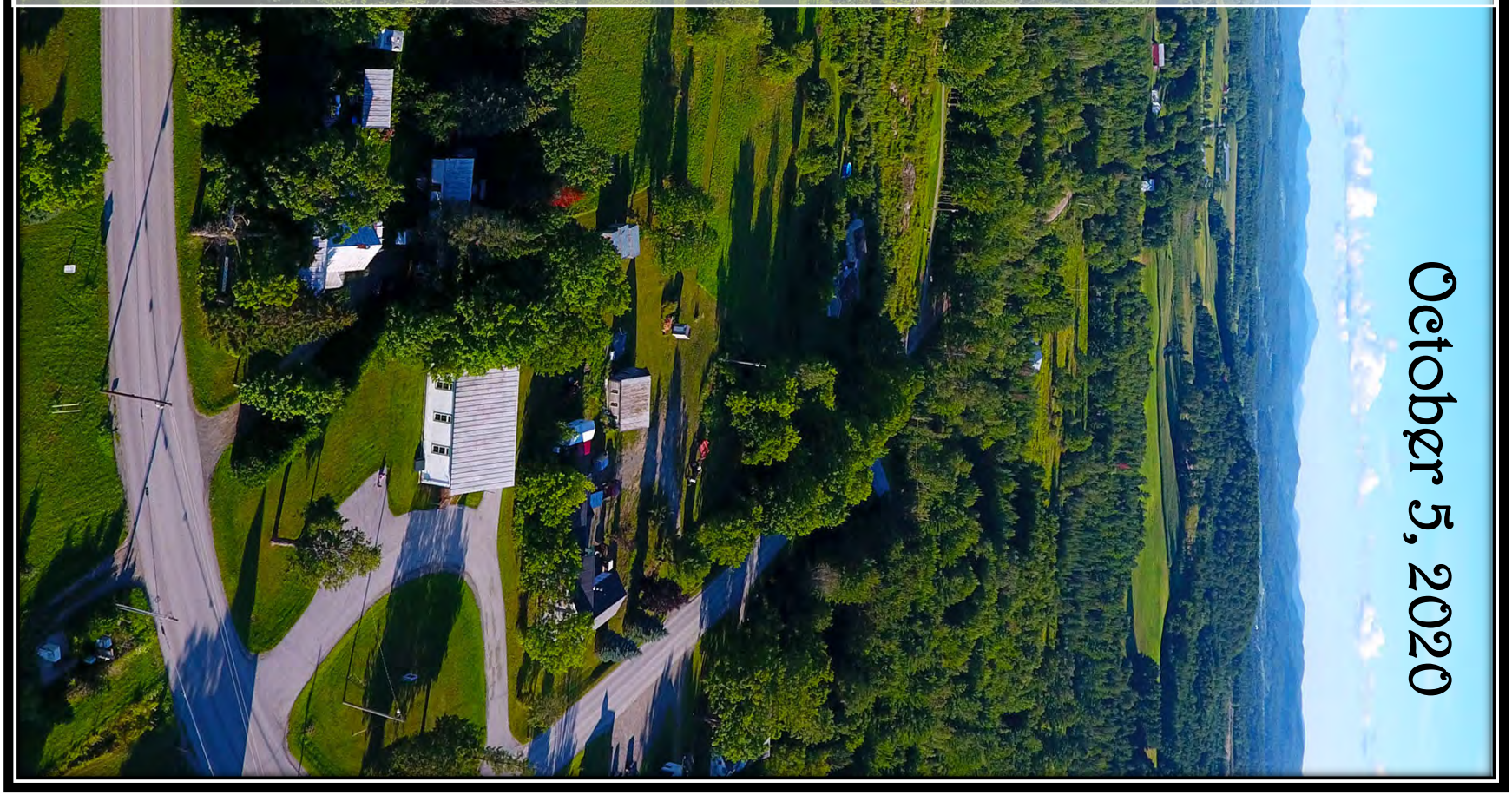
Berkshire Municipal Plan

Prepared by the Berkshire Planning Commission



October 5, 2020

ACKNOWLEDGEMENTS

Cover photo: Berkshire Center,
by Tami Lantz

Prepared by the Town of Berkshire with teachnical assistance from
the Northwest Regional Planning Commission

The Town of Berkshire website (https://berkshiretownvt.weebly.com/) provides additional community resources and information.

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BERKSHIRE MUNICIPAL PLAN: AT A GLANCE

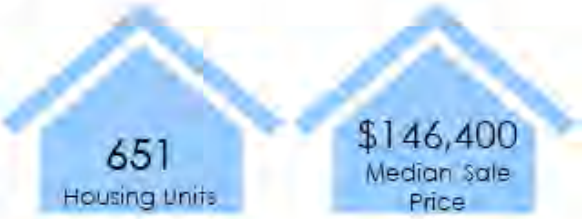
A Snapshot of the Community

Berkshire's population is growing, but slower than it was from 2000-2010. The majority of this growth is because of new residents moving into the town. The population of Berkshire is also aging; 37% of residents are age 45 or older.

Population Growth 2010-2020

A Place for Home

Housing in Berkshire is a mix of isolated, rural residences and farms and small, clustered settlements in the hamlets of West Berkshire, Berkshire Center, and East Berkshire. House prices have increased from $91,000 in 2000 to $146,400 in 2018. Home ownership remains affordable for those making the county median household income, but unaffordable to lower income residents.



Affordability Gap for Homeownership Costs in Berkshire

Percent of HH Median Income	County Median HH Income	30% of Income Per Month	Taxes & Insurance	Income Available for Housing per Month	Maximum Affordable Mortgage	County Median Sale Price Primary Residences (2017)	Owner Affordability Gap
Median (100%)	$62,214	$1,555	$414	$1,141	$226,103	$204,500	$21,603
Low (80%)	$49,771	$1,244	$414	$830	$164,480	$204,500	(-$40,020)

Earning a Living

Most Berkshire residents commute to jobs in other Franklin County towns. However, there are 11 businesses in the Town employing 171 workers. In the last 10 years the number of businesses has shrunk slightly but the number of jobs has increased. Agriculture remains important to the Town, with 55 parcels of land used for farming.

11
Businesses

171
Jobs

55
Farm Parcels

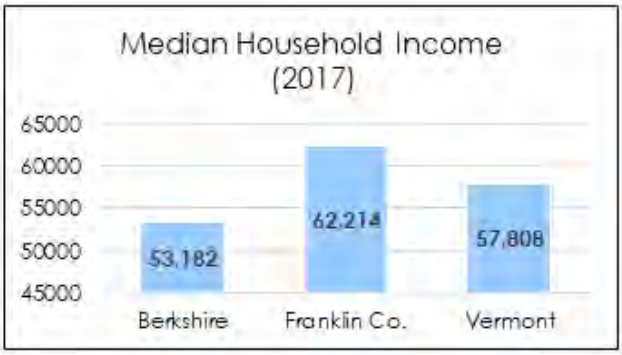
Berkshire Commuter Shed

1. Enosburgh (13.4%)
2. St. Albans City (11.2%)
3. St. Albans Town (10.6%)

28 minutes
Length of Average Commute

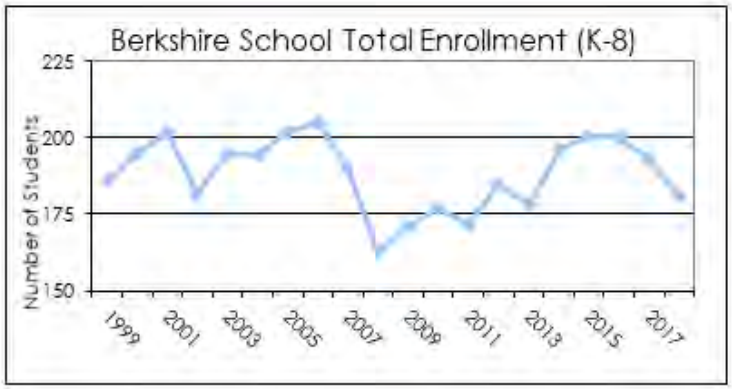
Earning a Living Cont.

The median household income in Berkshire is $53,182, which is below the median for the State and County. However, incomes have been steadily increasing in Berkshire and the percent of people living below the poverty line has fallen from 13.6% in 2000 to 8.3% in 2017.



Providing for the People

Berkshire Elementary School provides education for students pre-K through grade 8. Currently, there are 181 students enrolled (K-8). School enrollment has remained stable over the last 20 years. This trend may continue even as Berkshire's population increases because Berkshire's population is aging. However enrollment may increase if new families move into Berkshire.



Keeping It Rural in the Future

Land use planning will ensure that Berkshire maintains its rural, agricultural character while at the same time providing sufficient space for residential, commercial, industrial, and community development.

Land Use Districts and Their Purposes

Wellhead Protection District: To protect the quality of water used in municipal systems.

Rural Lands District: To conserve the forest and agricultural areas of town with limited rural residential development.

Extended Village District: To maintain the village as the focus of social and economic activity, with commercial, civic, and residential development.

Flood Hazard Area Overlay District: To reduce health and safety risks from flooding by restricting development in high risk areas.

PROPOSED LAND USE

Berkshire Municipal Plan Goals
2020-2028

A Sense of Place

GOAL 1: To protect in good quality the abundant natural and historic resources in Berkshire.

GOAL 2: To support the continuation of agriculture and forestry, which contribute to the rural character and sense of place in Berkshire.

GOAL 3: To protect the citizens, property and economy of Berkshire and the quality of their rivers as natural and recreational resources by using sound planning practices within designated Flood Hazard Areas and river corridors.

A Place for Home

GOAL 1: To provide safe and affordable housing for all segments of the population.

Earning a Living

GOAL 1: Promote a balanced, diverse economic base, with a focus on locally owned enterprises.

Providing for the People

GOAL 1: Make efficient use of public funds to maintain a sound fiscal balance.

GOAL 2: Ensure reasonable, functional and orderly development of all utilities, facilities, and services.

GOAL 3: Provide Town residents with the best possible education and childcare opportunities without overburdening the town's resources.

GOAL 4: Maintain and enhance recreational opportunities for Vermont residents and visitors.

GOAL 5: Provide and maintain a safe, economical, and functional transportation network for vehicular, pedestrian, and recreational use within the Town.

GOAL 6: Maintain and enhance community infrastructure and activities, both social and physical, which sustain and improve the health and well-being of all residents.

Enhanced Energy Plan

GOAL 1: Plan for increased electric demand with the support of local electric utilities and Efficiency Vermont.

GOAL 2: 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.

GOAL 3: 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.

GOAL 4: Focus growth within and adjacent to the villages.

Keeping It Rural in the Future

GOAL 1: To maintain the rural, agricultural character of the Town of Berkshire, including the historic settlement pattern of small hamlets separated by rural countryside.

GOAL 2: To protect important natural resources and agricultural use of the land, while at the same time providing sufficient space in appropriate locations for residential, commercial, industrial development, and for community facilities.

Berkshire Municipal Plan Implementation 2020-2028

The table below lists the short-term actions that the Berkshire Planning Commission recommends to implement the goals & policies of this Town Plan.

Responsible Parties: PC (Planning Commission), SB (Selectboard), DRB (Development Review Board), ZA (Zoning Administrator), Town (to be determined)

Partners: NRPC (Northwest Regional Planning Commission), FPR (VT Forest, Parks, & Recreation), Fire Dept. (Berkshire Fire Department)

Implementation Actions	Responsible Party & Partners
The Sense of Place	
Develop a management plan for the Town Forest • Contact the County Forester.	Town, FPR
A Place for a Home	
Conduct a local housing study to evaluate the condition and affordability of housing within the community. This analysis should evaluate the impacts of short-term rentals and seasonal housing. • Apply for a Municipal Planning Grant (MPG), contact NRPC for assistance developing an MPG application.	Town
Earning A Living	
Pursue a Village Center designation for East Berkshire and West Berkshire. • Contact the Planning and Outreach Manager at the VT Agency of Commerce and Community Development.	SB / PC
Providing for the People	
Work with the Recreation Committee to develop wayfinding signage for Berkshire's recreation opportunities. • Coordinate joint meeting of Committees	PC
Develop a capital improvement plan and budget that includes a maintenance schedule and plan for road improvements. • Contact NRPC for assistance.	SB
Enhanced Energy Planning	
Coordinate with Efficiency Vermont and state low-income weatherization programs to encourage residents to participate in weatherization programs available to Berkshire residents. • Host an Efficiency Vermont Button Up workshop, contact NRPC for assistance.	PC, NRPC
Determine if there is a need to appoint an Energy Coordinator, or support existing municipal boards to coordinate energy-related planning in Berkshire and to educate residents about the goals of this plan. • Contact NRPC for assistance.	PC, SB
Identify challenges and opportunities for public transit by reviewing route schedules and needs of Berkshire community to ensure that Berkshire is regionally connected via public transit. • Review existing GMT Routes. Contact the GMT Public Affairs and Community Relations Officer.	PC, SB
Provide firefighters with training in fighting fires on structures that have solar installed. • Utilize training resources provided by the VT Department of Public Safety Division of Fire Safety.	SB, Fire Dept.

THE PLANNING PROCESS

"Grazing Cows" (Photo Credit: Meg St. Pierre)

A) PURPOSE

The purpose of municipal planning is to provide a basis for local influence in identifying and solving problems, meeting challenges and opportunities, and achieving goals and objectives on behalf of the Town and its citizens. The municipal plan provides the framework and the guidelines upon which to base municipal action regarding the development of housing, industry, and services, and for meeting virtually all community needs. The plan contains the vision of what is considered vital and necessary to the residents of the community, as well as the means for local government to influence the actions of those who look to bring change to the community or its environment. It is planning's function to attempt to direct and coordinate these actions to further the goals of the community, so that all changes promote the general health, safety, and welfare of residents.

B) THE PLANNING PROCESS

The Vermont Municipal and Regional Planning and Development Act (Title 24, Chapter 117) authorizes municipalities to "undertake a comprehensive planning program . . . and to prepare, maintain, and implement a plan within its jurisdiction" (Section 4381). Accordingly, in 1987 the Selectboard of the Town of Berkshire

appointed the Berkshire Planning Commission to conduct studies and prepare a comprehensive plan for the Town.

The first attempt to develop a plan for the community was in the early 1970s when the Town adopted interim zoning for two years in recognition of the need for planning. A municipal plan was completed in 1974, but failed to receive voter approval. In 1981, the plan was reintroduced along with a proposed zoning bylaw for the community, but both were defeated. The Town did adopt a Flood Hazard Area Bylaw in 1983 so that Berkshire landowners would be able to obtain flood insurance. This bylaw received voter approval in 1984 and is currently in effect. The Selectboard also approved another year of interim zoning in 1987 in order to give the new Planning Commission time to prepare the municipal plan. The first municipal plan was finally adopted in August of 1989. The Plan has since been revised in 2000, 2005, 2010, 2015, and now in 2020. The Zoning Bylaws and Subdivision Regulations, including flood hazard regulations, were last updated in 2019 as a unified development ordinance.

The plan itself should be a "living document" which is subject to revision at any time, as needs dictate, and indeed it must be updated and readopted every eight years, in accordance with state law. The work of the Berkshire Planning Commission and all other interested citizens will continue in the meantime, as they proceed with the implementation of the plan. This process may include:

- ⇨ the preparation of appropriate bylaws and programs designed to direct the course of future growth and development (e.g., zoning and/or subdivision regulations, an official map, a capital budget and improvement program);

- ⇨ the review of development proposals for conformance with the town plan;

- ⇨ preparation of future studies to identify and plan for specific problems or situations that may arise; and

- ⇨ regular review and revision of the plan, bylaws, and programs to ensure that they reflect changing conditions and needs.

Citizen participation is important at all levels of the planning process. Opportunities for citizen involvement have been assured through community surveys, public meetings, and occasional reports in the *County Courier*. Commission members also consult neighboring town plans and occasionally meet with planners from other communities in order to coordinate their planning efforts. These efforts are intended to foster the broadest level of public participation possible, and to utilize the planning process as a vehicle for exercising an inclusive, community-wide vision for the future of Berkshire.

GETTING FROM THERE TO HERE: PLAN IMPLEMENTATION

The Comprehensive Municipal Plan for the Town of Berkshire discusses at length, the Town's history, present situation, and proposals for desirable growth and development in the future. Implementing the plan by turning it into a living, functional document is the ultimate challenge of the planning process.

Proper implementation of this plan will require continuing the planning process as outlined in the first four goals of "Act 200" (Figure 2.1). All Berkshire residents are encouraged to participate actively in each stage of the planning process. Development should be guided by local decision-makers, with consideration given to the appropriate use of the Town's resources and the consequences of growth. Cooperative efforts should be undertaken between Berkshire and its neighboring municipalities, the region, and the state in developing compatible plans.

Figure 2.1
Act 200 Planning Process Goals

(1) To establish a coordinated, comprehensive planning process decisions by municipalities, regional planning commissions, and state agencies.
(2) To encourage citizen participation at all levels of the planning process, and to assure that decisions shall be made at the most local level possible commensurate with their impact.
(3) To consider the use of resources and the consequences of growth and development for the region and the state, as well as the community in which it takes place.
(4) To encourage and assist municipalities to work creatively together to develop and implement plans.

Also, as required by Act 200, the Town's planning process will be reviewed and "confirmed" by the Regional Commission at least once over the next eight years. This will ensure that the Town remains eligible for state planning appropriations and grants. These funds are intended to assist in the financing of local planning efforts. At the same time, the Town is expected to continue to provide financial support for the local and regional planning process.

Work Program

The work program on the following pages outlines a recommended course of action over the next eight years to implement the long-term goals and objectives identified within the plan. This program is intended as a guide for the planning commission. It is recognized that the planning commission may not have the time or funding to be able to accomplish all that is set forth. Plan implementation through the development of zoning and subdivision regulations should be given

immediate attention and meeting the requirements of Act 200 should be on-going.

A) WORK PROGRAM

The Continuing Planning Process:

- Work to incorporate the goals and planning elements of Act 200 (Title 24, Chapter 117 V.S.A.) into the plan and the planning process (8 years).
- Pursue regular communication with neighboring communities, the Regional Commission, and state agencies in order to coordinate planning efforts.
- Sponsor public informational meetings and workshops to encourage public participation in the planning process.
- Pursue available grants as needed to fund planning efforts.

Previous Implementation Actions:

From 2015-2020 the Town of Berkshire completed two regulatory implementation actions identified in the previous Town Plan. As part of a 2017 Municipal Planning Grant project, the Town updated its Land Use and Development Regulations. This addressed two previous plan implementation actions.

- The regulations included strengthened flood hazard bylaws that mitigate risks to public safety, critical infrastructure, historic structures and municipal investments from inundation and erosion.
- The Town conducted an analysis of the current zoning districts to identify the effectiveness of the defined density per district for managing growth. The Town considered implementing a conservation district, but ultimately determined that this district was not necessary to protect the natural landscape of Berkshire due to the rural nature of the Town.

Additionally, the Town developed an official website to better communicate with Berkshire residents (https://berkshiretownvt.weebly.com/). This website should continue to be maintained by the Town.

Plan Implementation:

The Implementation Plan table below lists the strategies that the Berkshire Planning Commission recommends to implement the goals and policies of this Town Plan.

Responsible Parties: PC (Planning Commission), SB (Selectboard), DRB (Development Review Board), ZA (Zoning Administrator), Town (to be determined),

Partners: NRPC (Northwest Regional Planning Commission), FPR (VT Forest, Parks, & Recreation), VANR (VT Agency of Natural Resources), DHCD (VT Department of Housing & Community Development), USFWS (U.S. Fish & Wildlife Service), VTrans (VT Agency of Transportation), PPP (Public Private Partnership)

Timeline: Short (1-4 years), Medium (5-8 years), Long (>8 years), Ongoing

IMPLEMENTATION ACTIONS	RESPONSIBLE PARTY & PARTNERS	TIMELINE
The Sense of Place		
Explore adding two additional water source protection areas to the applicable zoning district. The two water supplies that should considered include the area associated with spring supplying the East Berkshire Water Coop as well as the Berkshire Elementary School supply.	PC	Medium
Identify historical structures for potential nominations to the state and national historic registers	SB, Historical Society	Medium
Conduct a Scenic Resource Inventory to identify important viewsheds in Town	PC	Medium
Develop a management plan for the Town Forest • Contact the County Forester.	Town, FPR	Short
A Place for a Home		
Promote programs that provide housing rehabilitation grants and low-interest loans such as those provided by Champlain Housing Trust, USDA Rural Development and Vermont Housing & Conservation Board.	Town	Ongoing
Conduct a local housing study to evaluate the	PC	Short

IMPLEMENTATION ACTIONS	RESPONSIBLE PARTY & PARTNERS	TIMELINE
condition and affordability of housing within the community. This analysis should evaluate the impacts of short-term rentals and seasonal housing. • Apply for a Municipal Planning Grant (MPG), contact NRPC for assistance developing an MPG application.		
Earning A Living		
Support efforts to develop high speed internet connectivity, including working with regional and statewide organizations	SB	Ongoing to Long
Pursue a Village Center designation for East Berkshire and West Berkshire. • Contact the Planning and Outreach Manager at the VT Agency of Commerce and Community Development.	SB / PC	Short
Providing for the People		
Develop a road policy & ordinance.	SB	Medium
Develop a capital improvement plan and budget that includes a maintenance schedule and plan for road improvements. • Contact NRPC for assistance.	SB	Short
Explore the feasibility of community sewer system in East Berkshire to enhance economic development	SB	Long
Consider reclassification of Class IV roads as legal trails	SB	Medium
Develop construction standards for roads (and sidewalks)	SB / Highway Department	Medium
Explore feasibility of pedestrian facilities in the hamlets of West and East Berkshire and alternative recreation paths in all parts of town.	PC	Medium
Utilize the Town website as an opportunity to enhance communications with residents.	SB/PC	Ongoing
Work with the Recreation Committee to develop wayfinding signage for Berkshire's recreation opportunities. • Coordinate joint meeting of Committees	PC	Short
Support the School district in the development	SB	Medium

IMPLEMENTATION ACTIONS	RESPONSIBLE PARTY & PARTNERS	TIMELINE
of a Safe Routes to School Program.		
Enhanced Energy Planning		
Explore the possibility of installing an electric vehicle charging station on municipal property.	SB	Medium
Promote the use of the residential and commercial building energy standards by distributing code information to permit applicants.	ZA	Ongoing
Coordinate with Efficiency Vermont and state low-income weatherization programs to encourage residents to participate in weatherization programs available to Berkshire residents. • Host an Efficiency Vermont Button Up workshop, contact NRPC for assistance.	PC, NRPC	Short
Determine if there is a need to appoint an Energy Coordinator, or support existing municipal boards to coordinate energy-related planning in Berkshire and to educate residents about the goals of this plan. • Contact NRPC for assistance.	PC, SB	Short
Conduct an energy audit of municipal and other public buildings to identify weatherization retrofits and incorporate the recommendations into the municipal capital budget.	SB, PC	Medium
Promote and provide information about the GoVermont website which provides information citizens about ride share, vanpool, and park-and-ride options. (www.connectingcommuters.org/)	TC	Ongoing
Promote use of cold climate heat pumps through education and coordination with Efficiency Vermont.	PC, SB	Long
Identify challenges and opportunities for public transit by reviewing route schedules and needs of Berkshire community to ensure that Berkshire is regionally connected via public transit. • Review existing GMT Routes. Contact the GMT Public Affairs and Community Relations Officer.	PC, SB	Short

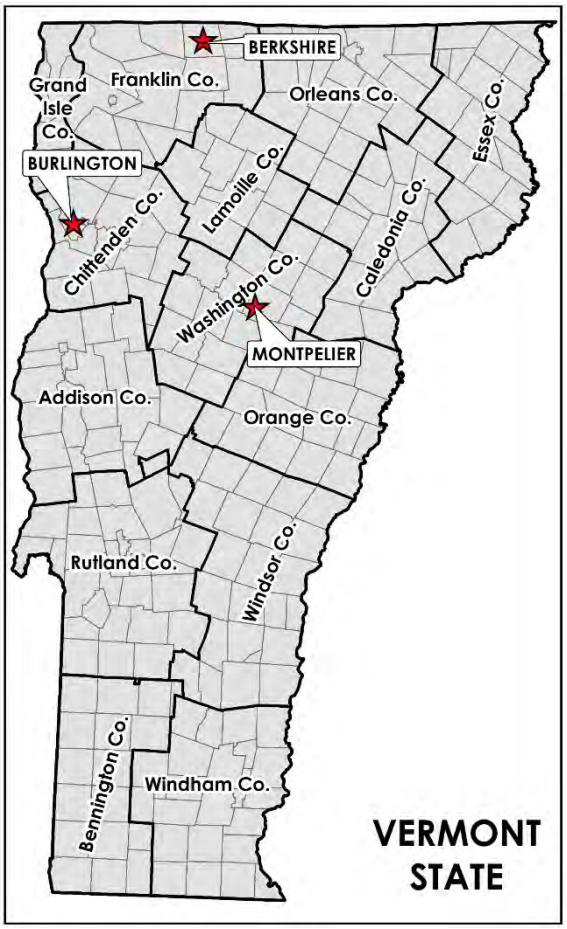
IMPLEMENTATION ACTIONS	RESPONSIBLE PARTY & PARTNERS	TIMELINE
Review municipal road standards to ensure that they reflect the "complete streets" principles as outlined by Vermont Agency of Transportation and Vermont Department of Health.	PC, SB	Ongoing
Promote a working landscape outside of designated growth and residential areas, e.g. by working with land trusts and landowners of farm and forest tracts to conserve key parcels of land.	PC	Ongoing
Investigate and facilitate the installation of a community-based renewable energy project.	PC	Long
Provide firefighters with training in fighting fires on structures that have solar installed. • Utilize training resources provided by the VT Department of Public Safety Division of Fire Safety.	SB, Fire Dept.	Short/Ongoing
Develop and adopt a municipal solar screening ordinance.	PC, DRB	Medium
Investigate the need for a municipal park and ride facility.	SB	Medium
"Keeping It Rural" In The Future		
Promote resources that educate landowners on the best management practices of forest stewardship by distributing information on available resources from the County Forester and existing programs such as the Vermont Woodlands Association	PC, FPR	Medium

A SNAPSHOT OF THE COMMUNITY

"Entering East Berkshire from Above" (Photo Credit: Tami Lantz)

"1880 Delivery Wagon at Meat Market on Main Street (Rte. 105) in East Berkshire" (Source: UVM)

A) PHYSICAL LOCATION AND BOUNDARIES



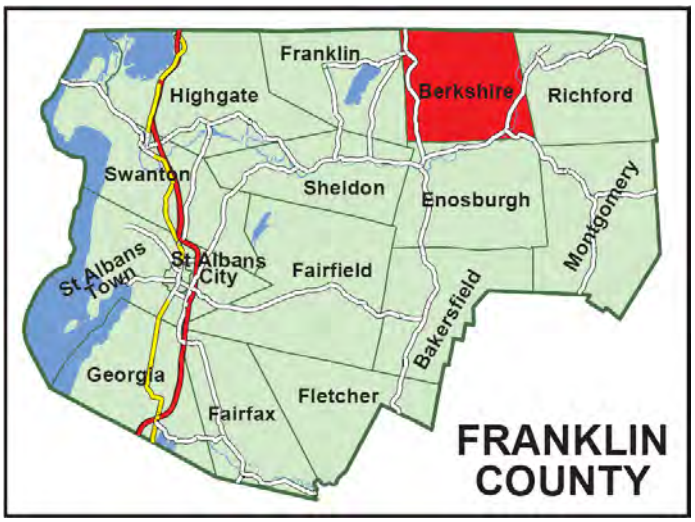
The Town is located in the northeast corner of Franklin County, which is in turn situated in northwestern Vermont. Berkshire is bounded by the Province of Quebec to the north, the Town of Franklin to the west, the Town of Richford to the east, and the Town of Enosburgh and the incorporated Village of Enosburg Falls to the south.

The Town of Berkshire covers more than forty-three square miles of land (27,900 acres), and due to an error in computation, was granted 2,000 acres more than was normally granted to Vermont towns at that time in history. Berkshire is therefore larger, geographically, than most towns in the State.

B) RELATIONSHIP TO THE NORTHWEST REGION

Berkshire is predominantly a rural town lying within the eastern sub-region of the Northwest Region. It is recognized within the Regional Plan as one of the most important agricultural towns in Franklin County. Under the Regional Plan, most of the Town lies within designated "agricultural lands" and the remaining land, considered unsuitable for farming, is included in a "conservation/forest resource" category. The three hamlets of the community, West Berkshire, Berkshire Center, and East Berkshire, are expected to remain the principal areas of population within the Town.

The Town of Berkshire is located between two urban service areas, Richford Village and Enosburg Falls. It is anticipated that the residents of Berkshire will continue to rely upon these areas for services such as medical and educational facilities, and retail services. While, Berkshire is experiencing the effects of the expansion of employment opportunities of Burlington and St. Albans, northern Franklin County is not experiencing as much growth as southern Franklin County. The neighboring municipalities of Enosburg Falls and Richford provide expanded market opportunities for Berkshire.



The Missisquoi River furnishes the Town and the Region with an important natural asset. The Regional Plan calls for protection of the river and adjacent lands to protect water quality and to preserve its scenic character. The Northern Forest Canoe Trail has been established in Berkshire along the Missisquoi River.

Within the Regional Plan, it is expected that Berkshire will retain its rural, agrarian character. Continued economic health for the Town lies in the protection of its agricultural resource base and maintaining a viable agricultural industry, principally dairy, supplemented by tourism and other related land uses. It is also anticipated that the Town will not be the site of significant urban-type development over the life of the Regional Plan. Growth in the adjacent urban service areas; however, is expected to increase the pressure for residential development on roads leading into Berkshire from these centers. It is recommended within the Regional Plan that most new residential growth occur in and between the communities of West Berkshire and Berkshire Center, on soils suitable for on-site systems.

C) NOTABLE MOMENTS IN BERKSHIRE'S HISTORY

First Settlement

The first "European" settlers arrived in Berkshire in 1791 and established farms in the following years. Job L. Barber and Daniel Adams were the first individuals to settle in Berkshire. However, possibly the most influential early settlers of Berkshire were Stephen Royce, Sr. and his son. Stephen Royce, Sr. moved from Franklin, Vermont to Berkshire and established a farm in 1792. Mr. Royce erected the first frame house in Berkshire in 1799, which still stands today in East Berkshire. His son, Stephen Royce, Jr., resided in this same house until his death in 1868. Stephen Royce, Sr. was very active in promoting the organization of the Town of Berkshire in 1794. He was the first representative to the State Assembly from Berkshire in 1796. His son Stephen Royce, Jr. served in the Vermont Supreme Court, the United States circuit and district courts, and he was elected Governor of Vermont in 1854. Following the arrival of these first settlers in 1792, additional settlers moved to Berkshire for the opportunity to establish farms in an area where the soil produced plentiful harvests.

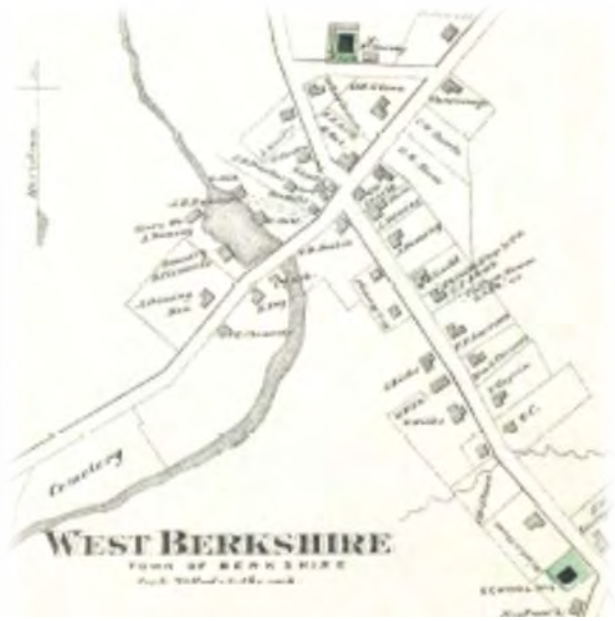
Table 3.1 Notable Moments in Berkshire's History	
1791	First European settlers arrived
1794	Organization of the Town of Berkshire
1864	Henry I. Stanley built a cheese factory in East Berkshire
1868 (April 29)	East Berkshire fire
1872	Railroad between Richford and St. Albans was built
1942	Berkshire Fire Department Established
1969	New Berkshire Elementary School opens, last three remaining school houses close.
2007	Town Hall renovations completed and historic building reopens as municipal offices.

Berkshire in the 1800s was principally a farming community. By the mid-1800s, most of the forests had been cleared away, and the Town had well over 150 dairy farms. The average dairy herd numbered between 20 and 30 head of cattle. Many farmers were engaged in other agricultural activities as well, including the making of cider and maple syrup, and cattle breeding. Frederick W. Comings of East Berkshire kept 73 beehives in addition to his dairy. Philo S. Ewins, a dairy farmer in West Berkshire, invented the Ewin's improved sap evaporator, and held an 1882 patent on his invention (he also patented a car heater in 1882).

Berkshire also developed centers of commercial activity in the 1800s. East Berkshire contained one hotel, three stores, two millinery shops, a horse-powered churn factory, a carriage shop, two blacksmith's shops, an undertaker, and, by the mid-1850's about 150 inhabitants. The business district had to be rebuilt after a destructive fire destroyed much of it on the evening of April 29, 1868. The fire, which started in the attic of the hotel known as the "Brick House", broke out at about 5:00 p.m. Gale force wind spread the fire through wood structures on both sides of the street, and before midnight, 36 buildings, including the Calvary Episcopal Church, were reduced to ashes. Firefighting was hampered by a scarce water supply due to a previous period of prolonged drought.

Henry I. Stanley's cheese factory in East Berkshire, built in 1864, produced about 80,000 pounds of cheese per year. William Sampson and Company's horsepower and pump manufactory was established in East Berkshire 1873. The firm produced about 15 horsepower and 350 churns per year, in addition to doing a general repair business. W. H. H. Fenniman's carriage shop, established in 1878, employed four men and turned out about forty carriages and sleighs per year, and also had a general repair business.

The Village of West Berkshire in the mid-1800s contained one hotel, two stores, a tannery, a sash and blind manufactory, a wheelwright and blacksmith shop, an undertaking and cabinet shop, and about one hundred inhabitants. The West Berkshire flouring mill, owned by George A. Jones, was equipped with three "runs" of stones, and did custom work. Collin Goddard's tannery in West Berkshire produced over one thousand hides per year. A. L. Goddard's tannery, also located in West Berkshire, employed three men. L. A. Weld's sawmill in West Berkshire was built in 1865. Approximately 25,000 feet of lumber were cut in the mill each year. A cider mill was connected to the sawmill, where 240 barrels of cider were produced annually.



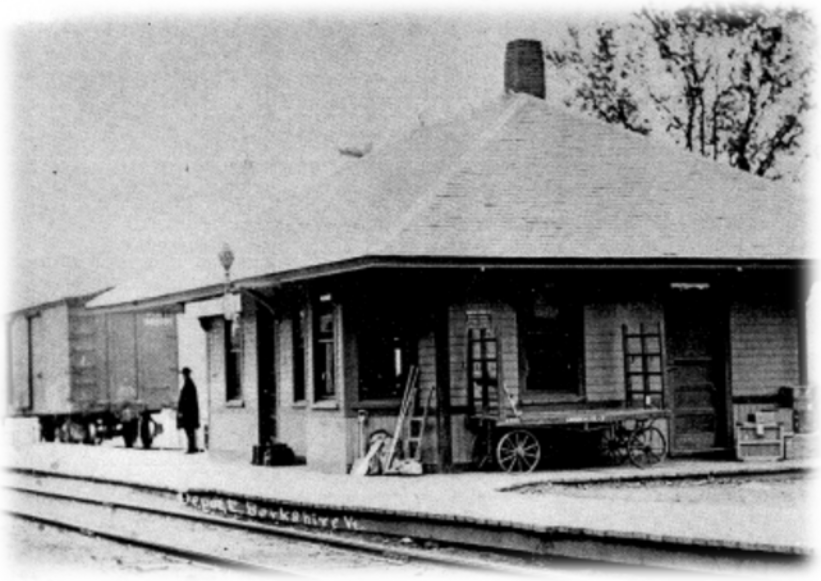
1871 DeBeers Atlas Maps of East Berkshire and West Berkshire

In the mid-1800's, two stores, and a blacksmith shop were located in the small hamlet of Berkshire Center, which had a population of about fifty people. Farmers in Berkshire were able to market their milk locally at the cheese plant in East Berkshire owned by Henry Stanley. The plant was purchased by Guy Marcy in 1900, and was operated as a creamery.

Introduction of Rail Service

Rail service in Berkshire dates back to the 1870s when an intersecting railroad between St. Albans and Richford was built. The construction of this line was started around 1872.

The completion of the rail link in the late 1870's between St. Albans and Richford was an extremely important development for people living in Berkshire. They were then able to easily transport merchandise to markets south and west through the rail center in St. Albans, and to points east and north through Richford.



Train Depot, East Berkshire
Photo Courtesy of Berkshire Historical Society

The Central Vermont Railway offered freight and passenger service to the residents of Berkshire in the late 1800s, and these services continued through the First World War and into the 1920s and 1930s. The Central Vermont schedule in 1919 included two passenger train stops daily in East Berkshire, and one freight stop. Local merchants shipped butter on Mondays, and cattle on Fridays. They also shipped cream, and received shipments of coal and other commodities by rail. Local students were able to take the train to school in Richford in the morning, and return in the evening. The local train station also offered telegraph services.

The railroad maintained two rail sidings in Berkshire, one in the village of East Berkshire adjacent to the train station, and one west of the village along Route 105. Trains were fired by coal-powered steam engines until the 1950's, when diesel engines began to be used more extensively. After a derailment damaged a bridge over the Missisquoi River at Sheldon Junction in 1984, limited operations continued until both sections were abandoned in early 1990s. The rail line through Berkshire is now rail banked and has been converted to the Missisquoi Valley Rail Trail.

The Berkshire Historical Society and the Enosburgh Historical Society Museum have collected many historical items from this time period, which are available to view by appointment. Residents can also contact the Historical Society to receive information on the history of their properties.

Farming and Manufacturing in the 1900's

Many of the manufacturing concerns that were established in Berkshire in the 1800's continued to prosper through the first half of the 1900s; however, very few new businesses were created and most were closed as the railroad declined. The Samson Power and Thresher Company stayed in business into the 1940s making wagons, tables, cupboards, and various other wood products, including sleds, cow stanchions, wheel barrows, and other farm equipment. Gasoline engines

replaced horsepower, which had been manufactured at Sampson Power. The company marketed Majestic Gasoline Engines, a very popular make of gasoline engine, during the 1920s, 1930s, and 1940s.

