Bakersfield Town Plan

2018

Adopted by the Bakersfield Select Board
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Bakersfield Select Board

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We wish to thank Taylor Newton of the Northwest Regional Planning Commission for assistance with data tables, and content to meet new planning requirements for economic development and hazard resiliency.

Special thanks also to Nancy Hunt for her work on the
Historic and Archaeological Resource Chapter

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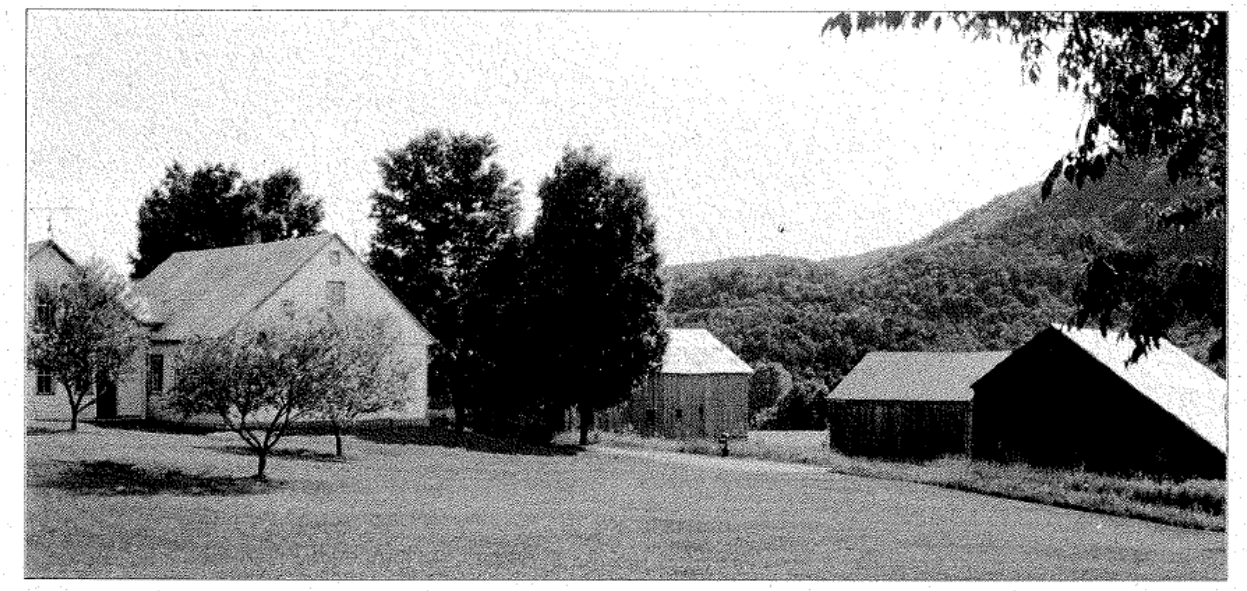
Vision Statement

The purpose of this Town Plan is to ensure that future growth in Bakersfield be at a pace the town can assimilate, that the unique and essential character of Bakersfield remains intact, and that our valuable natural resources, such as wildlife, forests, wetlands and agricultural lands will be protected and preserved.

Bakersfield has experienced significant residential growth in the past twenty years while the commercial and economic sector has declined. This Town Plan is intended as a guide for reasonable and effective policies, procedures, and bylaws designed to guarantee that the rate and pattern of growth enhances the quality of life enjoyed by Bakersfield residents.



Bakersfield is rich in historic resources, including this remarkably intact and preserved historic farmstead on the Fletcher line. It includes a farmhouse built circa 1800 with three mid 19th century barns and ice house that form a protected barnyard. Credit: Bakersfield Historical Society.

Chapter 1. Introduction

Purpose

The purpose of a municipal plan is to help guide decision-makers to chart the future of a community. A plan is a town's vision for the future. It states related goals and objectives based upon a brief reflection of the past and an analysis of existing conditions. A plan is developed from an established planning program which has involved the public in a variety of ways. Through this collective effort the vision and recommendations have been developed with the best interests of the town as a whole in mind. In other words, a Town Plan is a calculated vision which is put together by the residents of the town.

This Town Plan will help Bakersfield control its future by providing it with the means to direct change. A Town Plan does that by providing the community with a plan of action, or blueprint, which shows a community what it will be like in the future. A Town Plan can help determine what things are going to stay the same and what things are going to change. It defines how those changes are going to happen, and how quickly, or slowly, they are going to take place. A Town Plan gives Bakersfield the power to guide change, and the pace at which change will occur, so that change does not control the town's future. If the recommendations of the plan are implemented, the quality of life in Bakersfield can be positively affected.

Bakersfield Town Officials engage in an ongoing planning program for additional reasons including:

- providing additional information and data to guide decision-makers in developing new policies;
- identifying areas where additional study is needed; and
- providing a foundation for amending the zoning and subdivision bylaws.

Policies within the municipal plan are based on an analysis of current conditions, the input of many residents, housing and population projections, and development trends in the town and the surrounding region. Though the goals and policies of this plan are long-term, it is expected that Bakersfield will re-examine them periodically and amend the Plan as needed and as required by law.

Authority

The town of Bakersfield is authorized to prepare and adopt a Municipal Plan via Chapter 117, Title 24 of the VSA (Vermont Municipal and Regional Planning and Development Act). Section 4382 of the Act dictates what needs to be included in a plan. The intent of the law is to encourage a municipality to "engage in a continuing planning process that will further several stated goals." The Act further states that municipal plans shall be re-examined, updated, and re-adopted every five years. This process should be ongoing, whereby the Plan is continually reassessed and revised to meet the changing needs of the community. Consequently, there will

be future opportunities to review and amend the plan. Residents, community groups, or anyone with an interest in the town is encouraged to provide input into this ever-continuing process at any time.

Overview of the Planning Program

Planning and zoning in Bakersfield began with a first town plan in 1992. Zoning regulations were adopted in 1966 and updated in 1971, 1978, 1989 (interim), 1991 (interim), 1994, 2006 and 2009. These are intended to be "living" documents which have been, and will continue to be, updated many times to reflect the ever-changing conditions in Bakersfield. The 2014 Bakersfield Town Plan builds on the previous town plans and furthers the effort to maintain a strong, vibrant community.

The 2014 Bakersfield Town Plan is a result of a planning process initiated in the fall of 2006. The 2009 update was completed with assistance from the Northwest Regional Planning Commission and support from a Municipal Planning Grant awarded through the Vermont Department of Housing and Community Affairs. This planning process began with a survey of Bakersfield residents. More than 70 Bakersfield residents responded to the survey and provided the planning commission with valuable input on their goals and visions for the community. Residents were also invited to participate in two public forums, held in April 2007 and April 2008 to discuss updates to the Town Plan and Zoning Bylaws. Further input was also gathered by the Bylaw Review Committee. The 2014 Town Plan incorporates revisions brought to the Planning Commission's attention over the five years since the 2009 Town Plan was adopted.

The town of Bakersfield continues to encourage public participation at all levels of the planning process. All Selectboard, Planning Commission and other town meetings are open to the public. Residents are encouraged to attend to offer input and voice their opinions.

The Structure of the Plan

The Bakersfield Town Plan is divided into chapters that address both the required elements of 24 V.S.A. Chapter 117 and other key areas of concern. Each chapter contains background information, including past trends, current status, and future needs intended to inform the town's planning efforts. At the end of each chapter is a set of goals and policies that have been developed by the Planning Commission which are based on the available information and intended to move Bakersfield toward the Vision as highlighted at the beginning of this plan. For the purpose of this plan, the terms "goals" and "policies" are defined below:

> **Goals** reflect the "desired future condition" – although some may not be attainable for many years;
>
> **Policies** are the strategies to pursue in order to attain the goals.

The Town Plan also considers compatibility with the surrounding towns and the region as a whole, and concludes with an Implementation Chapter that makes recommendations and identifies specific actions for the town to take in the next five years and beyond.

Chapter 2. Community Profile

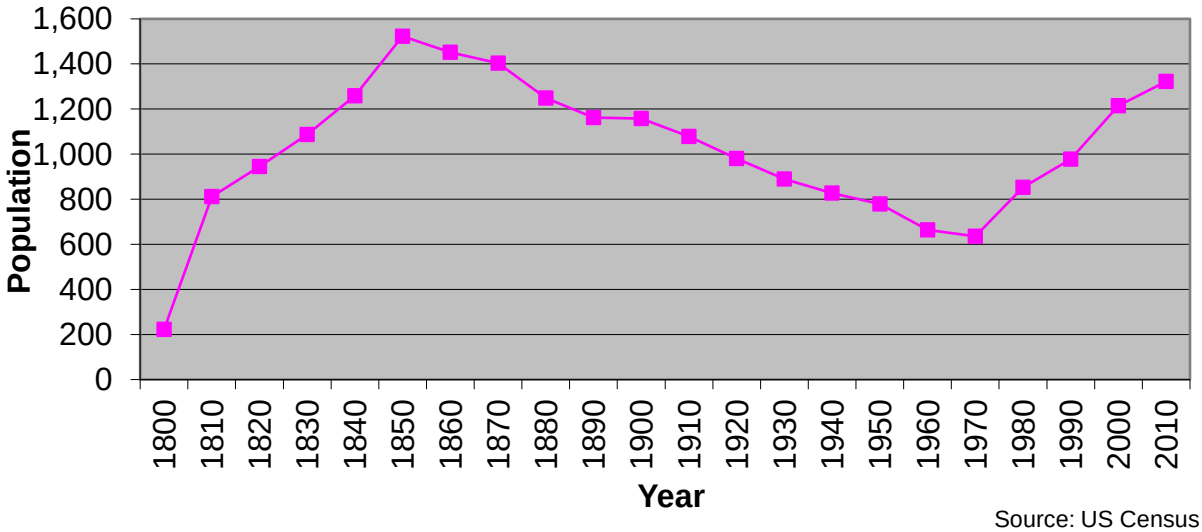
The Town of Bakersfield is located in Franklin County in the northwestern part of Vermont. Bakersfield shares borders with the towns of Fletcher, Fairfield, Enosburgh, Montgomery, Waterville and Belvidere (in Lamoille County). Bakersfield is within 20 miles of the City of St. Albans, the regional growth center, and approximately 40 miles from the City of Burlington, Vermont's largest City.

Population

The population of the Town of Bakersfield has fluctuated over the past two centuries (Figure 2.1). In the mid-1800s, the town hit its peak population with more than 1500 residents. Following this peak, the population steadily declined until reaching a turning point in the 1970s.

Like many other towns in the northwest region, the latter half of the 20th century brought significant growth to Bakersfield (Table 2.1). From 1980 to 1990, its population grew by 14.5 percent, and between 1990 and 2000 that increase jumped to 24 percent, nearly three times the rate of state growth (Table 2.2). The population continued to grow between 2000 and 2010 to a total of 1322.

Figure 2.1 Town of Bakersfield Population Trends, 1800-2010



Source: US Census

Table 2.1: Populations Trends for Bakersfield and its Surrounding Areas					
	Actual				
	1970	1980	1990	2000	2010
State of Vermont	444,731	511,466	562,767	608,827	625,741
Franklin County	31,281	34,788	39,980	45,417	47,746
Bakersfield	635	852	977	1,215	1,322
Fletcher	456	626	941	1,179	1,277
Fairfield	1,285	1,493	1,680	1,800	1,891
Enosburg	1,918	2,070	2,535	2,788	2,781
Montgomery	651	681	823	992	1,201
St. Albans City	8,082	7,308	7,339	7,650	6,918
St. Albans Town	3,170	3,555	4,606	5,324	5,999
Lamoille County	13,309	16,767	19,735	23,233	24,475
Belvidere	189	218	228	294	348
Waterville	397	470	532	697	673
Data Soure: U.S. Census					

Table 2.2: Percent Change in Population for Bakersfield and its Surrounding Areas				
	1970-1980	1980-1990	1990-2000	2000-2010
State of Vermont	15.0%	10.0%	8.2%	2.8%
Franklin County	11.2%	14.9%	13.6%	5.1%
Bakersfield	34.2%	14.7%	24.4%	8.8%
Fletcher	37.3%	50.3%	25.3%	8.3%
Fairfield	16.2%	12.5%	7.1%	5.1%
Enosburgh	7.9%	22.5%	10.0%	-0.3%
Montgomery	4.6%	20.9%	20.5%	21.1%
St. Albans City	-9.6%	0.4%	4.2%	-9.6%
St. Albans Town	12.1%	29.6%	15.6%	12.7%
Lamoille County	26.0%	17.7%	17.7%	5.3%
Belvidere	15.3%	4.6%	28.9%	18.4%
Waterville	18.4%	13.2%	31.0%	-3.4%
Data Source: U.S. Census				

Table 2.3: Percent Change in Number of Households, and Housing Units 1980-2000						
	Households			Housing Units		
	1980-1990	1990-2000	2000-2010	1980-1990	1990-2000	2000-2010
Bakersfield	29.2%	27.3%	12.8%	19.3%	21.5%	16.3%
Franklin County	23.7%	17.0%	10.4%	19.3%	11.3%	12.5%
Vermont	18.1%	14.2%	6.6%	21.5%	8.5%	9.6%
Data Source: US Census						

As the population of Bakersfield has increased, so too have the number of households and housing units (Table 2.3). The percent increase in the number of households and housing units for the Town is greater than the figures for the county and for the state. The rate of growth in the number of households and housing units has declined between 1980 and 2010. The average household size held relatively steady at in between1990 (2.83 persons/household) and 2000 (2.77 persons/household). The average household size decreased in 2010 to 2.25 person/household. This reflects trends both county and statewide.

Definitions:
A Housing Unit is a house, an apartment, a mobile home, a group of rooms, or a single room that serves as a separate living quarters.

A Household is all the people who live in a housing unit.

Table 2.4: Age Structure Comparison in Bakersfield and its Surrounding Areas					
	Year	% of Pop < 18 yrs	% of Pop 18-64 yrs	% of Pop 65+ yrs	Median Age (yrs)
Bakersfield	**1980**	35	55	10	28.6
	1990	31	59	9	33
	2000	31	61	9	37.7
	2010	28.5	61.7	9.9	39.2
Franklin County	**1980**	33	56	11	28.9
	1990	29	60	11	31.7
	2000	28.1	60.9	11	35.7
	2010	27	61	12.2	38.9
State of Vermont	**1980**	28.4	60.2	11.4	29.4
	1990	25.9	62.3	11.8	33
	2000	24.2	63.1	12.7	37.7
	2010	24	61.5	14.5	41.5
Source: US Census					

Age Distribution

The median age in 2010 for the residents of Bakersfield was 39.2 years. This age is up from 37.7 in 2000 and 29.4 in 1980 (Table 2.4), but is comparable to the median age of Franklin County and Vermont residents, 38.9 years and 41.5 years, respectively. Bakersfield, Franklin County, and the state of Vermont have all seen an increase in their median ages since 1980. As in many towns in Vermont, the population of Bakersfield is aging. The percent of individuals under the age of eighteen has declined since 1980, while the percent of the population between the ages of eighteen and 64 has seen a slight increase. Bakersfield has actually seen the population of those older than 65 years remain steady since 1980.

Special Populations

The US Census provides information about the number of people with various levels and types of disabilities. Data for disabled persons between the ages of 5 and 15 years old is no longer available for Bakersfield via the census, but was higher than previous county and state averages in the past (8.3 percent in 2000). Franklin County (5.1 percent) and the state of Vermont (5.8 percent) have lower percentages as of 2012 per the American Community Survey (Table 2.5). Bakersfield has a higher percentage of disabled persons over the age of 65 (42.2 percent) as compared with the County (41.1 percent) and the state (34.6 percent).

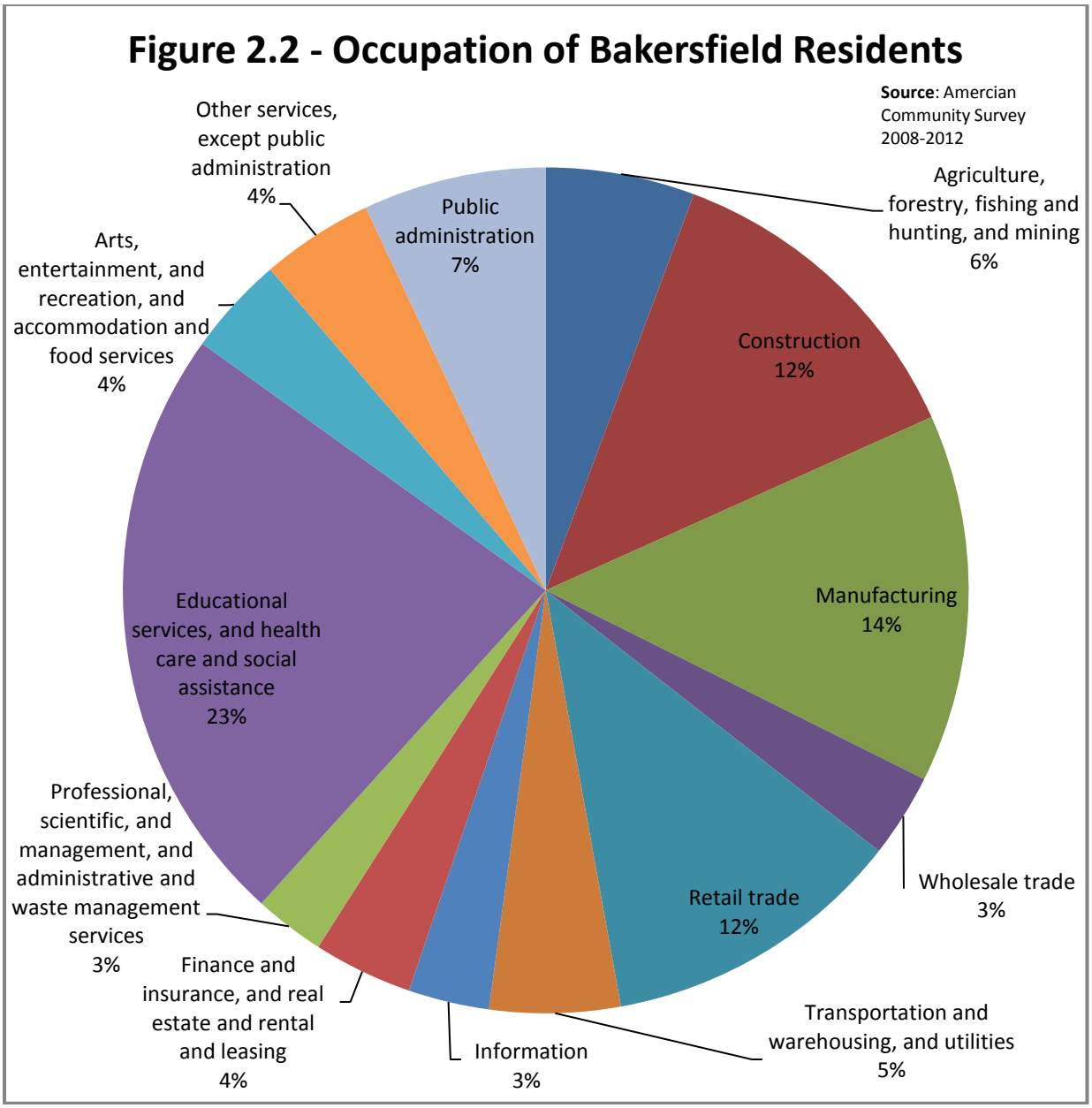
Table 2.5: Percentage of Population by Age with Disability Status

	5-15 years old	16-64 years old	65 and over
Vermont	5.8%	11.0%	34.6%
Franklin County	5.1%	14.0%	41.1%
Bakersfield	Not Available	11.5%	42.2%

Source: 2008-2012 American Community Survey

Income and Economy

Historically, the Bakersfield economy has relied heavily on agriculture, forestry and education. According to the 2012 American Community Survey, 716 Bakersfield residents age 18 and older are working. Of these, only 6 percent made their living through farm, forestry or mining occupations. (Figure 2.2). More than 23 percent of Bakersfield residents reported health care, education or social services. This represents a significant shift in the economy of Bakersfield and is expected to continue in the coming years.



The median household income for Bakersfield was slightly above the median household income for both Franklin County and for Vermont in 1989, but by 1999 had dropped to be slightly below and remains there as of 2012 (Table 2.6). The percent change in median household income in Bakersfield from 1999 to 2012 was significantly higher than that of Franklin County (62 percent as compared with 59 percent). Despite the fact that Bakersfield has a lower median income, the Town has a lower percentage of families with incomes below the poverty level (8.1 percent) as compared to the County (8.2 percent). The percentage of families in Bakersfield below the poverty line rose from 6.12 percent in 1999 to 8.1 percent in 2012.

Table 2.6: Median Household Income and Percent Change & Percent of Families Below Poverty Level							
	Median Household Income & Percent Change				Poverty Level and Percent Change		
	1989	1999	2012	% change 1999-2012	% families below poverty level 1999	% families below poverty level 2012	% Increase
Bakersfield	$29,946	$40,417	$65,481	62%	6.12%	8.10%	1.98%
Franklin County	$28,401	$41,659	$66,186	59%	7.00%	8.20%	1.20%
Vermont	$29,792	$40,856	$69,033	69%	6.30%	7.30%	1.00%

Source: US Census of Population 1980-2000 and American Community Survey 2008-2012

Chapter 3. Historic and Archaeological Resources[1]

Town History

The town of Bakersfield was originally chartered as Knowlton's Gore in 1787. Approximately 10,000 acres of land were granted to Luke Knowlton, a land surveyor. Soon after the charter was signed by Governor Thomas Chittenden on January 25, 1791, Knowlton sold the land to Joseph Baker, a settler from a well-to-do family in Westboro, Massachusetts. In 1792, part of adjoining Fairfield and Smithfield lying to the south and west of the present-day village common and St. George Cemetery, respectively, were annexed to Bakersfield.

Between 1800 and 1850 the population of Bakersfield increased from 222 to an all time high of 1,523 inhabitants. By 1839, some of the early families who had emigrated from areas around Boston realized that their children and grandchildren needed more than the 8th grade education provided by the town's 12 school districts if they were to succeed in the rapidly changing economy of the mid-19th century. Thirty-one townspeople contributed sums ranging from ten to seventy-five dollars to build South Academy (later St. George Church 1885-1977, and Bakersfield Historical Society 1997-present). The officers of the Bakersfield Academical Association hired Jacob Spaulding, a graduate of Dartmouth College, as the first headmaster/teacher (1840-1852). The catalogue of 1850 in the Historical Society's collection lists 361 students from all over Vermont, New York, New England and Quebec, along with the houses where they took room and board for $1.25 per week. Some of these Greek Revival houses with their continuous additions are still standing along Main Street today.

In 1844, the Methodists built a second academy, North Academy on a hill across the road from the Methodist Church (its frame structure deteriorated and was torn down years ago). They hired the Rev. H.J. Moore, a noted classical scholar from New York State as its principal. The two academies competed for excellence and established Bakersfield as an exceptional center for secondary education in northern Vermont in the mid-19th century. Meeting the demand for goods and services needed by the student population brought economic prosperity to an otherwise agricultural town. Two stages a day made round trips to St. Albans. The instructors and graduates who continued to live in Bakersfield enhanced the cultural environment of the community for years.

Even though Bakersfield experienced its first decline in population during and after the Civil War (1861-1865) the percentage of Irish and French Canadian residents was increasing. The drop in student enrollment at South Academy driven by the war and the availability of other secondary school opportunities in northern Vermont provided a place for the Roman Catholics to worship. Beginning in 1867 the Congregation of St. George bought South Academy floor by

[1] Special thanks to Nancy Hunt for all of her work in compiling this chapter.

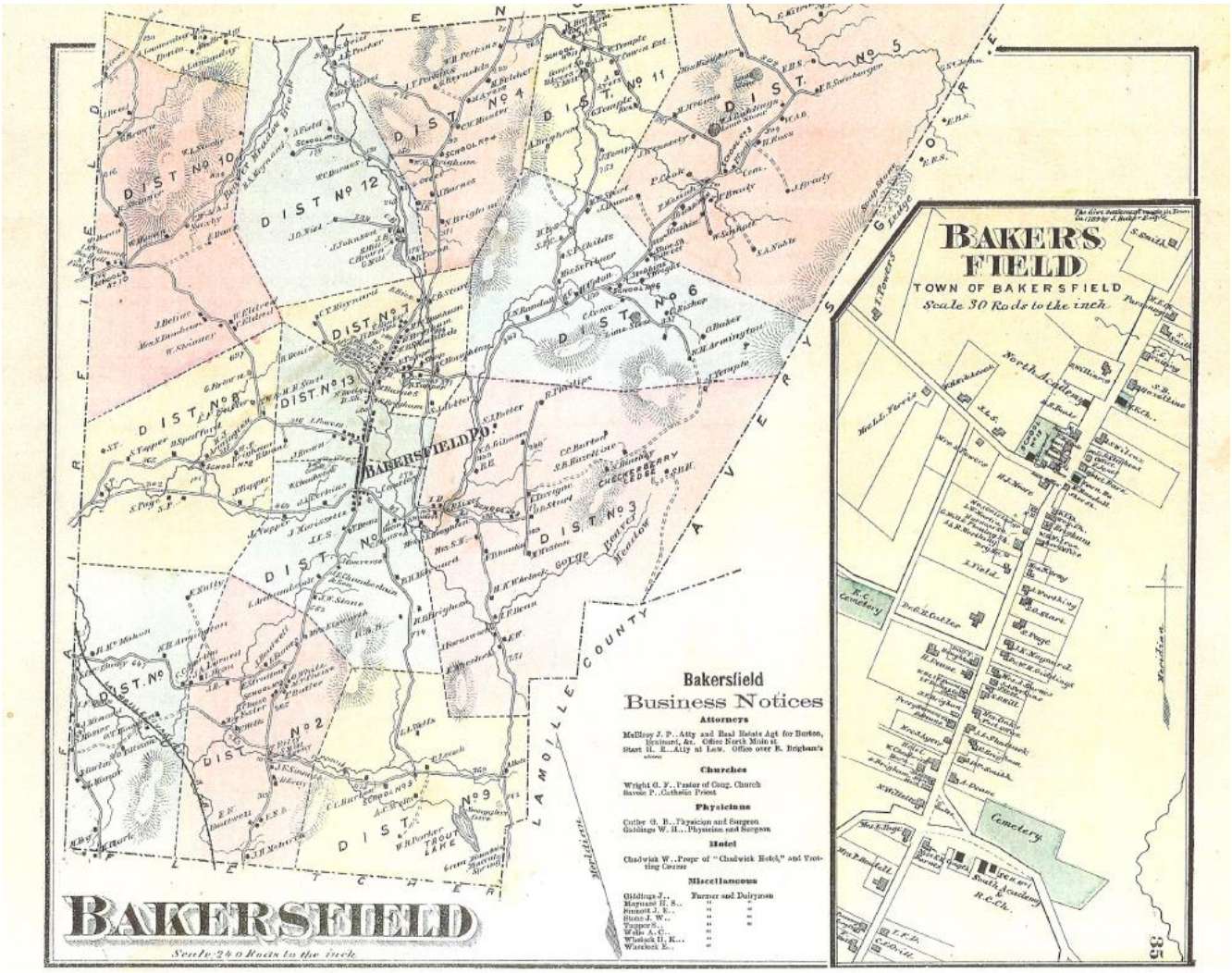


Figure 3.1. This 1871 Beers Map shows the even distribution of the population in farms throughout the thirteen districts of Bakersfield and a concentration of residents in the village center.

floor until they owned the whole building in 1885. In 1906 the parishioners had transformed the post and beam Greek Revival school house and belfry into the neo Gothic church that today is the home of the Bakersfield Historical Society. In 1865, the Congregation of St. George also purchased a burial ground, which continues today as the Catholic Cemetery in Bakersfield, located at the head of the Avenue (West Street). Figure 3.1 shows the development patterns, including the boundaries of Bakersfield's 13 school districts, in 1871.

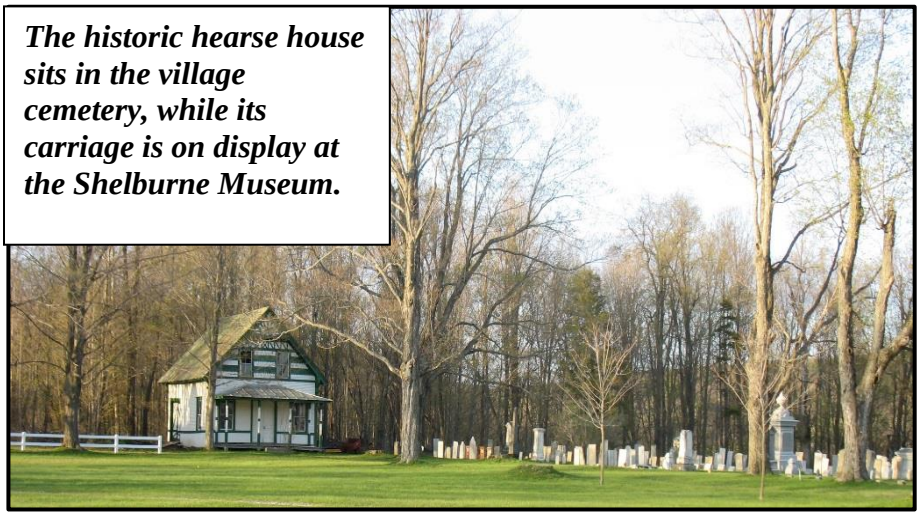
When Peter Bent Brigham died in 1877, leaving a bequest of $30,000 for the improvement of education, the townspeople voted to build a high school instead of dividing the funds among the 13 school districts. Their decision was encouraged by Sarah Brigham Jacobs, his widowed sister, who purchased a tract of land in the village for the academy. The building was completed and dedicated in August 1879, with President Buckham of the University of Vermont and almost 1000 people in attendance. When Sarah Jacobs died in 1891, she left an

endowment of $100,000 that strengthened the school's financial resources as well as providing seven scholarships for graduates to attend the University of Vermont. The north wing, built in 1900, doubled the size of the building; it included a gymnasium for fitness training as well as four laboratories and classrooms to meet the needs of increased enrollment with an emphasis on scientific curriculum.

The completion of the St. Johnsbury and Lamoille County Railroad in 1877, with a depot only a few miles away in East Fairfield, provided convenient transportation for Brigham Academy students and their families, as well as access to larger markets across northern Vermont and beyond for local merchants, tradesmen and farmers.

By 1878 Bakersfield residents received messages and news over a telegraph line from East Fairfield to the home of Mrs. Bradley Brigham (site of the present library) because she had learned Morse code. In 1899 that line was replaced with a telephone line to a public phone in the J.A. Perkins Variety Store (now an apartment block on Main Street opposite the Avenue). Electrical power was available in the village in Bakersfield in 1924.

Bakersfield, in spite of a 43% decrease in resident population between 1870 and 1940, was a vibrant, self sufficient and prosperous community. The influx of students (as many as 160 in 1900) paid room and board in private homes, supported local stores and services, and entertained the townspeople with concerts, drama productions, athletic competitions, and literary publications. There were two venues for presentations and celebrations, one in the second floor auditorium of the Academy and the second, after 1909, on the second floor of the Town Hall for local gatherings. The latter had a curtain painted by C. Andrus for its stage. The town gave it to the Vermont Historical Society several years ago. There was a trotting park behind the Catholic cemetery where residents could train and race their horses. An elegant hearse carriage, now on display at the Shelburne Museum, was available to carry the deceased to a free burial plot in the village cemetery. It was stored in the rear of the Queen Anne style hearse house that had been built for it in 1890.



The historic hearse house sits in the village cemetery, while its carriage is on display at the Shelburne Museum.

Agriculture flourished throughout Bakersfield until the middle of the 20th century. The earliest farms were self sufficient sources of food including grains and livestock for family use with small surpluses to barter or sell. There was a saw and grist mill on Browns Pond in the north and a tannery. Until the War of 1812,

there was a market in Canada (Great Britain) for ship building timbers and potash salts, both by-products of clearing the land. Cattle, especially oxen were prevalent, for hauling carts and clearing land. By the mid 19th century when Bakersfield's population reached its peak, there were almost four times as many sheep as people. Farmers from earliest times boiled maple sap for sugar at first on arches in the woods and later in sugar houses.

It wasn't until after the Civil War (1861-1865) that farmers began specializing in dairy cattle. Child's agricultural census (1888) lists over 100 farms in Bakersfield with an average of 18 cows, which were distributed evenly throughout the town. Jersey cows were the preferred breed because of the high butterfat content for butter and cheese production. Resident laborers, tradesmen, farriers, blacksmiths, harness makers, cattle brokers, and doctors were readily available. Over time, many local businesses such as tanneries, creameries, slaughter houses, farm implement and feed stores provided the infrastructure needed for a strong agricultural economy.

The Malone Farm in East Bakersfield includes an 1850 house on the left and a high bank dairy built in 1890 on the right. Horses pulled hay wagons piled high with loose hay up the ramp or wharf. Hay was packed into the sides of the loft and dropped down to the dairy cows in the ground floor stable below. Credit: Bakersfield Historical Society.

A decline in agriculture accelerated during the 20th century due to technological change and state/federal regulations. The availability of electricity and gas-powered machinery in the 1930's, though extremely beneficial to the lifestyle of farmers, often brought financial challenges to the sustainability of Bakersfield's farms. Refrigerated storage elevators, rail cars and trucks required capitalization and centralized processing that in turn caused dependence on a commodity market for fluid milk.

Today, there are five dairy farms in Bakersfield, including one very large operation with a methane digester on the northern boundary with Enosburgh. There is a growing number of small farms engaged in livestock and local/organic food production. Many maple sugar producers process and market their own syrup. There are also three tree farms that raise and

sell Christmas trees. Increasingly, landowners with timber and open land not enrolled in current use are selling lots for development.

Except for loss by fire, many of the historic houses, public buildings, and barns in Bakersfield remain intact. The cultural dynamic, however, has changed dramatically in the last 50 years from a self-sufficient and vibrant community to that of a bedroom town. During the 1950's the dirt road to St. Albans was paved and became State Highway 36: Rte 108 was straightened and paved. By the end of the decade, a growing number of Bakersfield residents found better paying jobs at IBM in Essex and St. Albans as well as access to more goods and services. The completion of Interstate 89 to the Canadian border during the 1960's accelerated the daily exodus from the town.

In 1967 the town voted not to make the state-mandated improvements to Brigham Academy and it was closed as a high school. The academy building has been vacant since the new K-8 school was built in 1987. The flow of students that had formerly brought prosperity and vitality to the village reversed course and left each week day for Enosburg, BFA in St. Albans or Essex.

Elise Wells in her history of Bakersfield (1976, pp 120-121) noted how "the automobile has changed many things… The cars whisk people off to work every morning…People used to sit on their porches to see their neighbors. Now, they look out at the forests and mountains behind their houses and have outdoor cookouts and picnics… There are two general stores where once there were five, but you can buy many things you never could before and at fairer prices…The town had two doctors. Now townsfolk go to the two hospitals in St. Albans…"

Even though the population has doubled since the 1970's, commercial activity in the village is limited, mostly to support commuters and weekend recreation. There are two convenience stores with limited takeout, one of which has gas pumps, two car repair shops, and a sales and service business for recreational vehicles.

