

# *Chesterfield, New Hampshire*

## *Master Plan Update*

### *2016*



Prepared by the Chesterfield Master Plan Committee  
and Southwest Region Planning Commission



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## **INTRODUCTION**

The Chesterfield Master Plan was first completed in 1985, with updates in 1996 and 2007. This new and updated plan started in the fall of 2014 by the Chesterfield Planning Board with the assistance of a Master Planning Committee. Southwest Region Planning Commission was retained by the Planning Board to assist in this effort.

### **What is a Master Plan?**

It has been stated that one of the most vital factors for orderly community growth, whether it be a rural county, suburban town, urban city, metropolitan or regional area, is master planning. The Master Plan helps to shape the further development of the community. Faced with inevitability of growth, the town creates a plan so that when growth does occur, it happens in places most able to absorb it. This plan helps the town manage the land use and future development in a manner that is consistent with the vision of the residents.

There are certain things that must be understood about a Master Plan in order for all concerned to utilize it properly.

The Master Plan is a collection of plans, maps, studies, reports, and goals which, together, attempt to visualize the long-range growth of a community. It will consider past trends and future potentials, major problems which seek solution, and offer directions or objectives that can act as guides/tools for town leadership and residents in dealing with municipal issues.

The Master Plan must be, as its name implies, far-reaching. It must deal with all aspects of the community's growth, not just one small area. The guiding principle for the Plan's decisions should be--"What is in the best interests of the community as a whole, not just one property owner or one interest group?"

A Master Plan is not:

A legally binding document, like a regulation, although it may suggest certain regulations be adopted as a means of carrying out the Plan.

A zoning ordinance. Zoning is merely one of the tools or methods by which certain aspects of the Master Plan can be implemented (such as land use or population density).

Most of all, it is not a panacea for all municipal problems--it is only a guide or tool to be used by municipal officials.

### **Putting Together the Master Plan**

The development of the Master Plan is the process of gathering data, including input from residents, to understand where the town is today--its assets and its problems, and the anticipated development to meet the future needs. Goals and objectives are established to guide the growth and development of the built environment through thoughtful planning.

The following is a general outline of the process:

Collection and analysis of data about all aspects of Chesterfield--from soils to economics to town services.



Development of the *Chesterfield Town Master Plan Questionnaire* that was distributed to 1752 households to determine Chesterfield residents and non-residents' opinions on Chesterfield's present and future. Surveys were also made available at the Town Offices and the library.

Development of a vision and goals, objectives, and strategies for Chesterfield to attain that Vision.

This plan represents the hard work and cooperation of Chesterfield's Master Plan Committee, Town Officials, employees, and townspeople. It is recommended that Town Boards and Commissions consult this Master Plan to aid in the decision making process for all types of land use issues.

## VISION SECTION

A community survey was distributed to residents as part of this Master Plan update. The questions were similar to the survey that was completed in 2005. In doing so, a comparison could be made to help guide the development of each chapter. As seen in Appendix A, the responses were very similar in both survey years. The vision of the residents of Chesterfield for the future of the town is one which maintains the scenic vistas and rural character while meeting the future needs of the community.

Participants said the reasons that they moved into Chesterfield were predominantly the rural character, environment, low crime rate, small town atmosphere, and the scenic areas. Participants provided written responses for a question regarding things they like about Chesterfield. The responses are depicted in the word cloud below. The larger the font, the more responses it received.



Most respondents were generally satisfied with the current operations of the town and the lack of serious issues facing Chesterfield. Of the 21 potential issues listed, those that residents were most likely satisfied with included: solid waste disposal, adequate residential areas, emergency services, supply of high and middle income housing, water quality, and water quantity. In contrast, those that were of greatest concern were property taxes and inadequate internet services. The level of concern of respondents was relatively split on issues regarding education, excessive residential development, traffic, and drugs and crime.

For the purpose of this Master Plan, the questions regarding residential growth and economic development were particularly beneficial.

When asked about the population growth in Chesterfield, 63% of respondents replied that they are concerned. The loss of open space, loss of rural character, and increased taxes ranked highest among their concerns. A majority of respondents, however, do feel that the town is managing the growth well.

When asked about what types of housing respondents would like to see the town encourage, a vast majority chose single-family homes. Elderly housing and cluster developments also received favorable responses. Regarding elderly housing, 77% responded that the town should develop a strategy to support the development of private senior housing.

For questions regarding economic development, a great majority of respondents said they would support planned economic development in commercial zones and were in favor of rezoning additional land for this type of development. The types of economic growth that garnered the most support for growth included home-based businesses, bed & breakfasts, sit-down restaurants, small manufacturing firms, professional offices, child care centers, and small retail stores. The business that respondents felt should be discouraged included shopping centers/malls, large retail, fast food restaurants, and auto sales.

A majority of respondents said the land uses that should be encouraged include farms, protected land, home-based businesses, and assisted living facilities. Nearly all of the participants view open space preservation as being important to the town. Many participants also expressed an appreciation of the historic charm in Chesterfield and a majority of respondents said they would support the creation of an Historic District Commission or a Heritage Commission. The majority of participants were also in favor of the town creating/maintaining regulatory standards for natural resource protection. Those that ranked highest include noise, aquifer protection, setbacks from streams (ponds and waterbodies included), protection of special habitats and places, and outdoor lighting. All of the categories, however received significant support.

Transportation questions throughout the survey netted a variety of responses. Nearly all of the participants feel that the current road network is adequate for their personal needs. Many responded that the road conditions are an issue in Chesterfield, but feel that the highway department is doing a great job with snow plowing. The speed of travelers on NH 9 is a concern as well as several intersections along that highway.

To put it simply, it is the vision of Chesterfield residents to allow the town to continue to develop at a reasonable pace and in a manner that is consistent with the needs of the residents while maintaining the rural character, historic charm, and natural features that residents currently enjoy.

## **COMMUNITY FACILITIES AND SERVICES**

### **Introduction**

Community facilities and services are provided to meet the health, safety, and welfare of the community. The need for community facilities is determined largely by existing and future population growth, land use patterns (e.g. whether concentrated or dispersed), and the need for replacement of outdated facilities.

Since both the quality and the cost of a community's facilities are greatly affected by the town's future development policies, they are an integral part of the town's planning program.

Chesterfield has a town center located on a 22-acre hilltop site along the east side of NH 63 at the intersection with Old Chesterfield Road. In the center of town are the Town Offices, Police Station, Chesterfield Fire Station, Chesterfield School, library, Town Hall, the Friedsam Building (housing the historical society), and a town tennis court. Other adjacent community facilities include the U.S. Post Office, the Asbury Methodist Church, American Legion Post 86 and a cemetery.

### **Town Hall**

The Chesterfield Town Hall consists of a one-story stone meeting hall with a bell tower and various attached wood frame buildings. The meeting hall, which was built in 1851, houses an auditorium with a stage. The attached structures house a meeting room, rest rooms, a kitchen and the Chesterfield office of Home Health Care and Community Services, Inc. The original stone hall is an architecturally attractive, dominant building, which serves as the focal point of the Town Center. The principal deficiency of the building is the rambling, inefficient nature of the wood frame buildings that have been appended to it.

The Town Hall is actively used and the auditorium is frequently used for large public gatherings. There is a need for improving the annex, especially the kitchen. The hall windows and doors need to be made more energy efficient. Shutters are missing from the south side.

### **Town Office**

The Town Office is located in the Town Center and was newly constructed in 2008. It is approximately 10,000 square feet, which also includes a separate area for the Police Station. Offices within this facility include office space for the Town Administrator, Treasurer, Town Clerk, Tax Collector, Code Enforcement Officer, Emergency Management Director, Selectmen's Secretary, and the Planning Board. A multi-purpose room is used for meetings and other administrative purposes. This facility also serves as the Emergency Operations Center in the event of an emergency.

### **Police Department**

The Chesterfield Police Department has five full time and three part time officers, and a full time



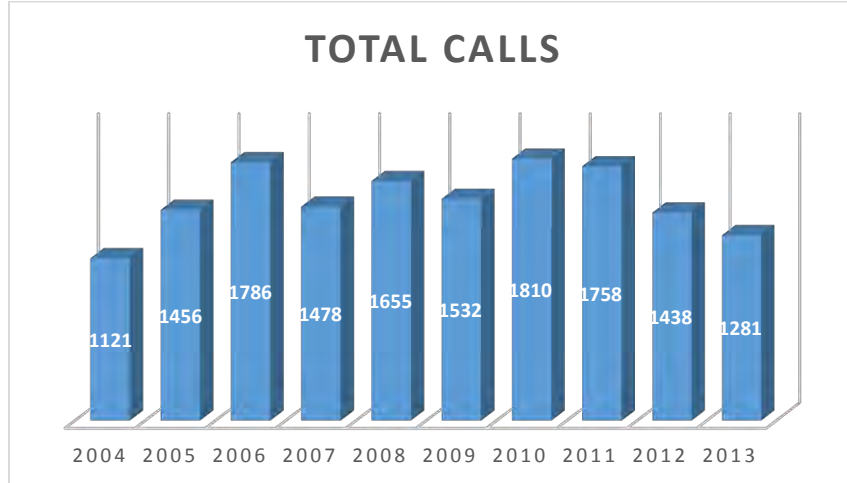
administrative assistant. The new Police Station was constructed in 2008 as part of the Town Office Complex and meets the current needs of the department.

The table below shows the Police Department activity between 2004 to 2013. The total number of calls for the Police Department in 2013 was the second lowest during the ten year period.

**Police Department Activity 2004-2013**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Assaults	11	23	10	13	11	16	13	16	12	10
Fraud	14	11	14	15	12	9	13	20	8	14
Thefts	23	54	164	51	59	71	66	46	52	44
Burglaries	18	9	10	29	31	10	10	15	9	9
Alcohol violations	52	94	15	39	5	2	26	7	14	12
DWI Arrests	26	22	21	10	11	9	10	3	5	6
Drug Offenses	28	30	6	5	5	5	5	8	5	7
Sexual Offenses	8	8	15	13	6	9	5	2	4	2
Threatening	7	4	10	4	5	7	6	6	11	12
Trespassing	3	9	6	8	10	22	9	21	11	20
Animal Complaints	65	175	176	136	233	170	259	233	247	173
Assist Other Depts.	163	149	211	180	239	180	249	246	222	146
Citizen Assists	505	632	674	719	844	768	787	773	485	650
Other	207	236	449	275	205	233	338	367	353	167
<b>Total Calls</b>	<b>1121</b>	<b>1456</b>	<b>1786</b>	<b>1478</b>	<b>1655</b>	<b>1532</b>	<b>1810</b>	<b>1758</b>	<b>1438</b>	<b>1281</b>

Source: Chesterfield Annual Report 2013



Source: Chesterfield Annual Report 2013

## Fire Departments

The Town of Chesterfield now has two fire departments, Chesterfield and Spofford. The Spofford Fire District is a sub-unit of local government and provides fire service to the residents of Spofford and back-up fire service to Chesterfield and other local departments by way of the Fire Mutual Aid System. The West Chesterfield Department was joined with the Chesterfield Department in 1992, although the West Cheshire Fire Station is still in use. There are three firehouses with several main pieces of fire-fighting

equipment in each firehouse. The departments are all volunteer with 60 to 70 firefighters in total. In the future, there may need to be at least one paid fireman as most people are employed outside of town. The Spofford Department is financed through the Spofford Fire District which is a separate precinct covering about 55% of Chesterfield's total property valuation. The Chesterfield Department is financed by the Chesterfield Fire District.

In 2008, the Spofford Fire Department moved into a new 8,200 square foot facility off of NH 9 on Pontiac Drive. The facility was built on land donated to the District by Kevin Beal and Donald Emery and funded by a bond issue. The new facility includes a 4000 square foot equipment bay with four overhead doors for trucks and equipment. There are four offices, including an office for emergency management. The station is equipped with an automatic generator and can function as a shelter for residents during emergencies. It has a large fully functioning kitchen, shower facilities, and is handicap accessible. There is also a large meeting room that is used for training and meetings which can be used by other public groups in town. The room can also be reserved by the residents of Spofford for personal use. The station is heated and cooled by a ground source geothermal heat pump system that makes it very energy efficient.



The Departments are members of the Southwestern New Hampshire Mutual Aid System responding to the calls in surrounding towns (and vice versa) as needed. Communication is through a single channel base station with each truck equipped with a mobile radio. All firefighters have pagers. Access to water continues to be a problem for the Fire Departments. Chesterfield has no fire hydrants and all water for firefighting needs to be pumped. Access to existing water sources, such as Spofford Lake, needs to be expanded, particularly along the North Shore Road. Also

recommended is burying a 5,000 gallon water tank in Chesterfield Center and construction of fire ponds in Chesterfield Heights.

From a planning perspective, both departments would like to see more emphasis on ensuring that adequate water is available at new developments and that buildings are constructed to minimize fire hazard.

### Emergency Response/Ambulance

First Response is provided by both Fire Departments with support by private ambulance services.

### Emergency Management

The purpose of the emergency management function at the local level is to coordinate the planning and preparation for potential disasters of all kinds. The planning and preparation is done within the organizational structure and guidelines of the Federal Emergency Management Agency (FEMA) and the New Hampshire Office of Homeland Security and Emergency Management (NHHSEM). Chesterfield has both an Emergency Operations Plan and a Hazard Mitigation Plan. These plans are updated every five years with funding provided by NHHSEM through grants from FEMA. Adoption and enforcement of a Floodplain Development ordinance is a requirement to ensure continued funding of these grants. The town first adopted the Floodplain Development ordinance on March 8, 1994 and replaced it with a new one on March 6, 2006 to remain in compliance with FEMA updates.

## Library

The first records of a Chesterfield library date as far back as 1832. In 1894, a free public library was established in Chesterfield with three branches, each one in a private home. The current Chesterfield Library is housed in a stone-faced and clapboard building constructed in 1997 and located at 524 NH 63. The 5000 sq. ft. building is adequate for the town's needs for the foreseeable future. The library offers a variety of services and programs for all ages, including home delivery to those who are unable to get to the library, computers for public use, WiFi connection, meeting space, book club, interlibrary loan service, public copier and fax machine, reading programs, and other activities and contests.

## Highway Department

The Highway Department is managed by the Road Agent. There are approximately 71 miles of Class V roads in Chesterfield that the town maintains. A 76' x 100' highway garage was constructed in 1992. The garage is at full capacity. However, the garage is adequate to meet the needs of the town for the next five years. Sufficient land is available for expansion at the present site if necessary.

In addition to the Road Agent, the Highway Department has five full-time operators and a full-time office assistant.

## Solid Waste

In order to minimize the amount of waste going into a landfill, Chesterfield began a substantial recycling program in 1990. The recycling facility is located at the town transfer station near the highway garage.

The town made changes to the solid waste operations and now sells the paper and cardboard that is brought to the facility. This change helps lower the budget and provides additional revenue. Chesterfield's recycle rate is 39.84 % and outpaces the state average which is 24 %. Hazardous waste is brought to the Keene Transfer Station. In 2013, a swap/book shop was added to encourage the re-use of materials that still have value.

## Water and Sewage

Chesterfield has no public water or sewage systems, and none are foreseen in the near future.

## Cemeteries

Chesterfield has 24 cemeteries. Only four of these are active: the Friedsam Cemetery on NH 63, the Robertson Burying Ground on Poocham Road, the Spofford Cemetery on High Street and the Chesterfield West Cemetery on Poor Road. The town performs most burials and maintains all of the cemeteries as well as the grounds of all town-owned properties. One cemetery sexton and three assistants maintain the cemeteries. There is no plan to purchase additional land or start a new cemetery since the existing sites will serve the town adequately for the next five years. New lots are currently being laid out in the Friedsam Cemetery.

## Education

Chesterfield is part of NH School Administrative Unit No. 29 along with Harrisville, Keene, Marlborough, Marlow, Nelson, and Westmoreland. Students in Grades K-8 attend the Chesterfield School, which is located in the town center. High school students attend Keene High School. A small number of additional special education students are enrolled in collaborative programs administered by the Keene School District or other out-of-district placements.



### **School Facilities**

Chesterfield has a long-term A.R.E.A. contractual agreement with the Keene School District to tuition Chesterfield's students to Keene High School for Grades 9 through 12. Keene High School's enrollment capacity is sufficient to meet Chesterfield's student population needs in the foreseeable future.

The existing Chesterfield School is the largest elementary school in SAU 29. It is located in Chesterfield Center and houses educational facilities for Grades K-8. This facility is located on 10.8 acres of land and has twenty-two classrooms. The enrollment for the 2014-15 school year was 291 students and the facility has a capacity of approximately 425 students. This district employs 70 professional and support staff. Two portable classrooms may need to be replaced in the future.

### **Private Schools, Colleges, Day Cares**

There are no private schools or colleges in Chesterfield. There are two privately owned, licensed pre-school facilities, located in the Chesterfield/Spofford area.

## **Community Facilities and Services Goals, Objectives and Strategies**

**Goal: Meet the needs of Chesterfield residents by providing quality services and maintaining the facilities necessary for those services.**

Objective 1: Develop opportunities and spaces that foster social capital and encourage relationship building within communities.

### Strategies:

Repurpose and enhance the utilization of existing community facilities and outdoor spaces, such as the school, library, and town hall, to provide space for and access to a variety of community services including public Wi-Fi networks, evening programs, trainings, community gardens, etc. Prepare a plan that will broaden the types of activities offered to meet the interests of all ages and abilities.

Establish new, and promote existing events that bring together multiple generations in the community (e.g. Old Home Festivals, community performances, fairs, etc.). Appoint a committee to explore a variety of event options. This should include dates, locations, associated costs and staffing needs, and methods of public outreach.

Encourage volunteerism and civic engagement with representation from a variety of sectors and generations. Determine the type of volunteer service needed such as firefighting, local boards and commissions. Initiate a public outreach campaign to generate interest by utilizing methods such as the Town website, newsletter, and public events.

Objective 2: Upgrade public facilities for maximum efficiency and capacity to fulfill community needs.

### Strategies:

Look for opportunities to provide additional fire suppressant sources (i.e. fire ponds, dry hydrants, and cisterns). Identify locations that are lacking sufficient water sources and seek opportunities to obtain the use of the land to install the appropriate source.

Determine the facility needs for the Highway Department by projecting the future operational and storage needs for maintaining Chesterfield roads.

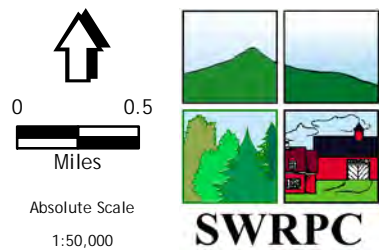
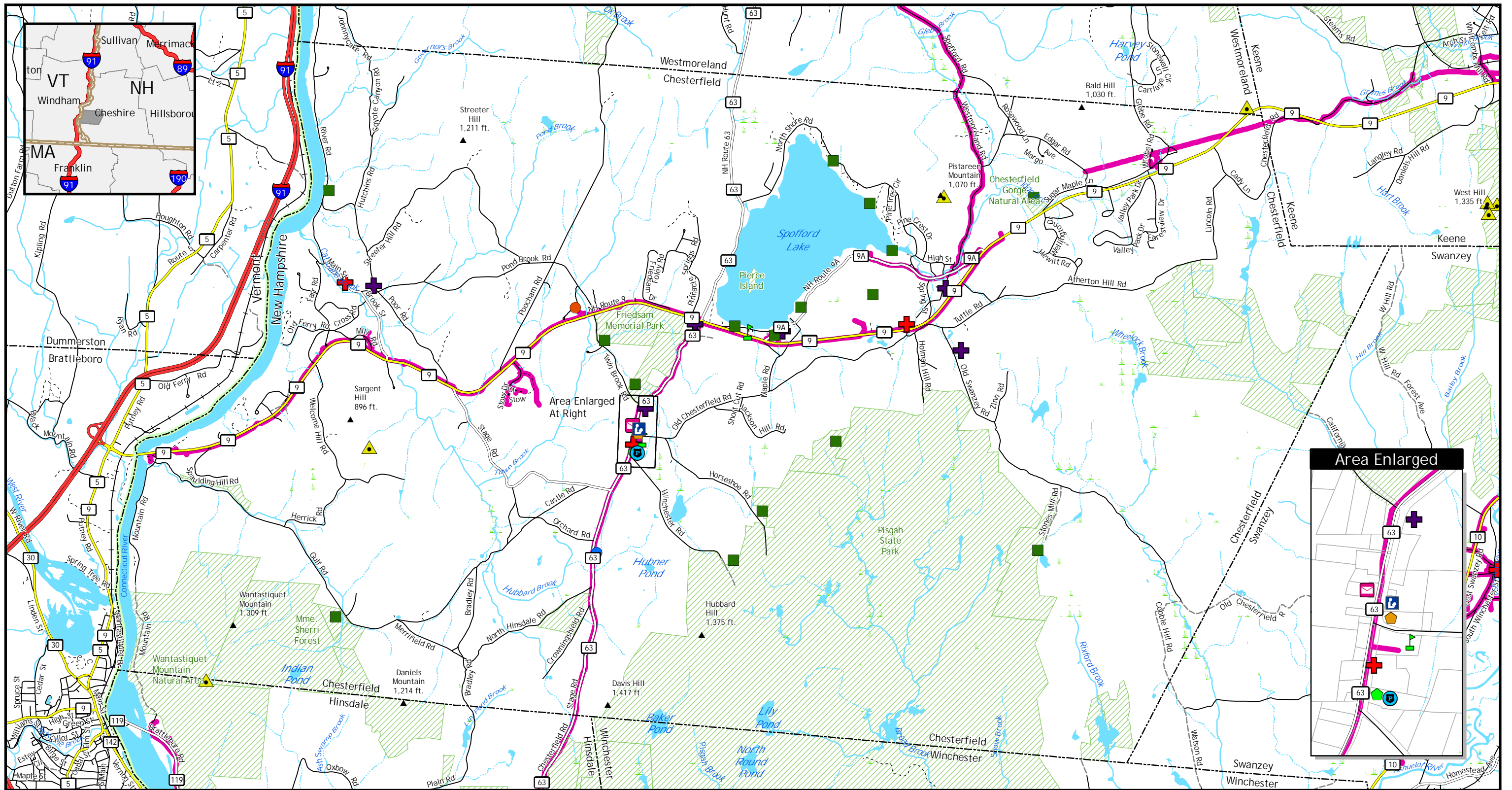


Upgrade the Town Hall to be used as a gathering place and an emergency shelter. In determining the upgrades, consideration should be given to accessibility, energy efficiency, and restoration of the historic value of the building.