Berkshire supported two creameries in the 1900's, both located in East Berkshire: The United Farmers Creamery, located on the outskirts of East Berkshire on Route 105 toward Richford, and the Maple Bills Creamery, located near the railroad station. In 1915, Guy Marcy combined his operations with B. H. Combs and Sons, who operated a receiving station and creamery in East Berkshire. He also joined forces with the Rouse family, who operated creameries in Richford and Montgomery. The new company was called Maple Hills Creamery Company, Inc. The company produced sweetened condensed milk during the First World War, sold cream, butter, casein, and later shipped fluid milk to Boston. In 1932, Maple Hills Creamery sold out to Consolidated Dairies, which later became New England Dairies. In the late 1940, New England Dairies was sold to United Farmers, and in the late 1950's the creamery was closed down altogether. With the introduction of bulk tanks, storing and preserving milk was simplified, and large milk tankers were able to carry milk over long distances. Local creameries no longer remained a necessity.

The dairy industry in the 1900s remained an integral part of the Berkshire economy, providing a stable income to large numbers of farmers, and to individuals whom they employed. Many of the smaller farms were incorporated into larger farms, and milk production increased as farming became more mechanized, and as breeding practices improved. As farming evolved in the 1900s, the number of dairy farms in Berkshire decreased, the amount of land in farming remained fairly constant, and total milk production increased dramatically. In the twenty-first century, the number of small family dairies has further decreased, with more of the land in farming being consolidated under a smaller number of large industrial-scale dairies.

D) COMMUNITY PROFILE

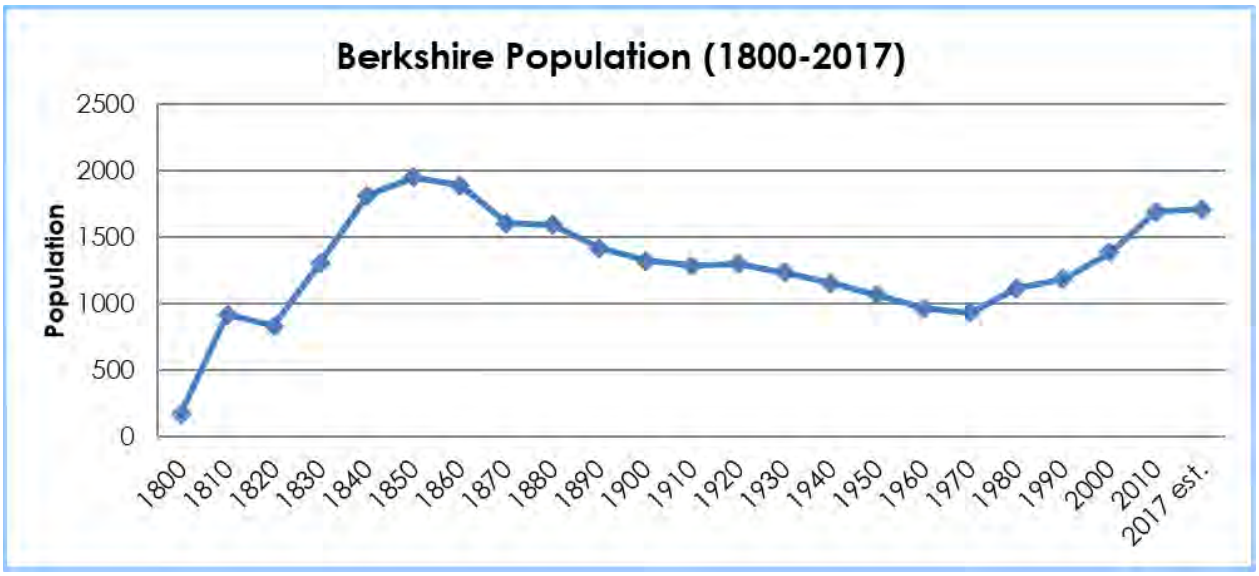
Population: Past Trends and Future Growth

The population of Berkshire reached its peak in 1850 with nearly 2,000 residents. The population decreased for the following 120 years to below 1,000 in 1960 and again in 1970. In 1980; however, Berkshire matched the growth trend occurring around Franklin County when it registered 1,116 citizens, a 20% increase over the 1970 population. Figure 3.1 shows population trends in Berkshire from 1790 to 2017.

Much of the population increase from 1970 to 1980 (69%) was due to more people moving into the Town than moving out (net migration). The remaining increase was the result of natural increase, where the number of births exceeded the

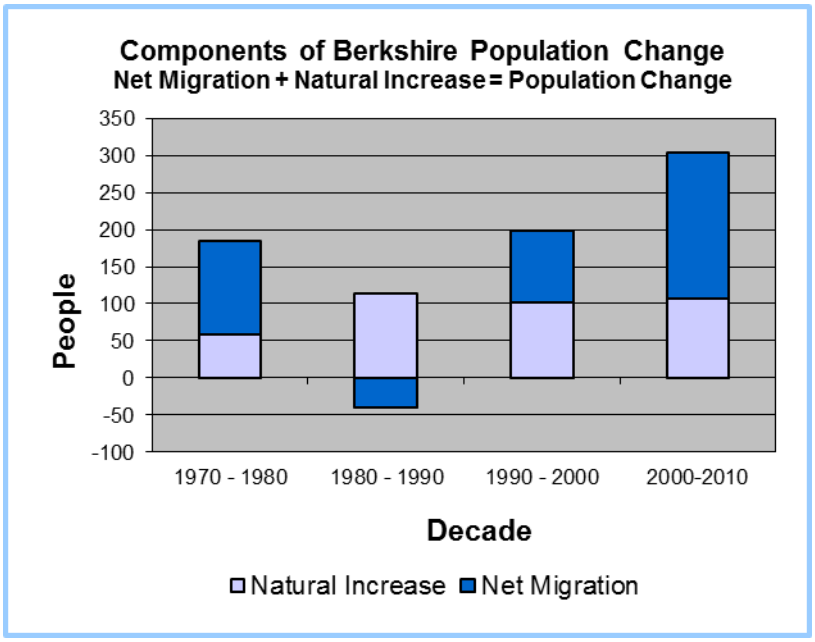
number of deaths. Since natural increase generally stays quite constant over time, population decline over the majority of the 20th century was due to migration out of Berkshire. Figure 3.2 shows natural increase and net migration in Berkshire from 1970 to 2010.

Figure 3.1



Data Source: U.S. Census Decennial; U.S. American Community Survey

Figure 3.2



The Town's population reached 1,711 in 2017. From 1980 to 1990, Berkshire experienced moderate growth compared to the County and adjacent towns. The following decade, Berkshire's population grew at a greater rate than the County and several adjacent towns at over 16 %. Just under half of the increase was due to in-migration. From 2000 to 2010 the population increased by 304 people, over 60% of this growth is attributed to in-migration.

From 2000 to 2010, Berkshire was one of the fastest growing towns in Franklin

County, with a 21.9% increase in population from 2000 to 2010. However, since 2010 growth has slowed, with a net gain of only 19 residents (1.1%) between 2010 to 2017. Table 3.2 and 3.3 below show population and population change from 1980-2017 for Berkshire and surrounding communities.

Table 3.2 Population of the Surrounding Area

	1980	1990	2000	2010	2017 (est.)
Berkshire	1,116	1,190	1,388	1,692	1,711
Enosburgh Town and Village	2,070	2,535	2,778	2,781	2,758
Franklin	1,006	1,068	1,268	1,405	1,414
Montgomery	681	823	992	1,201	998
Richford	2,206	2,178	2,321	2,308	2,458
Sheldon	1,618	1,748	1,990	2,190	2,317
Franklin County	34,788	39,980	45,417	47,746	48,816

Data Source: U.S. Census Decennial; U.S. American Community Survey

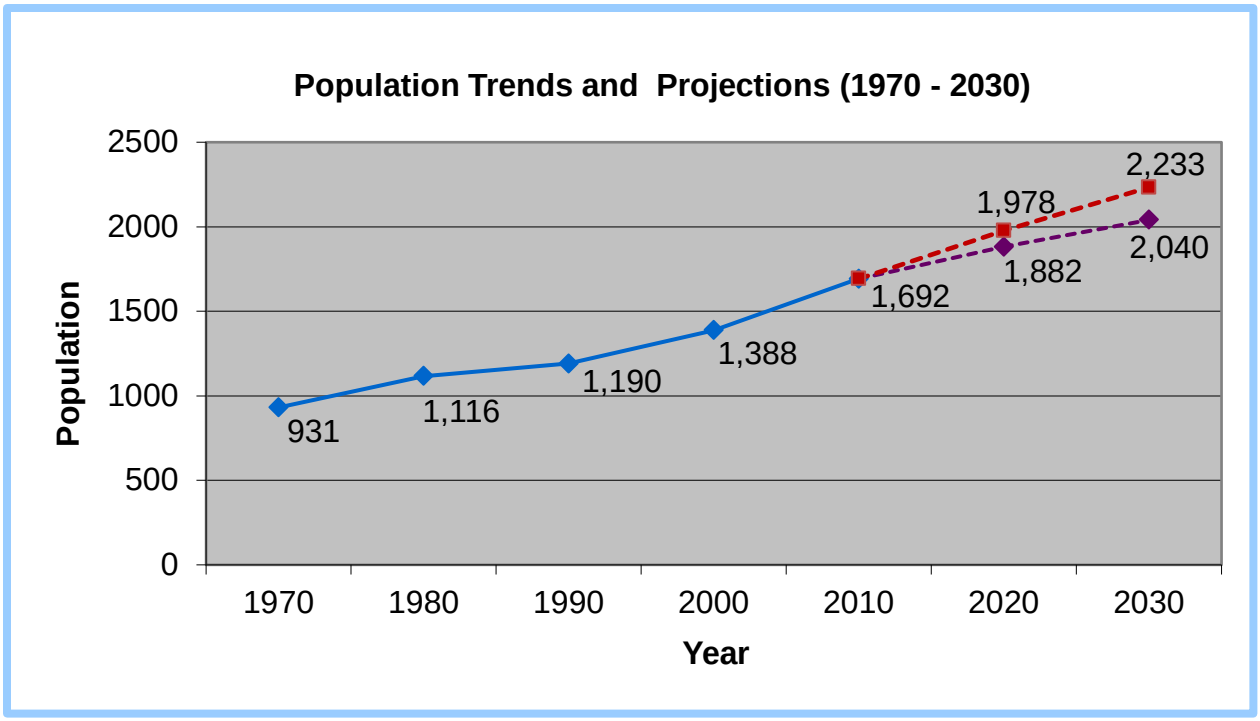
Table 3.3 Population Change (%)

	1980-1990	1990-2000	2000-2010	2010-2017 (est.)
Berkshire	6.63	16.64	21.9	1.1
Enosburgh Town and Village	-1.27	6.57	0.1	-0.8
Franklin	14.92	13.60	10.8	0.6
Montgomery	20.85	20.53	21.1	-16.9
Richford	6.16	18.73	-0.6	6.5
Sheldon	8.03	13.84	10.1	5.8
Franklin County	14.92	13.60	5.1	2.2

Data Source: U.S. Census Decennial; U.S. American Community Survey

It is difficult to make accurate population projections for small population bases, but they nonetheless are useful planning tools. Population projections are based on past trends in birth, deaths and migration so they provide good estimates of future conditions. The Vermont Agency of Commerce and Community Development produced a report calculating projections based on past trends from the 1990-2000 ("high") time period and 2000-2010 ("low"). Figure 3.3 shows the actual population of Berkshire from 1970 to 2010 and two scenarios of the population change over the next 20 years. Based on these projections, Berkshire could potentially experience continued growth of 11-17% by 2020 with growth slowing to 8-13% by 2030.

Figure 3.3



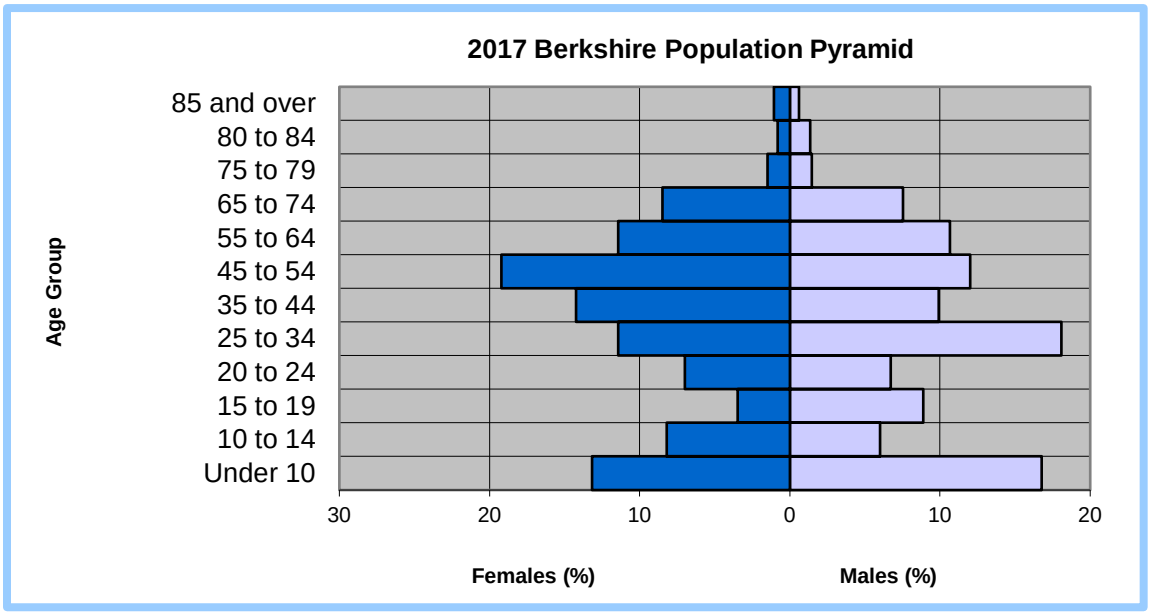
Data Source: U.S. Census; Vermont Agency of Commerce and Community Development. Vermont Population Projections 2010-2030 Report, released August 2013.

Population Age Groups

Age distribution trends can be useful in predicting future service needs, especially for school capacity and senior services. The 2010 Census reports that the median age in Berkshire was 38.3 years old, which is about the same as the median for Franklin County and 3.2 year younger than the state of Vermont. As of 2017, the median age dropped somewhat to 34.2, younger than the 2017 state median of 42.8 years old.

The distribution of age groups in Berkshire is similar to that of Franklin County, around 26% of the population is between 45 and 64 years of age, and an additional 11% is 65 or older. As the middle-aged population approaches retirement age, demand for senior services such as housing options and rural transit will likely increase. Only 27% of the population is between the ages of 25 and 44. In combination with the trend of decreasing family and household size, this has resulted in static school enrollment (see Section VI). A breakdown by age category in Berkshire is shown in Figure 3.4.

Figure 3.4



Data Source: U.S. Census American Community Survey 2017

THE SENSE OF PLACE

West Berkshire Four Corners, Early 1900's. The Phoenix House is on the right. (Photo Credit: Berkshire Historical Society)

The Phoenix House Restaurant 2018 (Photo Credit: The Phoenix House)

A) NATURAL RESOURCES AND ENVIRONMENT

Climate

Climatic Conditions

Climate represents the normal or average type of weather conditions that are characteristic of an area over a long period of time. Climatic conditions depend upon a number of locational factors, such as latitude, elevation, and topography, which affect atmospheric conditions, including temperature and precipitation patterns, prevailing winds, humidity, and cloudiness. Climate is an important consideration in the planning process because it affects such things as bedrock weathering, soil development and erosion, plant growth, air quality, road maintenance, and winter heating bills.

The entire State of Vermont lies within the "prevailing westerlies", a belt of air moving eastward that encircles the globe in the mid-latitudes. Our climate in Vermont is dominated by cold dry air from sub-arctic Canada, particularly in the winter months, and warm, moist air, which moves northward from the Gulf of Mexico, mainly during the summer. Occasionally, we also feel the effects of cool, damp air moving inland from the North Atlantic. At times, Vermont experiences violent thunder and windstorms as weather patterns shift, but tornadoes and hurricanes are rare.

Berkshire, located between the Champlain Lowlands and the Green Mountains proper, does not experience the moderating effects of Lake Champlain nor the cooling effects of neighboring higher elevations. January temperatures average between 16 F and 18 F; the mean temperature in July is around 70 F. Since Berkshire is located on the western side of the Green Mountains, it does receive relatively more precipitation, in the form of rain and snow, than areas in the islands and on the lake plain.

Seasons of Berkshire
Photo Credits: Jere Levin and Arnold Byam

Due to its latitude and location in the foothills of the Green Mountains, Berkshire has a relatively short growing season, averaging less than 120 days between the killing frosts of spring and autumn. This limits the types of crops that can be produced. Cool weather crops, such as hay, wheat, rye, oats, and some root crops, are particularly well suited to these growing conditions. Hybrids of warm-weather crops such as corn have also been developed for this climate. Rainfall is adequate for most types of crops.

The climate of Berkshire is pleasant, particularly in the summer months. Buildings, however, must be built with sufficient insulation, and efficient heating systems to stave off the cold of winter. The freeze and thaw cycle that makes the maple sap run also buckles poorly drained pavement and roads. Spring thaws and rains bring flooding and the muck of "mud season" that makes many dirt roads and driveways impassable. The adversities associated with living in a northern Vermont climate can be lessened by the proper planning, siting, and construction of new development; and the benefits are many, clean air, warm summers, white winters, and year-round outdoor recreational opportunities.

A Changing Climate

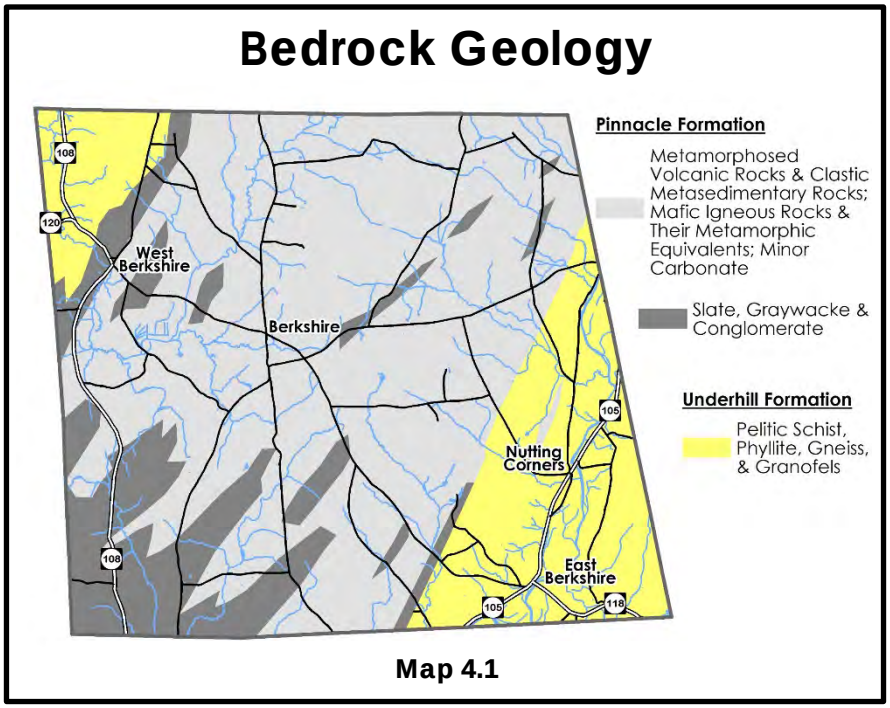
Over the past decade, international scientific consensus has acknowledged that the climate is changing. The effects of climate will be felt internationally and in a number of ways. It can be anticipated, however, that Berkshire and Vermont in general will see different weather patterns than what has been historically experienced. This will have an effect on several industries such as tourism, especially for skiing, and agriculture, particularly sugaring. In addition, important natural resources may be affected by changes in the climate.

Air Quality

Weather patterns, and wind direction in particular, are important in the discussion of air quality. Prevailing winds are generally from the west, but may vary in direction and intensity at a particular site from season to season, day to day, and hour to hour. Wind, along with other atmospheric conditions, should be considered in siting any industry that produces airborne emissions. Such emissions, including pollutants, smoke, and noxious odors, may be harmful to human health and the environment in high enough concentrations. It is therefore important for local officials to consider the requirements of maintaining clean air in conjunction with the need for economic development.

Presently no potentially air-polluting industries are located in Berkshire. The cumulative impact of minor sources-- including automobile emissions and some agricultural practices-- may have a greater impact on local air quality in the

future.



Map 4.1

Geology

Bedrock Geology

Geologic events have directly affected Berkshire's topography, soils, and drainage patterns, which in turn have influenced the patterns of local community and economic development. Berkshire lies amid the western foothills of the Green Mountains, between the Champlain Lowlands (lake plain and islands) to the west and the Green Mountain anticlinorium (Green Mountains proper) to the east. This area is underlain by rocks formed from sediments and volcanic material deposited some 600 million years ago (Cambrian period), which were then changed and hardened (metamorphosed) by the heat and pressure of mountain building. Two bedrock formations predominate: the older Pinnacle Formation, underlying most of Berkshire, and the younger Underhill formation, found in northwest and southeast corners of Town. A small area where the Missisquoi River crosses the border into Richford is underlain by the Sweetsburg Formation, a layer of black slate with thin, whitish banding.

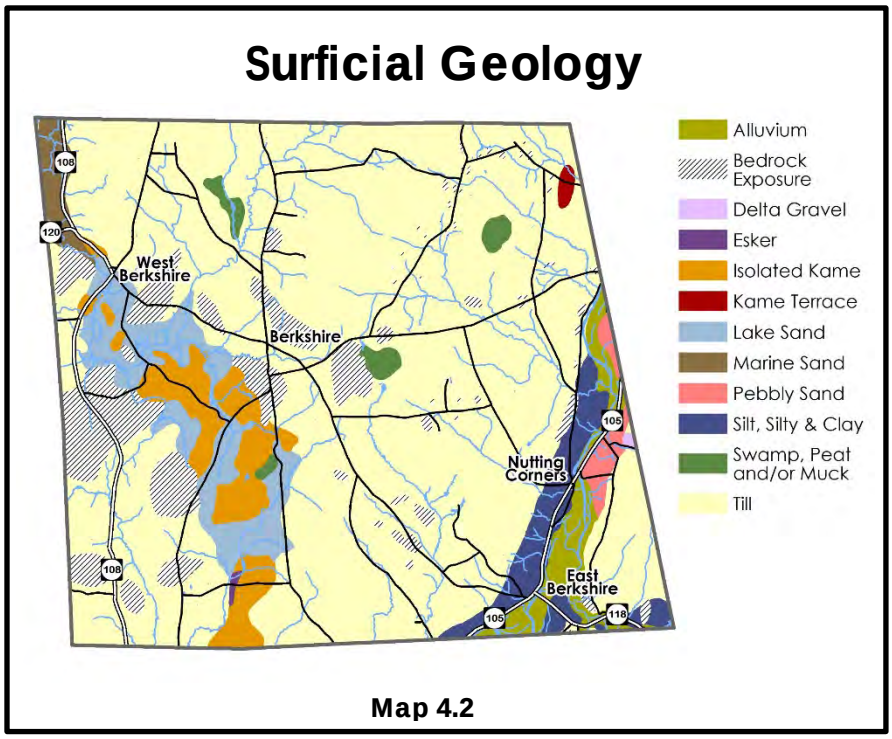
The Pinnacle Formation includes two bedrock members. One was formed from water deposited sands that were changed into a coarse sandstone interbedded with metamorphosed clay sediments, and includes such minerals as quartz, sericite, and chlorite (shown as slate, graywacke, and conglomerate in dark grey on Map 4.1). The other, known as Tibbit Hill volcanics, underlies most of Berkshire, and consists of metamorphosed volcanic rock interbedded with the greywacke (shown as metasedimentary rocks; mafic igneous rocks, and their metamorphic equivalents; minor carbonate in light grey on Map 4.1). Minerals associated with the volcanics include albite, epidote, and chlorite. Copper, once mined in Berkshire, is also found with the volcanics. Lava flows and structures associated with this member are visible in outcrops near Ayers Hill.

The Underhill Formation, marked from the Pinnacle Formation beneath it by a layer of dolomite and slate, consists mainly of interbedded phyllites and schists. Interbeds of slate and greenstone are found in the southeast and small beds of

dolomite and marble outcrop in the northwest. The Pinnacle Formation is shown as politic schist, phyllite, gneiss, and granofels in yellow on Map 4.1.

Surficial Geology

Materials deposited during and after glaciation, including glacial tills, outwash sands and gravels, and lake bottom sediments, cover much of the Town's surface. These are the parent materials from which most soils in Berkshire have developed over the last 10,000 years, since the glacier's last retreat. Also found on the surface are organic peats and mucks that have accumulated in low-lying areas and more recent flood deposits adjacent to rivers and streams.



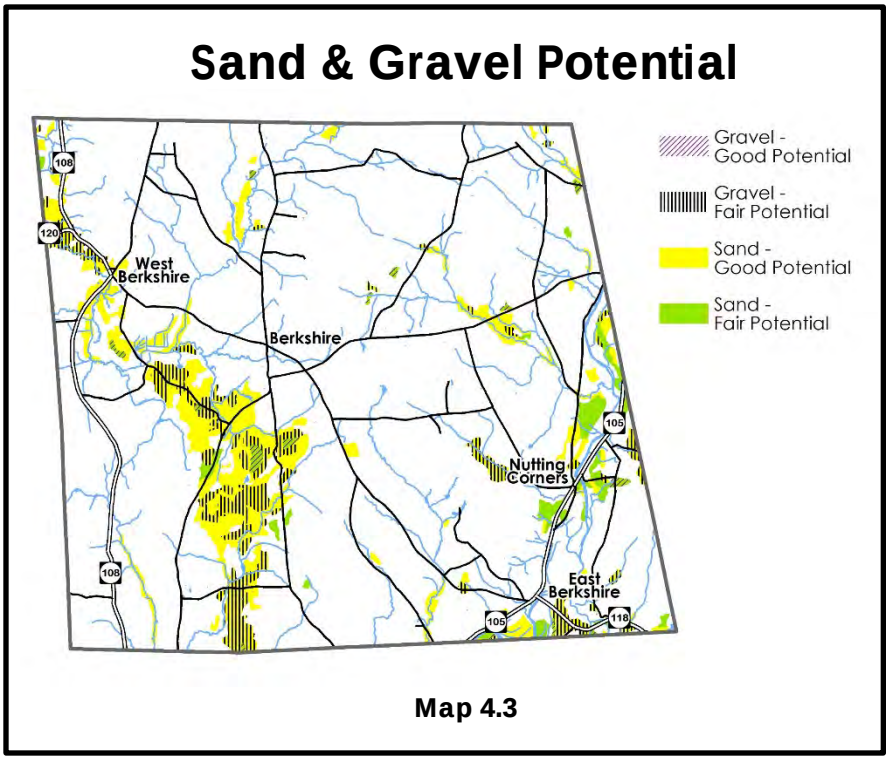
Map 4.2

Tills, consisting of unsorted, poorly drained materials, cover most of Berkshire in a thin layer. Exposed bedrock, boulders, and shallow soils are common in till areas. Level terraces of well-sorted sands and gravels, deposited during glacial melt, are located along the Missisquoi River and other stream valleys in Town. Of particular note is isolated kame, formed along the side of an ice sheet that once existed in the valley now occupied by Trout Brook and Mineral Brook. These kame deposits are often good sources of sand, gravel, and ground water and provide a well-drained, level surface on which to build. As such, they represent an important resource to the Town that may be subject to competing and not always compatible uses. Lake bottom silts and clays, deposited in the valley occupied by the Missisquoi River, are poorly drained and unsuited for most types of development, as are most flood and organic deposits. Map 4.2 shows surficial geology materials in Berkshire.

Earth Resources

A number of minerals and metals are associated with the metamorphosed volcanic bedrock that underlies much of Berkshire. Copper was once mined in Town, but the operation proved to be uneconomical. Mineral collection areas exist at outcrops, but minerals are not likely to be present in commercial

quantities.



Map 4.3

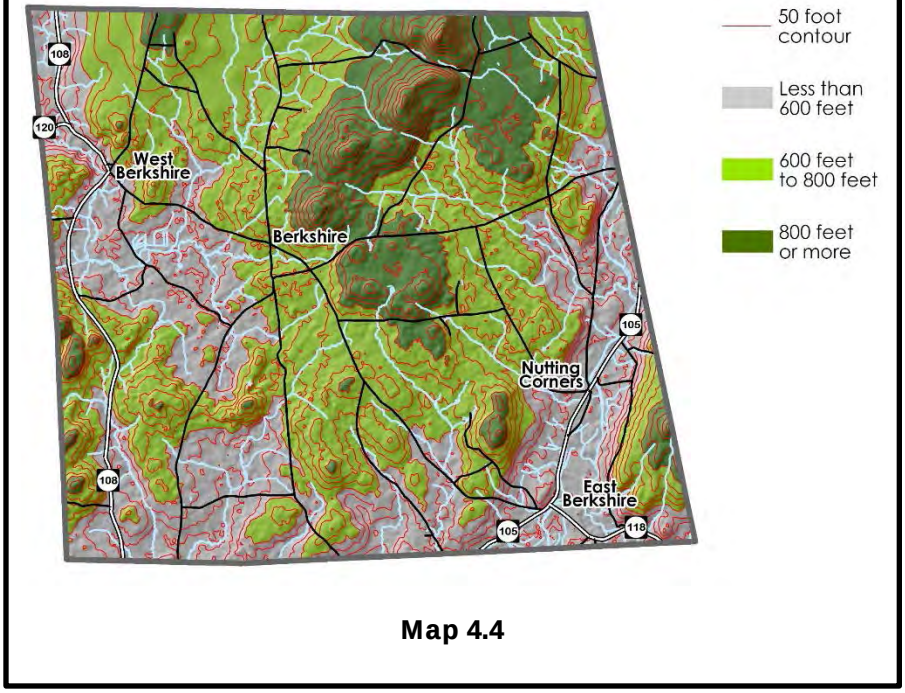
Sand and gravel deposits, however, are present in economically viable amounts, and extraction operations have been on-going (Map 4.3). The Town currently owns and operates its own gravel pit on Mineral Brook Road. There is increasing demand for sand and gravel for use in construction and road maintenance, and deposits are in limited supply. These deposits are a valuable resource for the community that should be protected until needed and developed for the benefit of local residents.

The environmental and social impacts of extraction operations also need to be considered in their development. These include ground water contamination and the elimination of ground water recharge areas; the alteration of surface drainage patterns, soil erosion, and stream sedimentation; the possible destruction of environmentally and archaeologically sensitive areas; noise, dust, and increased amounts of heavy traffic; the diminished scenic quality of the landscape, and limited utility for subsequent uses of a site; and reduced property values. Many of these adverse impacts can be minimized through appropriate site planning and development, erosion control, the phasing of operations, and proper site reclamation.

Significant Geologic Sites

Three areas of particular geologic significance for their educational and scientific value have been identified in Berkshire and are included in the Vermont Natural Areas Inventory completed in the 1970s: Ayers Hill, the Berkshire Kettle Hole, and the Berkshire Copper Mine. These are discussed in more detail in the Unique and Fragile Areas section.

Topography



Map 4.4

Because topography provides natural barriers to movement and often influences the accessibility and use of land, topographic information is important in planning for land use, transportation routes, and the location of public services and facilities. A general observation regarding past development is that "grade follows grade." In other words, graded land uses such as transportation routes, just as water, follow paths of least resistance. It is no coincidence that roads and railways often follow stream and river valleys.

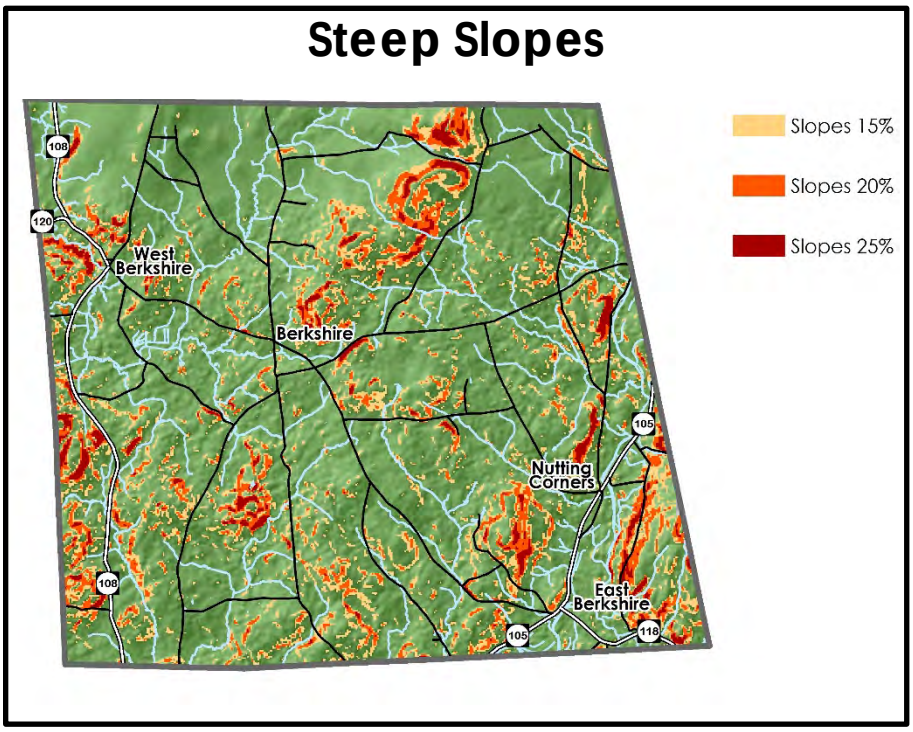
Elevation

Elevations in Berkshire range from around 415 feet above mean sea level (m.s.l.) along the Missisquoi River southwest of East Berkshire, to 1,326 feet atop Ayers Hill near the northern border (Map 4.4). Most development in the Town is located between 450 feet and 750 feet. Areas of high elevation, including ridge and hill tops, are often visible and contribute much to the scenic beauty of the area. The hills in north central Berkshire, including Ayers Hill, have also been identified as probable bedrock aquifer recharge areas. Consequently, ridge and hill tops, and areas over 800 feet in elevation, should be protected from unsightly and potentially harmful development.

Slope

One of the most important factors controlling the potential use of a given parcel of land is slope. Slope is the inclination, or change in elevation, of land over a horizontal distance, and is often expressed as a percentage (number of feet of vertical rise over 100 feet of horizontal distance). Slopes are an important consideration not only because of the environmental constraints that they impose with regard to drainage and bearing capacity, but also because of the environmental damage that may result from their alteration. Major causes of

slope destabilization include vegetation removal and undercutting slope banks. Slope destabilization can result in accelerated runoff and soil loss, septic system failure, and in the extreme, landslides and building collapse.



Map 4.5

Land that is nearly level is generally more productive for farming, and is also more easily and inexpensively developed for industrial, commercial, and residential uses. Steeply sloping land is usually best used for timber production, which minimizes the potential for erosion and provides wildlife habitat, recreation, and open space. These types of uses are not incompatible, but steep terrain with multiple uses requires careful land management and appropriate land use controls. Steep slopes over 15%, 20%, and 25% are shown in Map 4.5, while general recommendations for the appropriate use of land with regard to slope are given in Table 4.1.

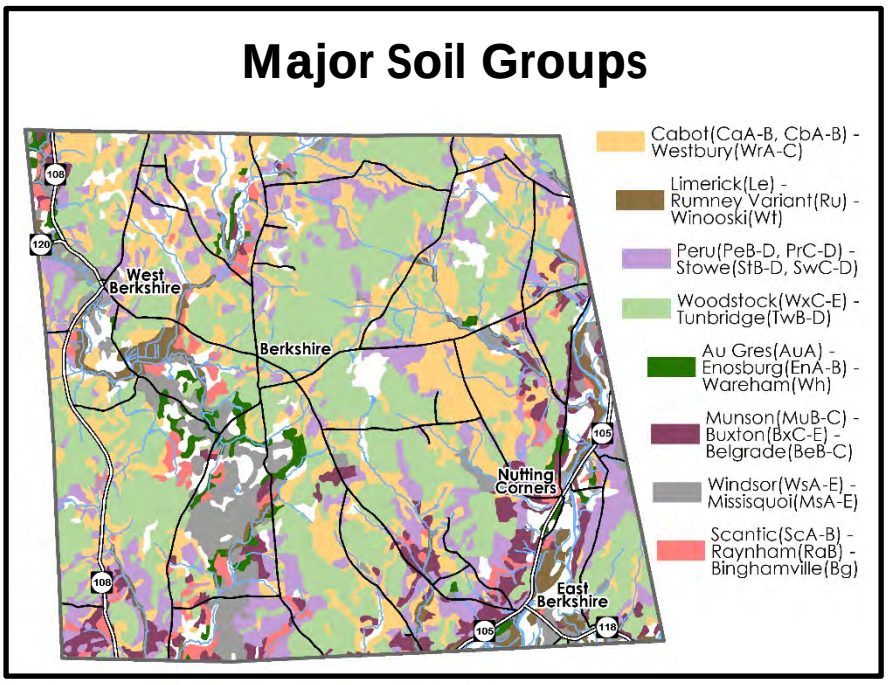
Table 4.1: Slope Categories

Average Slope	Uses/Restrictions
0 – 3% (SCS: "A")	Suitable for most types of agriculture and constructions, including higher density residential, commercial, and industrial development. Since land is nearly level, drainage may be a problem.
3 – 8% (SCS: "B")	Suitable for many types of agriculture, single-family homes on larger lots, as well as low-density multi-family housing, minor roads, and smaller commercial and industrial buildings. These slopes have a minimum of restrictions.
8 – 15% (SCS: "C")	Suitable for limited types of agriculture, single family homes on large lots, as well as low density multi-family housing, timber production, and recreational/open space uses. Where necessary, terracing, retention ponds, retaining walls, and other engineering techniques may be needed to prevent runoff and erosion.

15 – 25% (SCS: "D")	Suitable for timber production, limited residential, recreational, and open space uses. Construction becomes very costly on these slopes, rapid runoff and erosion problems are likely. These slopes are unsuitable for most types of on-site septic systems.
Over 25% (SCS: "E")	All construction should be avoided on these slopes because of high costs and the likelihood of damage to the environment. Vegetation removal and construction could lead to widespread slope failure.

Soils

Soil is perhaps the most important physical factor governing the use of the land. Most soils in Berkshire, having developed from materials deposited during glaciation, represent a 10,000 year investment that has resulted in a very valuable and limited resource.



Map 4.6

In the context of land use planning, four soil characteristics are of particular concern: bearing capacity, erodibility and stability, drainage, and resource value (for agriculture, forestry, building material, etc.). These characteristics are generally dependent on particle size (sand, silt, and clay) and water content. Poorly drained, fine-grained (clay) soils have the greatest limitations for most types of land use, in particular, anything requiring the installation of an on-site septic system. In contrast, coarse-grained, well-drained sandy soils, though often unattractive for agriculture, are generally suited for residential, commercial, industrial, and related uses.

Soils are classified on the basis of their structure, form, composition, and suitability for various types of development. The latest soil survey in Franklin County was completed by the Natural Resource Conservation Service in 1998. Major soil groups from this survey are shown in Map 4.6 and listed in Figure 4.1. The information in Figure 4.1 is intended for planning purposes only; more detailed information regarding particular soil types is available in the Soil Survey, which

should be consulted for specific site analyses.