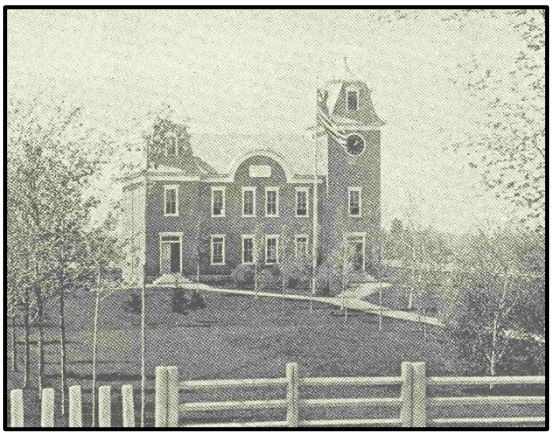
Most community activities are focused on fund raising and take place in the school cafeteria/gymnasium. The town meeting luncheon and bereavement receptions are held in the Historical Society building. For many years the fire department has sponsored Homeland Days in September with a parade down Main Street that is followed by a chicken barbecue, musical entertainment, cow plop, and games on the B Brigham lawn. In 2009, the town sponsored Bakersfield's own 4th of July celebration with activities on the village green, street dancing and fireworks by the town garage. This continues today, and Homeland Days was merged with the 4th of July in 2015.

Most of the population growth since the 1970's has occurred in the rural areas of town especially to the north and east of the village. The improved highways that enabled long time Bakersfield residents to leave the town for better jobs, goods and services also provided urban dwellers in Chittenden County and beyond greater access to former farms and large tracts of woodland at a relatively low cost. Increasingly, due to recent price increases, landowners with timber and open land not enrolled in current use are selling lots for development.

Historic Resources

Historical cultural and archaeological resources are irreplaceable and provide a sense of continuity between the past and the present and help us identify who we are. It is important to preserve and promote these resources whenever possible.

The Bakersfield Historical Society was established in 1997 as a 501(c)(3) non-profit cultural and educational organization dedicated to community awareness and the preservation of Bakersfield's heritage. A grant from the Vermont Museum and Gallery Alliance guided the organization in developing a collection management policy to properly conserve its extensive archive relating to the people, places, things and events in Bakersfield. The Historical Society has the only existing comprehensive collection of Brigham Academy catalogues, programs, photographs, and literary publications. They reveal the quality and extent of the academy's curriculum and student activities including athletics, plays and musicals. The building is open on a regular basis from May to October or by appointment. The Board of Directors meets monthly to plan programs and exhibits that have included participation in the Vermont History Expo. It publishes four newsletters a year and depends upon memberships, donations and fundraisers to maintain its building for community use.



The Brigham Academy as it was constructed in 1879. Credit: Bakersfield Historical Society.

There are over 100 public buildings, houses and barns in the town of Bakersfield that are listed on the Vermont State Register of Historic Structures (as conducted in 1985). So far, two of these are listed on the National Register of Historic Places and one nomination is pending.

Brigham Academy (1995). The Brigham Academy Restoration Plan, completed in 1995, found that the building continues to be structurally sound and with proper renovation would be appropriate for educational and community services, or potentially elderly housing. So far, the clock/bell tower has been repaired and the roof replaced with grants from the Preservation Trust of Vermont/Vermont Division of Historic Preservation and the Vermont Housing and Conservation Board (VHCB), respectively. In 2003, voters approved the Brigham Academy agreement at a warned joint meeting of the Bakersfield Town and School district to renovate 75 percent of the building for school use and 25 percent for town use. The VHCB holds an easement to retain the front lawn of the Academy building as an open space including its alley of maple trees. A Municipal Planning Grant from the Vermont Agency of Commerce and Community Development was used in 2012 to assess the Academy Building for future renovation. The architectural firm conducting the assessment reported the foundation and other infrastructure were sound enough for complete or partial renovation of the

building for future uses. In 2013, the Board of the Bakersfield Elementary and Middle School voted to sell its share of the Academy to the Town. Execution of this sale was completed in September 2014.

South Academy/St. George's Church (2001). Saving the South Academy/St. George's Church from demolition was the first project of the Bakersfield Historical Society. Taxpayers provided $10,000 as seed money so that funds could be raised through grants (Preservation Trust of Vermont, Vermont Division of Historic Preservation, and the Vermont State Legislature via the Cultural Facilities Coalition) as well as a capital campaign to repair the hand-hewn post and beam structure and bell tower, replace the roof and chimney, upgrade the lighting and electrical systems, install a kitchen as well as a code compliant bathroom and handicapped ramp. The masonry on the main building still needs to be repaired and the newer bricks on the 1906 addition need to be replaced.

Hearse House (nomination pending). The Hearse House, owned by the Town and maintained by the Bakersfield Cemetery Commission, has been nominated by the UVM Historic Preservation Program for inclusion in the National Register of Historic Places. Reportedly it is a unique funerary structure; its elegant hearse carriage that was stored in the rear is on display at the Shelburne Museum. Currently its windows are broken and the beam between the front rooms and the rear garage needs to be replaced. The Cemetery Commission uses the space for storage of cemetery benches and urns; the mower is stored in the rear. One year high school students painted it as a Community Service project.

Other significant sites: Residents and visitors entering Bakersfield from the South on Rte 108 are welcomed to Bakersfield at the Fletcher line by an historic farm stead (see frontispiece). Two other barns reveal changes in agricultural technology that took place during the 19th and 20th centuries. Old Stage Road on the east is an ancient road that continues up Kings Hill past stone foundations to the District 9 School House.

A concentration of mostly historic village houses begins with the Daniel Dean place across from Larry's Tree Farm and continues north to the landmark federal brick houses at the four corners. To the east is a row of public buildings: Town Hall (1909) with its paneled and tin-clad interior, Congregational Church (1845) and South Academy (1840; remodeled 1906)/Bakersfield Historical Society. This road continues out to East Bakersfield and the historic Malone farm (1850, 1890). Cook Cemetery and more.

Main Street continues north on Rte. 108 past the village cemetery/hearse house/village common, the iconic Brigham Academy building (1879/1900) with its deep lawn and alley of maple trees. Across Main St. to the east is the town library (1950) as well as a row of mostly historic and well maintained private houses on both sides of the street. The Methodist Church (1854) and the Hazeltine house (1800) mark the northern end of the historic village, yet a keen eye will spot other houses on the Vermont State Register on the east side of the road until its

end at the Albert Brigham house at the fork. There are many historic farm houses, including two stone houses, the site of the former Johnson saw mill and more on the Joyal and Witchcat roads. There are many historic farms and barns along Egypt and Lawyer roads as well.

There are many other historic buildings and landmarks in Bakersfield not included on the historic register. Smaller landscape features that often go unnoticed are increasingly considered of historic value and importance. These include old barns and outbuildings; stone walls, corner stones, markers, and "witness trees;" and old apple orchards and lilac bushes planted around former homesteads, and clumps of orange day lilies. These features say as much about the region's rural and agricultural heritage as many of its more readily recognized historic landmarks, but are often disturbed, removed or demolished without any thought. Recognizing the need for more public education, the Vermont Department of Forests, Parks and Recreation in 1994 published Stonewalls and Cellarholes: a Guide for Landowners on Historic Features and Landscapes in Vermont's Forests.

In 1990 a study conducted by UVM's historic preservation program found that incremental changes over time, including cumulative alterations to historic structures, and the abandonment, deterioration and demolition of outbuildings and barns, had a profound impact on historic character and significance. They noted that the removal of agricultural buildings in particular suggested the failure to connect the preservation of buildings with the preservation of rural and community character. In Bakersfield, many historic homes and farms are under private ownership. There is currently little incentive or financial assistance to encourage the preservation of these structures. The Vermont Division of Historic Preservation does offer grants of up to $10,000 for the restoration and repair of historic agricultural buildings.

In 2011, Bakersfield was granted Village Center designation by the Vermont Department of Housing and Community Affairs. This gives the Town and residents access to tax credits for various improvements in the village center.

Archaeological Resources

Archaeological resources provide evidence of human habitation dating from prehistoric times. A number of important archaeological sites have been found in Northwest Vermont. These include evidence of several types of prehistoric habitation and use, including villages, hunting and fishing camps, trails and trade networks, and burial grounds. Other archaeological sites include remnants of historic settlement and use, such as old foundations and cellar holes; quarry, mill, kiln and foundry sites, and unmarked cemeteries and roads. Although these sites are often buried and no longer visible on the land, they are nevertheless important for the story they tell of the collective past of the area.

The Division for Historic Preservation maintains listings of known archaeological sites within the state, which is made available on a "need to know" basis in order to protect their integrity. As of 1995, 312 recorded archaeological sites were identified in Franklin County. This figure likely represents only a small fraction of all significant sites in the region, since intensive investigation of site locations has not been undertaken. Archaeological sites are protected under state and

federal law, including Act 250, the Vermont Historic Preservation Act (22 VSA, Chapter 14), and under Section 106 of the National Historic Preservation Act.

For planning purposes the Division has identified more broadly defined "sensitive areas," using modeling based on known site conditions, in which archaeological sites are known or expected to occur. These include a 200 foot buffer along all major rivers and tributaries in the region, particularly in the vicinity of major confluences, and the Lake Champlain shoreland, which is considered highly sensitive. Development in known or anticipated sensitive areas should be reviewed with particular attention given to the possibility of buried sites. Vermont's Archaeological Heritage, prepared for the Division of Historic Preservation in 1988, estimates that most of Vermont's archaeological sites have not yet been found. A Predictive Model, developed by the State Agency of Transportation, has greatly improved the ability to predict where historic and prehistoric sites are likely to be found.

The former District No. 9 schoolhouse is evidence of the settlement that was once in the King's Hill area. Credit: Nancy Hunt

In Bakersfield, the Kings Hill area in the southeastern portion of town has a notable number of cellar holes and stone foundations along Stage Coach Road and at the junction with Kings Hill Road. These sites provide intact archaeological evidence of a 19th century community that is described on 1857 Wallings Wall map and 1871 Beers Atlas. This area includes the high fieldstone wall of the C. Bessey stage coach inn and the foundation of Betsey and Timothy Carroll's farmstead (Betsey Carroll's papers are in the Vermont Historical Society Collection). In this same vicinity, the District No. 9 schoolhouse still stands intact, and serves as a camp to a local forester. On Kings Hill Road is the complete farmstead in fieldstone foundations of Lucien Wells including farmhouse, barn, silo, and a well.

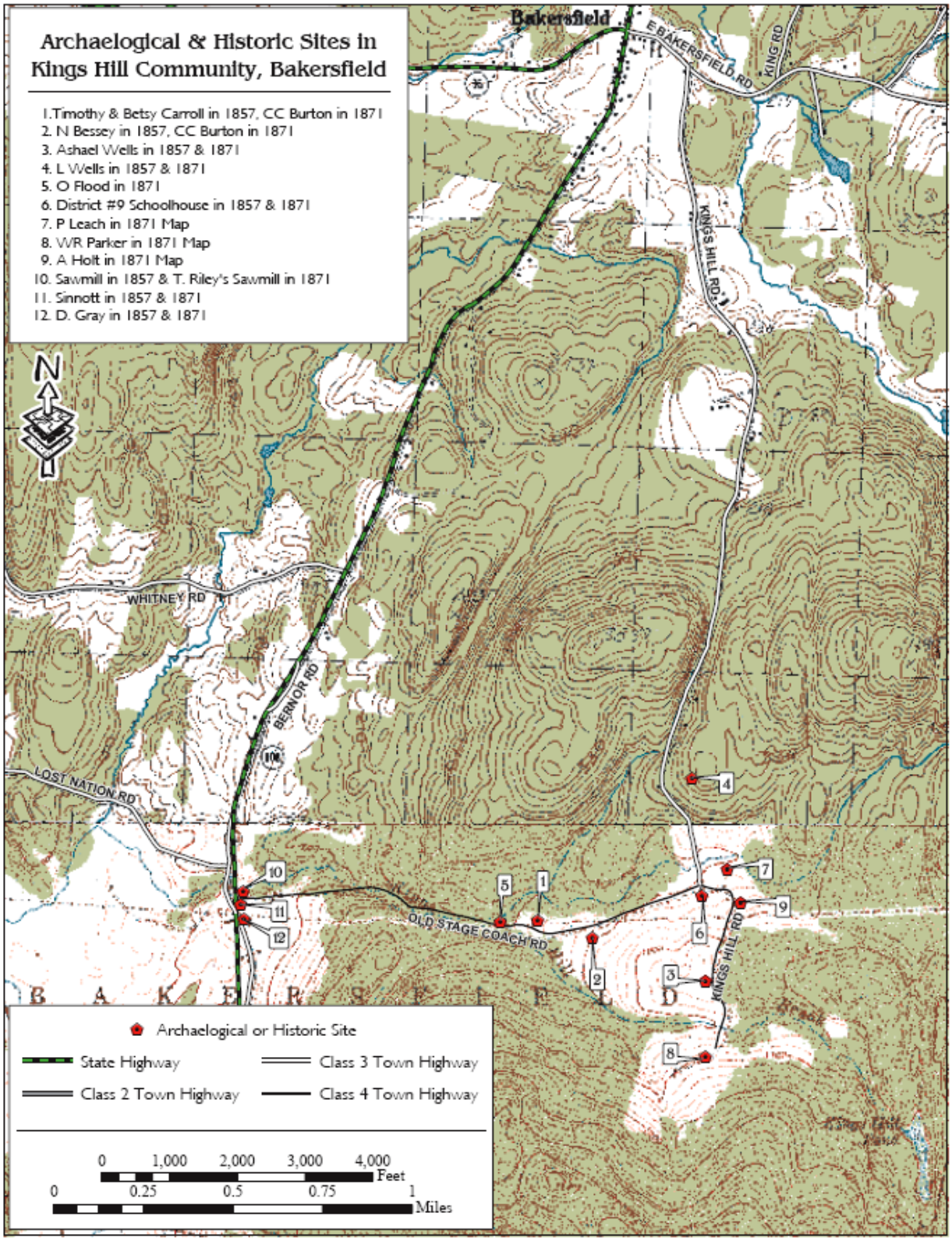
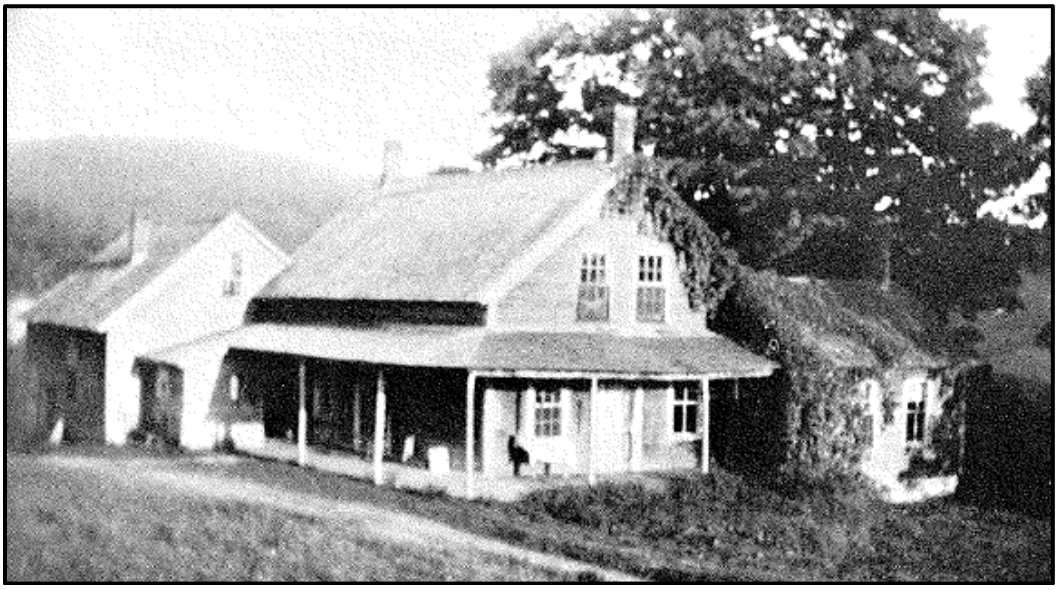


Figure 3.2. Archaeological and Historic Sites in the King's Hill Area.

There are also anecdotal accounts of cellar holes and other artifacts in the area of East Bakersfield and Sornborger Place, but they are not as significant as the Kings Hill area. The Sornborger papers are available in the "Special Collections" at the University of Vermont.



Evidence of the Wells farmstead built ca. 1845 and burned in 1934 can still be found in the King's Hill area. Credit: Bakersfield Historical Society

Goals:

- To preserve important historic and archaeological resources in Bakersfield
- To recognize and respect Bakersfield's rich history in decisions regarding land use and development

Policies:

- Protect sites of archaeological and/or historical significance
- Encourage the adaptive reuse of the Brigham Academy and other historic buildings to meet the needs of the Bakersfield community.
- Encourage efforts to secure grants and raise funds for the preservation of historic and archaeological resources
- Identify sites of potential archaeological and/or historical significance, and produce a document and map that locates and describes these sites
- Encourage appropriate design and land use compatible with the historic character of the village
- Encourage the planting of trees in the schoolyard and parks, and throughout the town.

Chapter 4. Utilities, Facilities and Services

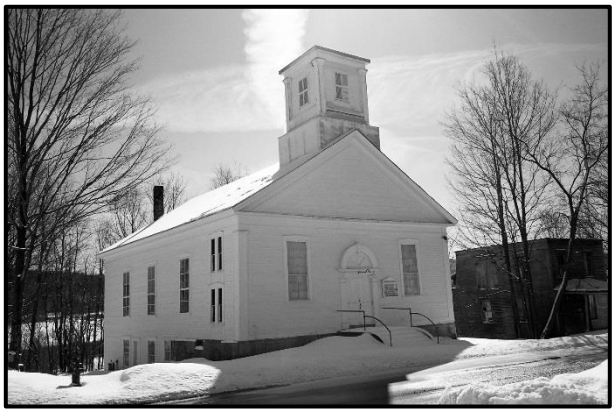
Facilities and services are provided by a municipality for the benefit of its residents and are supported by the community as a shared responsibility. In a small, rural community such as Bakersfield, the ability to provide a broad range of municipal services is limited. However, with continued growth and development there is increasing demand for these services. To address this demand, the town plan includes a goal of establishing public polices that balance development with the town's ability to provide services. These policies may include managing the timing of development so that town services can keep pace.

Municipal Utilities and Services

Municipal Water

Bakersfield has a municipal water system, under the jurisdiction of Fire District #1, located on Kings Hill southeast of the village. There is a 120,000-gallon concrete reservoir located northwest of the village. Access to the municipal water system is limited to the village. In order to continue to meet demand, the Fire District identified a need for an additional well and pump for the water system. In 2007, the Fire District raised their rates in order to cover the cost of this upgrade. It is the goal of the Fire District to ensure a safe and unchlorinated water supply.

The Bakersfield Zoning Bylaws designate a protective zone, the “Aquifer Overlay District” around the source of the municipal drinking water supply. This zone is consistent with the source water protection area identified by the state of Vermont Drinking Water Supply Division. No new construction is permitted in this district in order to protect the quality of the community drinking water.



The Methodist Church (1854), a well-preserved historic building, is at risk because it lacks sufficient land for a septic system as well as space for parking. Credit: Nancy Hunt

Sewage

There is no municipal sewer system in Bakersfield and disposal is handled through individual septic systems. Presently there are no plans for a municipal sewer plant due to the expense and the population size in Bakersfield.

Sewage disposal is an issue for the town hall, historical society, and Congregational Church. In 2002, the historical society upgraded the septic system on property owned by the school. The lack of sewage disposal facilities has been and continues to be an impediment to appropriate commercial development, such as restaurants, in the village district. As technologies improve, the town of Bakersfield should continue to explore

opportunities for shared wastewater systems within the village core.

Solid Waste Management

Bakersfield is a member of the Northwest Vermont Solid Waste Management District (NWSWD), which has a regional solid waste management plan and a certified regional facility. The Northwest Solid Waste District sponsors many activities such as "special collections" (bulky items, scrap metal, and tires) and Household Hazardous Waste (HHW) collections (oil based paints, solvents, cleaners, pesticides, and other chemicals that would be harmful to the environment if not handled properly). The district operates a drop off site at the old fire station every Saturday morning.

One goal of the District is to make solid waste disposal as convenient as possible for residents so that compliance with the regulations are high. By making pick up and drop off of garbage easy and recycling virtually free (there is currently a $1.00 handling charge), there should be less incentive to dump or burn garbage illegally. The special collection of bulky and hazardous materials keeps these materials out of the waste stream and disposed of properly. The state of Vermont has set a goal of reducing the amount of waste needing disposal by 50 percent. In order to help meet this goal, the district has adopted regulations making it mandatory in district towns to separate certain recyclable materials from waste going to landfills.

Fire Protection and Emergency Rescue

Bakersfield is served by a volunteer fire department that includes a First Response Program. There are approximately 28 volunteer members who serve on the fire department, including first responders. The equipment consists of a 1997 Pumper, a 2012 Pumper and a 2006 Rescue SUV. The 2012 pumper and the 2006 rescue SUV are recent replacements for much older vehicles. Thanks to federal and state grants, the department was able to upgrade personal protection gear including SCBA air pack devices in 2005. In order to continue to meet the needs of the Bakersfield community, the Fire Department purchased the former Sticks and Stuff Building near the Brigham Academy. Using mostly volunteer help, the Department renovated it to provide a building large enough to accommodate bigger modern fire engines including the 2012 pumper.

The town of Bakersfield has an agreement with Enosburgh Ambulance Services for emergency response service. Bakersfield has a Rapid Response Plan to help organize the town in case of an emergency. The Rapid Response Plan contains basic emergency preparedness essential for responding to local emergencies. It includes critical phone numbers, contact persons, and critical facilities. The town of Bakersfield is also a member of the Franklin County Mutual Aid Agreement. This is a formal agreement among the municipalities and emergency first responders within Franklin County to lend resource assistance across jurisdictional boundaries when required; either by an emergency that exceeds local resources or a disaster. The Agreement helps the town achieve compliance with the National Incident Management System (NIMS) strategy. In 2010, the Town received federal money to install a permanent generator at the Elementary School. That building now serves as a designated emergency shelter in case of a

crisis. Bakersfield is served by Northwestern Medical Center in St. Albans City. Many residents also use the walk-in emergency clinics operated by NOTCH in Enosburgh and St. Albans.

Police Protection

The Vermont State Police (VSP) is the primary law enforcement agency responsible for public safety in Bakersfield. As in many rural communities, the level of police protection is a concern in Bakersfield. Because of the limited service, response times can be long.

Telecommunications

Access to telecommunication services, including high speed internet and cellular phone service are important not only to the quality of life for residents of Bakersfield, but for economic development as well. Under Governor Jim Douglas and current Governor Peter Shumlin, Vermont is pursuing a course to provide universal cellular and broadband coverage throughout the state. Such advances in telecommunication technology have the potential to significantly impact the local economy in rural communities such as Bakersfield, as they allow more residents to telecommute and may enable more people to live further and further from population centers. The Town must determine if there are planning and zoning ramifications for antenna towers and other telecommunications infrastructure. Guidance to site towers where community interests for historic and aesthetic preservation should be considered

Municipal Facilities

The public facilities of Bakersfield include the Bakersfield Elementary and Middle School, the presently empty Brigham Academy and its front lawn, the Town Hall, the Volunteer Fire Department garage, the town garage, cemeteries, and two recreational fields. Within the village are also a post office, a church, the HF Brigham Memorial Library, and the Bakersfield Historical Society building (Figure 4.1).

Town Hall

The Bakersfield Town Hall was constructed in 1909. The building provides office space for the Town Clerk, Treasurer, Listers, and Zoning Administrator, and has a community meeting space. The second floor of the town hall has an auditorium, stage and kitchen and has served as the town teen center. The stage had a painted curtain which is now at the Vermont Historical Society.

The Town Hall is used each year for Town Meeting, when residents come together to vote and make important community decisions. Credit: Nancy Hunt

Town Garage

The Bakersfield town garage houses the town's road equipment, including three snow plows, three dump trucks, a 4x4 pick up truck, a Front End Loader, a Grader, and a bulldozer/15 ton excavator. The town

garage provides adequate facilities and no major improvements are planned for this facility. The relocation of the town fire department to the renovated Sticks and Stuff building provided the Town additional storage space when it was transferred from the Fire Department to the Town.

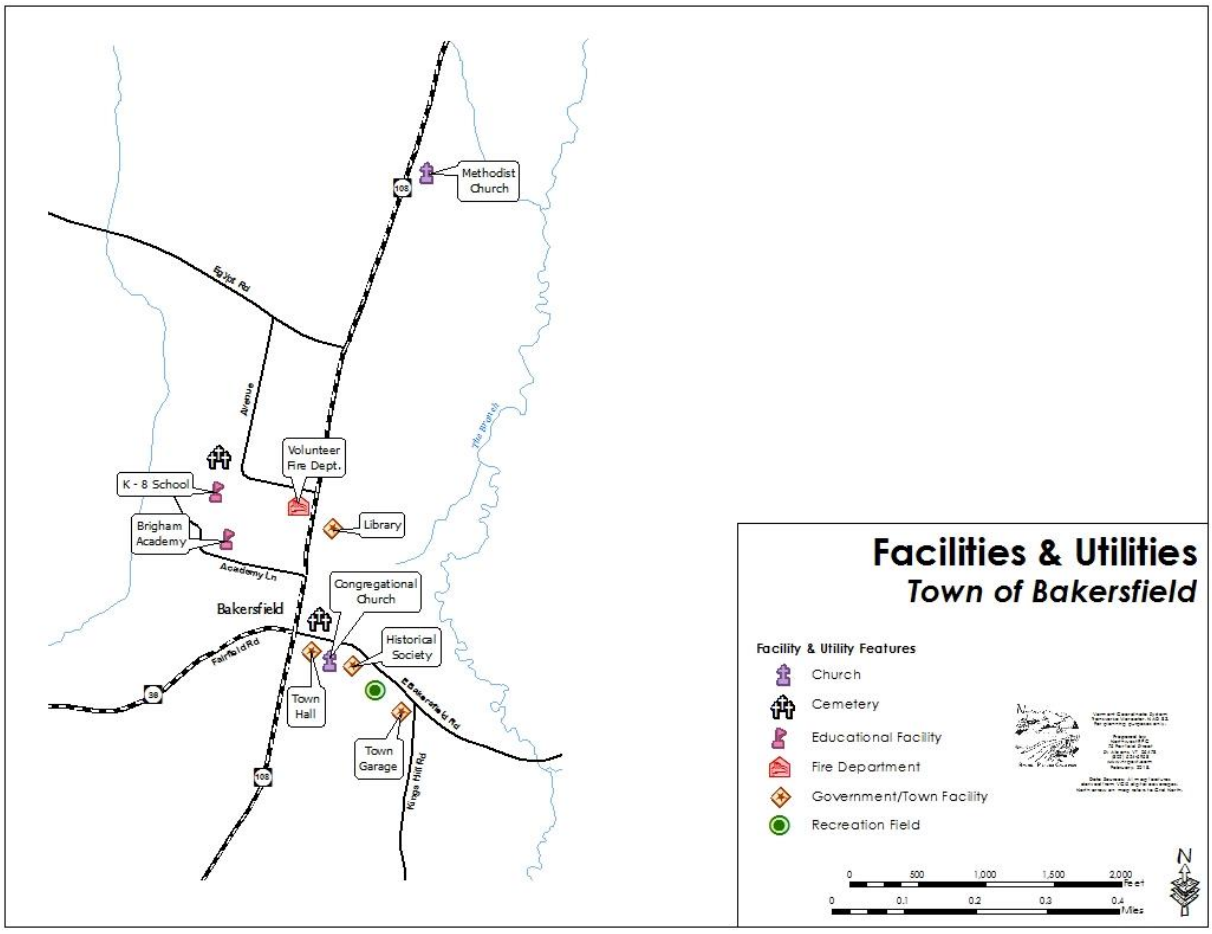


Figure 4.1 Municipal Facilities and Utilities

Brigham Academy

The Brigham Academy, though vacant for the past 20 years, has the potential to be a significant public asset. This building was under the ownership of the Bakersfield school district. A School Board vote in March 2013 requred the Board to sell the building to the Town. That sale was completed September 15, 2014. Studies in 1995 and 2012 found the building to be structurally sound and noted the potential for adaptive reuse of the building as an educational facility, senior housing or for other community use. Under a current agreement with the Vermont Housing and Conservation Board, any rehabilitation of the building should provide for 75 percent school use and 25 percent community use, however it may be possible to renegotiate this agreement to allow for affordable or senior housing.

H.F. Brigham Library

The H.F. Brigham Library is located in the center of the village on the east side of Main Street across from the Brigham Academy. In 2013, the library hosted more than 70 events (children's story time, book discussions, family movie nights and special speakers). The library had 2,715 visitors, (1,688 adults and 1,027 children) that year, too. Computer usage is a growing way to meet the library's goals "to provide access to reliable information, to educate and entertain".

Recreation Facilities

Currently, public outdoor recreational facilities available in Bakersfield are mostly limited to the recreation fields associated with the school. This includes a well-equipped little league field, soccer field, basketball court and a playground. These facilities represent the efforts of many volunteers in the community. The privately owned Bakersfield Country Club provides golfing facilities to the public.

Since their 2011 dedication, the Bakersfield Town Park and Community Trails have been steadily improved by the Bakersfield Conservation Commission. The Park is near the head of one of the trails and consists of several historic town buildings and a large picnic area adjacent to the town square across from the Town Hall. The space is now regularly used during the now annual Fourth of July celebration, especially for a robust horseshoe competition.

Currently there is no adequate indoor public space that is handicapped accessible and available throughout the week for townspeople for all ages. The school gymnasium with its kitchen facilities is used extensively on weekends for community events. The one handicapped bathroom is in the main part of the building and is not available.

The Bakersfield Post Office is situated in the heart of the village.

The Bakersfield Historical Society provides a venue for a variety of community events throughout the year. Credit: Nancy Hunt.

US Post Office

While it is not a municipal facility, the Bakersfield Post Office is an important asset for the village of Bakersfield and provides an informal meeting spot for members of the community to interact.

Bakersfield Historical Society

The Bakersfield Historical Society occupies the St. George's Church, the oldest public building in Bakersfield. The building is open to the public on a regular basis from May to October and by appointment throughout the year. Although the Bakersfield Historical Society's building is handicapped accessible with a bathroom and kitchen that is potentially available throughout the week, there is no public funding for its supervised use and maintenance. The Board of Directors, however, has made the facility available to the community whenever possible for bereavement luncheons, meetings, charitable events, school programs, the town meeting luncheon, as well as their own programs and fund raisers.

Churches and Cemeteries

The churches and cemeteries of Bakersfield are important resources for the town. The United Church of Bakersfield and East Fairfield serves the congregations of one current and two former church buildings: the Congregational (1850) and Methodist (1854) churches in Bakersfield and the church in East Fairfield. The parishioners hold services in the Congregational Church Building on East Bakersfield Road. During 2013, the Methodist Church and the East Fairfield Church were sold. The former East Fairfield Church now is owned by that community and the former Methodist Church is owned by a private museum curator. In addition, the Congregational Church in Bakersfield is governed by its own board of trustees and manages its own endowment.

The Cemetery Commission manages the Maple Grove Cemetery and Park, a five acre burial ground in the center of the village that was deeded to the town in 1804. Residents at the time of their death are entitled to a free plot. Its maintenance budget is based on income from endowments and gifts. While the cemetery provides green space in the center of the village, it does not serve as a true village commons because its use is limited to activities approved by the Cemetery Commission. The war memorial, benches, and flower gardens are an asset to the village center. The cemetery commission currently uses the hearse house for storage, but the building is in need of repair.

Local volunteers help to repair the cemetery stones with the help of the Vermont Old Cemetery Association.

A second cemetery in the village is located at the west end of the Avenue. It is owned and operated by the Catholic diocese. A third cemetery is in East Bakersfield and is closed. It is maintained minimally by the town as required by state statute.

Goals:

- To provide municipal services and facilities that adequately protect the health, safety and welfare of the people of Bakersfield
- To provide for the physical safety of residents with high quality fire, emergency medical, and law enforcement services
- To promote communication of Bakersfield residents with each other and with a wider community
- To provide code- compliant interior spaces that support community activities

Policies:

- Look ahead and predict the town's future needs in regard to public facilities and services based on patterns of growth and development
- Consider other growth control measures, including development of a capital budget, a yearly limit on the maximum number of building permits, and phasing of building construction, to reduce the impact of development on municipal services
- Identify equipment and facilities that need to be upgraded and develop methods of financing the replacements.
- Evaluate the extension of municipal services based on system adequacy and fiscal feasibility
- Explore opportunities to coordinate in the provision of septic services for buildings within the village core
- Consider if and when a municipal wastewater system would be appropriate and cost effective to service the village area

- Ensure that the municipal water system continues to provide adequate, healthy, clean drinking water for village residents and that the water supply remains public and is not privatized
- Identify and pursue opportunities for funding to enhance police protection in Bakersfield
- Continue to recruit and train volunteers for fire and emergency services
- Consider opportunities for the adaptive reuse of historic buildings
- Provide adequate recreational facilities to meet the needs of community residents
- Encourage intergenerational programs that promote healthful living
- Restore the Brigham Academy building to serve as a multi-purpose municipal facility for education, senior/affordable housing, recreation, and/or other community use
- Ensure that designated emergency shelters are accessible and properly equipped.
- Continue to provide library services that meet the needs of the community
- Support efforts to educate residents about solid waste disposal options, currently available through NWSWD, in order to reduce junk and hazardous materials from being disposed of improperly
- Prohibit the unregulated storage of junk cars and other waste on properties in Bakersfield and require clean-up of existing sites
- Consider the establishment of a transfer station for processing junk vehicles for transportation to a local, permitted junkyard
- Encourage the Selectboard to adopt municipal ordinances to enforce the clean up of junkyards and other “quality of life” issues, such as farm animals in the village, noise pollution, etc.
- Support the enhancement of the telecommunications network when such facilities do not have significant adverse health, environmental or scenic impacts
- Establish and maintain a website that provides information on Bakersfield town governance and a calendar of town activities
- Support the retention of the US Post Office in the village

Chapter 5. Transportation

Bakersfield lies approximately 14 miles east of Interstate 89 (Exit 19) and is easily accessible by VT Route 36. The village is bisected by VT Route 108, which provides a connection to Enosburg to the north and through Fletcher to Jeffersonville to the south. The spring, summer and fall of 2013 brought much needed upgrades to Route 108 between Jeffersonville and Bakersfield, making the southerly commute much more comfortable. As is the case with many rural communities, Bakersfield residents depend greatly on privately owned motor vehicles and the local road network for access to jobs, goods and services. Providing a safe and efficient transportation system that will meet the residents of Bakersfield now and into the future will require thoughtful planning. Such a system will provide a variety of transportation options beyond motor vehicles. In developing this plan, it is important to recognize that transportation is inter-related with many other sections of this plan, including land use, energy, recreation, and housing.

Table 5.1: Commuting Time to Work (1990 – 2012)

	Bakersfield						Franklin County					
	1990		2000		2012		1990		2000		2012	
Minutes to Work	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
less than 10 minutes	58	12.8	54	9.8	31	4.6	4,344	25.1	4,604	22	4,208	18.2
10 – 14 minutes	35	7.7	22	4.0	17	2.5	2,441	14.1	2,691	13	2,822	12.2
15 – 19 minutes	33	7.3	45	8.2	58	8.6	2,259	13.0	2,304	11	2,533	11.0
20 – 29 minutes	77	17.0	142	25.8	154	22.9	2,228	12.9	3,122	15	3,341	14.5
30 – 44 minutes	104	22.9	127	23.0	177	26.3	3,660	21.1	4,925	23	5,722	24.8
Greater than 45 min.	147	32.4	161	29.2	235	35.0	2,404	13.9	3,678	15	4,461	19.3
Mean travel time to work	31 min		32.6 min		No Longer Available		21.6		25.6		No Longer Available	

Source: US Census of Population 1990 and 2000; American Community Survey 2008-2012

Travel to Work

On average, workers in Bakersfield traveled 32.6 minutes to get to work in 2000 (Table 5.1). This figure was not collected in the 2010 Census. In 1990, it took 12% of workers (58 people) less

than 10 minutes to get to work. By 2012, this number decreased to 4.6% of workers (31 people). Meanwhile, the commute times longer than 20 minutes increased in Bakersfield. The most significant increase between 1990 and 2012 is seen in the 20-29 minutes interval. This category increased from 17% of workers (77 people) to 22.9% of workers (154 people). Commutes of over 45 minutes also increased by around 90 people between 1990 and 2012.