Perform energy audits in publically owned buildings to improve energy efficiency. Establish a realistic schedule to perform audits in each building.

Determine the feasibility of installing solar panels or other alternative energy sources in public facilities.

Develop a cost/benefit analysis for the buildings that are capable of supporting the alternative energy source.



Critical Facilities		Highway		River or Stream	
	Church		School	by Legislative Class	
	Library		State Garage	by Type	
	Police Station		Town Garage		Intermittent Stream
	Post Office		Town Hall		Perennial Stream
	Recreation Area		Town Office		Water Body
	Fire Station		Fire Station		Swamp or Marsh
	Cell Tower		Class VI		Lake or Pond
	3-Phase Power		Private		Conservation Land

# TOWN OF CHESTERFIELD Community Facilities Map

## **HISTORIC AND RECREATIONAL RESOURCES**

### **Introduction**

The quality of life for Chesterfield residents depends in part on the availability of things to see and do. It is also important to provide locations for both active and passive activities for all ages and interests. Providing opportunities for people, both residents and visitors, to enjoy Chesterfield creates a sense of place that will be remembered throughout the generations.

This chapter includes both a Historical Resources section and a Recreational Resources section to highlight current historical sites and recreational areas, and to develop planning strategies to continue to protect them.

### **Historic Resources**

A plan for the future without a look to the past is incomplete. Historic structures and sites, which survive from earlier periods, present a visual story of a community's people, places and activity. The preservation of these resources is fundamental to the retention of a sense of place and identity in any given community. An index to the past, surviving fragments of history contribute to the character and individuality of each town, and lend a sense of continuity. Property values depend, to a certain extent, on the historic appearance and quality of a community. Historic structures and sites are but one part of our total environmental resources and like many others, are nonrenewable.

The purpose of this section is to discuss significant historic sites and resources in Chesterfield and to make recommendations for their continued preservation. Existing legislation pertaining to historic preservation and preservation tools for private citizens and at local, state and national levels are included.

This section was prepared in recognition of the fact that Chesterfield's historic resources and historic quality play an important role in the overall quality of life in the community. It does not attempt to be a complete and comprehensive inventory of all local resources, but is intended as a departure point for the future. The present state is a chapter in an ongoing story.

### **Chesterfield's History**

The first plan of Chesterfield was presented February 11, 1752, in a Charter granted by Benning Wentworth (then Governor of the Colony of New Hampshire) and his Council. Chesterfield had existed on paper as a geographical entity since 1733 when it was established as "Number One" in a grant by the Colony of Massachusetts; the grant being conditional on the King's decision concerning the border between Massachusetts and New Hampshire. No evidence that any settlement was attempted in "Number One" under the Massachusetts Charter has been discovered.

By 1752, peace between the English, and the French and Indians appeared to have reached the Connecticut River Valley; the southern border of New Hampshire had been established as it presently exists and "Number 1" was re-chartered by the Colony of New Hampshire under the name of "Chesterfield" - in all probability derived from the Earl of Chesterfield, a prominent Englishman of the time.

A chart was drawn on a sheepskin parchment dividing the town by means of ranges (numbered east to west - 16 in all) and lots (dividing each range into 17 lots of 100 acres each). Spofford's Lake is shown on the chart and was included in the grants. Thirty-one of the center lots were divided into fifty-acre house lots.

The principal grantee was Josiah Willard, who had succeeded his father as Commander of Fort Dummer. Of the 64 other grantees, some were soldiers of Fort Dummer, others were members of the Governor's Council. It appears that few ever settled here.

In 1754, hostilities between England and France renewed which seems to have prevented settlement in Chesterfield. In 1760 the grantees petitioned the Governor's Council to "lengthen out" the terms of the Charter, and a one-year extension was granted. In November 1761, Moses Smith and his son-in-law, William Thomas, and their families canoed up the Connecticut River and established the first permanent settlement. Once begun, the settlement of Chesterfield progressed rapidly. By 1767 there were 365 inhabitants, with sawmills and gristmills built and roads laid out.

Eleven years after Moses Smith arrived (1772), the first minister had been called, the Meeting House built and six school wards had been formed (schooling was provided in private homes). In addition, the three oldest public cemeteries (West Burying Ground near the River Road, the Northwest on Poocham Road, and Center Cemetery) had been established.

During the Revolutionary War, and in the years immediately following it, many families came to settle in Chesterfield. By 1786 the population numbered 1,535. Many of these newcomers were from Massachusetts, some were from neighboring towns (Westmoreland, Hinsdale, and Winchester), and a few from as far away as Rhode Island. There were among them, people of almost every occupation - physicians, teachers, traders, coopers, weavers, shoemakers, blacksmiths, carpenters, millers, and lawyers. All were, of necessity, farmers to some extent. In short, Chesterfield was becoming self-sufficient. More sawmills and gristmills were built. Blacksmith shops, mills, stores, and taverns came into existence.

Chesterfield's population in 1800 was 2,161, the greatest until recent times (1985 population was 2629). Chesterfield was more populous than nearby Keene. Settlement had occurred in all parts of town, including New Boston (the Gulf Road area) and Hardscrabble (the southeast corner of town). The first mills were built on Partridge Brook in what was to become Chesterfield Factory (Spofford Village). Eventually thirteen mill sites would be developed in this area. The Catsbane, Broad, and Leavitt's Brooks all had a number of manufacturing operations on them. Two ferries provided transportation across the Connecticut River.

A decline in population began in the early 1800s as families moved to the more arable land in the newly opened West and to towns with greater waterpower. However, Chesterfield continued to progress even without growth in its population. Post offices were opened, churches and schools built, and a poor farm was operated. A fire-fighting company was formed in Chesterfield Factory. The present stone Town Hall was built to replace the wood frame one that had been burned. Industry was a main element in the town's economy. Among the products made in Chesterfield were cotton and woolen cloth, leather, spinning wheel heads, cider and cider brandy, gunpowder, doors, window sashes, and blinds. Also produced here were bits, augers and boring tools, pail staves, buckets, clothespins, and brush handles.

By 1860 the population had declined to 1,434. The Poor Farm, established in 1837, was sold. An early printed Town



Report (1866) reveals that there were 15 school districts. The 1880s began the growth of Spofford Lake as a recreational area. The first "summer" cottages were built on its shores. Steam boats plied the lake, boat houses, summer camps, and hotels were built. With the building of Pine Grove Springs Hotel in the 1890s, the lake became a popular resort area, drawing many out-of-state visitors and, eventually, some permanent residents.

Population in 1900 had declined to 981. The Chesterfield Free Library had been established, a suspension bridge had been built spanning the Connecticut River (1889), and only seven schools were in operation in town. Manufacturing had shown a marked decline. The name of Chesterfield Factory had been changed to Spofford. The Spofford Fire Company was formed in 1903. Farming had also declined. Photographs taken in the early 1900's show Chesterfield still as open and devoid of trees as did those taken in 1880. By 1927 school was kept in only three districts corresponding to the three villages - No. 1 (West Chesterfield), No. 5 (Center), and No. 13 (Spofford). Saw mills, limited manufacturing, tourism, and home occupations were the chief industries left in town. Hardscrabble and New Boston had been virtually abandoned.

By 1930 the automobile, electricity, and macadam roads had become common in town. Fire departments were established in West Chesterfield and in Center Chesterfield. Natural disasters greatly affected the town in the late 1930s. The Flood of 1936 destroyed the Suspension Bridge, which spanned the Connecticut River. A temporary bridge was destroyed in the flood of 1937. The present Arch Bridge was completed in 1938. The Hurricane of 1938 devastated the town. Considerable local employment was provided by the portable sawmill that was set up at the yarding area in Center Chesterfield to cut up the great number of pines that had been downed. In 1939 the present library was built with the children's wing added the next year. The population in 1940 was 842. Big Bands were playing at the Wares Grove Dance Pavilion. In 1941 construction began on NH 9 by-passing Center Chesterfield. After WWII, Spofford Village had a shirt factory, which employed a large number of women.

Population growth had begun again by 1950. Of the 970 people in Chesterfield, most found employment outside of town. Chesterfield School was built in 1951, consolidating the three district schools. Additions were made to the school in 1955 and 1962. Chesterfield joined the New Hampshire Supervisory Union #29 in 1967. All of the high school students were sent to Keene High School. Roller-skating was popular at Wares Grove until a snowstorm collapsed the rink roof. Two cemeteries were opened in 1965 – the Friedsam Cemetery and the Spofford Annex. The state was beginning to purchase land in the southern part of town for a park. Limited dairy farming, maple sugar production, and the raising of livestock were still carried out in town. Aerial photographs show Chesterfield to be heavily reforested by the 1960s.

The decades of the 1970's and 80's, saw much growth in Chesterfield. The population had increased to 2,561 by 1980. To handle this growth, the first zoning regulations were accepted in 1974. In 1972, Pisgah State Park was officially established. Wares Grove Beach was purchased by the town in 1973. The Morris Friedsam Town Forest was designated in Center Village. The Chesterfield Historical Society was incorporated in 1975. The Planning and Zoning Boards were established, as were the Conservation, Cemetery and Parks and Recreation Commissions. In 1981, the Spaulding and Clark/Ogden properties were purchased by the town to provide land for expansion of the Town Center. The Town Office was moved to the Clark property in 1982. The police station was moved to the renovated Clark garage in 1984. The town received its first computer also in 1984. A third addition to the school was made in 1987. Two years later, half-day kindergarten classes were added. In 1989, the Chesterfield Office Park on NH 9 in West Chesterfield was established.

By 1990, the population was 3,099. More summer cottages were being converted to year-round living. Land was set aside off the Gulf Road for the Madame Sherri Forest. The decade was one of replacing or expanding outgrown town facilities. A new Public Works Garage was built in 1990. The Chesterfield and West Chesterfield Fire Companies merged into the Chesterfield Fire Service in 1992. In 1994, a new



Chesterfield Fire Station was built on part of the Clark land. The fourth addition to the school was made in 1995. Four classrooms were built with volunteer help and many donated supplies. A new slate roof and an access ramp were added to the Town Hall in 1997. A new Chesterfield Library was completed that same year on the Spaulding property. Two years later, the Chesterfield Historical Society moved into the old library that was renamed the Friedensam Building.

The new millennium found Chesterfield with a population of 3,542. A redesigned transfer station was completed in 2004, after the old one was lost to arson. In 2005, a new arch bridge was constructed by the States of New Hampshire and Vermont over the Connecticut River and dedicated to the Navy Seabees. The James O'Neill, Sr. Forest was dedicated in 2005. The year also saw the demolition of the historic Hopkins-Pierce Mill in Spofford Village which was the last 19<sup>th</sup> century mill in town. It was torn down to clean up late 20<sup>th</sup> century industrial pollution.

Many changes occurred in 2008. A new Town Office and Police Station complex was built in Center Village next to the fire station in 2008 and a new fire station was built for the Spofford Fire Department on donated land off NH 9 in the village. The Pioneer Baptist Church (now the Tri-State Baptist Church) purchased the Our Lady of the Lake Chapel, which had been closed in 2006. The Governor named the 1937 arch bridge the Justice Harlan Fiske Memorial Bridge.

In 2010, the population was 3,891. The town celebrated 200 years of settlement with a parade and festivities in 2011. Also in that year, town meeting voted to fund a study of renovations to the town hall annex. The plans for the designs of the alternatives suggested by the study committee, was put out to bid in 2015.

Little visual evidence remains to remind us of the agricultural and industrial past that belongs to Chesterfield. Stone walls and cellar holes in the woods and fields that surround the three villages, stone foundations, and breached dams on the brooks, have become, to us, only a small part of what we call the "rural beauty" of the town.

## **Preservation Activities to Date**

The Town of Chesterfield has no Historic District or Historic Commission. However, a very active private group, the Chesterfield Historical Society, has been in existence since 1975.

It has had several accomplishments including republishing the town history, completing an extensive inventory of town cemeteries, and establishing an historic archive and museum of photographs and artifacts.

## **Local Regulations**

The town's regulations pertaining to historic resources are minimal. Although NH RSA 673:4 and 674:45 allow for towns to establish Historic Districts, Historic District Regulations, and Historic District Commissions, Chesterfield has not yet adopted these. There also is no specific reference to historic sites or buildings in the town's zoning ordinance. However, Section 205.3 does require new structures to be "compatible with the residential architecture of the Village District" in order for a special exception to be granted for a commercial use, however, no standards for this requirement are provided. The Planning Board's subdivision regulations do address historic resources by requiring additional setbacks of developments from historic places, buildings, or family cemeteries when appropriate (Section 606:4) but do not have requirements to preserve historical, architectural, or archaeological sites within a subdivision or building site. Preservation or sensitive treatment of buildings or sites is done only through landowner interests.

Often, building codes, with their appropriate concern for safety, have the effect of forcing the destruction of historical features of a building. The NH Division of Historic Resources can be a source for guidance in the application of building regulations to historic buildings as well as local uses of the U.S. Department of Interior's Historic Preservation Standards.

Many historic properties are unable to be used as they were originally, either because of technical or economic factors. The manner in which a site or structure is re-used today will also have a different effect on the immediate neighborhood than it did 50 or 100 years ago. This adaptive re-use of structures in appropriate ways may require innovative zoning and site plan review to permit economically viable uses compatible with other public goals. If the rate of development becomes a concern to residents, options are available in the Goals, Objectives and Strategies section at the end of this chapter.

In the 2015 Community Survey, 62 percent of respondents said that they would support the establishment of a Historic District Commission or a Heritage Commission.

## **National Register of Historic Places**

The National Register of Historic Places is the official list of the Nation's cultural resources worthy of preservation. Established by the National Historic Preservation Act of 1966 and administered by the National Park Service within the Department of the Interior, The Register lists properties of local, state and/or national significance in the areas of American history, architecture, archeology, engineering, and culture. Resources may be nominated individually or in groups as districts, as a multiple resource area by category as a thematic group.

In New Hampshire, any individual may prepare a nomination application. National Register forms, maps, and photographs are submitted to the NH State Historic Preservation Office for review by the State Review Board. Following approval at the State level, it is sent to Washington, D.C., for final review, approval, and listing. At present, the only building in town on the National Register is the Asbury United Methodist Church in Center Chesterfield, however, Citizen's Hall in West Chesterfield is on the State of New Hampshire list of historic buildings. A part of Spofford Village has been deemed eligible for the National Register, but has not yet been nominated.

## **Recreation**

Recreation is an essential part of our lives. With abundant mountains, streams and open spaces, Chesterfield offers a wide variety of recreational opportunities which include activities for every age group.

Planning and implementing recreation facilities and programs can be one of the most rewarding activities a community can involve itself in. It also can be a source of pride for the community, something to point to when a business is considering a move into town, or a family is looking to relocate.

It is, therefore, an important component of any Master Plan. The 1980's saw a dramatic shift in recreation and leisure activities due to more available time and an increased health awareness. The 1990's followed in the same pattern with even more use of our local recreational resources, especially Spofford Lake and the forests.

## **Public & Private Recreation Facilities in Chesterfield**

### Paths and Trails

Hiking trails are located throughout the town and also on state land. The largest trail system is for snowmobiles with miles of trails, including a state-numbered trail that connects with a statewide trail system. A portion of the trail system is located on state land, but most is operated over private lands. The local snowmobile association maintains the trails and works with private landowners to gain access.

Another winter passion, cross-country skiing can be found in abundance throughout Chesterfield including Pisgah State Forest and unmaintained town roads.

**Pisgah State Park** - Established in 1972, Pisgah State Park is the largest state park in New Hampshire, occupying over 13,500 acres located in Chesterfield, Hinsdale and Winchester. Approximately 4,250 acres are in Chesterfield. The park includes forested terrain, 7 ponds, 4 highland ridges and numerous wetlands. Unlike most parks, Pisgah is not highly developed or utilized. The park has only small primitive parking areas and a variety of hiking, biking, and ATV trails. Two parking areas are located in Chesterfield off Horseshoe Road and Old Swanzey Road. A self-guided wildlife habitat trail starts at the Horseshoe Road parking lot. The main access point for the park is in Winchester. New State policies have opened up a portion of the park to timber harvesting. Some trails have been impacted by this operation.

**Wantastiquet Mountain State Forest** - The Wantastiquet Mountain State Forest is a 900-acre forest that spans the town lines of Chesterfield and Hinsdale. Approximately 520 acres are located in the southwest corner of Chesterfield along the Connecticut River. The predominant feature of the Wantastiquet Mountain State Forest is Wantastiquet Mountain which is 1,335 feet in height. The Wantastiquet Mountain Trail is a 2 mile trail that includes a series of switchbacks to the summit of Wantastiquet Mountain (1,368').<sup>1</sup>

**Chesterfield Gorge State Park** - Located off NH 9, the 16-acre park contains an unusual rock gorge with nine waterfalls. The gorge is circled by a hiking trail that is .7 miles long. Wilde Brook is a stream that runs through the park. It originated from glacial melt water approximately 12,000 years ago which is believed to be the cause of the fault that created the gorge. The brook flows into Partridge Brook and eventually into the Connecticut River.<sup>2</sup>

**Madame Sherri Forest** - The Madame Sherri Forest is a 513 acre forest on the eastern slope of Wantastiquet Mountain. Trails on the Madame Sherri forest are linked to the larger Wantastiquet – Monadnock Greenway Trail, which stretches from the Connecticut River east to Mount Monadnock. The Anne Stokes Loop Trail leads to scenic Indian Pond, and is a two mile hike of moderate difficulty. The foundation, chimneys, and grand stone staircase of the former Madame Sherri “castle” are approximately 100 feet from the parking lot. The Chesterfield Conservation Commission maintains all of the trails on this property.

**James O’Neil, Sr. Town Forest** - The James O’Neil, Sr. Forest, dedicated in 2005, is an 80-acre woodland on Gulf Road. This parcel is also part of the Wantastiquet-Monadnock Greenway Project. There are no designated trails on this parcel, however, there is an old logging road that joins a trail in the Madame Sherri Forest.

**Friedsam Town Forest** - The Friedsam Town Forest in Center Village is a 220 acre forest featuring old stone walls, streams, and rock formations. There are four trails and three parking lots.

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<sup>1</sup> Chesterfield Conservation Commission

<sup>2</sup> State of New Hampshire Parks and Recreation



## Water Recreation

**Spofford Lake-** Spofford Lake is a 732 acre waterbody that offers abundant recreational activities such as sailing, water skiing, fishing, snorkeling, canoeing, kayaking, and much more.

**Beaches-** Two beaches are owned and operated by the town, one at each end of Spofford Lake. Ware's Grove, dedicated in 1973, is located at the southern end and is the larger of the two occupying nearly six acres. Facilities include a one acre beach area, picnic tables, barbecue pits, play area, bathhouse, snack bar, and parking for approximately 140 cars. The North Shore Town Beach is a one acre site with about one-half dedicated to the beach and small picnic area and one-half for a 40 car parking lot. A bathhouse and snack bar are also available.

**Boat Launch-** The Spofford Lake boat ramp is located to the west of Camp Spofford at the south end of the lake. It has a concrete ramp and parking area for 12 cars and trailers. Volunteers from the Spofford Lake Association inspect incoming boats for invasive species.

**Pierce Island State Park** – Pierce Island is a five acre island located on Spofford Lake. The park is a densely wooded, undeveloped island that is approximately .25 miles from the state boat ramp. Boaters enjoy the island for picnicking.

**Connecticut River-** A boat launch on the Connecticut River is located about midway along Chesterfield's frontage. It is owned by the State and maintained by the town.

## Other Recreational Opportunities

**Recreational complex-** A variety of opportunities for active recreation is located in Chesterfield Center which includes a gymnasium in the Elementary School, a tennis court, playground and athletic field used for baseball, softball, and soccer.

**Pine Grove Springs Golf Course** is a 9-hole course located at the southern end of Spofford Lake and is open to the public.

**Roads End Farm** is a 360-acre riding camp and cross-country ski center. With over 20 miles of trails and 50 horses, it offers summer camping to about 75 persons. The trails are also used for cross-country skiing in the winter. The farm is the host to other activities including retreats and functions.

**Camp Spofford**, a year-round Christian overnight and day camp, with the focus on summer camping for children and families and a wide variety of activities including swimming, tennis, boating, canoeing, baseball, archery, etc. It employs several year-round staff and approximately 90 summer staff.

The following table provides an inventory of recreational facilities and areas within Chesterfield covering a variety of activities and opportunities for the public.

### RECREATION FACILITIES/AREAS

Facility	Chesterfield Has
Baseball Diamond	2
Basketball/Hard Courts	2
Boat/Fishing Access	2
Football Field	0
Golf Courses	1
Gymnasiums	1
Ice Hockey Rinks	0
Ice Skating Area	0
Open Space/Natural Areas (acres)	5000+
Picnic Tables	54
Parks, Community (acres)	30+
Playgrounds	2
Shooting Ranges	0
Skiing (x-country areas)	1
Skiing (downhill areas)	0
Soccer Fields	1
Swimming (beaches)	2
Swimming (outdoor pools)	0
Tennis Courts	1
Track	0
Trails, Snowmobile (miles)	20

### Recreational Needs- Survey Responses

In the community survey done by the Chesterfield Master Plan Committee in 2015, a majority of survey respondents (70%) felt that the town is providing good recreational facilities and trails. However, written comments indicate that some residents would like to see expanded recreational activities for both youth and adults, as well as more play areas and pocket parks similar to Friedsam Town Forest and Chesterfield Gorge.

### Recreation Facilities and Activities

Chesterfield residents expressed a variety of recreational pleasures, both active and passive. Enjoyment of the beaches and associated water activities garnered a relatively similar number of responses as the forest related activities.

The next table shows the top 5 responses regarding recreational activity in the 2015 Community Survey.