Figure 4.1
Soil Groups

Limerick (Le)- Rumney Variant (Ru)- Winooski (Wt)
These soils are found along the Missisquoi River and the Trout River in the vicinity of East Berkshire, and along the Pike River south of West Berkshire. They formed recent flood plain deposits, and tend to be moderately well-drained to poorly drained loamy soils.

Limitations are severe for building of any kind on these soils and septic systems, due to seasonal flooding and wetness. The depth to bedrock is generally 5 feet or more, however the depth to the seasonal high-water table varies from zero to 3 feet. Winooski soils are considered prime agricultural soils; Limerick and Rumney soils are also primary agricultural soils of statewide importance. None of these soils are considered a good source of roadfill, sand, gravel, or topsoil.

Au Gres (AuA)- Enosburg (EnA-B)- Wareham (Wh)
These soils are found in only one location in Berkshire, along the west side of the Missisquoi River where it intersects with Route 105 north of East Berkshire. The soils of this group formed on terraces and old lake plains from materials deposited by glacial melt water, and are generally somewhat poorly drained to poorly drained, level or gently sloping, fine sandy loams.

Limitations are severe for septic systems and building of any kind, again due to wetness. Flooding does not occur; however, the depth to the seasonal high-water table is only 0 to 1.5 feet. Depth to bedrock is generally 5 feet or more. Enosburg soils are considered prime agricultural soils; Au Gres soils are also primary agricultural soils of importance to the state. Au Ores soils are a good source of sand, and Wareham soils are a fair source. None of these soils provide a source of roadfill, gravel, or topsoil.

Munson (MuB-C)- Buxton (BxC-E)- Belgrade (BeB-C)
These soils are found in several locations: between Route 108 and Trout Brook north of Enosburg Falls, north of the Missisquoi River in the vicinity of East Berkshire and Samsonville, west of Route 108 near the Canadian border, and west of Route-105 where it enters the Town of Richford. These soils also formed from Mater-deposited materials on old terraces and lake plains. They are gently sloping to steep, somewhat poorly drained to moderately well-drained, silty and clayey soils.

Limitations for building are severe due to seasonal wetness, frost action, slope, and low bearing capacity. Depth to bedrock is 5 feet or more; depth to the seasonal high-

water table averages between 0.5 and 3.5 feet. BeB is considered a prime agricultural soil, and BeC, BxC, MuB, and MuC are considered primary soils of statewide importance. BeB is also considered a good source for topsoil, while BeC, BxC, and MuC are fair sources of topsoil, otherwise, these soils are not suited for topsoil, roadfill, sand, or gravel.

Scantic (ScA-B}- Raynham (RaB)- Binghamville (Bg)

The soils of this group are found in two small areas in Berkshire: near the northwest corner of the Town, and at the southern boundary near North Enosburg. These soils also formed from water deposited material in depressions or on old lake plains. They are level to gently sloping, poorly drained silt and clay soils.

Limitations are severe for building and on-site sewage disposal due to wetness, frost action, and low strength. Depth to bedrock is generally 5 feet or more and depth to the seasonal high-water table varies from 0 to 2 feet. RaB and Bg are considered prime agricultural soils, and ScA and ScB are considered primary agricultural soils of statewide importance. None of these soils are suitable for roadfill, topsoil, sand, or gravel.

Windsor (WsA-E)- Missisqoui (MsA-E)

Windsor and Missisquoi soils are found in a swath of land extending from the Berkshire-Franklin boundary near West Berkshire to the Enosburg line south of the Enosburg Town Forest. They are also found in an area northeast of the Missisquoi River where it crosses Route 105, in a small area northwest of this, and south of Route 118 in East Berkshire. These are nearly level to very steep, excessively drained sandy soils that also formed from water deposited material on old glacial terraces and lake plains.

These soils are particularly suited for development, limitations are slight for building and septic tank absorption fields in areas having slopes of 0 to 8 % (slope categories A and B) and moderate in areas of 8 to 15 % slope (category C). Development limitations increase as slope increases due to ground water seepage and greater slope instability. Depth to bedrock is 5 feet or more, and depth to the seasonal high-water table is 6 feet or more. Windsor and Missisquoi soils (A and B) tend to be droughty, but are considered primary agricultural soils of statewide importance. Windsor soils, where slope permits, are good sources of roadfill and sand, but are unsuitable for gravel and topsoil. Missisquoi soils, also depending upon slope, are suitable for roadfill, sand, and gravel, but unsuitable for topsoil. Because water infiltrates easily, Windsor and Missis-quoi soils often overlie sand and gravel aquifers.

Woodstock (WxC-E)- Tunbridge (TwB-D)- Rock Outcrop (RoE)

These soils are found in two areas: the north central section of Berkshire, and in the southeast corner of Town. The soils in this group formed from till deposits on hills and bedrock ridges and consist of shallow, excessively or well drained, loamy soils interspersed among rock outcrop. Slope conditions vary greatly.

Limitations for building and sewage disposal are generally severe due to slope conditions and shallow soil depth, however only moderate limitations exist on Tunbridge soils (B and C) for dwellings and small buildings without basements, and road construction. Depth to bedrock averages 10 to 40 inches; depth to the seasonal high-water table is 6 feet or more. These are not considered primary agricultural soils, though Tunbridge soils are considered a good to fair source of topsoil, depending upon slope. These soils are unsuitable for roadfill, sand, or gravel.

Peru (PeB-D, PrC-D)- Stowe (StB-D SwC-D)

These are the most common and widespread soils in the Town of Berkshire, formed from till deposits on the upland slopes of hills and mountains. These areas are gently to steeply sloping, and are underlain by a silty, cemented subsurface layer, called a fragipan, which tends to impede drainage.

Limitations for building on Stowe soils are moderate to severe, depending upon slope, due to wetness, frost action, and the presence of large stones and rocks. The Stowe and Peru soils all have severe limitations for septic tank absorption fields. StB soils have slight limitations for an area sanitary landfill, and, along with StC and StD soils, moderate limitations for a trench landfill. Depth to bedrock is 5 feet or more and depth to the seasonal high-water table is 1 to 3 feet. The more gently sloping Peru and Stowe soils (PeE and StB) are considered prime agricultural soils, while StC is also considered a primary agricultural soil of statewide importance. More gently sloping Stowe soils are fair sources of roadfill and topsoil. None of these soils are suitable for sand or gravel extraction.

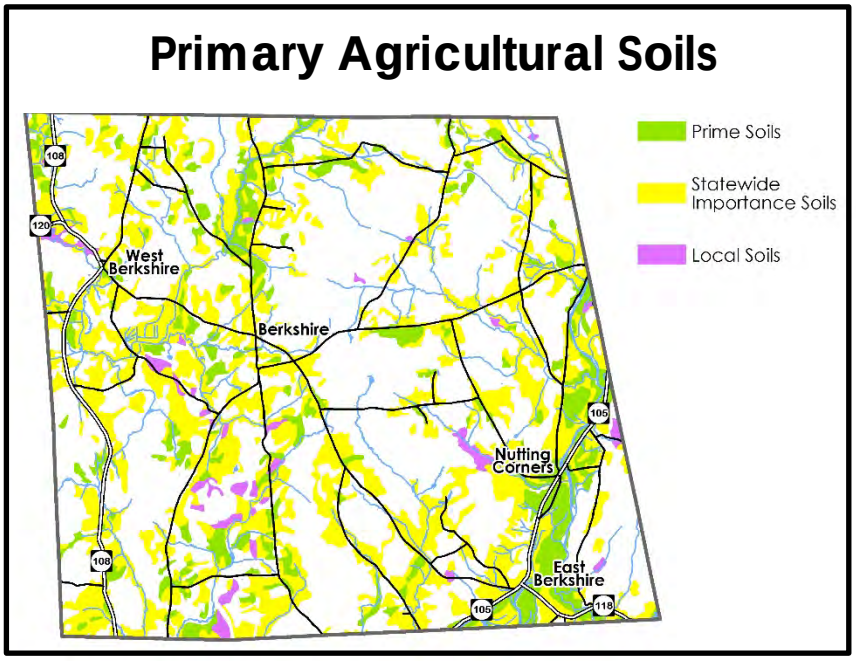
Cabot (CaA-B, CbA-B)- Westbury (WrA-C)

The soils of this group are found in three areas spread widely across the northern two-thirds of the Town. They are soils that have formed from tills and organic matter found on the lower slopes and low-lying areas of the foothills. A fragipan, at a depth less than 3 feet, is also characteristic of these soils, which tend to be level to gently sloping and poorly drained.

Building limitations are moderate to severe, due to slope, wetness, frost action, and the presence of large rocks and boulders. Depth to bedrock is 5 feet or more; and depth to the seasonal high-water table varies from 0.5 to 2 feet. These soils are not generally suitable for on-site septic and sanitary facilities; however, Westbury soils do provide suitable landfill cover material. Cabot (CaA) and Westbury (WrA-B) soils are considered poorly drained.

Primary Agricultural Soils

Primary agricultural soils, as defined by Vermont's Land Use and Development Law (Act 250), include soils which, based upon their chemical and physical properties, are considered especially suited for agricultural use. These are subdivided into "prime" soils having a very high potential and few limitations for producing food, feed, forage or fiber crops; and "good" soils of statewide importance that have good potential, but one or more limitations that may restrict the choice of crops and require more careful management. The Vermont Agency of Agriculture also recognized "local" soils with agricultural potential, but which are not regulated under Act 250. Prime, statewide, and local agricultural soils are shown in Map 4.7.



Map 4.7

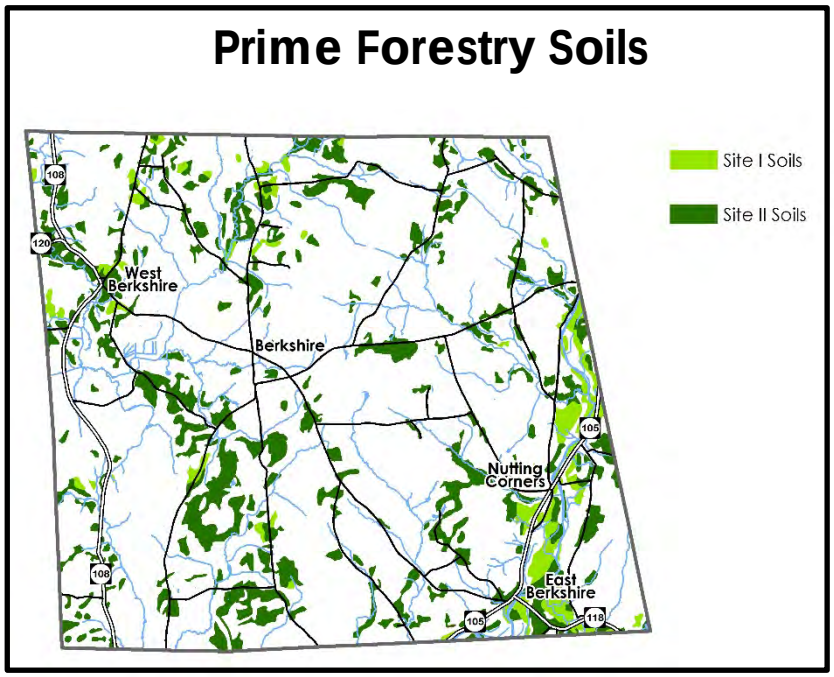
In the rolling hills and mountains of northwestern Vermont, primary agricultural soils, and "prime" soils in particular, are a very limited and valuable resource. Agriculture depends upon the availability of high-quality land, in large enough acreages (a "critical land mass"), to make crop production economical. However, many of the best agricultural soils, because of their physical properties, are also attractive for more urban-type development, such as the subdivision of land for the construction of roads, houses, businesses, and industry. Berkshire is no exception.

This conversion of primary farmland into built-up development is the cause for much concern statewide. Building on farmland effectively takes it out of production and reduces an already limited resource base. In Berkshire, much of the best farmland, located along roads winding through the Town, is still in agricultural production. In the past, more acres have been lost to shrub and forest cover with the abandonment of hill farms, than to development; but because of the importance of agriculture to the community, farmland conversion and fragmentation are prominent local concerns.

Retaining large enough acreages of the best soils for agricultural use is necessary for the continued existence of farming in Berkshire. It is important; however, to also consider social and economic factors when determining what land should be reserved for agriculture in the future.

Primary Forestry Soils

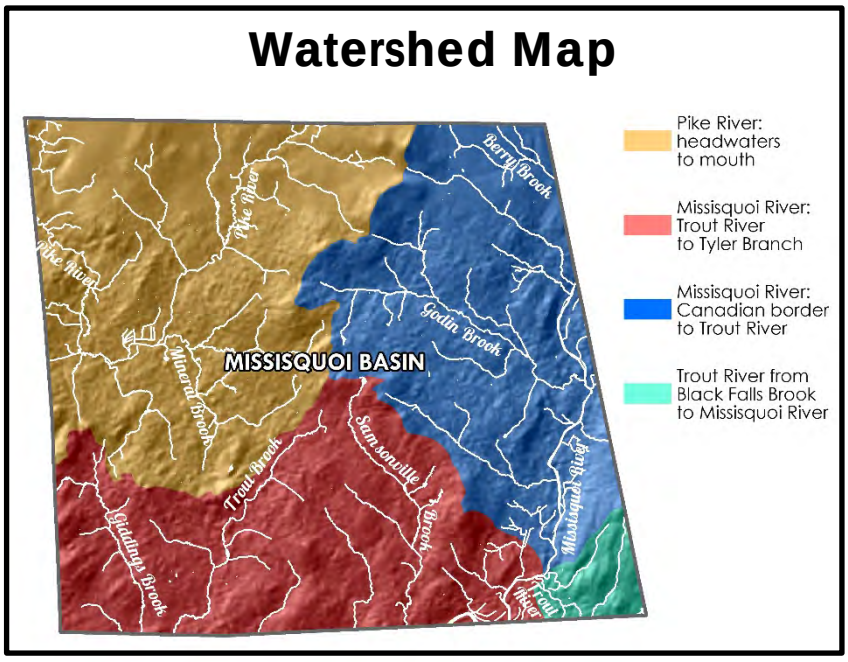
Primary forestry soils have also been identified by the State according to their productivity for commercial forestry. These soils are included within "Site I" and "Site II" productivity classes based upon their chemical and physical make-up and are shown in Map 4.8.



Map 4.8

Similar concerns exist regarding the development and fragmentation of commercial forestry soils as for agricultural soils. They are more widespread in Berkshire than primary agricultural soils and although there is some overlap with these soils, most primary forestry soils remain undeveloped. Primary forestry soils include many soils, which because of slope or drainage, are not suitable for intensive development. This may reduce certain development pressures, but even low intensity development such as seasonal home construction may result in fragmentation and limit access to good forestland. Again, socio-economic factors, as well as the soil resource, should be considered in determining which tracts of potential forestry land should be reserved for that use.

Water Resources



Map 4.9

Water is to the earth as blood is to the human body. Water is essential to the life of the individual and the community, but too often, its continued availability and purity are taken for granted. Consideration of the quantity and quality of water resources, and the fact that water does not recognize political boundaries in its movement, are basic to the planning process. This requires some understanding of the way water circulates through the environment (the "hydrologic cycle"), how human actions can modify this cycle, and the possible impact of these modifications on the water supply and the environment.

<u>Surface Water</u>

Berkshire is located within the Missisquoi Basin (Map 4.9), a network of rivers and streams stretching across northern Vermont and ending in Missisquoi Bay and Lake Champlain. The Missisquoi River and its tributaries drain most of Berkshire. The Missisquoi crosses the southeast corner of Berkshire and flows in a southwesterly direction through Town. A major tributary, the Trout River, flows into the Missisquoi at East Berkshire. Other tributaries include Trout Brook and Giddings Brook in the southwest corner of Town.

The Pike River and its tributaries drain the northwest part of Town into Missisquoi Bay. This river originates in the north central hills of Berkshire, flows southwest where it joins with Mineral Brook, and then flows northward into Franklin where it receives water from Lake Carmi. It then reenters Berkshire and exits at the Canadian border.

The section of the Missisquoi River from the Quebec border at East Richford to its mouth, including the segment in Berkshire, has been identified as an important recreational river for boating and fishing. The 10.5 mile segment through Berkshire has also been cited as an important fishery for natural populations of smallmouth bass, and natural and stocked populations of brown trout. The Trout River into

East Berkshire is also a fishery-- the home of natural populations of brown and rainbow trout (Vermont Rivers Study 1986).

Additionally, after a three year study, the Missisquoi and Trout were officially designated by Congress as National Wild and Scenic Rivers in 2015. This places these two rivers among the Nation's most valued and beautiful rivers that remain in their natural state. Designation as a Wild and Scenic River ensures that about 70 miles of the Missisquoi and Trout Rivers will continue to be protected as natural assets in the area and provides access to grants to support efforts to increase recreational access to these rivers by fisherman, hunters and paddlers. The two rivers are also part of the Northern Forest Canoe Trail, which maps a network of waterways from Canada across Lake Champlain into New York State. The trail is a recreational paddling route that includes lakes, rivers and streams and attracts a variety of visitors.

Water Quality

While water quality is generally good, many rivers and streams in Berkshire have been experiencing water quality issues associated with point and non-point sources of pollution. Historically, "point" sources of pollution, such as the Village of Richford Sewage Treatment Plant, were considered the most significant threats to water quality. However, as state and federal permitting requirements have begun regulating these facilities, the "nonpoint" sources of pollution (i.e., decentralized activities across the landscape that result in pollution, such as farming and development) have come to be recognized as the dominant source of pollution in the watershed. Water quality issues in the rivers and streams in Berkshire are contributing to the water quality issues experienced in Missisquoi Bay and greater Lake Champlain, where they all ultimately flow.

"Stormwater" is a non-point source of pollution that applies to rain and snowmelt that runs off impervious surfaces like roofs, driveways and roads. As it flows into streams and lakes, stormwater runoff often picks up pollutants such as oils, fertilizers and sediment. Excess stormwater also contributes to erosion and increases stream volumes during peak storm events. Berkshire's stormwater drainage system consists of a network of culverts and ditches along the town highway network.

New residential and commercial development in Berkshire is encouraged to implement stormwater mitigation strategies, otherwise known as Low Impact Development (LID). The main aim of LID is to design a site that prevents and minimized environmental degradation. Common LID techniques that mitigate the adverse impacts of stormwater runoff include minimize total land disturbance, reduce the amount of impervious surfaces and protect existing natural areas like forest stands and stream buffers.

Each year the State of Vermont prepares a list of waterways that are impaired and are unable to meet water quality standards (the 303d list and the impaired list outside the scope of 303d). They also prepare a list of waterways that may be impaired but are in need of further assessment before being added to the list. The impaired waterways and those in need of further assessment are listed in Table 4.2.

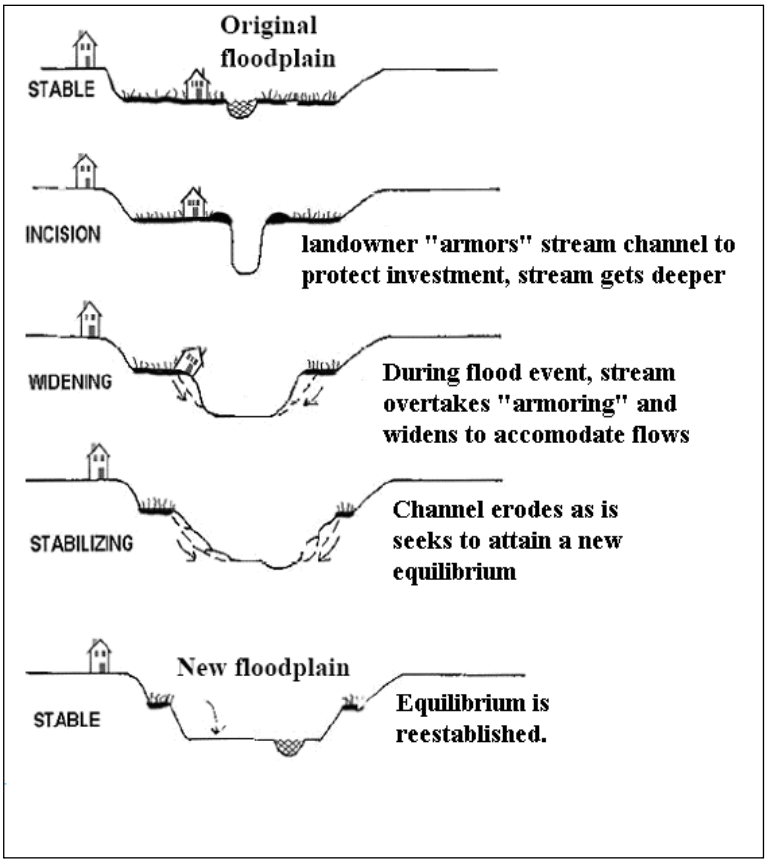
Table 4.2 List of water quality impairments affecting the use of surface waters in Berkshire as designated by the 2018 303d list.

Stream Section	Pollutant	Impaired Use	Water Quality Problem
Berry Brook, mount up to and including North Tributary (Approx. 1 Mile)	Sediment, Nutrients	Aesthetics, Aquatic Life Support	Agricultural runoff, Aquatic Habitat Impacts
Godin Brook	Sediment, Nutrients	Aesthetics, Aquatic Life Support	Agricultural runoff, Aquatic Habitat Impacts
Samsonville Brook	Sediment, Nutrients	Aesthetics, Aquatic Life Support	Agricultural runoff, Aquatic Habitat Impacts
Trout Brook, Upstream from mouth for 2.3 miles	Nutrients	Aquatic Life Support	Agricultural runoff

In a healthy watershed, streams are able to maintain a state of equilibrium and can carry the water, sediment and debris, even in high flows, without dramatic changes in depth, width or slope. These streams have access to a floodplain, a low-lying area adjacent to the stream, where floodwaters can go. When streams become heavily modified and floodplain areas are developed or filled, the streams are taken out of equilibrium. Often they can become deeply incised, water velocity and erosion can increase, and the stream can become capable of creating greater flood damage and sediment is moved downstream, reducing water quality. This process of stream channel evolution, which can be seen occurring throughout the Missisquoi and Pike River Watershed, is shown in Figure 4.2.

Local conservation efforts are taking place around Berkshire's waterways to improve water quality. The Missisquoi River Basin Association (MRBA), a local volunteer organization has formed partnerships with the federal Fish and Wildlife Agency and the Natural Resources Conservation Service to carry out various projects to protect water quality and recreational opportunities throughout the Missisquoi Watershed.

Figure 4.2. Stream Channel Evolution



Data has been collected by the Vermont DEC River Management Program about the physical condition of the mainstem of the Missisquoi River, Trout River, and the Pike River. These studies, called stream geomorphic assessments, document a stream's general characteristics, including width, slope, streamside vegetation and streambed materials, as well as issues impacting the stream, including erosion, modifications of the stream channel, the presence of bridges and culverts, etc. This comprehensive information about a river can provide important baseline data from which restoration projects and needs assessments can be determined.

In order to protect local streams, restore equilibrium, and improve water quality, a number of strategies can be employed such as limiting development in the floodplain, maintaining vegetated buffers along stream channels, and properly sizing public and private bridges and culverts. Vegetation along the streambank can help to naturally stabilize the stream, to filter out pollutants before they reach the stream and provides habitat. Berkshire currently requires that new development be setback at least 100 ft from any pond and a setback of at least 100 feet or the width of the mapped River Corridor (whichever is greater) for streams and river for water quality protection.

Ground Water

Ground water is currently the source of all drinking water in Berkshire. Most ground water comes from rain and snow that seeps into sandier soils and cracks or spaces in underlying bedrock, which then travels into storage areas called aquifers. In this way, the ground water supply is replenished or recharged. The water table defines the upper limit of saturation, and may vary with the seasons. Areas covered with glacial till, which include much of Berkshire, are usually poor recharge areas due to the high clay content of the soils and the presence of a fragipan. More permeable sand and gravel deposits such as those in the western part of Town, and fractured bedrock at higher elevations with little soil cover, are generally good recharge areas.

Figure 4.3
Potential Ground Water Recharge Areas in Berkshire

Possible Gravel Recharge Areas

1) Extending from the Canadian border to the Enosburg Town line, following the glacial isolated kame terrace. It includes within its area West Berkshire Village, Mineral Book, the lower Pike River, and the Enosburg Village Forest and reservoir. Overlying this recharge area are mostly Windsor-Missisquoi soils and a small amount of Limerick-Rumney Variant-Winooski soils. State geologists have identified this area as having high potential for ground water supply.
2) North of East Berkshire on both sides of Route 105. Overlying these are Au Gres-Enosburg-Wareham soils, and Windsor-Missisquoi soils.
3) In the northeast corner of the town, overlain by Scantic-Raynham-Binghamville
4) In the southeast corner of the town, overlain by Windsor-Missisquoi soils.

Probable Bedrock Recharge Areas

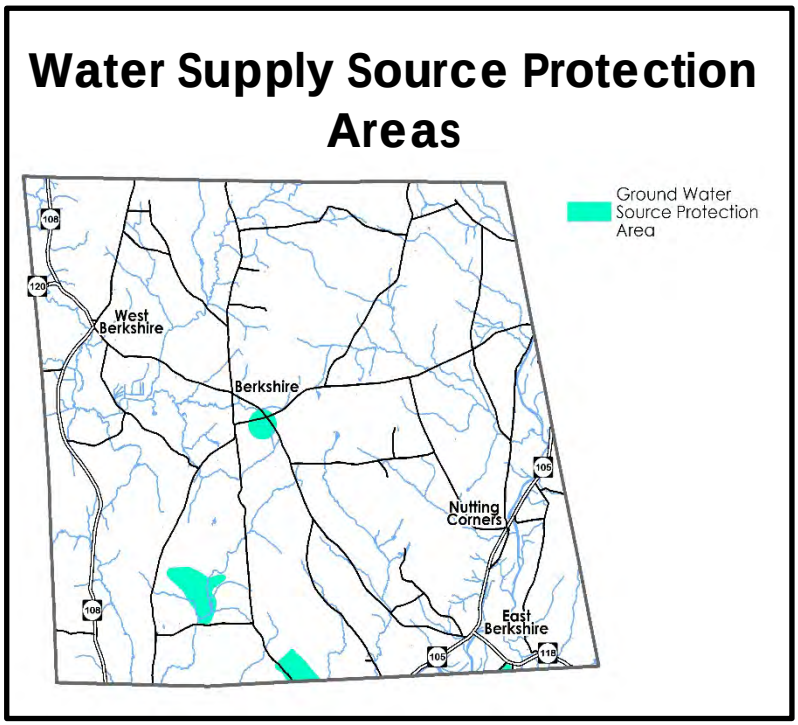
1) In the hills (including Ayers Hill) between the North Road and Lost Nation Road.
2) In the southwest corner of Town on the hill near the Missisquoi and Trout Rivers.

Defining actual areas with good potential for water supply is a difficult and expensive task, requiring large amounts of field survey work and data analysis. Consequently, areas with potential for good groundwater recharge are designated based on soil cover and existing knowledge of the underlying bedrock. Several "probable" and "possible" good recharge areas have been identified in Berkshire and are listed in Figure 4.3.

Ground water feeds rivers, lakes, and wetlands, appears at the surface in the form of seeps or springs, and is often pumped out of the ground for human use. Since ground water is usually less easily polluted or contaminated than surface water, it is a valuable source of drinking water. As noted earlier, Berkshire depends heavily on ground water for its water supply.

It is important to note; however, that human activity occurring in a recharge area

can affect the quality and quantity of the ground water supply. Paving large areas of land or pumping too much water can deplete the supply. Leaking septic systems and underground gas tanks, road salt, industrial wastes, and agricultural applications of chemicals are common sources of ground water pollution. Once a ground water system is contaminated, cleaning it up is very expensive and difficult, if not impossible.



Map 4.10

The Federal Source Water Protection Program was established to protect groundwater that supplies public drinking water systems. Since 1985, the delineation of Public Water Source Protection Areas (SPA) has been required for all proposed new sources for Public Community Water Systems. This program emphasizes proper management of lands within Source Protection Areas to reduce or restrict potentially contaminating activities. The State also has the Groundwater Protection Rule and Strategy that was adopted in 2005. This provides restrictions, prohibitions, standards, and criteria for a groundwater protection.

There are four Water Supply Source Protection Areas in Berkshire (See Map 4.10), two of which are protected through local zoning. This plan proposes to add the remaining two ground water source protection areas to the zoning regulations to afford them equal protection as identified on the Proposed Land Use map. The water supplies protected in zoning include the one located on the north side of Reservoir Road associated with two gravel wells that supply the Enosburg Falls Water System and another associated with the water supply for the Dairy Center. It is located on the border of Enosburgh and Berkshire surrounding the Dairy Center on Route 105. The area located on the border of Berkshire and Enosburgh between Perley and Woodward Neighborhood Roads, associated with spring supplying the East Berkshire Water Coop should be protected. Additionally, the groundwater source protection area associated with the Berkshire Elementary School and surrounding the School should also be protected.

Critical Areas

Critical areas, for the purposes of this plan, are defined as natural areas requiring special protection from development. They include areas that have environmental, ecological, educational, and/or scenic value, such as wetlands, shorelands, flood hazard areas, important wildlife, and endangered or threatened species habitats, and other areas of biological, hydrological, or geological significance.

Wetlands

Four large wetland areas are located in Berkshire (see Map 4.11, page 43). Two are located along the Pike River and Mineral Brook, another is found on the south side of the Berkshire-Richford Road near Lost Nation Road, and the fourth is located east of Lost Nation Road. Wetland areas are defined by the state as "those areas ... that are inundated by surface or ground water with a frequency sufficient to support vegetation or aquatic life that depend on saturated or seasonally saturated soil conditions for growth and reproduction" (10 V.S.A. 902). This definition includes but is not limited to marshes, swamps, sloughs, potholes fens, river and lake overflows, mud flats, bogs, and ponds.

Wetlands are indispensable but fragile natural resources. They are important for a variety of reasons. They provide temporary storage for floodwaters and thereby reduce flooding and protect the quality and quantity of ground water. They improve surface water quality by storing organics, chemically breaking down or removing pollutants, and filtering eroded sediments. They provide spawning and feeding habitat for fish and other aquatic life, and a wide diversity of habitat for other wildlife, including waterfowl, birds, mammals, furbearers, amphibians, and reptiles. Wetlands also provide habitat that may be critical for the survival of rare, threatened, or endangered species, valuable resources for education and research in the natural sciences, and a diversity of recreational opportunities and economic benefits. Finally, wetlands contribute to community open space, and the overall beauty of the landscape.

The U. S. Fish and Wildlife Service, using color infrared aerial photography, identified nearly 200 smaller wetland areas scattered throughout Berkshire. These are located on National Wetlands Inventory Maps. Most of these wetlands are small marshy (palustrine) areas, characterized by open water, emergent plant growth (e.g., aquatic plants), forested cover, or shrub and scrub growth.

Not every wetland area supports all wetland functions; however, critical functions may be performed by a particular wetland, or by an aggregate of smaller wetland areas within a larger area. The Secretary of Natural Resources, as required by state (10 V.S.A., Chapter 37, § 905b), has adopted Wetland Rules for the identification and protection of Vermont's significant wetlands. Under these rules, all wetlands in Vermont are designated as Class I, Class II or Class III wetlands (Figure 4.4). There are no Class I wetlands in Berkshire. There are however many wetlands identified in Berkshire designated as Class II.

Figure 4.4
State Wetland Classification

Class I -include those wetlands that the considered exceptional or irreplaceable, and merit a high degree of protection.

Class II -includes those wetlands that appear on NWI maps and any contiguous unmapped wetlands, and are protected by a minimum 50-foot buffer.

Class III -includes those wetlands that are not designated Class I or Class II wetlands. Class III wetlands are not protected under the Vermont Wetlands Rules, but may be regulated under the Clean Water Act, Sec 404.

The State regulates land use within designated wetland areas (Class I and Class II) and requires buffer strips that protect these wetlands from potential adverse impacts of adjacent land uses. Activities that will not adversely affect the functions and values of these wetlands are permitted.

The local planning commission is responsible for undertaking studies, making recommendations on wetland protection, and indicating those areas proposed for protection within its municipal plan.

Flood Resiliency

In response to the unprecedented flooding that occurred on Lake Champlain in the spring of 2011, and in Central and Southern Vermont during Tropical Storm Irene in September 2011, there has been an increased awareness statewide of the dangerous effects of flooding and fluvial erosion. As climate change threatens meteorological norms, and as increased development and impervious surfaces put more pressure on the State's streams and rivers, communities must reexamine their approach to assessing risks posed by inundation flooding and fluvial erosion.

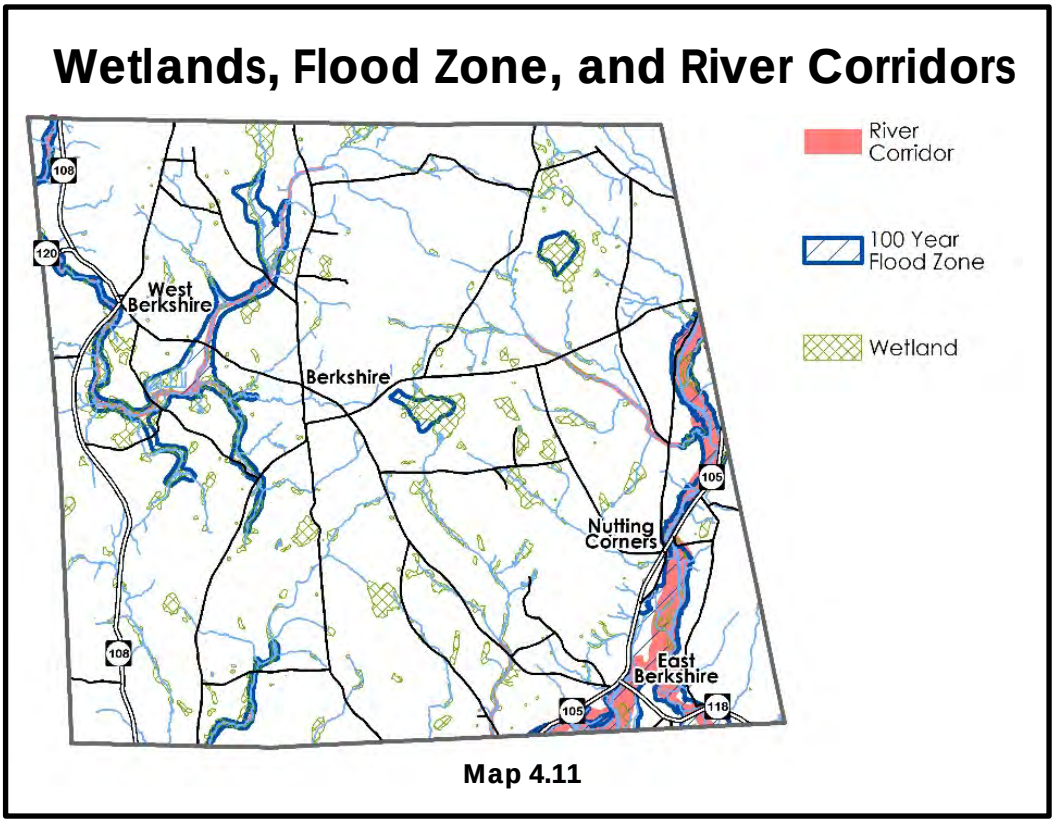
Flood Hazard Areas

Inundation flooding involves the rise of water over a floodplain, and is regulated by the National Flood Insurance Program (NFIP). Historically, the Town of Berkshire has been subject to periodic flooding of the Missisquoi River and its tributaries. The

Missisquoi River, the largest river in Berkshire, is surrounded by a substantial floodplain. In general, the flood plain of the Missisquoi River in Berkshire is largely undeveloped area composed of marsh, woodland, or land that is in agricultural use. However, East Berkshire is an exception, with a dense population that is subject to substantial risk of flooding. Portions of the state highways (Rte 105 and Rte 118) and Missisquoi Valley Rail Trail are also located in the Missisquoi River flood plain. The Pike River, Mineral Brook, Trout Brook and Trout River are tributaries of the Missisquoi River in Berkshire. Each tributary has its own floodplain.

Flooding most frequently occurs in Berkshire during the late winter and early spring when rainfall mixed with snowmelt causes water levels to rise on the Missisquoi River. Ice jams have not caused major damage to structures along the Missisquoi River in East Berkshire in recent years, but it has been responsible for field and riverbank erosion.

The most severe flood on record occurred in November 1927, resulting in the loss of most of the livestock in the town & village and destroying several bridges. A storm brought 3.2 inches of rain in 24 hours, and a total of 6.32 inches over its entire duration. Many Berkshire residents had to be evacuated from their homes by boat. Farms in the community lost much of their livestock, and bridges, including the Nutting Bridge north of East Berkshire and a number of covered bridges, were swept away (Flood Insurance Study, Town of Berkshire, Federal Emergency Management Agency, 1980).



Map 4.11

The most recent damaging flood event in Berkshire occurred in October 2019. More information on past flood occurrences can be found in Berkshire's Local Hazard Mitigation Plan (LHMP).

The Federal Emergency Management Agency (FEMA) requires communities who participate in the National Flood Insurance Program to adopt flood hazard regulations, which is structured to minimize risk to life and property. Participation in the NFIP is required for property owners to become eligible for federally-backed mortgage loans and flood insurance. Currently, the Town of Berkshire participates in NFIP and has five properties with flood insurance policies with a total value of over $1 million.

As indicated in the discussion on maintaining stream equilibrium (Figure 4.2), construction within floodplain areas has several negative impacts, including restriction of flood flows and decreases in flood storage capacity. Impervious surfaces, such as driveways and roofs, hamper the ability of floodplains to absorb water, and to assimilate nutrients from residential and agricultural runoff.

Berkshire has incorporated Flood Hazard Area Regulations into their Land Use and Development Regulations, which place an additional set of regulations on areas of Special Flood Hazard (the 100 year floodplain) as identified on the FEMA Flood Insurance Rate Maps (Map 4.11). In 2019, Berkshire updated these regulations by adopting standards that go beyond the required minimum set out by NFIP and revised the development review standards for the Flood Hazard Area Overlay District.

While the FEMA Flood Insurance Rate Maps indicate areas that are at risk of inundation by flood waters, the floodplain was mapped in 1983 and therefore may no longer accurately reflect the true risk of flooding to Berkshire. In addition, the maps do not adequately identify areas at risk of fluvial erosion. FEMA is currently in the process of updating the floodplain mapping in the Vermont. Initial discovery meetings for the Missisquoi Basin and the rest of Franklin County were held in 2017.

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.

Historic land uses along the river and its streams including floodplain encroachments and vegetative debris removal have increased the risk of erosion and landslides. Historically practices including armoring, dredging, gravel mining and channelization were common for the purpose of containing high flows and to protect infrastructure built in the historic floodplains, however this has generally

resulted in an increase in streams' power as the streams were made straighter and deeper creating 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.

VT DEC river corridor maps have been developed to identify the areas along larger tributaries and rivers that are suspectable to stream channel adjustment which may lead to fluvial erosion, In Berkshire, VT DEC has mapped river corridors for the Missisquoi River, Pike River and Mineral Brook. For all other mapped streams with a drainage area greater than 0.5 miles as included in the Vermont Hydrography Dataset (VHD) the stream corridor is 50 feet from the top of the bank (see map 4.11).