Table 5.2: Work Destinations

Destination	Percent (%) of Bakersfield Workers - 2000	Percent (%) of Bakersfield Workers - 2011
Total Franklin County	***65.10%***	***35.8%***
Bakersfield	19.30%	1.6%
St. Albans City	20.47%	10.0%
St. Albans Town	N/A	7.7%
Enosburg	8.22%	4.6%
Richford	2.01%	0.9%
Swanton	3.19%	1.6%
Other Franklin County	11.58%	9.4%
Total Chittenden County	24.5%	***39.9%***
Burlington	5.37%	10.0%
Essex	8.56%	6.3%
South Burlington	2.68%	6.2%
Williston	3.36%	5.3%
Other Chittenden County	4.53%	12.1%
Total Lamoille County	***7.89%***	***4.7%***
Total Windsor County	***N/A***	***4.0%***
Source: 2000 US Census and 2011 US Census "On the Map" Tool		

According to the 2000 Census, the majority of Bakersfield residents worked within Franklin County (Table 5.2). Per 2011 data, this has changed dramatically with only 35.8% of workers working in Franklin County. About 40% of workers in 2011 commuted to Chittenden County compared to almost 25% in 2000. The percentage of workers in Bakersfield has also dropped dramatically between 2000 and 2011 (19.3% to 1.6%).

In 2012, 76.2% of workers in Bakersfield drove to work alone using either a car, truck, or van (Table 5.3). This is near identical to the 2000 figure of 77%, yet higher than in 1990 (64%). The percentage of Bakersfield residents who worked at home dropped from 2000 to 2012 after remaining steady from 1990 to 2000. Only 5.2% of Bakersfield residents as of 2012 works from home. This is similar to the county-wide rate of 5.1% Carpooling is still not a habit for Bakersfield commuters. However, the percentage of carpooling commuters increased between 2000 and 2010. The reason for the low number of carpooling commuters is unknown. A possibility could be the lack of commercial establishments in town forces commuters to complete errand outside of town after work hours.

While the clustering of development helps decrease transportation costs, it is not the only answer. Most residents travel to Enosburg, Swanton, St Albans, or Chittenden County for

employment, entertainment, medical needs, or supplies. Car-pooling is beneficial for these residents not only because it conserves fuel, but also because it reduces wear and tear and maintenance costs on individual vehicles.

One important component of any car-pooling program is the provision of a location where car-poolers can leave their vehicles. Currently, there is only one formal designated "park and ride lot" in Northern Franklin County. The lot is located in Enosburg on VT Route 105 near the National Guard Armory.

Table 5.3: Transportation Type Used in Commuting to Work

	Bakersfield			Franklin County		
	1990	**2000**	**2012**	**1990**	**2000**	**2012**
Percent who drove alone	64%	77%	76.2%	66.70%	73.30%	75.5%
Percent in carpools	23%	12%	14.4%	17.40%	16.50%	13.5%
Percent using public transportation	0%	0%	1.3%	0.60%	0.20%	0.4%
Percent who walked or biked	4%	2%	1.3%	0.70%	0.40%	4.1%
Percent using other means	0%	1%	1.7%	1.30%	0.30%	1.4%
Percent who worked at home	8%	8%	5.2%	7.30%	5.50%	5.1%

Source: US Census of Population 1990 and 2000 and American Community Survey 2008-2012

Town Road System

Vermont's local roads are classified according to their importance and general use. This classification system applies to all town highways, and is used to determine the amount of state highway assistance provided to each community. The Bakersfield road system is depicted on Figure 5.1.

Table 5.4 Road Mileage in Bakersfield	
State/Federal Highways	
U.S. Rt. 108	8.03
Vt. Rt. 36	2.51
Town Highways	
Class 1	0
Class 2	9.36
Class 3	31.81
Class 4	9.86

Table 5.4 shows the classification of roads in Bakersfield. Class 1 roads are those highways that are the responsibility of the town to maintain, while being extensions of the state highway system and carrying a state highway route number. Bakersfield currently has no Class 1 roads. The roads that are designated as Class 2 serve as important corridors between towns, and consequently carry a large volume of local and regional traffic. East Bakersfield Road and the Boston Post Road are both Class 2 roads. Many of Bakersfield's roads are considered Class 3 roads. These roads are generally unpaved, but are passable year-round by standard passenger vehicles. Class 4 roads receive little or no maintenance and may be impassable during winter and "mud season."

The town of Bakersfield currently has an ATV Ordinance that allows ATVs on Class 3 and 4 Roads. ATVs are used primarily as recreation vehicles and not strictly for transportation, with much of the traffic coming from out of town drivers. Many farmers and maple producers use them for access to areas of their properties. Operation of ATVs on the roads of Bakersfield, however, should be allowed for Bakersfield residents only. Operators with a registered vehicle would be required to obtain a permit from the town clerk's office for this privilege. Air and sound pollution would be greatly reduced on sunny weekends on our back roads.

The most direct route between Bakersfield and communities to the east, including Johnson, is the Waterville Mountain Road. However, during the winter months, this road becomes impassable. The decision of whether or not this road should remain open year-round will likely be an important issue for the town in next several years. While this may be desirable for Bakersfield residents working in Lamoille County, there is also concern that opening up this road will create additional development pressure in the mountainous sections of Bakersfield. Keeping the road open and maintained would also require additional coordination between the town of Bakersfield and the town of Waterville in regard to plowing and maintenance.

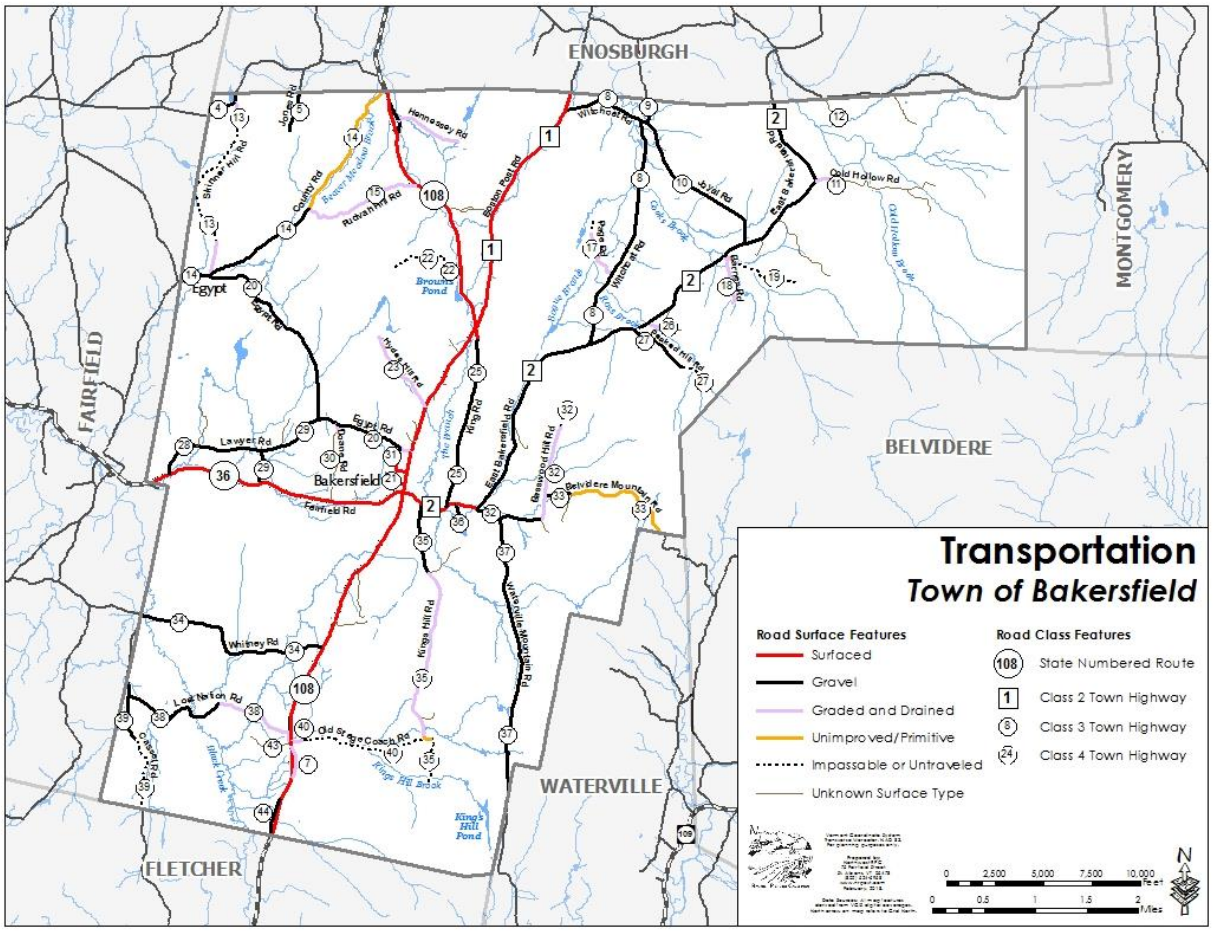


Figure 5.1. Bakersfield Transportation System Map

Public Transportation

The town of Bakersfield is not serviced by fixed public transit. The Northwest Vermont Public Transit Network (Network) offers public transit for Franklin County and Grand Isle County. The Network has established subscription service between Richford and St. Albans and a fixed route service known as the St. Albans City Loop. Elderly residents and those eligible for Medicaid may connect with subscription service by calling the Network.

Presently, the nearest rail service for freight is in Richford (Canadian Pacific). The nearest passenger rail service is Amtrak's Vermonter which stops in St. Albans and travels south to New York City and Washington D.C with connections to Boston and other locations on the east coast. Travelling via rail to Montreal is possible on Amtrak's Adirondack line. The closest station on this line is in the Plattsburg, NY area. The Chittenden County Transportation Authority (CCTA) offers regular bus service between Jeffersonville in Lamoille County and St. Albans to Burlington four times daily during the week. There is no weekend bus service on these routes.

Burlington International Airport, approximately 45 miles to the southwest, is the closest airport with national and international connections. Trudeau Airport is located about two hours to the north in Montreal, Quebec.

Pedestrian and Bike Facilities

A 2004 feasibility study looked at ways to improve safety and mobility for pedestrians in the village area and connect the school, town hall, post office and library with residences and businesses along VT 108. The proposed improvements to VT 108 sidewalks was a huge project with the southern end at Larry's Tree Farm and the northern end stopping just short of the Methodist Church. In 2005, the town received a grant from the Vermont Agency of Transportation to design and construct 1,240 feet of sidewalk. In 2012, the sidewalks were completed and they consist of two segments: along VT 108 from the Brigham Library to East Bakersfield Road, and along the west side of VT 108 in front of Brigham Academy across from the library. The project includes sidewalk construction, curbing, crosswalks, landscaping as needed, and signs. Construction of these segments of the sidewalk was completed in 2011(. There are currently no specific bike trails or facilities available in Bakersfield. The Bakersfield Conservation Commission has created the Bakersfield Town Park adjacent to the Maple Grove Cemetery. The park has walking trails for recreational use. The Lamoille Valley Rail Trail is currently in the planning phase, however this is considered to be also a recreational resource, rather than a meaningful transportation option.

Goals:

- To provide and maintain a safe, convenient, cost-effective, and functional transportation network for vehicular, pedestrian, and recreational use within the town
- To promote public transit and carpooling and to provide commuter parking

Policies:

- Assure the town's ability to provide public safety for any development by town regulation of all classes of roads, including access to private roads

- Maintain town roads according to a systematic review of condition and levels of use
- Reclassify Class 4 roads, which are not expected to serve public uses for motorized traffic, to legal trail status so that they may continue to be used for recreational uses and the right of way kept for future use
- Provide road signs, where necessary, for safety and traffic control purposes
- Assess the traffic impact of any new development on local roads before granting building or subdivision permits
- Limit road or driveway extension into important resource areas, including critical natural areas, wellhead protection areas, large blocks of intact forest, and important agricultural lands
- Design all future roads, including culverts and ditching, that are to be taken over and/or maintained by the town to standards approved by the Selectboard
- Maintain the scenic character of the town's rural byways
- Participate in the Northwest Regional Planning Commission's Transportation Advisory Committee (TAC)
- Encourage the expansion of the sidewalks within the village, including the current Bakersfield Sidewalk Project, to provide improved pedestrian access and safety
- Reduce the speed limit to 25 miles/hour within the Village District
- The Town should explore the possibility of changing the recreational ATV ordinance

Chapter 6. Energy

Enhanced Energy Plan

The intent of this section is to meet the municipal determination standards for enhanced energy planning enabled in 24 V.S.A. 4352. The purpose of enhanced energy planning is to further regional and state energy goals, including the goal of having 90% of energy used in Vermont come from renewable sources by 2050 (90 x 50 goal), and the following:

A. *Vermont's greenhouse gas reduction goals under 10 V.S.A. § 578(a);*
B. *Vermont's 25 by 25 goal for renewable energy under 10 V.S.A. § 580;*
C. *Vermont's building efficiency goals under 10 V.S.A. § 581;*
D. *State energy policy under 30 V.S.A. § 202a and the recommendations for regional and municipal energy planning pertaining to the efficient use of energy and the siting and development of renewable energy resources contained in the State energy plans adopted pursuant to 30 V.S.A. §§ 202 and 202b (State energy plans); and*
E. *The distributed renewable generation and energy transformation categories of resources to meet the requirements of the Renewable Energy Standard under 30 V.S.A. §§ 8004 and 8005; and*

A positive determination of compliance with the requirements of enhanced energy planning, as provided by the Regional Planning Commission, will enable Bakersfield to achieve "substantial deference" instead of "due consideration" in Certificate of Public Good (CPG) proceedings for energy generation facilities (ex. wind facilities, solar facilities, hydro facilities, etc.) under Criteria (b)(1)-Orderly Development. In short, this means that Bakersfield will have a greater "say" in CPG proceedings before the Vermont Public Utilities Commission about where these facilities should or should not be located in the community.

To receive a positive determination of energy compliance, an enhanced energy plan must be duly adopted, regionally approved, and contain the following information:

A. An analysis of current energy resources, needs, scarcities, costs, and problems.
B. Targets for future energy use and generation.
C. "Pathways," or implementation actions, to help the municipality achieve the established targets.
D. Mapping to help guide the conversation about the siting of renewables.

This chapter will include the required analysis, targets, and mapping. The "pathways," or actions, have been included at the end of this chapter instead of the Implementation Chapter.

Energy Resources, Needs, Scarcities, Costs and Problems

The following subsection reviews each sector of energy use (thermal, transportation, electricity) and generation in Bakersfield.

Thermal Energy

An estimate of current residential thermal energy demand in Bakersfield, based on data from the American Community Survey (ACS 2011-2015), is shown in Table 6.1. The data shows that 41.8% of households in Bakersfield depend on fuel oil for home heating. Fuel oil and wood sources are estimated to heat almost 88.2% of homes in Bakersfield. Despite the ACS data, it should be noted that there is no natural gas access in Bakersfield. The nearest natural gas pipeline is located in Enosburg Falls and is not likely to be extended to Bakersfield.

Table 6.1 - Current Bakersfield Residential Thermal Energy Use

Fuel Source	Bakersfield Households (ACS 2011-2015)	Bakersfield % of Households	Bakersfield - Households Square Footage Heated	Municipal BTU (in Billions)
Natural Gas	2	0.4%	3,808	0
Propane	49	9.8%	82,736	5
Electricity	0	0.0%	0	0
Fuel Oil	209	41.8%	381,040	23
Coal	0	0.0%	0	0
Wood	232	46.4%	427,648	26
Solar	0	0.0%	0	0
Other	8	1.6%	15,232	1
No Fuel	0	0.0%	0	0
Total	500	100.0%	910,464	55

Estimates for commercial and industrial thermal energy use are more difficult to calculate due to the lack of accurate information available. An estimate of total commercial energy use (thermal and electricity) is provided in Table 6.2 and is based on data from the Vermont Department of Labor (VT DOL) and the Vermont Department of Public Service (VT DPS). According to NRPC, it is assumed that the majority of this energy use, 7 billion BTUs per year, is likely to be for thermal energy needs for commercial uses.

Table 6.2 - Current Bakersfield Commercial Energy Use

	Commercial Establishments in Bakersfield (VT DOL)	Estimated Thermal Energy BTUs per Commercial Establishment/year (in Billions) (VT DPS)	Estimated Thermal Energy BTUs by Commercial Establishments in Bakersfield/year (in Billions)
Municipal Commercial Energy Use	10	0.725	7

Electricity Use

An estimate of current electricity use in Bakersfield is shown in Table 6.3. This data is from 2016 and is available from Efficiency Vermont. Bakersfield electricity use has decreased since 2014 from 3.4 million kWh in 2014 to about 3.3 million kWh per year in 2016. According to Efficiency Vermont, the average residential usage per household has decreased from 7,793 kWh per year to 7,606 kWh per year between 2014 and 2016. Bakersfield's average residential usage in 2016 was about 500 kWh higher than the average regional residential kWh use.

Bakersfield is served by three electric utilities. Green Mountain Power provides service to the southern and western parts of town on VT Route 36 and VT Route 108. This includes the village area. The Village of Enosburg Falls Electric Department provides service to the northern part of town. Vermont Electric Cooperative provides service to the most rural parts of eastern and western Bakersfield.

Table 6.3 - Current Bakersfield Electricity Use

Use Sector	Current Electricity Use in Bakersfield - 2016 (Efficiency Vermont) (kWh)	Current Electricity Use (in Billion BTUs)
Residential	2,776,278	9.47
Commercial and Industrial	522,275	1.78
Total	3,298,553	11.25

Table 6.4 – Current Bakersfield Transportation Energy Use

Transportation Data	Municipal Data
Total # of Passenger Vehicles (ACS 2011-2015)	1,074
Average Miles per Vehicle (VTrans)	11,356
Total Miles Traveled	12,196,344
Realized MPG (2013 - VTrans 2015 Energy Profile)	18.6
Total Gallons Use per Year	655,717
Transportation BTUs (Billion)	79
Average Cost per Gallon of Gasoline in 2016 (NRPC)	$2.31
Gasoline Cost per Year	$1,514,707

Transportation

Table 6.4 contains an estimate of transportation energy use in Bakersfield. It's estimated that Bakersfield residents drive approximately 12.1 million miles per year and spend about $1.5 million on transportation fuel expenses per year. This calculation does not include expenses for commercially owned and operated vehicles.

As of January 2016, data from the Vermont Department of Motor Vehicles notes that there are between 1 and 4 electric vehicles within the Bakersfield zip code (part of town is served by Enosburgh and East Fairfield Post Offices).

Electricity Generation

There is currently 550 kW of electricity generation capacity from renewable generation facilities located in Bakersfield. This capacity results in approximately

Table 6.5 – Existing Renewable Electricity Generation		
Generation Type	**kW**	**kWh**
Solar	140	171,700
Wind	10	42,920
Hydro	0.00	0.00
Biomass	400	1,636,370
Other	0.00	0.00
Total Existing Generation	550	1,850,990

1,851,00 kWh of electricity generation per year.

Most of this generation is from a biomass (cow power) facility located in Bakersfield. The amount of electricity generation is roughly equal to the annual electricity use of about 276 households of the 500 households in Bakersfield based on information available from the U.S. Energy Information Administration (6696 kWh per VT household per year).

Table 6.5 organizes information about existing generation in Bakersfield by type of facility. Map 6.3 shows the location of all electricity generators in Bakersfield with a capacity greater than 15 kW. A full list of energy generators in Bakersfield can be found at the end of this chapter (Table 6.12).

Bakersfield has extremely limited access to electric transmission and three-phase distribution lines. These types of lines are used to transmit large quantities of electricity and are needed to serve large industrial users and commercial centers. The lack of access to this type of infrastructure in Bakersfield may make development of renewable energy facilities harder and less cost-effective than in other surrounding communities with more existing grid infrastructure. Map 6.2 shows the electricity transmission and three-phase distribution infrastructure in Bakersfield. The map shows a single three-phase distribution line in the town on the border with Fairfield along VT Route 36. There may also be additional access to three-phase distribution lines in northeast Bakersfield along Boston Post Road, but data from the Village of Enosburg Falls Electric Department does not show this infrastructure. Access to renewable generation resources, such as solar and wind, will be addressed below in the mapping section.

Targets for Use and Generation

The second required element of an enhanced energy plan is to create targets for future energy use. Northwest Regional Planning Commission worked with the Vermont Energy Investment Corporation (VEIC) and the Vermont Department of Public Service in 2016 to develop regional targets for future energy use and generation to meet the State of Vermont's 90 x 50 goal. The targets represent only one scenario that would meet this goal. There may be many different ways that would also enable Vermont to achieve the 90 x 50 goal. For more information about the regional targets, please see the Northwest Regional Energy Plan (www.nrpcvt.com).

Tables 6.6, 6.7 and 6.8 show the targets for future energy use for Bakersfield by sector (totals are cumulative). These municipal targets are based on regional targets that have been disaggregated to the municipal level.

One thermal target for Bakersfield in 2050 is to have 88.4% of structures be heated by renewable sources. Much of this transition is likely to come in the form of electric heat pumps as the primary heating source for single family homes as the technology becomes more readily available and affordable. Regionally, the target also relies on wood heating being a continued source of residential heating. However, Bakersfield does not have a target for new efficient wood heat systems. This is due primarily to the high proportion of existing households in Bakersfield that already use wood heating systems. Although there is no target, Bakersfield strongly encourages the conversion of existing wood heating systems in Town to more advanced wood heating systems. Newer wood heating systems are more efficient and have less greenhouse gas emissions than older wood heating systems. There are also high targets for the weatherization of residential households and commercial structures (78% and 73% respectively in 2050).

Table 6.6 - Thermal Targets

Thermal Targets	2025	2035	2050
Percent of Total Heating Energy From Renewable Sources - Heating (BTUs)	46.7%	60.4%	88.4%
New Efficient Wood Heat Systems (in units)	0	0	0
New Heat Pumps (in units)	60	136	255
Percentage of municipal households to be weatherized	5%	41%	78%
Percentage of commercial establishments to be weatherized	25%	49%	73%

The transportation energy targets for Bakersfield are similarly ambitious. By 2050, almost 86.9% of transportation energy will need to come from renewable sources. This will primarily be done through conversion to electric vehicles from fossil fuel vehicles for light-duty, passenger vehicles. However, it will also mean conversion of heavy-duty vehicles (trucks) from diesel to biodiesel sources. Both electric vehicle and biodiesel technology will certainly need to advance considerably in order to meet this ambitious target. The targets in Table 6.7 may need to be adjusted in the future to reflect the greater need for heavy-duty vehicles in Bakersfield given the community's rural roads and its geographic location as compared to electric vehicles.

Table 6.7 - Transportation Targets

Transportation Targets	2025	2035	2050
Percent of Total Transportation Energy from Renewable Sources - Transportation (BTUs)	5.3%	23.6%	86.9%
Electric Vehicles	94	704	1674
Biodiesel Vehicles	67	131	247

Targets for electricity use are more complex to interpret. Electricity use in Bakersfield is targeted to double by 2050 (Table 6.8). This increase in use will likely be driven by conversions

to electric heat pumps and electric vehicles. These consumer changes will cause electricity use to grow. At the same time, total energy use (energy, not electricity) will become more efficient. This is because electric cars and electric heating sources are more efficient than using other energy sources, such as fossil fuels.[2]

Table 6.8 - Electricity Targets			
Electricity Targets	**2025**	**2035**	**2050**
Increased Efficiency and Conservation (BTUs)	25.2%	48.3%	100.7%

Table 6.9 shows the electricity generation targets for new electricity generation in Bakersfield in 2025, 2035, and 2050. All new wind, solar, hydro, and biomass electricity generation sites will further progress towards achieving the generation targets (in MWh). Given the difficulty of developing additional hydro generation, and the constraints upon wind development, it is likely that solar generation will need to be a substantial component of meeting these generation targets. Meeting the generation targets will take considerable effort over the next 30 to 35 years. The 2050 generation target (12,961.62 MWh) is about 7 times more than the current generation capacity (1,850 MWh) within the Town of Bakersfield.

Table 6.9 – Renewable Electricity Generation Targets			
Renewable Generation Targets	**2025**	**2035**	**2050**
Total Renewable Generation Target (in MWh)	4,262.48	8,524.97	12,916.62

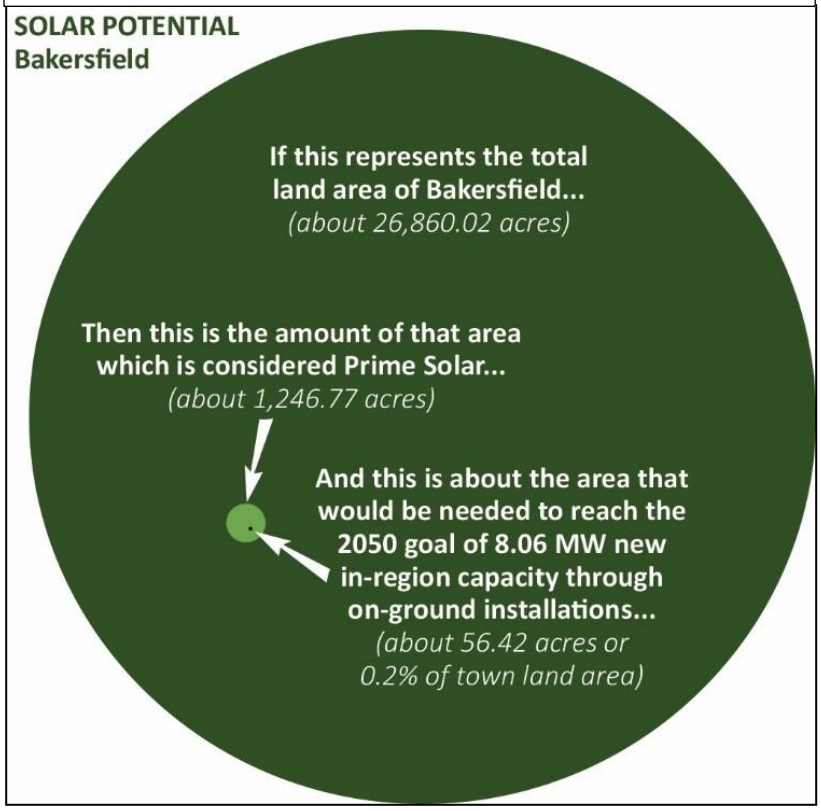
Bakersfield has sufficient land to meet the above generation targets based on mapping and calculations completed by NRPC. Bakersfield has access to the renewable electricity generation capacity outlined in Table 6.10. This estimate shows that Bakersfield has considerably more potential for renewable electricity generation than what is needed to meet the renewable electricity generation targets in Table 6.9. This generation capacity was calculated using the "base" layers for solar and wind. For an explanation of what constitutes a "base" layer, please see the mapping subsection below.

Table 6.10 - Renewable Electricity Generation Potential		
Resource	**MW**	**MWh**
Rooftop Solar	1	675
Ground-mounted Solar	288	352,686
Wind	160	490,652
Hydro	0.03	119
Biomass and Methane	0	0
Other	0	0
Total Renewable Generation Potential	448	844,132

[2] Vermont Department of Public Service. "2016 Vermont Comprehensive Energy Plan." 2016. p. 44.

Bakersfield supports NRPC's position regarding "commercial" and "industrial" wind facilities. The NRPC Regional Plan finds that the construction of new "industrial" or "commercial" wind facilities within the region does not conform to the Regional Plan (NRPC considers any wind facility with a tower height (excluding blades) in excess of 100 feet tall to be considered an "industrial" or "commercial" wind facility).

Figure 6.1 – Ground Mounted Solar Potential in Bakersfield



Energy potential from biomass and methane sources is not estimated. This is due to a variety of factors including insufficient information on which to create estimates. Bakersfield encourages the use of these sources for electricity and thermal generation, especially on farms.

Mapping Energy Resources and Constraints

The third required element of an enhanced energy plan is the inclusion of maps that will provide guidance to the community and developers regarding the location of new renewable generation facilities. Bakersfield has incorporated maps provided to them by NRPC. These maps show data as required by the Department of Public Service Determination Standards, including access to energy resources and constraints to renewable development, and are a required element of enhanced energy planning. All maps may be found in at the end of this chapter.

The intent of the maps is to generally show those areas that may be good locations, or may be inappropriate locations, for future renewable generation facilities. However, it is important to note that the maps are a planning tool and do not precisely indicate locations where siting a facility is necessarily acceptable. When a generation facility is proposed, the presence of all natural resources constraints on site shall be verified as a part of the application.

Mapping Methodology

Spatial data showing the location of energy resources formed the basis of the maps developed by NRPC. This is the data that shows where there is solar, wind, hydro, and biomass "potential."

"Known" and "possible" constraints were subsequently identified on the maps. Known constraints are conservation resources that shall be protected from all future development of renewable generation facilities. Possible constraints are conservation resources that shall be protected, to some extent, from the development of renewable generation facilities. The presence of possible constraints on land does not necessarily impede the siting of renewable generation facilities on a site. Siting in these locations could occur if impacts to the affected possible constraints are mitigated, preferably on-site.

A full list of known and possible constraints included on the maps is located in Table 6.11. The known constraints and possible constraints used to create the maps include constraints that are required per the State Determination Standards from the Department of Public Service and regional constraints that were selected by NRPC. The Conservation District for Bakersfield was included as regional possible constraint.

Solar and Wind

The solar and wind maps show both "base" and "prime" areas. Base areas are areas with generation potential, yet may contain possible constraints. Prime areas are areas that have generation potential that do not contain known or possible constraints. Areas that do not contain generation potential, and areas that contain a known constraint, are shown as white space on the map.

The solar map indicates a general concentration of base and prime solar areas west of VT Route 108. The vicinity of Joyal Road and East Bakersfield Road also includes some base and prime areas. Bakersfield has identified the following preferred locations for solar generation facilities: rooftops, parking lots, and landfills. Brownfield sites located outside of the village are also considered preferred locations.

Bakersfield has a strong preference for solar facilities that have less than 5 MW in generation capacity. This preference is a reflection of the community's dedication to preserving the aesthetic and rural qualities of Bakersfield by restricting the geographic size of solar facilities. In addition, Bakersfield prefers that solar facilities greater than 149 kW in generation capacity to be sufficiently separated from other similarly sized solar facilities to "break up" the visual impact of two or more solar facilities located next to each other. It is expected the most solar facilities proposed in Bakersfield in the future will be small enough to be net-metered projects due to the fact that the Town lacks three-phase electric distribution and electric transmission infrastructure.

All solar facilities to be sited in Bakersfield shall include proper screening. The Town of Bakersfield hopes to adopt a municipal solar screening ordinance in the near future.

There generally isn't much land available in Bakersfield that has base and prime wind resources. The small areas that do exist are generally concentrated in the northwest and the northeast parts of Bakersfield.

Hydro and Biomass

The biomass map is somewhat similar to the solar and wind maps. The biomass map also displays “base” and “prime” areas. However, these categories are not necessarily indicative of generation. They instead indicate areas of contiguous forest that may be used for the harvesting of woody biomass for use in either thermal or electric generation.

The hydro map is unique from the other types of generation maps. It shows existing dam sites used for electricity generation. It also shows existing dam sites that are not used for electricity generation, but could be retrofitted to provide generation capacity. Data about these dams comes from a study commissioned by the Vermont Agency of Natural Resources. The hydro map also shows some known and possible constraints that could impact the redevelopment of some dam sites.

Bakersfield has two existing dam sites. The dams are both privately owned and are not currently generating electricity. One dam is located on The Branch and other dam is located on Bogue Brook.

Conclusion

Achieving the 90 x 50 goal, and the other energy goals in state statute, will be difficult. Bakersfield is committed to playing its part in working towards accomplishing these goals and in creating a more sustainable, affordable, and secure energy future.

Goals

- Plan for increased electric demand with the support of local electric utilities and Efficiency Vermont.
- Reduce annual fuel needs and fuel costs for heating structures, to foster the transition from non-renewable fuel sources to renewable fuel sources, and to maximize the weatherization of residential households and commercial establishments.
- Hold vehicle miles traveled per capita to 2011 levels through reducing the amount of single occupancy vehicle (SOV) commute trips and developing public transit ridership.
- Focus growth within and adjacent to the village.

Policies

- Bakersfield supports energy conservation efforts and the efficient use of energy across all sectors.
- Bakersfield supports the reduction of transportation energy demand, reduction of single-occupancy vehicle use, and the transition to renewable and lower-emission energy sources for transportation.
- Bakersfield supports patterns and densities of concentrated development that result in the conservation of energy. This includes support of public transit connections from Bakersfield to other parts of the region and considering access to public transit when reviewing Act 250 applications.

- Bakersfield supports the development and siting of renewable energy resources in the Town that are in conformance with the goals, strategies, and mapping outlined in this plan. Development of generation in identified preferred locations shall be favored over the development of other sites.
- Bakersfield supports the conversion of fossil fuel heating to advanced wood heating systems or electric heat pumps.
- Support local farms and the local food system.

Implementation Actions

- Coordinate annually with Efficiency Vermont and state low-income weatherization programs to encourage residents to participate in weatherization programs available to Bakersfield residents.
- Promote the use of the residential and commercial building energy standards by distributing code information to permit applicants.
- Determine if there is a need to create a municipal Energy Committee, appoint an Energy Coordinator, or provide greater funding and support to existing municipal boards to coordinate energy-related planning in Bakersfield and to educate residents about the goals of this plan.
- Conduct an energy audit of municipal and other public buildings to identify weatherization retrofits and incorporate the recommendations into the municipal capital budget.
- Promote and provide information about the GoVermont website (https://www.connectingcommuters.org/) which provides information citizens about ride share, vanpool, and park-and-ride options.
- Study the creation of public transit routes in Bakersfield.
- Plan for and install electric vehicle charging infrastructure on municipal property.
- Review municipal road standards to ensure that they reflect the "complete streets" principles as outlined by Vermont Agency of Transportation and Vermont Department of Health (http://www.healthvermont.gov/sites/default/files/documents/2016/11/HPDP_PA&N%20Complete_streets_guide_for_VT_communities.pdf).
- Review local policies and ordinances to limit water services to those areas of town where additional development will not contribute to sprawl.
- Investigate the installation of a municipal solar and/or wind net-metering facilities to off-set municipal electric use.
- Investigate installation of a community-based renewable energy project.
- Provide firefighters with training in fighting fires on structures that have solar installed.
- Develop and adopted a municipal solar screening ordinance.
- Investigate the need for a municipal park and ride facility.