RECREATION FACILITIES AND ACTIVITIES Top 5 Activities Enjoyed by Town Residents	
Activity	% of Respondents
Hiking/Running	61%
Town Beaches	60%
Swimming	59%
Bird Watching	50%
Canoe/Kayaking	47%

## Historic and Recreational Resources Goals, Objectives and Strategies

**Goal: Protection of our historic and recreational resources for current enjoyment and preservation for future generations.**

Objective 1: Encourage the preservation of historic structures that make up the cultural fabric of Chesterfield's past through outreach and education.

### Strategies:

Conduct a survey of historic and cultural resources such as older buildings, barns, stone walls, historic sites, etc. to be used to inform and guide preservation efforts. A historic resource survey involves collecting and recording information about existing historic buildings and sites in the community, and are considered a first step in documenting historic resources for planning purposes. This type of survey is needed to list a site(s) on the State or National Registers of Historic Places. Surveys typically include detailed descriptions of the resource, photographs, and field notes on age, setting and geographical location.

Identify funding mechanisms to support historic and cultural preservation efforts.

Consider the adoption of an historic district to protect historic character in a specific area or areas.

Consider the adoption of a neighborhood heritage district, which incorporates more flexible, less stringent standards than an historic district. This would include the establishment of a Neighborhood Heritage Committee to review applications within the district on meeting the standards for criteria established in the ordinance. The committee is advisory to the Planning Board and has no regulatory authority.

Consider the adoption of a demolition review ordinance to help prevent the loss of historically and architecturally significant structures. This ordinance would be an amendment to the building code and would not prevent demolition, but instead provides for a delay period to allow additional time for a community to evaluate the significance of the building, meet with the owner to discuss options, hold a public hearing, document the structure, and explore alternatives.

Review and consider revising local land use regulations and building codes to address potential barriers to the energy efficient rehabilitation of historic structures and the addition of alternative energy sources.

6. Encourage new development to be compatible with existing cultural and historic features.

Objective 2: Encourage the continuation of Chesterfield's recreational opportunities and seek to expand as the demand for additional recreation needs and options evolve.

Strategies:

Inventory and evaluate the locations and adequacy of available public use and access to outdoor recreation resources. This includes resources such as number of ball fields, access to trails, parking, etc.

Inventory the condition and supply of recreational equipment and indoor facilities.

Evaluate the adequacy of current activities and programs. Seek to provide opportunities that include all ages and abilities in healthy activities.

Explore opportunities for additional recreational access to the Connecticut River.

# POPULATION AND HOUSING

## Introduction

The examination of population and housing statistics is a critical element of a master plan. By understanding Chesterfield's past growth and expected future growth it is possible to estimate the level of town services necessary to serve the population and to guide change in an orderly manner.

An analysis of population and housing statistics also enables the Planning Board to determine whether amendments to the zoning ordinance might be required to address any inequities made apparent through the analysis. Following two important NH Supreme Court cases,<sup>3</sup> the concept of equal opportunity housing is now firmly established in the master plan process. In short, every town must, through its Master Plan, address the current and future housing needs of all its residents—and in doing so, must consider the housing situation in its neighboring towns as well.

Two accompanying maps, **Parcels Shaded by Size** and **Household Density**, reflect where the concentrations of housing and population are in Chesterfield. The Household Density Map shows concentrations of low and high population density by block group from the 2000 Census. The Parcels Shaded by Size Map shows the different parcel sizes as calculated from 2015 parcel boundaries.

## Population Trends

### Population Change

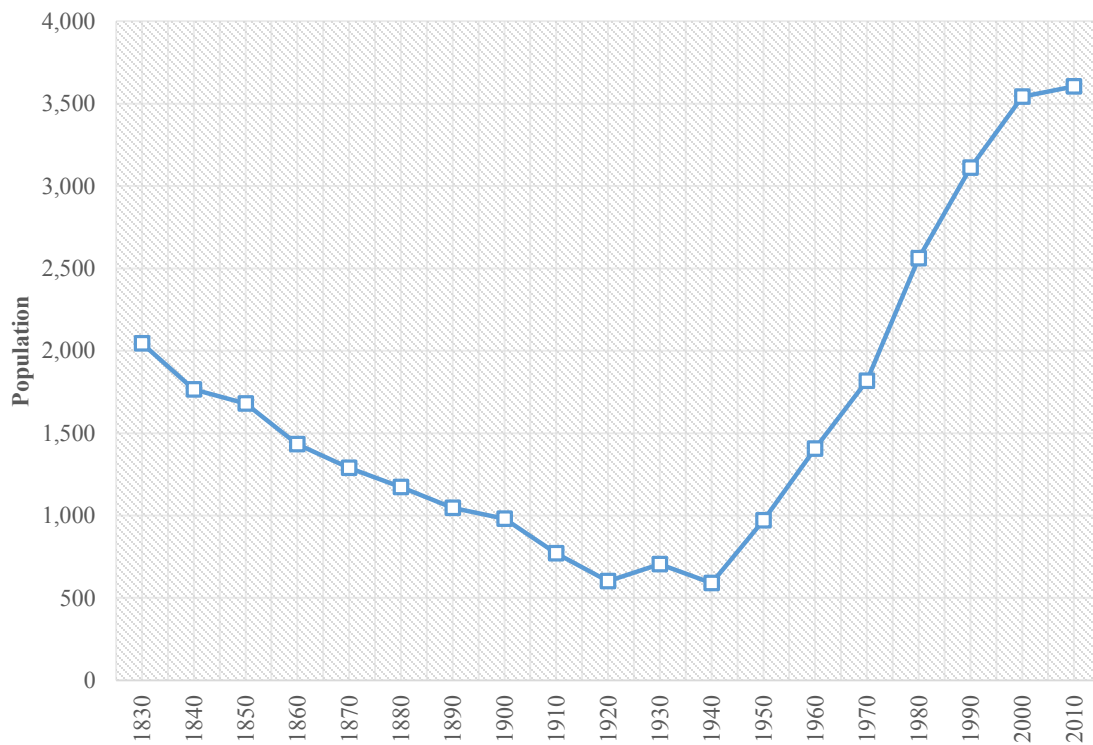
The table below shows population in Chesterfield for 1980, 1990, 2000 and 2010 according to the US Census. There was a 38% increase in population from 1980 to 2000. The change was significantly less the period between 2000 to 2010 with only a 1.8% population increase.

POPULATION 1980 - 2010		
YEAR	POPULATION	% CHANGE
1980	2,561	--
1990	3,112	21.5%
2000	3,542	13.8%
2010	3,604	1.8%

Source: U.S. Census

The following graph shows population change 1830 to 2010. The decade of the 1980s saw the greatest increase in population within this time period. From 1850 through 1970 Chesterfield's population was punctuated by periods of growth and decline. Population declined until 1940 and has increased ever since.

<sup>3</sup> *Soares v. Atkinson*, 128 NH (1986) and *Britton v. Town of Chester*, 134 NH (1991). In both cases, the court held that the local zoning ordinance did not provide reasonable housing opportunity for low and moderate-income residents.

**POPULATION 1830 – 2010**

Source: US Census

**Natural Increase**

Population change is affected by two factors: natural increase due to an excess of births over deaths in any given time period; and migration, the movement of people into or out of the community.

<b>Actual Population, 2000</b>	<b>3,542</b>
Natural Increase, 2000-2010 (Births minus deaths)	<b>126</b>
Population in 2010 (with no in-migration)	<b>3,668</b>
Actual Population, 2010	<b>3,604</b>
Actual decrease (due to out-migration)	<b>-64</b>

Source: NH Dept. of State, Div. of Vital Records

Year	Births	Deaths	Natural Increase
2000	35	31	4
2001	41	26	15
2002	38	20	18
2003	23	17	6
2004	30	22	8
2005	29	17	12
2006	29	18	11
2007	33	15	18
2008	27	27	0
2009	42	16	26
2010	30	22	8
<b>Total</b>	<b>357</b>	<b>231</b>	<b>126</b>

Source: NH Dept. of State, Div. of Vital Records

### Population and Age Group

The following graph shows the ages among Chesterfield's residents according to the 2010 census. The majority of Chesterfield's residents were 45 years of age and older (1,875 persons or 52%); the most populous group was the 45 to 64-age group accounting for 36% of the population. Children under five years of age accounted for only 4.3% of the population.

The proportion of the Region's population that is 65 and older is growing more rapidly than any other age group. It is estimated that this segment of the population will increase from 15% to 26% between 2010 and 2040. Housing options for this age group should be addressed when considering new development proposals.

This is a trend occurring throughout New Hampshire and the New England Region. Between 2010 and 2015, the state's senior population is expected to grow by 81% from 178,000 to 323,000 people. According to the 2010 Decennial Census, every municipality in the Region, with the exception of Keene, is older today than it was at the turn of the century. In 2010, the median age in 54% of communities increased by 5 years or more from the previous decade. The median age in Chesterfield in 2000 was 40 years. By 2010, the median age had increased to 46 years.

#### **Population by Age Group- 2000-2010**

<b>Population by Age Group- 2000</b>		
<b>Years</b>	<b>Number of People</b>	<b>% of Population</b>
Under 5 years	177	5.0
5 to 9 years	261	7.4
10 to 14 years	305	8.6
15 to 19 years	251	7.1
20 to 24 years	98	2.8
25 to 34 years	370	10.4
35 to 44 years	617	17.4
45 to 54 years	654	18.5
55 to 64 years	422	11.9
65 to 74 years	242	6.8
75 to 84 years	104	2.9
85 years and over	41	1.2
<b>Median age (years)</b>	<b>40</b>	

Source: US Census

<b>Population by Age Group- 2010</b>		
<b>Years</b>	<b>Number of People</b>	<b>% of Population</b>
Under 5 years	154	4.3
5 to 9 years	193	5.4
10 to 14 years	227	6.3
15 to 19 years	221	6.1
20 to 24 years	155	4.3
25 to 34 years	307	8.6
35 to 44 years	490	13.6
45 to 54 years	664	18.4
55 to 64 years	641	17.8
65 to 74 years	360	10
75 to 84 years	157	4.3
85 years and over	35	1
<b>Median age (years)</b>	<b>46</b>	

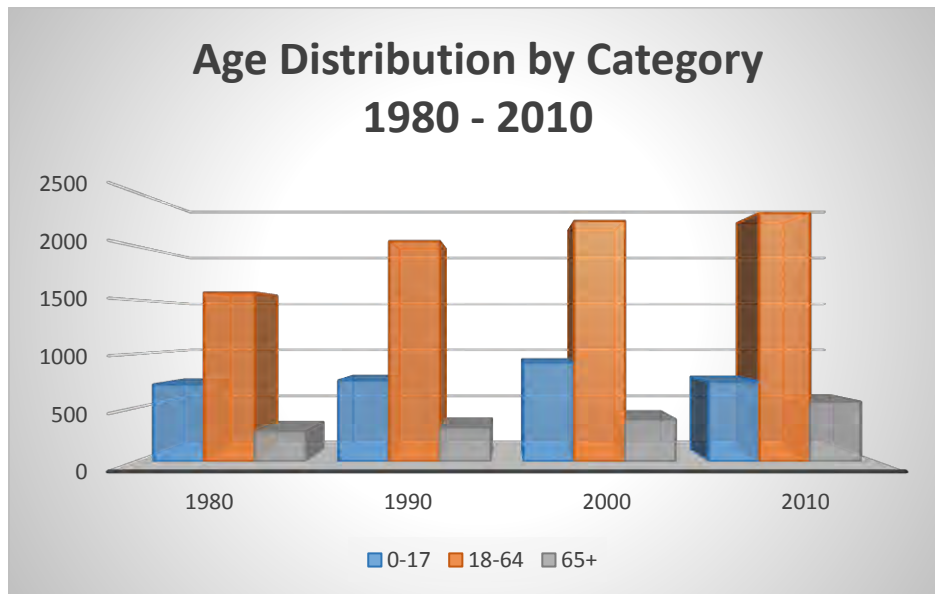
Source: US Census

Another way of looking at age distribution is by categories using school age, working age, and seniors. By looking at the trends in age using these categories, planning for the needed services of the residents can be done. This type of population analysis is not meant to show an equal distribution since the age categories are not divided up into equal years. It is however, very useful for planning for public improvements and services such as schools and senior services. As shown in the table below, the trend in the school age population has not been steady, however the trend in the senior population has had a steady increase in each decade. The change between 2000 and 2010 shows that there was a decline of 177 children. During the same time period, there was an increase of 165 people in the 65 years and older category. The 18 to 64 year old category saw a change of only 74 people.

**Age by Category 1980-2010**

Age	1980	1990	2000	2010	Change between 2000-2010
0-17	713	751	919	742	-177
18-64	1,570	2,048	2,236	2,310	74
65+	278	313	387	552	165

Source: US Census



Source: US Census



## Population Mobility

Chesterfield experienced relatively dramatic growth from 1940 to about 2000. However, even if no growth occurred overall, Census Bureau questions related to previous place of residence provide information about the origins of new residents. According to 1990 figures, for example, it is apparent that more residents moved to another home within the town or moved to Chesterfield from other towns within Cheshire County, than moving from other states. In the most recent Census Bureau American Community Survey (2010-2014, 5-Year Estimates), the question was changed slightly. Instead of asking an interviewee where they lived 5 years ago, they now ask where they lived 1 year ago. The overall trend indicates a decline in residents from another state to Chesterfield, however, there is a slight increase in people moving from within the state.

**Chesterfield: Place of Residence 1990 and 2000**

PLACE OF RESIDENCE	1990	% OF TOTAL	PLACE OF RESIDENCE	2000	% OF TOTAL
Same House in 1985	1,424	46%	Same House in 1995	2,168	64%
Different House, Same County	837	27%	Different House, Same County	581	17%
Different County, NH	95	3%	Different County, NH	91	3%
Different State	482	15%	Different State	492	16%
Different Country	21	1%	Different Country	40	1%

Source: US Census Bureau Decennial Census--Figures are rounded

**Place of Residence 2010 to 2014**

PLACE OF RESIDENCE	2009-2013	% OF TOTAL
Same House One Year Ago	2,987	91%
Different House, Same County	0	0%
Different County, NH	141	4%
Different State	141	4%
Different Country	0	0%

Source: US Census American Community Survey 5-Year Estimates (2010-2014)  
Figures are rounded

## Neighboring Population Comparisons

An analysis of population is not complete without a comparison of Chesterfield's population with that of its immediate neighbors – Westmoreland, Keene, Swanzey, Winchester, Hinsdale, and Brattleboro, VT. The table below presents this information for 1980, 1990, 2000 and 2010.

This table shows that all seven towns in this subregion had more growth in the 1980s than they did in the two decades that followed. This is consistent with the growth experienced by Cheshire County as well as the State of New Hampshire. Chesterfield experienced the largest growth in both the 1980s and 1990s (21.5% and 13.8%). However, this growth spurt changed during the last decade as Chesterfield experienced a significantly lower increase in population and was the second lowest increase percentage among the surrounding towns. The Town of Hinsdale experienced a decrease in population during the same period.

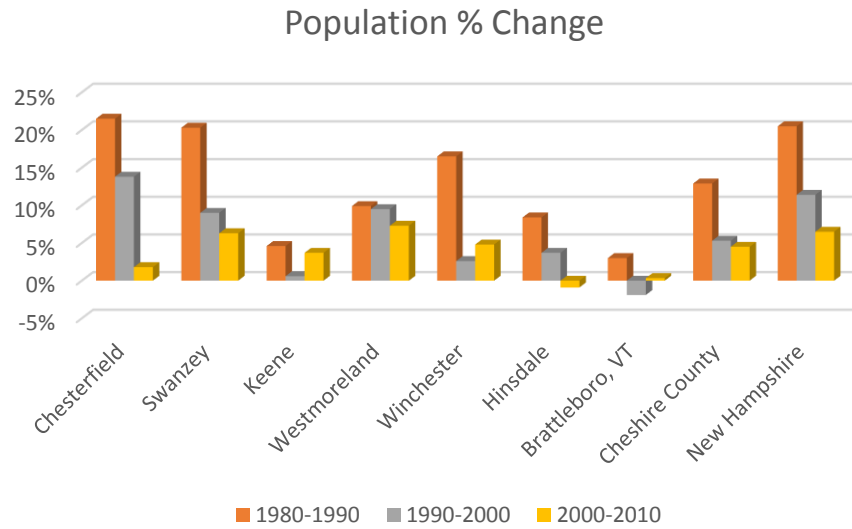
**NEIGHBORING POPULATION COMPARISONS, 1980 – 2000**

<b>POPULATION</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>
<b>Chesterfield</b>	<b>2,561</b>	<b>3,112</b>	<b>3,542</b>	<b>3,604</b>
Swanzey	5,183	6,236	6,800	7,230
Keene	21,449	22,430	22,563	23,409
Westmoreland	1,452	1,596	1,747	1,874
Winchester	3,465	4,038	4,144	4,341
Hinsdale	3,631	3,936	4,082	4,046
Brattleboro, VT	11,886	12,241	12,005	12,049
Cheshire County	62,116	70,121	73,825	77,177
New Hampshire	920,610	1,109,252	1,235,786	1,316,256
<b>% CHANGE</b>	<b>1980-1990</b>		<b>1990-2000</b>	<b>2000-2010</b>
<b>Chesterfield</b>	<b>21.5%</b>		<b>13.8%</b>	<b>1.8%</b>
Swanzey	20.3%		9.0%	6.3%
Keene	4.6%		0.6%	3.7%
Westmoreland	9.9%		9.5%	7.3%
Winchester	16.5%		2.6%	4.8%
Hinsdale	8.4%		3.7%	-0.9%
Brattleboro, VT	3.0%		-1.9%	0.4%
Cheshire County	12.9%		5.3%	4.5%
New Hampshire	20.5%		11.4%	6.5%

Source: US Census-2010

This next graph shows the change in the population of Chesterfield, subregion, county, and state between 1980 and 2010. Since the actual populations vary greatly, this graph allows us to analyze the actual percent change in each of the census years.

Chesterfield's growth was relatively consistent with the State until the last census was taken. The population growth between 2000-2010 was much less than the State or the subregion, with the exception of Hinsdale and Brattleboro.



*Source: US Census*

### Population Projections

Population projections are an important component in planning for the future. Projections are beneficial to help communities begin to plan and budget for Capital Improvement Projects. Since population projections are based on a set of assumptions, changes can be significant if the assumptions used in the calculations are not met. For example, a tropical storm that destroys a large employer or causes infrastructure damages to that facility can cause a significant economic hardship to the business that may ultimately result in its closure and loss of jobs. This can then result in an outward migration of residents from the community. Therefore, population projections should only be used as a basis to begin planning for the future.

The New Hampshire Office of Energy and Planning (NH OEP) prepares population projections every five years for each community in New Hampshire. The projections for Chesterfield and surrounding towns are presented below in five-year intervals up to the year 2040, beginning with the census count from the year 2010. Using these projections, Chesterfield is expected to experience a slow growth over the next 25 years.

#### **POPULATION PROJECTIONS, 2010 - 2040**

								# Increase	% Change
	2010	2015	2020	2025	2030	2035	2040	2010-2040	2010-2040
<b>Chesterfield</b>	3,604	3,557	3,551	3,598	3,633	3,657	3,661	57	2%
Swanzey	7,230	7,294	7,446	7,545	7,619	7,668	7,677	447	6%
Keene	23,409	23,332	23,531	23,842	24,076	24,233	24,260	851	4%
Westmoreland	1,874	1,899	1,946	1,972	1,992	2,004	2,007	133	7%
Winchester	4,341	4,348	4,406	4,464	4,508	4,537	4,543	202	5%
Hinsdale	4,046	3,938	3,874	3,926	3,964	3,990	3,994	-52	-1%
Brattleboro, VT	11,885	11,826	11,767	11,708	n/a	n/a	n/a	n/a	n/a

*Source: NH Office of Energy & Planning, November 2013; Vermont Department of Health*

## Income Analysis

With the economic downturn and an increase in the unemployment rate, many towns across the region as well as the county, state and country experienced a decline in median household incomes between 2000 and 2014. Chesterfield did not follow that trend, and instead saw a 5% increase in median household income according to the 2010-2014 Census Bureau, American Community Survey. All three experienced an increase in the per capita income during the same period, however, Chesterfield saw the largest increase.

### INCOME, 1990, 2000,-2014

	Median Household Income			Per Capita Income		
	1990*	2000*	2014**	1990*	2000*	2014**
New Hampshire	\$68,251	\$69,170	\$65,986	\$29,982	\$33,341	\$33,821
Cheshire County	\$59,457	\$59,263	\$56,139	\$26,089	\$28,924	\$29,591
Chesterfield	\$71,390	\$71,804	\$75,388	\$28,954	\$35,029	\$37,222

Source: US Census 1990 & 2000, \*Figures were adjusted for inflation using the Bureau of Labor Statistics Consumer Price Index (2014 dollars). \*\*2010-2014 American Community Survey 5-Year Estimates (2014 dollars).

### PERCENT CHANGE, 1990-2014

	Median Income Change		Per Capita Income Change	
	1990*-2000*	2000-2014**	1990*-2000*	2000-2014**
New Hampshire	1.3%	-4.8%	+11.2%	+1.4%
Cheshire County	-0.3%	-5.6%	+10.9%	+2.3%
Chesterfield	+0.6%	+5.0%	+21.0%	+6.2%

Source: US Census 1990 & 2000, \*Figures were adjusted for inflation using the Bureau of Labor Statistics Consumer Price Index (2014 dollars). \*\*2010-2014 American Community Survey 5-Year Estimates (2014 dollars).

Between 1990 and 2014, the percentage of people below the poverty level in Chesterfield has decreased each period. The rates in the State and County however, have increased during the same time period.

### Poverty Rate-1990, 2000 and 2014

	1990	2000	2014
New Hampshire	6.4%	6.5%	8.9%
Cheshire County	7.0%	8.0%	11.7%
Chesterfield	6.2%	4.5%	3.4%

Source: 2010-2014 American Community Survey 5-Year Estimates

## Housing Analysis

### Housing Units

According to the 2010 US Census, the number of housing units in Chesterfield was 1,802 units which was an increase of 170 units (or 10% increase) from the amount in 2000. The total number of occupied housing units is the total number of households in town, whereas the number of housing units reflects both occupied and vacant units.

