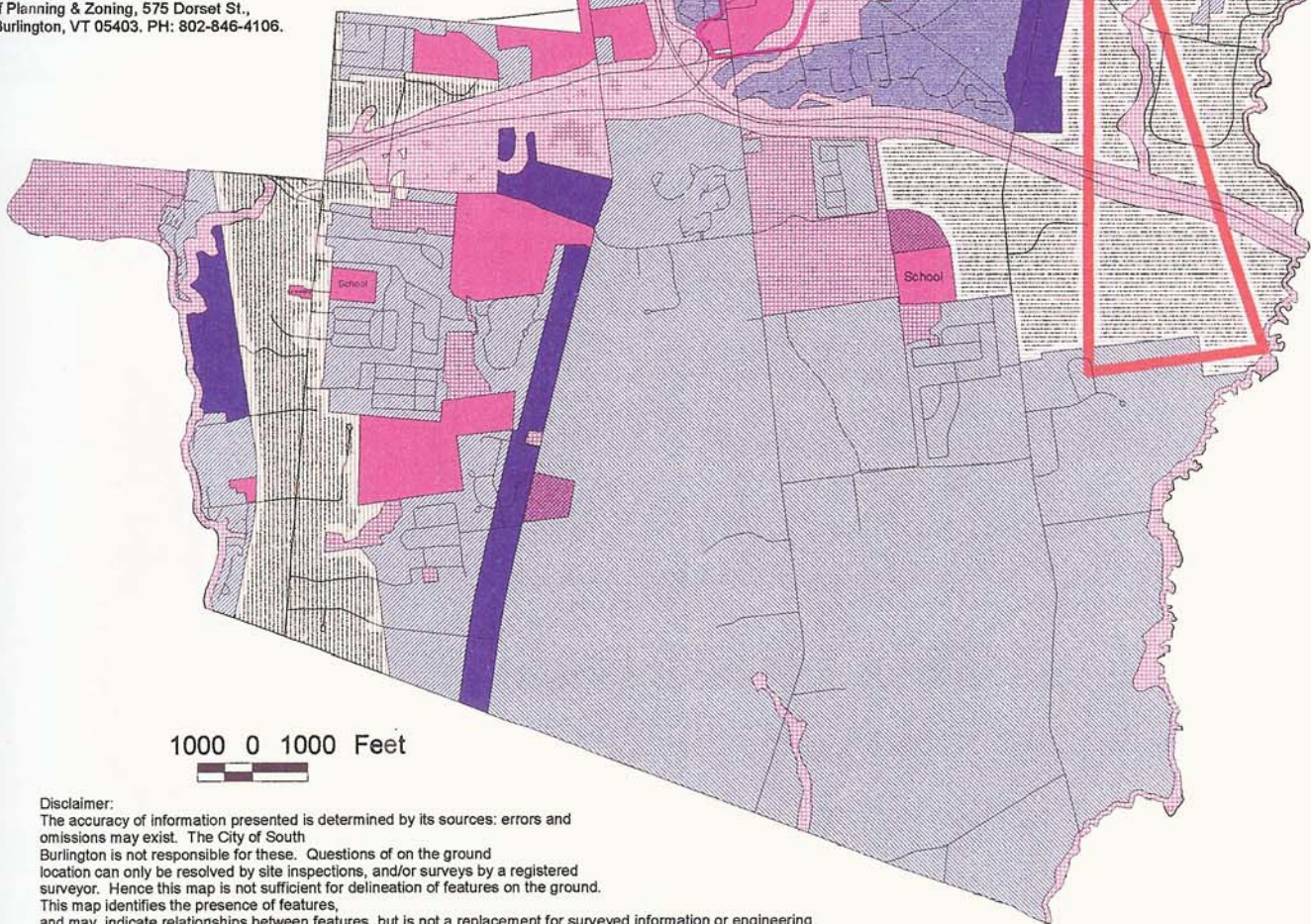


Map 6 Future Land Use South Burlington, Vermont



- Town Boundary
- ROADS
- AIRPORT APPROACH CONE
- CITY CENTER/MIXED USE GROWTH CENTER
- PLANNING AREAS:
- RESIDENTIAL, HIGH DENSITY
- RESIDENTIAL, MODERATE DENSITY
- RESIDENTIAL, LOW DENSITY
- RESIDENTIAL AND OPEN SPACE
- COMMERCIAL
- INDUSTRIAL
- CITY CENTER MIXED USE
- PUBLIC & QUASI-PUBLIC
- RECREATION, CONSERVATION, & OPEN SPACE
- PROPOSED PARK
- PARK
- CO DISTRICT

Sources:
1:5,000 1999 Digital Orthophotos.
Road data from 2000 IVS Digital Street Map.
Water coverages from 2000 O'Brien Study.
All data in NAD83, Vermont State Plan
coordinate system.
Production by City of South Burlington
Dept. of Planning & Zoning, 575 Dorset St.,
South Burlington, VT 05403, PH: 802-846-4106.