Table 6.11 – Mapping Constraints		
Solar, Wind and Biomass Maps - Known Constraints		
Constraint	**Description**	**Source**
Confirmed and unconfirmed vernal pools	There is a 600-foot buffer around confirmed or unconfirmed vernal pools.	ANR
State Significant Natural Communities and Rare, Threatened, and Endangered Species	Rankings S1 through S3 were used as constraints. These include all of the rare and uncommon rankings within the file. For more information on the specific rankings, explore the methodology for the shapefile.	VCGI
River corridors	Only mapped River Corridors were mapped. Does not include 50 foot buffer for streams with a drainage area less than 2 square miles.	VCGI
National wilderness areas		VCGI
FEMA Floodways		VCGI/NRPC
Class 1 and Class 2 Wetlands		VCGI
Designated Downtowns, Designated Growth Centers, and Designated Village Centers	These areas are the center of dense, traditional development in the region. This constraint does not apply to roof-mounted solar within such designated areas. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	NRPC
FEMA Flood Insurance Rate Map (FIRM) special flood hazard areas	Special flood hazard areas as digitized by the NRPC were used (just the 100-year flood plain - 500-year floodplain not mapped). The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	NRPC
Ground and surface waters drinking protection areas	Buffered Source Protection Areas (SPAs) are designated by the Vermont Department of Environmental Conservation (DEC). SPA boundaries are approximate but are conservative enough to capture the areas most susceptible to contamination. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Vermont Conservation Design Highest Priority Forest Blocks	The lands and waters identified here are the areas of the state that are of highest priority for maintaining ecological integrity. Together, these lands comprise a connected landscape of large and intact forested habitat, healthy aquatic and riparian systems, and a full range of physical features (bedrock, soils, elevation, slope, and	ANR

	aspect) on which plant and animal natural communities depend. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan. (Source: ANR)	
Public water sources	A 200-foot buffer is used around public drinking water wellheads. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR
Municipal Conservation Land Use Areas	Conservation Land Use Districts, as designated in municipal plans, that include strict language that strongly deters or prohibits development have been included as a regional known constraint. The inclusion of this resource as a regional constraint is consistent with the goals and policies of the Northwest Regional Plan. Specific municipal land use districts included are outlined in Section D.	NRPC
Solar, Wind and Biomass Maps - Possible Constraints		
Constraint	**Description**	**Source**
Protected lands	This constraint includes public lands held by agencies with conservation or natural resource oriented missions, municipal natural resource holdings (ex. Town forests), public boating and fishing access areas, public and private educational institution holdings with natural resource uses and protections, publicly owned rights on private lands, parcels owned in fee by non-profit organizations dedicated to conserving land or resources, and private parcels with conservation easements held by non-profit organizations.	VCGI
Deer wintering areas	Deer wintering habitat as identified by the Vermont Agency of Natural Resources.	ANR
Hydric soils	Hydric soils as identified by the US Department of Agriculture.	VCGI
Agricultural soils	Local, statewide, and prime agricultural soils are considered.	VCGI
Act 250 Agricultural Soil Mitigation Areas	Sites conserved as a condition of an Act 250 permit.	VCGI
Class 3 wetlands	Class 3 wetlands in the region have been identified have been included as a Regional Possible Constraint. The inclusion of this resource as a regional constraint is consistent with goals and policies of the Northwest Regional Plan.	ANR

Municipal Conservation Land Use Areas	Conservation Land Use Districts, as designated in municipal plans, that include strict language that deters, but does not prohibit development, have been included as a regional possible constraint. Specific municipal land use districts included are outlined in Section D. The Conservation District as identified in the Bakersfield Town Plan was included in this category.	NRPC
Hydro Map - Known Constraints		
Constraint	**Description**	**Source**
None		
Hydro Map - Possible Constraints		
Constraint	**Description**	**Source**
"303d" list of stressed waters		ANR
Impaired waters		ANR
State Significant Natural Communities and Rare, Threatened, and Endangered Species	Rankings S1 through S3 were used as constraints. These include all of the rare and uncommon rankings within the file. For more information on the specific rankings, explore the methodology for the shapefile.	VCGI

The data in Table 6.12 displays facilities that have a Certificate of Public Good from the Vermont Utility Commission to generate electricity. The Town of Bakersfield recognizes that some of the data in the table may be out of date or incorrect. The Town of Bakersfield also recognizes that some identified facilities may no longer generate electricity. For the most up-to-date information about renewable energy facilities in Bakersfield, please visit the Vermont Community Energy Dashboard (https://www.vtenergydashboard.org/energy-atlas).

Table 6.12 - Bakersfield Electricity Generators (10.23.17)

Category	Sub Category	Capacity kW
Biomass	Anaerobic Digester	400
Solar	Ground-mounted PV	7
Solar	Ground-mounted PV	8.9
Solar	Ground-mounted PV	5.9
Solar	Ground-mounted PV	15
Solar	Ground-mounted PV	6
Solar	Ground-mounted PV	15
Solar	Ground-mounted PV	11.4
Solar	Ground-mounted PV: Tracker	6.8
Solar	Roof-Mounted PV	5

Solar	Roof-Mounted PV	5
Solar	Roof-Mounted PV	9.1
Solar	Roof-Mounted PV	7
Solar	Roof-Mounted PV	5.6
Solar	Roof-Mounted PV	6
Solar	Roof-Mounted PV	6.8
Solar	Roof-Mounted PV	6
Solar	Roof-Mounted PV	1.14
Solar	Roof-Mounted PV	3.8
Solar	Roof-Mounted PV	6
Solar	Roof-Mounted PV	7.25
Solar	Roof-Mounted PV	5
Solar	Roof-Mounted PV	5
Solar	Roof-Mounted PV	7.6
Solar	Roof-Mounted PV	9.2
Solar	Roof-Mounted PV	7.6
Solar	Roof-Mounted PV	10.4
Solar	Roof-Mounted PV	6
Wind	Small Wind	9.5
Wind	Small Wind	2

Utility Service Areas

Bakersfield, Vermont
Act 174
The Energy Development Improvement Act of 2016

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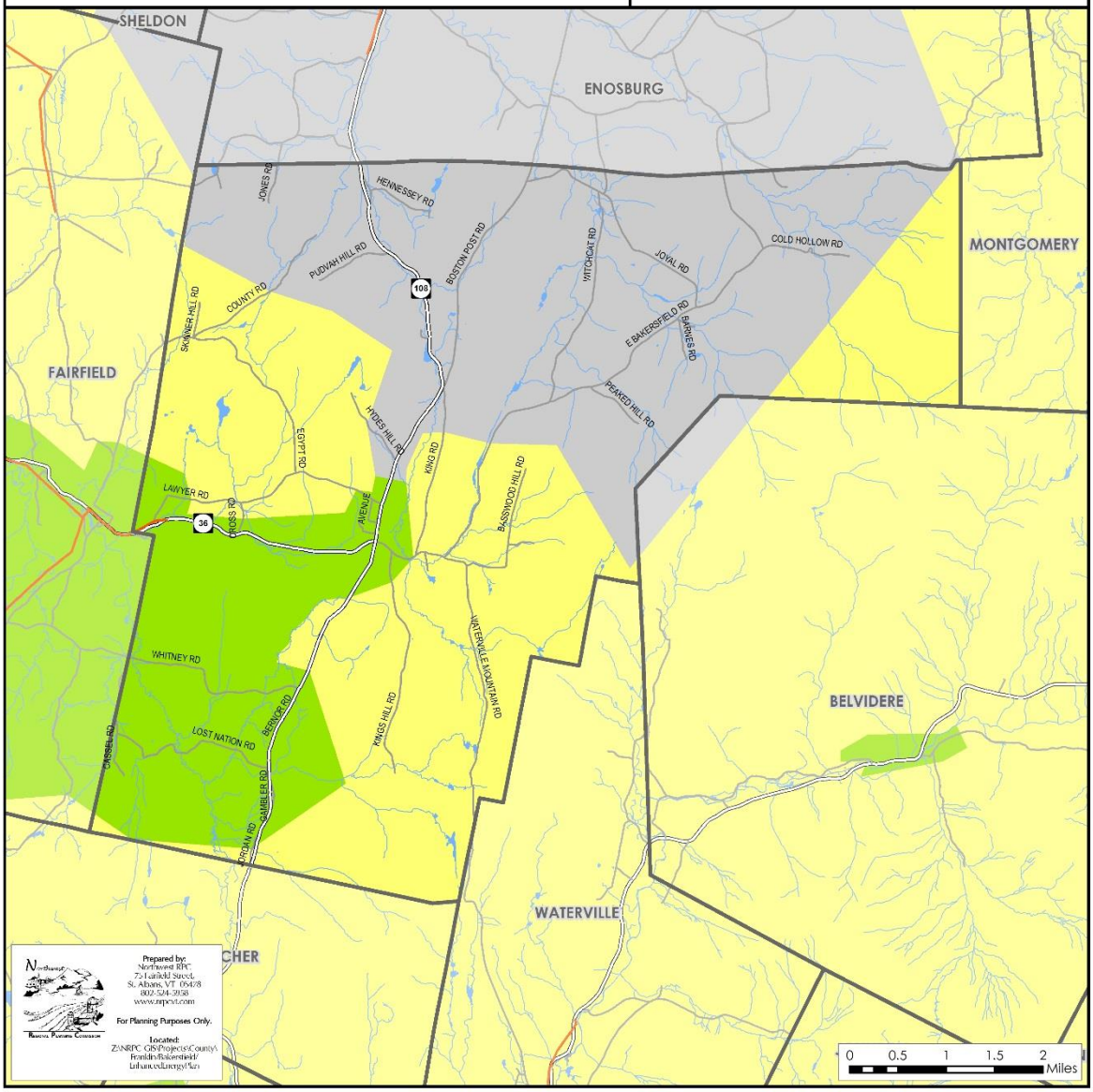
Figure 6.2

Legend

Utility Service Area Features

- Green Mountain Power
- Swanton Village Electric
- Vermont Electric Co-op
- Enosburg Falls Electric
- Substation
- 3 Phase Power Line
- Transmission Line

Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. 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.



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Transmission & 3 Phase Power Infrastructure

Bakersfield, Vermont
Act 174
The Energy Development Improvement Act of 2016

Figure 6.3

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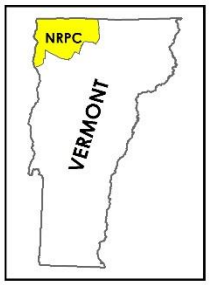
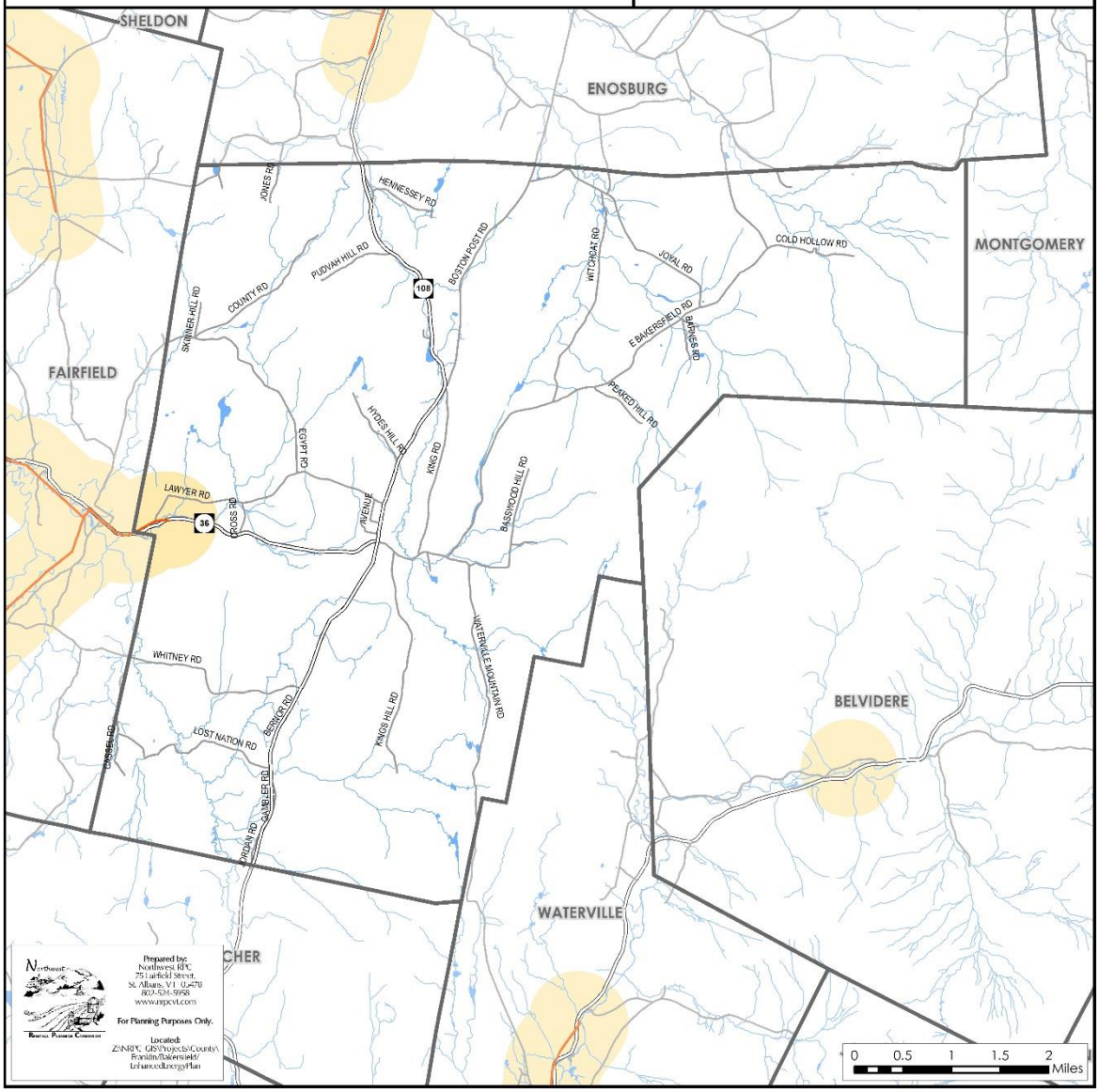


Legend

- Substation
- 3 Phase Power Line
- Transmission Line
- 1/2 Mile Buffer (3 Phase Power Line & Transmission Line)

Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. 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.



Existing Generation Facilities

Bakersfield, Vermont
Act 174
The Energy Development Improvement Act of 2016

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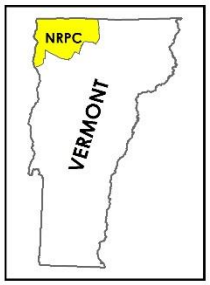


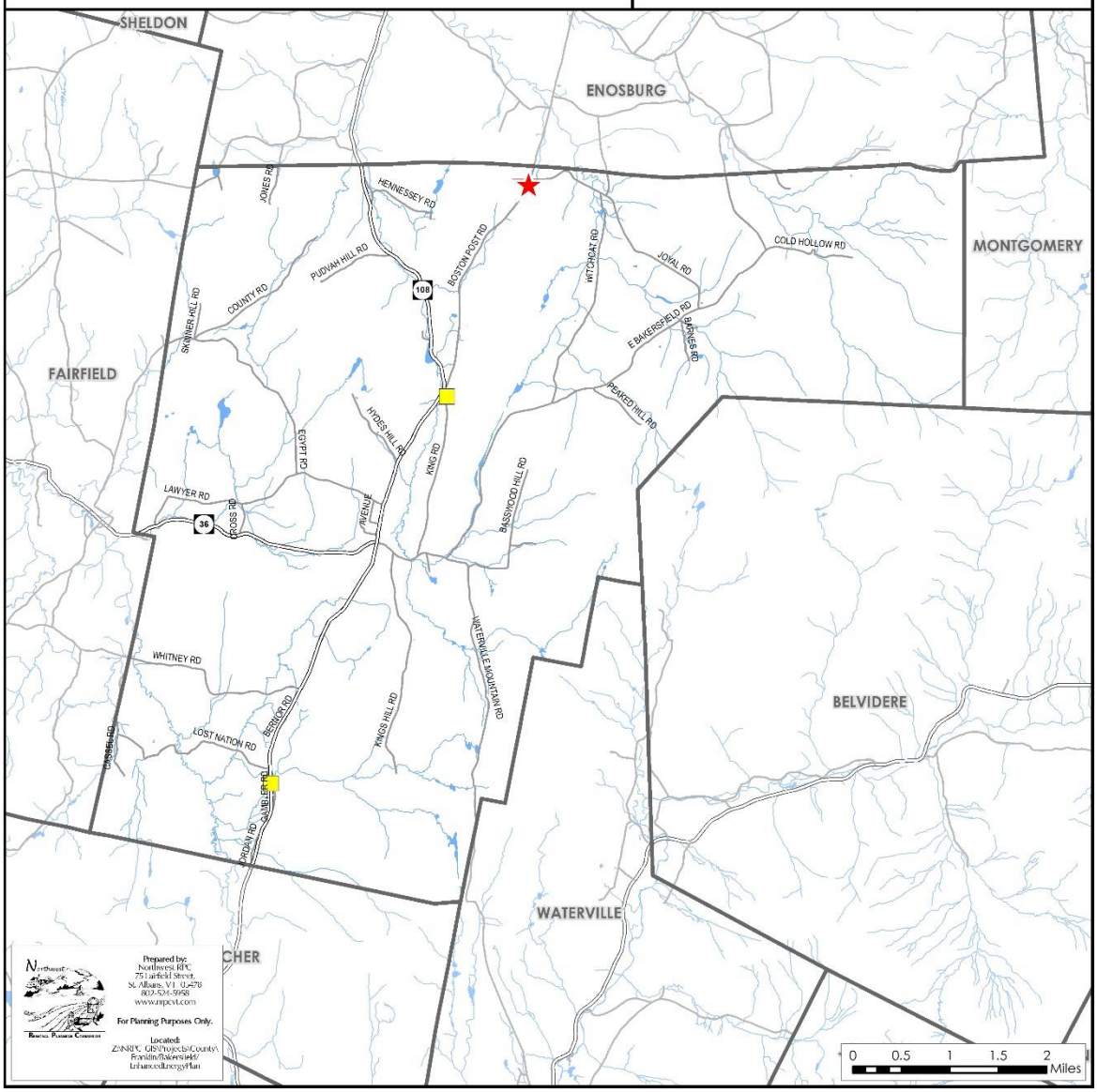
Figure 6.4

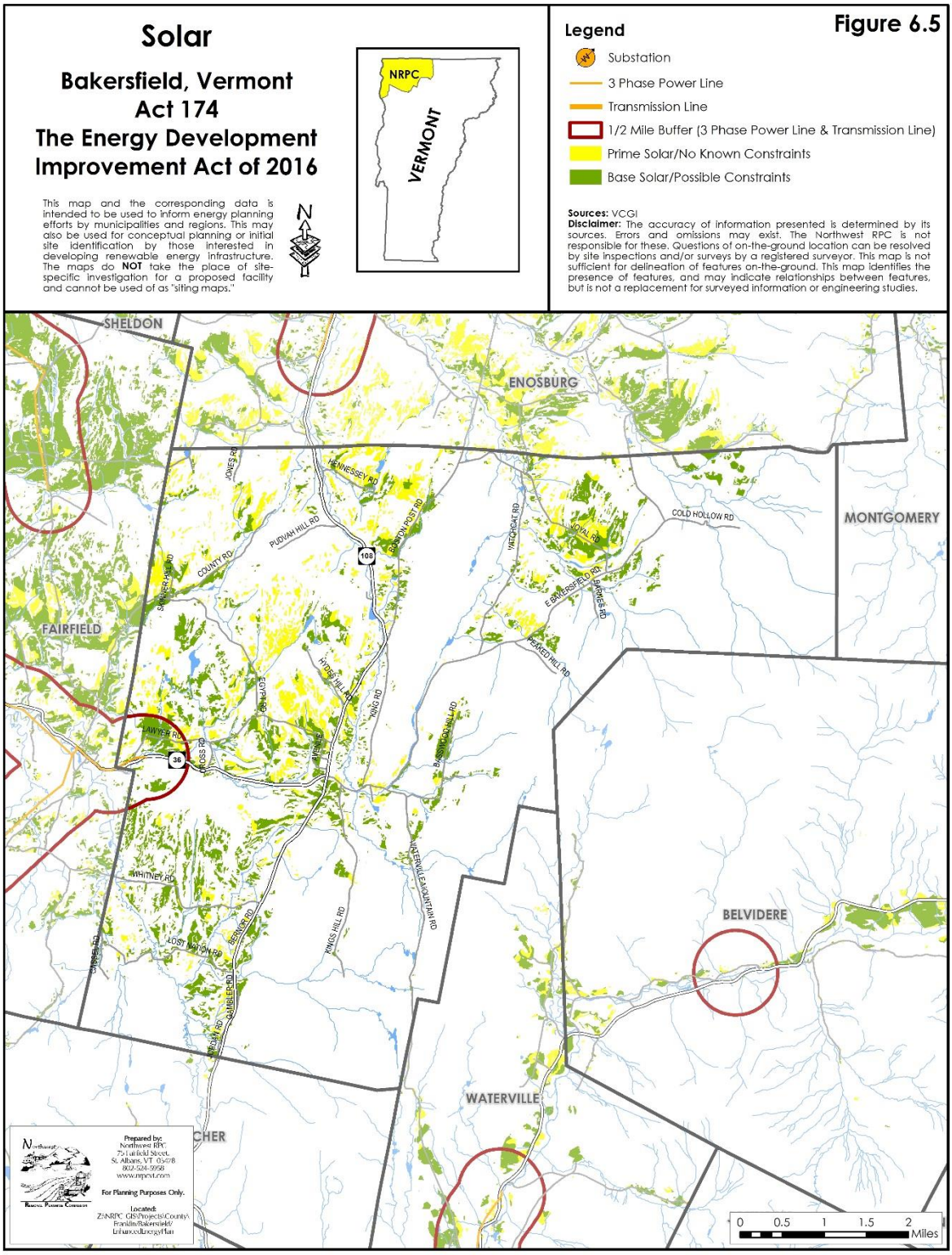
Legend

- Biomass Facility
- Hydro Facility
- Solar Facility
- Wind Facility

Note: Only generators 15kW are shown on the map. A full list of all generators is available.

Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. 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.




Solar
Bakersfield, Vermont
Act 174
The Energy Development
Improvement Act of 2016
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N
NRPC
VERMONT
Figure 6.5
Legend
Substation
3 Phase Power Line
Transmission Line
1/2 Mile Buffer (3 Phase Power Line & Transmission Line)
Prime Solar/No Known Constraints
Base Solar/Possible Constraints
Sources: VCGI
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SHELDON
ENOSBURG
MONTGOMERY
FAIRFIELD
BELVIDERE
WATERVILLE
JONES RD
HENNESSEY RD
PUDVAH HILL RD
COUNTY RD
SAWYER RD
ASHTON POST RD
WESTCHESTER RD
COLD HOLLOW RD
JOVAL RD
E BAKERSFIELD RD
BARNES RD
PEAKED HILL RD
HYDE HILL RD
EGYPT RD
KING RD
LAWYER RD
CROSS RD
BLISTOCK HILL RD
WHITNEY RD
WATERVILLE MOUNTAIN RD
LOST NATION RD
BERLIN RD
KINGS HILL RD
SCHOOL RD
BAMBLER RD
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36
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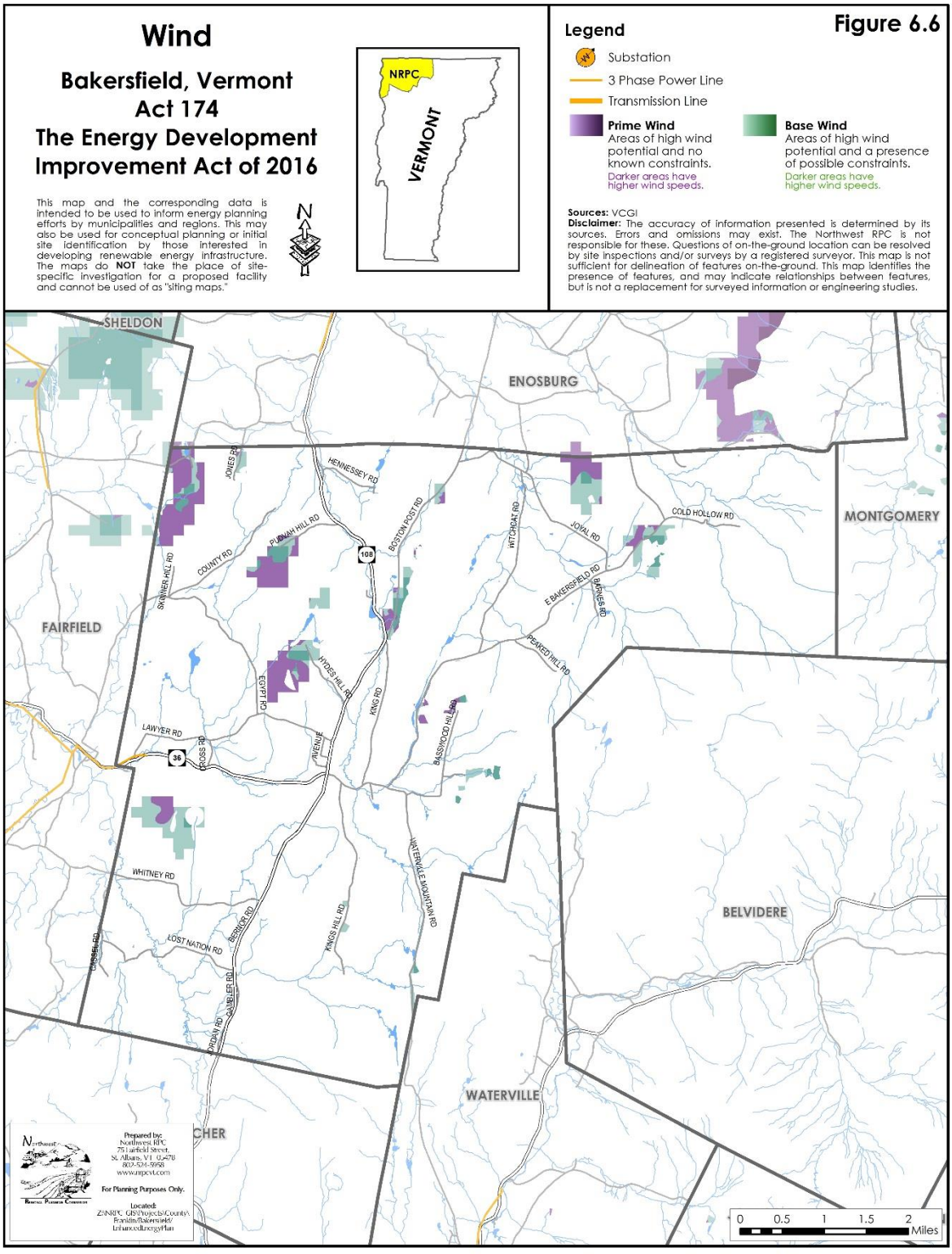
0 0.5 1 1.5 2
Miles


Wind
Bakersfield, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
NRPC
VERMONT
Figure 6.6
Legend
Substation
3 Phase Power Line
Transmission Line
Prime Wind
Areas of high wind potential and no known constraints.
Darker areas have higher wind speeds.
Base Wind
Areas of high wind potential and a presence of possible constraints.
Darker areas have higher wind speeds.
Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. 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.
SHELDON
ENOSBURG
MONTGOMERY
FAIRFIELD
BELVIDERE
WATERVILLE
HENNESSEY RD
JONES RD
PUDNEY HILL RD
BOSTON POST RD
COUNTY RD
SKINNER HILL RD
WITCHCRAFT RD
JOYAL RD
COLD HOLLOW RD
E BAKERSFIELD RD
BARNES RD
PEAKED HILL RD
HYDES HILL RD
EGYPT RD
KING RD
LAWYER RD
CROSS RD
AVENUE
BASSWOOD HILL RD
WHITNEY RD
WATERVILLE MOUNTAIN RD
KINGS HILL RD
LOST NATION RD
BERRICK RD
CHAMBLER RD
JORDAN RD
CHAMBERLIN RD
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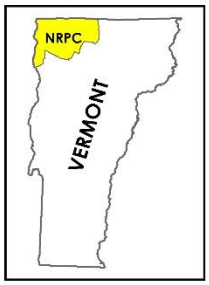
0 0.5 1 1.5 2
Miles

Woody Biomass

Bakersfield, Vermont
Act 174
The Energy Development Improvement Act of 2016

Figure 6.7

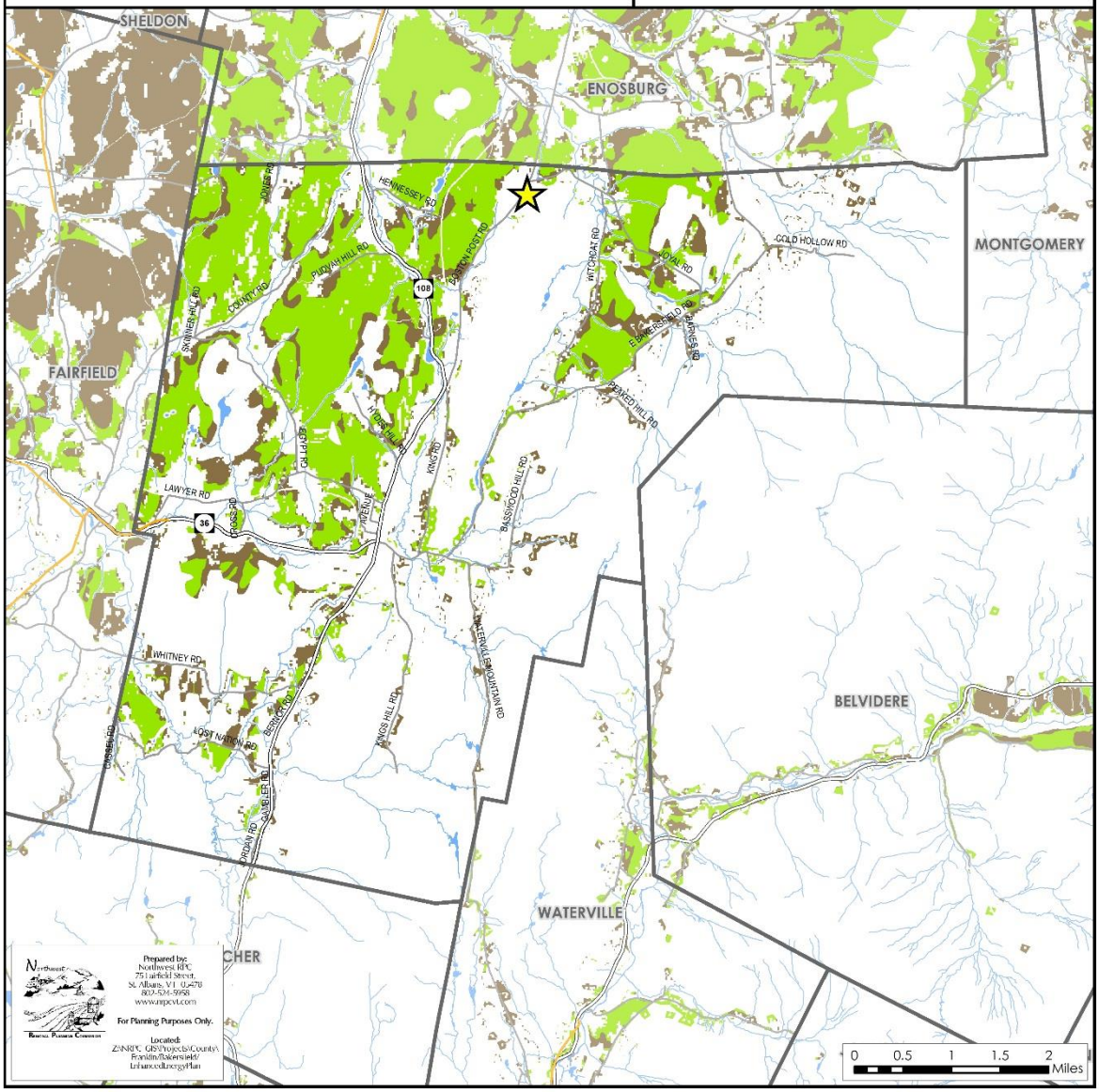
This map and the corresponding data is intended to be used to inform energy planning efforts by municipalities and regions. This may also be used for conceptual planning or initial site identification by those interested in developing renewable energy infrastructure. The maps do **NOT** take the place of site-specific investigation for a proposed facility and cannot be used of as "siting maps."

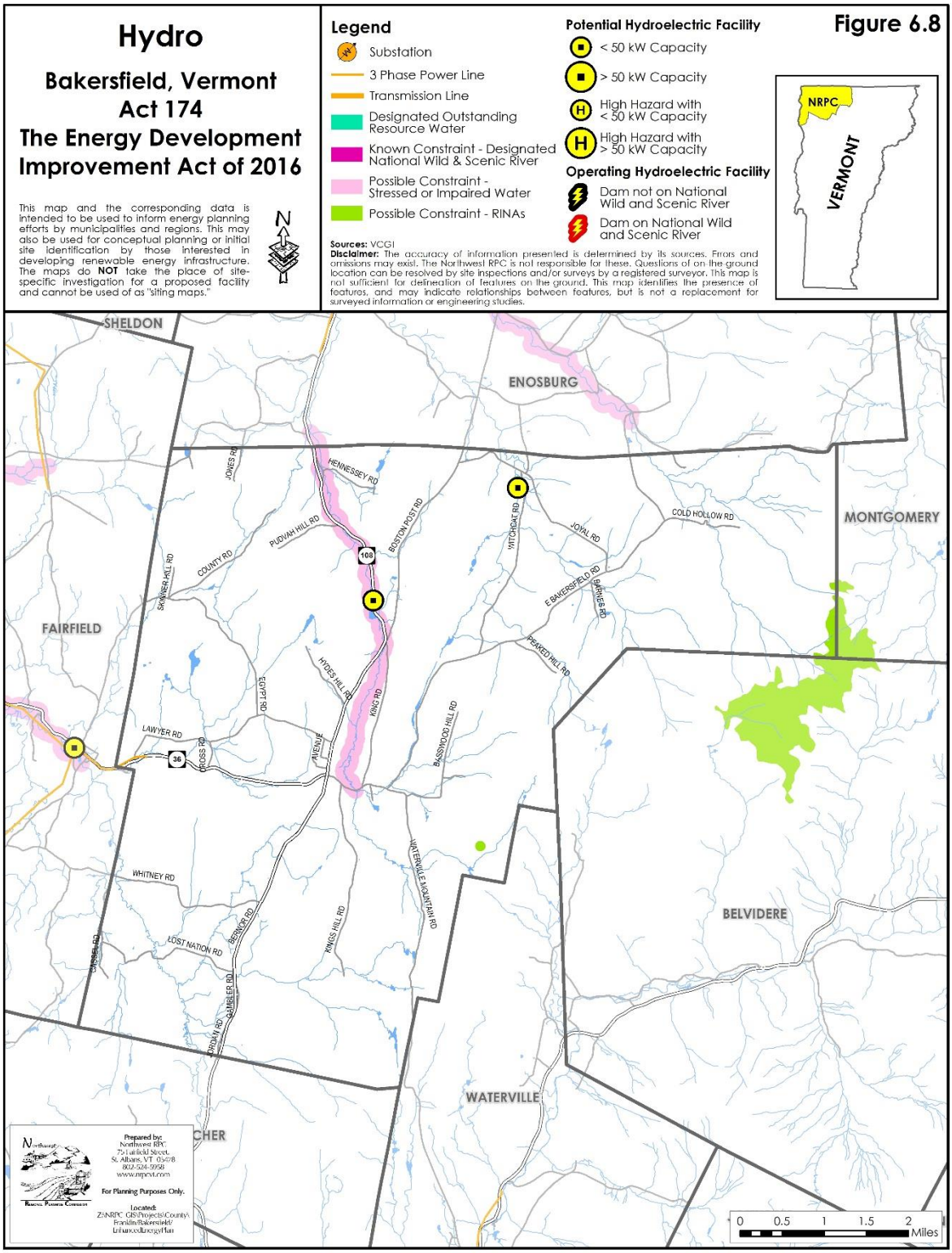


Legend

- Biomass System
- Cow Power
- Substation
- 3 Phase Power Line
- Transmission Line
- Prime Woody Biomass/No Known Constraints
- Base Woody Biomass/Possible Constraints

Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. 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.