In 2019, Berkshire incorporated river corridors into the Land Use and Development Regulations. These regulations limit development in the mapped river corridor area and within 100 feet of the top of the stream bank for all rivers and streams in Berkshire with a drainage area greater than 0.5 miles as defined by the VHD.

Promoting Hazard Resilient Measures

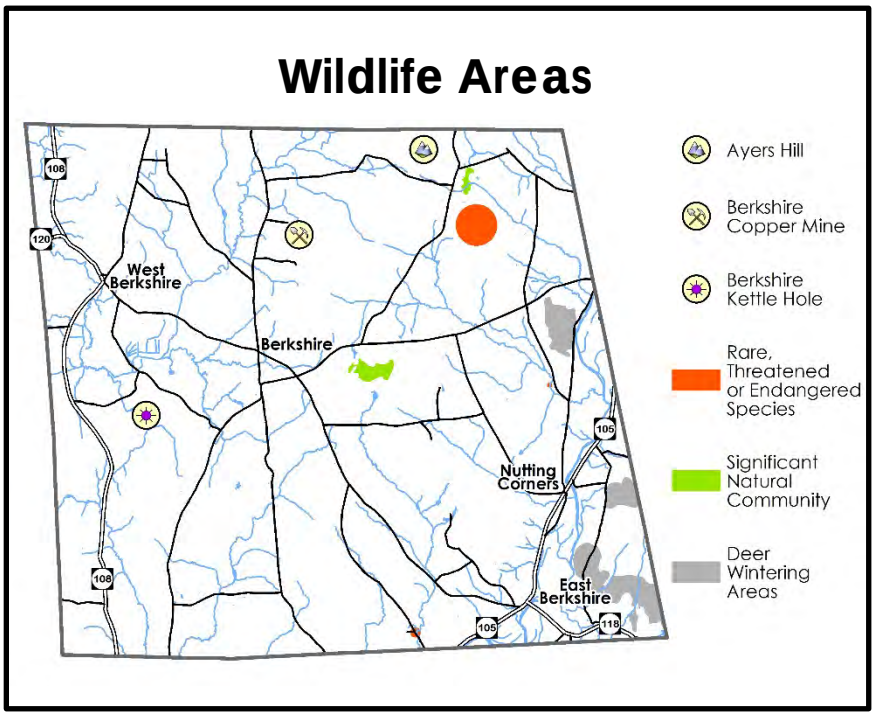
Limiting development within flood and river corridor areas will minimize risk and provide streams the opportunity to reestablish a stable, equilibrium condition. Maintaining vegetated buffers around waterways also helps to minimize risk to property and provides water quality benefits.

Berkshire has taken several measures since the 2015 Town Plan adoption to promote hazard resilience. In 2017, Berkshire adopted a local hazard mitigation plan (LHMP), copies can be found at the Berkshire Town Clerk's Office. This plan profiles the flood hazards in more detail and lays out an implementation plan that lists specific mitigation projects. In 2019, Berkshire updated its Land Use and Development Regulations. These updates included increasing flood hazard zone standards beyond the NFIP required minimum and adopting restrictions on development in the River Corridor consistent with VT DEC guidelines. Additionally, Berkshire maintains an updated Emergency Operation Plan (EOP) that details the steps to be taken in the case of a flood emergency.

The adoption of a LHMP and River Corridor guidelines make Berkshire eligible for the highest (17.5%) Emergency Relief and Assistance Fund (ERAF) state aid rate. This increases the Town's reimbursement rate to 92.5% from state and federal aid for losses eligible for public assistance funds after a federally-declared disaster.

The Town should continue to maintain the requirements set by the ERAF program to retain the 17.5% ERAF rate.

Wildlife Habitat



Map 4.12

The diversity of existing land use in Berkshire, including open space, wetlands, and wooded areas, supports a variety of common plants and animals. There is no specific data on most of these species. However, ANR has mapped deer wintering yards, three of which have been identified in Berkshire (See Map 4.12). Deer populations rely on softwood shelters at lower elevations having southern exposures to survive the severe winter climate and heavy snowfalls of this area. The amount of suitable habitat is limited, and is in danger of being further reduced by clear-cutting for forestry, agriculture, and development. Farmland abandonment and forest regrowth, on the other hand, could result in a future increase in deer populations.

Historically the ANR mapped black bear habitat and this information was used to understand important wildlife habitat areas. This information has been replaced with the development of Habitat Blocks by the VT Department of Fish and Wildlife. Maintaining large blocks of contiguous forest that can support large mammals is the primary action to be supported by municipalities to ensure these species continue to exist locally. By maintaining these habitat blocks it will ensure that the needs of large mammals are being met and subsequently support a host of other species. Map 9.3 displays existing forest blocks by size and provides additional information on forest habitat blocks.

The rivers and streams in Berkshire also provide habitat to fish, including brook trout, small mouth bass, and in the case of the Trout River, rainbow trout.
No threatened or endangered species are known with habitat in Berkshire, but as of 2020, four areas supporting rare species habitats and natural communities have been identified (Map 4.12). To prevent disturbance or illegal collection of these species, specific information on the species is withheld.

Unique and Fragile Areas

Unique or fragile areas are landscape features other than those already defined that have scientific and/or educational value. In Berkshire, these include three unique geologic features described as follows:

Ayers Hill

This is a singularly unique area of 400 acres on Ayers Hill where the volcanic lava flows and volcanic bombs of the Tibbit Hill formation are readily apparent. Currently, it is in private ownership and is in need of protection. This site is considered to be of state significance for its educational, scientific, and scenic value.

Berkshire Copper Mine

The Berkshire Copper Mine is a 10-acre site associated with the old copper mine that is now considered an important mineral collection area. It is also in private ownership and in need of protection. The site is considered to be of state significance because of its historical, educational, and scientific value.

Berkshire Kettle Hole

The Berkshire Kettle Hole is a well-preserved glacial feature, known as a kettle hole, which formed when a chunk of buried glacial ice melted and left a hollow or depression in the landscape. The Berkshire Kettle Hole is located on a three-acre site southwest of the hamlet of Berkshire. The kettle hole is in private ownership and in need of protection. As a glacial feature, it is considered locally significant.

Because of their significance, these areas should be protected from any type of development that would affect their character, value, and integrity. Controlled public access, in cooperation with private landowners, should be encouraged for educational and scientific pursuits.

The Town has not officially identified specific viewsheds as scenic resources. The Planning Commission recognizes that conducting a scenic resource inventory is a future action that can inform the next plan update. This inventory can inform opportunities such as road pull-offs to enjoy these resources and ways to protect them.

B) HISTORIC LEGACIES

Historic Districts and Structures

Berkshire contains four historic districts and 75 historic buildings and farms, as identified in a survey conducted by the Vermont Division for Historic Preservation in 1983. The four designated historic districts include the three hamlets-- the West

Berkshire Historic District, the East Berkshire Historic District, and the Berkshire Center Historic District-- as well as the Montgomery Road Historic District. Site listings, descriptions, photographs, and historic district maps are available in the survey report available at the Town Clerk's Office.

Currently, none of the historic buildings on the index for historic sites for Berkshire have been placed on the State Register of Historic Places. Selection is based upon the "quality of significance" of the building site or district in local, state, and national history, and often comes about through local nominations. Architectural and/or cultural significance, as well as the integrity of location, design, setting, materials, and workmanship, are also factors considered when selecting sites for inclusion in the state register. Properties of special merit may be nominated for inclusion in the National Register for Historic Places. Properties determined eligible for nomination to the National Register are automatically placed on the state register. Inclusion on these registers can result in some public financial support for restoration, preservation, and protection activities.

The Berkshire Historical Society conducts local research, assists in updating the sites and structures survey, and makes recommendations for historical register nominations. The Society gathered information about the history of Berkshire to include in a book. The book was published in 1994.

The Historical Society was responsible for initiating the restoration of the Town Hall. Based on their investigation, the Selectboard decided to seek funding for the project. They applied for and received a grant through the historical preservation grant program. Along with a bond measure and additional funds from an Accessibility Modifications Community Development Block Grant (CDBG), the project was fully funded. The Town Hall renovation was completed in 2007. The Town Offices as well as meeting space are currently located there.

Archaeological Sites and Sensitive Areas

Archaeological sites serve as tangible clues to the past and are important cultural resources for their historical, educational, and scientific value. They provide information about how people coped with changing environmental and cultural conditions, including changes in the climate, population stress, and the introduction of new technologies.

The archaeological record includes both prehistoric Native American sites and historic remnants of European settlement. Evidence of Native American settlement and activity is typically contained within upper soil layers, but may be deeply buried underneath floodplain deposits. The archaeological record also includes the ruins, materials, and evidence of life left behind by explorers, soldiers, and settlers of European descent that once passed through or settled in Berkshire.

The ruins and buried remains of 18th, 19th, and early 20th century buildings, structures, encampments, landscape features, garbage areas and other activity sites comprise Berkshire's historic archaeological heritage. Archaeological sites are often the only source of information for the longest part of human activity in Vermont.

Because these sites are not readily visible, archaeological sites are difficult to locate and may be unintentionally destroyed during construction and development; archaeological sites are being destroyed at an alarming rate throughout Vermont and New England. They are fragile, endangered, and nonrenewable. Once a site is disturbed, its value for scientific research is largely lost. Accordingly, archaeological sites and lands need to be considered in the planning process, and protected from the adverse impacts of growth and development.

Unfortunately, it is not known where most archaeological sites in Berkshire are located. Locating specific sites often requires a lot of historical research, and in the case of most prehistoric sites, field investigations, and surveys. The State's Division of Historic Preservation has identified archaeological “sensitive areas” in the Town based upon the results of past field investigations and research in nearby areas. Most prehistoric sites and many historic sites as well, are located near water, since water was a necessary resource and the focus of many activities. The Missisquoi River and its tributaries, and the Pike River are considered especially sensitive. It is important to note, however, that sites once located on waterways now often lie up to a 1000 feet away from present day watercourses because the location and shape of river channels have changed over time.

It is difficult to predict the location of these sites but once found they should be protected since they constitute essential links to the recent and distant past. Any activity within sensitive areas should be carefully monitored; and finds or artifacts uncovered in the course of development anywhere within the Town should be immediately reported to the State Archaeologist so that their location can be recorded and a determination can be made regarding their significance.

GOALS AND POLICIES: THE SENSE OF PLACE

GOAL 1: To protect in good quality the abundant natural and historic resources in Berkshire.

GOAL 2: To support the continuation of agriculture and forestry, which contribute to the rural character and sense of place in Berkshire.

GOAL 3: To protect the citizens, property and economy of Berkshire and the quality of their rivers as natural and recreational resources by using sound planning practices within designated Flood Hazard Areas and river corridors.

Policies:

1) Local climatic and weather conditions, and impacts on local air quality, should be considered in planning for suitable use of the land.

2) Regional, state, national, and international efforts to improve and protect environmental quality shall be supported at the local level.

3) Development shall be sited to avoid significant geologic features, and to permit future extraction of economically viable sand and gravel deposits.

4) New residential and commercial development in Berkshire is encouraged to implement stormwater mitigation strategies, otherwise known as Low Impact Development.

5) Intensive land development, including structures, shall be discouraged on slopes greater than 25% and as much vegetative cover as possible shall be maintained.

6) To maintain or improve the quality of land through the consideration of soil characteristics in determining its capability for development.

7) Development within agricultural and forested areas shall be discouraged on primary agricultural or forestry soils.

8) Any development activity that degrades surface and/or ground water quality shall be discouraged.

9) Streams, rivers, ponds, and wetlands shall be maintained in their natural

state, and be protected from pollution through appropriate health and land use regulations. Local regulations shall provide buffer areas to maintain the environmental, recreational, and scenic value of water courses, water bodies, and shorelines.

10) Development within close proximity of streams and rivers shall be compatible with the natural beauty of the area, shall protect existing vegetation, shall be set back sufficiently to prevent erosion along stream-banks or pollution from subsurface sewage disposal systems, and where possible shall retain visual and physical access to the water bodies.

11) Development shall be carefully sited in areas with a depth to ground water of two feet or less, or in ground water Source Protection Areas.

12) Fragile and sensitive resources, and endangered species, including but not limited to critical habitat, wetlands, and significant natural communities, shall be protected from adverse impacts.

13) Forestry and agricultural operations should be conducted in accordance with the Acceptable Management Practices and Required Agricultural Practices for maintaining water quality and to comply with the Vermont Water Quality Standards.

14) Prohibit land development resulting in the loss of wetland storage capacity or additions to the marsh areas of any substances which are likely to increase the concentration of materials beyond the assimilative capacities.

15) The public acquisition of land, development rights, or conservation easements shall be considered where appropriate to ensure long-term protection of particularly important critical areas and maintain open space.

16) Encourage the protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion.

17) Utilize River Corridors as defined by VT DEC to discourage future development in high risk areas for flooding or erosion hazards.

18) Maintain standards higher than the NFIP minimum for land development in the Special Flood Hazard Area and restrict uses to agriculture, recreational and open space in order to increase public safety and reduce future damages.

19) Incorporate mitigation measures when developing improvements or

expansion to municipal infrastructure.

20) Promote emergency planning for flood response.

21) Maintain the identified historic, cultural, and scenic resources, including the historic sites, landscape features, and archaeological sensitive areas.

22) Development, which would adversely affect historical resources, including destruction or alteration, isolation from or alteration of immediate surroundings, or the introduction of disharmonious visual, audible, or atmospheric elements, shall be discouraged.

23) Rehabilitation of significant historic sites and structures shall be encouraged; and adaptive use of historic structures shall be emphasized whenever it is economically feasible.

24) Public uses and/or ownership shall be sought to preserve historic sites and structures that are particularly significant to the community.

25) Promote the Current Use Program to better manage and conserve agricultural lands.

26) Conduct an inventory of forestland, natural resource features and existing development to aid in the evaluation of the current land use district's effectiveness in meeting the Town's goals.

27) Coordinate the preservation of forestland, agricultural land, and open space throughout the Town to create connected corridors of undeveloped land.

A PLACE FOR A HOME

"East Franklin/Berkshire Townline" Photo By Arnold Byam

A) EXISTING HOUSING STOCK

Housing in Berkshire is a mix of isolated, rural residences and farms and small, clustered settlements in the hamlets of West Berkshire, Berkshire Center, and East Berkshire. As of the 2017 American Community Survey, there were 651 total housing units, including 96 rented units, and an estimated 88 mobile homes. From 2000 to 2010 there was a 21.9% increase in year-round units, a rate that is similar with the surrounding communities and continues to slowly rise (Table 5.2). There are also 34 seasonal units, which comprise 5.2% of the total housing stock. The number of seasonal units decreased 53.3% from 2000 to 2010. Based on census data, Berkshire has fewer seasonal housing units than its neighboring communities, while Franklin and Montgomery, with high seasonal

A **housing unit** is defined as a house, apartment, mobile home or trailer, group of rooms or single room occupied as separate living quarters. Or if vacant, intended for occupancy as separate living quarters.

percentages due to Lake Carmi and Jay Peak, have fewer year-round units. The Planning Commission noted that the census data is under representing the number of seasonal dwellings and may not be taking into account all the hunting and summer camps in Town (Table 5.1).

Table 5.1. Housing Units

	1990		2000		2010		2017	
	Year Round	Seasonal	Year Round	Seasonal	Year Round	Seasonal	Year Round	Seasonal
Berkshire	439	35	520	30	634	14	596	34
Franklin	381	296	445	291	571	297	564	397
Enosburgh	1059	56	1,085	64	1209	62	1,128	85
Richford	901	67	965	52	1009	64	974	79
Montgomery	375	181	441	225	558	233	403	263
Franklin Co.	15,181	2,069	17,251	1,949	19,548	2,040	18,649	2,479

Source: Decennial U.S. Census 1990, 2000, 2010; U.S. American Community Survey 2013-2017

Table 5.2. Change in Housing Units

	% Change Year Round (90-00)	% Change Seasonal (90-00)	% Change Year Round (00-10)	% Change Seasonal (00-10)
Berkshire	18.5	-14.3	21.9	-53.3
Franklin	16.8	-1.7	28.3	2.1
Enosburg	2.5	14.3	11.4	-3.1
Richford	7.1	-22.4	4.6	23.1
Montgomery	17.6	24.3	26.5	3.6
Franklin Co.	13.6	-5.8	13.3	4.7

Source: Decennial U.S. Census 1990, 2000, 2010

According to the U.S. Census, much of the growth in Berkshire's housing stock has occurred recently, beginning between 1970 and 1980 when the housing stock increased by 42%.

B) HOUSING PROJECTIONS

Berkshire is expected to grow as a bedroom community to supply housing to workers in adjoining and nearby towns. Based on existing household sizes (roughly 2.87 persons per year-round housing unit according to the 2010 U.S. Census) and current population projections, Berkshire should need at least 104 new year-round housing units by 2030 to house the projected population.

The number of building permits in recent years has increased, but remained below pre-recession levels. From 2000-2007 Berkshire passed an average of 16 building permits for new housing per year. From 2008-2013 this number fell to an average of 4 new building permits per year. From 2013-2018, there was an average of 6 new building permits passed per year.

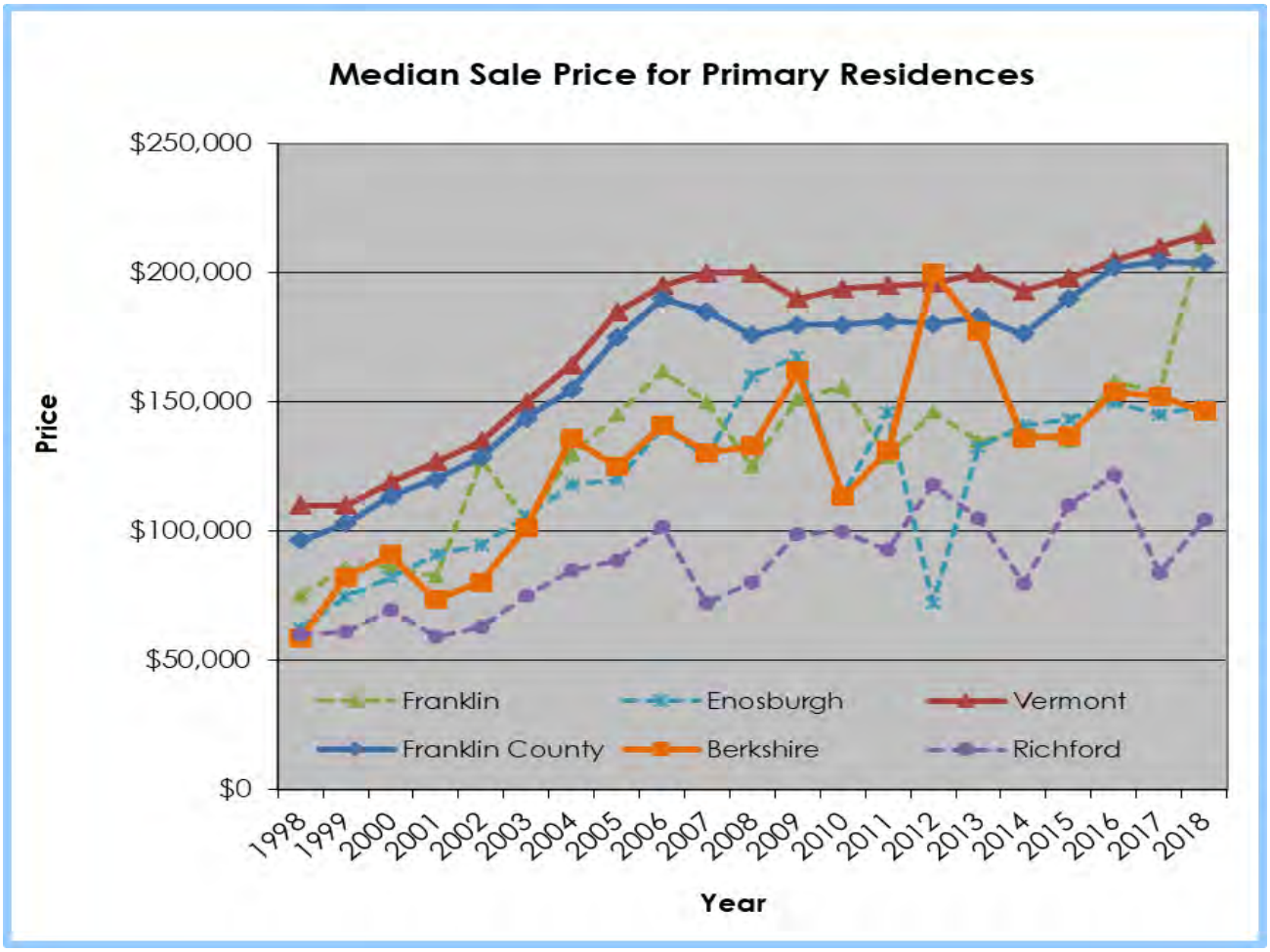
C) HOUSING CONDITIONS

The condition of the Town's housing stock varies greatly, from older, decaying homes to brand new structures. Many of the older houses in Town are well built and provide relatively safe housing; a number have been restored to good condition. According to the 2013-2017 American Community Survey, 33.8% of all housing units in Berkshire were built before 1939. Another period of growth was from 1970-1999, when 37.8% of the housing stock was built. The condition of a home is directly related to the availability of funds to restore and maintain it. The Town should consider setting up a housing rehabilitation program, funded with state assistance (e.g., Vermont Community Development Program, or the Champlain Housing Trust Revolving Loan Fund), to improve the existing housing stock, particularly for lower and moderate income residents. Such programs have been successful in other communities in the state.

D) HOUSING COSTS AND AFFORDABILITY

According to property transfer records, the median sale price of a primary residence from 2015-2018 was between $137,000 and $154,000. The number of housing units sold each year has also increased from an average of 7.4 units from 2009-2013 to an average of 15.6 units from 2014-2018. In general, average median sale prices seem to be rising over the last 20 years, however because of the small number of primary residences sold each year, year to year fluctuations in median sale price are most likely not meaningful (Figure 5.1). Housing sale prices in communities around St. Albans and within and around Chittenden County are much higher than those in Berkshire and the adjacent municipalities. The housing market began to level off statewide in 2006 and 2007, and even more so when a recession hit in 2008. The housing market is expected to remain stable in Vermont.

Figure 5.1



Safe, adequate housing is inarguably one of our most basic needs. It is important to ensure that adequate housing is not the luxury of a select few. Instead, a variety of housing types (in equally various price ranges) needs to be promoted to foster a diverse community, which is not economically exclusive. Housing which is affordable for first-time buyers, senior citizens (often on fixed incomes), and lower income residents is especially important in this regard.

To define affordable housing, the state has determined that households earning 80% of the median household income should pay no more than 30% of their income on housing. This definition is used as an indicator for the availability of affordable housing in a community. Homeownership housing costs include not only the mortgage, but taxes and insurance. In the case of rental units, the cost is defined as rent plus utilities. According to the 2013-2017 American Community Survey, the median household income in the town of Berkshire was $53,182. Low income households are those in which income is less than 80% of the median or $42,546. In excess of 35% of the households are considered "low-income" in Berkshire (Table 5.3).

Table 5.3 2017 Household Income Distribution

Income	% of Households
Less than $34,999	26.2
$35,000 to $49,999	16.1
$50,000 to $99,999	34.0
$100,00+	20.6

Source: U.S. Census American Community Survey 2013-2017

Using the state definition of affordable housing outlined above, Table 5.4 and 5.5 illustrate maximum affordable mortgages and rents in Berkshire with the median sale price for a primary residence and median rent based on spending no more than 30% of household income on housing. By comparing the available income for homeownership for the median income and 80% of the median income to the median sale price for primary dwellings, you can identify if there is an affordability gap for residents. This analysis computed for 2017 indicates that housing is

Table 5.4 Affordability Gap for Homeownership Costs in Berkshire

Percent of HH Median Income	County Median HH Income	30% of Income Per Month	Taxes & Insurance	Income Available for Housing per Month	Maximum Affordable Mortgage	Median Sale Price Primary Residences (2017)	Owner Affordability Gap
Median (100%)	$62,214	$1,555	$414	$1,141	$226,103	$204,500	$21,603
Low (80%)	$49,771	$1,244	$414	$830	$164,480	$204,500	($40,020)
Very Low (50%)	$31,107	$778	$414	$364	$72,044	$204,500	($132,456)
Very Low (30%)	$18,664	$467	$414	$53	$10,421	$204,500	($194,079)

Data Source: Median Household Income (U.S. Census 2013-2017 ACS); Median Home Sale Price in Franklin County (Vermont Housing Data 2017); taxes and insurance (NRPC estimate); all other figures computed by NRPC (30-year mortgage and 4.5% interest rate).

affordable for those earning the median county income but for homeownership it is not affordable for lower earning households. Renters falling in the "low" income category are still able to find an affordable unit.

Table 5.5 Affordability Gap for Rental Costs in Berkshire

	Income Available for Housing per Month	Median Gross Rent	Rental Affordability Gap*
Median County HH Income (100%)	$1,555	1,157.00	398.35
Low HH (80%)	$1,244	1,157.00	87.28
Very Low (50%)	$778	1,157.00	(379.33)

Data Source: Median Household Income and median gross rent (U.S. Census 2013-2017 ACS)
*Note this does not include cost of utilities.

There are no dedicated low-income or senior housing units within the Town of Berkshire. However, the adjacent communities of Richford and Enosburg Falls have several subsidized low-income and senior housing units. These communities are better suited for low-income and senior housing developments because of their proximity to services and walkable village centers. The Town should concentrate on providing affordable housing opportunities to meet local community needs. Such efforts could include the housing rehabilitation program mentioned earlier, providing for some higher density and multiple housing unit development within the Town, and also participation in a local or regional community land trust, a cooperative effort between public and private interests. Funds, subsidies, or loan guarantees available through such programs as the USDA Rural Development, the Vermont Housing Finance Agency (VHFA), the state's Housing and Conservation Trust Fund (HCTF) and Community Development Block Grants (CDBG), are also intended to assist individuals and communities in meeting their affordable housing needs.

GOALS AND POLICIES: A PLACE FOR A HOME

GOAL 1: To provide safe and affordable housing for all segments of the population.

Policies:

1) There should be a diversity of housing types and a choice between renting and ownership to meet the needs and preferences of Berkshire residents.

2) All primary housing, including both new construction and existing buildings, should be safe, sanitary, and energy efficient. All households should have a sufficient, safe water supply and means of sewage disposal.

3) All new residential construction should be designed and phased so as not to overburden local services and facilities, or negatively impact important natural resources, including primary agricultural land.

4) Where possible, the existing housing stock should be kept as housing and not be converted to other uses. The rehabilitation of existing housing units, particularly for the provision of affordable housing, should be encouraged.

5) Alternative housing finance arrangements and new ways of providing affordable housing should be supported.

6) Second or seasonal home development should be carefully evaluated to determine the potential for conversion to year-round housing, to evaluate associated impacts on municipal facilities and services, and housing affordability for permanent residents of the Town.

EARNING A LIVING

Photo Credit: Diane McGarry

A) BRINGING HOME THE PAYCHECK

Historically, the presence of deep, fertile soils and the lack of major topographic limitations have encouraged the agrarian trades (farming, forestry, and sugaring) in Berkshire. In the past, farming has provided a livelihood for many of the Town's residents; however, this employment sector has decreased in recent years. In 1980, 30% of workers were employed in agricultural jobs, while in 2017 only 7% worked in agricultural jobs. It is important to note that many in this industry sector are self-employed and therefore may be underrepresented by the census and state reporting. Other types of employment opportunities in Berkshire include manufacturing, retail trade, educational services, health services, and public administration.

Seventy percent of Berkshire's available workforce is classified as private wage and salaried workers, the largest category, and roughly 15% were self-employed. Most of the remaining worked at some level of government, from local to federal.

There has also been a shift in where people will travel for employment. In 2000, 82% of the employed population in Berkshire worked within the County and only 14% were commuting to Chittenden County for jobs (Table 6.1). According to 2017 Longitudinal Employment and Household Dynamics data, which reports worker location from unemployment insurance coverage by the employer, 62.0% of the employed population in Berkshire worked within Franklin County, while 19.8% worked within Chittenden County. Within the County, Enosburgh Town and Enosburg Falls attracted the greatest number of Berkshire workers at 13.4%, while St. Albans City, St. Albans Town, Richford, and Swanton followed with 11.2, 10.6, 4.8, and 4.4% respectively.

Outside the County, Chittenden County draws 19.8% of Berkshire workers, with South Burlington, Colchester, Williston, and Essex pulling in 4.2, 3.4, 3.3, and 3.1% respectively. Compared to 2011, when 40% of the employed population commuted to Chittenden County, this suggests that more Berkshire residents are working within Franklin County.

Table 6.1. Employment Destinations for Berkshire Residents

	2000	2011	2017
Franklin County	82%	51%	62.0%
Chittenden County	14%	40%	19.8%

Source: U.S. Census 2000, Longitudinal Employment and Household Dynamics 2011 & 2017

B) Business in Berkshire

There are several types of industry (as defined by the VT Department of Labor) located within the Town of Berkshire. These industries employ a percentage of the Berkshire workforce, in addition to some workers in neighboring communities who commute to Berkshire. The Vermont Department of Labor reports that, as of 2018, there are 11 establishments or employers located in the Town, including construction, retail, and transportation industries (Figure 6.1). The number and type of industries located within the Town has not changed significantly over the last ten years but the number of jobs has increased over time.

Left: Aires-Hill Farm, Right: The Bed & Biscuit & Dirty Dogz Grooming

Figure 6.1

Home Based Businesses

Home based businesses are a major component of the local economy. Home businesses, or home occupations, are especially common in rural towns like Berkshire where many people work from their homes, either as a primary or supplemental source of income. The advent of telecommuting, home offices, and flexible job scheduling has made working from home even more prevalent. Improving access to high-speed internet and cell service will increase the viability of home based businesses.

Agriculture

The Town of Berkshire remains an important agricultural community in Franklin County despite a decline in farming as a source of employment over the last few decades. The total number of active farms in the Town has declined over the years, in part due to the federal government's five-year "Whole Herd Buy-out Program" that began in 1985, the discontinuation of the Northeast Dairy Compact in 2001, and the volatility of the price of milk. However, there are still 55 parcels of land used for farming totaling 12,472 acres remaining in Berkshire (2017 Grand List). These figures have both decreased significantly from 2000-2010, however the number of parcels has decreased much more significantly than the number of acres of farmland due to the

Top: Tractor at Pleasant Valley Farms (Photo Credit: Meg St. Pierre), Bottom: Lantz Vines at Sherwood Acres"

consolidation of farms. Since 2010 both the number of parcels and the number of acres have stabilized. National and international economic pressures affecting the price of milk and the viability of smaller farms continue to make farming increasingly difficult on Berkshire farms. As of 2020, Berkshire has 41 maple sugarbush operations with a total of 2,300 tapped acres. Most sugarbushes in Berkshire are small, with an average size of 56 acres, while the largest sugarbush is 360 acres. Other agricultural enterprises in the area include maple sugaring, beef production, goat farms, vegetable production, a vineyard, hemp production, beekeeping, and cheese making.

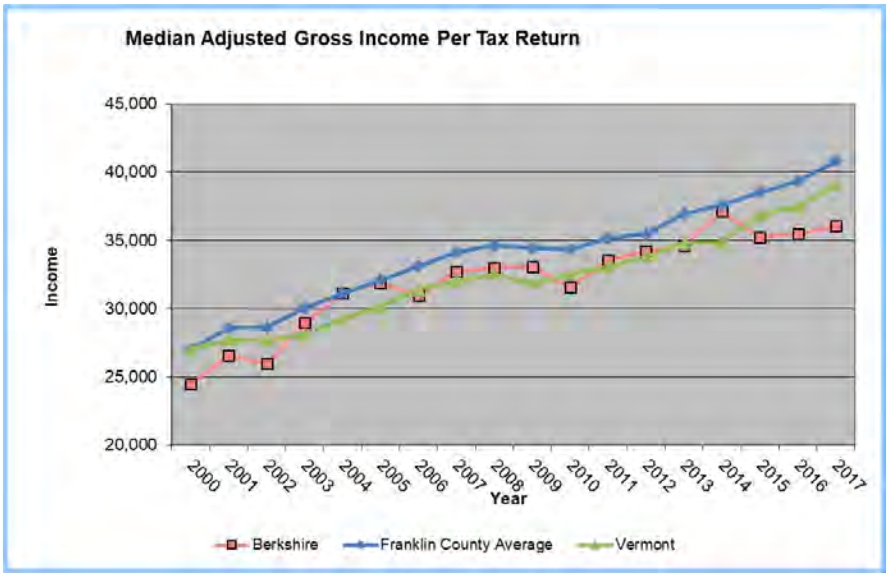
Manufacturing and Service Industries

The settlements of Berkshire, East Berkshire, and West Berkshire provide a minimum of goods and services, primarily gas and food. Based on local knowledge, commerce in the town consists of several beauty salons, a convenience store, a gas station, a snack bar, several auto-repair shops, a maple specialty shop, a dog kennel, a fuel oil distributor, a yoga and retreat center, an antiques store, and a real estate office. Additionally, there is a woodworking business as well as a plumbing and heating contractor and a saw mill. Town residents travel to the larger commercial centers of Enosburg Falls, Richford Village, St. Albans, and in some cases Burlington, for shopping and professional services.

Top: Bates Family Maple, Middle: Tremblay Log Yard, Bottom: Lussier's Sawmill

C) INCOME AND WAGES

Figure 6.2



Between 2000 and 2017, the median adjusted gross income (AGI) of Berkshire residents showed a 47% increase, from $24,462 to $36,077. The average annual increase during this time was approximately 2.4%. While the median AGI in Berkshire has risen over time it is farther from the Franklin County average than it was in 2000 (Figure 6.2).

Median adjusted gross income is an average based on individual tax returns and is therefore lower than household income reported by the U.S. Census (which may include more than one tax return). The 2017 median household income in Berkshire was $53,182. This is below the median for the County and the State ($62,214 and $57,808 respectively).

Table 6.2 Percent of individuals whose income in past 12 months was below poverty level.

	1990	2000	2017
Berkshire	11.4%	13.6%	8.3%
Franklin County	-	9.0%	8.0%
Vermont	-	9.4%	11.40%

U.S. Census 1990, 2000, American Community Survey 2008-2012.

The 2017 U.S. Census American Community Survey indicates that the percent of individuals living below the poverty level has decreased since 2000 (Table 6.2). The poverty level in Berkshire is currently lower than that of the State and about the same as that of the County.

D) EDUCATION AND TRAINING

Many factors influence the attractiveness of a community to an employer looking to relocate, including education levels. It is important for a community to promote good access to education and training that lead to higher paying jobs. Locally, post-secondary and continuing educational programs are available through the Community College of Vermont (CCV) in St Albans, Northern

Vermont University- Johnson Campus in Johnson, and several colleges and universities in the Burlington area, including the University of Vermont. Vocational training is available through area high schools and the Cold Hollow Career Center. Other vocational training opportunities are provided through such publicly sponsored programs as Vermont Job Start and through private on-the-job training programs.

The 2017 Census indicated that of the population 25 years and older, 49% of Berkshire's residents held only a high school diploma. This is just above the County figure (37.3%) and that for the State (29.6%). The percentage of Berkshire residents with a bachelor's degree or higher was 14.4%, while Franklin County was 24.7%, and the State was 36.8%.

E) FUTURE ECONOMIC DEVELOPMENT

Continued economic health for the Town of Berkshire lies in the maintenance of a viable agricultural industry, principally dairying, supplemented by other forms of agricultural activity and the provision of goods and services that support an agrarian economy. The Town should encourage any 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; and the possible diversification of agriculture, including the support of value-added enterprises.

At the same time, Berkshire residents are aware that agricultural employment has been in steady decline, and more people must commute elsewhere to work. Small commercial enterprises and light industry in appropriate locations would complement the agrarian economy if they were in keeping with the rural character of the Town and had no impact on the local environment.

The Town should encourage the development of home occupations, and small businesses in or near the existing Village centers. Berkshire should consider pursuing the VT Agency of Commerce and Community Development (ACCD) Village Center designations for the village centers of East Berkshire and West Berkshire to promote appropriate economic development in these areas. A Village Center designation would provide several benefits, including priority consideration for state grants and access to tax credits.

The Town recognizes that one particularly effective means to encourage the development of small businesses, while at the same time addressing residents expressed educational and environmental interests, is to continue to support high-speed (broadband) internet connectivity for residents and businesses in the Town. Broadband internet connections encourage and enable small and home-

based businesses, and enhance existing businesses in ways that current satellite connections cannot. To this end, the Town should move proactively to become involved with the various organizations working to bring internet connections to rural areas. This includes supporting and closely monitoring the statewide efforts to increase access to broadband connectivity.

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

Berkshire at this time does not have the municipal services to support larger commercial enterprises and industry. It is anticipated that this type of development will be located in the nearby service areas of Richford and Enosburg Falls. For example, Richford has developed a small industrial park on Route 105 not far from the Berkshire town line that may provide employment opportunities for local residents.

GOALS AND POLICIES: EARNING A LIVING

GOAL 1: Promote a balanced, diverse economic base, with a focus on locally owned enterprises.

Policies:

1) To encourage that agricultural and forest land be maintained for viable economic use, encourage value added business, promote locally grown products, and encourage the implementation of agricultural/forestry best management practices.

2) Diversification of the economic base, including the development of compatible businesses and light industry, and the promotion of home occupations should be encouraged.

3) Economic development should be pursued to provide maximum economic benefit with minimal environmental impact.

4) To promote opportunities for increased communications infrastructure, such as broadband internet access, cell phone service, DSL and the like while ensuring that infrastructure to develop these opportunities maintains the rural character and does not impact scenic resources.

PROVIDING FOR THE PEOPLE

Covid-19 Community Support from Pleasant Valley Farms
(Photo Credit: Meg St. Pierre)

A) MUNICIPAL GOVERNMENT

The Berkshire Town Hall, built in 1899, is an important local landmark located in Berkshire Center. The Town Hall houses all municipal administrative and treasury services as well as being used for Selectboard meetings, community meetings, and voting. Berkshire employs a clerk, an assistant, auditors, zoning administrator and listers to take care of the daily administrative needs of the Town and maintain records. Until 2007, the Town Hall was not used for municipal offices. Its use was limited because the building's only heating source was a wood stove, it had no water service or fire protection systems, and was not ADA compliant. The town built a small office next to the Town Hall to serve as the municipal offices during this time; however, the Town quickly grew out of this space. In response, during 2005 and 2006, the Town Hall was restored with the use of funds from the Vermont Historic Preservation Program, the Vermont Community Development Program and a municipal bond. In 2007, the Town moved municipal offices back into the restored Town Hall and tore down the small office building. Space and facilities at the Town Hall are now more than adequate to serve the town for many years to come.

Union Church, where the present Town Hall sits, from the 1890's (Photo Credit: Berkshire Historical Society).