**HOUSING SUPPLY AND TENURE, 1990, 2000, AND 2010**

	1990	2000	2010	1990-2000	2000-2010
Owner Occupied	998	1,145	1,204	+15%	+5%
Renter Occupied	199	221	203	+11%	-8%
<b>Total Occupied Units</b>	<b>1,197</b>	<b>1,366</b>	<b>1,459</b>	<b>+14%</b>	<b>+7%</b>
Vacant Units	348	266	343	-24%	+29%
<b>Total Housing Units</b>	<b>1,545</b>	<b>1,632</b>	<b>1,802</b>	<b>+6%</b>	<b>+10%</b>
Vacant, for Seasonal Use	244	216	258	-11%	+19%
% vacant	23%	16%	12%	-7%	-4%
% owner-occupied	83%	84%	86%	+1%	+2%
% renter-occupied	17%	16%	14%	-1%	-2%

*Source: US Census*

The percentage of renter-occupied units has steadily increased in each decade between 1980 to 2000 and has remained relatively the same in recent years as determined by the 2014 American Community Survey of the US Census Bureau. Nevertheless, the majority of housing units remain owner-occupied. In 2000, seasonal units accounted for 13% of the total housing stock, down from 16% in 1990. Due to a change in the US Census taken in 2010, accurate, updated information on seasonal units is no longer available.

### Vacant Housing

The vacancy rate is essential to understand the relative number of choices for homebuyers and renters in a community or in a region. A low vacancy rate indicates a constrained housing market, with fewer options. Some number of vacancies are desirable to allow for more housing choice. However, a perceived oversupply of housing can influence the demand for new units, and conversely, a perceived shortage can lead to new production.

Since 2000, the vacancy rate has increased in Chesterfield, meaning that a larger percentage of homes and housing units were unoccupied or not rented. These figures include the census categories: unoccupied rentals, for sale, sold but not occupied, seasonal, and all other vacant. The regional vacancy rate of 13% is lower than the state figure of 16% and higher than the national average (11%). Towns with some of the highest vacancy rates likely reflect the percentage of seasonal residences. The vacancy rate in Chesterfield in 2010 was 19%.

## Housing Type

Like most towns in the region, Chesterfield has more single family housing than multi-family housing. The proportion of single-, multi-family and manufactured housing changed between 1980 and 2000. Most importantly, the number of single-family homes increased, but the number of multi-family homes and manufactured homes stayed almost the same. In 2000, single-family units accounted for 91% of the housing stock, multi-family for 7%, and manufactured housing for 2%. This is the most current information available. An analysis of building permits issued since that study can provide a more current picture.

**HOUSING SUPPLY BY TYPE, 1980 – 2000**

	1980		1990		2000	
	Number	% of Total	Number	% of Total	Number	% of Total
Single Family	837	83%	1,349	91%	1,348	85%
Multi-Family	128	13%	123	7%	216	14%
Manufactured Housing	38	4%	56	2%	31	2%
Total	1,003		1,528		1,595	

Source: US Census Bureau

## Age of Housing Stock

The age of the housing stock is useful in gauging its probable condition. There is a presumption that homes built prior to 1940 are more likely to be dilapidated or have outdated heating, water and septic systems.

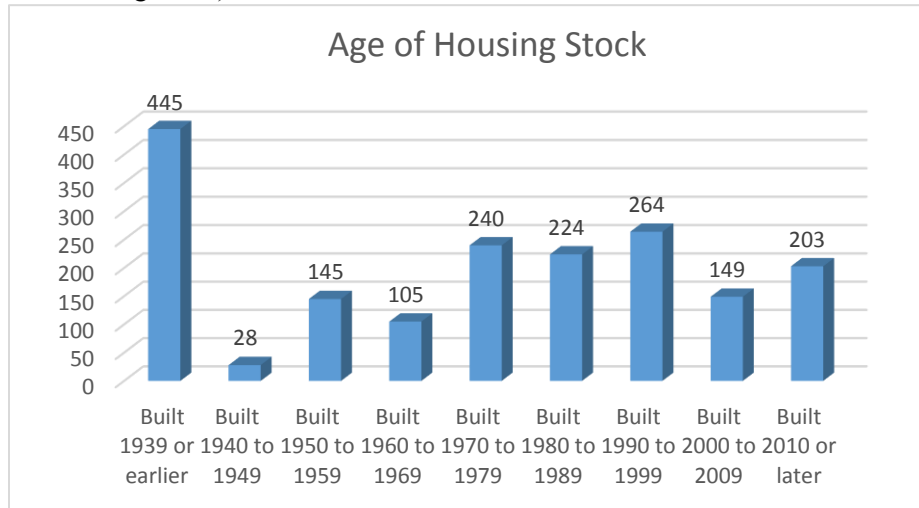
Nearly 1 in 3 homes in the Southwest Region of New Hampshire are over 75 years old. Older homes are generally more expensive to own, especially with respect to wintertime heating costs. However, many of these homes, especially single-family structures, are prized for their historical significance and rural character. More than 50% of the Region's housing inventory is greater than forty years old, which will result in increased need to renovate or replace existing units or to make them more energy efficient.

AGE OF HOUSING STOCK BY DECADE OF CONSTRUCTION		
YEAR BUILT	NUMBER	% OF TOTAL
Built 2010 or later	203*	11.2%
Built 2000 to 2009	149	8.2%
Built 1990 to 1999	264	14.7%
Built 1980 to 1989	224	12.4%
Built 1970 to 1979	240	13.3%
Built 1960 to 1969	104	5.8%
Built 1950 to 1959	145	8.0%
Built 1940 to 1949	28	1.6%
Built 1939 or earlier	445	24.7%

Source: US Census Bureau ACS 2010-2014 Estimates

\*OEP-Building permits issued between 2000 to 2014

The greatest growth periods in the housing stock of Chesterfield were between 1970 and 1999 with approximately 40%. The slowest periods of housing construction were between 1940 and 1969 with approximately 15 %. The historic character is evident by the number of homes built prior to 1940 (with nearly 25% of the housing stock).



Source: US Census Bureau ACS 2010-2014 Estimates \*OEP-Building permits issued between 2000 to 2014

### Overcrowding

Persons per unit and per room are two measures the census relies on to determine whether or not dwelling units are overcrowded. The census defines an overcrowded unit as one that is occupied by more than one person per room. Data for Chesterfield indicate that overcrowding is not an issue. In all four decennial census counts examined (1980-2010), between 98% and 100% of the housing stock had a measure of 1 persons per room or fewer.

The table below shows that the trend in the average household size has been on a steady decline since 1980. Many factors can influence this household characteristic such as families with fewer children, housing affordability, income levels, and others. By comparing previous tables in this chapter, the increase in housing units (10% between 2000-2010) is outpacing the increase in population (1.8% between 2000-2010).

**Persons Per Household 1980-2010**

	1980		1990		2000		2010		% Change 2000-2010
	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total	
1 person household	179	20%	227	19%	279	20%	290	20%	+3.9%
2 person household	297	32%	435	37%	528	39%	630	43%	+19.3%
3 or 4 person household	323	35%	425	36%	433	32%	440	30%	+1.6%
5+ person household	117	13%	99	8%	126	9%	99	7%	-21.4%
Total households*	916		1,186		1,366		1,459		+6.8%
Average household size	2.80		2.61		2.59		2.47		

Source: US Census \*Represents occupied households

## Affordability

Indicators of housing affordability include median housing cost, percentage of income spent on housing, and available income.

While the median house value in Chesterfield has increased by 184% since 1980, it actually decreased from its 1990 value by 6.49% in 2000. It should be noted that these are not inflation adjusted figures. Chesterfield's housing costs have been high relative to the regional value for the past three decennial censuses. Housing values in 1980 and 1990 were 5% and 21% higher than regional values, respectively. By 2000, housing value in Chesterfield remained 21% higher than regional value. Contract rent has been comparable to regional rents over the past 20 years. The housing market since 2008 has been unpredictable. Therefore using current values to compare to other communities may not be reliable for showing a trend.

<b>Cost of Housing, Chesterfield 1980 – 2010</b>				
<b>Median Housing Cost</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>
Chesterfield House Value	\$45,700	\$138,700	\$129,700	\$198,300
Chesterfield Gross Rent*	\$218	\$483	\$631	\$884
<i>Source: US Census* Median contract rent; figures not inflation adjusted.</i>				

Housing affordability is gauged by the percentage of household income spent on housing. According to the US Department of Housing and Urban Development, housing is affordable when no more than 30% of household income is spent on housing costs. The table below shows a breakdown of these figures for the years 1989, 1999, and 2014. The 1989 and 1999 figures were based on the results from the 1990 and 2000 US Census. In 2014, the method of collecting this data was changed to the American Community Survey which uses a random sampling of households (and carries a margin of error) rather than a census count for each household. The results show a decrease in the number of owner occupied households paying 30% or greater of their monthly incomes on housing costs. However, there was an estimated a rather large increase in number of renters that were paying 30% or greater for monthly household costs.

**PERCENT OF INCOME SPENT ON HOUSING IN CHESTERFIELD, 1989, 1999, 2014\***

	<b>Owners</b>			<b>Renters</b>		
	<b>1989</b>	<b>1999</b>	<b>2014</b>	<b>1989</b>	<b>1999</b>	<b>2014</b>
Less than 20%	53%	46%	34%	39%	45%	54%
20 to 29.9%	26%	26%	44%	31%	30%	7%
30 or more	21%	27%	22%	30%	24%	39%

*Source: US Census Bureau \*American Community Survey 5-Year Estimates (2010-2014)*

The possibilities for home ownership are examined in the table below based on the assumption that no more than 30% of a household's income should be spent on housing to be considered affordable. In Chesterfield, this calculation is based on the 2014 tax rate of \$22.21 per \$1,000, the median value of a home of \$190,000 and the median household income of \$86,674.



### HOME OWNERSHIP AFFORDABILITY IN CHESTERFIELD, 2014

	2014* Median Household Income	80% of 2014* Median Household Income	50% of 2014* Median Household Income
<b>Annual Income</b>	\$86,674	\$69,339	\$43,337
<b>30% of income</b>	\$26,002	\$20,802	\$13,001
<b>Purchase price affordable at 4.5% for 30 years**</b>	\$266,723	\$214,831	\$136,895

Source: New Hampshire Housing Finance Authority Mortgage Qualifier Calculator

\* U. S. Census Bureau 2010-2014 American Community Survey (ACS) 5-Year Estimates Table DP03

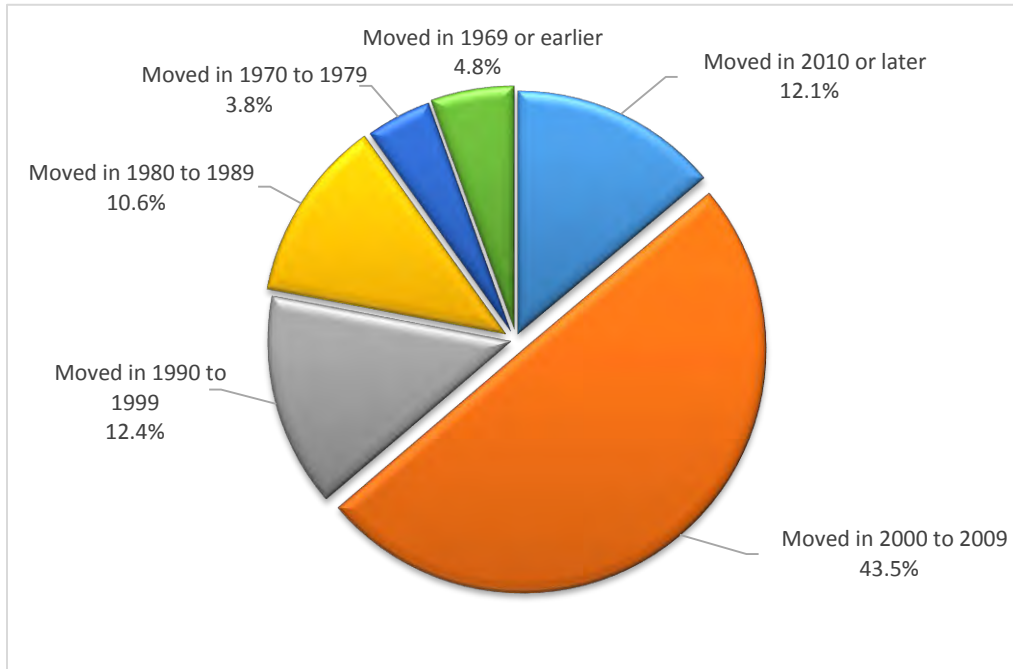
\*\*includes 2014 property tax rate of 2.21%, home insurance rate of 0.5%, \$10,000 cash on-hand, and 1% loan origination fee

Under the three scenarios examined above, households earning at least 80 percent of the median household income could afford Chesterfield's median priced home. Those earning 50 percent of the median household income could not afford such a home.

### Duration of Occupancy

According to the US Census Bureau American Community Survey 5-Year Estimates 2010-2014, approximately 56% of Chesterfield residents have lived in their homes for 15 or fewer years. This indicates a healthy (relatively equal) distribution of long-term residency and shorter term mobility.

### DURATION OF OCCUPANCY



Source: US Census Bureau American Community Survey 5-Year Estimates 2010-2014

## Home Ownership and Age

According to the 2010-2014 US American Community Survey, data on ownership by age indicates that nearly 44% of housing units in Chesterfield are owned by people between 35 and 64 years of age. Only 3.3% of housing units in Chesterfield are owned by those who are 18 to 34 years of age.

### **HOME OWNERSHIP BY AGE OF HOUSEHOLDER, 2014**

	# of Units	% of Total
<b>18-34 years</b>	<b>61</b>	<b>3.3%</b>
<b>35-64 years</b>	<b>788</b>	<b>43.7%</b>
<b>65 years and over</b>	<b>439</b>	<b>24.4%</b>
<b>Unknown</b>	<b>514</b>	<b>28.5%</b>

*Source: US Census Bureau- 2010-2014 5-Year Community Survey*

## Neighboring Housing Comparisons

Most of the growth seen in the Monadnock region, in terms of both population and housing, occurred in the 1980s. Growth was dramatically less in the 1990s as evidenced in the following comparison of total housing supply for Chesterfield and its sub-region from 1980 to 2010.

### **HOUSING UNITS, 1980-2010**

	Year				%Change 2000-2010	%Change 1980-2010
<b>Housing units</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>		
<b>Chesterfield</b>	1,330	1,527	1,632	1,802	10.4%	35.5%
Swanzey	1,894	2,582	2,818	3,205	13.7%	69.2%
Keene	7,934	8,841	9,295	9,719	4.6%	22.5%
Westmoreland	451	573	618	680	10.0%	50.8%
Winchester	1,342	1,673	1,741	1,932	11.0%	44.0%
Hinsdale	1,357	1,655	1,714	1,827	6.6%	34.6%
<b>Sub-Region Total*</b>	<b>14,308</b>	<b>16,851</b>	<b>17,818</b>	<b>19,165</b>	<b>7.6%</b>	<b>33.9%</b>
Cheshire County	23,274	30,350	31,876	34,773	9.1%	49.4%

*Source: US Census and NH OEP*

*\* does not include Brattleboro, VT*

During the past decade, Swanzey has experienced the greatest percent increase in housing units (13.7%) in the subregion, followed closely by Winchester (11.0%) and Chesterfield (10.4%). The chart above also shows the percent change in number of housing units from 1980 to 2010. During that period, Chesterfield's housing stock increased by 35%. Cheshire County, however, experienced a 49.4% increase during the same period. The slowest rate of growth in the number of housing units occurred between 1990 and 2000 for all of the subregional communities and Cheshire County, with the exception of Keene which has seen a decline in the growth rate of units since 1980.

## Housing Needs Assessment

The enabling statute that addresses the development of Master Plans (RSA 674:2) requires that the housing section address current and future housing needs of all residents, at all income levels, of the town and the region in which it is located. In order to do that, opportunities for housing development in Chesterfield are examined, as well as population projections that give some indication as to what the town can expect in terms of housing needs for new populations.

## **Housing Opportunity**

Chesterfield's zoning provisions relative to opportunities for various housing types in the town, specifically which types are permitted and the minimum lot requirements for those dwelling units, are presented on the following page. Three of Chesterfield's six zoning districts accommodate a variety of residential types at varying scales. Nevertheless, there are other housing types that the town may want to consider that are not addressed by the current zoning provisions; in particular, provisions for housing for the elderly.

Based on updated national Census information, the country can expect to see a dramatic increase in the number of elderly residents (those aged 65 and over). In Chesterfield, the percent of residents aged 65 or greater increased from 10.9% in 2000 to 15.3% in 2010. This fairly rapid increase in the elderly population is not only expected to increase the level of effort needed by society as a whole to support publicly-funded retirement programs, health care and social welfare agencies, but strains will also be experienced due to changing family structures. That is, more and more, the profile of the elderly is one of increasing numbers who have either never married, or have married and divorced, and have fewer children to call on for assistance; either they never had children, or the children have moved away for career/employment reasons. Contributing to the isolation from a family network is also the geographic isolation caused by our development pattern that depends so greatly on the automobile. All of these factors have the potential to interfere with the desire to "age in place", that is, to be able to live out the remainder of one's life in the same town one calls home.

ZONING DISTRICT	PERMITTED HOUSING TYPES	LOT AND YARD STANDARDS
Residential	<p>Single Family Detached Dwellings – Permitted by right.</p> <p>Two-family Dwellings – Permitted by right.</p> <p>Multiple Family Dwellings – Permitted by right/ subject to compliance with Section 403.</p> <p>Manufactured Housing Parks – Permitted by right/ subject to compliance with Section 300.</p> <p>Manufactured Housing Subdivisions – Permitted by right/ subject to compliance with Section 300.</p> <p>Cluster Subdivision- Permitted by right/ subject to compliance with Section 301.</p>	<p>2 acres, 200ft. frontage, 50ft. front setback, 20ft.side/rear setback</p> <p>4 acres, 300ft. frontage, 50ft. front setback, 20ft.side/rear setback</p> <p>5 acres, 250ft. frontage, 50ft. front/side/rear setback</p> <p>4 unit minimum, 10 acres, 75ft. frontage per unit, 75ft. from center line of road front setback, 20ft. side/rear setback</p> <p>4 lot minimum, 10 acres</p> <p>Minimum lot size is 30 acres. Subject to additional requirements in Section 301</p>
Spofford Lake District	Single Family Dwellings – Permitted by right.	50ft. front setback, 20ft. side; Subject to additional requirements in Section 203.6.
Rural/ Agricultural District	<p>Single Family Detached Dwellings – Permitted by right.</p> <p>Manufactured Housing Subdivisions – Permitted by right/ subject to compliance with Section 300.</p> <p>Manufactured Housing Parks – Permitted by Special Exception subject to compliance with Section 300.</p> <p>Cluster Subdivision- Permitted by right/ subject to compliance with Section 301.</p>	<p>5 acres, 400ft. frontage, 50ft. front setback, 20ft.side/rear setback</p> <p>4 lot minimum, 10 acres</p> <p>4 unit minimum, 10 acres, 75ft. frontage per unit, 75ft. from center line of road front setback, 20ft. side/rear setback</p> <p>Minimum lot size is 30 acres. Subject to additional requirements in Section 301</p>
Village District	<p>Single Family Detached Dwellings – Permitted by right.</p> <p>Two Family Dwellings – Permitted by right.</p> <p>Multiple Family Dwellings – Permitted by right.</p>	<p>2 acres, 200ft. frontage, 50ft. front setback, 20ft. side/rear setbacks</p> <p>2 acres, 300ft. frontage, 50ft. front setback, 20ft. side/rear setbacks</p> <p>2 acres, 200ft. frontage, 50ft. front setback, 20ft. side/rear setbacks</p>
Commercial / Industrial District	Dwelling units in buildings containing uses permitted in this zoning district – Permitted by Special Exception.	Dwelling units occupy no more than 50% of total floor area of a building, no more than one dwelling unit per 2 acres; 2 acre minimum, 50ft. front setback, 30ft. side/rear setbacks
Office, Retail, and Service District	Dwelling units in buildings containing uses permitted in this zoning district – Permitted by Special Exception.	Dwelling units occupy no more than 50% of total floor area of a building, no more than one dwelling unit per 2 acres; 2 acre minimum, 75ft. front setback, 30ft. side/rear setback
Planned Developments are permitted at the discretion of the Planning Board in accordance with the conditions of the Planned Development District, Section 302 of the Zoning Ordinance.		

## Future Housing Need

In order to estimate what the potential need for housing will be in the future, the available data on housing characteristics and population growth must be reviewed along with estimates for growth in population, and therefore housing need.

Future housing needs can be estimated from the NH Office of Energy & Planning population projections or from the past population change trends for the 20 year period 1990 to 2010. The future population values are then divided by an average person per unit estimate, resulting in a total housing estimate.

The NH Office of Energy and Planning (NH OEP) population projections can be used to estimate future housing need, based on a person per unit estimate. The projections for Chesterfield are presented below in five-year intervals up to the year 2040, beginning with the Census count from the year 2010.

### **CHESTERFIELD POPULATION GROWTH TRENDS, 1990 - 2010**

Population			# Increase	% Change	# Increase	% Change	Average Growth Rate Per Decade
1990	2000	2010	1990-2000	1990-2000	2000-2010	2000-2010	1990-2010
3,112	3,542	3,604	430	13.81%	62	1.8%	7.9%

Source: US Census

### **CHESTERFIELD'S POPULATION PROJECTIONS, 2010 - 2040**

2010	2015	2020	2025	2030	2035	2040	# Increase 2010-2040	% Change 2010-2040
3,604	3,557	3,551	3,598	3,633	3,657	3,661	54	2%

Source: NH Office of Energy & Planning, November 2014

Population increased 15.8% during the period 1990-2010. During that same period, the number of housing units saw a similar increase of 18.0%. The Census data show that, in general, Chesterfield's housing stock is in good condition and the likeliness of overcrowding of dwelling units is very low.