Hydro
Bakersfield, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
Legend
Substation
3 Phase Power Line
Transmission Line
Designated Outstanding Resource Water
Known Constraint - Designated National Wild & Scenic River
Possible Constraint - Stressed or Impaired Water
Possible Constraint - RINAs
Potential Hydroelectric Facility
< 50 kW Capacity
> 50 kW Capacity
High Hazard with < 50 kW Capacity
High Hazard with > 50 kW Capacity
Operating Hydroelectric Facility
Dam not on National Wild and Scenic River
Dam on National Wild and Scenic River
Sources: VCGI
Disclaimer: The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Northwest RPC is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. 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.
Figure 6.8
NRPC
VERMONT
SHELDON
ENOSBURG
MONTGOMERY
FAIRFIELD
BELVIDERE
WATERVILLE
HENNESSEY RD
JONES RD
PUDVAH HILL RD
BOSTON POST RD
WITCHCAT RD
JOYAL RD
COLD HOLLOW RD
COUNTY RD
SKINNER HILL RD
E BAKERSFIELD RD
BARNES RD
PEAKED HILL RD
HYDES HILL RD
KING RD
SCOTT RD
LAWYER RD
CROSS RD
AVENUE
BASSWOOD HILL RD
WATERVILLE MOUNTAIN RD
WHITNEY RD
LOST NATION RD
BERNOR RD
KINGS HILL RD
GAMELIER RD
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Chapter 7. Education and Childcare

Caring for and educating our children is a high priority for the Town of Bakersfield. The town has a strong history as a center for academic excellence. Today, approximately 28% of Bakersfield's population is below the age of 19 and providing a high quality education and safe and accessible facilities continues to be a priority for the community.

It is the towns' responsibility and in its best interest to provide for the education of its school population without overcrowding, inefficient division of basic education facilities, or reduction in the quality of its educational programs. Through careful planning and growth management, the town can ensure that it is able to continue to provide high quality education to our children.

Childcare Services

Bakersfield has become primarily a bedroom community to the surrounding towns and cities. Therefore, finding high quality and affordable childcare is a growing concern for existing and prospective families. A 2005 Legislative Report from the Vermont Child Care Advisory Board reports that the average cost for center-based care in Vermont is $140.92 for infants and $125.71 for preschoolers per week. Statewide, more than 27 percent of low-earning families spend more than one fifth of their income on childcare.

Students load the bus at the Bakersfield Elementary School. Credit: Nancy Hunt.

Many child development experts believe that children often do not have the maturity and self-care skills to be left unsupervised until the age of 12. The 2010 U.S. Census indicates that there were 280 children under the age of 14 currently living in Bakersfield at that time. According to state data, Bakersfield currently has two registered childcare homes and two childcare centers, with a total capacity of 56 children. Data on other childcare options, such as grandparents, siblings, stay at home parents, un-registered childcare homes or other opportunities is not available. Without additional data on the vacancy rates of childcare facilities, as well as the quality and affordability of these services, it is difficult to assess the availability of childcare in our community.

It is also important to note that the childcare industry can contribute to the local economy by creating jobs and supporting a stable workforce. The accessibility, affordability and quality of health care may affect a parent's ability to enter and remain in the workforce and to be a productive employee.

PreK-8 Education

The Bakersfield Elementary School is on a site adjacent to the old Brigham Academy. Grades K-8 are given instruction in this building with the remaining grades enrolled at the high schools of neighboring municipalities.

The Bakersfield Elementary-Middle School is a wood frame structure. This construction was used to save money and time after the tragic fire that razed the K-4 elementary school in 1985. While the student population experienced in 1997 has diminished, the school has had to deal with space limitations. The school can accommodate approximately 165 students and has been at or near this capacity in recent years.

Table 7.1: Number of Children in Bakersfield Under the Age of 12

	2010
Under 5 years	80
5 to 9 years	95
10 to 14 years	105
Total	280
Source: 2010 US Census	

Table 7.2: Enrollment at the Bakersfield Elementary School

Academic Year	# Students Enrolled
1997-1998	196
1998-1999	173
1999-2000	172
2000-2001	175
2001-2002	178
2002-2003	176
2003-2004	173
2004-2005	167
2005-2006	167
2006-2007	159
2007-2008	168
2008-2009	163
2009-2010	155
2010-2011	172
2011-2012	172
2012-2013	165
2013-2014	159
Source: VT Department of Education (http://education.vermont.gov/data)	

There are no plans to expand the current school building. The wood construction doesn't allow for a second story on the building so any additions would have to be at ground level.

Furthermore, if the building were to be expanded it would need to come into compliance with current codes which would likely be difficult.

The school has been able to create some additional space to accommodate students. The principal's office has been moved to the rear of the school to create a larger library area and there is a new all- purpose classroom used for art, meetings, and other academic activities. Overall, the building provides a safe and inviting environment for academic endeavors.

High School Education

Beginning in the ninth grade, Bakersfield students must choose to attend one of the surrounding area high schools. The majority of Bakersfield high school students choose to attend Enosburg High School, but students also attend BFA St. Albans, Essex, MVU, and BFA Fairfax (Table 7.4). Vocational education is offered at the Cold Hollow Center in Enosburg Falls, Northwest Technical Center at BFA St. Albans and the Voc Ed Center at Essex High School. These three facilities provide a wide range of programs for high school students and evening classes for adults as well. Tuition costs for area schools continue to rise, as does Bakersfield's school tax rate.

Table 7.3. Enrollment in area High Schools

Academic Year	# High School Students Enrolled
1997-1998	83
1998-1999	92
1999-2000	95
2000-2001	78
2001-2002	75
2002-2003	65
2003-2004	65
2004-2005	73
2005-2006	86
2006-2007	92
2007-2008	84
2008-2009	87
2009-2010	81
2010-2011	77
2011-2012	75
2012-2013	71
2013-2014	70
Source: Northeast Franklin SU	

Home Schooling

Bakersfield has 10 children being home schooled at this time (2013. These students are from 4 families in town.

Other Educational Facilities

The majority of colleges are located either in or around Burlington or in St. Albans. The Community College of Vermont (CCV) offers courses and degree programs in several locations including Winooski and St. Albans. The CCV is part of the Vermont State College System and has links to other higher education facilities around the state. The University of Vermont, St. Michael's College, and Champlain College are all located in the Burlington area. Johnson State College is located in Johnson in our neighboring county to the southeast.

Vermont Adult Learning located in St. Albans offers classes to help adults improve their math, writing, and reading skill. It also provides

a GED completion program. Vermont Adult Learning also has some satellite classes available in Swanton in Richford.

Table 7.4. Attendance by High School with Tuition Rates

High School	# of Bakersfield Students Attending	Tuition Rate (2014/2015)
Enosburg High School	40	$14,940
BFA (St. Albans)	25	$14,450
Essex	1	$12,950
BFA Fairfax	1	$11,825
Source: Northeast Franklin SU		

Goals:

- To provide exemplary educational services to the children of Bakersfield.
- To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of all Vermonters.
- To ensure that regulation of land development in Bakersfield does not negatively impact the availability of safe and affordable childcare

Policies:

- Establish fair and effective measures to control the pace and impact of development on educational services.
- Assess the need for and availability of childcare services in Bakersfield
- Support programs such as “Caring Communities, ” the Teen Center, and “Success by Six..”

Chapter 8. Natural Resources

Bakersfield is rich in natural resources, including high quality forestland, abundant water resources, and valuable agricultural soils. These resources contribute significantly to the town's rural and scenic character, provide opportunities for recreation, and support the local economy. According to a 2006 survey, 83 percent of surveyed residents felt that conserving natural resources was an important or very important planning goal. Through proper planning and management, Bakersfield can work to protect and conserve the valuable natural resources that make our community a unique and enjoyable place to live.

Land Resources

The Town of Bakersfield spans two biophysical regions: the Champlain Valley and the Northern Green Mountains region (Thompson and Sorenson, 2000). The Town generally rises in elevation as you move from west to east, varying from under 600 feet to approximately 1940 feet.

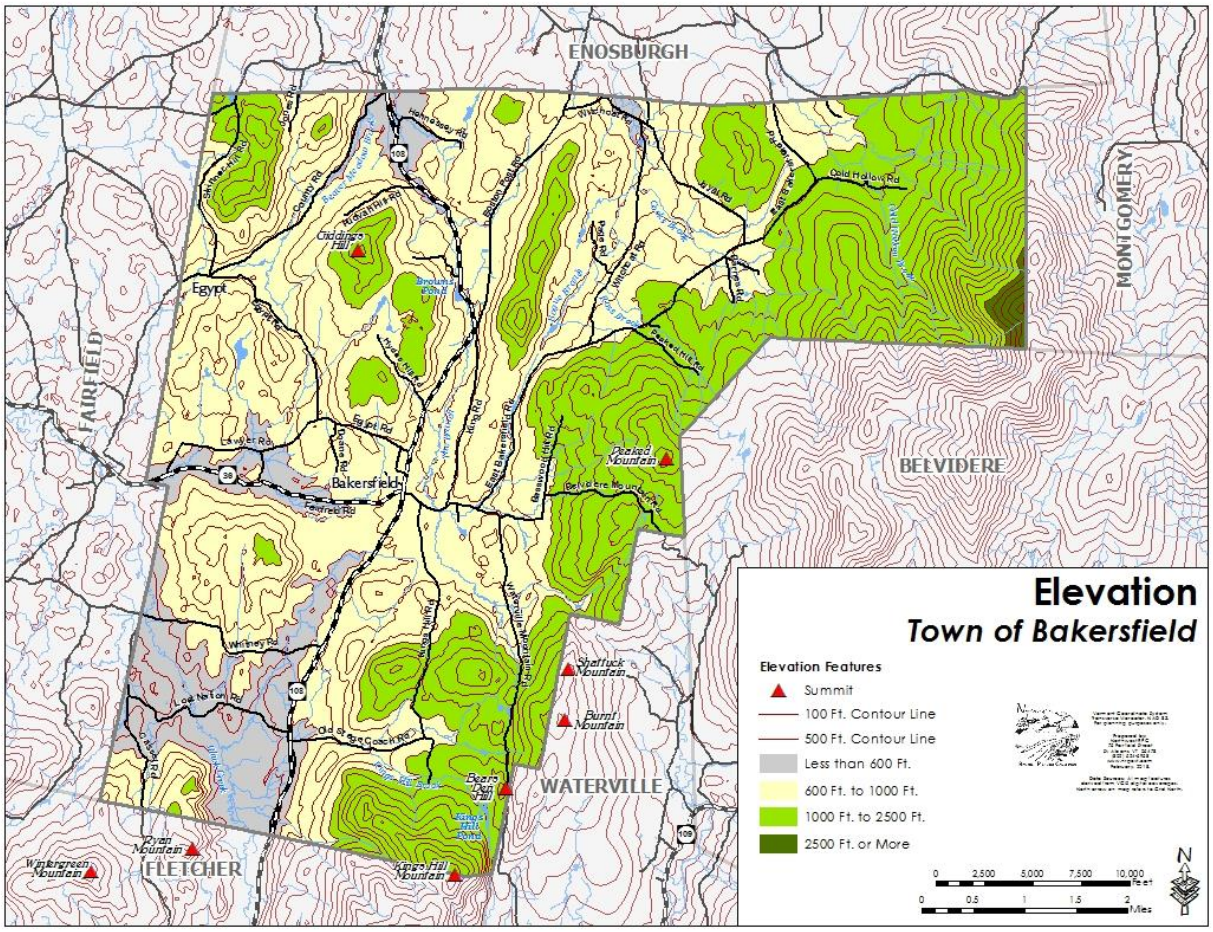


Figure 8.1 Elevation Change in Bakersfield

High Elevations and Steep Slopes

The high elevation areas of eastern Bakersfield include steep slopes, shallow soils, and exposed, fractured bedrock. These areas are largely forested and are not well-suited to development. The necessary cuts and slope stabilization for foundations, parking areas, road access and utilities are expensive and often, unless well-designed, unsafe. Development on steep slopes may also be at the expense of the Town, as the costs of road maintenance, runoff maintenance and sedimentation problems increase with pitch. School bus and fire service may also be difficult, expensive, unsafe or even impossible depending on weather conditions.

The Natural Resources Conservation Service (NRCS) provides general guidelines for assessing slope limitations as shown in Table 8.1. The slope of an area should be taken into account when deciding if the land is capable of supporting potential development.

Table 8.1 Slope Classifications

0-3%	generally suitable for most types of development but may require drainage
3-8%	most desirable for development because these areas generally have the least restrictions
8-15%	suitable for low-density development with particular attention given to erosion control, runoff, and septic design
15-25%	unsuitable for most types of development and septic systems, construction costly, erosion and runoff problems likely
>25%	all types of construction should be avoided, careful land management for other uses is needed

Development on steep slopes can create a number of environmental problems as it may upset the natural slope repose angle and increase stormwater runoff, erosion and the possibility of mass movement or slumping. Septic tank disposal fields located on slopes greater than 15 percent may result in partially treated effluent surfacing and seeping onto the downslope surface, causing health hazards and possible nutrient enrichment of surface water. Of the effluent that does remain under the shallow soil characteristic of steep slopes, much of it may flow laterally. This situation often results in groundwater contamination or the surfacing of effluent at outcrop or fragipan areas.

Soils

Soils are one of the most important environmental factors influencing the use of land in rural areas. Good, fertile soils represent a 10,000 year investment - a valuable and limited resource. Soils are classified on the basis of structure, form, composition, and suitability for various types of development. Within the context of land use planning, the characteristics that are of primary concern are bearing capacity, erodability, drainage, septic suitability and resource value. These characteristics tell us whether soils are capable of accommodating development, whether they are well-suited to agricultural or silvicultural uses, or whether they should be high priorities for conservation.

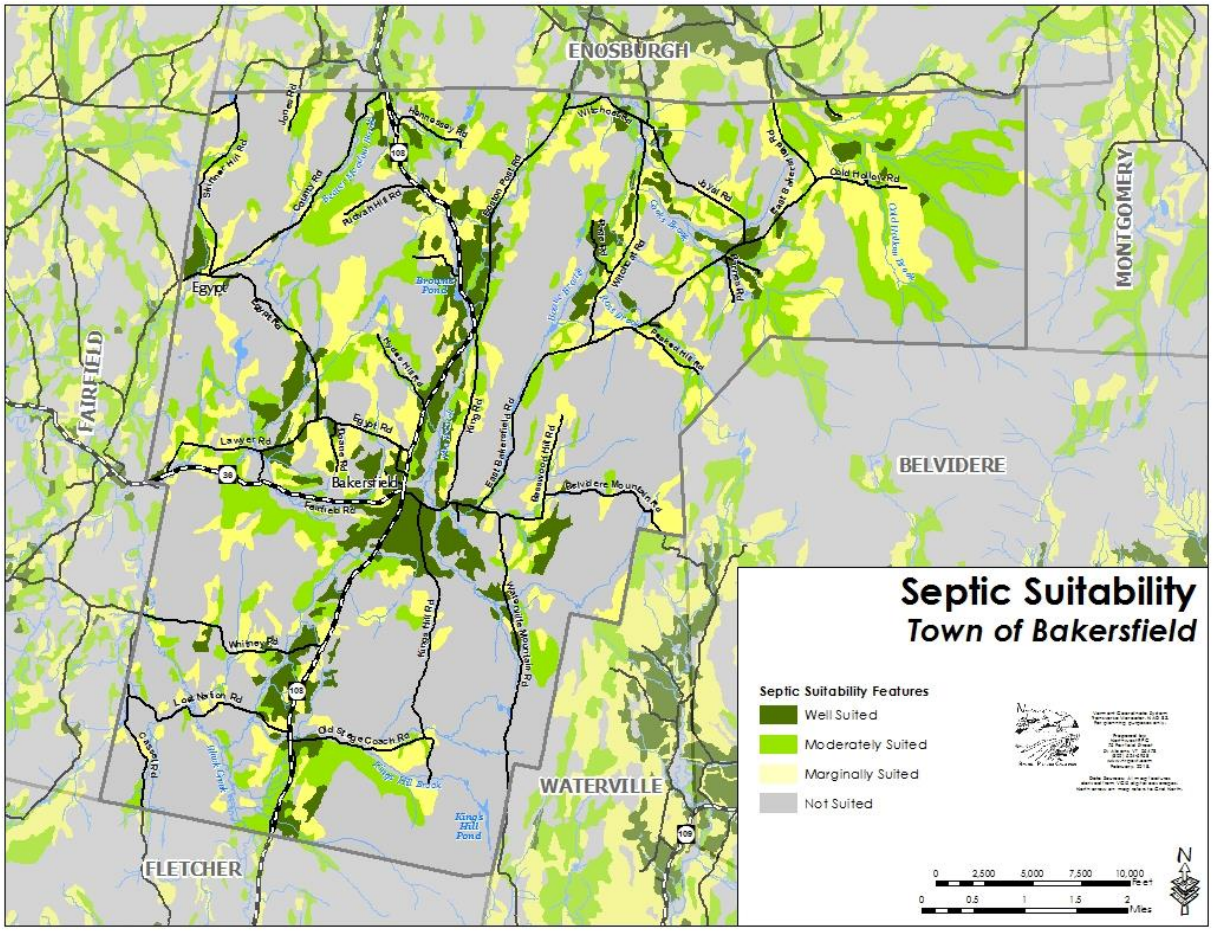


Figure 8.2 Bakersfield Soil Septic Suitability

The septic suitability of Bakersfield soils are shown in Figure 8.2.

The ability of soils to support agricultural and silvicultural (forestry) activities is also an important consideration in Bakersfield land use planning. Vermont's agricultural soils have been identified by USDA/NRCS in the publication, "Farmland Classification Systems for Vermont Soils" (June 2006). Soils with values 1-7 are considered to have the characteristics needed to support agricultural uses and are shown on Figure 8.3. Soils with values 1-3 are considered "Prime soils" and are the most productive. Soils valued at 4-7 are considered to be of "statewide" importance. Soils in class 8 may be considered of local importance.

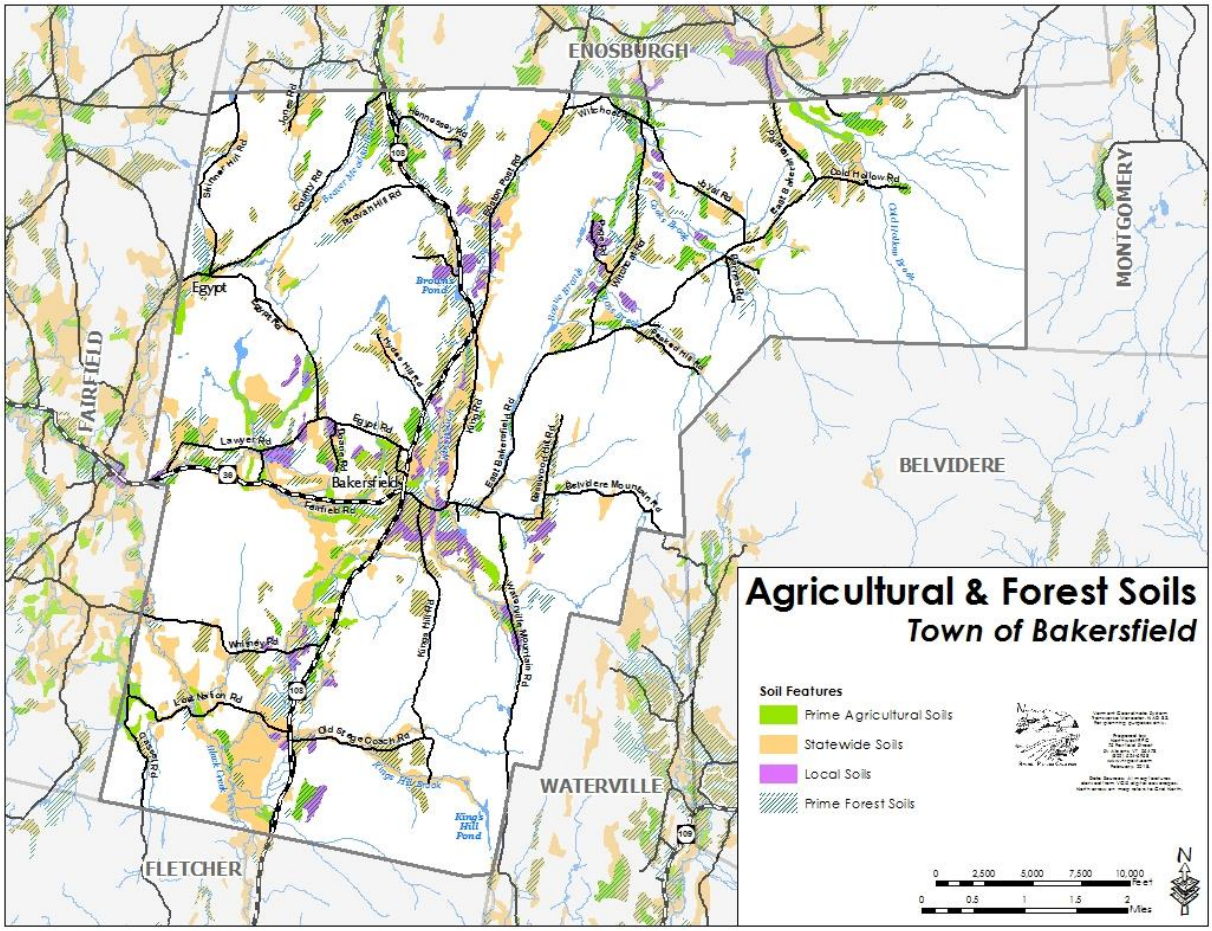


Figure 8.3 Agricultural and Forestry Soils in Bakersfield

Local agriculture depends upon the availability of high quality soils, in sufficiently large, contiguous parcels (critical mass) to allow for economical hay and field crop production. Because of their physical qualities, however, these soils are often also considered the best suited for subdivision and development. The conversion of good farmland effectively takes it out of production over the long term, and reduces an already limited resource base. Given the importance of farming to the local, regional and state economies, farmland conversion and fragmentation are of particular concern in Bakersfield. Retaining sufficient acreage of primary agricultural soils in good condition for agricultural production is necessary for the continuation of farming our community. Keeping agricultural soils in agricultural use is one of the goals supported in this plan.

The NRCS has also identified "primary forestry soils," important to sustain commercial forestry operations in the region, according to their relative productivity. Similar concerns exist regarding the development and fragmentation of these soils; however they tend to be more widely distributed, and less suited for intensive development. However, even low density development, including seasonal camps, may result in the fragmentation and degradation of productive forest land. Again, social and economic factors, as well as the sustainable management of the soils

resource base (e.g., through accepted management practices (AMPs) for silviculture, as defined by the state) should be considered in determining which tracts of forest land should be maintained long-term for commercial use.

Forest Blocks and Habitat Connection

Approximately 72 percent of Bakersfield is covered by forest (2002 Landstat data). Bakersfield's forests provide habitat for many different kinds of wildlife, stabilize soils, absorb runoff, add to the scenic value of the landscape, and provide a living for Bakersfield residents who rely on logging or profits from their woodlots. Large, unfragmented stretches of forest in the eastern part of Bakersfield are critical habitat for mammal and bird species that require forest interior. Bakersfield's forests are dominated by sugar maple, yellow birch, American beech, and hemlock. It is important to minimize forest fragmentation and promote the health, viability, and ecological function of forests in Bakersfield.

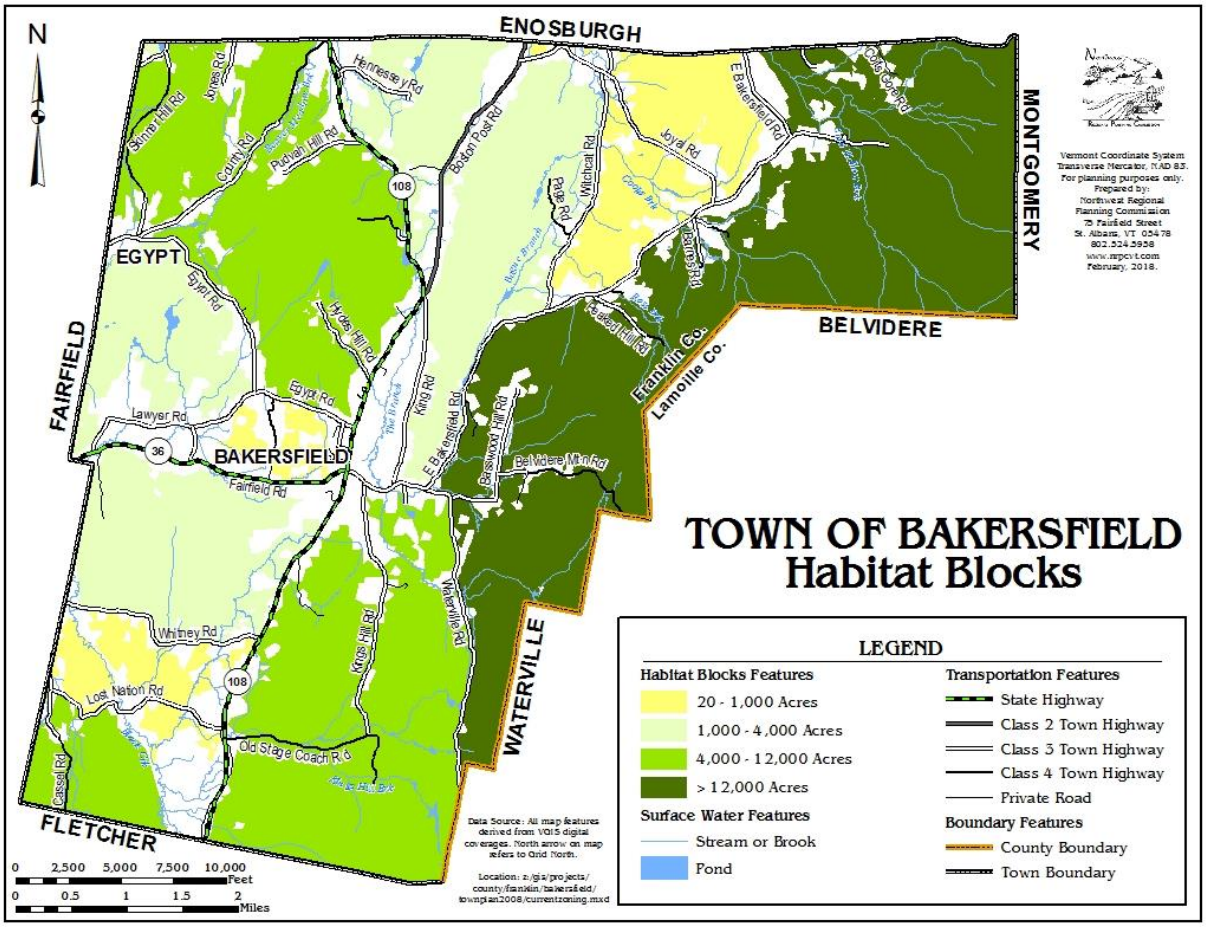


Figure 8.4 Habitat Blocks in Bakersfield

core habitat blocks by the Vermont Agency of Natural Resources. This essentially means that these are areas of contiguous forest that are unfragmented by roads, development, or agriculture that are critically important to protecting native species. The same habitat blocks have also been noted to be "highest priority connectivity blocks" in that they provide connection between the

largest core habitat blocks located in the state and New England region along the "spine" of the Green Mountains. These blocks also provide connection to the forests and lowlands in western Franklin County.

Earth Extraction

Earth resources, including sand and gravel deposits, are important natural resources particularly for their use in road maintenance and construction. However, it is important to recognize that these resources are finite and that the geologic processes that create them can take tens of thousands of years to occur. In Bakersfield, their use must be carefully balanced with the consequences of their extraction, and even then should be used only when high public benefit is in evidence. In 2014, the Town purchased land for a gravel pit and this should provide for the public needs for the foreseeable future. Other extractions in town, especially for commercial purposes should be restricted.

Improper or excessive resource extraction is extremely damaging to the natural and scenic resources of Bakersfield, with far-reaching implications for water quality and the archaeological and aesthetic resources of the region. Sand and gravel deposits often serve as important areas for aquifer recharge and filtration, so vital for high quality sources of drinking water. Disturbance of these areas results in a reduction of their natural ability to retain and filter groundwater, resulting in degraded water quality. On-site storage and disposal of materials at extraction sites can cause contamination of groundwater through the leaching of hazardous materials into the water table. Removal of top soils for sale may also have far-reaching impacts and should be discouraged.

Cultural resources are also at risk of degradation through improper earth resource extraction, including the accidental destruction of buried archaeological sites, and diminished scenic qualities which may negatively affect land values and opportunities for future use. Noise, dust, and increased traffic on roads near extraction sites can increase road maintenance costs and negatively impact the quality of life in Bakersfield.

To minimize negative impacts on the natural and cultural environment, a focus on appropriate site development that minimizes visual impact and reduces the risk of resource degradation should be coupled with post-operative attempts at proper mitigation and site reclamation. Prior to permitting extraction, the Bakersfield Planning Commission may require a plan for the rehabilitation of the site during and at the conclusion of extraction or processing activities and appropriate guarantees to allow for enforcement and to ensure rehabilitation at the operator's expense.

Water Resources

The town of Bakersfield has rich water resources, including rivers and streams, wetlands, and groundwater resources (Figure 8.4). The town's waters offer sustenance,

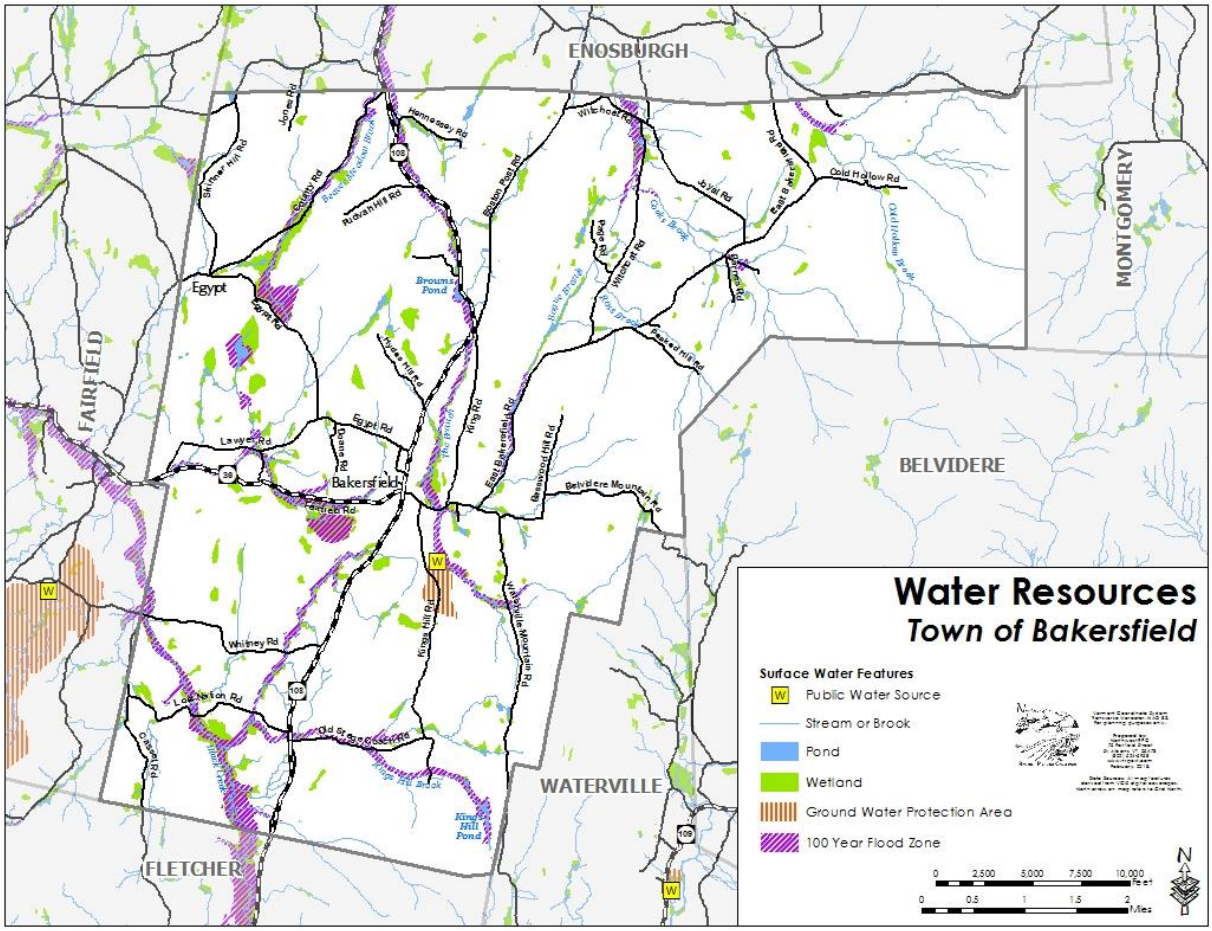


Figure 8.5 Bakersfield's Water Resources

scenic beauty, ecological values, and recreational opportunities and are important to the social, economic and cultural character of the community.

Surface Waters

Bakersfield is situated within the watershed of the Missisquoi River. The Missisquoi Watershed encompasses much of northwestern Vermont and southern Quebec. All of this area drains into the Missisquoi River Basin and ultimately into Lake Champlain. This watershed has been identified as a high priority area for the Vermont Department of Environmental Conservation's Clean and Clear Center due to its contribution to phosphorus runoff and the resulting water quality issues in northern Lake Champlain (VT DEC, Clean and Clear Work Plan, 2007).

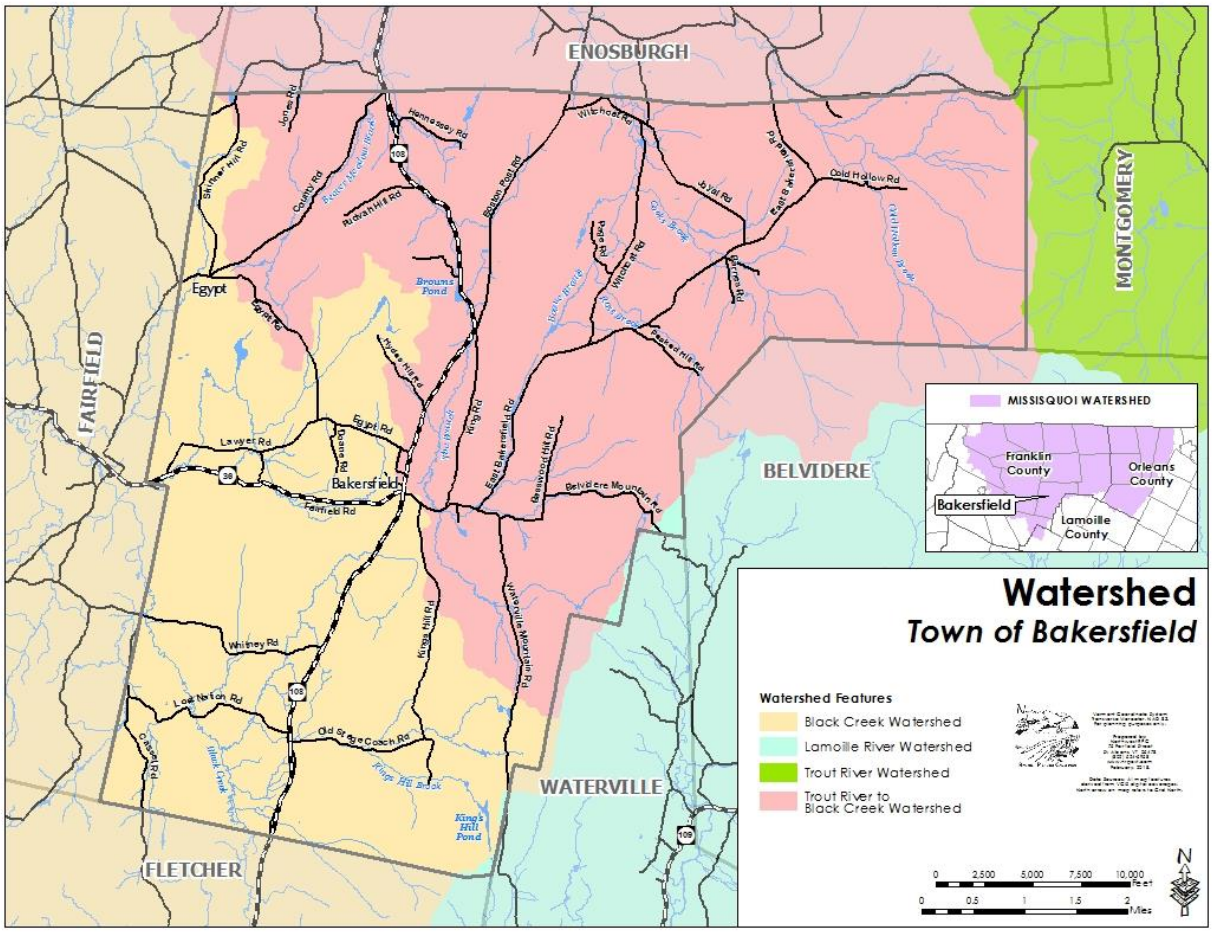


Figure 8.6 Subwatersheds within the Town of Bakersfield.