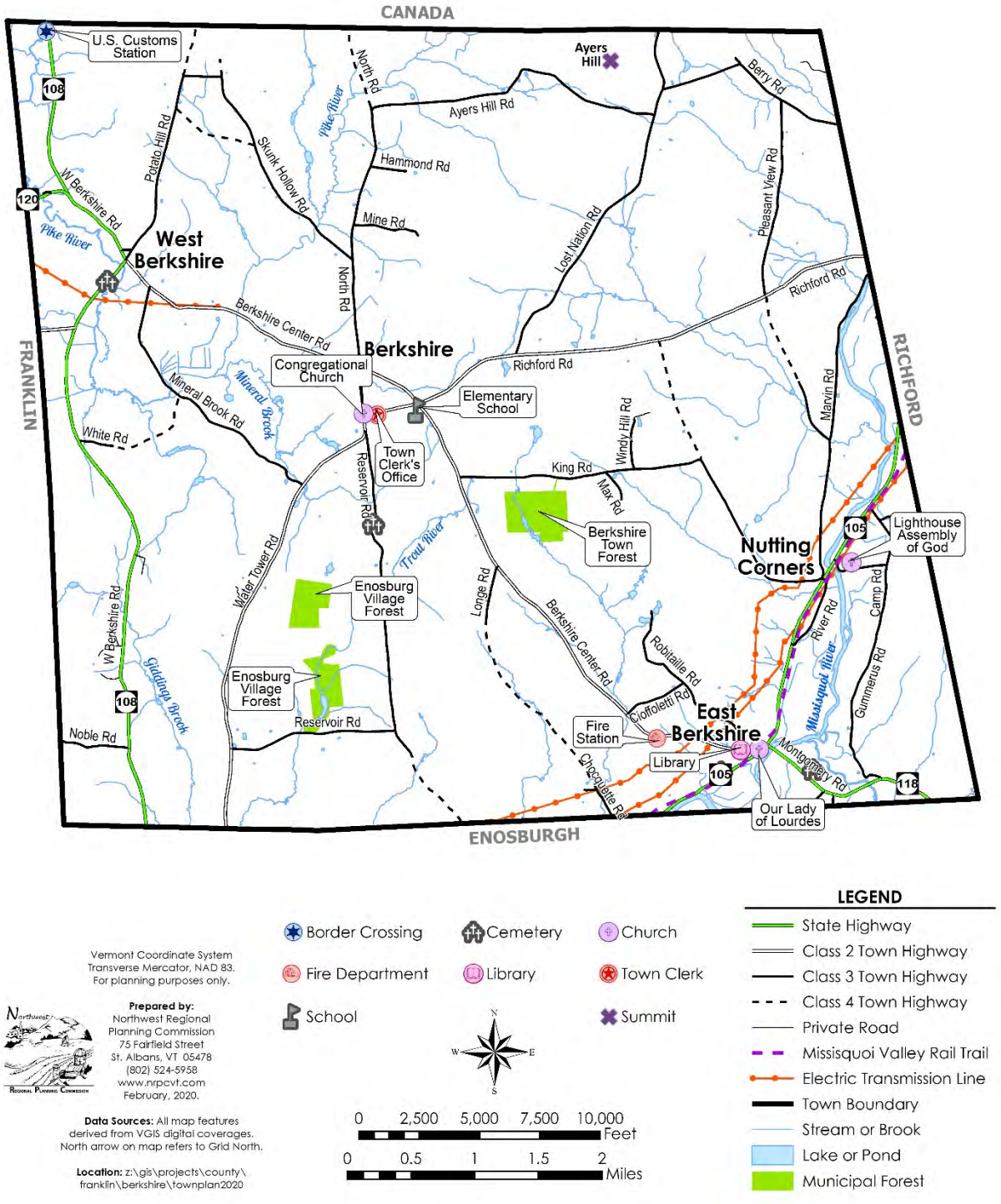
Berkshire Town Hall Before Renovations (Photo credit: NRPC)

Berkshire Town Hall during Preliminary Elections 2020 (Photo Credit: Shayna Sherwood)

B) LIBRARY

Berkshire currently has no public library. Residents are able to utilize libraries in the surrounding communities of Montgomery, Enosburgh, Franklin and Richford. From 1989 to 2017 Heather McKeown operated a state-recognized library out of her personal residence in East Berkshire. It had over 4,000 volumes but no set hours. Berkshire would support community opportunities to provide services akin to a Little Free Library or a public facility.

PUBLIC FACILTIES & UTILITIES



Vermont Coordinate System
Transverse Mercator, NAD 83.
For planning purposes only.

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February, 2020.

Data Sources: All map features derived from VGIS digital coverages. North arrow on map refers to Grid North.

Location: z:\gis\projects\county\franklin\berkshire\townplan2020

Map 7.1

C) EDUCATION

Berkshire Elementary School (Photo Credit: Tami Lantz)

The School System

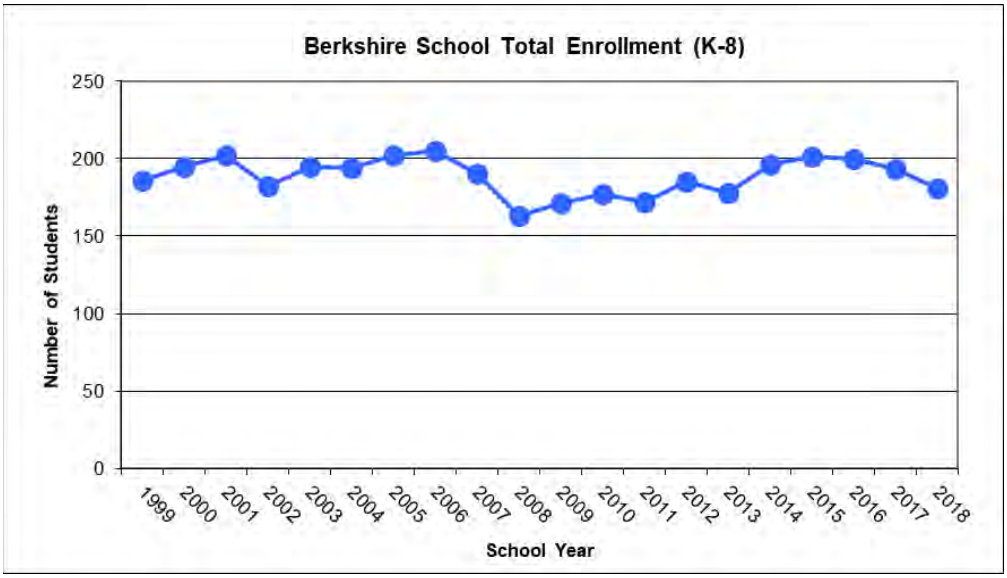
The people of Berkshire have long enjoyed an effective school system. Students from Berkshire have historically performed well in high school, both in academics and in extra-curricular activities, and have gone on to be successful in their post-academic lives. Numerous reasons for such achievements include community support, teaching and staff quality, the intimacy of the school, and a sense of shared responsibility. In addition, there is commitment to set high goals and expectations among school personnel, parents, and community members.

Town residents consider the Berkshire Elementary School one of the community's most valuable assets. Built in 1969, the elementary school currently houses grades K-8 and as of the 2010-2011 school year, pre-K services are also available. In 2014 the school built a new gymnasium which then allowed the previous space to be converted into classrooms and other accommodations. Based on current enrollment levels, the school can readily handle the capacity of population. If larger class sizes (>30 students) become common across multiple grades than additional classroom space will be needed. School bus service is contracted. Berkshire secondary students are presently enrolled as tuition students primarily in the Richford and Enosburg Falls High Schools but may attend any high school through school choice.

Enrollment Trends and School Capacity

As shown in Figure 7.1, enrollment at the Berkshire School has changed very little over the last 15 years. Enrollment during the 2018 school year was just 5 students less than in 1999. During approximately the same period (2000 to 2017), population is estimated to have increased by 323 people. This indicates that the population is aging and/or that families are having fewer children, as noted in Section II, which may lead to less growth in school enrollment. However, in recent years there have been some indication that new families are moving into Town, which may lead to growth in school enrollment. Fall registration for 2020 is holding strong at 208 students.

Figure 7.1



Other improvements at the school include providing computers and updating technology. There are now computers in every classroom with high-speed internet access. The purchase of updated equipment and training in its use has been supported by local and federal funding.

Childcare

Childcare can be a growing concern for existing and prospective families, including finding quality care and paying for its cost. High quality, available childcare is a critical component supporting a stable workforce. As of 2017 there were 135 children under the age of 6 in Berkshire; 45% of these children are in 2-parent families with both parents in the labor force and 29% are in a 1-parent family that is working (2013-2017 American Community Survey). Based on this data, the majority (74%) of young children have parents in the labor force and will likely need access to childcare services.

According to the Vermont Dept. of Children and Families in 2019, Berkshire has one registered childcare home and one licensed early childhood center at the school, currently serving 6 and 20 children respectively. Based on the 2017 estimate that there are 135 children under the age of 6 living in Berkshire, this exceeds local childcare capacity by a large margin. Additional at home childcare facilities are encouraged.

Given that the majority of residents commute outside Berkshire for employment, residents may utilize services located in the neighboring communities of

Enosburgh and Richford. Enosburgh has a total childcare capacity from registered home providers of 106 children and Richford has a total capacity for 39 children (Vermont Dept. of Children and Families, 2018). The 2013-2017 American Community Survey indicates that there are 107 and 160 children under the age of 6 with all parents in the household working in Enosburgh and Richford, respectively. If we combine the childcare capacities in Berkshire, Enosburgh, and Richford, there is an estimated 2.15 children under the age of 6 in need of childcare for every childcare spot. It should be noted that this estimate does not tie in the needs of children 6 and older who may need childcare. Data on other options, such as siblings, stay at home parents, family care providers, un-registered childcare homes or other opportunities, are not available.

D) WATER SUPPLY

Most Berkshire residents and businesses get their water supply from on-site wells and springs. The community of East Berkshire is served the East Berkshire Fire District #1, which as of 2013 provided water to approximately 187 connections on the system. Users can include tenants in apartment buildings, private homes, and five businesses.

The existing source for this system from is a series of springs located in the Town of Enosburg that, through a common collection pipe, feed a concrete reservoir situated on a knoll southeast of the community at an elevation of 580 feet. The reservoir at the Treatment Plant has a capacity of 80,000 gallons.

In 2019, the East Berkshire Fire District received a grant and loan from USDA to upgrade the Treatment Plant. Additionally, the Fire District used USDA funds to install new transmission lines from the wells to the Treatment Plant, and new distribution lines from the Treatment Plant to customers in the Fire District.

This water supply system is surrounded by 50 acres of land around the springs owned by the First District to further protect the quality of the supply. This area is incorporated into the Source Protection Area for the public water supply (See Water Resources section). The Town of Enosburgh has agreed to a buffer zone around the spring to also protect the water quality.

The water system meets current demand except in times of prolonged drought. Any growth in the number of users of the Fire District will have to be accommodated through currently undiscovered water sources. The Fire District is planning to build a large, back-up water storage facility to serve as an emergency source of water in times of drought.

According to state ground water potential maps, the gravel deposits associated

with the recharge area between West Berkshire and Enosburg Falls hold the best possibility of yielding large volumes of water. Good ground water potential for a public water supply exits underneath the community of West Berkshire, and just west of Berkshire Center. Many local residents already draw from these areas. There is no ready need to develop these ground water areas for a public water system (a system that serves 10 or more users), but the Town should consider ground water protection measures to meet existing and future needs.

E) WASTE WATER TREATMENT

Residents are served by private on-site sewage systems. There is no municipal sewage system in the town and no plan to develop one in the near future. Problems with failing septic systems and leach fields have been noted in East Berkshire on the west side of the Missisquoi River where in the past, poor soil conditions and closely spaced buildings have resulted in direct discharge from some individual systems into the river. In the late 1960's, it was recommended by a private consultant (Dubois & King) that the town consider installing approximately 4,600 feet of gravity sewer and a 10,000 gallon septic tank and leach field in East Berkshire, to be located just to the south of the community. The Town did not pursue this option due to the then high costs of the proposed facilities. It may be time to reconsider installing a community sewer system in East Berkshire in order to permit a limited amount of growth, including higher density, clustered residential, and commercial development near the existing population center.

The Town does recognize the need to ensure that septic systems are properly designed and installed to avoid septic system failure and water supply contamination. Individuals wanting to install a septic system, to work on their leach field, or to drill a well need to receive a Wastewater and Potable Water Supply Permit from the Vermont Department of Environmental Conservation (DEC). After July 1, 2007 new rules took effect which delegated the authority of permitting private on-site water supply and wastewater systems entirely to the State of Vermont rather than municipalities, unless a municipality applies for and is granted delegation. Berkshire has not sought delegation and therefore does not have authority to review or permit wastewater systems as was done prior to 2007. Any complaint or discovery of a failing septic system may be referred to the DEC by the local Health Officer.

F) SOLID WASTE DISPOSAL

Berkshire has been a member of the Northwest Vermont Solid Waste Management District since its formation in January of 1988. The District has adopted a comprehensive Solid Waste Management Plan, which is in

compliance with the State Solid Waste Management Plan, and has been approved by ANR. The provisions of the District Plan, insofar as it is applicable to the Town of Berkshire, shall be considered the management plan component of the Town Plan. Residents must make their own arrangements with private haulers for trash and recycling pick-up or visit a nearby transfer station.

A Supervisor, appointed by the town's legislative body, represents each member town on the District Board. Berkshire does not currently have supervisor appointed by the Selectboard. Having a representative from Berkshire as part of future District activities is an asset for our Town and a new representative should be appointed.

Town residents are still concerned about the number of unregulated and inadequately located and maintained junkyards that have appeared around the Town in recent years. In response to this concern, the Planning Commission worked with the Selectboard to draft and adopt a Junkyard Ordinance. The ordinance with allow the town to successfully enforce junkyard violations and deter new accumulation of junk within the Town.

G) EMERGENCY AND MEDICAL SERVICE

The Town of Berkshire maintains a volunteer fire department based north of East Berkshire. A three-bay station, built with federal revenue sharing funds, was completed in 1974. All dispatching is conducted out of central dispatch in St. Albans.

The Fire Department, made up about 10 to 20 volunteer members, answers an average of 30 calls per year, and participates in mutual aid agreements with neighboring communities. The Fire Department can usually meet the demand for service in town. However, more extensive services and equipment are available from Enosburg and Richford, if needed.

Law enforcement protection is provided by the State Police, barracked in St. Albans. It should also be noted that although no official contract exists with the Franklin County Sheriff's department, they will respond to a 911 call if they are in the area.

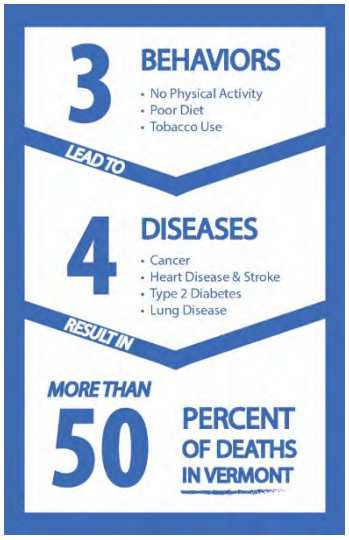
The Community Health Center in Enosburg Falls and the Richford Health Center provide care by general practitioners and pediatricians, as well as many other health-care services. Berkshire contributes funds to both Enosburgh and Richford to support ambulance services, which provide transportation to the nearest hospital, the Northwest Medical Center in St. Albans, 25 miles away. Other physicians, dentists, and optometrists maintain private practices in either of these

adjacent communities. Healthcare facilities are also considered adequate for the near future.

H) COMMUNITY HEALTH

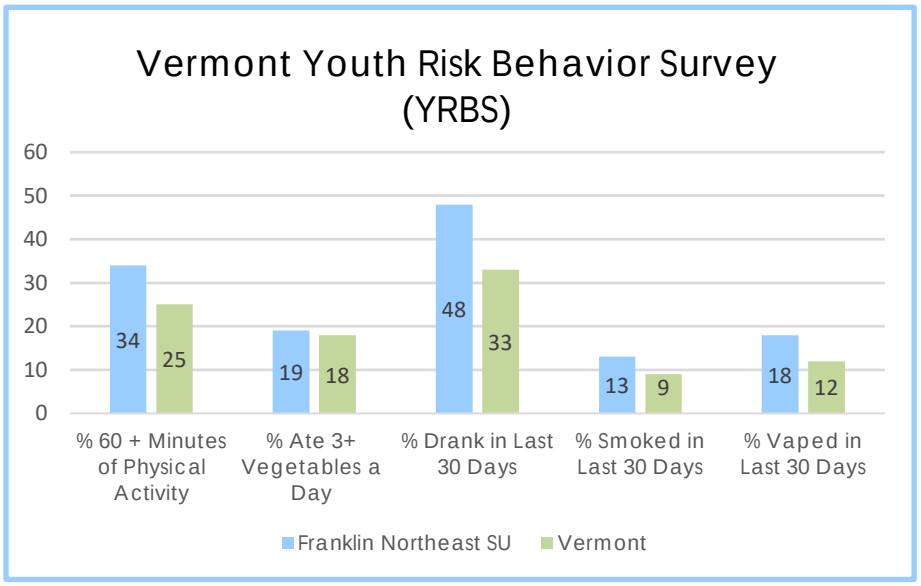
An individual's health and wellbeing can be strongly influenced by where they live. Berkshire can support their residents' ability to make healthy choices by influencing the way the community develops, including supporting recreation opportunities and access to healthy food. Healthy communities attract new residents and visitors, contributing to economic growth.

Figure 7.2



According to the Vermont Department of Health, 57% of all deaths in Franklin County are the result of three behaviors: no physical activity, poor diet, and tobacco use. The 2017 Youth Risk Behavior Survey (YRBS) provides insight into the health choice of high school students in the Franklin Northeast Supervisory Union. Only 34% of students exercised for 60 minutes or more each day and just 19% ate at least 3 vegetables a day. In terms of youth substance use, 48% of students reported drinking alcohol in the last 30 days, 13% reported smoking cigarettes in the last 30 days, and 18% reported vaping in the last 30 days.

Figure 7.3



Data Source: Vermont Youth Risk Behavior Survey, 2017

Community Health Assets

Berkshire has several important community health assets. In 2019, the Berkshire Elementary School received a Farm to School grant. As a result, nutrition and local food curriculum has been introduced in the classroom and the school has partnered with local farmers to include nutritious local food in school lunches. The school is also planning to plant an orchard on school property, further increasing access to healthy fruits.

Berkshire also has a wide variety of recreation opportunities including a walking path around Berkshire Elementary School and the Missisquoi Rail Trail. These recreation opportunities promote physical activity, contribute to a healthier community and attract visitors to Berkshire. For more information on recreation activities in Berkshire, see the Recreation section of the Plan.

There are several community health assets available to Berkshire residents in nearby towns. Richford has a local farmer's market from June to October. In addition, Berkshire residents can access various health services through the Northern Tier Center for Health (NOTCH) which has locations in both Enosburgh and Richford. The Town could explore various methods of ensuring residents are more aware of these types of resources, such as posting on a bulletin board in Berkshire or utilizing the Town website or social media profile to publish information.

Barriers to Community Health

While Berkshire has many community health assets, some barriers to physical activity and healthy food access remain. A recent Vermont Department of Health survey found that 13% of residents living in the St. Albans Health District, which includes Berkshire, rated their community as not safe for walking. This is the second highest rate in Vermont. Berkshire could consider traffic calming measures, supporting a Safe Routes to School program, and leading bike and pedestrian safety classes for Berkshire Elementary students as possible solutions to this issue.

Another barrier to physical activity is a lack of awareness of recreation opportunities in the Town. Neither the Missisquoi Rail Trail or the school woods path are clearly marked in Berkshire. The Town should consider partnering with the Recreation Committee to develop wayfinding signage for these sites.

Finally, a barrier community health is the lack of local healthy food access within the town. One source of local healthy produce are local farm stands. The Town should ensure that Town regulations support local farm stands. The Town should also provide healthy food options at Town events where food is served.

I) RECREATION

Community recreation facilities in Berkshire include the playground and playing fields at the Berkshire Elementary School in Berkshire Center. The original facilities, funded through revenue sharing, were constructed in 1982, at a cost of $18,000 to the Town.

Currently the facilities consist of a soccer field, a basketball court, a baseball field with dugouts, a backstop, bleachers, and a little league outfield fence, a batting cage, a play structure for climbing and sliding, a sand volleyball court, free standing swings, slides, and spring-based "animals", a climbing dome, a gazebo, a concession stand/storage building, and an equipment shed. Berkshire residents also have access to a woods walking trail located on school property. Additionally, the school district is currently fundraising to add a play structure for preschoolers. Facilities are open to the public when school is not in session, use of the equipment shed and concession stand require advance permission from the school.

Little League Game (Photo by Loren Doe)

Little League Team (Photo by Loren Doe)

Recreation Committee

The Berkshire Recreation Committee is a volunteer group of Berkshire citizens who work to improve recreational programs and facilities for the Berkshire community.

The Recreation Committee raises revenue from annual fundraising and has received an annual appropriation of $2,000 from the General fund since FY2008.

Funds raised and appropriated have been used to make many improvements to the playground and ball fields located near the school as well as aid in maintaining these facilities.

The work of the Recreation Committee continues to be completed, in large part, by a committed group of volunteer parents and citizens who value access to wholesome activities for skill building, physical fitness and just for fun. Many people, both committee members and others willing to help, have given freely of their time to help with these projects. Others have made significant monetary donations. The Town should work with the Recreation Committee to plan for future recreation activities and to promote existing opportunities.

Trails and Other Recreation Opportunities

Besides a cross-country ski trail system in the woods on school property, Berkshire residents have easy access to the Missisquoi Valley Rail Trail, an all-season recreational path along the former railroad right-of-way. The trail, which passes through East Berkshire north of the intersection of Routes 118 and 105, begins in St. Albans and links up with Canadian bike paths at the border in Richford. The Town also owns a 100-acre parcel of forested land, the Berkshire Town Forest, which could be developed for recreational and educational use. Town residents voted in late 2004 to retain this land in municipal ownership.

The Missisquoi Bearcat Snowmobile Club includes the towns of Richford, Enosburgh and Berkshire. In 2009, the club was responsible for maintaining 54.5 miles of trails that run through Berkshire and Richford. The three trails that occur in the Town of Berkshire are known as: VAST Rte 139, VAST Rte 7, and VAST Rte 7A.

VAST Rte 139 begins in Richford at a trail junction located on Hurtubise Island in the center of Richford Village. The trail runs north to the Canadian border and crosses Lost Nation Road, Berry Road, Mine Road, Hammond Road, Vt. Rte 118 in Berkshire Center, Water Tower Road, Reservoir Road, the Old Stagecoach Road, and joins VAST Rte 7A behind the Stanhope Farm on Water Tower Road. The Missisquoi Valley Rail Trail is also known as VAST 7.

Birch Stand (Photo by Jere Levin)

Funding for the building and maintenance of trails is provided by the Vermont Association of Snow Travelers (VAST) through local clubs. VAST is the statewide organization to which all of the local clubs belong. The Missisquoi Bearcat club maintains the section of VAST Rte 7 that travels through Richford and Berkshire.

VAST Rte 7A in Berkshire runs roughly from North Sheldon to the Rail Trail behind the Dairy Center.

With the exception of the Missisquoi Valley Rail Trail, the VAST trails in the Berkshire area exist thanks to the local landowners who grant permission to build trails and travel over the land only during snowmobile season. The snowmobile season runs from the third Monday in December to the middle of April each year. Each individual landowner agrees separately with the snowmobile club to build and maintain trails. The trails are then considered part of the Statewide Snowmobile Trail System (SSTS).

The Northern Forest Canoe Trail (NFCT) also provides a unique recreational opportunity in the region. The Trail connects lakes, rivers and streams from Canada into New England and New York State. The NFCT brings a variety of paddlers into the region. Supporting the recreation and tourism industries along the route is part of the mission of the NFCT.

Although traditionally much of the privately owned land in Berkshire has been open to local residents for hunting and fishing, the last decade has seen an increase in the posting of private land not only in Berkshire, but also statewide. New development should be designed to ensure continued public access to outdoor recreational opportunities in the Town.

Other organized recreational facilities, including golf courses, tennis courts, cross-country touring centers, and alpine ski resorts, are located in neighboring towns, and it is likely that more of these facilities will be developed in the future. Private facilities provide recreational opportunities for those who can afford it; they also serve to attract tourists and seasonal or second home development. The Town of Berkshire supports maintaining and enhancing recreational opportunities for Vermont residents and visitors.

J) TRANSPORTATION

Introduction

Berkshire residents, as most residents of rural towns, depend greatly on privately owned motor vehicles and the local road network to get around. Berkshire has a total of 63.8 miles of traveled roads within the Town, including 12.6 miles of state highway, and 51.2 miles of Town highway (Class II and Class III) (Table 6.1). There are also 9.2 miles of Class IV roads, including pent roads, within the Town.

State highways serve as connector routes to other towns and carry through traffic as well as local traffic. These highways are numbered, repaired, and maintained by the state. There are no Class I roads, which form extensions of state highway routes, in Berkshire. The Town receives state aid to assist in the maintenance of Class II and III roads, which must be negotiated on an annual basis. Class II roads are the most important town roads, and are intended to carry heavier traffic loads in and between towns. Class III roads serve more limited commuter traffic. All other roads in the Town are designated as Class IV roads, and are not required to be maintained year-round, as decided by the Selectboard.

Table 7.1 Mileage Summary

Town Highways:	
Class I	0.00
Class II	15.65
Class III	35.56
Class IV	9.23
Trails	~7.44
Total	67.87
State Highways:	
Route 105	3.700
Route 108	6.905
Route 118	1.565
Route 120	0.389
Total	12.559
Total Traveled Mileage (less Class IV & trails):	63.769
Total Road Mileage:	80.48

Source: Vermont Agency of Transportation, 2015

Condition of Roads and Bridges

The condition of paving along state highways in the community is varies from poor to good. Road conditions on Rte 108 are poor in some sections, but it is not currently scheduled for rehabilitation. Rte 105 is in good condition in Berkshire, and there is no data on the condition of Rte 118. In terms of the state and town highway bridges Bridge No. 30, which crosses the Missisquoi River in East Berkshire and is considered a regional priority, was reconstructed in 2011 to repair the bridge and railings. A number of high priority culvert projects are identified in the Town's Local Hazard Mitigation Plan.

There is concern over the increase in the amount of traffic on local roads in recent years, particularly with regard to heavy truck traffic near East Berkshire and weekend traffic on Richford Road and Berkshire Center Road (Town Highways 3 and 5), which serve through traffic between Canada and the Jay Peak ski area.

Road surface conditions are generally good, however some of the paved roads in Town are considered too narrow to safely carry both vehicular and bike traffic, which has also increased in the past few years. Speeding and the lack of directional and stop signs at major intersections also have been identified as problems.

In 2017 the average daily traffic count (AADT) on West Berkshire Road (from the intersection with VT 108 to the intersection with Water Tower Road) was 960. Richford Road had an AADT of 1000 and Berkshire Center Road (from the intersection with VT105 to the intersection with Richford Road) has an AADT of 720 (Table 7.2). The traffic numbers have increase since 2011 on all roads.

Table 7.2 Average Daily Traffic Counts

	2011	2014	2017
West Berkshire Road	840	890	960
Berkshire Center Road	630	630	720
Richford Road	820	820	1000

Data Source: Vermont Agency of Transportation 2017

The town will continue to apply for federal and state highway grants to upgrade town highways and bridges as needed. Regular maintenance continues to remain a priority.

Class 4 Roads

The Town of Berkshire, like many other towns, has a number of Class IV roads that are very infrequently traveled. In most instances, these roads served past economic industries that are no longer active. As a result, the roads have deteriorated or been blocked off. Unless officially discontinued, the Town still maintains the rights-of way and responsibilities of maintenance. Consideration should be given, therefore, to taking steps to declare portions of unused highways as legal trails, pursuant to 19 V.S.A. 535. As such, the Town retains ownership of the rights-of-way, but has no maintenance responsibilities. Reversion of Class IV roads to legal trails would not preclude their being used for land access; and, as legally designated trails, they might provide much needed rights-of-way for public recreational use.

Map 7.2 shows the presence of non-maintained roads including, unimproved/primitive roads that are bare earth roads and impassable/untraveled roads that are in primitive condition and have no public travel.

Highway Department

The Town currently has the following major pieces of equipment:

- 1984 Joh Deere Tractor with boom mower
- 1995 Dynaw Flatbed
- 1981 Ford 4100 Tractor

- 2007 International Dump Truck with plow
- 2012 International 7600 Dump Truck
- 2013 Maxim Utility Trailer 610
- 1999 Kobelco SK1151V Excavator
- 2015 John Deere 544K Loader
- 2017 International 7600 Dump Truck
- 2013 John Deere 7726P Grader

What Lies Ahead?

Recommendations for the future include updating road policies concerning maintenance (particularly of Class IV and development roads), construction standards for new roads (and sidewalks, if appropriate), and road reclassification. The Town should maintain a road improvement program (to be included within a capital budget for the Town) so that the Town will be eligible for funds, available on a competitive basis, from the Town Highway Aid Program. Technical assistance in these areas is available from the Agency of Transportation's Planning Division and Local Technical Assistance Program (LTAP).

Traffic patterns and road conditions may be influenced by changes in agricultural operations and types of industry in the Town. They should be a consideration in land use regulations as well as in future budget planning.

Rail Service

The railroads, once so important to the Berkshire community, have all but vanished from the Town. No state rail improvements are scheduled.

Presently the nearest rail service for freight is in Richford (Canadian Pacific) and St. Albans (New England Central). Amtrak passenger service is also available from St. Albans.

Air and Bus Service

Berkshire has no air service within the Town. The Franklin County Airport in Highgate supplies local air service. Larger interstate and international flights are available at the Burlington Airport, and at Mirabel and Trudeau airports in Montreal, Quebec.

Local passenger service is available from Green Mountain Transportation (GMT) on a transit network (vans, mini-buses) for residents of Franklin County with a shuttle service between St. Albans and Richford along Rte 105 that stops at the East Berkshire Mobil gas station. Rides can be coordinated by calling GMT. In addition, the service currently coordinates ride-share, Medicaid, and elderly transportation services.

Carpooling and Park and Rides

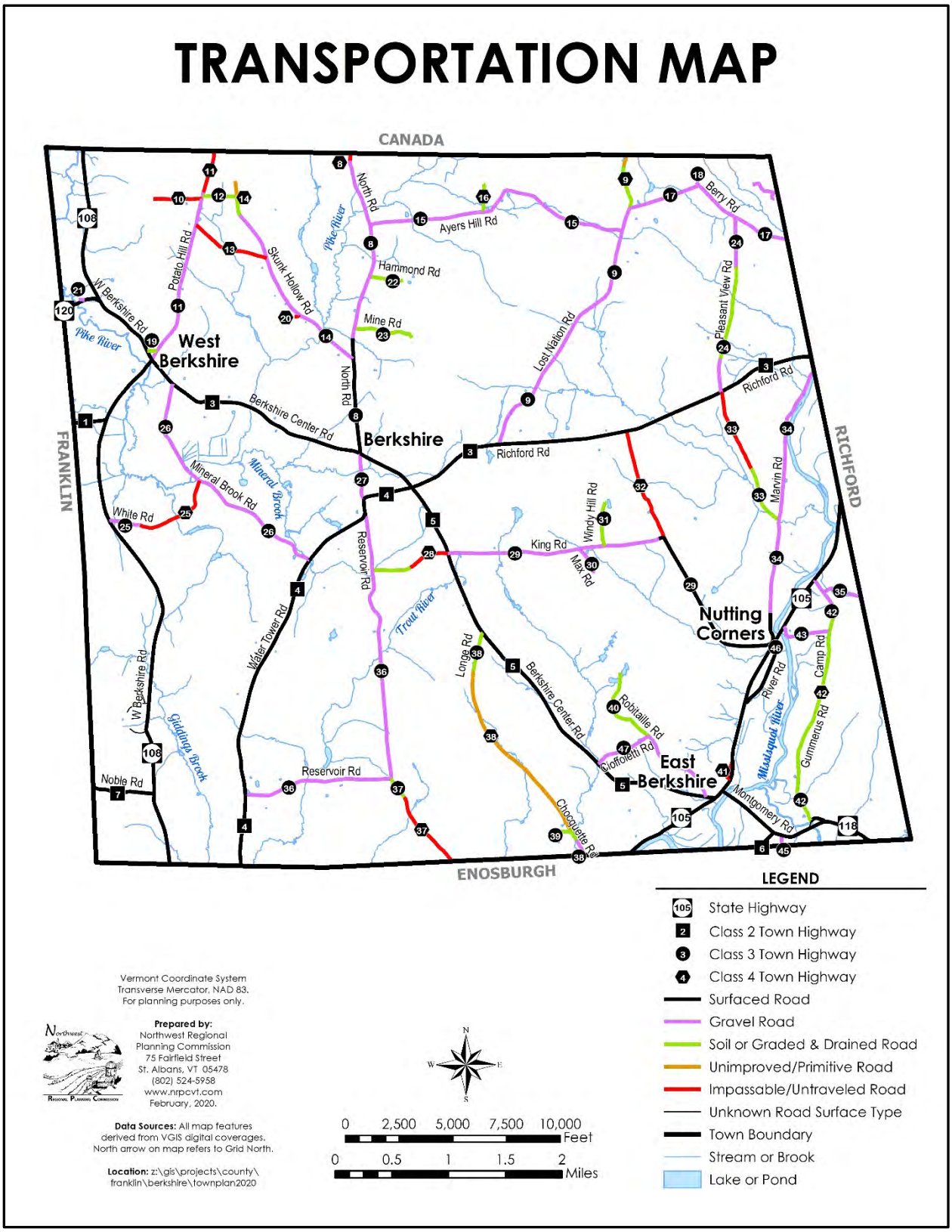
Given the rural nature of Berkshire and the reliance on automobile travel, carpooling should be encouraged to decrease the amount of greenhouse gasses released into the atmosphere, to conserve the use of oil and reduce maintenance costs on personal vehicles. One important component of any carpooling program is finding a suitable location where carpoolers can leave their vehicles.

The closest formal carpool lot is the state park and ride facility along Rte 105 in Enosburgh along Route 105 that accommodates 56 vehicles. This is the only formal lot in northern Franklin County. The next closest lot is located in St. Albans on Route 104. The Planning Commission should encourage carpooling at the local park and ride by bringing awareness to the facility and the benefits of carpooling such as the State's Go Vermont program which provides registered carpoolers with a Guaranteed Ride Home program.

Pedestrian and Recreation Paths

Sidewalks in East and West Berkshire were torn up and not replaced when streets were widened and blacktopped. As a result, pedestrian traffic within these population centers has been redirected onto the roads. Roads in town also are being used increasingly by bicyclists and ATV users. Pedestrian and recreational use of local roads is becoming more and more of a safety hazard to motorists and others alike, given poor road conditions, greater motor vehicle traffic, and the tendency of drivers to exceed the speed limit on village and back roads. Biking, cross-country skiing, snowmobiling, hiking, horseback riding, etc. are available on the rail trail (Missisquoi Valley Rail Trail).

Reinstallation of sidewalks in Berkshire's hamlets should be considered. Moreover, the Town should consider providing designated areas (e.g., legal trails) for recreational use. Again, local police enforcement of traffic laws should be considered in order to more safely accommodate the multiple uses of Town roads.


TRANSPORTATION MAP
CANADA
West Berkshire
Berkshire
East Berkshire
Nutting Corners
FRANKLIN
RICHFORD
ENOSBURGH
Pike River
North Rd
Ayers Hill Rd
Berry Rd
Potato Hill Rd
Skunk Hollow Rd
Hammond Rd
Mine Rd
Lost Nation Rd
Pleasant View Rd
W Berkshire Rd
Berkshire Center Rd
Richford Rd
Mineral Brook Rd
Mineral Brook
White Rd
Reservoir Rd
Trout River
Water Tower Rd
Giddings Brook
Noble Rd
Longa Rd
Windy Hill Rd
King Rd
Max Rd
Marvin Rd
Robitaille Rd
Cioffoletti Rd
Choquette Rd
River Rd
Camp Rd
Missisquoi River
Gummerus Rd
Montgomery Rd
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0 2,500 5,000 7,500 10,000 Feet
0 0.5 1 1.5 2 Miles
LEGEND
State Highway
Class 2 Town Highway
Class 3 Town Highway
Class 4 Town Highway
Surfaced Road
Gravel Road
Soil or Graded & Drained Road
Unimproved/Primitive Road
Impassable/Untraveled Road
Unknown Road Surface Type
Town Boundary
Stream or Brook
Lake or Pond

Map 7.2

GOALS AND POLICIES: PROVIDING FOR THE PEOPLE

GOAL 1: Make efficient use of public funds to maintain a sound fiscal balance.

GOAL 2: Ensure reasonable, functional and orderly development of all utilities, facilities, and services.

GOAL 3: Provide Town residents with the best possible education and childcare opportunities without overburdening the town's resources.

GOAL 4: Maintain and enhance recreational opportunities for Vermont residents and visitors.

GOAL 5: Provide and maintain a safe, economical, and functional transportation network for vehicular, pedestrian, and recreational use within the Town.

GOAL 6: Maintain and enhance community infrastructure and activities, both social and physical, which sustain and improve the health and well-being of all residents.

Policies:

1) The rate of growth should not exceed the ability of the Town of Berkshire to provide facilities and services.

2) The development and provision of municipal facilities and services should be based upon a determination of existing need, a projection of reasonably expected population increase and economic growth, and upon the recognized limits of local finances and natural resources.

3) Capital investments, including the development or extension of infrastructure, should not be made to decrease the resource value of, or increase the development pressure on important agricultural land. Tax incentive programs, the acquisition of development rights and easements, and other methods of ensuring the continuation of agriculture should be encouraged.

4) The Town supports broadening access to educational, childcare, and vocational training opportunities.

5) The Town should continue to develop road policies for the construction, maintenance, and reclassification of town roads.

6) New construction or major reconstruction of roads and highways in the Town should identify the feasibility of accommodating all users by way of paths, sidewalks, or shoulders wide enough for use solely non-motorized means of transportation, when economically feasible or in the public interest.

7) Sidewalk or pedestrian facilities should be provided in populated areas, including the hamlets of East and West Berkshire, and alternative recreational paths for public use should be designated by the Town where appropriate.

8) Roads should not be extended into important resource areas, including critical areas, ground water source protection areas, and important agricultural lands.

9) All future roads, including culverts and ditching, that are to be taken over and/or maintained by the Town should be designed to standards approved by the Selectboard and should be appropriately marked.

10) Unnecessary "curb cuts" should be avoided, and appropriately, screened off-street parking should be provided for commercial and high-density residential development.

11) The Town should ensure that local regulations support local farm stands wherever possible.

12) The Town supports the Berkshire Elementary School's Farm to School Program.

13) The Town supports opportunities to collaborate with key regional partners to implement initiatives that reduce the stigma associated with substance misuse and mental health problems.