The average growth for each 10-year period using the historical census data was 7.9%. Projecting this to the period from before, there could be an increase in population to 4,527 by 2040 (an increase of 923).

The NH Office of Energy & Planning population projections suggest a 2% increase in population from 2010 to 2040.

To calculate housing need, a reasonable person per unit figure for the future must be assumed. The value of 2.48 persons per household (owner occupied) is used based on figures obtained using the American Community Survey 2010-2014.

### Chesterfield Housing Need

Methodology Used	Population Increase	2040 Projected Population	Persons * Per Unit	Total Housing Needed
Past Trend Method	7.9%	4,527	2.48	1,825
Projection Based Method	2%	3,661	2.48	1,476

Source: US Census and NH OEP

\* US Census Bureau ACS 5 year estimates 2010 - 2014

If using the Past Trends Method, the observations and projections indicate that if Chesterfield were to experience the same level of population growth between 2010 and 2040 as it did between 1990 and 2010, the need for housing units would increase from the actual number of 1,802 units in 2010 to 1,825 units in 2040; an additional 15 housing units. This would mean that there would need to be approximately 5 housing units built each decade to meet the projected need.

If, on the other hand, the Projection Based Method is used, Chesterfield's current housing stock could support the future housing needs.

This analysis only calculates the projected need based on population growth. It does not take into consideration many of the characteristics discussed in earlier sections of this chapter. The changing needs of the residents such as age and income, as well as the rehabilitation of older homes into more energy efficient homes should be explored.

## Population & Housing Goals, Objectives and Strategies

**Goal:** Understand and maintain the housing needs of Chesterfield residents with the evolving demographic changes.

Objective: Implement innovative land use techniques to meet our housing needs while preserving our resources.

### Strategies:

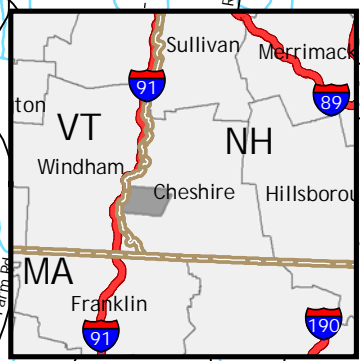
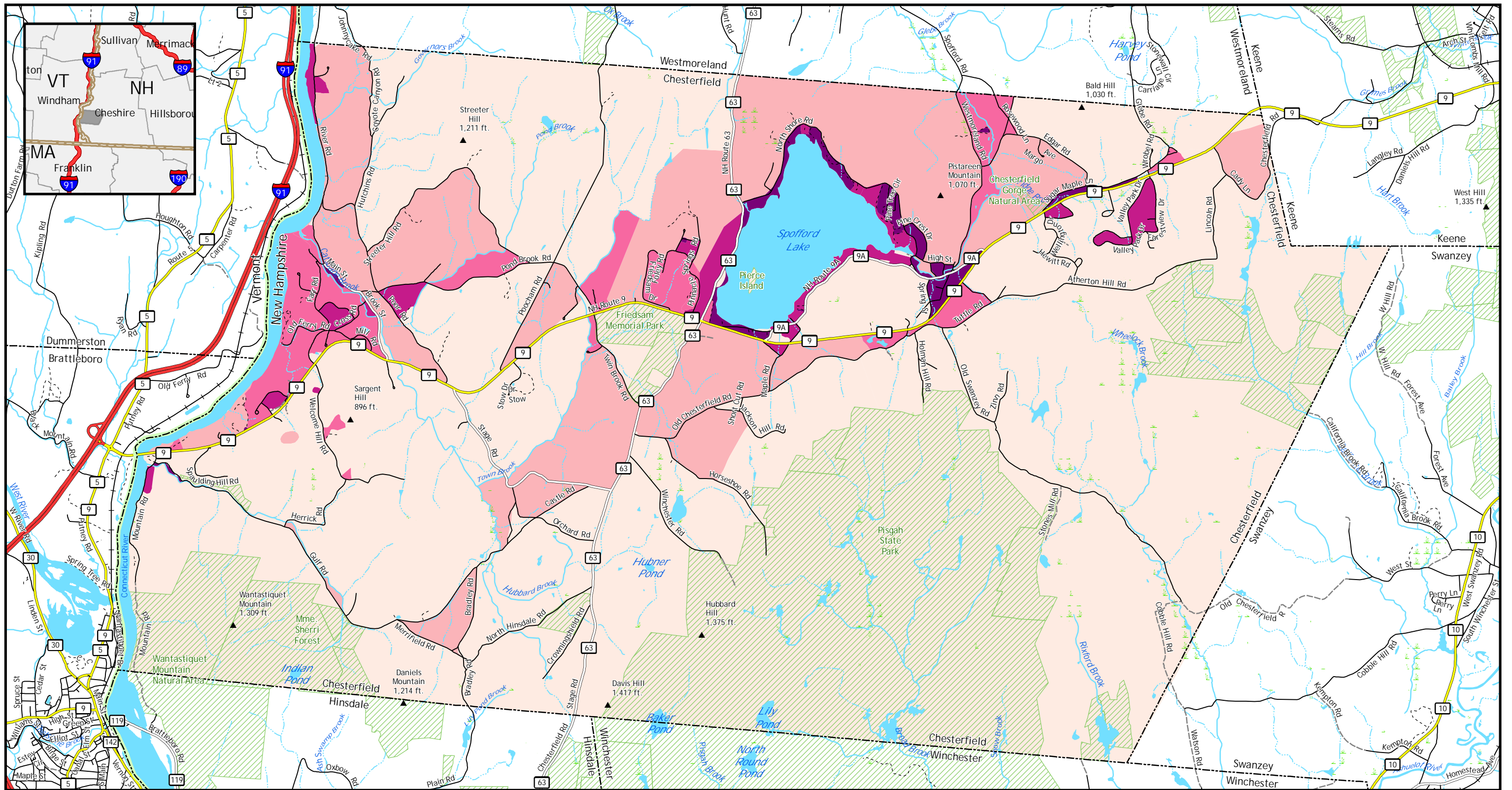
Explore housing options for our senior residents and amend the ordinances and regulations to accommodate their needs.

Encourage the development or rehabilitation of diverse housing types that meet the needs and preferences of multiple generations, diverse abilities, and a range of income levels.

Review regulations and building codes to identify barriers to workforce housing development opportunities. Encourage innovative construction of new structures that promote energy efficiency and location efficient housing.

Develop a policy that highlights ways to incorporate low impact stormwater management techniques and principles into site and streetscape designs.





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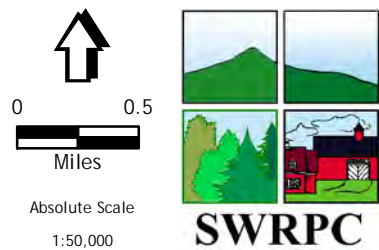
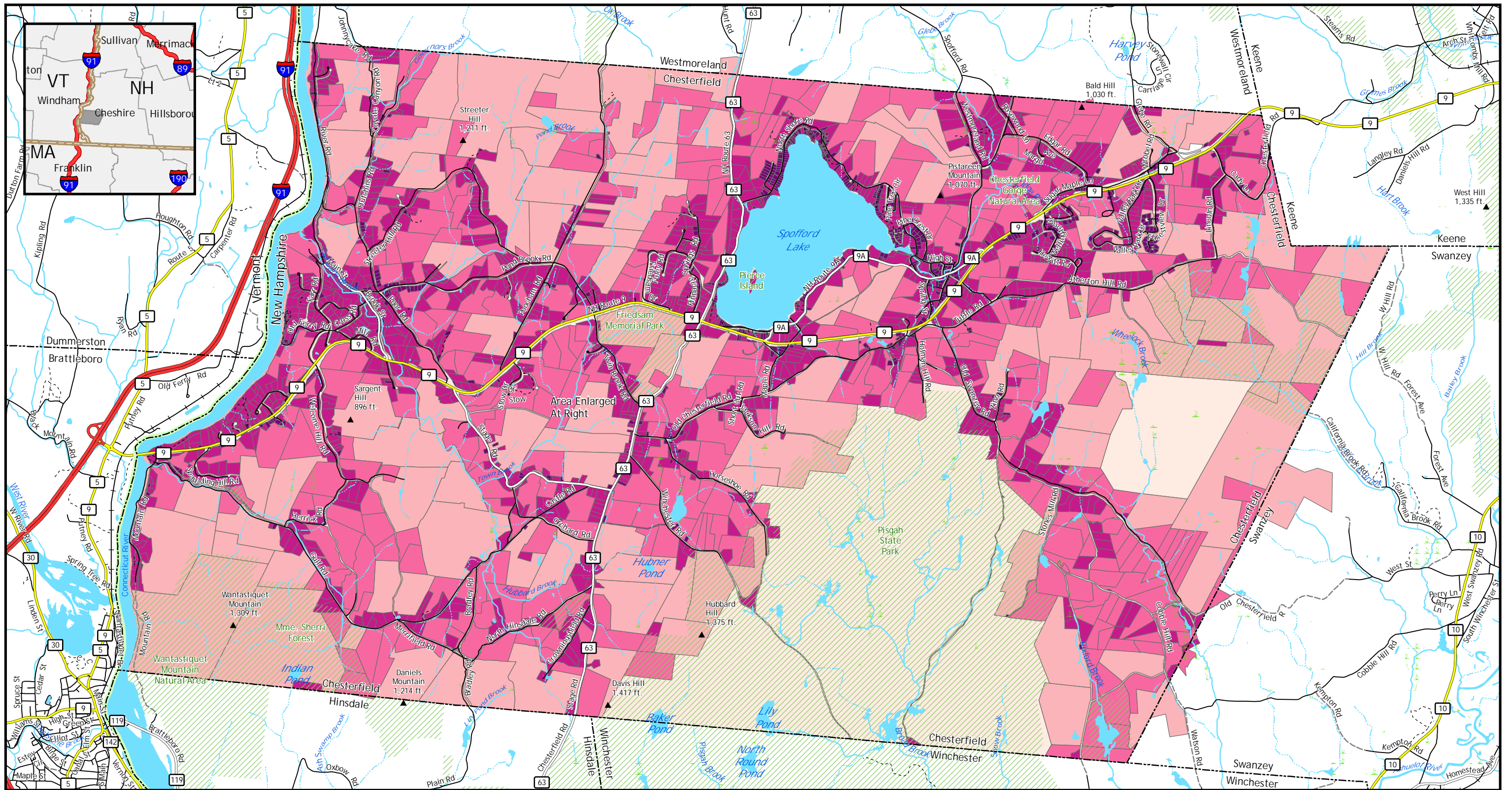
**SWRPC**

Housing Units per Square Mile by Census Block	Highway by Legislative Class	River or Stream by Type	Water Body
Up to 46	Class I	Intermittent Stream	Swamp or Marsh
47 - 87	Class II	Perennial Stream	Lake or Pond
97 - 229	Class V		Conservation Land
234 - 496	Class VI		
Over 499	Private		

# TOWN OF CHESTERFIELD

## Housing Density Map





Tax Parcel	Highway by Legislative Class	River or Stream by Type
Up to 1 acre	Class I	Intermittent Stream
1 to 10 acres	Class II	Perennial Stream
10 to 50 acres	Class V	Swamp or Marsh
50 to 500 acres	Class VI	Lake or Pond
Greater than 500 acres	Private	Conservation Land

# TOWN OF CHESTERFIELD Parcels by Size Map



## **TRAFFIC AND TRANSPORTATION**

### **Introduction**

Good transportation planning is essential because of its capital-intensive nature: Road maintenance typically represents the most significant public investment in a town's infrastructure. Outside of school taxes, the highway budget is usually the largest percentage of a town's operating costs.

The primary goal of this section, then, is to identify current issues and/or needs crucial to orderly development and the safe and efficient movement of traffic. A corollary purpose is to assist the Town of Chesterfield in fully participating in all levels of transportation planning. Transportation infrastructure is heavily dependent on public funds, and the NH Department of Transportation (DOT) sets the priorities for state and federal spending through the development of a statewide Long Range Transportation Plan and State Transportation Improvement Program. Both of these are required under federal legislation which prescribes the disbursements to states. In order for New Hampshire to qualify for its full allocation of funds, the NH DOT must comply with these federal planning requirements.

To accomplish this task, the NH DOT requires each of the nine regional planning commissions in the state to develop a regional transportation plan that describes existing state road conditions within its region, identifies problems and concerns, declares goals and objectives for the regional network, and makes specific recommendations for improvements or new construction. Any local concerns relative to state-maintained roads should be addressed through the Regional Transportation Plan in order to be included in the State Plan. This section, therefore, takes the regional issues into account in the process of developing local goals for a safe and efficient transportation network.

### **Linkages of Transportation to Other Chapters**

Transportation is an essential planning consideration that has far reaching impacts on the development of the town. The careful planning of road and other transportation-related infrastructure will help determine where development will occur and the type of land uses it will attract. Transportation planning is not just for vehicular traffic, but should include and encourage all modes of transportation such as transit, pedestrian and bicycle users. In addition, freight transportation should be considered.

Transportation planning considerations factor into a number of other parts of Chesterfield's Master Plan. It is important to recognize the interconnectedness to guide the growth and development of the town.

#### **Land Use**

Transportation connects origins to destinations and helps people access goods, services and each other. Roads will, in large part, be the basis for the development patterns of the future. Road design, functionality and placement will determine the types of land uses that will be able to occur on a parcel of land. For example, a collector road will attract a mix of uses including retail, professional offices, and residential, whereas a local road will typically provide safe access to residential development. Roads will in large part be the basis for the development patterns of a town.

#### **Economic Development**

The ability to provide access to businesses will enhance the success of Chesterfield's ability to attract businesses. Direct access to major roads and parking availability are key elements to attract and retain uses

that depend on drive-by traffic. Planning for nodal development, or interspersing centers of development between roads with little development, allows the town to plan for multiple economic centers that are separated by roadways designed for moving traffic.

### Housing/Population/Demographics

The *pattern* of residential development will be determined, in part, by the roads that service them. Roadway classifications also have an effect on the *density* of development that can occur. Local roads can serve residential neighborhoods and multi-family developments safely without concerns of heavy through traffic. The use of access management also provides safe transportation to denser developments. Road design standards such as width, grade, and speed are factors to consider when choosing to live in certain types of residential development. Higher density housing may benefit by including bicycle and pedestrian improvements, as well as other commuting options, in order to maximize space and increase the affordability of the neighborhood. An analysis of Chesterfield's current and future expected demographics is an important consideration, as it allows the community to plan for non-driving populations (frequently youth, elderly, and disabled) by planning for more walkable neighborhoods, transit services or other transportation-related strategies.

### Natural Resources-Environmental

The careful consideration of locating roads away from sensitive areas such as streams and wildlife habitats is critical to the protection of our natural resources. Avoiding these areas will not only protect the wildlife that depend on large unfragmented areas, but will also add to the safety of roadway users. The use of Low Impact Development methods (LIDs) will help to reduce the length of roads, thereby reducing the amount of impervious surface. This will protect the water quality of our waterbodies and will also allow for groundwater recharge. Transportation has a major impact on air quality, therefore roads should be planned to reduce vehicle miles traveled whenever practical.

### Hazard Mitigation

Maintaining access to primary and secondary evacuation routes in town is an important life safety issue. Proper culvert size and installation for all road/stream crossings must be a priority for hazard mitigation in the event of heavy storm events. Bridge maintenance, erosion control, and stormwater management are also needed to maintain safe roadway infrastructure. Considerations such as these should be added into the Hazard Mitigation Plan and included as priority actions. An inventory of road/stream crossings should be updated regularly, and erosion control methods should be used along roads with steep slopes to prevent washouts and erosion.

## **Road Classifications and Conditions**

Chesterfield roads are managed under a series of classifications. Road systems are grouped and classified for several reasons. Reasons to classify roads include:

- Designing appropriate capacity, safety measures and design speed for roads;
- Guiding investment priorities for roads;
- Providing a framework for a road maintenance program; and
- Guiding land use related regulations and access management standards with frontage on the roadway system.

Generally, roadways in New Hampshire are classified for planning purposes into two types: State Highway Classification and Federal Functional Classification. *State highway classification* refers to the state's system of defining state and town responsibilities for road construction and maintenance. *Federal functional*

*classification* is the system by which streets and highways are grouped into classes according to the type of service they are intended to provide. Basic to this process is the understanding that individual roads or streets do not serve travel independently: rather, travel involves movement through a series of roadways in a logical manner by defining the part any particular road or street can play in serving traffic flow through a highway network.

### State Classification (Administrative) Classification

All public roads in New Hampshire are classified in one of seven categories per NH RSA 229:5. Highways under state maintenance and control include Classes I, II, III and III(a). Classes IV, V, and VI highways are under the jurisdiction of municipalities. The following provides a description of various administrative classes.

Class I: Trunk Line Highways

Class II: State Aid Highways

Class III: State Recreational Roads

Class III(a): State Boating Access Roads

Class IV: Town Roads with Urban Compact

Class V: Town Roads

Class VI: Unmaintained Highways

Class I: Trunk Line Highways. These belong to the primary state highway system, and the state assumes full control and responsibility for construction, reconstruction and maintenance.

Class II: State Aid Highways. These belong to the secondary state highway system. All sections improved to state standards are maintained and reconstructed by NH DOT. Other Class II highways, not improved to DOT's standards, are maintained by the town and are eligible to be improved to DOT standards with the use of state aid funds as those funds become available. The same applies to bridges on Class II highways.

Class III: Recreational Roads. These consist of all roads leading to and within state reservations designated by the NH Legislature. The NH DOT assumes full control and responsibility for construction and maintenance. There are no Class III roads in Chesterfield.

Class III-a: Boating Access Roads. These consist of roads that lead to public waters from any existing highway. The NH DOT assumes full control and responsibility for these roads. There are no Class III-a roads in Chesterfield.

Class IV: Town and City Streets. These consist of all sections of road that fall within urban compact areas of towns and cities with populations greater than 7,500. The municipality assumes full control and responsibility for construction and maintenance. There are no Class IV roads in Chesterfield.

Class V: Rural Highways. These consist of all other maintained roads that are not in the state system. They are town-owned and maintained.

Class VI: Unmaintained Highways. These are all other existing public roads that are not maintained by the town and have not been for at least five years. The road may be closed subject to gates and bars, but it continues as a public roadway. While subdivision of land is usually restricted on Class VI roads, the potential for development exists if the roads are upgraded to a Class V status, either by the landowner or the town.

As frontage along Class V roads becomes less available and the centers of town villages reach capacity, there is mounting pressure to develop on Class VI roads. Class VI roads are an important component of a town's transportation infrastructure as they personify the community's rural character and can provide a variety of recreational opportunities.

Of these seven state road classifications, Chesterfield roads fall into four, as follows: Route 9 is the only Class I road; Route 63, Route 9A, Stage Road and Brook Street to Farr Road are Class II roads; all other roads in town are Class V and Class VI town roads. These are illustrated on the accompanying **Transportation Infrastructure Map**, and the number of miles comprised by each classification is described in the following table. In addition to these classifications, there are approximately 8.2 miles of private roads.

**ROAD MILEAGE BY STATE CLASSIFICATION**

Class:	Mileage:
Class I	10.62
Class II	11.12
Class V	71.14
Class VI	3.52
<b>Total Mileage</b>	<b>96.4</b>

*Source: NH Department of Transportation 2015*

### Federal Functional Classification

A functional classification system identifies roads by the type of service provided and by the role of each highway within the state system, based on standards developed by the US DOT. The purpose of utilizing such a system is to correlate the land planning and traffic planning functions of the Master Plan. Recognition of the principal function that any road is intended to serve can reduce potential conflicts between land use activities and traffic movements. Functional classifications can be used by local, state and federal governments, but the federal functional classification is most commonly cited in transportation planning. Functionality, at its most basic level, is divided into three road types: arterials, collectors and local roads. By identifying the function of the road, decisions can be made as to the road design and speed. Roads that function as a means to move traffic from one town to another town have different needs than a road that provides access within a residential neighborhood. They will require different road widths, design speeds, signs and construction standards. A road that has truck traffic is constructed differently to handle heavier, larger, and wider vehicles and greater traffic volumes than those serving neighborhoods. Access and turning maneuvers are also different depending on the functional classification. Therefore, identifying the function of the road is an essential part of planning. It is important to balance all three types of roadways in order to ensure an efficient (and in the long-term less costly) transportation system. Reducing road widths will not only be less costly to construct, but they will also be less costly to maintain and will reduce the amount of impervious surface, which is beneficial to the environment.

In Chesterfield, the following functional class categories apply:

#### Principal Arterial/Controlled Access

These are Interstates and some primary state routes. They are designed to move large volumes of truck and car traffic through and between population centers without disturbing local traffic and land uses. Access management is an important consideration for arterial roads. Controlled Access is often used as a means of minimizing the number of curb cuts, thereby controlling the amount of turning movements along the roadway.

Within Chesterfield, Route 9 is a principal arterial of which all of the roadway is controlled access. Within the Southwest Region, Routes 12 south of Keene and 101 are other principal arterials.

### Minor Arterial

Similar to the principal arterial roads, these are designed to carry traffic through the region and to connect communities and regions. Minor arterials have limited access and faster speeds than collector and local roads. They are designed to move large volumes of traffic to and from large traffic generators without disturbing local traffic and land uses. Minor arterials distribute traffic to smaller geographic areas, and place more emphasis on providing land access than the principal arterials.

Within Chesterfield there are no minor arterials. Within the Southwest Region Routes 202, 10 south of Keene, and 12 north of Keene are other minor arterials.

### Collector System – Major and Minor

Major collectors are designed to move medium traffic volumes at low speeds between or within communities. They differ from the arterial system in that collector streets go through residential neighborhoods, distributing traffic from the arterials through the area to its ultimate destination. Minor collectors provide alternate routes to major collectors.

Within Chesterfield Route 63, Route 9A, Stage Road and Brook Street to Farr Road in Chesterfield are classified as major collectors. Glebe Road and River Road are minor collectors in Chesterfield.

### The Local Street System

This consists of all streets not classified in one of the other higher systems. Its primary function is to provide direct access to individual properties and to other roads and highways. It offers the lowest level of mobility. Through-traffic is usually deliberately discouraged.