The two major subwatersheds in Bakersfield are the Black Creek and Tyler Branch subwatersheds (Figure 8.5). Flooding and erosion are major issues within these subwatersheds and have increased the risk of flooding and erosion hazards, particularly downstream in Enosburgh and Fairfield. Flooding in the winter of 1996 and August of 1998 led to a FEMA-declared disaster. The Northwest Regional Planning Commission estimates that there are seventeen (17) structures within the 100 and 500 year floodplain in Bakersfield.

Geomorphic assessments have been completed within the Black Creek and Tyler Branch watershed to determine the causes of flooding, erosion, and other water quality issues and to identify potential solutions. According to these studies, most streams in the Bakersfield portion of the Tyler Branch watershed have adequate buffers. Out of the 35 reaches or stream segments that were assessed, 32 reaches had wooded buffers that were at least 25 feet wide on at least 75 percent of the reach length. The three reaches with little or no buffer were all along The Branch, a tributary to the Tyler Branch, from the town boundary with Enosburgh upstream 1.5 miles. The stream reaches within the Black Creek subwatershed tended to have fewer riparian buffers. Three of the 13 reaches assessed had adequate buffers, three had little

or no buffer on 75 percent of their length, and the rest had little or no buffer on 25-75 percent of the stream reach. It will be the goal of Bakersfield planning to ensure that these and similar buffers are maintained and enhanced.

More in-depth studies have been conducted along The Branch. Seven reaches within Bakersfield tended to be stable and in good condition. The assessed reaches still have access to the floodplain, which allows the stream to dissipate energy during high flows. Several upper reaches are good candidates for conservation or protection because there is no significant development within the stream corridor. In-depth studies of this type for the Black Creek and Tyler Branch have not yet been completed.

One of the main concerns along the Black Creek is that the Lamoille Valley Rail Trail cuts off access to the floodplain. The State of Vermont and local partners have identified several sites where the rail embankment can be lowered to allow the stream to access the floodplain during high flow events. The two locations in Bakersfield are along Lost Nation Road and Route 108S. Implementation is expected to begin in early 2008.

Stormwater runoff from roads, roofs, driveways and other surfaces also degrades local water quality and exacerbates flooding. During rain events and snow melt, stormwater carries dirt, oil, debris and other pollutants from these surfaces into our waterways.

Wetlands

Wetlands are also important for the maintenance of water quality. The extensive biological activity of a wetland area enables the absorption and assimilation of nutrients and thus purifies to some extent the water that is discharged. These areas store large quantities of water during periods of high runoff and gradually release water during low flow periods. Therefore, the wetland regulates stream discharge both during low flow and peak flow. Loss of this storage capacity not only adversely affects stream behavior but also increases floods and reduces stream flow during crucial low flow periods. Wetlands also provide habitat for a wide variety of plants and animals, including a disproportionately high number of threatened or endangered species, compared to other ecosystem types.

Groundwater

Groundwater represents both a hazard and a resource. In areas where the seasonal high water table is 0-1.5 feet, there is unconfined groundwater at or near the surface for part of the year. These waters can be easily polluted by nutrients from septic tanks, agricultural practices, hazardous waste sites, pesticides, road salt and other sources (Vermont DEC, 2005). Once contaminated, these waters may present health hazards locally and cause pollution of surface waters should the groundwater contribute to stream flow or wetlands.

Many residents of Bakersfield depend upon springs and shallow wells for their water. Should septic systems, landfills or faulty sewer lines be located too close to a water supply, contamination may result. In an effort to protect the municipal water supply, Bakersfield has

adopted an aquifer overlay district, which is intended to discourage new development and maintain the high quality of drinking water for village residents.

In order to maintain supplies and access to clean and sufficient water for the Towns' residents, businesses and farms, new and novel uses of water, including the commercialization of water sources in the Town, will generally be discouraged. One issue of concern to some in Bakersfield is commercial extraction of water. Along with the restrictions permitted by the State of Vermont Department of Environmental Conservation and Act 199, Bakersfield may want to limit commercial groundwater extraction until a full assessment of the groundwater can be made for the Town by the State Geologist. Such an assessment would provide evidence about the quantity and quality of water required to support its residents and other purposes.

Wildlife

The Town of Bakersfield is host to abundant flora and fauna typical of the region. Bear, deer, moose, and small mammals occupy its fields and forests. Thorough surveys of rare and endangered plants and animals have not been conducted within the Town, but recent research has confirmed the presence of both a rare fern population and a nesting site for a rare bird that were previously known only from historic records (Vermont Nongame and Natural Heritage Program, personal communication). Osprey, which nest in the Fairfield Swamp just to the west, must surely venture into the skies over Bakersfield from time to time.

A heronry in the western part of Bakersfield has been monitored by state wildlife personnel for several years and is a protected area. Over the last five years, breeding bird populations have been monitored within the town for research for the Vermont Breeding Bird Atlas being conducted by the Vermont Center for Ecostudies, and at least 90 species of breeding birds have been documented. More than fifteen of Vermont's forty breeding reptiles and amphibians have been recorded within the town's boundaries (Vermont Reptile and Amphibian Atlas, Dr. J. Andrews, Middlebury College). Vernal pools, ponds, and other wetlands within the town provide critical breeding habitat for amphibians.

Invasive plant and animal species pose problems for our forests, wetlands, and waterways. So far, very little research has been done to inventory Bakersfield for the presence of invasive species.

Deer wintering areas provide critical habitat for whitetail deer. These areas of hemlock, spruce, fir, cedar, and pine forest provide shelter from deep snows, and also permit easier winter travel for deer and other species. The combination of elevation, vegetation, and solar aspect significantly increase the survival rates of deer populations. The U.S. Fish and Wildlife Service has targeted these areas for protection. These and other critical habitat areas are depicted in Figure 8.6.

Black bears prefer mountainous and forested landscapes just like those found on the slopes of the Green Mountains. Black bears have a significantly large home range and because of this, their survival rate decreases when larger areas are divided up into smaller units and into

isolated forestlands. When land is developed in scattered locations, the black bear habitat areas are decreased.

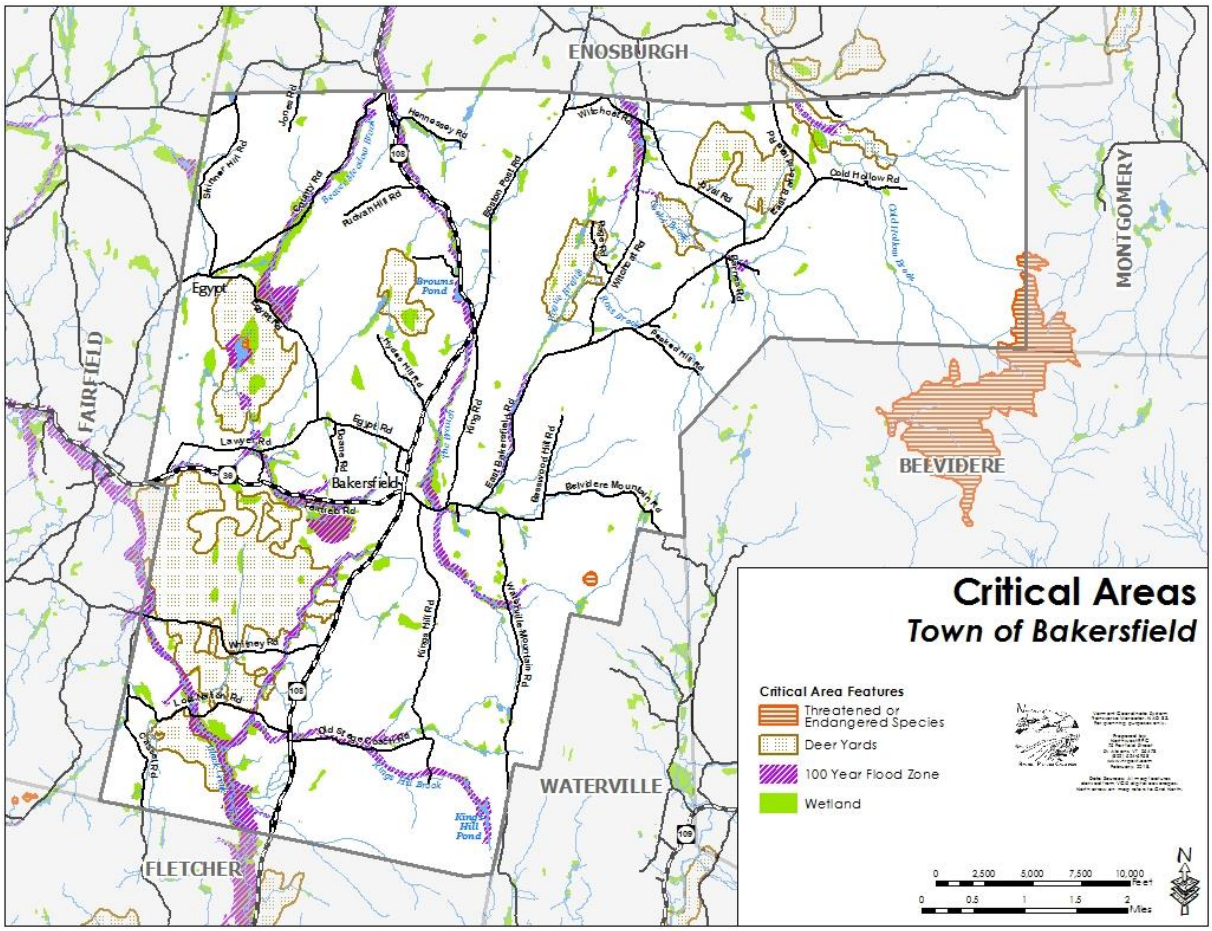


Figure 8.7 Critical Wildlife Areas in Bakersfield

Scenic Resources

The scenic beauty of Bakersfield is among our community's greatest assets. Yet, despite the importance of scenic beauty to our community and sense of place, scenic and aesthetic concerns are often difficult to quantify, and can be challenging to incorporate into comprehensive planning endeavors. In order to protect these resources, the Town will need to identify these resources and encourage innovation in design and layout of development so that the visual impact can be minimized. The use of vegetative buffers and other screening methods will be encouraged to help reduce the visual impact of development in the Town. This includes the regulation of cellular and wind energy systems to the extent possible.

Recreation

The Town of Bakersfield is fortunate to have an abundance of open space and forestland available for recreational activities such as hunting, fishing, riding, and snow mobiling. Future development could reduce access and opportunity for these kinds of activities. Alternatively,

planned unit developments present an opportunity to create common resource land that can be set aside for recreation or other uses in perpetuity. Through the bylaws, the Town Planning Commission will support the maintenance of larger tracts of natural spaces.

Goals:

- To protect the natural integrity and quality of wetlands and watercourses, wildlife habitats, ground water and aquifers, populations of rare and endangered species, forests and all other irreplaceable natural resources
- To enhance environmental quality, preserve the character of Bakersfield, and protect its natural assets

Policies:

- Prohibit all land development on slopes greater than 25 percent and maintain vegetative cover
- Conduct development on slopes greater than 15 percent carefully in order to avoid environmental degradation and conditions that create health hazards
- Carefully control runoff and erosion should during all phases of construction
- Inventory the town for high quality wetlands and watercourses, wildlife habitats, ground water and aquifers, populations of rare and endangered species, forests and all other irreplaceable natural resources
- Restrict the density of development in these critical areas to levels that will have minimal impact
- Discourage development within ecologically sensitive areas including wetlands, steep slopes, and areas with shallow soils
- Protect groundwater resources by prohibiting development in those areas where the water table is less than 1.5 feet below the surface
- Permit development only in a manner that is safe to existing water supplies, both public and private
- Prohibit new construction within the Wellhead Protection Area, as designated by the Vermont DEC
- Minimize the impact of development on streams and floodplains to allow them to perform their natural functions
- Encourage the use of Low Impact Development (LID) strategies to treat stormwater on-site
- Promote the natural balance of the hydrologic regime by controlling excess runoff and maintaining natural water infiltration and storage capacities
- Encourage development within shoreline areas of streams, lakes or ponds that is compatible with the natural beauty of the area.
- Require sufficient setbacks to prevent erosion along streambanks or shorelands and pollution from subsurface sewage disposal systems, and to retain visual and physical access to the water bodies
- Prohibit land development resulting in the loss of wetland storage capacity
- Prohibit additions to wetlands of any substances that are likely to increase the concentration of materials beyond their assimilative capacities

- Promote development in proximity to wetlands and streams that preserves their value for education, science, aesthetics and recreation
- Incorporate vegetated buffers from streams, rivers and ponds into Bakersfield's zoning bylaws in order to better protect water quality
- Develop and utilize Fluvial Erosion Hazard Maps to minimize losses from flooding and erosion
- Develop a plan to establish a Town Forest

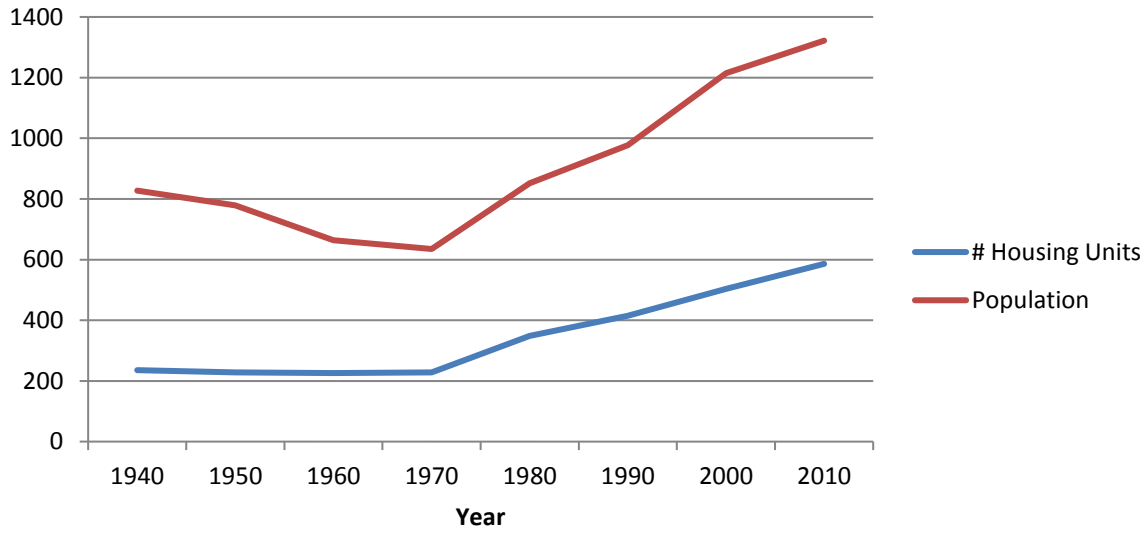
Chapter 9. Housing

The function of this plan is to guide the writing and passage of regulations that will encourage reasonable and well-planned growth in Bakersfield. Planned residential development is a priority among the residents of Bakersfield. In a 2006 town survey by the Bakersfield Bylaw Advisory Committee, 37 out of 69 respondents expressed that the rate of residential development in town was "just right". And that the existing controls on development should continue according to 31 out of 71 respondents. This plan aims to keep living and housing costs affordable in Bakersfield and to accommodate a rate of residential growth that will not exceed the town's ability to provide adequate facilities and services.

Housing Trends

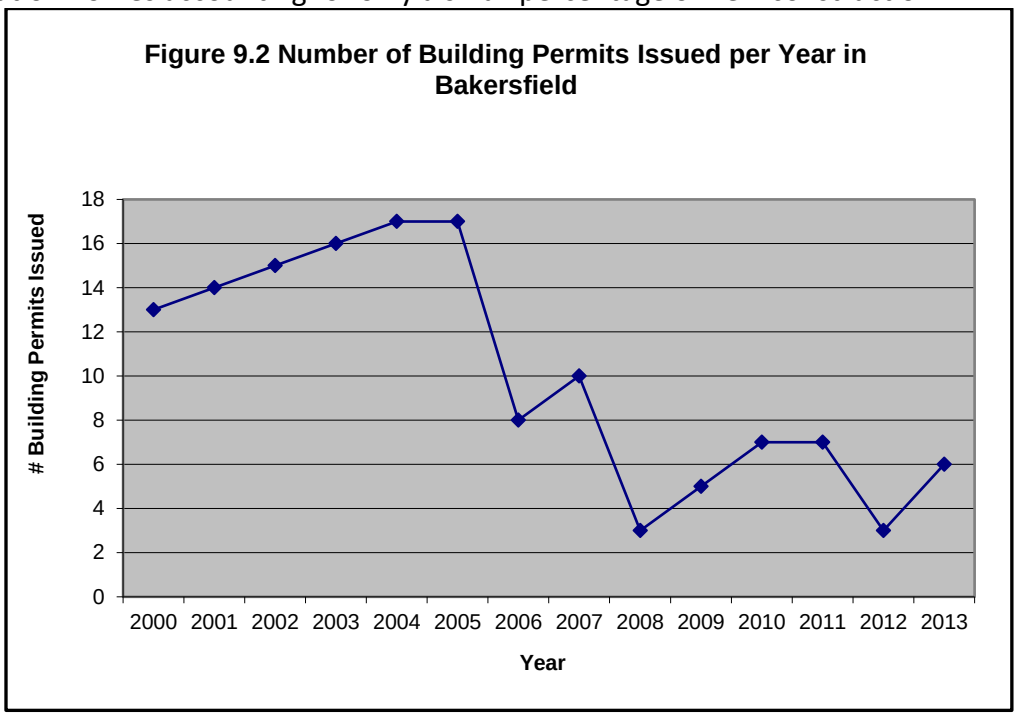
The 2010 Census showed a total of 586 housing units in Bakersfield, an increase of over 150 percent since the 1970s. Of these units, 426 were owner-occupied, 69 were renter-occupied year-round housing, 67 were seasonal or recreational housing units, and 9 were vacant housing units. The rate of housing development has exceeded the rate of population increase (Figure 9.1). Total housing units increased by over 16 percent from 2000 to 2010, while population increased at a rate of only 8 percent.

Figure 9.1 - Comparison of Housing Units to Population, 1940-2010



The number of building permits for new houses issued per year has gradually increased between 2000 and 2005 (Figure 9.2). The number of permits for new housing in the last 3 years 2011 to 2013 was 14. The vast proportion of new housing in Bakersfield is year- round housing with vacation homes accounting for only a small percentage of new construction.

Figure 9.2 Number of Building Permits Issued per Year in Bakersfield

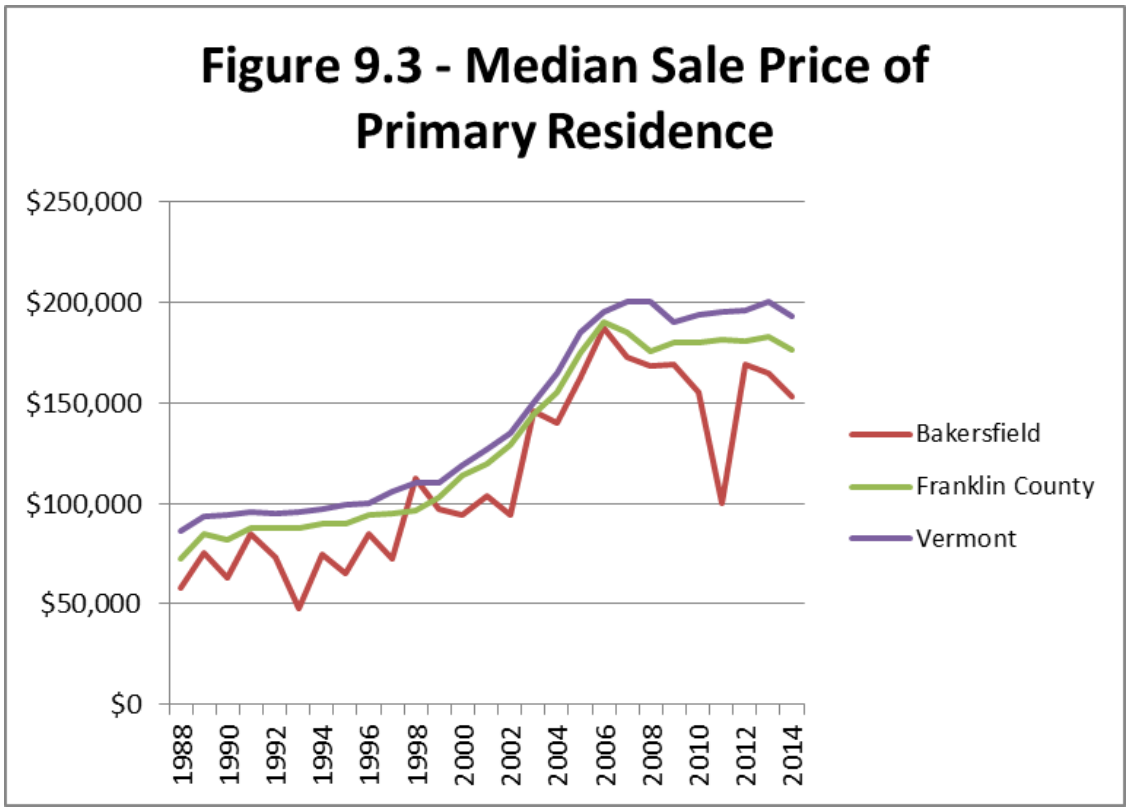


Affordable Housing

The demand for affordable housing is an important issue in many Vermont communities. In the 2006 survey of Bakersfield residents, 28 respondent out of 70 respondents, or 40% noted that support for affordable housing is an important or very important planning goal for the town.

High housing costs place a greater strain on lower income households than on households that are economically better off. Therefore, affordable housing initiatives generally emphasize the importance of providing affordable housing to households that are at or below the median income of the area.

The price of housing in Bakersfield has generally followed the regional and statewide trends (Figure 9.3). According to the Vermont Housing Data website in 2014, the median sale price of a primary residence in Bakersfield ($153,250) was slightly below that of Franklin County ($176,500) and the state as a whole ($193,000). However, when compared with other local housing markets, including St. Albans Town ($199,900), Fairfield ($226,000), and Fletcher ($164,750), Bakersfield appears to be a more affordable community in which to buy a home.



According to Vermont Statute, housing is considered affordable when a household earning not more than 80 percent of the county median income or the metropolitan statistical area's median income, if it applies, pays no more than thirty percent of their income on housing.

All municipalities in Franklin County are deemed part of the Burlington-South Burlington Metropolitan Statistical Area by the U.S. Department of Housing and Urban Development. The figures for median income, however, do not paint an accurate picture for many of the municipalities within Franklin County, including Bakersfield. The median household income according to the 2009-2013 American Community Survey for the Burlington-South Burlington MSA was $61,763, while it as $56,240 in Franklin County. For this reason, the Northwest Regional Planning Commission uses the county median household income to compute affordability statistics.

Table 9.1 shows the affordability gap for Bakersfield, which is the difference between the maximum affordable mortgage and the median sale price for primary residences. 100 percent of the median income represents moderate-income households, 80 percent represents low-income households, 50 percent represents very low-income, and 30 percent represents very, very low-income households.

Table 9.1: Homeownership Affordability in Bakersfield									
Percent of Franklin County Median Household Income		30% of Income		Taxes and Insurance	Income Available for Housing /Month	5% Down Payment	Maximum Affordable Mortgage	Median Sale Price for Primary Residences in Bakersfield (2014)	Affordability Gap
		Per Year	Per Month						
100%	$56,240	$16,872	$1,406	$414	$992	$8,425	$201,056.83	$153,250	$47,807
80%	$44,992	$13,498	$1,125	$414	$711	$8,425	$141,675.49	$153,250	-$11,575
50%	$28,120	$8,436	$703	$414	$289	$8,425	$52,603.48	$153,250	-$100,647
30%	$16,872	$5,062	$422	$414	$8	$8,425	-$6,777.86	$153,250	-$160,028
Data Source: Median income based ACS 2009-2013 estimates; taxes and insurance are an estimate; median sale price for primary residences in Bakersfield was obtained from the Vermont Department of Taxes; all other figures computed by the NRPC. Maximum affordable mortgage rates include a 4% mortgage rate.									

Moderate-income households can afford a mortgage with monthly payments that do not exceed 30 percent of their monthly income. In Franklin County, this equates to a mortgage of not more than $191,000. This figure is higher than the 2001 median sale price for single-family dwellings of $153,250 and therefore there is no affordability gap at the County median household income level. However, at 80% of the median household income level there is an affordability gap of negative $11,575, which indicates that house at the median sale price in Bakersfield would be unaffordable. For those with an income below this level, owning a home at the median sale prices is even further beyond their reach.

Senior Housing

Currently, the town of Bakersfield does not have specific group housing for senior citizens. The 2010 US Census reported that 9.9 percent of Bakersfield residents were age 65 and over. The median age for Bakersfield residents has risen the last twenty years from (32.2 years in 1999, 35.2 years in 2000 and 39.2 years in 2010). The 2010 median age in Bakersfield is similar to the median age of Franklin County (38.9 years) and slightly lower than the state of Vermont (41.5 years). The town, county, and the state have all seen an increase in their median ages since 1970. Because the population is aging as a whole, steps need to be taken to ensure that there is adequate and affordable housing available for senior citizens. The Brigham Academy building has been identified as a potential location for senior housing.

Planned Unit Developments

One of the intents of this plan is to keep living and housing costs affordable in Bakersfield, and to provide for the growth of residential facilities without speculative development. Planned Unit Development (PUDs) have the potential to help Bakersfield attain its goals for land use and housing as they allow for the clustering of development, conserving rural countryside, protecting contiguous woodlands and the working landscape, and providing a more efficient and affordable means of housing development, especially as the population of Bakersfield ages.

The effect of major subdivisions on school facilities, town roads and other town facilities must be carefully considered. It is preferable to have these developments phased and conditions

should be set to ensure that the impacts on town services, neighbors, and community character are minimal.

Goals:

- To ensure the provision of adequate, safe and affordable housing for all income and age groups in an environment that is safe and visually attractive
- To promote new and renovated residential development that reinforces and reflects the traditional forms and historic patterns of residential community settlements and efficiently utilizes existing and planned infrastructure
- To encourage construction and renovation of housing that promotes energy efficiency

Policies:

- Promote innovative approaches to developing affordable housing, including planned unit developments
- Determine residential densities on the basis of topography, soil conditions, proximity to highways, cost of providing mandated public services, and conservation of natural resources, as well as capacity to meet Vermont Agency of Natural Resources requirements
- Conserve and protect the quality and vitality of existing residential neighborhoods or areas, and encourage the renovation of old and deteriorating dwellings
- Encourage siting of new housing development to preserve the greatest amount of open space and blend harmoniously with the surrounding landscape
- Allow the building of accessory apartments within or attached to single family residences in accordance with state law
- Support efforts that assist elderly and disabled residents who want to remain in their homes, and community-based health care systems that enable elderly and disabled people to remain in their communities
- To the extent possible, locate new housing for elderly and disabled residents in proximity to Bakersfield village and existing infrastructure and services, including consideration of the Brigham Academy building for this purpose.
- Promote the use of natural, non-toxic energy efficient materials in the renovation of existing and the construction of new housing

Chapter 10. Land Use

In developing the land use plan for Bakersfield, it is important to recognize the many physical constraints to development. Steep slopes limit development in many areas of town, and nearly a third of the land (8,610 acres) has a slope greater than 20 percent. The town also has two small bodies of water, Brown's and Kings Hill Ponds, with a total area of only 16 acres and 1057 acres of class 2 wetlands which account for almost 4 percent of its land area.

Land Use and Development Trends

Currently, the highest concentration of residential development in Bakersfield lies within the village area. This is also the district where commercial development is considered to be most appropriate. The higher density development that exists within the village creates a strong sense of community and is an efficient use of land. The village also provides important public services including the Town Hall, Post Office, school, library, fire department and rescue service and historical society.

The village is an important asset and should be promoted and preserved by encouraging historic preservation, economic development, and the adaptive reuse of existing structures. The village sidewalk project, efforts to renovate the Brigham Academy, and other projects intended to maintain and improve the quality of life in Bakersfield village should be encouraged and supported through thoughtful land use decisions. Sprawling development patterns that fragment the landscape and detract from Bakersfield's rural character should be discouraged.

Agriculture and forestry continue to be important components of the local culture and economy. It is important to remember that owners of farms and forests provide a public benefit by not developing their property, and cost the town little in terms of municipal services. From popular scenic vistas, to important wildlife habitat, these contributions to the well-being of the town cannot be overlooked.

The development of farms and forests for residential use is becoming more profitable for the individual land owners. This creates pressures for development. It is important that this development be guided by good land use planning in order to maintain the unique character of our community and ensure that local services are not overwhelmed.

The use of planned unit development (PUD) may provide a tool to enable Bakersfield to accommodate some residential development, while protecting the working landscape and open land. PUDs allow for a more flexible design approach and provide an opportunity for the planning commission to work with landowners and developers to create subdivisions that reflect the goals and values of Bakersfield, including clustered development, the provision of common land, and the protection of prime agricultural soils.

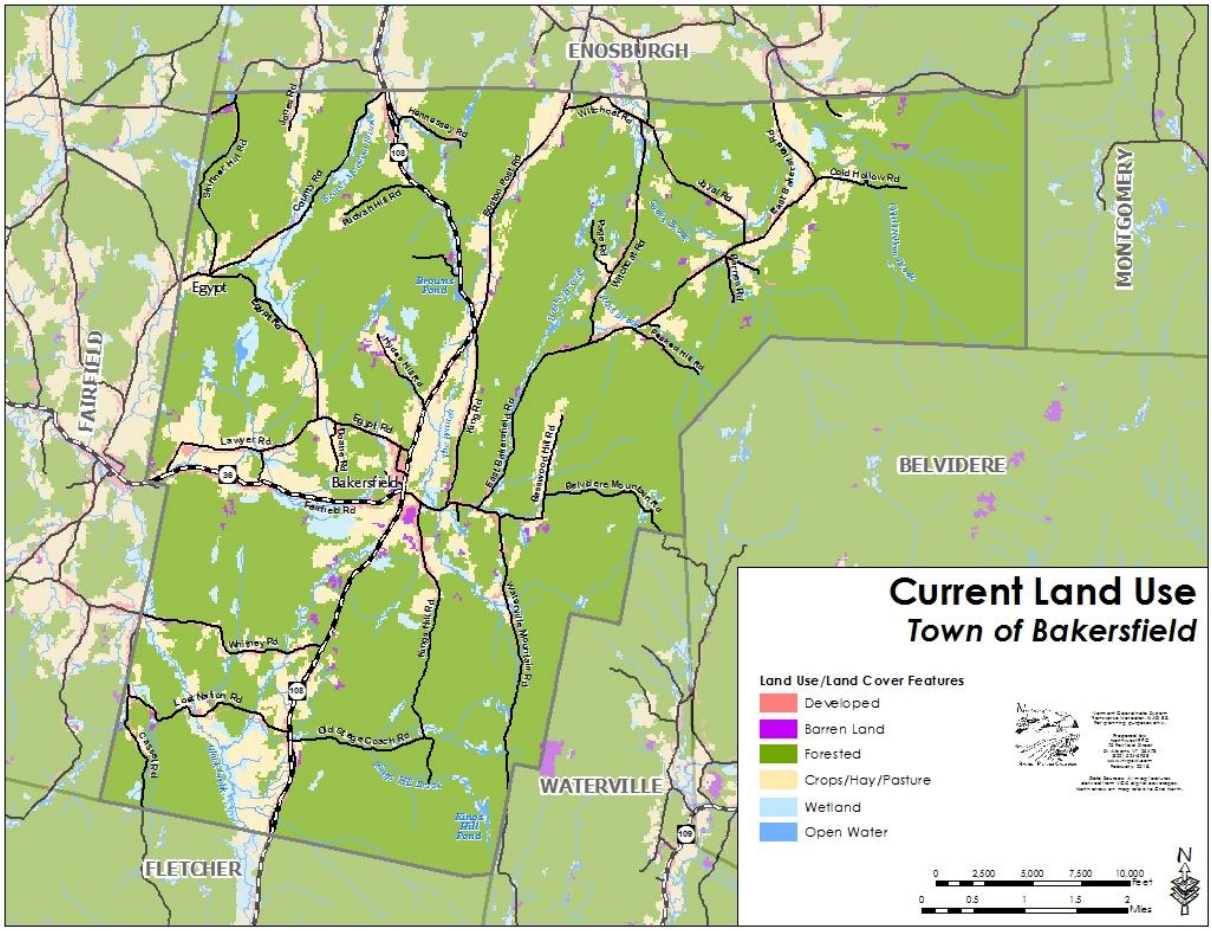


Figure 10.1 Bakersfield Current Land Use Map

Future Land Use/Current Zoning Districts

The town of Bakersfield currently divides its future land use map into the following zoning districts: Village, High Density Residential, Low Density Residential, Rural, Conservation, Watershed, Aquifer, and Flood Hazard (Figure 10.2). The purposes of these districts are summarized below and a complete description can be found in the town of Bakersfield Zoning Bylaws adopted in 2017. These districts represent both the existing and future land uses in the Town of Bakersfield.

Village Center District. The Village Center represents the historic center of Bakersfield. This district has a distinct historic character which features mixed residential, commercial and public uses in a historic village setting. Development in this district should protect and preserve existing historic resources, promote pedestrian access and maintain the village character, including its historic settlement pattern, scenic character and sense of community.

High Density Residential District. This district is comprised of the area around the village center where additional high-density development could be accommodated.

This district provides a transition between the compact development of the village center and the rural areas of Bakersfield. It is designed to allow a radial pattern of development around the village in an effort to discourage linear sprawl. Development in this district should complement and extend the character and traditional development pattern of the village core. Interconnected street networks and pedestrian access are encouraged in this district.

Rural District. It is intended that this district remain rural, agricultural and silvicultural. The preservation of farmland and prime agricultural soils is a major objective. Rural residential development and compatible rural uses, at a density the land can support are permitted. Clustered development that protects large, contiguous tracts of farmland or open space is appropriate in this district. Within the rural district, additional restrictions are included to protect an important Heron Rookery in northwestern Bakersfield, consistent with the requests of the Vermont Department of Fish and Wildlife.