ENHANCED ENERGY PLANNING

A) 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 local, 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.*

A positive determination of compliance with the requirements of enhanced energy planning, as provided by the Regional Planning Commission, will enable Berkshire 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 Berkshire will have a greater "say" in CPG proceedings before the Vermont Public Utility 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.*

B) ENERGY RESOURCES, NEEDS, SCARCITIES, COSTS AND PROBLEMS

The following subsection reviews each sector of energy use (thermal, transportation, electricity) and electricity generation in Berkshire. Several different units of measurement are used in this section. Please refer to Table 8.13 for more information about unit conversions.

Thermal Energy

Table 8.1 shows an estimate of current residential thermal energy demand in Berkshire, based on data from the American Community Survey (ACS 2011-2015). The data shows that 55.3% of household in in Berkshire depend on fuel oil as their primary source for home heating and 33.2% depend on wood. Wood includes both cord wood and wood pellets. Fuel oil and wood sources combined are estimated to be the primary heating source for 88.5% of homes in Berkshire. The remainder of homes heat primarily with propane. The nearest natural gas pipeline is located in Enosburg Falls and is not likely to be extended to Berkshire in the future.

Table 8.1 - Current Berkshire Residential Thermal Energy Use

Fuel Source	Berkshire Households (ACS 2011-2015)	Berkshire % of Households	Berkshire - Households Square Footage Heated	Municipal Thermal Energy Use in British Thermal Units (BTUs) BTU (in Billions)
Natural Gas	2	0.3%	3,808	0
Propane	46	7.9%	77,728	5
Electricity	0	0.0%	0	0
Fuel Oil	320	55.3%	557,184	33
Coal	0	0.0%	0	0
Wood	192	33.2%	356,416	21
Solar	0	0.0%	0	0
Other	19	3.3%	36,176	2
No Fuel	0	0.0%	0	0
Total	579	100.0%	1,031,312	62

Estimates for commercial and industrial thermal energy use are more difficult to calculate due to the lack of accurate information available. Table 8.2 provides an estimate of total commercial energy use (thermal and electricity). The estimate 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, 6 billion BTUs per year, is used as thermal energy for commercial uses.

Table 8.2 - Current Berkshire Commercial Energy Use			
	Commercial Establishments in Berkshire (VT DOL)	**Estimated Thermal Energy BTUs per Commercial Establishment/year (in Billions) (VT DPS)**	**Estimated Thermal Energy BTUs by Commercial Establishments in Berkshire/year (in Billions)**
Municipal Commercial Energy Use	8	0.725	6

Electricity Use

Table 8.3 shows 2017 electricity use in Berkshire per date available from Efficiency Vermont. Berkshire's total electricity use has increased since 2015 from 9.2 million kWh in 2015 to about 9.5 million kWh per year in 2017. According to Efficiency Vermont, the average residential usage per household has decreased from 8,219 kWh per year to 8,134 kWh per year between 2015 and 2017. During the same period, overall commercial and industrial electricity usage increased from 4.2 million kWh to 4.5 million kWh. Berkshire's average residential usage in 2017 was about 1200 kWh higher than the average residential kWh use in the region.
Berkshire is served by two electric utilities. Vermont Electric Cooperative serves the majority of Town and the Village of Enosburg Falls Electric Department serves properties in the southwest part of Berkshire.

Table 8.3 - Current Berkshire Electricity Use		
Use Sector	**Current Electricity Use in Berkshire- 2017 (Efficiency Vermont) (kWh)**	**Current Electricity Use (in Billion BTUs)**
Residential	4,969,632	16.95
Commercial and Industrial	4,574,809	15.6
Total	9,544,441	32.5

Table 8.4 – Current Berkshire Transportation Energy Use	
Transportation Data	**Municipal Data**
Total # of Passenger Vehicles (ACS 2011-2015)	1,213
Average Miles per Vehicle (VTrans)	11,356
Total Miles Traveled	13,774,828
Realized MPG (2013 - VTrans 2015 Energy Profile)	18.6
Total Gallons Use per Year	740,582
Transportation BTUs (Billion)	89
Average Cost per Gallon of Gasoline in 2016 (NRPC)	$2.31
Gasoline Cost per Year	$1,710,745

Transportation

Table 8.4 contains an estimate of transportation energy use in Berkshire. NRPC estimates that Berkshire residents drive personal vehicles approximately 13.7 million miles per year and spend about $1.7 million on transportation fuel expenses per year. This calculation does not include expenses for commercially owned and operated vehicles.

It is difficult to track electric and hybrid vehicle registrations in Berkshire. This is because vehicle registrations with the Vermont Department of Motor Vehicles are based on zip codes and there are three zip codes that cover the Town of Berkshire. It is unknown how many electric vehicles are currently registered in Berkshire.

Electricity Generation

There is currently .68 MW of electricity generation capacity from renewable generation facilities located in Berkshire. This capacity results in approximately 2,569.53 MWh of electricity generation per year. The amount of electricity generation in Berkshire is roughly equal to the annual electricity use of about 383 households in Vermont based on information available from the U.S. Energy Information Administration (6696 kWh per VT household per year).

Table 8.5 – Existing Renewable Electricity Generation		
Generation Type	**MW**	**MWh**
Solar	0.07	85.85
Wind	0.01	29.13
Hydro	0.00	0.00
Biomass	0.60	2454.55
Other	0.00	0.00
Total Existing Generation	0.68	2569.53

Table 8.5 organizes information about existing generation in Berkshire by type of facility. Map 8.3 shows the location of all electricity generators in Berkshire with a capacity greater than 15 kW. A full list of electricity generators in Berkshire can be found at the end of this section (Table 8.12).

Berkshire has relatively good 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 relatively good access to this type of infrastructure in Berkshire may make development of renewable energy facilities easier and more cost-effective than in other surrounding communities with more existing grid infrastructure.

Map 8.2 shows the electricity transmission and three-phase distribution infrastructure in Berkshire. The map shows a three-phase distribution line in the town along Richford Rd, King Rd. and VT Route 118. There is also a three-phase distribution line that serves West Berkshire. Two larger transmission lines exist parallel to VT Route 105 and another provides service to West Berkshire via Franklin. Access to renewable generation resources, such as solar and wind, will be addressed below in the mapping section.

C) TARGETS FOR USE AND GENERATION

The second required element of an enhanced energy plan is creation of 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 renewable electricity 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).

Regional targets for energy use and renewable electricity generation were disaggregated to create municipal targets. These municipal targets were also designed to ensure compliance with the Department of Public Service's Municipal Determination Standards. Tables 8.6, 8.7 and 8.8 show the targets for future energy use for Berkshire by sector (totals are cumulative).

One thermal target for Berkshire in 2050 is to have 88.9% of structures be heated by renewable energy sources. Much of this transition is likely to come from conversion to 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, Berkshire does not have a high target for new efficient wood heat systems. This is due primarily to the high proportion of existing households in Berkshire that already use wood heating systems. Although there is small target (4), Berkshire strongly encourages residents' conversion of existing wood heating systems to more advanced wood heating systems. Newer wood heating systems are more efficient and have less greenhouse gas emissions than

older wood heating systems. Table 8.6 also includes targets for the weatherization of residential households and commercial structures (78% and 73% respectively in 2050).

Table 8.6 - Thermal Targets			
Thermal Targets	**2025**	**2035**	**2050**
Percent of Total Heating Energy From Renewable Sources - Heating (BTUs)	47.0%	60.8%	88.9%
New Efficient Wood Heat Systems (in units)	0	0	4
New Heat Pumps (in units)	69	158	295
Percentage of municipal households to be weatherized	5%	16%	78%
Percentage of commercial establishments to be weatherized	25%	25%	73%

The transportation energy targets for Berkshire are similarly ambitious. By 2050, almost 86.8% of transportation energy will need to come from renewable sources in order to meet the 90 x 50 goal. This will primarily be done through the conversion light-duty passenger vehicles from fossil fuels energy sources to electric energy. However, it will also mean conversion of heavy-duty vehicles from diesel to biodiesel sources. Biodiesel technology and infrastructure will certainly need to advance tremendously in coming years to meet this ambitious target.

Table 8.7 - Transportation Targets			
Transportation Targets	**2025**	**2035**	**2050**
Percent of Total Transportation Energy from Renewable Sources - Transportation (BTUs)	5.3%	23.5%	86.8%
Electric Vehicles	106	795	1891
Biodiesel Vehicles	75	147	278

Targets for electricity use are complex to interpret. Electricity use in Berkshire is targeted to double by 2050 (Table 8.8). 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.[1]

Table 8.8 - Electricity Targets			
Electricity Targets	**2025**	**2035**	**2050**
Increased Efficiency and Conservation (BTUs)	25.2%	48.3%	100.7%

[1] Vermont Comprehensive Energy Plan - 2016, page 44.

Table 8.9 shows the electricity generation targets for new electricity generation in Berkshire 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 (26,685.43 MWh) is about 10 times more than the current generation capacity (2569 MWh) within the Town of Berkshire.

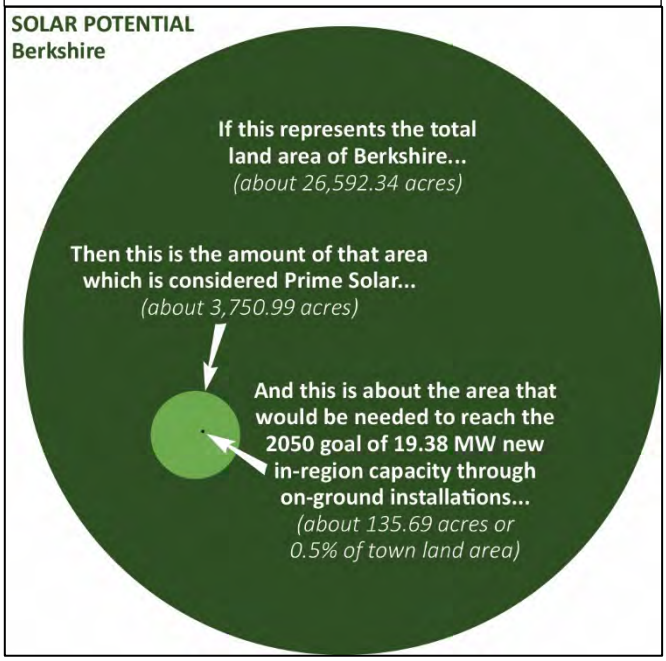
Table 8.9 – Renewable Electricity Generation Targets

Renewable Generation Targets	2025	2035	2050
Total Renewable Generation Target (in MWh)	8,806.19	17,612.39	26,685.43

Table 8.10 - Renewable Electricity Generation Potential

Resource	MW	MWh
Rooftop Solar	1	759
Ground-mounted Solar	1,056	1,294,707
Wind	22	67,567
Hydro	0.004	14
Biomass and Methane	0	0
Other	0	0
Total Renewable Generation Potential	1,078	1,363,047

Figure 8.1 – Ground Mounted Solar Potential



Based on mapping and calculations completed by NRPC, Berkshire has sufficient land to meet the above electricity generation targets. Berkshire has access to the renewable electricity generation capacity outlined in Table 8.10. This estimate shows that Berkshire has considerably more potential for renewable electricity generation than what is needed to meet the renewable electricity generation targets in Table 8.9. 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.

Berkshire 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).

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. Berkshire encourages the use of these sources for electricity and thermal energy generation, especially on farms.

D) TARGETS FOR USE AND GENERATION

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. Berkshire has incorporated maps provided by NRPC. These maps show data as required by the Department of Public Service Municipal Determination Standards, including access to energy resources and constraints to renewable development. All maps may be found at the end of this section.

The intent of the maps is to generally show those areas that may be good locations, or may be inappropriate locations, for future renewable electricity

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 an electricity 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" in Berkshire based on information provided by the Vermont Sustainable Jobs Fund. "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 electricity 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 8.11. The known constraints and possible constraints used to create the maps include constraints that are required per the Municipal Determination Standards from the Department of Public Service and regional constraints selected by NRPC.

Solar and Wind

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

The solar map indicates abundant base and prime solar areas in Berkshire including several areas near transmission and distribution lines. The following preferred locations for solar generation facilities by the Town of Berkshire: rooftops, parking lots, and landfills. Brownfield sites located outside of the village areas of West Berkshire, Berkshire, and East Berkshire are also considered preferred locations.

Berkshire 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 Berkshire by restricting the geographic size of solar facilities. In addition, Berkshire 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 and to preserve Berkshire's rural character. All solar facilities to be sited in Berkshire shall include proper screening.

There generally isn't much land available in Berkshire that has base and prime wind resources. The small areas that do exist are generally concentrated in the central Berkshire along Hammond Road.

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 electricity generation potential. 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 electricity 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. Berkshire has one existing dam site that could be retrofitted to generate electricity, but redevelopment of the site, or the development of a new dam, is extremely unlikely due to Berkshire's upland location and the extensive regulatory process involved in developing new dams.

E) CONCLUSION

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

GOALS AND POLICIES: ENHANCED ENERGY PLAN

GOAL 1: Plan for increased electric demand with the support of local electric utilities and Efficiency Vermont.

GOAL 2: 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.

GOAL 3: 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.

GOAL 4: Focus growth within and adjacent to the villages.

Policies:

1) Berkshire supports energy conservation efforts and the efficient use of energy across all sectors.

2) Berkshire 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.

3) Berkshire supports patterns and densities of concentrated development that result in the conservation of energy. This includes support of public transit connections from Berkshire to other parts of the region.

4) Berkshire supports the development and siting of renewable electricity generation resources in the Town that are in conformance with the goals, strategies, and mapping outlined in this plan. Development of electricity generation in identified preferred locations shall be favored over the development of other sites.

5) Berkshire supports the conversion of fossil fuel heating to advanced wood heating systems or electric heat pumps.

6) Berkshire supports local farms and the local food system.

Table 8.11 – 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 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)	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 of the Regional Energy Plan. No areas identified in the Berkshire Town Plan were included in this category.	NRPC
<u>Solar, Wind and Biomass Maps - Possible Constraints</u>		
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	VCGI

	held by non-profit organizations.	
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 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 of the Regional Energy Plan. No areas identified in the Berkshire Town Plan were 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 date in Table 8.12 displays facilities that have a Certificate of Public Good from the Vermont Utilities Commission to generate electricity. The Town of Berkshire recognizes that some of the data in the table may be out of date or incorrect. The Town of Berkshire also recognizes that some identified facilities may no longer generate electricity.

Table 8.12 - Berkshire Electricity Generators (12.27.18)

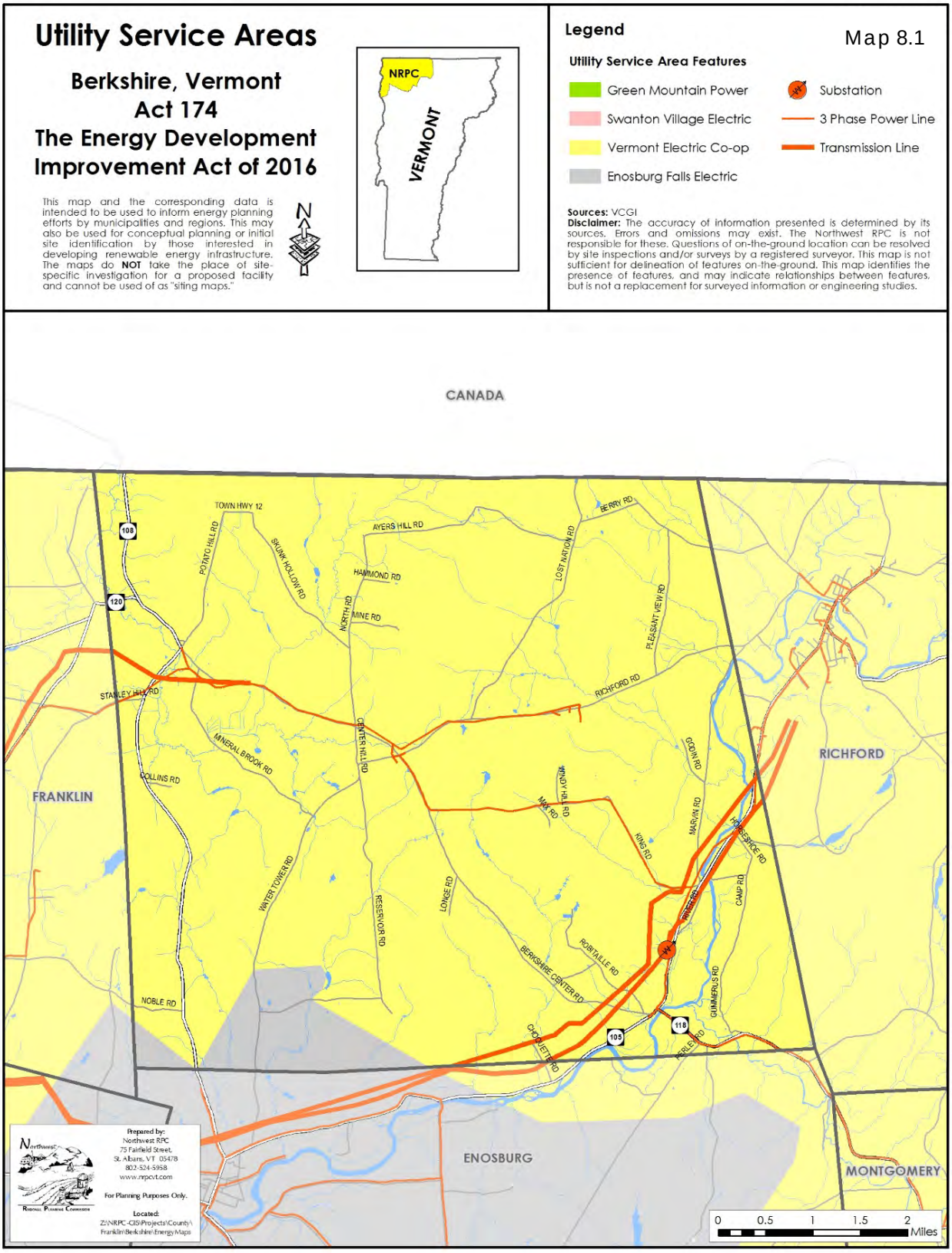
Category	Sub Category	Name	Address	CPG Number	Electricity Type	Utility	Capacity kW
Solar	Roof-Mounted PV	Anthony Lussier	3440 Water Tower Rd	2687	Net Metered	Vermont Electric Coop	11.2
Biomass	Anaerobic Digester	Berkshire Cow Power	1954 Richford Road		SPEED	Green Mountain Power	600
Wind	Small Wind	Donald Hammond	281 Hammond Road	525	Net Metered	Vermont Electric Coop	9.5
Wind	Small Wind	Green Heron Farm	1 Magoon Road	386	Net Metered	Vermont Electric Coop	9.5
Solar	Ground-mounted PV	Jarrod Vaillancourt	1856 Reservoir Rd	3719	Net Metered	Vermont Electric Coop	7.5
Solar	Roof-Mounted PV	Jeffrey Hill Cook	227 Horse Shoe Rd	6206	Net Metered	Vermont Electric Coop	10
Solar	Roof-Mounted PV	John Chamberlain Jr.	4730 West Berkshire Rd		Net Metered	Vermont Electric Coop	8.9
Solar	Roof-Mounted PV	Kenneth Laplant	1179 Mineral Brook Rd	5909	Net Metered	Vermont Electric Coop	5
Solar	Roof-Mounted PV	Linda & Steven Sweelser	971 King Rd	5033	Net Metered	Vermont Electric Coop	10
Solar	Roof-Mounted PV	Jared & Trish Adams	1376 Bershire Center Road	7295	Net Metered	Vermont Electric Coop	8.2

Solar	Roof-Mounted PV	Jason Bosley	18 Berkshire Estates	17-3250	Net Metered	Vermont Electric Coop	11.4
Solar	Ground-mounted PV	Shawn Teague	2066 West Berkshire Rd	18-2480	Net Metered	Vermont Electric Coop	15
Solar	Roof-Mounted PV	James Tipper	2153 Richford Road		Net Metered	Green Mountain Power	14.2
Solar	Ground-mounted PV	Enosburg Leach Estate Solar, LLC	Sampsonville Road	16-0051	Group Net Metered	Vermont Electric Coop	500
Solar	Ground-mounted PV	Carrie Hatch	347 Cioffoletti Road	18-0926	Net Metered	Vermont Electric Coop	6
Solar	Ground-mounted PV	Jennifer Kirkpatrick	1492 Ayers Hill Rd	18-0865	Net Metered	Vermont Electric Coop	10
Solar	Roof-Mounted PV	Scott Hansen	93 River Rd	17-4339	Net Metered	Vermont Electric Coop	7.6
Solar	Roof-Mounted PV	Ellen Ladd	410 Berry Road	17-4162	Net Metered	Vermont Electric Coop	7.6
Solar	Ground-mounted PV	Loren Doe	372 Gummerus Road	18-2194	Group Net Metered	Green Mountain Power	15
Solar	Ground-mounted PV	Mikeal Randall	1432 BERRY RD	18-2927	Net Metered	Vermont Electric Coop	12.6
Solar	Roof-Mounted PV	Timothy Malloy	2785 VT-105	18-2394	Net Metered	Vermont Electric Coop	3

Table 8.13 Standard Conversions - BTU to Unit

Unit	Unit Type	British Thermal Units
Kilowatt	Kilowatt	3,412
Gasoline	Gallon	120,404
Ethanol	Gallon	84,714
Diesel Fuel	Gallon	137,571
Heating Oil	Gallon	137,571
Residual Fuel Oil	Gallon	149,690
LPG	Gallon	84,738
Kerosene	Gallon	135,000
Biodiesel	Gallon	127,595

Wood Pellets	Ton	16,500,000
Cord Wood	Cord	20,000,000
Wood	Pounds	8,000
Natural Gas	Cubic Feet	103,200
Compressed Natural Gas	Pounds	20,160
Coal	Short Ton	19,490,000


Utility Service Areas
Berkshire, Vermont
Act 174
The Energy Development Improvement Act of 2016
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."
N
NRPC
VERMONT
Legend
Map 8.1
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.
CANADA
TOWN HWY 12
POTATO HILL RD
SKUNK HOLLOW RD
AYERS HILL RD
HAMMOND RD
NORTH RD
MINE RD
BERRY RD
LOST NATION RD
PLEASANT VIEW RD
RICHFORD RD
STANLEY HILL RD
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COLLINS RD
CENTER HILL RD
WINDY HILL RD
MAY RD
GODIN RD
MARVIN RD
HORSEBRIDGE RD
KING RD
CAMP RD
WATER TOWER RD
RESERVOIR RD
LONGE RD
BERKSHIRE CENTER RD
PORTALLE RD
GUMMERUS RD
PERLEY RD
CHOQUETTE RD
NOBLE RD
FRANKLIN
RICHFORD
ENOSBURG
MONTGOMERY
108
120
105
118
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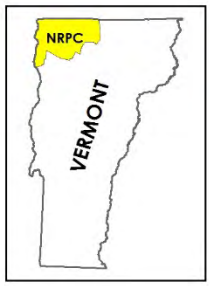
Transmission & 3 Phase Power Infrastructure

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

Map 8.2

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

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

Sources: VCGI
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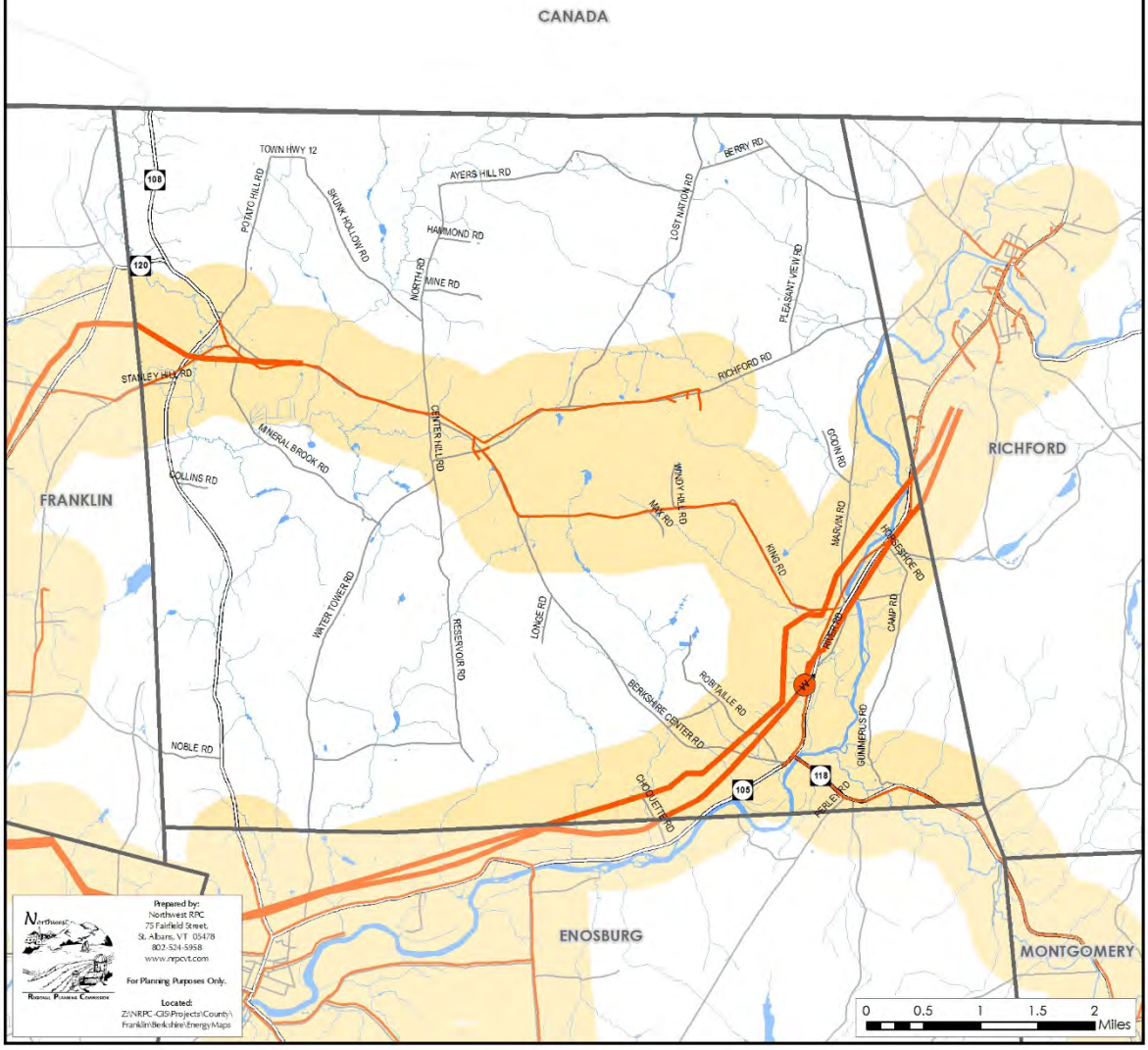

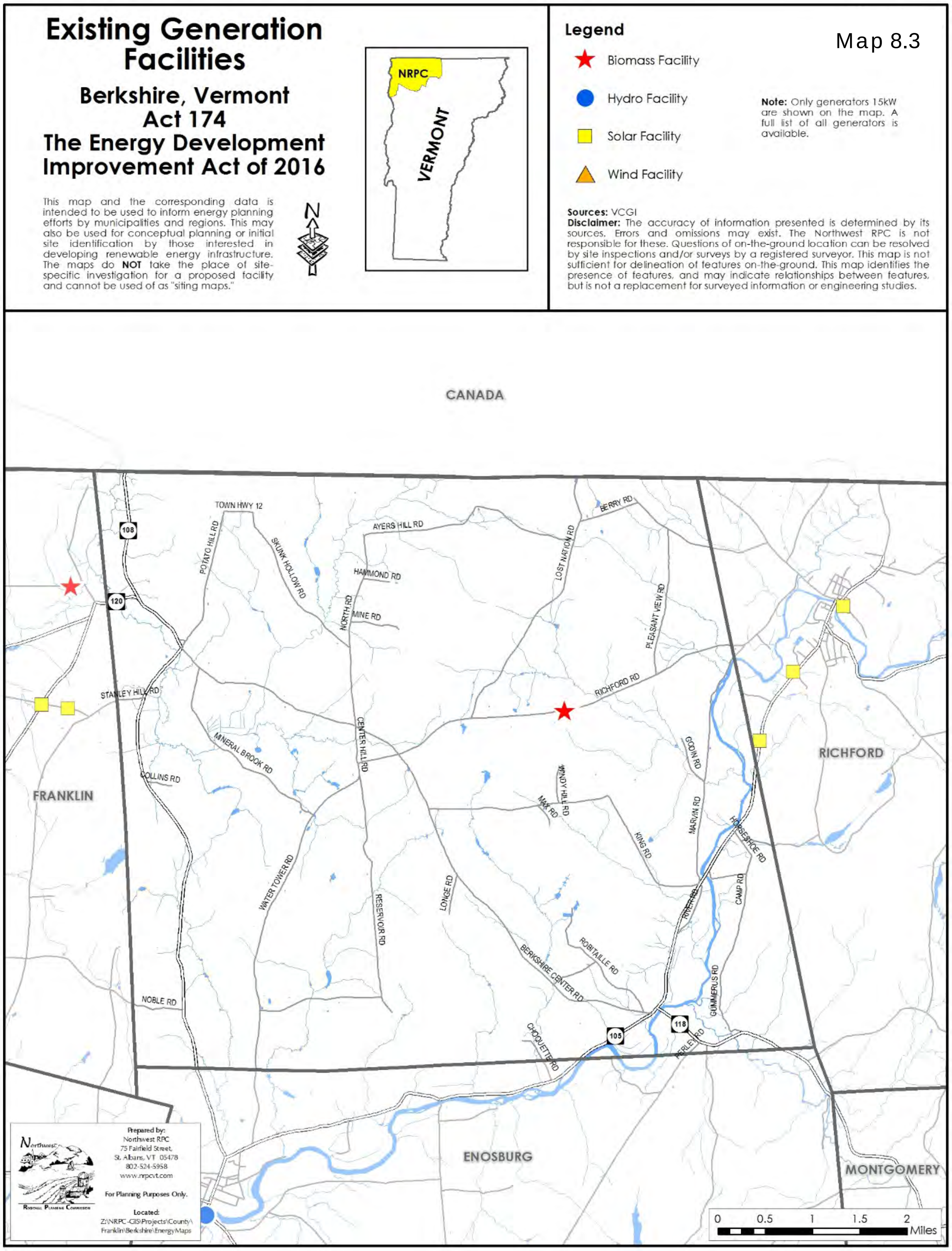
Existing Generation Facilities
Berkshire, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
NRPC
VERMONT
Legend
Map 8.3
Biomass Facility
Hydro Facility
Solar Facility
Wind Facility
Note: Only generators 15kW are shown on the map. A full 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.
CANADA
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ENOSBURG
MONTGOMERY
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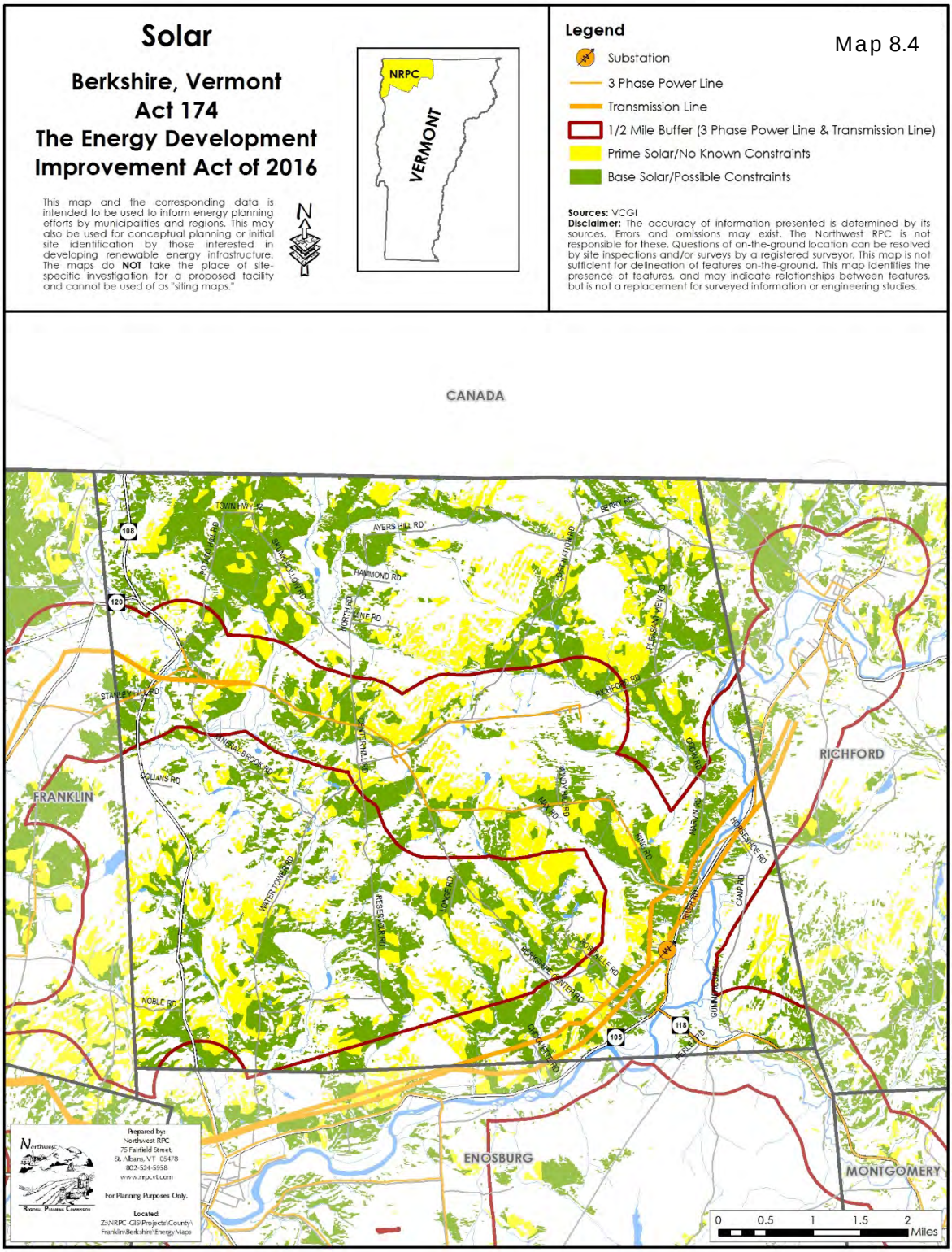
Solar
Berkshire, Vermont
Act 174
The Energy Development Improvement Act of 2016
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NRPC
VERMONT
Legend
Map 8.4
Substation
3 Phase Power Line
Transmission Line
1/2 Mile Buffer (3 Phase Power Line & Transmission Line)
Prime Solar/No Known Constraints
Base Solar/Possible Constraints
Sources: VCGI
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.
CANADA
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ENOSBURG
MONTGOMERY
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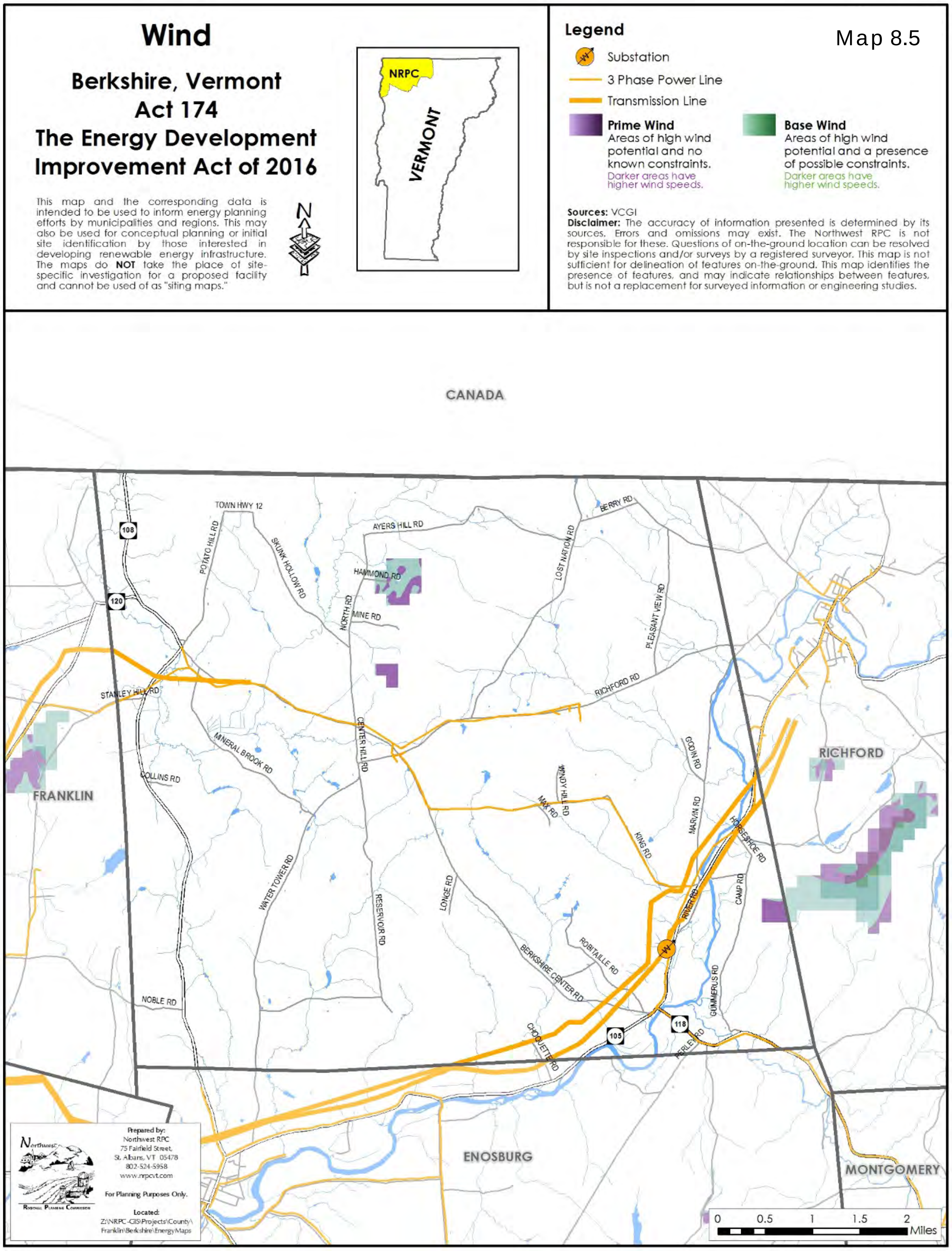
Wind
Berkshire, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
NRPC
VERMONT
Legend
Map 8.5
Substation
3 Phase Power Line
Transmission Line
Prime Wind
Areas of high wind potential and no known constraints.
Darker areas have higher 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.
CANADA
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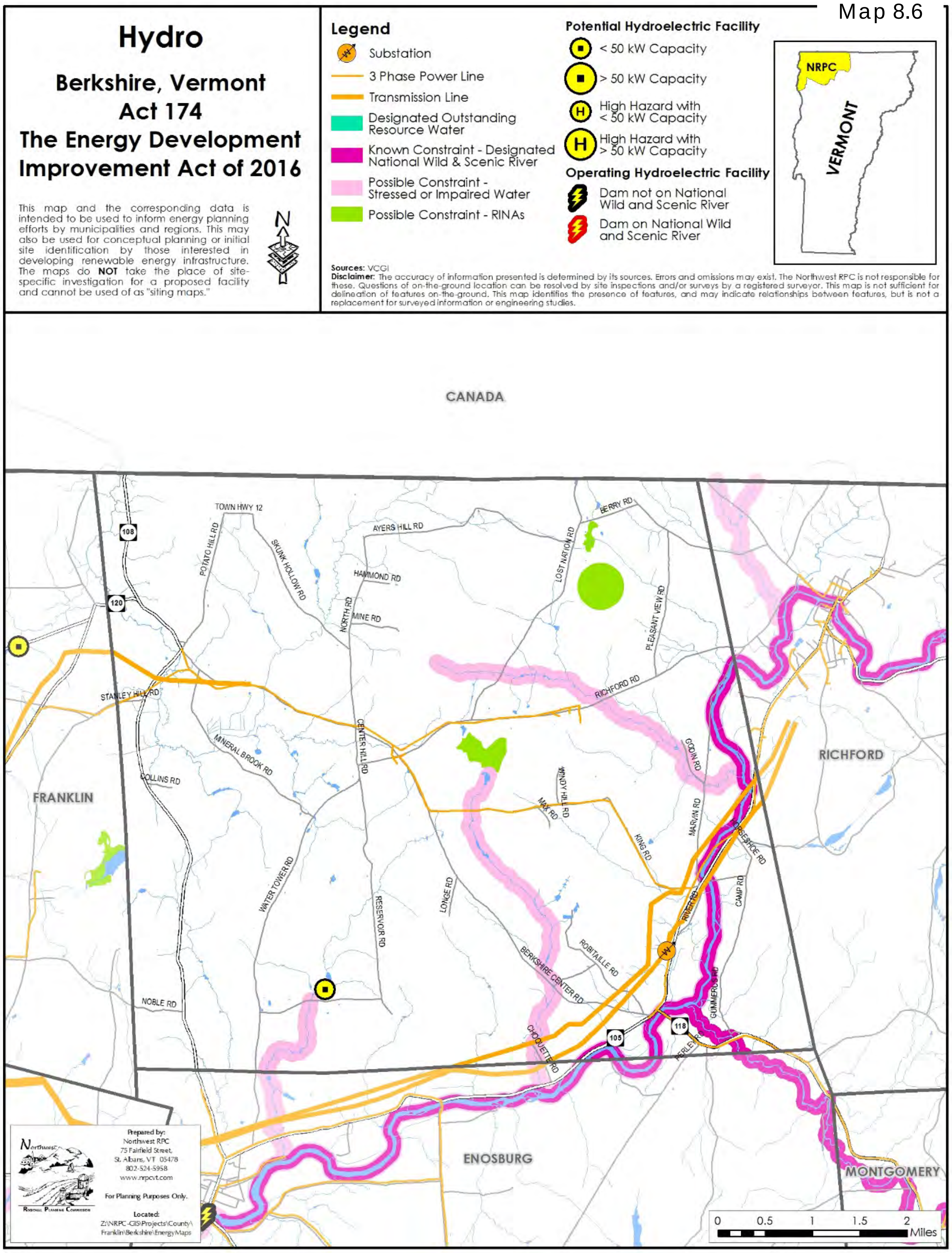
Map 8.6