### Scenic Roads

In addition to the state and federal classifications, RSA 231:157 authorizes towns, by a vote at Town Meeting, to designate any road other than a Class I or II highway as a Scenic Road. The effect of this designation is that, except in emergency situations, there shall be no tree cutting or alteration of stone walls within the right-of-way without approval of the Planning Board, after a duly-noticed public hearing. The law does not affect the rights of individual property owners; nor does it affect land uses as permitted by local zoning. The statute also authorizes towns to adopt provisions dealing with Scenic Roads that are different from, or in addition to, those that are spelled out in the law. Chesterfield's only designated scenic road is Gulf Road.

## **Roadway Usage and Conditions**

Roadway usage and conditions have an effect on our everyday enjoyment, or frustrations, of traveling through town. As the population increases within the state and region, so will the amount of traffic. Careful planning of our roadways, including alternative routes, will give users options to get to their destinations. A heavily travelled road during peak hours or a road with poor maintenance can be avoided making our travel experience more desirable. The chart below shows the Average Daily Traffic Counts that have been done over the last nine years. This information is useful in planning the location of future land uses as well as access points. The changes in traffic counts can be attributed to a variety of factors including but not limited to new subdivisions, new businesses opening, closing of businesses and road construction.

## Traffic Counts

Information on traffic volume is collected by the NH DOT through the placement of traffic counting devices at various locations around the state. Some of these are permanently installed under the roadway and provide figures based on a full year count, while others are set out on a rotating basis for varying lengths of time – generally during the months of May to October for a seven-day period. Permanent counters are used only on state roads, while temporary counters are used on both state and local roads. The table below presents average annual daily traffic (AADT) counts for 12 counter locations.

Roughly, there are 11,000 – 13,000 vehicles per day traveling on Route 9. Route 9 is the second largest traffic corridor providing access to the Keene area. With the most direct access to Interstate Route 91, the volume of 12,075 cars per day on Route 9 near the Vermont line represents the largest traffic volume entering and leaving the Southwest region.

**AVERAGE ANNUAL DAILY TRAFFIC 2008-2014 (INCLUDES COMPARISON WITH 1999)**

Station	Location	2008	2009	2010	2011	2012	2013	2014	1999
87021	NH 9, 9/10 of a mile east of Vermont Stateline	11,500	11,956	11,880	11,499	11,527	11,824	12,075	11,194
87022	NH 9 at Westmoreland Town line	13,000	*	*	13,000	*	*	14,000	11,000
87050	NH 63 at Westmoreland Town line	950	1400	*	1000	*	*	960	870
87051	River Rd north of Woodbury Rd	480	*	*	580	*	*	440	
87056	NH 9 west of Mill Road	12,000	*	*	*	11,000	*	11,000	
87057	NH 9A west of Butler Rd	580	*	*	500	*	*	310	340
87058	NH 9 west of Friedsam Rd	11,000	*	*	11,000	*	*	11,000	9,700
87059	NH 9 east of Maple Road	11,000	*	*	12,000	*	*	12,000	11,000
87060	Cross Rd over Catsbane Brook	660	*	*	520	*	*	570	500
87061	Brook St over Catsbane Brook	480	*	*	570	*	*	370	580
87062	Brook Pond Rd north of Careyville Road	470	*	*	900	*	*	850	620
87063	Westmoreland Rd over Partridge Brook	300	*	*	330	*	*	410	260

Source: NH DOT 2015 and SWRPC Traffic Research

The present traffic on Route 9 represents an increase of 8% since 1999. The Route 9 corridor contains, along with Chesterfield, the City of Keene, Roxbury, Sullivan, Nelson, Stoddard, and Antrim. There has been significant growth in the last decade along this corridor. Route 9 connects to the east with Concord, and to the southeast via Route 101 with Manchester, Nashua, and Boston. While the road links Chesterfield with other cities and locations to the east, it also funnels regional traffic from Vermont and New Hampshire through Town to Interstate 91.

In addition to the traffic counts employed by NHDOT, twelve alternate locations were chosen to provide information on the local roads. This will give a base count for future updates or traffic studies.

### Traffic Counts- Local Roads 2015

Site #	Location	Weekly Count
1	Cady Lane south of NH 9	170
2	Edgar Road Between Sugar Maple Lane and Margo Avenue	320
3	Atherton Hill Road west of Hewitt Road	100
4	Old Swanzey Road between Tuttle Road and Zinn Road	390
5	Pinnacle Springs Road north of NH 9	320
6	North Hinsdale Road west of NH 63	270
7	Bradley Road at Hinsdale Town Line	350
8	Gulf road south of Castle Road	160
9	Gulf Road between Herrick Road and Merrifield Road	240
10	Gulf Road east of Mountain Road	450
11	Poor Road north of NH 9	320
12	Stage Road south of Dexter Road	560

Source: SWRPC Traffic Research 2015

### Turning Movement Counts

Turning Movement Counts are obtained through the use of a hand-held device that is designed to imitate a standard intersection. Engineers typically use the information collected to analyze how the intersection operates under different traffic conditions. The Level of Service (LOS) determines whether capacity improvements are needed on roadways, or if traffic signals need new timing to accommodate changes in traffic flows. Types of improvements may include addition of turn lanes, dual turn lanes (dual lefts, dual rights), additional through lanes, new signal timing or new signal phasing.

A typical turning movement will include AM and PM counts in order to determine the peak 15 minute timeframe at each location (when the most cars are using the intersection). At some locations there is an obvious peak time while at other locations the large volumes of traffic are spread out over a longer period of time. Turning movement counts were taken in six locations and are shown on the **Transportation Infrastructure and Traffic Data Locations Map**. Tables showing data and the peak times are located in **Appendix A**.

### Commuting Patterns

According to the 2010 census, Chesterfield has an estimated 1,917 working residents that account for 53.2% of the town population. Of these working residents, 554 commuted to work within town and 1,363 traveled to work outside of Town. The top commuting locations for Chesterfield residents are listed in the chart below. Approximately 80% of these residents work in towns adjacent to Chesterfield. Based on the percentage of residents commuting to those locations, it would appear that Route 9 carries the greatest amount of commuter traffic leaving Chesterfield to go to work.

In addition to those residents commuting out to get to their jobs, there are approximately 1,288 jobs within town. Included in this figure are the 554 residents who live and work in town. An additional 734 commute into Chesterfield from other towns. The residency locations for those workers are listed below.

### Commuting Patterns-2010

Chesterfield Residents that are Employed		
		# of Workers
Total # of Workers		1917
Living & Working in Town		554
Commuting Out of Town		1363
Commuting Rate - out (to other towns)		71%
Top Locations of Employment for Chesterfield Residents		
Work Locations for Chesterfield Residents	# of Workers	% of Workers
Keene	576	30.0%
Chesterfield	554	28.9%
Brattleboro, VT	373	19.5%
Swanzey	112	5.8%
Jaffrey	38	2.0%
Putney, VT	28	1.5%
Shelburne, MA	27	1.4%
Westmoreland	25	1.3%
Vernon, VT	22	1.1%
Walpole	21	1.1%

Source: US Census Bureau- Journey to Work and Place of Work 2010

Place of Residency for People Working in Chesterfield		
		# of Workers
Total # of Jobs in Town		1288
Living & Working in Town		554
People Commuting into Chesterfield for Work		734
Commuting Rate – in (from other towns)		57%
Top Places of Residency for People Working in Chesterfield		
Place of Residency for Chesterfield Workers	# of Workers	% of Workers
Chesterfield	554	43.0%
Brattleboro, VT	147	11.4%
Hinsdale	103	8.0%
Keene	63	4.9%
Montague, MA	39	3.0%
Winchester	32	2.5%
Swanzey	29	2.3%
Putney, VT	27	2.1%
Rindge	20	1.6%
Westmoreland	20	1.6%

Source: US Census Bureau- Journey to Work and Place of Work 2010

### Means of Transportation

According to the 2009-2013 American Community Survey, approximately 81% of Chesterfield's working residents drive alone to work and 3% carpool. The remaining workers either work from home (14%) or use an alternative means of transportation.



## Traffic Generators

Travel can be defined by a wide variety of characteristics, including the purpose of the trip, the time the trip was made, the mode that was used, and the length of the trip. A starting point in all transportation studies is the number of trips generated for a particular land use. This measure is called trip generation and is usually described in terms of person trip generation or vehicle trip generation.

A trip is one way movement from origin to destination. Each trip has two trip ends. Although the term round-trip is often used to describe travel that starts and ends at home it is not a technical term and is considered to be two or more separate trips. Trip generation is always given for a specific period of time which is generally a single hour (normally a peak hour) or a full day. Trip generation may be given for a weekday and/or a weekend day. Since the vast majority of travel is conducted by automobile, most trip generation data are provided in terms of vehicles trips. Vehicle occupancy varies by the purpose of the trip. Work trips tend to have low occupancies which relates to the high percentage of commute trips which are drive-alone types.

Most of Chesterfield's traffic is residential, since that is the primary land use in Town. There is of course some amount of truck/commercial traffic that services the businesses, as well as travel through Chesterfield to and from neighboring towns; Route 9, in fact, carries a significant amount of through truck traffic.

### **Destinations**

<b>Destination Type</b>	<b>Destination Name</b>	<b>Street Address</b>	<b>Capacity or size</b>
Athletic/Rec Facility	Pisgah State Park	Multiple Trailheads	5,695 acres
Athletic/Rec Facility	Chesterfield Gorge State Park	Route 9	13 acres
Athletic/Rec Facility	Daniels Mountain & Cook Town Forest	Gulf Road	57 acres
Athletic/Rec Facility	Friedsam Town Forest	Twin Brook Road	209 acres
Athletic/Rec Facility	Madame Sherri Town Forest	Gulf Road	488 acres
Athletic/Rec Facility	Spofford Lake	Spofford Lake	793 acres
Athletic/Rec Facility	Pine Grove Springs Country Club	Route 9A	Clubhouse and golf course
Athletic/Rec Facility	Wantastiquet Mt. State Forest	Route 119	1,010.7 acres
Community Facility	Town Hall	Route 63	7, 027 sq. ft.
Elementary School	Chesterfield Elementary Sch.	Old Chesterfield Rd.	399 students
Library	Library	Route 63	5,400 sq. ft.
Municipal Office	Town Offices	Route 63	10,000 sq. ft.
Post Office	US Post Office	Route 63	Drop-off/pick-up
Post Office	US Post Office	North Shore Road	Drop-off/pick-up
Post Office	US Post Office	Gulf Road # C	Drop-off/pick-up
Industrial Park		Stow Drive	

*Source: Town information*

In 2004, DES developed a statewide GIS coverage to identify appropriate indicators for sprawl and changing development patterns in New Hampshire. SWRPC together with DES, UNH, and OEP developed a methodology to generate data on common destinations and city/town/village centers for each community. The table above shows the common destinations identified for the Town of Chesterfield.

Aside from the residential and local business traffic, Chesterfield has several large traffic generators, the single largest being United Natural Foods located in the center part of Town. Many businesses are located on (or with easy access to) NH 9.

Chesterfield is also home to Pisgah Wilderness State Park, with over 13,500 acres (5,695 of which are located in Chesterfield) of rough forested terrain. Six year-round trailheads disperse hikers, mountain bikers, ATV's and snowmobiles throughout the park. As the largest property in the New Hampshire state park system, Pisgah Wilderness State Park attracts visitors from near and far.

## **Road and Bridge Conditions**

### Surface Widths and Conditions

Roads in Chesterfield are of varying widths and surface conditions. The wideness of a road is not necessarily related to the ownership – i.e., the state roads are not always wider than the town roads, although they are more likely to have wider shoulders.

The NH DOT has developed standards for road construction in the New Hampshire Design Manual. The specifications recommended for minimum width and materials are based on average daily traffic – in other words, the more traffic a road carries, the wider the traveled way and shoulders, the deeper the base and top coat, etc.

According to these standards, the minimum width for the least-traveled road should be 18 feet, plus a two-foot shoulder; this is for a road carrying no more than 50 vehicle trips per day. Most town roads do not meet this standard and, even with new construction, many small towns will approve an 18-foot width for a Class V town road carrying more than 50 vehicle trips per day.

### Bridges

Bridges present an ongoing maintenance and repair concern for all towns, oftentimes accounting for a large portion of local highway budgets. Bridges also present the potential for a number of safety hazards in instances where they are severely deteriorated or are significantly narrower than the road they serve. Bridges are rated by the DOT, using a system based on federal standards for type of construction, widths, surface conditions, ability to handle traffic volumes, etc. The status of these bridges is presented in the following table and their locations are shown on the Transportation Infrastructure and Traffic Data Locations Map at the end of this chapter.



*Source: Google Maps 2015*

### NH DOT Bridge Summary

Bridge ID	Name	FSR	Ownership
040/095	Bypassed Historic over Connecticut River	N/A	NH DOT
040/096	NH 9 over Connecticut River	80.5	NH DOT
044/091	Mountain Rd over The Gulf	94.3	Municipality
051/090	Gulf Rd over The Gulf	95	Municipality
070/128	Farr Rd over Catsbane Brook	95	Municipality
077/122	Cross Rd over Catsbane Brook	78.7	Municipality
080/120	Brook Street over Catsbane Brook	96	NH DOT
082/113	NH 9 over Catsbane Brook	97.2	NH DOT
102/096	Stage Rd over Town Brook	84.2	NH DOT
177/138	Westmoreland Rd over Partridge Brook	76.9	Municipality
181/153	Edgar Rd over Brook	95	Municipality

Sources: NH DOT Bridge Summary, 2015

NH RSA 234:2 defines a *bridge* as a structure on a public highway that has a clear span of 10 feet or more, measured along the highway's center line, spanning a water course or other opening or obstruction. It includes the substructure, superstructure, deck and approaches. This definition is important to help the town and state in determining the maintenance and funding responsibility.

NH DOT maintains an annual inventory of all bridges in NH using Federal Sufficiency Ratings (FSR), a nationally accepted method for evaluating bridges. An FSR represents the relative overall effectiveness of a bridge as a modern day transportation facility. An FSR greater than 80 means that a bridge is in overall good condition. A bridge having an FSR between 50 and 80 is eligible for Federal bridge rehabilitation funding. A bridge with an FSR less than 50 is eligible for either Federal bridge replacement or rehabilitation funding. According to the 2015 NH DOT Bridge Summary, two bridges in Chesterfield are eligible for Federal bridge rehabilitation funding: the bridge on Cross Road over Catsbane Brook, and the bridge on Westmoreland Road over Partridge Brook.

## Areas of Concern

Vehicle accidents are an occurrence that we all want to avoid. However, without careful planning of roadways and intersections, there may be an increase of accidents at a given location. Accident reports obtained from the Police Department are an effective way to identify areas that are in need of correction. Factors such as sightline visibility at intersections and driveways, poor drainage, excessive speed, sun glare and icing are some of the key reasons for traffic accidents. Many of these can be avoided with good design. It is more efficient and cost effective to identify potential conflicting points prior to construction than to retrofit a problem. It is also easier for drivers so they don't need to adjust to the change.

Projects involving heavy traffic should be required to submit a traffic study by a licensed engineer to the Planning Board. A traffic study will identify the projected level of service (LOS) at intersections and the entrance to the property during peak hours of traffic. The Planning Board may require a peer review, or third party review, to check the accuracy of the traffic study. The peer review may also result in potential alternatives such as a more suitable driveway location, intersection improvements, pedestrian enhancements, or other safety measures. Consulting with the local traffic authority and road agent to review sight lines for proposed new access ways can help reduce hazardous situations.

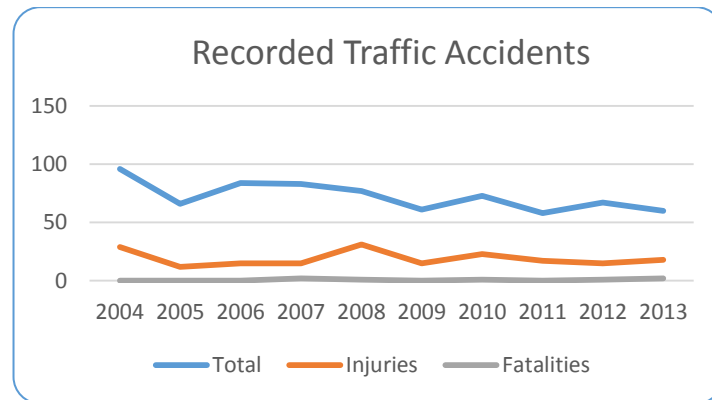
The table below indicates the number of accidents that were reported to the police department and recorded from 2004 to 2013. This can be useful in determining the need for a traffic study of a particular development

proposal and the need for road improvements. The NH DOT collects data on accident locations throughout the state. The most recent year for which this information is available for the Town of Chesterfield is 2013, when approximately 45% of the accidents in Town occurred on Route 9, with about three percent on each of the following: Route 63, Gulf Road, and Stage Road. The location of accidents on local roads will vary, but in situations where road conditions contributed to the accidents, loose gravel/matter was often cited.

#### Recorded Traffic Accidents 2004-2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	96	66	84	83	77	61	73	58	67	60
Injuries	29	12	15	15	31	15	23	17	15	18
Fatalities	0	0	0	2	1	0	1	0	1	2

Source: Chesterfield 2014 Annual Report



Source: Chesterfield 2014 Annual Report

#### Chesterfield Accidents by Street 2004-2013

Name	Number of Crashes	Name	Number of Crashes	Name	Number of Crashes
Apple Hill Rd	1	Lincoln Rd	1	Short Cut Road	1
Atherton Hill Rd	4	Main St	1	Spaulding Hill Rd	1
Brook St	2	Maple Rd	1	Stage Rd	17
Cady Ln	1	Merrifield Rd	2	Stow Dr	2
Castle Rd	1	Mountain Rd	3	Streeter Hill Rd	6
Church St	1	North Hinsdale Rd	2	Sugar Maple Ln	3
Coachman Rd	2	North Shore Rd	3	Tuttle Rd	2
Coyote Canyon Rd	1	Old Chesterfield Rd	8	Twin Brook Rd	6
Cross Rd	1	Old Ferry Rd	1	Valley Park Dr	1
Edgar Rd	5	Old Swanzey Rd	5	Welcome Hill Rd	3
Farr Rd	1	Pinnacle Springs Rd	2	Wellington Dr	3
Forestview Dr	2	Pond Brook Rd	7	Westmoreland Rd	1
Friedsam Dr	1	Poocham Rd	3	Winchester Rd	1
Glebe Rd	9	Poor Rd	1	Woodbury Rd	1
Gulf Rd	22	River Rd	3		
Herrick Rd	1	Route 63	25	<b>Total</b>	<b>484</b>
Horseshoe Rd	2	Route 9	300	Unlocated(Chesterfield)	179
Hutchins Rd	1			<b>Grand Total</b>	<b>663</b>

Source: NHDOT 2015

## Road Safety Audit

A Road Safety Audit for these areas may be considered as a means to reduce these potential hazardous areas. A Road Safety Audit is a formal proactive safety performance examination of a road or intersection by a multidisciplinary audit team. It is a qualitative assessment that reports on potential safety issues and identifies opportunities for improved safety options. The Road Safety Audit team is typically made up of town employees, such as the Police Chief, Road Agent, Emergency Management Director, Fire Chief, and members of the community. Consideration should also be given to identifying other potential team members that may offer unique and valuable input such as a school bus driver whose bus route is in the study area or a nearby crossing guard.

The Southwest Region Planning Commission (SWRPC), in conjunction with the town, identified the intersection of NH Route 9 and NH Route 63 as an area that needed to be studied due to the number of vehicle accidents. There were 31 reported accidents at this intersection between 2003 and 2013. Nine of these accidents resulted in injuries and two accidents resulted in fatalities. A request was submitted to the NH Department of Transportation for a Road Safety Audit which was then conducted on August 1, 2014.

The audit team observed several safety measures that are being implemented at the intersection to promote safety; however, they also identified five primary safety issues that should be addressed to reduce the number of accidents at this location. The five primary safety issues include: limited sight distance, driver behavior, signs and pavement markings, pedestrian/bicycle safety, and access management. The report from the Road Safety Audit contains several actions that can be implemented to address these issues.

Intersection of NH 9 and NH 63



*Source: Google Maps 2015*



### Transportation Problem Areas

Problem	Location	Description	Additional Comments	Possible Solutions
<b>Erosion</b>	Mountain Rd	There are approximately 15 residences on Mountain Rd that have received damage from flooding of the Connecticut River. The entire road is located in the 100 yr. floodplain.	There are records of subsidence and erosion along several town roads, which have presented problems in the past when trying to evacuate local residents. The erosion is primarily along roadsides due to improperly sized roadside drainage systems as well as undersized culverts.	Determine the best solution to the stormwater management.
<b>Traffic &amp; Drainage</b>	North Shore Rd	One residential structure could be affected by heavy rain runoff or rapid snowmelt compounded by road and culvert failure.	The number one issue around Spofford Lake is drainage. Summer cottages are being converted into year round residences, which increase traffic and road runoff.	Improve stormwater management.
<b>Erosion</b>	River Rd	Approximately 3 residential structures could be affected by heavy rain runoff or rapid snowmelt with the rise of the Connecticut River.	There is a quarry between Chesterfield and Westmoreland. Trucks continually drive this stretch of road in upwards of 100 times a day resulting in substantial damage to the road.	Improve stabilization of steep slopes with plantings or retaining walls.
<b>Flooding</b>	NH 9 Bridge to Old Ferry Rd	Six residences could potentially be affected in a disaster. There is the potential of flooding of the road due to accumulation of heavy rain and runoff.	No additional comments.	Improve ditching to handle larger amounts of storm drainage.
<b>Flooding</b>	Pond Brook Rd	Road and Culvert Repair.	Culvert needs to be larger to handle the heavy rain events.	Install a larger culvert.
<b>Flooding</b>	Old Ferry Rd	There are 10 residences located along this road. Annual repair is required due to spring storm patterns, plugged ditches during spring runoff and mud season. Snow melt and accumulated runoff from heavy rains causes erosion of conveyance ditch and road.	Slopes are showing signs of considerable erosion & possibly impending collapse.	Determine appropriate erosion control method and install it.
<b>Flooding</b>	Horseshoe Rd	Road and Culvert Repair.	Culvert should be larger.	Upsize culvert.
<b>Flooding</b>	Twin Brook Rd/Dean's Landing	Road and 2 Culvert Repairs, 3-4 residences.	Culverts should be larger.	Upsize culverts.