1000 0 1000 Feet

Disclaimer:
The accuracy of information presented is determined by its sources; errors and omissions may exist. The City of South Burlington is not responsible for these. Questions of on the ground location can only be resolved by site inspections, and/or surveys by a registered surveyor. Hence this map is not sufficient for delineation of features on the ground. This map identifies the presence of features, and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.

1 0 1 Miles



Map 7 Natural Resources South Burlington, Vermont

- Town Boundary
- Roads
- Vista
- Watershed Boundary
- Water Body
- Stream Centerline
- Lake Champlain
- Water Body
- Water Body
- Floodplain
- 100 Year
- 500 Year
- Aquifer Recharge Area

Sources:
1:5,000 1999 digital orthophotos.
1:40,000 1992 CIR photos.
2000 O'Brien Wetland Study.
National Flood Insurance Program
1981 Floodway Maps.
All data in NAD83, Vermont State Plan
coordinate system.
Production by City of South Burlington
Dept. of Planning & Zoning, 575 Dorset St.,
South Burlington, VT 05403. PH: 802-846-4106.

1000 0 1000 Feet

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1 0 1 Miles



Map 8 Community Facilities South Burlington, Vermont

Town Boundary

Roads

Community Facilities

CITY OFFICES & POLICE

FIRE STATION

SCHOOL

LIBRARY

SEWAGE TREATMENT FACILITY

US POST OFFICE

CEMETERY

CITY GARAGE

CLOSED LANDFILL

SOLID WASTE & RECYCLING FACILITY

Recreation Land & Open Space

CITY OWNED

Sources:

1:5,000 1999 Digital Orthophotos.

City Assessor's Office.

1996 E-911 VCGI Coverages.

All data in NAD83, Vermont State Plan
coordinate system.

Production by City of South Burlington

Dept. of Planning & Zoning, 575 Dorset St.,

South Burlington, VT 05403. PH: 802-846-4106.

1000 0 1000 Feet

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Burlington is not responsible for these. Questions of on the ground

location can only be resolved by site inspections, and/or surveys by a registered

surveyor. Hence this map is not sufficient for delineation of features on the ground.

This map identifies the presence of features,

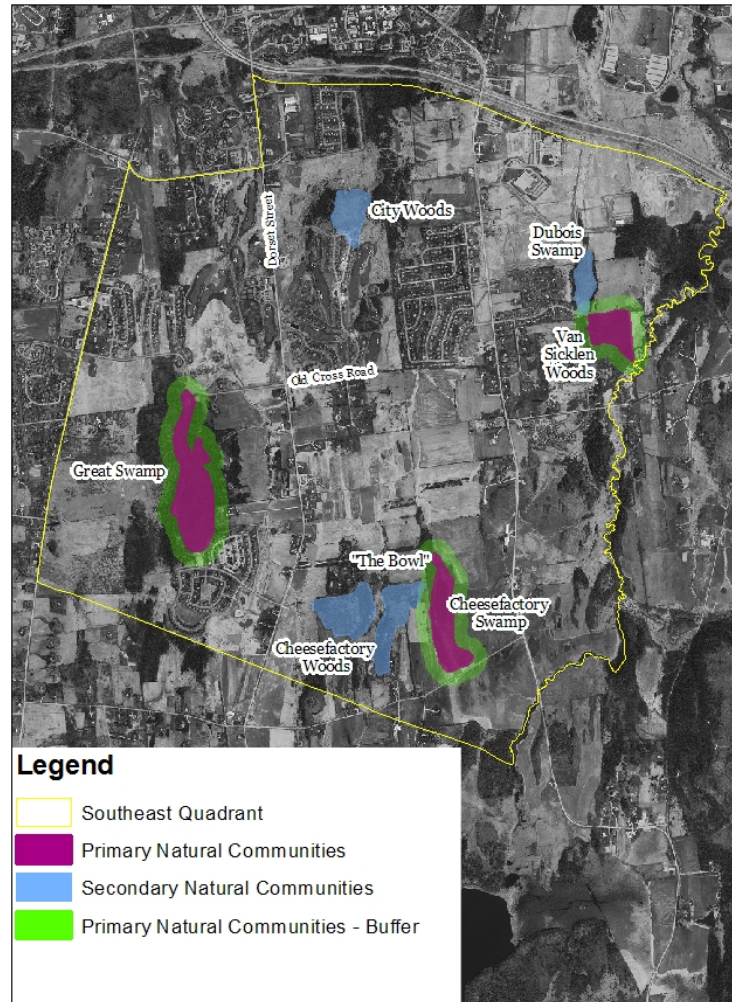
and may indicate relationships between features, but is not a replacement for surveyed information or engineering studies.

1 0 1 Miles

*South Burlington Comprehensive Plan
Southeast Quadrant Natural Communities and Buffers*

Map #9

Southeast Quadrant Natural Communities and Buffers



*South Burlington Comprehensive Plan
Southeast Quadrant Natural Communities and Buffers*

Map #10

Conserved Lands and Natural Communities