Hydro
Berkshire, 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
NRPC
VERMONT
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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RICHFORD
ENOSBURG
MONTGOMERY
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BERRY RD
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RIVER RD
CAMP RD
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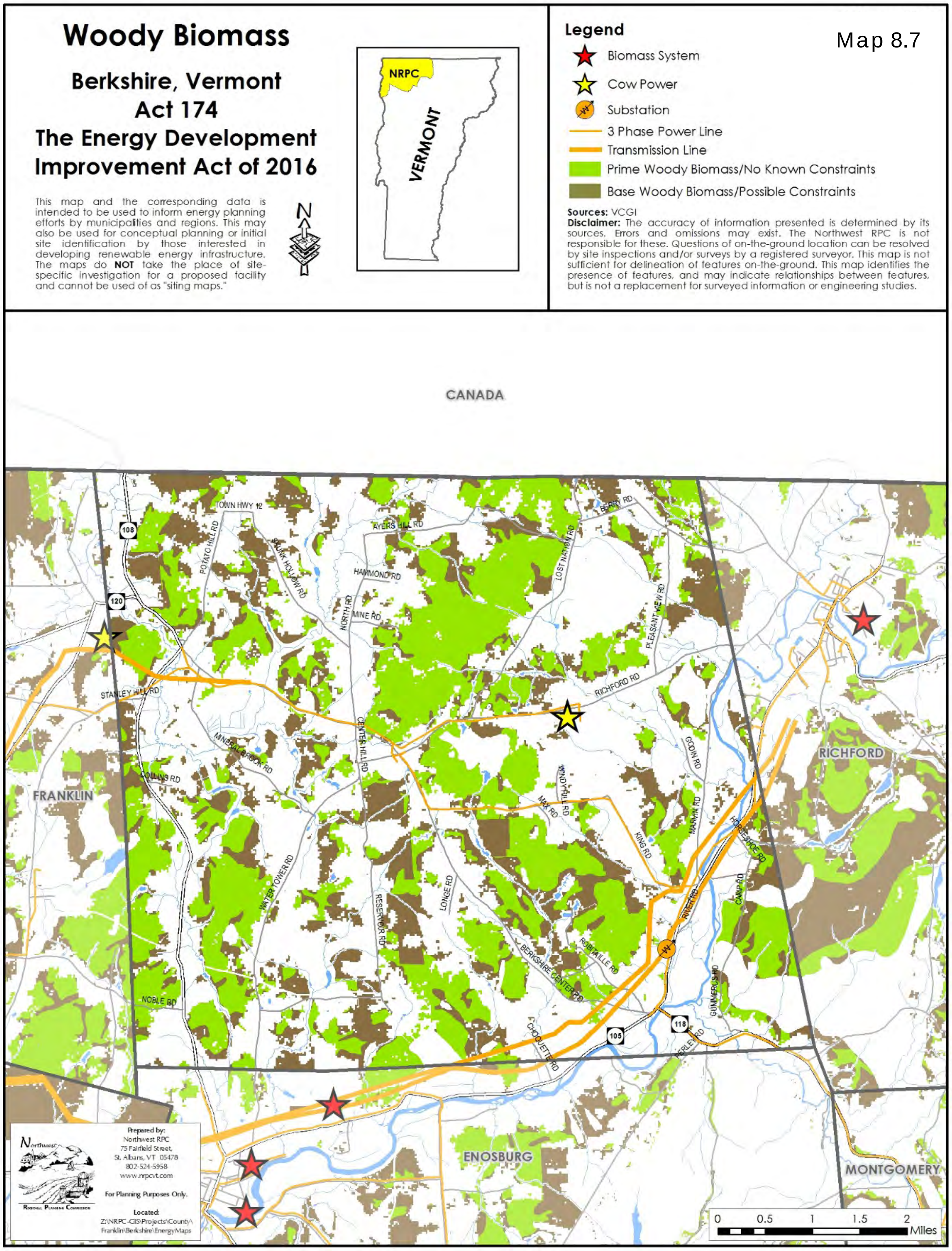
Woody Biomass
Berkshire, Vermont
Act 174
The Energy Development Improvement Act of 2016
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N
NRPC
VERMONT
Legend
Map 8.7
Biomass System
Cow Power
Substation
3 Phase Power Line
Transmission Line
Prime Woody Biomass/No Known Constraints
Base Woody Biomass/Possible 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.
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ENOSBURG
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BERKSHIRE CENTER RD
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"KEEPING IT RURAL" IN THE FUTURE

Photo Credit: Shayna Sherwood

Earlier sections of this plan address the Town's history, natural and cultural resources, available community facilities and services, and past and anticipated trends in Berkshire's growth and development, all of which affect the way that land is used. The ultimate goal of this planning process is to be aware of past and existing land use, and project the future land requirements for the Town. Land use planning is not meant to stop development. If properly implemented, identifying suitable locations for development allows the community to provide for orderly growth while preserving its character. Land use planning gives the Town the opportunity to choose its future, provide a balance between the natural and built environment, and preserve the traditional settlement patterns, village centers, and rural landscapes that contribute to its identity and sense of place.

Many rural Vermont communities are faced with high growth and development pressures, including Berkshire. Residents of these communities are concerned that uncontrolled growth threatens the traditional landscape of compact village centers surrounded by open fields and wooded hillsides. While Berkshire retains much of its traditional agrarian landscape and agriculture remains vitally important to the community, new residential development is happening primarily outside the traditional village centers. Faced with the changing forces that growth presents, planners are challenged with maintaining the rural agricultural

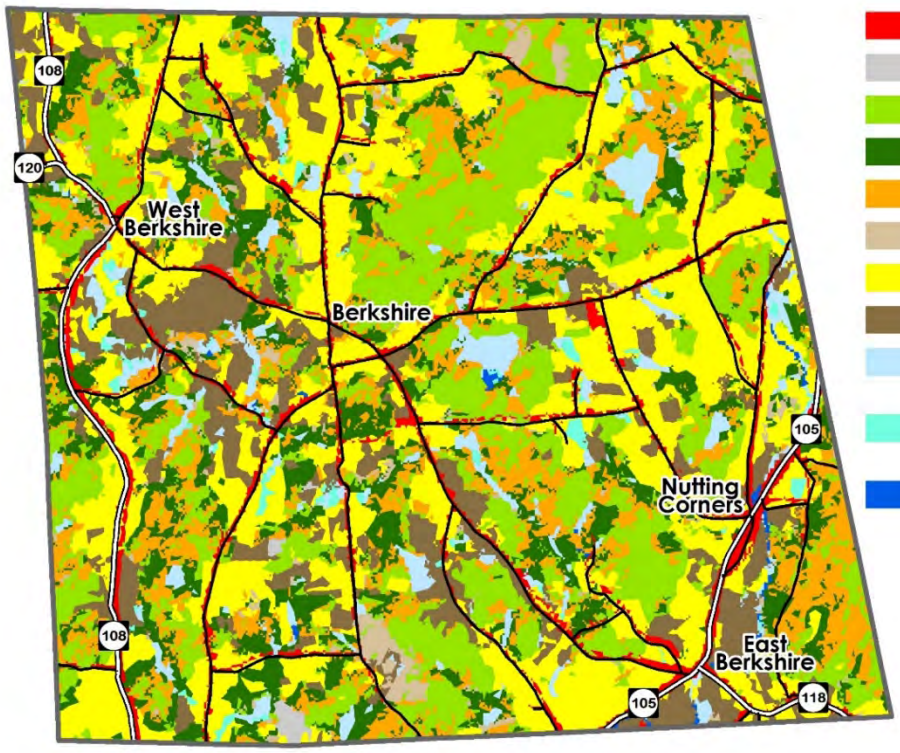
character and small village setting, while accepting and accommodating a fair share of residential development in the greater region.

Berkshire primarily uses zoning and subdivision regulations to manage growth. These regulations are adopted in the Berkshire Land Use and Development Regulations (2019). Zoning regulates the location, type, and density of development within a community through the delineation of zoning districts. Subdivision regulations control the pattern of development and the way land is divided up to accommodate land uses and supporting infrastructure such as roads and utilities. These regulations should be evaluated and updated on a regular basis in response to Town Plan updates. The Berkshire Land Use and Development Regulations divide the town into four (4) zoning districts, which are intended to guide the direction and placement of future growth within the Town of Berkshire. A discussion of current land use trends and associated development recommendations for each district is provided below. Implementing these recommendations will help the Town manage the location, amount, intensity, and character of land uses and timing of development relative to provision of community facilities and services.

A) LAND USE PATTERNS

The Town of Berkshire exhibits a traditional agrarian landscape with agriculture and forestry a vitally important element of the community's character. Family dairy farms and rural homesteads are woven together with the foothills and forests of the Green Mountains, the historic villages of Berkshire Center, East Berkshire, and West Berkshire, and the views seen along the corridors of town highways to create a unique sense of place. Regionally, the Town's rural character aids in defining the more urban character of its neighboring communities of Enosburg Falls and Richford.

This section provides a description of the location and extent of existing land uses within Berkshire, including agricultural land, forested land, and land in residential, commercial, and industrial development (Map 9.1). This information is based upon field surveys and observations, conversations with local residents, and town records. To better understand how the Town is developing, aerial photography can be used to look at changes in land use over time and provide an important resource for land use planning; imagery is available for Berkshire for 2003, 2009 and 2018. The Planning Commission should review changes in land use over time to inform future bylaw updates on how the town is developing.



Map 9.1

There are 102 parcels in the Current Use Program located in Berkshire, which total 14,631 acres. The current use program allows the valuation and taxation of farm and forest land based on its remaining in agricultural or forest use instead of its value in the market place.

Agricultural Land

Dairy farming has remained vitally important to Berkshire's economy to the present day. Most of the primary agricultural land in Berkshire, including large tracts along Rte. 105 in the eastern half of Town and along major roads in the western half, is currently in production. However, some agricultural lands on roads leading northward from Enosburg Falls and East Berkshire have been given over to residential development.

In recent years, there has been a trend towards consolidation of dairies, Berkshire is home to some of the largest dairies in Franklin County, and in the State. The largest dairy in Berkshire is estimated to have at least 3,000 head of cattle. The amount of land in agriculture has decreased at a rate slower than the decrease in the number of farmland parcels. The amount of land in agriculture according to the grand list decreased from approximately 17,500 acres in 1999 to 12,472 acres of land classified as farm acreage in 2017. In comparison, the number of

recorded farmland parcels decreased from 177 in 1987, to 88 in 1999, to 55 in 2017. According to the USDA Census of Agriculture, county-wide the number of farms decreased 5% from 2002 to 2017, while the average market value of farm products per far farm has increased 25%. This trend is the result of the consolidation of a larger number of small dairy farms into a smaller number of industrial-scale farms.

Land trust easements are an effective method used in Vermont to preserve agricultural land and provide financial compensation to the landowner. Individual landowners sell certain rights to their land to ensure their land will be kept for use as farmland, conservation, or recreation land in perpetuity. As of 2020 there were 2,118 acres of land with a Vermont Land Trust easement or covenant in Berkshire (Map 9.2)

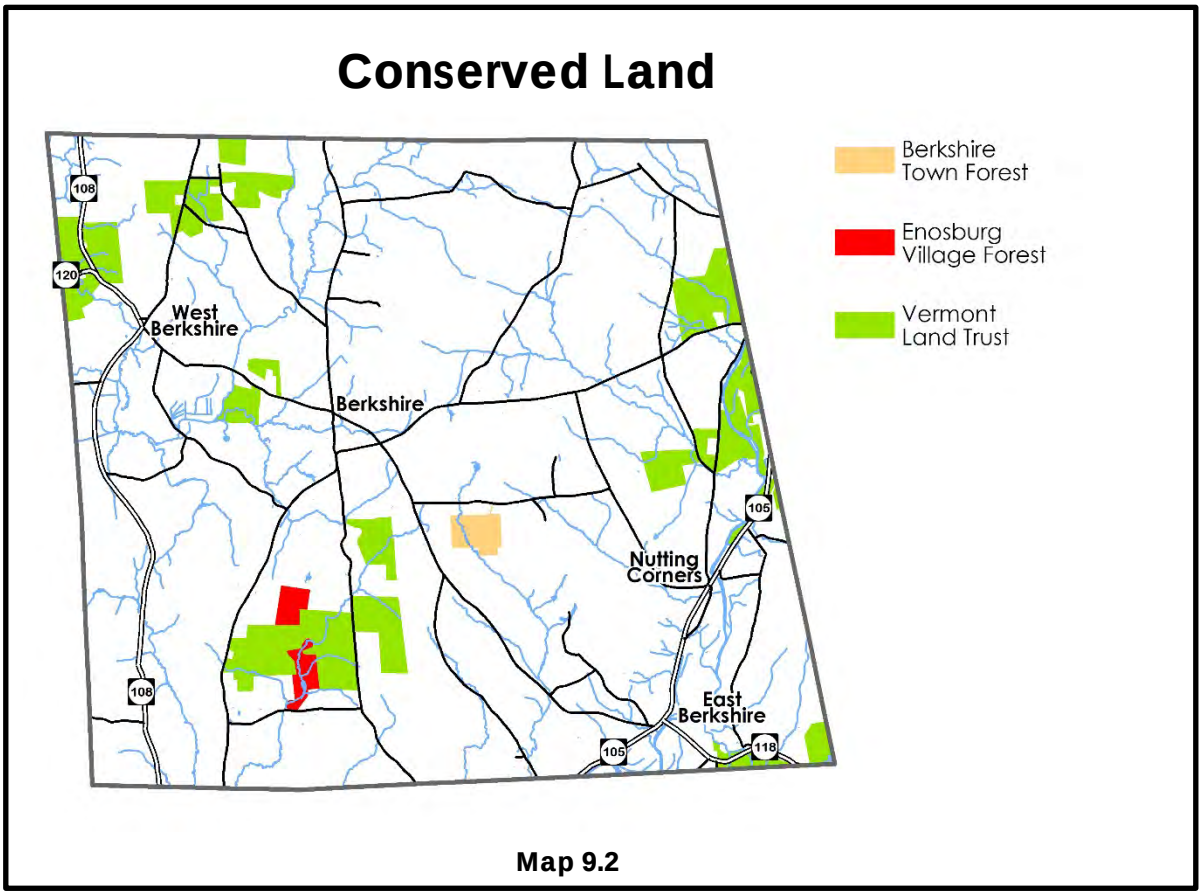
It is important for the Town to consider and address the potential economic impacts of farm consolidation and the loss of family dairies. Maintaining agricultural working lands is of paramount importance to the Town, and supporting family dairies is crucial to achieving this goal. The Town can support and promote programs that assist farmers to keep their land in production, such as the land trusts, the current use program, state and federal subsidies and incentives, and local zoning controls. The Town supports the return of the American trend in homesteading, small family farms producing diversified crops and enhancing food security in the Vermont and the Northeast.

Clockwise from upper left: Cows at Aires-Hill Farm, Fresh Cut Hay at Aires-Hill Farm, Homesteading, Grapes Growing at Lantz Wines.

Forest Land

At one time, before clearing began for agriculture, Berkshire was covered by mature hardwood and softwood forests. As of 2003, forest or woodland made up roughly 40 percent of total land area in Berkshire. Most of this acreage is found on the ridges and hilltops of north central Berkshire, and on other areas of steep slope or wet soil scattered throughout the Town. Little of this land is suitable for higher density development.

All of the forested land in Berkshire, except for that in the Berkshire and Enosburgh Town forests, is privately owned (see Map 9.2 for location of Town forests). As noted earlier, many of the forested soils in Berkshire are considered highly productive (Type I and Type II) soils for forest growth, although timber stands would have to be properly nurtured and managed for commercial use. Many landowners now manage their woodlots on a much smaller scale for private use. All forestland owners are encouraged by the State to adopt Acceptable Management Practices (AMPS) for maintaining water quality, and a long-term forest management plan. At present, no management plan has been developed for the municipal forest.



Map 9.2

There are several forestry operations in Town at present including two firewood processors, a woodworking shop, a procurement yard and a sawmill. There are also several maple sugaring operations in Berkshire that utilize its forests.

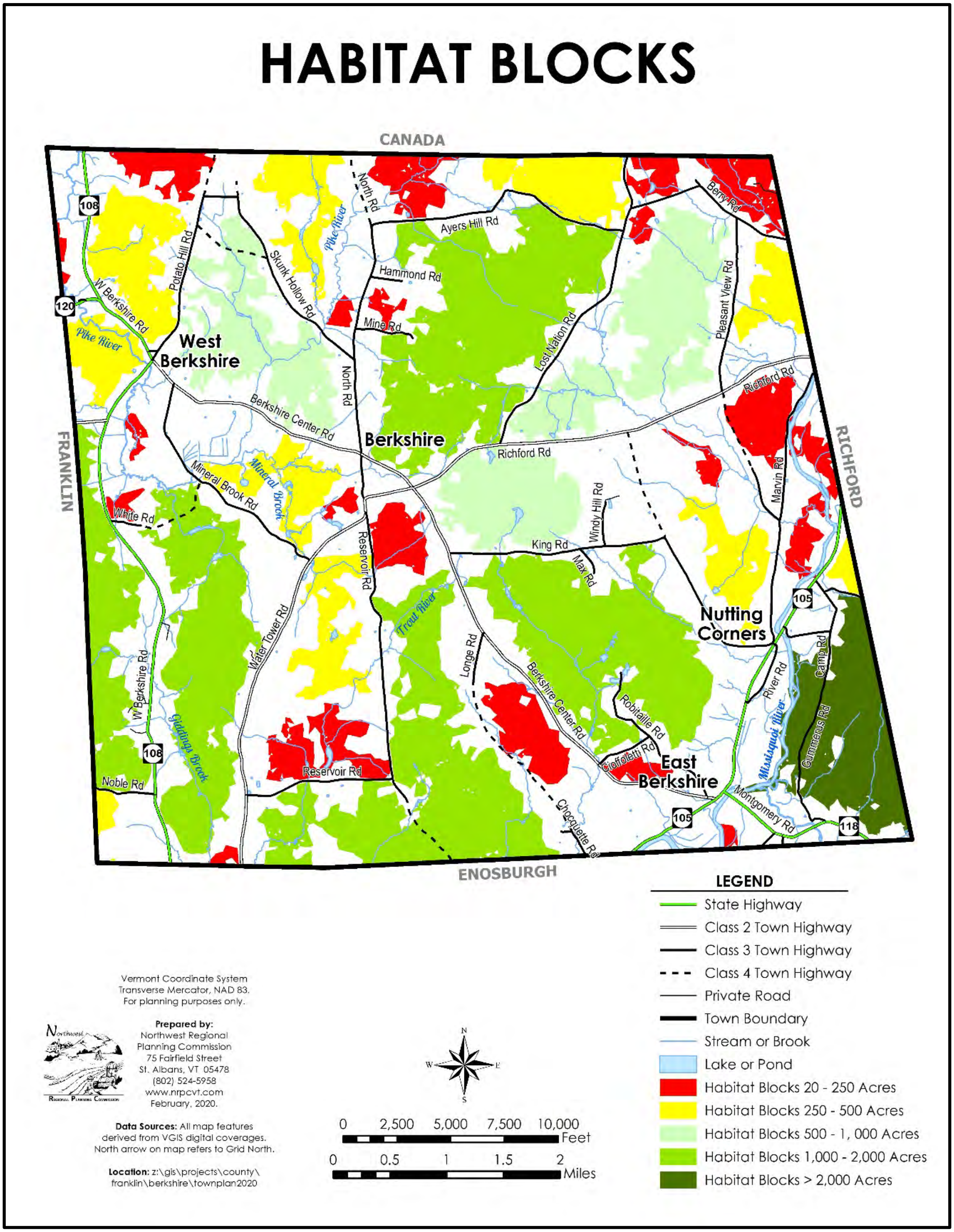
Berkshire forests provide wood for fuel and construction, and recreational opportunities for hikers. Maintaining large swaths of forests is especially important for both hunting and the maple sugar industry. Additionally, they also serve a number of important environmental functions, which include providing important wildlife habitat, preventing soil erosion in areas of steep slope, and maintaining surface and groundwater quality.

In 2017, Berkshire received a Municipal Planning Grant to update their development regulations. As part of this process, Berkshire examined creating a Forest District to preserve forest lands in the Town. However, the Town ultimately decided not to adopt this district. The general sentiment in Town is that given the lack of major infrastructure in Berkshire, there is not a need for another district to protect against development.

Large, unfragmented stretches of forest are especially important for preserving wildlife habitat and maintaining a working landscape for the forest industry. Such large tracts of undeveloped forestland, known as forest habitat blocks, can be fragmented by development when it infringes upon the boundaries of the forest, cuts a path through it, and breaks it up into smaller parcels that may be managed differently. Another important area of forest is habitat connectors which are land and water that link forest habitat blocks and enable wildlife to move from one forest habitat block to another. The forest areas which the state has identified as a priority for conservation are included in Map 9.3.

Given that the Town's forests and woodlands add to the diversity of the natural environment and local landscape, providing an appealing and necessary change from open fields and the built environment; long term management strategies and forest stewardship practices are needed to ensure the continued protection of existing forests and their economic benefits.

Map 9.3


HABITAT BLOCKS
CANADA
FRANKLIN
RICHFORD
ENOSBURGH
West Berkshire
Berkshire
Nutting Corners
East Berkshire
108
120
105
118
W Berkshire Rd
Potato Hill Rd
Skunk Hollow Rd
Pike River
North Rd
Ayers Hill Rd
Hammond Rd
Mine Rd
Lost Nation Rd
Pleasant View Rd
Berry Rd
Richford Rd
Berkshire Center Rd
Mineral Brook Rd
Mineral Brook
White Rd
Reservoir Rd
Windy Hill Rd
King Rd
Max Rd
Marvin Rd
Water Tower Rd
Trout River
Longe Rd
Robitaille Rd
Cioffoletti Rd
River Rd
Camp Rd
Gummerus Rd
Missisquoi River
Giddings Brook
Noble Rd
Chocquette Rd
Montgomery Rd
LEGEND
State Highway
Class 2 Town Highway
Class 3 Town Highway
Class 4 Town Highway
Private Road
Town Boundary
Stream or Brook
Lake or Pond
Habitat Blocks 20 - 250 Acres
Habitat Blocks 250 - 500 Acres
Habitat Blocks 500 - 1, 000 Acres
Habitat Blocks 1,000 - 2,000 Acres
Habitat Blocks > 2,000 Acres
Vermont Coordinate System
Transverse Mercator, NAD 83.
For planning purposes only.
Prepared by:
Northwest Regional
Planning Commission
75 Fairfield Street
St. Albans, VT 05478
(802) 524-5958
www.nrpcvt.com
February, 2020.
Data Sources: All map features
derived from VGIS digital coverages.
North arrow on map refers to Grid North.
Location: z:\gis\projects\county\
franklin\berkshire\townplan2020
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Residential Land

Residential development is concentrated at the highest densities on relatively small lots (one acre or less) in Berkshire's three hamlets: West Berkshire, East Berkshire, and Berkshire Center. Of the three, East Berkshire is the largest. There is a growing trend, however, toward residential "strip development" (2 or more housing units per 1000 ft. of road frontage), particularly along roads leading northward from Enosburg Falls and East Berkshire. This type of rural residential development is increasingly common in many Vermont communities, and is in part determined by the need for road access and on-site systems, and the desire for more privacy. Lot sizes vary greatly, from newly created lots of an acre or less in the high-density zones to farmhouses sitting on large tracts of land (which are generally included with farms in the agricultural designation). This type of development; however, is often inefficient in its requirements for land and utilities, and is therefore more expensive to purchase, own, service, and maintain. It also limits access to hinterlands, and detracts from the traditional pattern of clustered settlement within hamlets and villages.

"Strip development" means linear commercial development along a public highway that includes three or more of the following characteristics: broad road frontage, predominance of single-story buildings, limited reliance on shared highway access, lack of connection to any existing settlement except by highway, lack of connection to surrounding land uses except by highway, lack of coordination with surrounding land uses, and limited accessibility for pedestrians.

Commercial and Industrial Land

There is very little commercial and industrial land in Berkshire. The commercial land that exists is located primarily in East Berkshire on relatively small lots. There are also a few lots in West Berkshire and Berkshire Center occupied by commercial enterprises. Berkshire is not yet afflicted with the commercial strip development that has begun to plague other communities, though the potential for such development exists, particularly on Rte. 105 coming from Richford.

It is expected that most commercial and industrial development will continue to be centered outside of Berkshire in the villages of Enosburg Falls and Richford. The need exists for limited commercial and possibly some light industrial development within the Town to diversify its economy and tax base. This type of development also should be clustered on suitable land near existing centers in order to prevent strip development and sprawl, and again, soil conditions in Berkshire, particularly in East Berkshire where most commercial development is likely to occur, are a limiting factor. Commercial development and renewable energy facilities should be screened from residential and other land uses.

Public and Semi-Public Land

Roughly three percent of the land in Berkshire is in public or semi-public ownership,

and most of this is in the Berkshire Municipal Forest, and the Town's road network. Community buildings, including the town clerk's office, the town garage, the fire department, and the Berkshire Elementary School occupy little land. Small acreages of land should be identified near existing facilities to allow for future expansions. Much of the land within present ownership, such as the municipal forest and Class IV roads, could be developed and maintained for community educational and recreational use. As noted earlier, the Town also may want to consider the acquisition of land, development rights, or easements to protect its important resources.

B) WELLHEAD PROTECTION OVERLAY DISTRICT

The Wellhead Protection Overlay District encompasses the Source Protection Areas for the East Berkshire Water Cooperative and the Enosburg Falls Water System (Map 9.4). The purpose of the District is to maintain or improve the quality of these water resources, including surface and ground waters, and to ensure that surface water bodies and corridors are protected and well-managed. Limited residential development should be allowed only as a conditional use.

C) RURAL LANDS DISTRICT

The Rural Lands District encompasses the majority of land area in the Town of Berkshire, excluding the village centers, flood hazard areas, and source water protection areas (Map 9.4). The purpose of the Rural Lands District is to conserve the integrity and natural qualities of the agrarian tradition and rural open space for the betterment and future use of the community. The District will provide for rural residential development and compatible commercial establishments at a density the land can support without central water or sewage disposal and that maintains the forest and agricultural character of the Town.

Agriculture, Forestry, and Forested Land

Retaining land in agriculture is critical to the continued vitality of farming in the Rural Lands District. Agricultural land is highly susceptible to development pressures as it often has soils well suited for development. The preservation of productive agricultural lands and primary agricultural soils need to be balanced with the need for some growth.

Forested land covers much of the Rural Lands District. Much of this land is unsuited for development because of poor soil and slope conditions and its importance for wildlife habitat. Many of Berkshire's forests are well-suited for use as small woodlots and low impact recreation, as well as some limited opportunities for larger scale forest industries. However, there are also wooded areas in Town that can provide a quiet, secluded setting for lower density residential development.

Wherever possible, new development in this area should be located at the outside of or at the edges of forest habitat blocks and habitat connectors to minimize forest fragmentation.

Important agricultural and forestry land in the Town should be identified using a "LESA" program. LESA, short for Land Evaluation and Site Assessment, is a method by which important agricultural and forestry land can be identified and earmarked for conservation or protection measures. This method takes into account economic factors related to production, and the intent and desires of the farmer, as well as soil suitability in determining the value of a particular farm or parcel to the community.

Agricultural and forestry land should be protected through owner participation in tax incentive programs (current use), the purchase of development rights/conservation easements, and appropriate development controls. The development of agricultural land, if necessary, should be located on wooded and scrub pasturelands that are in limited production and less critical to farming operations or at field edges. Development on agricultural and forested lands should be clustered to retain as much land as possible in production, forest, or open space.

Residential Development

Residential development, including seasonal home development, is expected to account for the majority of land demand in the near future, with the pressure for growth coming from Enosburg Falls, Richford, St. Albans, Canada, and to a limited extent, the Burlington area. While clustered, high-density residential development is encouraged in the Extended Village Districts, it is also expected that amount of residential development will continue in the Rural Lands District. Careful siting and layout of residential development will limit impacts on rural character, agricultural and forestry uses, wildlife habitat, and environmental sensitivities. Development shall avoid agricultural and forestry lands preserving them from fragmentation and conversion.

Home Business and Other Rural Commercial Development

Home businesses that maintain the working rural landscape of the Berkshire countryside are encouraged to continue as a significant part of the Rural Lands District. There is a place for other small commercial development in the Rural Lands District that fits the character of the area. It should be carefully reviewed to assure that the rural character of the area is maintained and there are no undue impacts on existing residential, agricultural, and forestry land uses. Zoning bylaws should allow some limited commercial uses only after conditional use and site plan review in the Rural Lands District. Appropriate landscaping and screening are important so that commercial uses blend in with the countryside.

Light Industry and Earth Resource Extraction

There may be appropriate locations for light industry and earth resource extraction in the Rural Lands District. These potentially high-impact uses should be carefully designed to avoid adverse impacts to the local environment, adjacent land uses and community facilities and services. Zoning should allow light industry and earth resource extraction in the Rural Lands District only after conditional use and site plan review. The character of the area can often be maintained through vegetative buffers or screening, and other appropriate land use regulations. Sand and gravel pits in particular, should come under careful public review in order to avoid the many adverse impacts that are often associated with them. In particular, erosion, ground water protection, and site reclamation plans should be developed.

D) EXTENDED VILLAGE DISTRICT

The purpose of the Extended Village Districts is to maintain and support the role of the villages as the focus of many social and economic activities in Berkshire and to provide for residential, commercial and other compatible development that serves the needs of the community (Map 9.4). Development should maintain the traditional density and overall social and physical character of the villages, including historic and scenic resources. It should also not exceed the capability of the lands, waters, services and facilities to accommodate such density. Continuing the mix of residences, civic and non-profit uses and commercial establishments is encouraged.

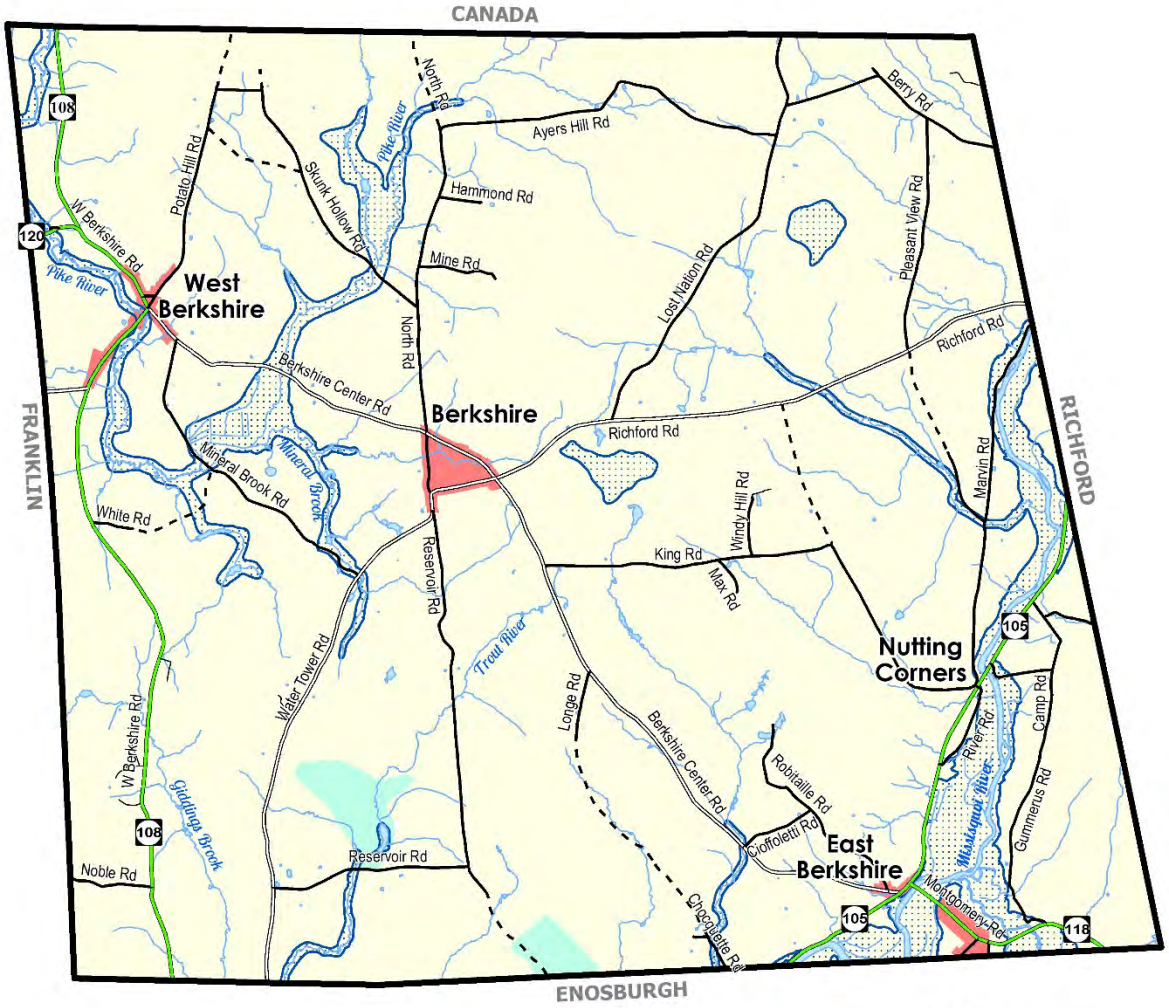
The Extended Village Districts currently lack any pedestrian amenities. East Berkshire, the largest of the 3 village areas, would benefit from sidewalks and crosswalks for a more pedestrian friendly streetscape. Zoning standards for East Berkshire should require pedestrian amenities and include standards for landscaping, parking, and signs. Off-street parking should be screened and located to the side or rear of a building and signs should be scaled and designed to complement the village character.

The desirability of locating higher density development near existing centers supports the need for a centralized sewer system in East Berkshire. In West Berkshire and Berkshire Center on the other hand, there are a few soils that can accommodate higher densities of development. In these areas, development should be designed and sited to protect local recharge areas and groundwater quality.

E) FLOOD HAZARD AREA OVERLAY DISTRICT

Designation of this area is required for continued participation in the National Flood Insurance Program (NFIP) and is regulated under the Town's Flood Hazard Ordinance. Included are all areas in Berkshire identified as areas of special flood hazard on the National Flood Insurance maps and the River Corridors as published by the VT Agency of Natural Resources (Map 9.4). The purpose of the Overlay District is to encourage conservation and open space uses of flood hazard areas, prevent health and safety hazards, and to minimize property damage due to flooding.

PROPOSED LAND USE



LEGEND

- State Highway
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway
- Private Road
- Town Boundary
- Stream or Brook
- Lake or Pond
- Extended Village District
- Rural Lands District
- Wellhead Protection District
- Flood Hazard Area Overlay District

Vermont Coordinate System
Transverse Mercator, NAD 83.
For planning purposes only.

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(802) 524-5958
www.nrpcvt.com
February, 2020.

Data Sources: All map features derived from VGIS digital coverages. North arrow on map refers to Grid North.

Location: z:\gis\projects\county\franklin\berkshire\townplan2020

0 2,500 5,000 7,500 10,000 Feet

0 0.5 1 1.5 2 Miles

Map 9.4

GOALS AND POLICIES: KEEPING IT RURAL IN THE FUTURE

GOAL 1: To maintain the rural, agricultural character of the Town of Berkshire, including the historic settlement pattern of small hamlets separated by rural countryside.

GOAL 2: To protect important natural resources and agricultural use of the land, while at the same time providing sufficient space in appropriate locations for residential, commercial, industrial development, and for community facilities.

Policies:

1) The town encourages agricultural and forest land be maintained for viable economic use, encourages value added businesses, promotes locally grown products, and encourages the implementation of agricultural/forestry best management practices.

2) Forest fragmentation should be minimized through the Land Use and Development Regulations. This may include defining forest fragmentation and adoption of specific zoning standards.

3) Clustered development, including Conservation Subdivisions**,** shall be allowed only where feasible and appropriate in order to protect and maintain important farmland, forestland, and open space. Strip development shall be discouraged.