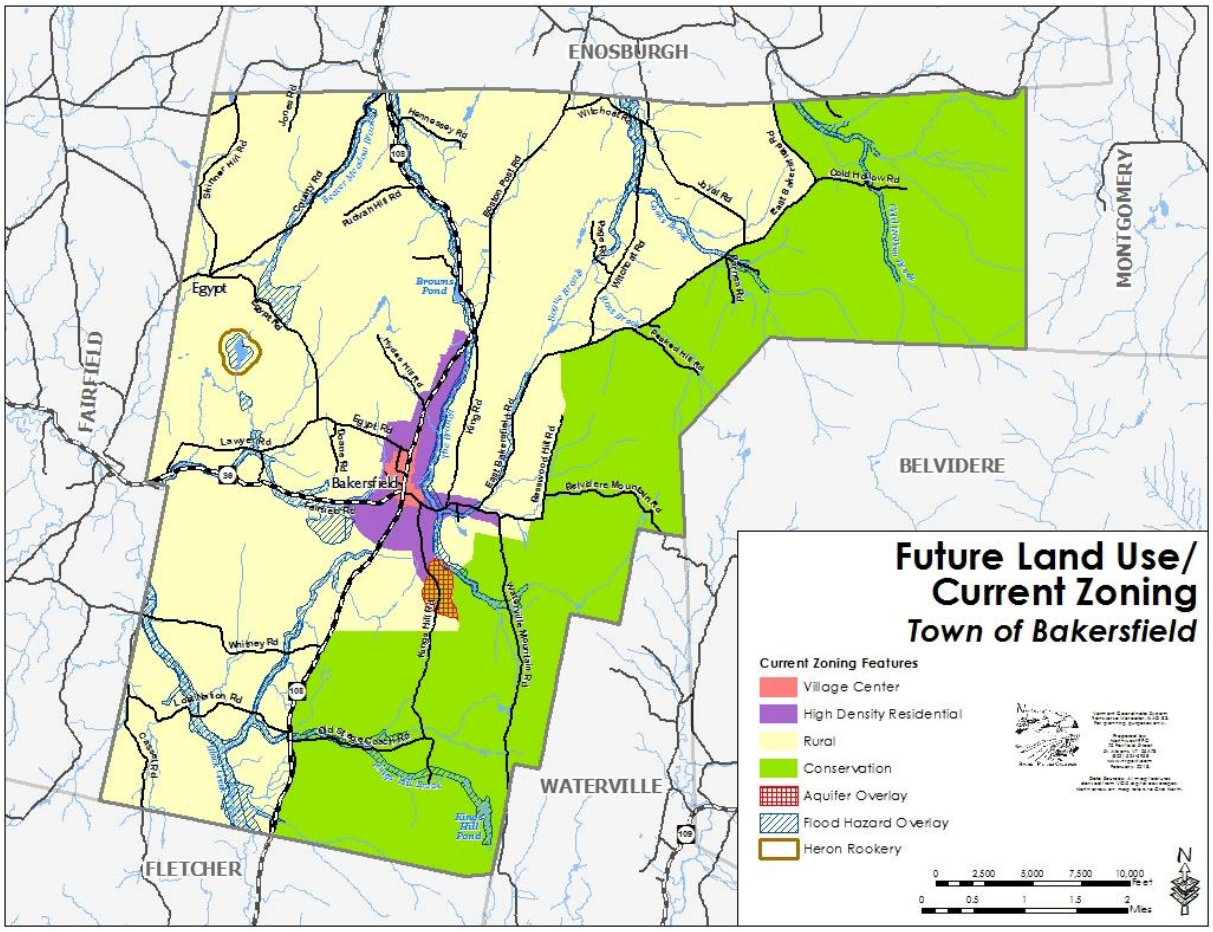


Figure 10.2 Bakersfield Future Land Use/Current Zoning

Conservation District. This district is designated to protect the natural resources and scenic value of mainly forested lands that lack direct access to public roads, are important for wildlife and wildlife habitat, and which are poorly suited for development. Included are areas of high elevation, steep slopes and swamplands. Concern must be given to building on any slope greater the 15% because the soils in these areas tend to be thin and unstable, making them unsuitable for development. The Conservation District includes the watershed that provides Bakersfield's municipal water supply and land uses that might reduce the water quality in this area are restricted. Only limited, low-density development is to be permitted in this district.

Aquifer Overlay District. The purpose of the Aquifer Overlay District is to protect the public health and safety by preserving and maintaining the community water source from incompatible development. No new construction is permitted within the Aquifer Overlay District.

Flood Hazard Overlay District. The purpose of the Flood Hazard Overlay District is to minimize and prevent the loss of life and property, the disruption of commerce, and the extraordinary costs that result from flooding and other flood-related hazards. Within this district, the design and construction of development should be accomplished in a manner that minimizes or eliminates the potential for flooding and loss or damage to life and property. Uses in the flood hazards areas shall be restricted to agriculture, conservation and outdoor recreation.

Goals:

- To maintain Bakersfield's rural character and scenic resources through informed land use decisions
- To accommodate future growth in patterns, densities, and locations that respect traditional patterns of development, and that do not compromise the integrity of natural, historic and cultural resources
- To establish public policies that balance development with the town's ability to provide services
- To protect and promote the continuation of agriculture and forestry as integral component's of Bakersfield's local economy and culture through land use planning

Policies:

- Encourage low development densities where low levels of services are provided, and higher densities only where residences and businesses can be properly served
- Design clustered housing, including housing specifically designed to be affordable, to fit into the cultural, aesthetic, and natural resource landscape of Bakersfield
- Promote anti-sprawl initiatives as a measure to maintain the appropriate use of the town's land resources
- Protect the vitality and importance of the village center by designating it as the primary focus for commerce, while simultaneously preserving its essential historic character and beauty

- Promote new development in areas of existing infrastructure (roads, power, and water) and discourage development in areas without existing infrastructure
- Discourage development in areas which are hazardous to human health and safety
- In subdivision review, encourage lot layouts that respect the natural features of the landscape and do not create long, narrow lots which contribute to sprawl and waste irreplaceable agricultural and silvicultural resources
- Protect prime recreational resources from incompatible land uses and protect scenic qualities of agricultural, forest and riparian lands from unnecessary despoliation
- Permit development only in a manner that is safe for existing drinking water supplies, both public and private
- Protect water quality by limiting development in Wellhead Protection Areas, wetlands, and along stream banks
- Protect river corridors by establishing a minimum setback or "buffer" between development and the streambank
- Promote environmentally sound construction practices, including control of runoff and erosion during all phases of construction and treatment of wastes off of steep slopes
- Protect scenic ridgelines by regulating their development, including the siting of cellular and wind towers
- Steer development away from areas where soils will not support it due to shallow depth to bedrock, instability, or high water table
- Prohibit land development on slopes greater than 25 percent, and maintain vegetative cover
- Conduct development on slopes greater than 15 percent carefully in order to avoid environmental degradation and conditions that create health hazards
- Protect public health, welfare, and safety by prohibiting development in the flood plain and continuing to participate in the National Flood Insurance Program (NFIP)
- Support and encourage participation in land preservation measures, such as those promoted by the Vermont Land Trust
- Maintain the character of existing neighborhoods in the village and avoid potential conflicts between incompatible land uses
- Conserve agriculturally productive lands by accommodating development in areas apart from most farming activity and from areas of prime agricultural soils
- Encourage sustainable agricultural and silvicultural practices to both protect the use of land and water resources, and to keep a working rural landscape based on a practice of stewardship
- Strongly encourage landscaping and site design that reduces adverse impacts of new development
- Protect and promote forestry as a valuable land use in Bakersfield through the creation of a town forest
- Promote alternative small farms which produce products such as cheese, yogurt, market garden, etc.
- Provide incentives for appropriate commercial growth in the village district

Chapter 11. Economic Development

Overview

The term "economy" for purposes of municipal planning refers to resources, production, jobs, income and activities in the town and region that contribute to the economic well-being of local residents, businesses and industries. Economic planning can assist in providing jobs commensurate with the skills and aims of local residents, a more balanced tax base to meet community needs, the protection of important economic resources, and the provision of services and products to support the local community. Poorly planned economic development can adversely affect the local environment, strain municipal services, cause dislocations of businesses and labor, and adversely impact community character.

Bakersfield's local economy remains predominantly rural, agrarian, and resource based. Planning for other forms of economic development in small, relatively isolated communities such as Bakersfield, which have limited infrastructure to support business, retail and industrial growth, is a challenge; but such planning can help highlight local needs, strengths and opportunities.

Local Employment Characteristics

Historically, the Bakersfield economy has relied heavily on agriculture, forestry and education. Today, the largest employment sector for Bakersfield residents are educational services, health care and social assistance, with retail trade, construction, and manufacturing.. Table 13.1 shows the industry sectors within which Bakersfield residents are employed.

Table 11.1 Industries of Bakersfield Residents, 2008-2012

INDUSTRY	Percent of Total
Civilian employed population 16 years and over	
Agriculture, forestry, fishing and hunting, and mining	5.70%
Construction	12.60%
Manufacturing	14.10%
Wholesale trade	3.20%
Retail trade	11.60%
Transportation and warehousing, and utilities	5.00%
Information	3.10%
Finance and insurance, and real estate and rental and leasing	3.80%
Professional, scientific, and management, and administrative and waste management services	2.70%
Educational services, and health care and social assistance	23.20%
Arts, entertainment, and recreation, and accommodation and food services	3.80%
Other services, except public administration	4.30%
Public administration	7.00%
Source: American Community Survey 2008-2012	

Businesses in Bakersfield

Agriculture continues to have a substantial presence in Bakersfield. This includes five dairy farms in Bakersfield and, as discussed in Chapter 3, there are a growing number of small farms engaged in livestock and local/organic food production. There are also several maple sugar producers that process and market their own syrup and X tree farms that raise and sell Christmas trees.

According to a 2012 report from the Vermont Department of Labor, there were 10 commercial establishments in Bakersfield and approximately 113 workers employed in the Town. There is one convenience/country store and a gas station/convenience store in addition to various other types of businesses.

Table 11.2 Unemployment rates from 2009-2013 (not seasonally adjusted)

	2009	2010	2011	2012	2013
Town of Bakersfield	6.4%	4.7%	3.9%	3.8%	3.3%
Franklin County	6.8%	6.4%	5.5%	4.7%	4.3%
Vermont	6.9%	6.4%	5.6%	5.0%	4.4%

Source: Vermont Department of Labor, Economic & Labor Market Information.

Designated Village Center

In June 2011, Bakersfield received "Village Center" designation from the State of Vermont for the area surrounding the village green (See Figure 11.1). This designation entitles those within the Village Center with certain benefits such as tax credits for façade improvements, tax credits for code compliance, and priority consideration for Municipal Planning Grants (MPG) and Community Development Block Grants (CDBG). The Town did receive a Municipal Planning Grant to plan for the redevelopment of Brigham Academy (discussed later), but there has been no other redevelopment associated with the designation program at present.

It is envisioned that designation as a Village Center will foster investment in the village area. This will in turn further the goals included in this plan, such as promoting a mix of development in the village and focusing any economic development within Bakersfield within the village. It will also help further state planning goals such as maintaining "historic settlement pattern of compact village and urban centers separated by rural countryside" and "provide a strong and diverse economy that provides satisfying and rewarding job opportunities and that maintains high environmental standards."

In 2012, Bakersfield received a Municipal Planning Grant, to assess the structural integrity the currently vacant Brigham Academy building, to generate enthusiasm for finding a reuse of the Academy and to identify ways that the building could be reused. The Village Center designation definitively helped strengthen the Town's grant application.

The Brigham Academy is the envisioned foundation of the Village Center The structure, currently undergoing sale from the school district to the Town, has high redevelopment potential. Future uses could include a space for small business incubation and classes for local entrepreneurs. The

Academy gymnasium could be used for exercise and fitness classes for the young and old. Other uses of the space within the Academy could include satellite offices for visits by health care providers including physicians, dentists, nurses, therapists, social workers and mental health counselors.

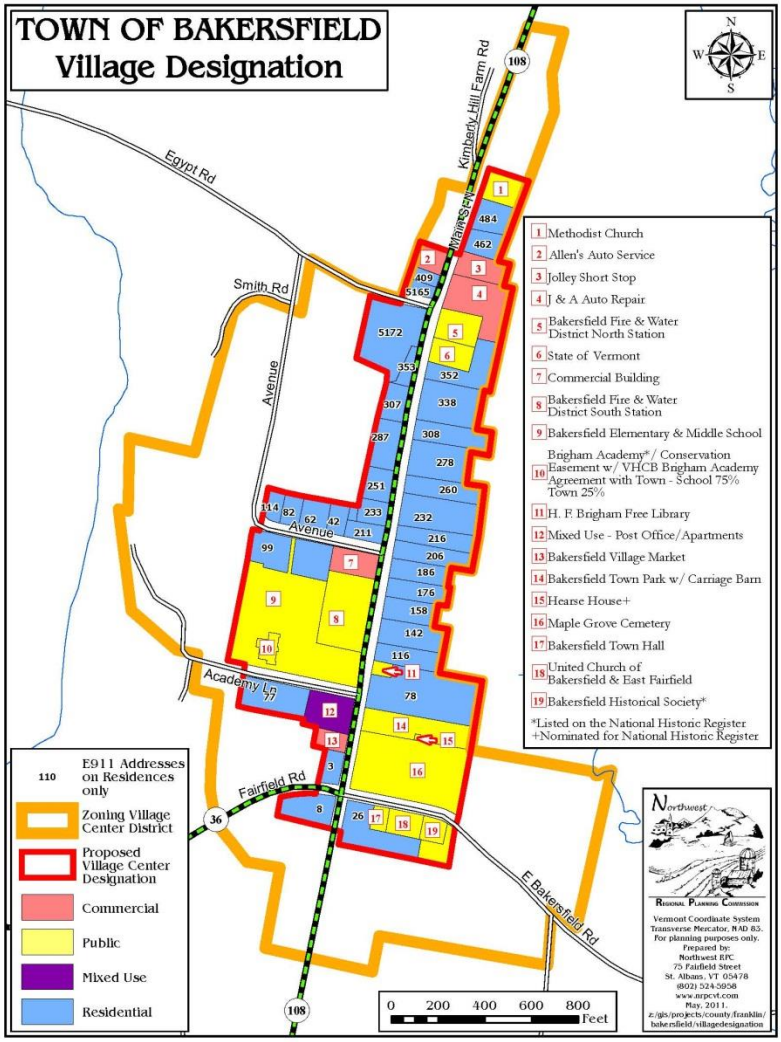


Figure 11.1: Village Designated Area

Future Economic Development

Continued economic health for the Town of Bakersfield lies in the maintenance of viable agricultural soils to support all forms of agricultural activity and the provision of goods and services that support an agrarian economy. The Town should encourage efforts that support its agricultural base, including the protection of primary agricultural soils and farmers' rights to farm; support of tax abatement programs, such as the Use Value Appraisal Program, better known as Current Use.

However, Economic and Labor Market information trends show that agricultural employment has been in steady decline, and more people commute outside of the Town to work. To complement the rural character of the Town and agrarian economy, small commercial enterprises, home occupations and light industry, in appropriate locations, should be encouraged.

The Town recognizes that a particularly effective means to accomplish these goals would be to bring more reliable high-speed (broadband) internet connectivity and cellular service to residents and businesses throughout the Town. Broadband internet connections would encourage and enable small and home-based businesses, and enhance existing businesses in ways that current connections cannot.

Tourists, attracted by the beauty of the town's agricultural landscape, may also play a greater role in the Town's economic future. Related development such as bed and breakfasts, farmers markets, craft shops, or eateries could add to the local economic base.

Challenges to Economic Development

The Town is faced with some challenges to local economic development. By working on these challenges, including sewer capacity, calming traffic, improving the safety of pedestrian activity, and encouraging improvements to telecommunication, the Town will encourage the continued development of a healthy economy in the village area. Many of these challenges are discussed in other chapters of the plan, but are referred to here as they relate to economic development.

Sidewalks and paths.

A safe pedestrian and bicycle environment in the Village will contribute to its economic vitality. Sidewalks completed in 2010 connect Brigham Academy and the school with the library and village park. Continued efforts to improve safe walking and biking could attract future development and encourage tourism. As new development occurs in these areas attention should be given to improving and adding new bike and pedestrian connections.

Sewer Infrastructure. A major barrier to attracting new business in Bakersfield is the lack of public sewage disposal facilities. At present, there is no plan to add public sewage disposal infrastructure in Bakersfield.

Current Technology. To be able to both serve the small businesses and provide for opportunities for working at home, businesses need reliable access to broadband and cellular service. Such advances in telecommunication technology have the potential to significantly impact the local economy as they make rural Bakersfield more attractive to home-based businesses, telecommuters, and other businesses that increasingly rely on broadband for their services. As technology evolves, Bakersfield should continue to work the public and private sectors to improve the local telecommunication infrastructure to ensure that residents have fast, reliable network connections.

Local Economy Goals and Policies

Goals:

- To promote and sustain the local agricultural and forestry economies;
- Encourage the development of appropriate and compatible industry and business in the town;
- Promote a balanced, diverse economic base, with a focus on locally owned enterprises that utilizes the local labor force;
- Promote a mix of new development in the designated village area, and focus a majority of any new commercial development within the village;
- Support and encourage low-impact, home-based businesses.

Policies:

- Maintain zoning bylaws to support the development of home businesses and home industries that fit with the rural character of the community.
- Support the maintenance of and/or upgrade to reliable telecommunications services that support existing, and attract commercial development, such as broadband internet and cell phone service.
- Provide infrastructure in appropriate areas for the retention and attraction of businesses that are consistent with the town's character.
- Commercial and industrial development should not place an undue burden on the Town in terms of services and facilities required from their development and its associated impacts.
- Support agriculture and forestry related businesses, and protect productive agricultural and forestry lands from conversion to incompatible land uses.

Chapter 12. All Hazards Resiliency

Hazard Mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural and human-caused hazards and their effects. Communities can engage in opportunities to identify mitigation strategies and measures during all phases of Emergency Management including Mitigation, Preparedness, Response and Recovery. Hazards may not be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe and identify local actions that can be taken to reduce the severity of the hazard.

Hazard Mitigation Strategies and Measures **alter** the hazard by eliminating or reducing the frequency of occurrence, **avert** the hazard by redirecting the impact by means of a structure or land treatment, **adapt** to the hazard by modifying structures or standards or **avoid** the hazard by stopping or limiting development and could include projects such as:

- Flood-proofing structures
- Tying down propane/fuel tanks in flood-prone areas
- Identifying & modifying high traffic incident locations and routes
- Ensuring adequate water supply
- Elevating structures or utilities above flood levels
- Identifying & upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Buyout & relocation of structures in harm's way
- Establish & enforce appropriate building codes
- Public information

The Town of Bakersfield is actively engaged in hazard mitigation planning. The community is represented on the Local Emergency Planning Committee District 4 serving Franklin County and is a member of the Franklin County International Firefighters Mutual Aid Association. Additionally, the Town of Bakersfield is currently working to adopt a Local Hazard Mitigation Plan (LHMP). The draft LHMP evaluates potential risks to the community and the strategies that address those risks. The draft LHMP evaluated just those natural and human made hazards that are likely to affect the community. The following are a list of hazards that have high to moderate risk for the community, including:

-
- Flooding
- Fluvial erosion/landslides
- High Winds
- Structure Fire
- Severe Winter Storm

This chapter focuses upon identifying and mitigating the most common hazards in Bakersfield. The chapters is particularly focused upon flooding and fluvial erosion to ensure compliance with 24 V.S.A §4382(a)(12).

Flooding

Flooding is a natural occurrence and happens when water rises and inundates the adjacent low-lying land. Residents of every town should be aware of the power inherent in a flood. Proper land use management should be used to ensure that critical floodplain areas are being used appropriately. Development within floodplains poses significant risks and should generally be avoided. River channels and floodplains function as a single hydrologic unit, periodically transferring floodwaters and sediment from one to the other. Appropriate uses of floodplains are those that can accommodate this cycle and allow for areas where the rivers can access the floodplain during high flows. Examples of uses that are appropriate to floodplains include agriculture, open space, and recreation.

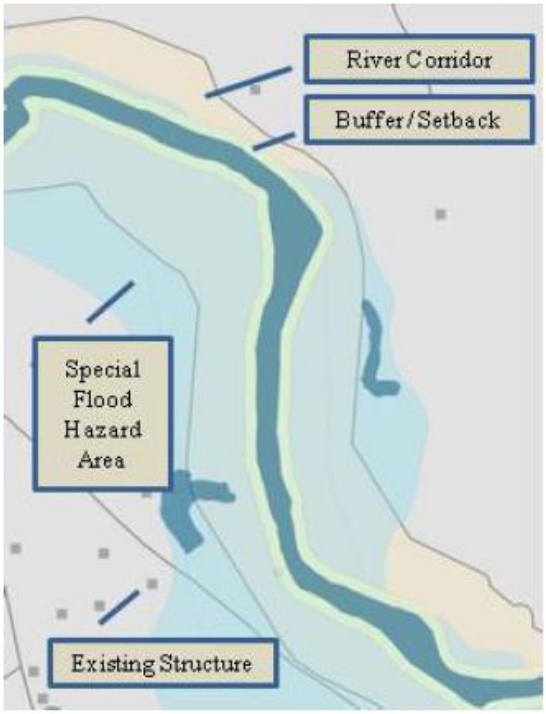


Figure 12.1 Depiction of the Special Flood Hazard Area, River Corridor and Riparian Buffers.

Bakersfield lies within the Tyler Branch and Black Creek subwatersheds of the Missisquoi River basin. The western side of Town drains into the Black Creek subwatershed which includes Black Creek, Elm Brook and Kings Hill Brook. The eastern side of Town drains north to the Tyler Branch and includes Beaver Meadow Brook, Bogue Branch, Cold Hollow Brook, Cooks Brook, Ross Brook, The Branch, and Tyler Branch. The headwaters of the Tyler Branch watershed are located in the Cold Hollow Mountains which form the eastern boundary of Bakersfield and are among the more rugged parts of the Missisquoi River basin.

Flood plains in Bakersfield follow along the brooks and creeks of undeveloped areas of forest lands and marshes and land that is in agricultural use. Summer or fall storms are more likely to be responsible for major flooding. Most flash flooding is caused by heavy rain from thunderstorms. Smaller creeks and streams are particularly vulnerable to flash flooding. Black Creek, the Branch, Beaver Meadow Brook and their tributaries typically flood in the spring of each year, and during periods of concentrated rain events.

The nearest USGS stream gages for the study area are on the Missisquoi River at its outlet in Swanton downstream from Bakersfield and in East Berkshire. Based on the USGS data, several flood events greater than 25 year discharge have occurred over the last 20 years including the years 1992, 1997 and 1998. Based on interviews with landowners, there was a relatively large

flood that occurred in 2002 as well. The last serious flood occurred in November 1927 when dangerous flash flooding was recorded. There is no official record of loss of life. Numerous homes were inundated with rising waters, and many roads in Bakersfield and throughout the State were damaged.

A two day heavy rainfall event occurred on May 18th and 19th, 2006 compounding above normal rainfall conditions. Two day rain fall amounts of 3 to 5 inches were common in Franklin County with locally more than 6 inches along the western slopes of the Green Mountains and Cold Hollow Mountain. Widespread flooding occurred on the 19th and 20th resulting in numerous flooded roads as well as some road and culvert washouts.

On June 29, 2006 a series of thunderstorms and tropical like showers moved over the Bakersfield area during the evening and delivered heavy rainfall on already saturated soils. An unofficial weather spotter reported 3.30 inches of precipitation in 90 minutes. The end result was several flooded basements, a few flooded road culverts, some minor washouts on Route 108 through town and some minor washouts along Route 36 between Bakersfield and Fairfield. There was approximately $20,000 in damages reported in the county.

Floods are a reminder to residents the power inherent in nature and are an urgent reminder of the need for proper management and appropriate use of critical floodplain areas. Development within floodplains poses significant risks and should generally be avoided. River channels and floodplains function as a single hydrologic unit, periodically transferring floodwaters and sediment from one to the other. Appropriate uses of floodplains are those that can accommodate this cycle. Examples of uses that are appropriate to floodplains include agriculture, open space and recreation.

One of the main concerns along the Black Creek is that the Lamoille Valley Rail Trail cuts off access to the floodplain. The State of Vermont and local partners have identified several sites where the rail embankment can be lowered to allow the stream to access the floodplain during high flow events. The two locations in Bakersfield are along TH38 (Lost Nation Road) and Route 108S. Implementation was expected to begin in early 2008.

The Federal Emergency Management Agency (FEMA) defines a floodplain as an area of land adjacent to rivers and streams that is subject to recurring inundation.

Development within floodplains can have many potentially damaging consequences, as construction may obstruct the natural flow of water or displace soil and raise base flood elevations.

<u>Structures in Floodplain</u>

The Federal Emergency Management Agency (FEMA) provides flood insurance under the National Flood Insurance Program (NFIP). In order for property owners to participate in the NFIP, FEMA requires that communities adopt flood hazard regulations. Owners of buildings within the designated special flood hazard areas (SFHA) are required to carry flood insurance in order to get a federally backed mortgage. The Town of Bakersfield has adopted land use regulations for flood hazard areas in order to protect the health, safety, and welfare of its

residents and to allow the community to participate in the National Flood Hazard Insurance Program. A GIS based overlay analysis was conducted by NRPC using Flood Insurance Rate map (FIRM) data with the Vermont E-911 address data of structure location. The results found that there are thirteen (13) structures within the 100 or 500 year flood plain in Bakersfield. Nine (9) are all-season single family units, one (1) mobile home, three (3) are seasonal single family units. There are no Tier II hazardous materials storage sites within the 100 or 500 year flood plain.

An important note: the existing Flood Insurance Rate Maps (FIRMs) are dated January 2, 1981 and the Flood Insurance Study was published in December 1979. While this information is the best available, the hydrology is dated and does not account for shifts in the river channel or the effects of development since 1979 in these areas. The FIRMs were digitized by the Northwest Regional Planning Commission in 1999 to assist in planning efforts and are used to determine approximate locations. The digital version is not used for regulatory rulings. The digital FIRM can be seen in Figure 8.4.

Fluvial Erosion in the River Corridor.

Fluvial erosion is erosion caused by the lateral and vertical movement of streams and rivers. Fluvial erosion and landslides are becoming more common within the Northwestern region of Vermont. The VT Department of Environmental Conservation recommends that the community identify *River Corridors*, or the area along the larger tributaries and rivers, that are susceptible to stream channel adjustment in order to reduce the risk of erosion damage. Historic land uses along the river and its streams including floodplain encroachments and vegetative debris removal have increased the risk of erosion and landslides. Such practices included armoring, dredging, gravel mining and channelization, for the purpose of containing high flows and to protect infrastructure built in the historic floodplains. This has resulted in an increase in the streams' power and has direct effects on the rocks and vegetation that make up the channel boundary. The effects can be varied and may lead to channel instability and increased damages from flooding. Additionally, beaver activity along the western areas of the Tyler Branch watershed has contributed to increased sediment loads in the stream channel.

The Vermont Agency of Natural Resources has partnered with the Missisquoi River Basin Association and the Northwest Regional Planning Commission to conduct Phase 1 and Phase 2 Geomorphic Assessments of several stream reaches within the Tyler Branch watershed. From 2005 to 2008, Phase 2 Geomorphic Assessments were conducted on 20 stream reaches of the Tyler Branch main stem, the Branch, a major tributary of the Tyler Branch, Beaver Meadow Brook and Bogue Branch. The assessments used protocols developed by the Vermont River Management Program. By assessing underlying causes of channel instability and encouraging the stream's return to equilibrium conditions, management efforts can be directed toward long-term solutions that reduce costs and reduce conflicts with ongoing stream processes. Phase 2 involves rapid field assessments on select reaches. A bridge and culvert survey was conducted in conjunction with this assessment for structures within the 20 reaches as well.

The results of assessments led to the development of a corridor protection plan (March 2009) that includes 100 foot setbacks for development. The information was also used to develop a draft fluvial erosion hazards (FEH) map to support flood hazard prevention, mitigation and recovery activities. The map depicts delineated river corridors that should be protected from encroachments thereby preserving channel stability. Impacts to stream dynamics that are not associated with development (including those from agriculture and forestry) are not addressed by setbacks, however. The Phase 2 Geomorphic Assessments identifies several potential mitigation projects that can be viewed in the associated study and the Bakersfield Draft Hazard Mitigation Plan.

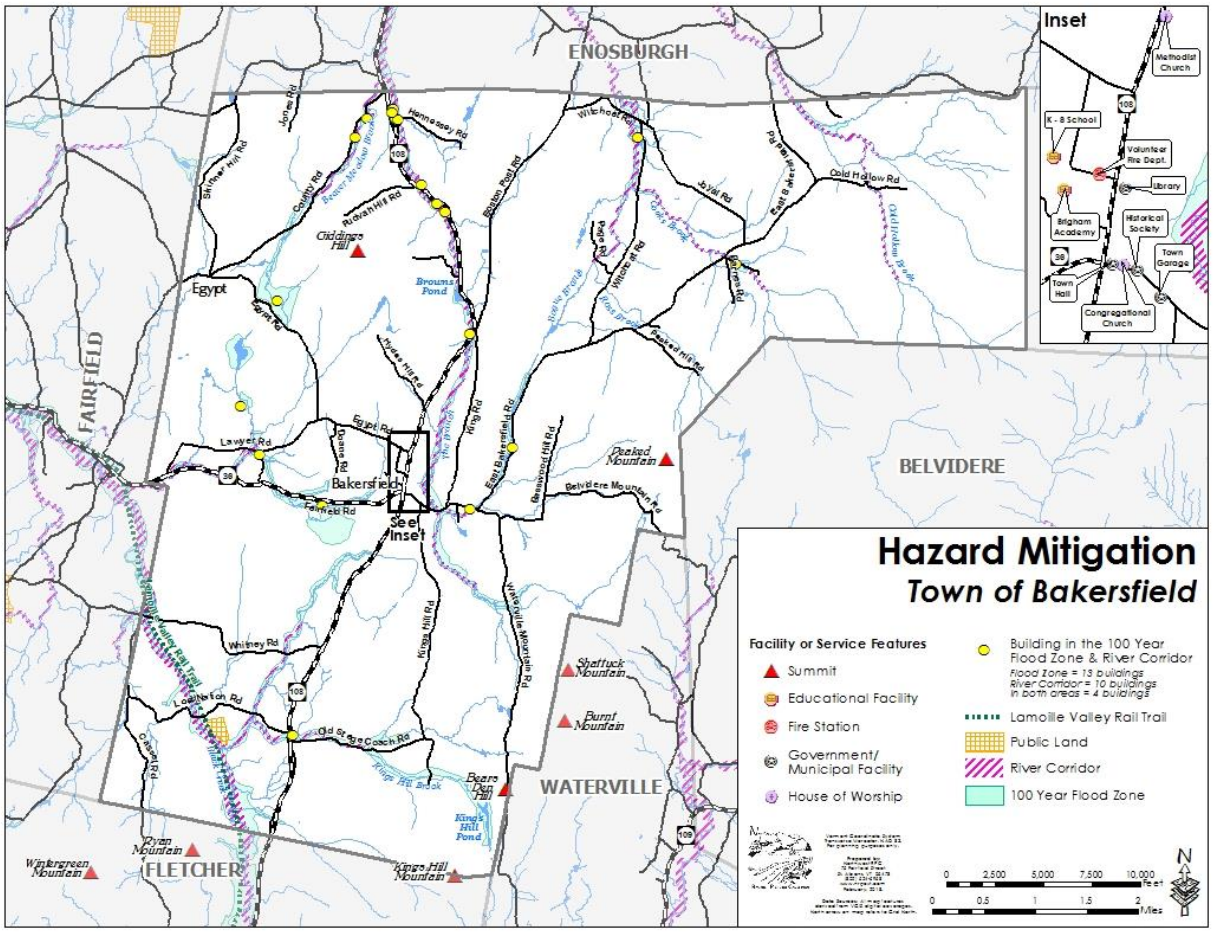


Figure 12.2 – Hazard Mitigation Map

High Winds.

High winds are a hazardous threat to the Town and most commonly accompany other storm events. Violent windstorms are possible in Bakersfield. The Town is far inland and is unlikely to receive a direct hit from a hurricane, however high winds and hail storms have occurred in Town as weakened tropical storms track near the region.

Power lines and trees are most vulnerable to high winds. Power outages may occur resulting in significant loss of business as well as threatening public safety. The Town has a limited ability in quickly restoring lost power caused by damaging high winds. Cleaning up debris following high wind events can be costly depending on the severity of the event.

High winds are common along the Cold Hollow Range on the eastern part of Town as well as along the Branch, Beaver Meadows Brook and Bogue Branch.

The estimated damage from a high wind event occurring to 10% of all structures in Town with 20% damage is $6,968,414. The estimated cost does not include building contents, land values or damages to utilities. Impacts to future populations, residences, new buildings, critical facilities and infrastructure are anticipated to remain the same.

Structure Fires.

Structure fires can occur anywhere. The Town Fire Department receives an average of 6 structure fire calls per year. (2013 there were 5 structure fires and 6 wildland fires according the 2013 Report of the Fire Marshall. The Fire Department also provided assistance to other Towns through Franklin County Mutual Aid. The Fire Department actively upgrades its equipment through federal grant programs.

There are four fire ponds in Bakersfield. They are located on TH34 (Whitney Road), TH14 (County Road), TH42 (Ovitt Road) and TH38 (Lost Nation Road). There are also 10 fire hydrants.

In the village area of Bakersfield, structures that are relatively close raise the risk for multiple structure fire. The impact of this type of incident would primarily be on the commercial sector with a smaller impact on housing. Older historic buildings that lack fire alarms and sprinkler systems are greater at risk for damages.

Estimated loss due to fire damage on 6 structures annually using median home values is $1,265,000 (using estimated single family home value of $202,244 from draft Hazard Mitigation Plan). This loss estimate does not include building contents. Impacts to future populations, residences, new buildings, critical facilities and infrastructure are anticipated to lessen due to new building construction codes and standards which address fire safety.

Winter Storm.

Winter storms affect the entire Town and generally cause disruptions to public and private services. The primary impacts of a storm typically include the disruption to transportation networks, school closings and occasionally telecommunications and power outages. Vulnerable populations such as the elderly, those dependent on medical equipment and specialized health or physical care are at risk to winter storms. Also at risk are farms and associated structures and livestock. Barns can collapse due to heavy snow loads. Dairy cattle are susceptible to mastitis if they are unable to be milked.

Severe winter storms are accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds with these

intense storms and cold fronts can knock down trees, utility poles, and power lines. Extreme cold often accompanies a severe winter storm or is left in its wake. Prolonged exposure to the cold can cause frostbite or hypothermia and become life-threatening. Infants and elderly people are most susceptible. Severe winter storms can bring heavy accumulations of ice which can down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. Even small accumulations of ice may cause extreme hazards along roadways.

The Town's recent history has not recorded any loss of life due to the extreme winter weather. These random events are difficult to set a cost to repair or replace any of the structures or utilities affected. Impacts to future populations, residences, new buildings, critical facilities and infrastructure are anticipated to remain the same.