<b>Problem</b>	<b>Location</b>	<b>Description</b>	<b>Additional Comments</b>	<b>Possible Solutions</b>
<b>Flooding</b>	Old Chesterfield Rd (paved section behind school)	One residential structure could be affected by heavy rain runoff or rapid snowmelt along with repair of dam failure.	An Engineer has designed how to control the outflow of water for potential aid money.	Implement Plan.
<b>Flooding</b>	Old Chesterfield Rd (East) (gravel portion)	Road and Culvert Repair and Drainage.	Culvert maintenance is needed.	Upsize culvert and repair damage to road.
<b>Flooding</b>	Atherton Hill Rd	One residential structure could be affected by heavy rain runoff or rapid snowmelt along with road and culvert repair.	Culvert maintenance is needed.	Determine if the culvert is sized appropriately.
<b>Flooding</b>	Chandler Rd	Two residential structures could be affected by heavy rain runoff or rapid snowmelt along with road and culvert repair.	Culvert maintenance is needed.	Determine if the culvert is sized appropriately.
<b>Flooding</b>	Hines Meadow Area	One residential structure could be affected by heavy rain runoff or rapid snowmelt.	Stormwater management.	Improve ditching in this area.
<b>Visibility</b>	Twin Brook Rd Intersection	Dangerous Intersection.	Improve sight lines.	Improve sight lines.
<b>Visibility</b>	Streeter Hill Road	The angle of both of the intersections on Streeter Hill Road is dangerous. The stop sign is too far back.	Visibility is difficult.	Both intersections should be reengineered.
<b>Visibility</b>	Brook Street & Main St	There is low visibility from both directions when approaching the stop sign. It is also difficult to see around the barn at the corner.	Maintenance is shared between the Town and the State.	Reengineer the intersection into a T-intersection and move the telephone pole to the northeast corner.
<b>Visibility</b>	Streeter Hill Road	The angle of both of the intersections on Streeter Hill Road is dangerous. The stop sign is too far back.	Visibility is difficult.	Both intersections should be reengineered.
<b>Visibility</b>	Brook Street & Main St	There is low visibility from both directions when approaching the stop sign. It is also difficult to see around the barn at the corner.	Maintenance is shared between the Town and the State.	Reengineer the intersection into a T-intersection and move the telephone pole to the northeast corner.

Problem	Location	Description	Additional Comments	Possible Solutions
<b>Left Turning Movements</b>	RT 63 onto Twin Brook Rd	There is low visibility when turning left from RT 63 onto Twin Brook Rd.	Sight line is difficult.	Determine the cause of the sight line obstruction.
<b>Dangerous Curve</b>	Farr Rd	There is a telephone pole tucked into a very sharp corner just before Snow Rd that sneaks up on motorists and has been hit several times.	Move the pole.	Alert the utility company to move the pole.
<b>Dangerous Roadway</b>	NH 63 South near number 162	Substantial drop off on West side of roadway causes any accidents to have potentially more serious injury.	Guardrails needed.	Have NH DOT put up guardrails in this location
<b>Steep Slope</b>	Westmoreland Rd onto RT 9A	Dangerous intersection	Grade changes.	Fill in the area to make it even with High St. (i.e. <u>slow easy grade</u> )
<b>Placement of Stop Sign</b>	Atherton Hill Rd	Awkward placement of stop sign.	Speed is sometimes a factor.	The stop sign should be placed on Tuttle Rd. A critical speed study should also be conducted.
<b>Speed</b>	Farr Rd & Cross Rd	This is a 4-way stop. There is a stop sign on the through street, which makes this intersection awkward.	This is more of an enforcement issue of speed, rather than a placement of stop signs.	Additional traffic patrol in this area.
<b>Dangerous Curves &amp; Flooding</b>	Gulf Rd	Approximately 8 structures have been affected or have the potential to be affected by flood waters. This is an annual event - some flooding occurs in the floodplain from spring runoff and heavy summer/fall rains. There is annual damage/repair to the road surface as well as annual repair and upkeep to bridges and culverts.	This is a pretty scenic road, but very dangerous. Because of its designation as a scenic road, the town has limited options.	Determine the best approach to stormwater management in this area.



## TRANSPORTATION PLANNING PRINCIPLES AND CONCEPTS

### Multimodal

While we would like to encourage multimodal transportation, the focus of this analysis has been on vehicular, private transportation. Due to the topography of Chesterfield, alternative travel is limited although it has seen resurgence in the region over the last several years. Most roads were designed and built with little or no consideration for anything but vehicles. While the town would like to encourage pedestrians and bicyclists, Chesterfield's rural development and hilly topography make this a challenge. Multimodal transportation includes a variety of ways of moving people and goods. It encompasses a broader range of transportation modes other than vehicular. Multimodal transportation includes:

Pedestrian: Planning for pedestrian traffic involves providing areas and amenities that allow pedestrians to get to their destination by walking. Providing sidewalks, crosswalks, and pathways is the way to accomplish this method of transportation. Adding amenities, such as benches and shade trees will help to encourage walking. Another point of consideration for this mode is connectivity from one location to another. The proximity and safety between locations will be a deciding factor for some users. Sidewalks that don't connect pose a safety risk for pedestrians, especially those with physical challenges and strollers. It forces them to walk in the roadway or walk across unpaved and uneven terrain. Pedestrian ramps should be provided at the end of each sidewalk and driveway entrances.

Bicycle: As people become more health conscious and environmentally aware, this method of transportation is more attractive. The cost of owning and operating a vehicle (currently an average \$9,004 per household in the United States according to the US Bureau of Labor Statistics), also makes bicycling an appealing choice for moderate distance trips. Providing bicycle lanes along the roadways is an important and responsible part of transportation planning. This includes clearly established bike lanes, pavement markings, and signage. Planning for the safe passage of bicycle users also includes bike friendly drainage grates and an awareness of other potential hazards. Similar to the needs of pedestrians, connectivity between locations is important for the local bikers that are just trying to get to areas within town. Making sure that pathways and bike lanes connect to the local destinations will help to avoid conflicts between bikes and vehicles. Bike racks should be required for sites that tend to attract frequent bicycle users such as area youth.

Carpooling: Ride sharing to work and events is a method of transportation that should be encouraged. While most of us enjoy the freedom of getting to our destinations in our own vehicle, and at our own convenience, there are other options that can be utilized in an effort to be environmentally sensitive and budget wise. Chesterfield is the only town in Cheshire County that has an officially designated Park & Ride lot. The lot is located at Chesterfield Gorge along NH 9.

### Public Transportation

**Bus and Rail Service:** Interstate bus service is available on Greyhound for daily trips to New York and Boston from Keene and Brattleboro. Amtrak rail service is available in Brattleboro with daily service to Burlington, VT and New York City.

### Other Public Transportation

Many human service agencies in southwestern New Hampshire provide transportation to elderly, low-income and disabled residents. Most of the need is to access agencies' services or for employment, medical appointments, shopping, etc. Agencies such as Home Health Care, Red Cross, New Hope/New Horizons provide such transportation. A listing of transportation services can be found in a regional directory by going to the following website:

<http://www.monadnocktma.org/sites/default/files/documents/Chesterfield.pdf>

### **Road Improvement Program**

The spending of state and federal money on highways is directed by the State Department of Transportation's 10-Year Transportation Improvement Program. This plan is a product of federal priorities, state legislative decisions, the Governor's Advisory Commission on Intermodal Transportation recommendations, regional planning commission recommendations, and public input. At the time of writing, there are no new projects scheduled to take place in Chesterfield in the Ten Year Plan. Routine road and bridge maintenance on all state and state-aid roads are expected to continue. NH DOT's paving program has scheduled to reclaim 2.2 miles of roadway in nearby Hinsdale on NH 63, an important road that leads to Chesterfield Village.

In Chesterfield, the Town Public Works Department has an annual program for tarring and reconstruction of road sections, although there is no long-term schedule for major road capital improvements.

### **Future of Transportation Modes/Changing Technologies**

Planning for the future involves a great deal of insight to the trends within the region, state, country, and even worldwide. The changing technologies will undoubtedly bring about changes to the way we look at our modes of transportation. With the rising cost of gasoline, and the increased environmental awareness, the movement towards alternative fuel sources is stronger than ever. With these changes, we may be faced with finding creative ways of making adjustments to accommodate them. Although the change is inevitable, it will be a gradual process. Fortunately, with careful planning, we can make the necessary shift to the future. It is anticipated that changes to roadway standards, parking areas, refueling/repowering stations, and more will require us to alter the way we currently think about transportation.

### **Resources**

#### State and Regional Transportation Plans

State and regional plans provide important information that should be considered as an aid to the town for planning. They can be useful in preparation for Capital Improvement Programs, site plan and subdivision reviews, multimodal planning, and other uses as well. Below is a list of Regional and State Transportation Plans and links to information. It is beneficial to provide local input to these studies as they are updated.

#### Useful Resources, Links, Programs, Funding Opportunities

The list below provides a variety of state and federal programs with potential funding opportunities. These resources cover a range of transportation projects including, but not limited to: road and intersection improvements, bridge & culvert projects, sidewalks and other pedestrian safety enhancements, etc.

State Aid Bridge (SAB)  
State Aid Highway (SAH)  
Block Grant Aid (BGA)  
Federal Bridge Aid (MOBRR)  
Highway Safety Improvement Program (HSIP)  
Transportation Alternatives Program (TAP)  
FEMA

## **Techniques for Addressing Transportation Issues**

### Planning Strategies

#### **Focus development in the Village**

Provide for mixed uses and higher densities in the Village rather than in the outlying parts of Town.

#### **Identify Appropriate Land Uses**

Existing land uses can be monitored and the Zoning Ordinance consulted to ensure that development will be compatible with the road system. Applications for development must always be reviewed with the scale of proposal relative to the road network and abutting land uses in mind.

#### **Plan for Pedestrian and Bicycle Connections**

Add bike racks and benches to encourage these non-vehicular transportation choices. The town can make sure that it is always at the table when the NH DOT is considering plans involving the state routes, and make every effort to see that all due consideration is given to the accommodation of non-motorized traffic.

#### **Develop and Adopt a Road Policy**

The Planning Board & Road Agent, in conjunction with the Board of Selectmen, can develop a road policy that would guide development in town based on the status of existing roads and any future plans for roads. This can go far to minimize potential questions and problems when applications are submitted for the upgrading of a road, or for a building permit on a Class VI road.

#### **Capital Improvements Program**

A Capital Improvements Program (CIP) that sets forth the planned capital expenditures over a six year period can also help to guide road development. In conjunction with a Road Policy, the CIP can set the schedule as well as the degree and type of road improvements.

#### **SWRPC Transportation Advisory Committee**

Participation in this Committee provides an opportunity for the town to be involved in the development of the Region's 10-Year Transportation Improvement Plan.

#### **Road Safety Audit**

The town should continue to work with the NHDOT to improve safety at the intersection of NH 9 and NH 63. Consideration should be given to identifying other locations in Town that may benefit from an audit.

#### **Commuting/ Ride Share**

Provide a ride-share board to establish a way for interested commuters to make connections with other commuters that are travelling to a similar destination.

## Regulatory Strategies

### **Road Standards**

Included in the Subdivision Regulations administered by the Planning Board are standards for road construction. These essentially mirror the DOT standards which address such things as width of the traveled way, width of shoulders, type of materials to be used and depth of each level. The Board also has the option, through a waiver procedure, of accepting plans for new roads with modified standards: for example, approving a graveled road rather than a paved road for developments of low traffic impact.

### **Driveway Standards**

The Planning Board is enabled by state statute to adopt and administer regulations for the construction and permitting of driveways. The NH DOT regulates curb cuts on state roads; towns are allowed the same authority for town roads. A local driveway regulation, however, can cover all aspects of driveway construction for the entire length, not just the access area off of the road. Driveway standards can encourage safe and efficient transportation corridor management through provisions that:

- reduce the number of curb cuts along a road;
- separate curb cuts and intersections;
- align driveways either opposite one another or offset them by at least 125 feet for safe sight distance;
- relate driveway design such as width, length and curb radii, to travel speed and traffic volumes;
- require shared access and parking where appropriate; and
- prohibit parking that requires backing out onto the road.

### **Development of Backlots**

Backlot development is a zoning technique that allows the subdivision and/or development of lots that cannot meet the frontage requirement for the district. Allowing for this type of development gives towns the opportunity to set standards for the roads that serve these backlots, and require that the backlot share an access with the front lot, when appropriate, as well as other considerations.

### **Access Management Techniques**

These techniques range from various driveway standards and requirements to the use of medians, signalization and signage.

### **Subdivision and Site Plan Considerations**

During the subdivision or site plan review process the Planning Board has an opportunity to review all proposals based on the transportation issues identified in this section. Some of the pertinent issues include: sight line distance for roads and driveways, pedestrian and bicycle needs, parking needs, and more. This authority extends to assessing and regulating driveway/entrance and road openings on state roads. It is important to understand that NH DOT is concerned with the safety of the traveling public on state roads, but the town can have its own process for determining the safety of curb cuts based on the goals of its own regulations and its own analysis of traffic impacts on and off the site.

### **Viewing the Whole Parcel**

It is always important to step back from an individual plan and look at it in relation to the neighboring properties and land uses. If the lot fronts on more than one road, decisions can be made about which roads would better serve as access, how the parking should be laid out, as well as others.

### **Lot Layout**

When the opportunity presents itself through a multi-lot subdivision, the subdivision design should consider shared driveways or an interior street, with lots fronting off of the interior rather than the main roads.

## **Traffic and Transportation**

**Goal: Meet the infrastructure needs to provide safe transportation options throughout Chesterfield.**

Objective 1: Maintain and upgrade transportation infrastructure to protect the public investment.

Strategies:

Identify funding strategies to enhance and expand stormwater management efforts. Explore grant opportunities through State and Federal sources such as NH DOT, FEMA, and NHSEM for culvert upgrades, erosion control, bridge repair/replacement, etc.

Identify and advocate for transportation projects to be included in the New Hampshire Ten Year Transportation Plan. Work with SWRPC through the Transportation Advisory Committee on potential projects.

Consider planning for emerging modes of transportation such as electric vehicles (i.e. electric substation location).

Objective 2: Provide opportunities for multi-modal transportation.

Strategies:

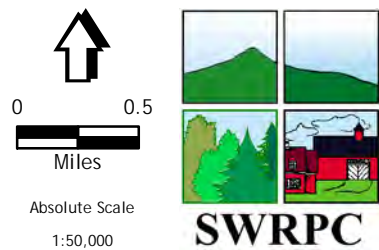
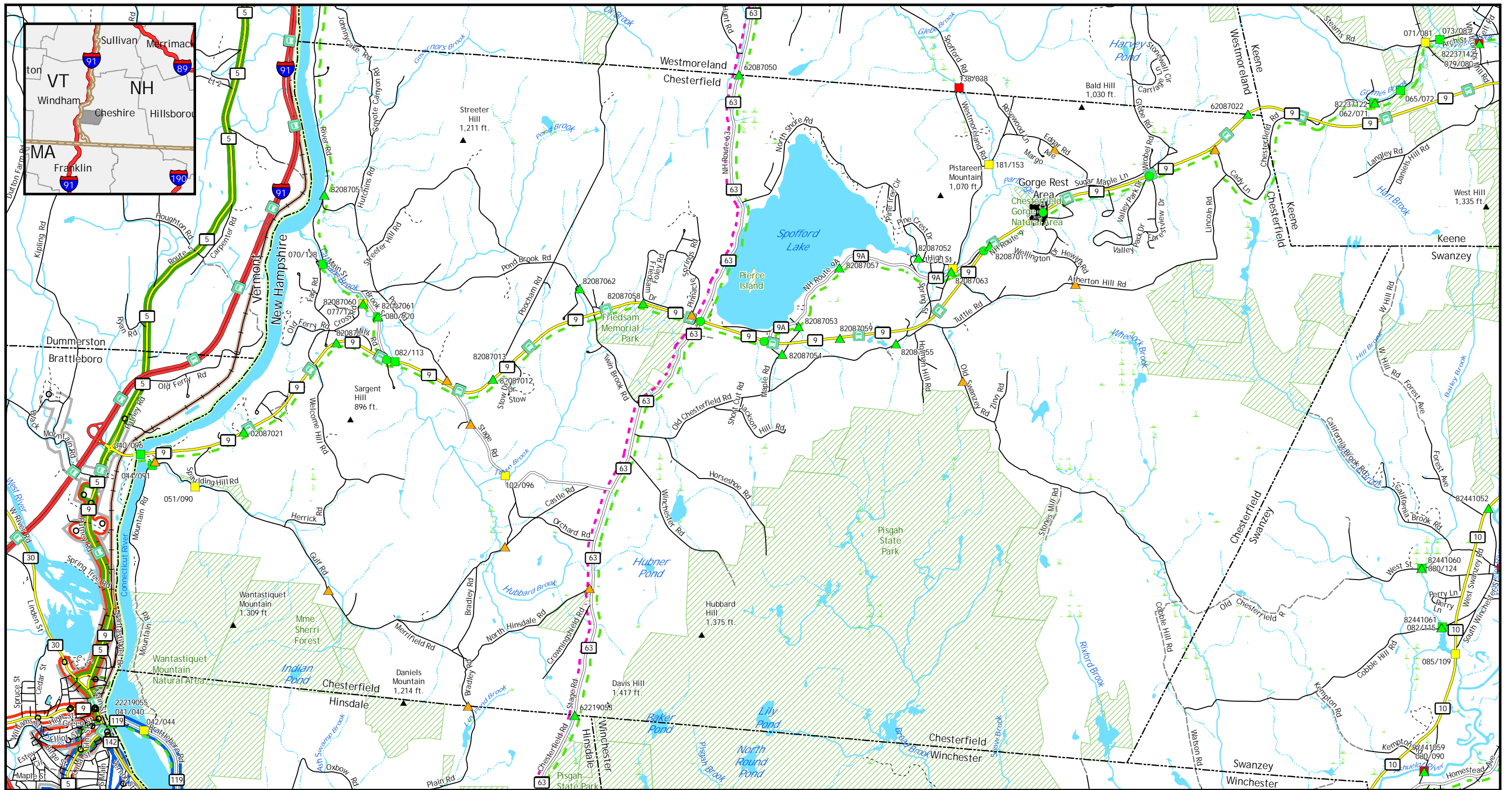
Seek public transportation options to reduce the number of vehicles on the road and negative effects to the environment. Work with NH DOT and SWRPC to establish a bus route that connects Keene to Brattleboro, VT with bus stops in Chesterfield.

Work with other communities to encourage employer sponsored vanpool, carpool, or bus voucher programs.

Continue to support the park and ride lot. Develop methods for commuters to connect with others that are commuting to similar locations.

Improve the condition and availability of pedestrian and bicycle infrastructure. Seek funding sources to support this effort.