4) Only development incidental to agricultural production should occur on important agricultural lands. Good management practices, participation in tax incentive programs, and the acquisition of development rights or conservation easements to protect farm and forestland shall be encouraged.

5) Commercial, light industrial and intensive residential development shall be encouraged on suitable lands located in or immediately adjacent to existing population centers. Development should be designed to be in keeping with the character of the area, should not interfere with traffic flow, should provide adequate parking for employees and customers, and should provide landscaping, screening and/or buffers to minimize any adverse impacts on adjacent lands, important natural resources, or the community.

6) Community facilities and services should be provided in convenient and suitable locations for the safety, use, and enjoyment of local residents. New

utility lines should make use of existing corridors and rights-of-way wherever possible.

7) The town encourages agricultural and forestland be maintained for viable economic use, encourages value added businesses, promotes locally grown products, and encourages the implementation of agricultural/forestry best management practice.

PLAN COMPATIBILITY

Photo Credit: Meg St. Pierre

Plan Coordination and Compatibility

It has been readily demonstrated in the past that it is very difficult for a town to plan in isolation from its neighboring communities. The impacts of growth and development on the community and the environment often do not recognize, or may be intensified by, artificially drawn political boundaries. Battle lines are too often drawn when cooperation is needed instead. Act 200 encourages communities to work with each other and with the region and state in order to coordinate their planning programs. At the same time, it is necessary to recognize that each community is unique in its character, needs, and desires. Communication is an essential part of the planning process.

During the writing of this town plan, the Planning Commission reviewed the town plans of neighboring communities, which include Franklin, Enosburg Falls and Town, and Richford. The Planning Commission looked at the plans for compatibility with Berkshire's proposed land use map and discussed the status of any multi-town issues, such as traffic or water quality. A summary of this analysis is provided in Figure 10.1.

Berkshire planners should try to schedule periodic meetings with planners from neighboring commissions and the Town should maintain its representation on the Board of Regional Commissioners. State planning efforts can be tracked through direct contact with State agencies, through the Regional Commission, and through other statewide organizations such as the Vermont Planning Association.

Figure 10.1
Land Use Compatibility with Adjacent Communities

Along the Berkshire/Franklin border, proposed land use is generally compatible. Berkshire's Rural Lands District abuts Franklin's similar Rural Residential/Agricultural District. The only area where land use plans differ is in East Franklin, where Franklin's Village District borders Berkshire's Rural Lands District. While the Village District allows more commercial uses and higher density development than the Rural District, there are no compatibility issues.

Along the Enosburg Falls/Berkshire border, proposed land use is generally compatible. Enosburg Falls' conservation, recreation, and low-density residential districts border Berkshire's Rural Lands District. One issue of note for both municipalities is the location of the back-up reservoir for the Enosburg Water System off Reservoir Road in Berkshire. Berkshire has adopted a Wellhead Protection Overlay District to protect this resource.

Along the Enosburgh Town/Berkshire border, proposed land use is generally compatible. Enosburgh's agricultural and rural residential zones abut Berkshire's Rural Lands District, while a source protection area is equally protected on both sides of the town line.

Along the Richford/Berkshire border, proposed land use is generally compatible. Richford's agricultural and conservation district abut Berkshire's Rural Lands District. The only exception is where Richford's commercial/industrial, commercial, and rural residential districts border Berkshire just after Route 105 passes into Richford. These heavier land uses have been sited well and have not presented any compatibility issues with Berkshire's Rural Lands District.

Compatibility with the Regional Plan

Berkshire recognizes that it is part of a larger region and has considered the compatibility of its planning goals with that of the region. Berkshire's land use planning areas are similar to the proposed land use plan adopted by the Regional Planning Commission. The Regional Plan identifies Berkshire's village centers and

supports the continuation of historic village and hamlet centers through village center planning and designation efforts that preserve their traditional character. The Regional Plan also designates Berkshire's agricultural lands as an important resource, and further states that the best farmland in the region should be given the highest level of support for continued agricultural use.

APPENDIX A. ONLINE PLANNING RESOURCES

The following is a list of internet resources that pertain to the community planning. Resources are identified by corresponding sections of the Town Plan. Included in this list are some mapping websites available to the public to allow viewing of information at a parcel, town or county level and many have a function for creating a printable map.

The Sense of Place - Natural Resources & Environment

VT Agency of Natural Resources – Natural Resources Atlas,
https://anr.vermont.gov/maps/nr-atlas
The purpose of the **Natural Resources Atlas** is to provide geographic information about environmental features and sites that the Vermont Agency of Natural Resources manages, monitors, permits, or regulates.

In addition to standard map navigation tools, this site allows you to link from sites to documents where available, generate reports, export search results, import data, search, measure, mark-up, query map features, and print PDF maps.

VT Agency of Natural Resources – Biofinder,
http://biofinder.vt.gov
BioFinder is a map and database identifying Vermont's lands and waters supporting high priority ecosystems, natural communities, habitats, and species. The most comprehensive assessment of its kind in Vermont, BioFinder was developed by the Agency of Natural Resources and partners to further our collective stewardship and conservation efforts.

At its core, BioFinder is 21 overlapping data sets representing terrestrial and aquatic biological, ecological, and natural heritage data at various scales and aspects. A co-occurrence analysis then identified the locations of greatest overlap for priority ranking at the statewide scale. You can use the BioFinder Mapping Tool to explore the distribution and richness of Vermont's biodiversity and help secure Vermont's natural heritage for future generations.

USDA Natural Resources Conservation Service,
http://websoilsurvey.nrcs.usda.gov
To find out information about the type and quality of your soils you can use the Web Soil Survey (WSS), an online interactive map. Using the tools in the application you can select the area of interest (100,000 acres or less) and see a full list of the soil types and applicable land uses or limitations for the selected area based on soil properties.

VT Agency of Natural Resources – Flood Ready,
http://floodready.vermont.gov/
Flood Ready provides information on floodplains and flood risk assessments for Vermont communities. It emphasizes the increasing risk of damaging floods in Vermont and encourages careful planning to avoid future damage. This site provides information on flooding costs and prevention, river corridors, and post disaster steps.

The Sense of Place - Historic Legacies

VT Division for Historic Preservation, https://accd.vermont.gov/historic-preservation
All of the National Register, State Register and Historic Sites and Structures Survey materials are now digitized and available online here: www.orc.vermont.gov. You don't need to get a username or password – just choose the town/county you want to research and the file types you want to look at, and then select "view scanned document".

Place for A Home

VT Housing Data, www.housingdata.org
A central, searchable repository of ***Vermont housing data*** provided as a public resource. This site contains extensive housing data reports for Vermont — all its towns, villages, counties.

Champlain Housing Trust, https://www.getahome.org/loans
CHT Home Repair Loan Program provides a low-cost home repair loan program for homes in Chittenden, Franklin, and Grand Isle Counties.

Vermont Community Development Program Implementation Grants
https://accd.vermont.gov/community-development/funding-incentives/vcdp
Provides grant for projects in economic development, housing, public facilities and public services in support of community development or housing that will have direct benefit for persons of low and moderate income or address an urgent need.

Earning A Living

VT Dept. of Labor, Covered Employment and Wages, www.vtlmi.info/indnaics.htm

Providing for the People - Education

VT Agency of Education, https://education.vermont.gov/data-and-reporting
The agency collects data from Vermont's supervisory unions and school districts. In addition, the agency provides training to help school professionals provide this data.

Providing for the People - Transportation

Vermont Local Technical Assistance Program Center,
http://vermontlocalroads.org
The Vermont Local Roads Program provides information, training and technical assistance to cities, towns and villages in Vermont. This is done through seminars and workshops, distribution of materials and technical assistance to fulfill service requests.

Go Vermont, www.connectingcommuters.org
Go Vermont is a resource for Vermonters who want to reduce the cost and environmental impact of driving. We offer free carpool matching and vanpool services, and statewide bus routes, as well as free Go! Vermont resources to help you promote more efficient travel options at work or at home. Call our Q/A hotline and a real person can answer your transportation questions (800-685-7433).

Green Mountain Transit, https://ridegmt.com/
The Green Mountain Transit provides public transportation services in Washington County, Lamoille County, Franklin County, Grand Isle County, the Mad River Valley and the towns of Washington, Orange and Williamstown.

VT Agency of Transportation, Online Map Center,
http://vtransmaps.vermont.gov/webmaps.htm
This site contains several web-based maps such as park and ride lots, bridge and culvert information, and status of pending projects.

Enhanced Energy Plan- Energy

Community Energy Dashboard, www.vtenergyatlas.com
The **Community Energy Dashboard** is your tool for identifying, analyzing, and visualizing existing and promising locations for renewable energy and energy efficiency projects.

Efficiency Vermont, www.efficiencyvermont.com
Efficiency Vermont provides technical assistance, rebates, and other financial incentives to help Vermont households and businesses reduce their energy costs with energy-efficient equipment, lighting, and approaches to construction and major renovation.

VECAN, www.vecan.net
VECAN is a network of statewide Vermont organizations helping communities across the Green Mountain State to reduce energy costs and climate impacts through conservation, increased energy efficiency and conversion to renewable energy sources.

General Links

Northwest Regional Planning Commission, http://nrpcvt.com
The Northwest Regional Planning Commission (NRPC) is one of eleven commissions serving Vermont municipalities. NRPC operates under the Vermont Municipal and Regional Planning and Development Act and its adopted bylaws (Title 24, Chapter 117, V.S.A.). Our region is made up of 23 (19 towns, 3 incorporated villages, and 1 city) located in Franklin and Grand Isle Counties in northwestern Vermont. The Commission provides services to local municipalities, area non-profits and other regional organizations.

Vermont Planning Information Center, http://vpic.info
VPIC is a clearinghouse of information for planning commission, zoning boards, development review boards, and their staff and all others involved in land planning and regulation in Vermont. The resources on this page were created by collaboration among agencies and organizations that provide technical assistance and education to local land use officials in Vermont.

Vermont State Statutes, http://legislature.vermont.gov/statutes/

Vermont League of Cities and Towns, http://resources.vlct.org
The Vermont League of Cities and Towns (VLCT) is a nonprofit, nonpartisan organization that serves Vermont's municipal officials. VLCT provides educational workshops and consulting advice for municipal officials.

VT Dept. of Housing and Community Development, https://accd.vermont.gov/community-development/resources-rules/publications
This agency provides training, technical assistance and regulatory guidance as well as funding and incentives to businesses, individuals and municipalities.

General Permitting

VT Agency of Natural Resources - Permitting, https://anr.vermont.gov/planning/permitting
The Agency of Natural Resources' three departments, Environmental Conservation (DEC), Fish and Wildlife (F&W), Forests, Parks and Recreation (FPR) have regulatory responsibility for a number of programs and oversee their associated permits. The majority of environmental permits are issued by the DEC.

Permit Assistance - The **Environmental Assistance Office** provides permit assistance through the Agency of Natural Resources' five regional offices and five satellite offices. The Permit Specialists are available in these offices to answer your questions about the permit process. https://dec.vermont.gov/environmental-assistance

Natural Resources Board - Act 250, https://nrb.vermont.gov/
The Act 250 program provides a public, quasi-judicial process for reviewing and managing the environmental, social and fiscal consequences of major subdivisions and developments in Vermont. The program is implemented through the 9 District Environmental Commissions.

Public Service Board – Section 248, https://publicservice.vermont.gov/
The Public Service Board is a quasi-judicial board that supervises the rates, quality of service, and overall financial management of Vermont's public utilities: cable television, electric, gas, telecommunications, water and large wastewater companies. It also reviews the environmental and economic impacts of energy purchases and facilities, the safety of hydroelectric dams, the financial aspects of nuclear plant decommissioning and radioactive waste storage, and the rates paid to independent power producers. The Board's mission is to ensure the provision of high quality public utility services in Vermont at minimum reasonable costs, measured over time periods consistent with the long-term public good of the state.

LAND CONSERVATION & EVALUATION

Vermont Land Trust (VLT), www.vlt.org

VLT's mission is to preserve land resources and promote responsible stewardship. As a statewide organization, VLT facilitates the implementation of permanent conservation easements to preserve farms, forests, wetlands, and other open space. Landowner or municipalities can contact VLT for assistance in land conservation projects.

Vermont Current Use Program, VT Dept. of Taxes,
https://tax.vermont.gov/property-owners/current-use
Vermont's *Use Value Appraisal (UVA) Program* (also known as "Current Use") enables eligible private lands, where owners practice long-term forestry or agriculture, to be appraised based on

the property's value of production of wood or food rather than its residential or commercial development value. This legislation helps small scale farmers keep their land and maintain Vermont's rural character.

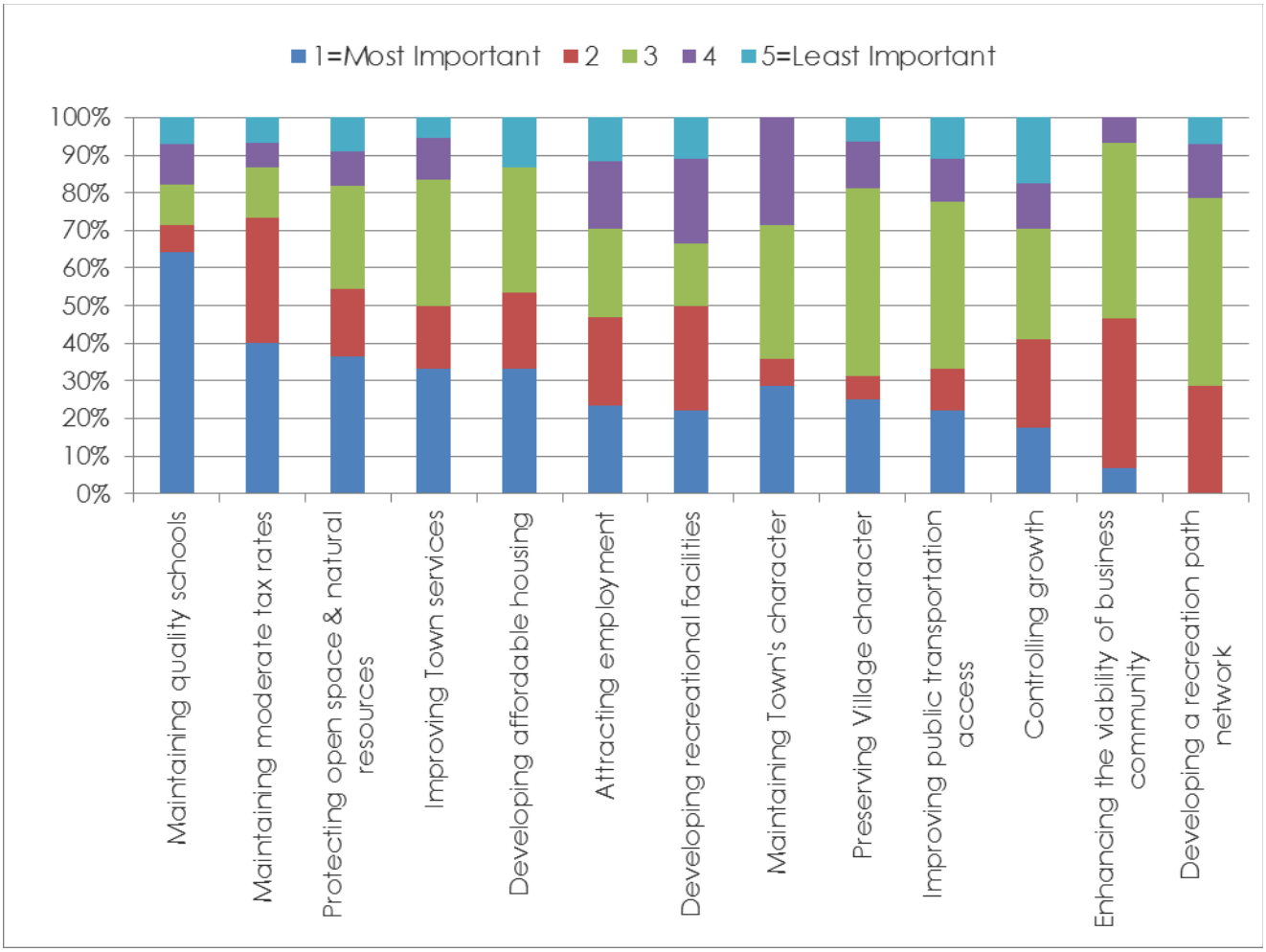
Land Evaluation and Site Assessment (LESA),
www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/?cid=nrcs143_008438
The LESA is procedure to evaluate and value land focused on identifying important agricultural land. This assessment was created by the U.S. Department of Agriculture's Natural Resources Conservation Service. The information can be used to inform land use or utility plans, develop land protection policies and permitting.

APPENDIX B. COMMUNITY SURVEY 2014

To gather feedback from the community at the start of the 2015 Town Plan update process, the Planning Commission conducted a community survey during the month of September 2014. The survey was disseminated through the Elementary School's weekly flyers for students, at the Town Office and word of mouth. The survey was made available to complete in paper or online from NRPC's website. Thirty-five surveys were completed during the month it was made available. Given the low number of responses, the survey does provide some insight into community opinions however the Planning Commission recognizes it is not a large enough sample to make broad generalizations on Berkshire's future.

Survey Results

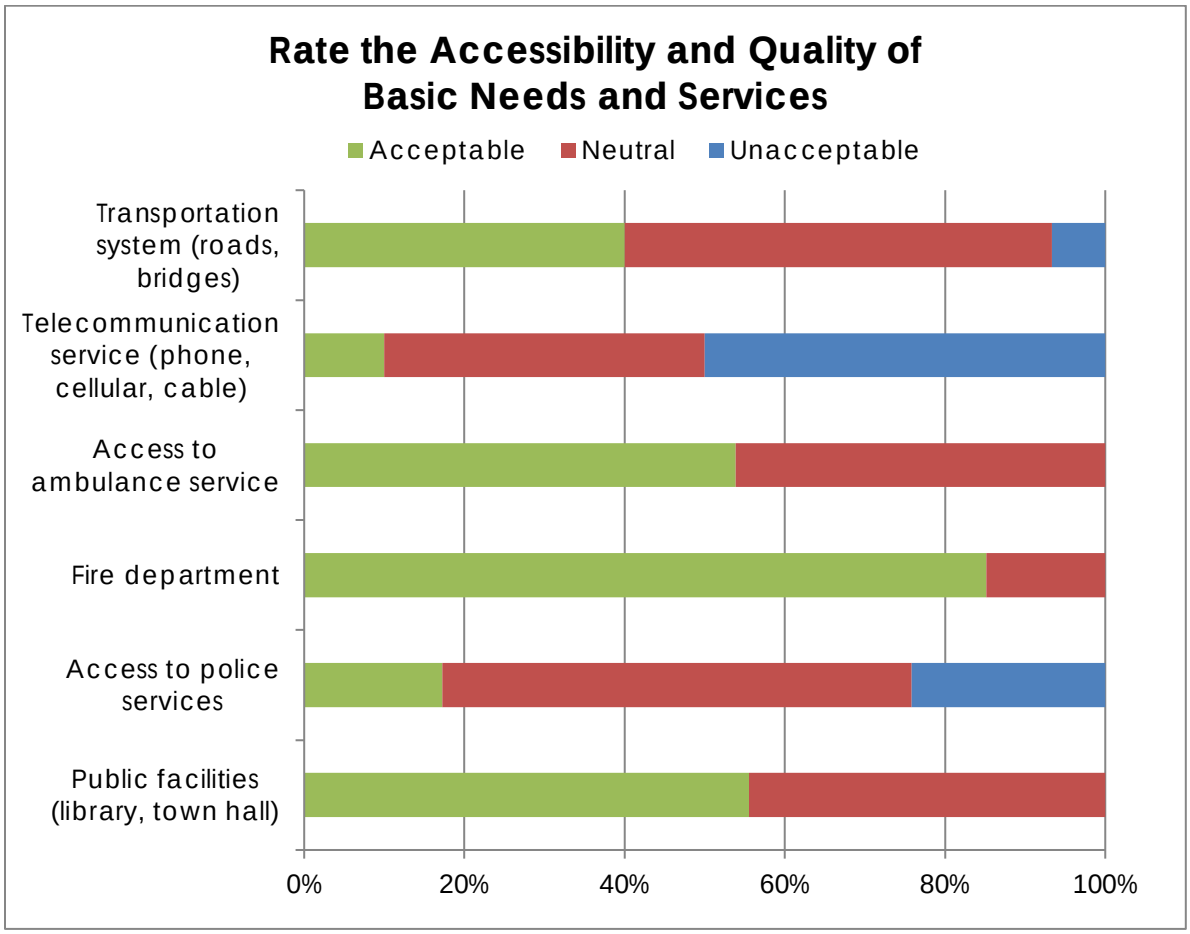
Question 1. What do you think are the five most important issues facing Berkshire in the next five years?



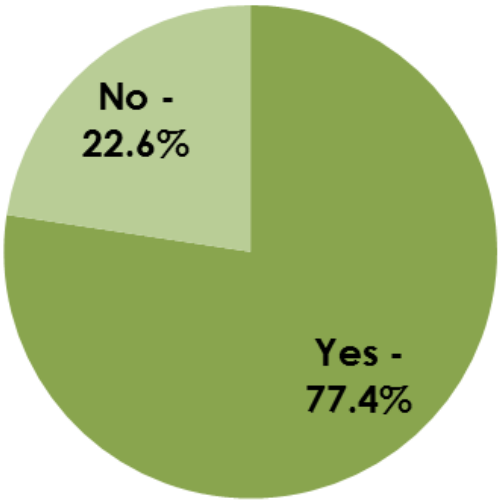
Question 2. List the top three things that <u>you enjoy about Berkshire and do not want to change (28 responses)</u>. [The response to this question is shown in a 'wordle' or a word cloud that gives greater prominence to words that appear more frequently]

Question 3. List the top three things about Berkshire <u>that you would like to change</u> (23 responses). [The response to this question is shown in a 'wordle' or a word cloud that gives greater prominence to words that appear more frequently]

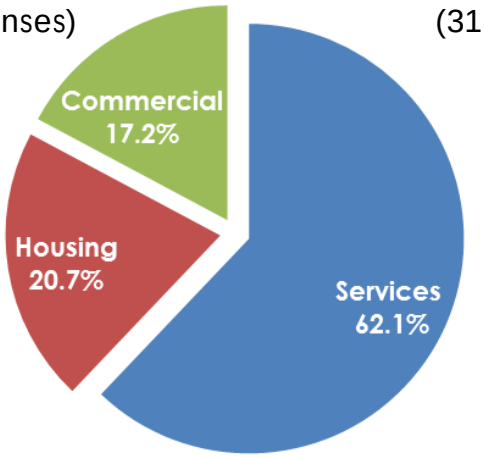
Question 4. The following questions relate to the accessibility and quality of basic needs and services. How would you rate our… (34 responses)



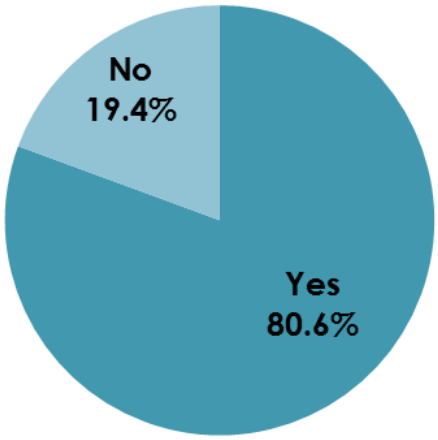
Question 5. Does Berkshire have an adequate supply of safe, healthy, and affordable housing that satisfies the living requirements of residents? (31 responses)



Question 6. Should the Village areas include more...
(29 responses)

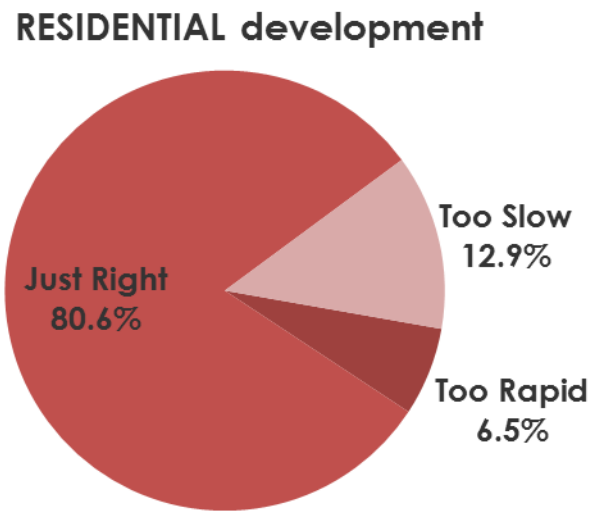


Question 7. Should historic preservation be a consideration?
(31 responses)



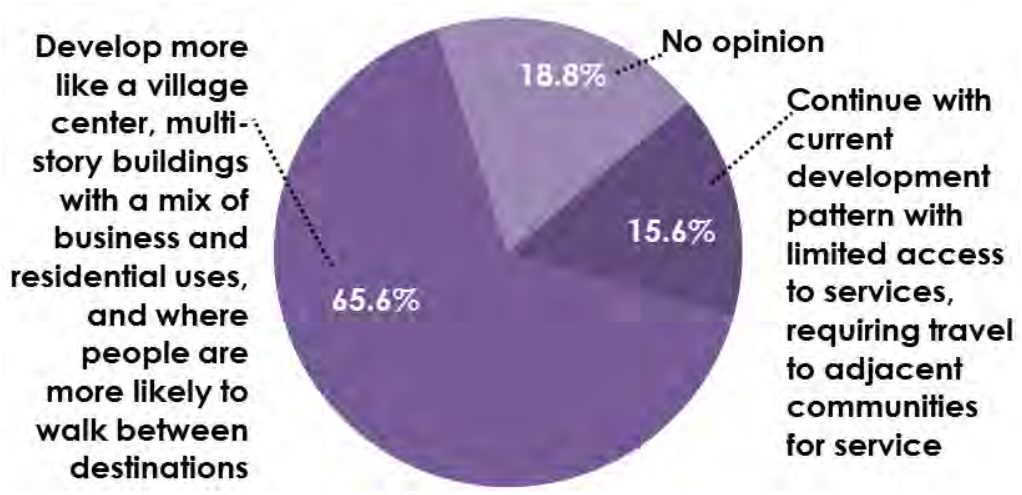
Question 8 & 9. Do you feel the rate of development has been...

(31 responses)

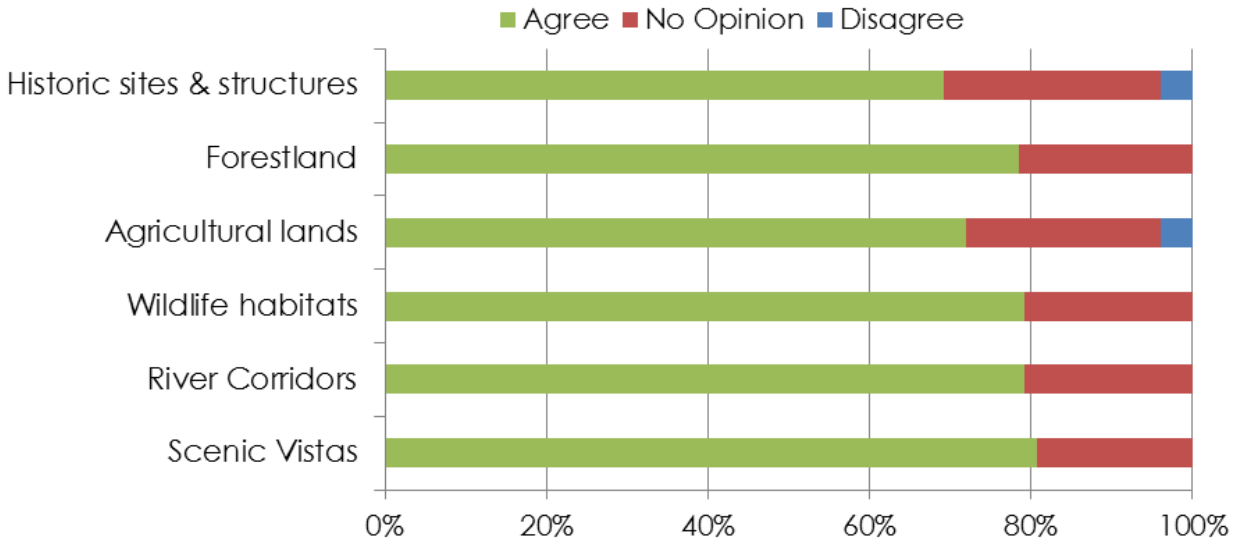


(32 responses)

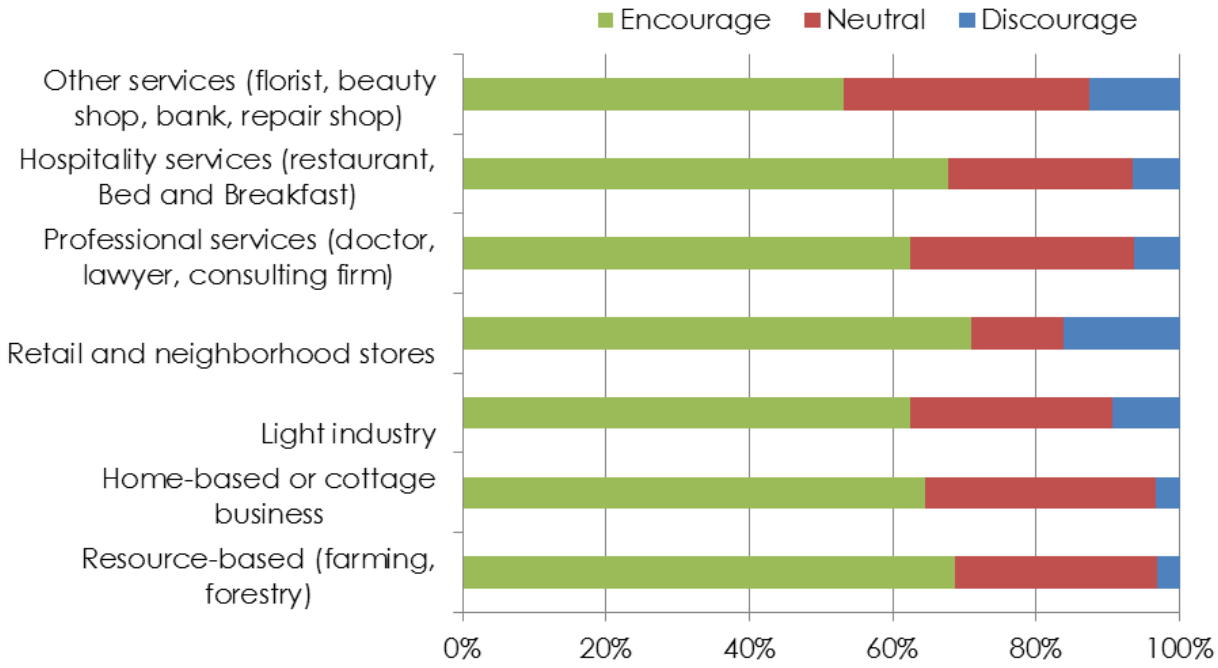
Question 10. Would you rather see East Berkshire... (32 responses)



Question 11. In making regulatory decisions concerning development, the Town should make specific efforts to protect it's... (33 responses)



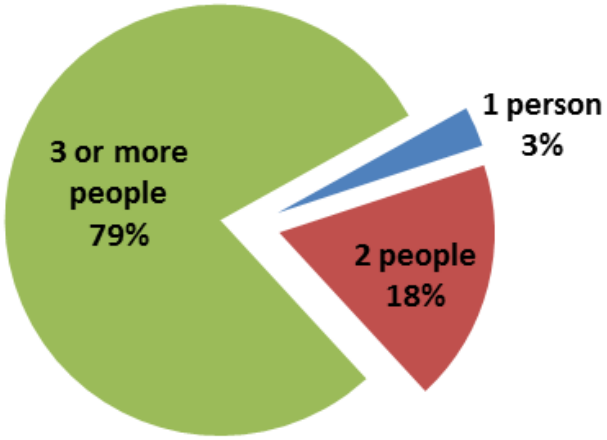
Question 12. What type of economic development would you like to see Berkshire encourage? (33 responses)



The following information provides a profile of the demographics of the survey respondents:

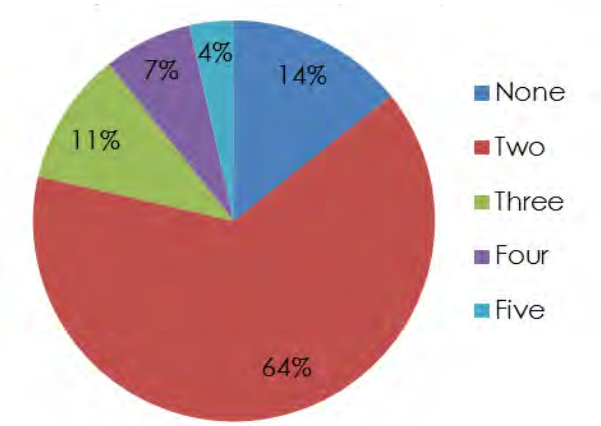
Number of years respondents' have lived in Berkshire (32 responses) [The response to this question is shown in a 'wordle' or a word cloud that gives greater prominence to words that appear more frequently]

Number of people in respondents' household (33 responses)

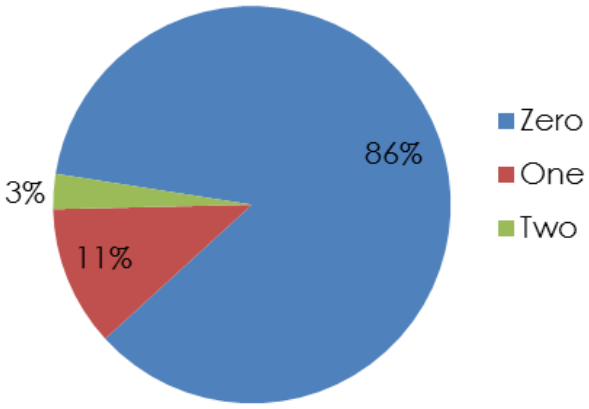


Number of respondents' household members that are….

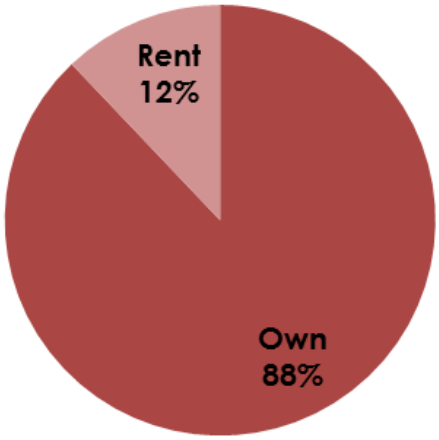
Age 18 or younger
(28 responses)



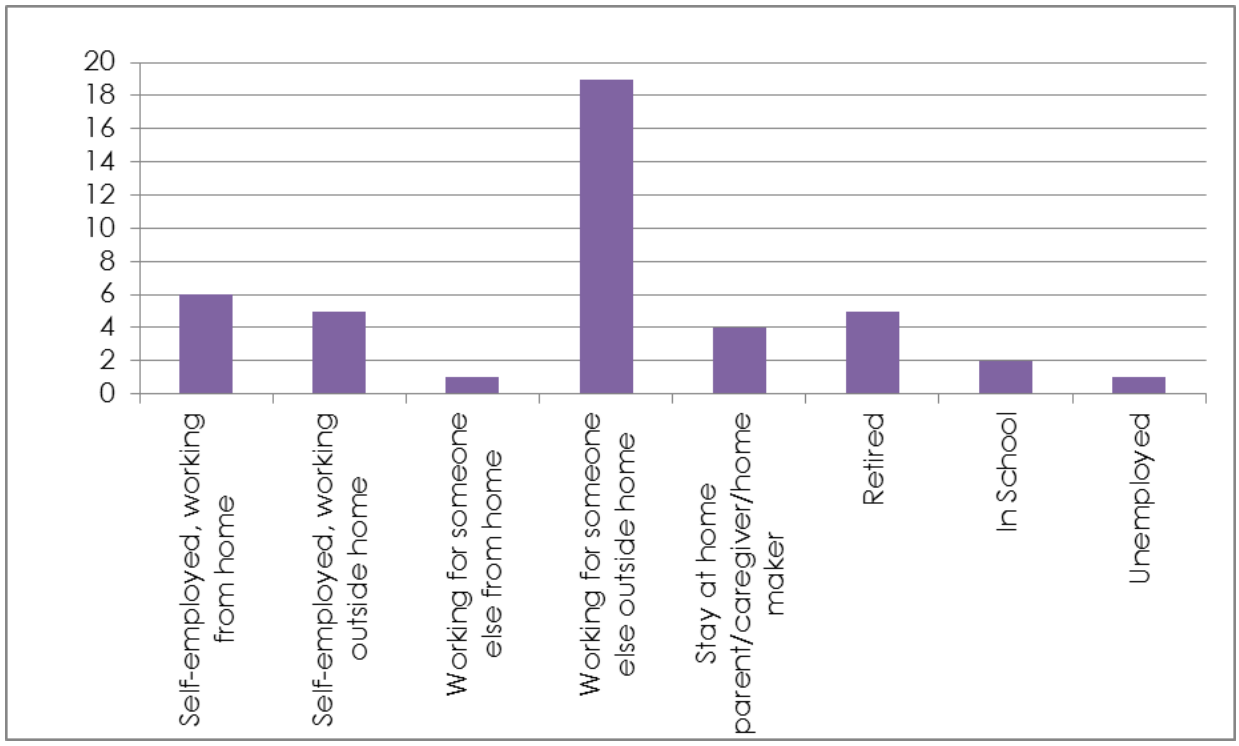
Age 65 or older
(15 responses)



Homeownership among survey respondents' (33 responses).

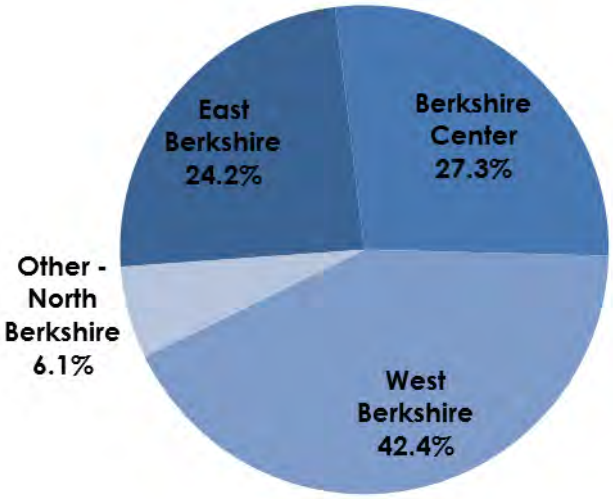


Status that best describes of at least one member of respondents' household (33 responses).



Location of employment for at least one person working outside of the respondents' home (26 responses). *When provided, other included the Town of Jay and an employer based outside of the state of Vermont.

Location in town the respondents' reside (33 responses).



Respondents were asked how they would prefer to be informed of community events and meetings. The respondents' were asked to rank their top three (32 responses).