The Town is equipped to handle typical winter emergencies, including keeping roads open and repairing downed infrastructure. The town has access to private machinery, including bulldozers, plows, ATVs and snowmobiles, should they be needed in the

The National Climatic Data Center lists 194 snow and ice events for Franklin County between January 1, 1950 and October 31, 2009. A listing of the most severe winter storms can be seen in the draft Hazard Mitigation Plan. Below is a selection of the recent severe winter storms:

On January 6th 1998 a winter storm affected the Town and produced some flooding along streams. Snow turned to freezing rain and produced power outages into the area. This storm is referred to as the Ice Strom of 1998 (FEMA-1201-DR-VT), but the weather was more akin to a traditional winter storm than an ice storm. It is not known what the financial losses were to the Town as a result of the storm. Public Assistance funding was $5,899,183

On February 14, 2007 a winter storm, referred to regionally as the "Valentine's Day Storm", blanketed most of New England. In Vermont, snow fell heavy at times from late morning through early evening before dissipating during the night. Snowfall rates of 2 to 4 inches per hour and brisk winds of 15 to 25 mph caused near whiteout conditions at times, along with considerable blowing and drifting snow, making roads nearly impassable. Temperatures in the single numbers combined with brisk winds created wind chill values of 10 degrees below zero or colder in Bakersfield.

During December 20-26, 2013 (DR-4163) a wide-spread low pressure system that brought snow and freezing rain through Ontario, Quebec, and Northern New England. These areas experienced an ice storm that brought wide-spread power outages. Many Towns throughout Franklin County, Vermont were affected by the ice storm. Vermont Electric Cooperative responded to over 60,000 customer outages during the week and estimated costs of restoring power at $7,400,000. In Bakersfield, the highway department was active keeping roads open

and removing ice damaged trees and limbs from local roads. Many residents were without power for several days.

Goals:

- Encourage and foster an all hazards disaster resilient community.
- Reduce the loss of life and injuries that result from disasters.
- Reduce damages to public infrastructure resulting from all hazards events through hazard mitigation planning and project implementation.

Policies:

- Encourage and foster an all hazards disaster resilient community.
- Reduce the loss of life and injuries that result from disasters.
- Reduce damages to public infrastructure resulting from all hazards events through hazard mitigation planning and project implementation.
- Encourage flood emergency preparedness and response planning.
- Encourage the protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion.
- Continue to implement high priority projects identified in the Local Hazard Mitigation Plan
- Adopt annually the Local Emergency Operations Plan.
- Participate in the Franklin County Mutual Aid Agreement.
- Resiliency measures will be compatible with natural features, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, historic resources; character of neighborhoods; and the capacity of the community to implement them.
- Emergency Management, and the road crew to plan improved emergency response capacity (operations, training, equipment) during natural disasters.
- Evaluate the flood hazard regulations for opportunities to incorporate measures to increase public safety and reduce future damages.
- Consider adopting and implementing river corridors and buffers to discourage future development in high risk areas for flooding or erosion hazards.
- Explore participation in the FEMA Community Rating System (CRS) so as to secure a discount on flood insurance
- Incorporate mitigation measures when developing improvements or expansion to municipal infrastructure.
- Adopt and implement the most recent (currently 2013) VTrans Town Road and Bridge Standards, or stricter standards.

Chapter 13. Implementation Plan

Throughout this Town Plan, goals and policies have been identified which are intended to move Bakersfield closer to the vision described in Chapter 1. There are a number of ways that towns can implement a town plan, including but not limited to:

- Plans and studies;
- Land Use Regulations, including zoning and subdivision regulations;
- Financial measures including capital expenditures for town facilities, use of town resources, tax policies, and grants; and
- Public education and outreach.

Furthering the goals and policies of the town plan is not only the responsibility of the Planning Commission or Selectboard, but of all town boards, employees, and citizens. A list of municipal roles and responsibilities is included as Appendix II of this Town Plan.

Top Action Items
Over the next five years the Bakersfield Selectboard, Planning Commission and other groups are **strongly** recommended to take action to implement the following:

Selectboard
The Selectboard should:

(1) Assist the Planning Commission in updating the zoning bylaws to reflect the goals and policies of the 2014 Bakersfield Town Plan.
(2) Continue to work with and seek support from other agencies and organizations in the process of achieving the goals that were set forth in the Town Plan.
(3) Seek opportunities for ongoing training and education.
(4) Seek ongoing input into planning decisions.

Planning Commission
The Planning Commission should:

(1) Take the lead in updating Zoning and Subdivision Ordinances to reflect the goals and policies of the 2018 Bakersfield Town Plan.
(2) Continue to work with and seek support from other agencies and organizations in the process of achieving the goals that were set forth in the Town Plan.
(3) Seek opportunities for ongoing training and education.
(4) Seek ongoing input into planning decisions.
(5) Investigate with the Select Board the splitting of the Planning Commission into a Planning Board and Development Review Board, with the dissolution of the Zoning Board of Adjustment.
(6) Conduct an inventory of scenic view in Bakersfield and amend the bylaws to protect identified scenic views.
(7) Implement the actions items listed in the Energy Chapter

Chapter 14. Compatibility with Surrounding Towns

Land use patterns are shaped by many factors beyond the borders of a community, including the economy, the housing market, employment trends, transportation opportunities, energy costs, etc. In working to attain the desired land use patterns, it is important that planning efforts be coordinated across municipal boundaries. The Town of Bakersfield shares borders with the Towns of Fletcher, Fairfield, Enosburgh and Montgomery in Franklin County and the Towns of Belvidere and Waterville in Lamoille County. This chapter will provide a summary of the land use plans and regulations implemented by each of the communities and consider the compatibility of these efforts. While this will provide a snapshot in time, it is also important to seek opportunities for on-going coordination between communities and at the regional level to avoid potential conflicts and effectively work towards common goals.

Compatibility with Fletcher

The Town of Fletcher borders Bakersfield to the south. Fletcher adopted its most recent town plan on September 19, 2005. The plan seeks to maintain the rural character of the community, to provide for orderly development that enhances the quality of life for Fletcher residents, and to require that all development be pursued with strict regard to the capacity of the land. From 2000-2010, Fletcher experienced similar population growth rates as compared with Bakersfield.

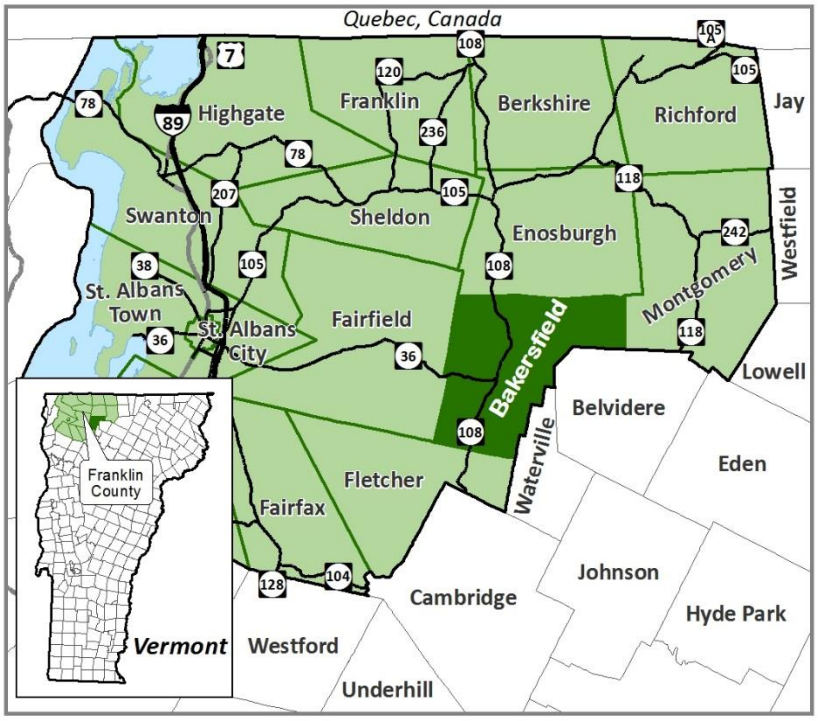


Figure 14.1 – Bakersfield Location Map

To regulate land use, Fletcher has adopted zoning and subdivision regulations. These regulations were most recently adopted October 24, 2002. Along its border with Bakersfield, to the west of route 108 is Fletcher's forest district, which shares similar goals to Bakersfield's conservation district and requires a similar density of development. To the east is Fletcher's conservation district, which requires a density of one unit per 10 acres, similar to the density requirement in Bakersfield's adjoining rural district. Along route 108, Fletcher has designated the rural residential/ag district, the purpose of which is "to provide for and protect residential, agricultural, forestry and compatible commercial and recreational uses." While this district allows for a greater density of development (2 acres/unit) than the adjoining land in Bakersfield, this is not considered an incompatible use of land in this area.

Compatibility with Fairfield

To the west of Bakersfield, lies Fairfield. According to the town plan, adopted on December 14, 2009, "It is the primary and fundamental intention of Fairfield to remain a rural, agricultural town." Fairfield is currently in the process of updating its town plan, including its Growth Management Plan. The current Growth Management Plan has established a cap of ten building permits issued per year, which serves to slow growth to a rate the community can accommodate.

Fairfield most recently revised its zoning and subdivision regulations on May 14, 2012. The town is divided into seven zoning districts: Agricultural/Rural Residential, Chester A. Arthur Scenic District, East Fairfield District, Fairfield Center District, Fairfield Swamp District, Lake District, and the Uplands District.

Bakersfield has designated the entire length of this boundary to be in the rural district. In Fairfield, the south side of route 36 is in the uplands district, in which agricultural and forestry uses and essential public services are the only permitted uses. Much of northern Fairfield is designated as agricultural/rural residential, which is intended to preserve rural character and protect agricultural resources while providing for residential, agricultural, forestry, and compatible commercial and recreational uses. Along the Chester A. Arthur Road, Fairfield has designated a scenic district which intersects the northwestern corner of Bakersfield. These land uses are compatible with the adjoining rural district in Bakersfield.

Along Route 36 is the area designated as the East Fairfield district, which provides for residential, commercial and other compatible development that serve the needs of the town and maintain the traditional, social and physical character of the village. Maintaining the vitality of East Fairfield village is consistent with the goals of the Bakersfield plan. By designating the area between East Fairfield village and Bakersfield village as rural, the town of Bakersfield seeks to limit the potential for strip development along route 36 and to maintain the two centers as distinct.

Compatibility with Enosburgh

Enosburgh lies to the north of Bakersfield. Enosburgh is currently in the process of updating their town plan. According to their most recent plan, adopted on August 19, 2013, the town of Enosburgh seeks to preserve its unique character, protect natural resources, promote agriculture and forestry, and provide employment opportunities and a high quality of life for residents.

Enosburgh most recently updated its zoning regulations on May 27, 2013. The town is divided into five zoning districts: Village of Enosburg Falls, Agricultural, Rural Residential, Conservation and Wellhead Protection. There are also three overlay districts: Natural Resources Overlay, Wetland Overlay, and Flood Hazard Overlay.

Along most of its border with Bakersfield, Enosburgh is designated as Rural Residential. The mountainous area to the east is within the Conservation Zone. These areas are compatible with the adjacent Rural and Conservation Districts in Bakersfield.

Compatibility with Montgomery
Bakersfield shares a short border to the east with Montgomery. This border is mountainous and sparsely populated. There are no roads connecting Bakersfield directly to Montgomery.

The Montgomery Town Plan, adopted on August 19, 2010, calls for preserving the town's rural character, protecting its natural resources, and maintaining unique cultural resources including its two historic villages and six covered bridges.

Montgomery implements its land use policies through zoning regulations (most recently adopted on March 1, 2005) but does not have subdivision regulations. The area bordering Bakersfield is designated as the Conservation II district. This district requires a 20 acre minimum lot size and the only permitted uses are agriculture, forestry, water storage and reservoirs, and wildlife refuge. Camps are considered a conditional use in this district. These regulations are consistent with the adjoining conservation district in Bakersfield.

Compatibility with Belvidere
The Town of Belvidere is located in Lamoille County to the east of Bakersfield. The Town Plan was adopted on May 5, 2005. The goals of the Town Plan are to control growth to avoid undue tax burden on residents, to protect natural resources, to promote agriculture and forestry practices, and to ensure that land use decisions are made locally. The town of Belvidere does not have zoning or subdivision regulations, but does regulate development within the floodplain in accordance with the National Flood Insurance Program.

Compatibility with Waterville
Waterville is also located in Lamoille County to the east of Bakersfield. Like Belvidere, Waterville does not have zoning or subdivision regulations. They do have a town plan adopted originally on September 22, 2003 and revised on May 4, 2009. Goals of this plan include: "Keep Waterville small and rural in order to preserve the quality of life here" and "Encourage preservation of Waterville's natural resources and scenic beauty, including water resources, open land, mountaintops and ridges, forest and agricultural land, trails and views."

Compatibility with Northwest Regional Plan
The Town of Bakersfield is an active member of the Northwest Regional Planning Commission. Each of the municipalities in Franklin and Grand Isle Counties has representation on the Board of Commissioners. Bakersfield currently has two members regularly representing at Board meetings. The most recent Northwest Regional Plan was adopted on July 29, 2015 and was amended on June 28, 2017. The Bakersfield Town Plan will be reviewed by the Regional Planning Commission in order to ensure compatibility and receive regional confirmation and approval.

Based on this analysis, none of the goals, objectives or recommendations in the Bakersfield Town Plan will adversely affect the plans or development trends of the neighboring communities or the region. Bakersfield will continue to work with neighboring municipalities when implementing this plan.

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Appendix I. Summary of Goals and Policies

Historic and Archaeological Resources

Goals:

- To preserve important historic and archaeological resources in Bakersfield
- To recognize and respect Bakersfield's rich history in decisions regarding land use and development

Policies:

- Protect sites of archaeological and/or historical significance
- Encourage the adaptive reuse of the Brigham Academy and other historic buildings to meet the needs of the Bakersfield community.
- Encourage efforts to secure grants and raise funds for the preservation of historic and archaeological resources
- Identify sites of potential archaeological and/or historical significance, and produce a document and map that locates and describes these sites
- Encourage appropriate design and land use compatible with the historic character of the village
- Encourage the planting of trees in the schoolyard and parks, and throughout the town.

Utilities, Facilities and Services

Goals:

- To provide municipal services and facilities that adequately protect the health, safety and welfare of the people of Bakersfield
- To provide for the physical safety of residents with high quality fire, emergency medical, and law enforcement services
- To promote communication of Bakersfield residents with each other and with a wider community
- To provide code- compliant interior spaces that support community activities

Policies:

- Look ahead and predict the town's future needs in regard to public facilities and services based on patterns of growth and development
- Consider other growth control measures, including development of a capital budget, a yearly limit on the maximum number of building permits, and phasing of building construction, to reduce the impact of development on municipal services
- Identify equipment and facilities that need to be upgraded and develop methods of financing the replacements.
- Evaluate the extension of municipal services based on system adequacy and fiscal feasibility
- Explore opportunities to coordinate in the provision of septic services for buildings within the village core

- Consider if and when a municipal wastewater system would be appropriate and cost effective to service the village area
- Ensure that the municipal water system continues to provide adequate, healthy, clean drinking water for village residents and that the water supply remains public and is not privatized
- Identify and pursue opportunities for funding to enhance police protection in Bakersfield
- Continue to recruit and train volunteers for fire and emergency services
- Consider opportunities for the adaptive reuse of historic buildings
- Provide adequate recreational facilities to meet the needs of community residents
- Encourage intergenerational programs that promote healthful living
- Restore the Brigham Academy building to serve as a multi-purpose municipal facility for education, senior/affordable housing, recreation, and/or other community use
- Ensure that designated emergency shelters are accessible and properly equipped.
- Continue to provide library services that meet the needs of the community
- Support efforts to educate residents about solid waste disposal options, currently available through NWSWD, in order to reduce junk and hazardous materials from being disposed of improperly
- Prohibit the unregulated storage of junk cars and other waste on properties in Bakersfield and require clean-up of existing sites
- Consider the establishment of a transfer station for processing junk vehicles for transportation to a local, permitted junkyard
- Encourage the Selectboard to adopt municipal ordinances to enforce the clean up of junkyards and other "quality of life" issues, such as farm animals in the village, noise pollution, etc.
- Support the enhancement of the telecommunications network when such facilities do not have significant adverse health, environmental or scenic impacts
- Establish and maintain a website that provides information on Bakersfield town governance and a calendar of town activities
- Support the retention of the US Post Office in the village

Transportation

Goals:

- To provide and maintain a safe, convenient, cost-effective, and functional transportation network for vehicular, pedestrian, and recreational use within the town
- To promote public transit and carpooling and to provide commuter parking

Policies:

- Assure the town's ability to provide public safety for any development by town regulation of all classes of roads, including access to private roads
- Maintain town roads according to a systematic review of condition and levels of use

- Reclassify Class 4 roads, which are not expected to serve public uses for motorized traffic, to legal trail status so that they may continue to be used for recreational uses and the right of way kept for future use
- Provide road signs, where necessary, for safety and traffic control purposes
- Assess the traffic impact of any new development on local roads before granting building or subdivision permits
- Limit road or driveway extension into important resource areas, including critical natural areas, wellhead protection areas, large blocks of intact forest, and important agricultural lands
- Design all future roads, including culverts and ditching, that are to be taken over and/or maintained by the town to standards approved by the Selectboard
- Maintain the scenic character of the town's rural byways
- Participate in the Northwest Regional Planning Commission's Transportation Advisory Committee (TAC)
- Encourage the expansion of the sidewalks within the village, including the current Bakersfield Sidewalk Project, to provide improved pedestrian access and safety
- Reduce the speed limit to 25 miles/hour within the Village District
- The Town should explore the possibility of changing the recreational ATV ordinance

Energy

Goals

- Plan for increased electric demand with the support of local electric utilities and Efficiency Vermont.
- Reduce annual fuel needs and fuel costs for heating structures, to foster the transition from non-renewable fuel sources to renewable fuel sources, and to maximize the weatherization of residential households and commercial establishments.
- Hold vehicle miles traveled per capita to 2011 levels through reducing the amount of single occupancy vehicle (SOV) commute trips and developing public transit ridership.
- Focus growth within and adjacent to the village.

Policies

- Bakersfield supports energy conservation efforts and the efficient use of energy across all sectors.
- Bakersfield supports the reduction of transportation energy demand, reduction of single-occupancy vehicle use, and the transition to renewable and lower-emission energy sources for transportation.
- Bakersfield supports patterns and densities of concentrated development that result in the conservation of energy. This includes support of public transit connections from Bakersfield to other parts of the region and considering access to public transit when reviewing Act 250 applications.
- Bakersfield supports the development and siting of renewable energy resources in the Town that are in conformance with the goals, strategies, and mapping outlined in this

plan. Development of generation in identified preferred locations shall be favored over the development of other sites.

- Bakersfield supports the conversion of fossil fuel heating to advanced wood heating systems or electric heat pumps.
- Support local farms and the local food system.

Education and Childcare

Goals:

- To provide exemplary educational services to the children of Bakersfield.
- To broaden access to educational and vocational training opportunities sufficient to ensure the full realization of the abilities of all Vermonters.
- To ensure that regulation of land development in Bakersfield does not negatively impact the availability of safe and affordable childcare.

Policies:

- Establish fair and effective measures to control the pace and impact of development on educational services.
- Assess the need for and availability of childcare services in Bakersfield
- Support programs such as "Caring Communities, " the Teen Center, and "Success by Six"

Natural Resources

Goals:

- To protect the natural integrity and quality of wetlands and watercourses, wildlife habitats, ground water and aquifers, populations of rare and endangered species, forests and all other irreplaceable natural resources
- To enhance environmental quality, preserve the character of Bakersfield, and protect its natural assets

Policies:

- Prohibit all land development on slopes greater than 25 percent and maintain vegetative cover
- Conduct development on slopes greater than 15 percent carefully in order to avoid environmental degradation and conditions that create health hazards
- Carefully control runoff and erosion should during all phases of construction
- Inventory the town for high quality wetlands and watercourses, wildlife habitats, ground water and aquifers, populations of rare and endangered species, forests and all other irreplaceable natural resources
- Restrict the density of development in these critical areas to levels that will have minimal impact

- Discourage development within ecologically sensitive areas including wetlands, steep slopes, and areas with shallow soils
- Protect groundwater resources by prohibiting development in those areas where the water table is less than 1.5 feet below the surface
- Permit development only in a manner that is safe to existing water supplies, both public and private
- Prohibit new construction within the Wellhead Protection Area, as designated by the Vermont DEC
- Minimize the impact of development on streams and floodplains to allow them to perform their natural functions
- Encourage the use of Low Impact Development (LID) strategies to treat stormwater on-site
- Promote the natural balance of the hydrologic regime by controlling excess runoff and maintaining natural water infiltration and storage capacities
- Encourage development within shoreline areas of streams, lakes or ponds that is compatible with the natural beauty of the area.
- Require sufficient setbacks to prevent erosion along streambanks or shorelands and pollution from subsurface sewage disposal systems, and to retain visual and physical access to the water bodies
- Prohibit land development resulting in the loss of wetland storage capacity
- Prohibit additions to wetlands of any substances that are likely to increase the concentration of materials beyond their assimilative capacities
- Promote development in proximity to wetlands and streams that preserves their value for education, science, aesthetics and recreation
- Incorporate vegetated buffers from streams, rivers and ponds into Bakersfield's zoning bylaws in order to better protect water quality
- Develop and utilize Fluvial Erosion Hazard Maps to minimize losses from flooding and erosion
- Develop a plan to establish a Town Forest

Housing

Goals:

- To ensure the provision of adequate, safe and affordable housing for all income and age groups in an environment that is safe and visually attractive
- To promote new and renovated residential development that reinforces and reflects the traditional forms and historic patterns of residential community settlements and efficiently utilizes existing and planned infrastructure
- To encourage construction and renovation of housing that promotes energy efficiency

Policies:

- Promote innovative approaches to developing affordable housing, including planned unit developments

- Determine residential densities on the basis of topography, soil conditions, proximity to highways, cost of providing mandated public services, and conservation of natural resources, as well as capacity to meet Vermont Agency of Natural Resources requirements
- Conserve and protect the quality and vitality of existing residential neighborhoods or areas, and encourage the renovation of old and deteriorating dwellings
- Encourage siting of new housing development to preserve the greatest amount of open space and blend harmoniously with the surrounding landscape
- Allow the building of accessory apartments within or attached to single family residences in accordance with state law
- Support efforts that assist elderly and disabled residents who want to remain in their homes, and community-based health care systems that enable elderly and disabled people to remain in their communities
- To the extent possible, locate new housing for elderly and disabled residents in proximity to Bakersfield village and existing infrastructure and services, including consideration of the Brigham Academy building for this purpose.
- Promote the use of natural, non-toxic energy efficient materials in the renovation of existing and the construction of new housing

Land Use

Goals:

- To maintain Bakersfield's rural character and scenic resources through informed land use decisions
- To accommodate future growth in patterns, densities, and locations that respect traditional patterns of development, and that do not compromise the integrity of natural, historic and cultural resources
- To establish public policies that balance development with the town's ability to provide services
- To protect and promote the continuation of agriculture and forestry as integral component's of Bakersfield's local economy and culture through land use planning

Policies:

- Encourage low development densities where low levels of services are provided, and higher densities only where residences and businesses can be properly served
- Design clustered housing, including housing specifically designed to be affordable, to fit into the cultural, aesthetic, and natural resource landscape of Bakersfield
- Promote anti-sprawl initiatives as a measure to maintain the appropriate use of the town's land resources
- Protect the vitality and importance of the village center by designating it as the primary focus for commerce, while simultaneously preserving its essential historic character and beauty
- Promote new development in areas of existing infrastructure (roads, power, and water) and discourage development in areas without existing infrastructure

- Discourage development in areas which are hazardous to human health and safety
- In subdivision review, encourage lot layouts that respect the natural features of the landscape and do not create long, narrow lots which contribute to sprawl and waste irreplaceable agricultural and silvicultural resources
- Protect prime recreational resources from incompatible land uses and protect scenic qualities of agricultural, forest and riparian lands from unnecessary despoliation
- Permit development only in a manner that is safe for existing drinking water supplies, both public and private
- Protect water quality by limiting development in Wellhead Protection Areas, wetlands, and along stream banks
- Protect river corridors by establishing a minimum setback or "buffer" between development and the streambank
- Promote environmentally sound construction practices, including control of runoff and erosion during all phases of construction and treatment of wastes off of steep slopes
- Protect scenic ridgelines by regulating their development, including the siting of cellular and wind towers
- Steer development away from areas where soils will not support it due to shallow depth to bedrock, instability, or high water table
- Prohibit land development on slopes greater than 25 percent, and maintain vegetative cover
- Conduct development on slopes greater than 15 percent carefully in order to avoid environmental degradation and conditions that create health hazards
- Protect public health, welfare, and safety by prohibiting development in the flood plain and continuing to participate in the National Flood Insurance Program (NFIP)
- Support and encourage participation in land preservation measures, such as those promoted by the Vermont Land Trust
- Maintain the character of existing neighborhoods in the village and avoid potential conflicts between incompatible land uses
- Conserve agriculturally productive lands by accommodating development in areas apart from most farming activity and from areas of prime agricultural soils
- Encourage sustainable agricultural and silvicultural practices to both protect the use of land and water resources, and to keep a working rural landscape based on a practice of stewardship
- Strongly encourage landscaping and site design that reduces adverse impacts of new development
- Protect and promote forestry as a valuable land use in Bakersfield through the creation of a town forest
- Promote alternative small farms which produce products such as cheese, yogurt, market garden, etc.
- Provide incentives for appropriate commercial growth in the village district

Economic Development

Goals:

- To promote and sustain the local agricultural and forestry economies;
- Encourage the development of appropriate and compatible industry and business in the town;
- Promote a balanced, diverse economic base, with a focus on locally owned enterprises that utilizes the local labor force;
- Promote a mix of new development in the designated village area, and focus a majority of any new commercial development within the village;
- Support and encourage low-impact, home-based businesses.

Policies:

- Maintain zoning bylaws to support the development of home businesses and home industries that fit with the rural character of the community.
- Support the maintenance of and/or upgrade to reliable telecommunications services that support existing, and attract commercial development, such as broadband internet and cell phone service.
- Provide infrastructure in appropriate areas for the retention and attraction of businesses that are consistent with the town's character.
- Commercial and industrial development should not place an undue burden on the Town in terms of services and facilities required from their development and its associated impacts.
- Support agriculture and forestry related businesses, and protect productive agricultural and forestry lands from conversion to incompatible land uses.

All Hazards Resiliency

Goals:

- Encourage and foster an all hazards disaster resilient community.
- Reduce the loss of life and injuries that result from disasters.
- Reduce damages to public infrastructure resulting from all hazards events through hazard mitigation planning and project implementation.

Policies:

- Encourage and foster an all hazards disaster resilient community.
- Reduce the loss of life and injuries that result from disasters.
- Reduce damages to public infrastructure resulting from all hazards events through hazard mitigation planning and project implementation.
- Encourage flood emergency preparedness and response planning.
- Encourage the protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion.
- Continue to implement high priority projects identified in the Local Hazard Mitigation Plan
- Adopt annually the Local Emergency Operations Plan.

- Participate in the Franklin County Mutual Aid Agreement.
- Resiliency measures will be compatible with natural features, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forests, historic resources; character of neighborhoods; and the capacity of the community to implement them.
- Emergency Management, and the road crew to plan improved emergency response capacity (operations, training, equipment) during natural disasters.
  - Evaluate the flood hazard regulations for opportunities to incorporate measures to increase public safety and reduce future damages.
  - Consider adopting and implementing river corridors and buffers to discourage future development in high risk areas for flooding or erosion hazards.
  - Explore participation in the FEMA Community Rating System (CRS) so as to secure a discount on flood insurance
  - Incorporate mitigation measures when developing improvements or expansion to municipal infrastructure.
  - Adopt and implement the most recent (currently 2013) VTrans Town Road and Bridge Standards, or stricter standards.

Appendix II. Municipal Roles and Responsibilities

Adapted from: http://www.sec.state.vt.us/municipal/pubs/who'swho.html

Agent to Convey Real Estate *(appointed)* - Executes the deeds on behalf of the town. 24 V.S.A. § 1061

Auditor *(elected)* – Review and audit all town accounts and prepare the annual town report. Should be very detail oriented. Good writing skills are a plus. 17 V.S.A. § 2649

Building Inspector and Deputy Inspector *(appointed)* - Appointed only in towns that have adopted a building code. Performs inspections and enforces the local building code. 24 V.S.A. § 3102, 3103, 3108

Cemetery Commissioner *(elected)* – Responsible for the care and management of the town's cemeteries. If no cemetery commissioners are elected the Selectboard fulfills this role. 18 V.S.A. § 5431 et seq

Chairperson for Civil Defense *(appointed)* - responsible for the organization, administration and operation of the local committee that is formed for emergency management in the town or city. The emergency management chairperson is under the direct control of the selectboard but may coordinate his or her emergency management efforts with neighboring towns and cities and with the state emergency management division, and with the federal government. 20 V.S.A.§ 6

Collector of Current Taxes *(elected)* - Collects the taxes for the town. In many towns this function is performed by the Treasurer or Town Manager. Should be detail oriented and good with numbers. 17 V.S.A. § 2646(8)

Collector of Delinquent Taxes *(elected)* – Collects delinquent taxes for the town. Should be good with numbers and also able to work with people who are in difficult circumstances. Should also have thick skin. 17 V.S.A. § 2646(9)

Constable *(elected)* – In some towns the constable is the town's local law enforcement officer, with all powers of search, seizure and arrest within the town. In other towns the constable only has the power to serve civil process, assist the health officer in the discharge of his or her duties, destroy unlicensed dogs, kill injured deer, remove disorderly people from town meeting, and, if the First Constable, to collect taxes, if no tax collector is elected. Should be good at de-escalating and resolving conflicts. 17 V.S.A. § 2646(7)

Conservation Commission Members *(appointed)* – Inventory the natural resources of a community and purchase and administer municipal lands for the purpose of conservation. 24 V.S.A. § 4502

Fence Viewers *(appointed)* - Three viewers are appointed by the selectboard each year. When called upon, they examine fences and other boundaries within the town. 24 V.S.A. § 871

Grand Juror *(elected)* – Helps to prosecute criminal offenses that occur in the town by giving information to state and local law enforcement. (Generally not a very active position.) 17 V.S.A. § 2646(10)

Health Officer *(appointed)* **-** Appointed by the Commissioner of Health to a 3-year term after recommendation by the town selectboard. Enforces the rules and regulations for the prevention and abatement of public health hazards. 18 V.S.A. § 601

I**nspectors of Lumber** *(appointed)* – Appointed upon request to examine, measure, and classify the quality of lumber, shingles and wood sold within the town. 24 V.S.A. § 871

Inspector of Wiring *(appointed)* **–** Inspects electrical wiring in buildings on request of the selectboard. 24 V.S.A. § 1033

Listers *(elected)* – Appraise property within the town for the purpose of property tax assessment. Should be able to be polite, yet firm, and not be oversensitive to criticism. 17 V.S.A. § 2646(5)

Moderator *(elected)* – Runs the Annual and Special Town/School Meeting. Should have a good sense of humor, be good at group process, and have experience following Roberts Rules of Order. 17 V.S.A. § 2646(1)

Municipal manager *(appointed)* - If the manager system has been adopted by the electorate, the town manager is the official administrator of local government and has general supervisor of the affairs of the town. 24 V.S.A. § 1232, 1233

Patrolmen *(elected)* – Patrols town highways under the direction of the selectboard – if the town so orders. (Generally not an active position.) 17 V.S.A. 2646(15)

Planning Commissioners *(appointed or elected)* - Appointed unless town votes to elect. Duties include preparing a municipal plan, making recommendations on matters of land development, conservation, and preservation, and participating in a regional planning program. Makes site plan and subdivision permit decisions unless there is a Development Review Board in town. Should have a good working knowledge of all aspects of the town and be able to listen to many sides of an issue. 24 V.S.A. § 4323

Poundkeeper *(appointed)* – Cares for the animals that are impounded within the town. 20 V.S.A. § 3381

Regional Planning Commission Representative *(appointed)* – Helps develop the regional plan and assess municipal land use plans. 24 V.S.A. § 4341 et seq.

Road Commissioners *(elected or appointed)* – Can be elected or appointed. Has no independent authority, but can assist the selectboard in overseeing town highways at the

request of the board. Should have experience with town highways and be a good communicator. 17 V.S.A. § 2646(16), 17 V.S.A. § 2651

Selectboard members *(elected)* – General supervision and control over town, enacts ordinances, regulations and policies for town, oversees town property and personnel, prepares, presents and manages budget, oversees roads, including laying out, discontinuing and reclassifying roads. Sits as local board of health, liquor control commission and sewer commission. Should know the town well, be able to understand all sides of complex issues, and have very thick skin. 17 V.S.A. § 2646(4); 17 V.S.A. § 2649

Town Administrator *(appointed)* - Hired by the selectboard, the town administrator, sometimes called the administrative assistant to the selectboard, assists the selectboard in managing the business of the town. The town administrator has no independent statutory authority. The scope of his or her duties is determined by the selectboard.

Town Agent *(elected)* – The town agent used to prosecute and defend suits. The selectboard now have that authority. Thus, the Town Agent's duty consists merely of assisting when litigation is in progress at the request of the selectboard. (Generally not a very active position.) 17 V.S.A. § 2646(11)

Town Clerk *(elected)* –– Records, preserves and certifies the public records of the town, issues dog, marriage, civil union and hunting and fishing licenses and motor vehicle renewals. Runs the local elections, serves as clerk of the Board of Civil Authority, and hears tax abatement requests and tax appeals. Should have the patience of a saint and be a good ambassador for the town. 17 V.S.A. § 2646(2)

Town Energy Coordinator *(appointed)* **–** Responsible for developing the town energy plan and conducting the town energy audit. 24 V.S.A. § 1131

Town Forest Fire Warden *(appointed)* - Appointed by the fire commissioner with the approval of the selectboard. Prevents forest fires in the town by enforcing the laws designed to prevent forest fires. 10 V.S.A. § 2641

Town Services Officer *(appointed)* **-** Appointed on or before April 15th of each year. Assists individuals within the town who require emergency food, fuel or shelter assistance when the Vermont Department of Social Welfare is not available. 33 V.S.A. § 2102 et seq.

Town Treasurer *(elected)* - Keeps the town and school's accounts (unless a separate school treasurer is elected), invests money (with the approval of the legislative body,) keeps a record of the taxes voted and pays orders drawn on him or her. Should be very precise, detail oriented and good at math. 17 V.S.A. § 2646(3)

Town Tree Warden *(appointed)* - Plans and implements a shade tree preservation program for the purpose of shading and beautifying public places. Removes diseased, dying or dead trees which create a hazard to public safety or threaten the effectiveness of disease or insect control programs. 24 V.S.A. § 871

Trustee of Public Funds *(elected)* – Manages, invests and reports on real and personal property held in trust by the town. This includes cemetery trust funds. Should like investing money. 17 V.S.A. § 2646(12); 24 V.S.A. § 2431 et seq.

Trustee of Public Money *(elected)* – Oversees "United States Public Money" received under the Act of 1836 held by the town. (It is unlikely any Vermont town still has these funds.) 17 V.S.A. § 2646(13)

Water Commissioners *(elected or appointed)* –Water commissioners supervise the town's water department by establishing water rates and all the rules and regulations for the control and operation of the department. Should be a good manager and detail oriented. 17 V.S.A.§2646(17), 17 V.S.A. § 2652

Weighers of Coal *(appointed)* – Serves as a referee over weights of contested loads of coal. 24 V.S.A. § 871

Zoning administrator *(appointed)* - Appointed by the planning commission with the approval of the selectboard. Approves or denies applications for zoning permits. Administers the municipal bylaws literally. Enforces regulations pertaining to the zoning ordinance. 24 V.S.A. § 4448

Zoning board of adjustment or development review board members *(appointed)* –Holds hearings and makes decisions on land use permit applications and appeals from decisions of the zoning administrator. 24 V.S.A. § 4460