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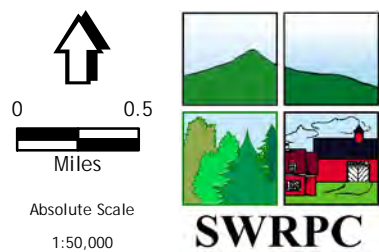
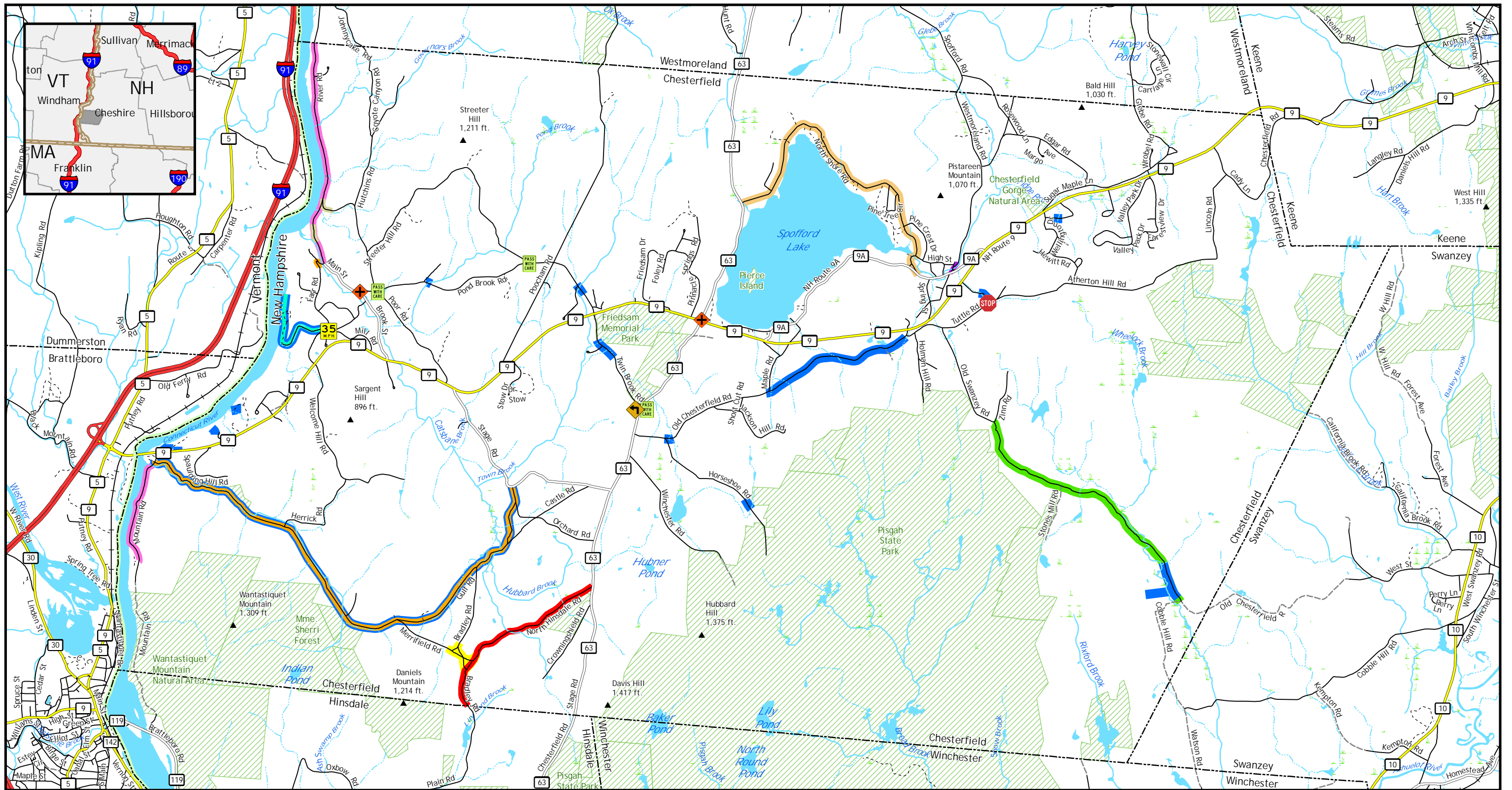
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|---|---|--|---|
| <ul style="list-style-type: none"><li>○ Intercity Bus Stop</li><li>▲ Additional Counter Location (2015)</li><li>▲ Traffic Count Location</li><li>● Turning Movement Count Location</li><li> NH DOT Facility</li><li> Interstate Bus</li></ul> | <ul style="list-style-type: none"><li>Passenger Rail</li><li>Designated Bicycle Route</li><li>Connecticut River Scenic Byway</li><li><b>The Current Bus Service</b></li><li>Bellevue Falls to Brattleboro</li><li>Brattleboro Blue Line</li><li>Brattleboro Red Line</li><li>Brattleboro White Line</li></ul> | <b>Highway</b><br>by Legislative Class <ul style="list-style-type: none"><li>Class I</li><li>Class II</li><li>Class V</li><li>Class VI</li><li>Private</li></ul> | <b>River or Stream</b> <ul style="list-style-type: none"><li>Intermittent Stream</li><li>Perennial Stream</li></ul> <b>Water Body</b> <ul style="list-style-type: none"><li>Swamp or Marsh</li><li>Lake or Pond</li><li>Conservation Land</li></ul> |
|---|---|--|---|

# TOWN OF CHESTERFIELD

## Transportation Infrastructure Map





	Danger - Intersection		Accidents		Landslides	Highway		River or Stream	
	Left Turn Movements		Dangerous Curve		Other Safety Concern	by Legislative Class		by Type	
	Placement of Stop Sign		Dangerous Intersection		Spring Melt, Runoff		Class I		Intermittent Stream
	Speed		Erosion		Steep Slope		Class II		Perennial Stream
	Visibility		Flooding		Traffic and Drainage		Class V	Water Body	
							Class VI		Swamp or Marsh
							Private		Lake or Pond
									Conservation Land

# TOWN OF CHESTERFIELD

## Transportation Concerns Map

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## NATURAL RESOURCES

### Introduction

The natural features section of the Master Plan uses the environmental criteria of topography, soils, and water resources to evaluate the town's land area and its potential for various types of development. Although natural features can often enhance a particular development site, they just as often pose significant barriers to development. This can be seen by examining locations where existing development has occurred. It is true that transportation routes are another factor in the location of development; however, to a great degree, the natural features of the land also determine the location of roads.

This section helps the Planning Board to address areas of the town that are most suitable for development and high intensity land uses, and evaluate the existing limitations of the land that would need to be accommodated. Environmental limitations may include steep slopes, seasonally wet soils, wetlands, floodplains, shallow bedrock, and aquifers.

This section also identifies the areas of town that deserve special protection due to the environmental function of the land, for example, a specific wetland area that provides flood water storage during times of heavy rain. In addition, this section notes specific areas the town may wish to conserve for future community use due to the aesthetic, wildlife, or historic qualities. Not all open spaces need to be steep slopes or wetlands. Some areas may be prime lands set aside for future school sites, parks, intensive farming operations, or other limited low intensity land uses that add value to the overall community.

### Chesterfield's Setting

The town of Chesterfield is located along the Connecticut River in the southwestern corner of New Hampshire. The west shore of the river is the natural boundary between New Hampshire and Vermont. Chesterfield is located 65 miles from Concord, the state capital. It is a rural/suburban community, which is located between the regions' two largest commercial centers, Keene, NH, and Brattleboro, VT. Route 9, which connects the two cities, bisects the town.

Spofford Lake is one of the town's major natural resources with an abundance of year-round homes and summer cottages. Chesterfield's population is widely scattered with heavier concentrations around three village centers, with the southern part of town being virtually uninhabited due to its remoteness and the presence of the state's largest park, Pisgah State Park.

Chesterfield has many natural features that make the town a very desirable place to live. The town has remained a typical New England rural community with three distinct population/village centers. Approximately eighty percent of the town is undeveloped and consists primarily of wooded and brush-covered areas, many of which have substantial development constraints (as shown on the accompanying **Development Constraints Map**). As development pressures mount, however, there will be more pressure on the Planning Board to allow smaller lot sizes in other parts of Town. This section will aid the Planning Board and the residents to decide where they want growth to occur while at the same time preserving the natural environment that is critical to a high quality of life. Innovative land use techniques, as found in the *Innovative Land Use Planning Techniques: A handbook for Sustainable Development*, should be considered for new development within Chesterfield to help maintain the communities' vision and preserve the natural

features for many generations to enjoy. The handbook includes information intended to assist communities with Innovative Land Use Controls as authorized under NH RSA 674:21.

## **Topography**

The Town of Chesterfield consists of 47.5 square miles or 29,184 acres. The approximate elevation at the Connecticut River is 220 feet, with elevations rising to 1,340 feet in the southwest corner of town at the Hinsdale border on Wantastiquet Mountain. Chesterfield contains thousands of acres of state and local parks and forests. There are also several streams of varied orders, some of which are protected. The vast majority of these streams drain small valleys into the Connecticut River to the west and Spofford Lake (740 acres) to the north. The topography consists of rolling hills interrupted by narrow valleys. The higher areas vary from very stony loam to rock outcrops. The accompanying **Topography** map shows the topography in the Town of Chesterfield.

Topography is an important consideration when assessing the development potential of land. Soil conditions are directly related to topography, with slope and drainage features having a determining influence. While slope is only one of many factors influencing the soil type of a particular site, it is the primary component of topography. The following discussion defines slope and addresses the influence slope has on the development potential of land.

### Steep Slopes

Generally speaking, the steeper the land the greater the possibility for erosion and sedimentation, and more problems can be encountered in siting wells and septic systems.

Steepness is measured in terms of slope, which is defined as the change in elevation (vertical distance) over horizontal distance; the more abrupt the change in elevation, the steeper the slope. Slope is measured and expressed as a percentage that represents the relationship between elevation and horizontal distance.

Typical categories that might be seen on a slope map are 0-8%, 9-15%, 16-24%, and over 25%. Land in the 0-8% slope category is generally preferred for all types of development. Gradual slopes are most favorable for building roads, and public water and sewer facilities can be installed at the least cost to the community. Also, excavations for most structures can be done at a minimal cost and the erosion associated with such work can be reduced easily on-site. The exceptions to this would be wetland areas and floodplains because they occur primarily in the 0-5% slope range. An examination should be made as to the environmental function of such wetland and floodplain areas, as well as the risks that might be inherent in development before such lands are utilized for building sites.

As slopes increase to 8-15%, the land is more suited to less intensive forms of development. Carefully placed residential dwellings and some agricultural uses (orchards and field crops) may be suitable for this terrain. As development approaches a 15% gradient, it requires more careful consideration for all types of development. Once a slope exceeds a 15% gradient, restrictions on development are advisable, although it is really at the 25% slope and above that development becomes unsuitable. Areas having 25 percent or greater slope have benefits as conservation areas for low intensity recreational uses and wildlife habitats. Also, their disturbance can create serious erosion problems, washing out topsoil and even roadways downhill. Forestry practices on such slopes must be confined to low-impact operations, with proper erosion controls in place. Other important controls for forestry uses include minimal basal area cutting, and skid roads designed for steep slope harvesting.

When developing steep terrain, the potential for environmental damage increases as the slope gradient

increases. Overly steep slopes consisting of sands and gravels left after the excavation of an area will quickly gully and erode. Erosion control barriers should be in place at the time of excavation and prompt reseeding and regrading should take place afterwards. Surface water run-off rates and erosion factors increase as the slope steepens. This will cause sedimentation of the surface waters down slope and will clog stream channels and rivers if no erosion controls are in place.

## **Soils**

Soils information is an important consideration in land use planning since the various characteristics of soils – such as steepness, wetness, flood susceptibility, etc - have such an impact on land use opportunities. Soil information for Chesterfield was obtained from the following sources:

- 1) Soil descriptions and mapping: Soil Survey of Cheshire County, New Hampshire, published by the US Department of Agriculture Soil Conservation Service, 1989.
- 2) Soil development capability: Soil Potential Ratings for Development; Cheshire County, NH, prepared by the Cheshire County Conservation District in August 1984.

The soils of Chesterfield are uncharacteristic of the Monadnock Region with an almost forty/sixty split between developable and undevelopable soil types. Approximately 36% of the soils in Town are suitable for development while 64% have restrictive features such as wetness, steepness of slope, hardpan or floodplain conditions. Soils on steep slopes are usually thin with exposed bedrock or a shallow depth to bedrock. Floodplain soils tend to be fine and sandy with wetland conditions. Floodplain areas often have a well-developed topsoil making them desirable for certain agricultural uses.

### Shallow to Bedrock Soils

This group of shallow to bedrock soils predominate and have formed on a thin layer of glacial till which is underlain by solid bedrock at about 2 feet, (the depth of bedrock fluctuates greatly between less than one foot to four or five feet). Steep slopes with exposed bedrock are common in some of these soils. The mountainous eastern sections of Chesterfield are dominated by these types of soils and they occupy 44% or nearly one-half of the town's total land area.

### Wetland Soils

Wetland soils in Chesterfield are those that the soil survey categorizes as being poorly drained or very poorly drained (including muck and peat). Chesterfield has a very scattered pattern of wetland soils, accounting for only seven percent of the total land area, or 2,043 acres. This compares with about 9.6 percent of the southwestern part of New Hampshire as a whole.

### Construction Materials Soils

The following descriptions of the four types of construction materials are based on the above-referenced Soil Survey of Cheshire County.

The classifications used to designate the construction materials are based on a number of factors, including observed performance of the soil, soil properties, and site features that affect the removal of the material and its use as a construction material. The **Construction Materials Map** shows the locations of various construction materials throughout Chesterfield as identified by soil type.

**Roadfill:** Roadfill is defined by the Survey as soil material that is excavated in one place and used in road embankments in another place. Only soils suitable for low embankments (under six feet) were rated by the Survey. Roadfill is rated as being either “good”, “fair” or “poor”. “Good” soils are those that are comprised of significant amounts of sand or gravel or both, and slopes of 15% or less. “Fair” soils have in excess of 35% silt and clay-sized particles, and slopes of 15-25%. “Poor” soils contain many stones, or slopes of more than 25%.

**Topsoil:** Topsoil is defined in the Survey as material used to cover an area in order to establish and maintain vegetation. For the purposes of the Survey, only the upper 40 inches of soil were evaluated for its use as topsoil. Topsoil is also rated as being either “good”, “fair” or “poor”. Soils rated as “good” contain no stones or cobbles, have little or no gravel, and slopes of less than 8%. “Fair” soils are sandy, have considerable amounts of gravel or stone, or slopes of 8-15%. “Poor” soils are comprised of a lot of sand or clay, have a large amount of gravel or stone, and slopes of more than 15%.

**Sand and Gravel:** Sand and gravel are defined in the Survey as natural aggregates suitable for commercial use with a minimum of processing. The Survey evaluated only the probability of finding materials in quantities large enough as to be suitable for removal. The properties used to evaluate sand and gravel soils include the thickness of the material, the size of the grain, and the content of rock fragment. A soil rated as “probable” has either a layer of clean sand or gravel, or a layer of sand or gravel with up to 12% silty fines. In addition, the material must be at least three feet thick and have less than 50% (by weight) large stones.

The four types of construction materials found in Chesterfield are described below; accompanying maps illustrate the extent and location of these materials. “Good”, “Fair” and “Poor” roadfill and topsoil are identified; for sand and gravel, both the “probable” and the “improbable” soil units are identified. The source for all four tables is the Cheshire County Soil Survey.

Note that the survey assumes that all of the land area in Chesterfield is comprised of some amount of these four soil types. Therefore, when roadfill, for example, is calculated, the total of the “good”, “fair”, and “poor” roadfill soils equals the total land area of the town, based on the CCSS study.

#### Construction Materials by Type and Acreage

Gravel	Acres	Percent	Sand	Acres	Percent
Good	0	0.0%	Good	0	0.0%
Fair	535.1	1.8%	Fair	11,773.7	38.7%
Poor	28,643.8	94.2%	Poor	17,405.2	57.2%
Null or Not Rated	1,241.3	4.1%	Null or Not Rated	1,241.3	4.1%
Roadfill	Acres	Percent	Topsoil	Acres	Percent
Good	21.5	0.1%	Good	0	0.0%
Fair	0	0.0%	Fair	7,309.6	24.0%
Poor	14,514.6	47.7%	Poor	21,869.3	71.9%
Null or Not Rated	15,884.2	52.2%	Null or Not Rated	1,241.3	4.1%
			Totals	30,420.2	100.00%

Source: Cheshire County Soil Survey

## **Floodplains**

Floodplains are land areas that are susceptible to flooding. These areas actually have two parts: the floodway and floodway fringe. The floodway includes the channel and an additional area that often carries excess flow. The floodway fringe (more commonly known as the 100-year floodplain or the Special Flood Hazard Area) is a broader area over which floodwater may spread, but where the flow velocity is slower. This is an important distinction for land use planning, since some uses can safely occur in the Special Flood Hazard Area, but not in the floodway.

The Federal Emergency Management Agency (FEMA) has mapped the floodplains for all relevant municipalities; the boundaries of the floodplains were computed at cross sections interpolated between cross sections, based on hydraulic information and past experience of flooding. Flood Insurance Rate Maps define the 100-year floodplain (meaning there is a 1 out of 100 chance of flooding in any given year; over long periods of time, base floods will occur on the average once every 100 years), and an area of 500-year floodplain (a 1 out of 500 chance of flooding in any given year).

Chesterfield is a participating member of the National Flood Insurance Program (NFIP). Flood Insurance Rate Maps and the Flood Boundary and Floodway Map, all bearing the effective date of May 23, 2006 are used for flood insurance purposes and are on file with the Chesterfield Planning Board. As an NFIP community, the Chesterfield residents who live in the floodplain can purchase insurance for their property. There are approximately 28 residential structures located in the FEMA designated Special Flood Hazard Areas (SFHA's), and 13 NFIP Policies purchased by residents.

One of the requirements for a community to become a member of the NFIP is that the town needed to adopt a Floodplain Management Ordinance, which it has done. This Ordinance requires the town to keep track of all development in the Special Flood Hazard Areas (SFHA) and ensure that if any new construction or substantial improvements to a home are proposed for the SFHA, the lowest enclosed floor must be at or above the base flood elevation.

The purposes of this requirement are to minimize the potential for flood damage, to avoid damage-prone uses in the floodplains, and to reduce development pressure of flood hazard areas. Communities that do not maintain and/or enforce their floodplain regulations may be suspended from the insurance program, which could have serious consequences for any affected landowners if their mortgage holders wished to cancel the mortgage. For these reasons, it is very important for the town to keep the floodplain management ordinance up to date by amending it as necessary, and to monitor all development within these areas. Zoning can be amended by vote at Town Meeting to disallow any development within floodplains.

Chesterfield has very little floodplain soil, only about 292 acres or 2% of the total land area. The majority of this area is located adjacent to the Connecticut River. Most of the floodplain areas that are not wetlands are in agricultural use. Floodplain soils do not necessarily include all areas that flood – only those areas that flood frequently enough to change soil make-up.

Besides floodplain soils there are areas that flood but do so infrequently that soil conditions are not changed. These are called flood hazard areas. Flood hazard areas include the banks of Hubbard Brook, Catsbane Brook, Town Brook, and the inlet streams leading to Fullam Pond. All told, approximately 1,000 acres in Chesterfield fall within the identified flood hazard areas.

The Chesterfield Hazard Mitigation Plan update is a plan developed to mitigate the loss of life and property during severe weather events. Hazard Mitigation Plans are updated every five years and contain an Action Plan to be implemented by the town. Some of the mitigation actions in the current plan include: install a

flow gauge for the Connecticut River, adopt an aquifer district, establish streambank repair and stabilization, continue active river stewardship, and implement Best Management Practices including Sediment and Erosion Control plans for construction and maintenance.

## **Water Resources**

Chesterfield has a land area of approximately 45.5 square miles, or 29,184 acres. Surface water accounts for approximately 1,280 acres. Chesterfield has one sizable water body, Spofford Lake (740 acres). There are several streams of varied orders throughout the town. Aquifers, or groundwater, are also included in this analysis, since they provide an important source of water for private and community wells. A description of the town's watersheds, waterbodies, watercourses, and aquifers is presented below.

### Watersheds

A watershed is the land area made up of a series of connecting higher ridges that drain surface water to the lowest point, which is where a stream or a river flows out of the watershed.

Chesterfield forms part of two different major watersheds: the Lower Connecticut River Watershed and the Ashuelot River Watershed. Both are part of the Connecticut River Basin. The lower Connecticut River Watershed consists of approximately 61,350 acres in portions of Chesterfield, Hinsdale, Westmoreland, Walpole, Keene, Surry, and Alstead. Chesterfield's portion of this watershed consists of approximately 21,238 acres. The Ashuelot Watershed is 282,900 acres in size with only 9,546 acres in Chesterfield. In Chesterfield, the Ashuelot Watershed is composed of the Pisgah Area and the California Brook Natural Area, both protected as conservation areas.

The town's drainage pattern is such that water drains away from the town. Chesterfield receives little or no drainage from surrounding communities.

### Waterbodies

Chesterfield has approximately 32 waterbodies scattered throughout Town. Most are quite small, only measuring a few acres or less in size. The largest is Spofford Lake (740 acres) in the north. Most of these waterbodies are connected to the streams and brooks which form the drainage pattern; there are a few small isolated bodies of water around Town. Chesterfield's waterbodies are really too small to support much recreational use, with the exception of Spofford Lake.

### Rivers and Streams

Chesterfield's most significant watercourse is the Connecticut River, running north-south along the western border of town. The Connecticut River forms the town's western border with the Town of Brattleboro, VT. There are many significant streams in the town as well; these are delineated on the Water Resources Map.

### Aquifers

Aquifers are geologic formations (either fractured bedrock or sand and gravel) that by virtue of their physical structure and location on the landscape can provide water through drilled wells in sufficient quantities to support human uses. Characteristics of high-value aquifers include being situated down stream in a watershed, being in a watershed with a preponderance of natural forested land cover, and having a physical structure that is highly permeable - open spaces between particles of sand and gravel or open

fissures and interconnected networks of cracks in bedrock - to both store and transmit water. Aquifers are re-supplied primarily by water falling as precipitation. Rain and snow melt move downward through soil, sand and gravel and/or cracks in bedrock to a saturated zone where the spaces between particles and cracks in rock are filled with water. It is very important that the surface of the earth be able to transmit water so that a certain percentage can be stored underground. Excessive compaction or extensive covering of the land surface reduces the volume of groundwater which affects the supply of water to wells.

Aquifers of medium to high potential occur in southwestern New Hampshire as unconsolidated deposits of sand and gravel, or in bedrock fractures. The unconsolidated deposits in this region are principally stratified drift deposits (sand and gravel sorted and deposited by running water from the melting glaciers) that are usually in valley floors or on adjacent hill slopes. These materials have abundant pore space to store water, and pore space may amount to more than 30 percent of the total volume of the deposit. Consequently, stratified deposits at the bottom of watersheds are good aquifers.

Fractured bedrock can be highly-productive aquifers, especially when overlaid by a layer of sand gravel, which allows the recharge to occur directly from above. Most domestic water wells in Chesterfield are drilled into bedrock - and while many have low yields, bedrock fractures can be staggeringly water rich - and sometimes transmit great volumes of water over many miles.

In contrast, a till aquifer will typically have a lower-yielding well life due to its mixture of clay, silt, gravel and boulders that tend to compact. The transmission and storage of water is greatly decreased in this type of aquifer. The water table (the top of the saturated zone) can fluctuate, depending on the volume recharge to aquifer material.

Groundwater in saturated soils is generally vulnerable to pollution because surface contamination can infiltrate directly into it. It is possible, however, to trace the source of pollution by finding the watershed boundary. Once a pollutant enters an aquifer, it may remain in place for an indeterminate period of time. While pollutants can enter an aquifer easily because sand and gravel are porous and transmit water rapidly, once in the aquifer their movement is then governed by groundwater flow, which moves very slowly through the tiny pore spaces of the glacial till.

Sources of aquifer pollution are frequently located on the ground surface directly above or contiguous to the aquifer: septic tank effluent, landfill refuse, leakage from sewer lines or ruptured fuel tanks, agricultural fertilizers and pesticides are among the many possible sources of pollution for an aquifer. In addition to these potential contaminants are the materials such as fuels, lubricants or other toxic materials associated with earth excavation, an activity that is, of course, directly associated with sand and gravel aquifers.

The US Geological Survey provides aquifer delineation maps for the entire state. The map is essentially a surficial geology map, showing the distribution of unconsolidated (not bedrock) geologic material on the land surface. Bedrock aquifers do exist, but these were not part of this particular study. This study identifies areas of sand and gravel and measures the rate of transmissivity - that is, the speed with which water passes through the materials, in increments of 1,000 feet squared per day.

The **Water Resources Map** for Chesterfield shows the locations of soils that are commonly associated with concentrations of groundwater (aquifers).

## **Spofford Lake**

Spofford Lake is the crown jewel of Chesterfield and carries high importance to the community of Chesterfield as well as the region. The lake adds to the quality of life for residents and visitors by providing environmental, recreational, and economic benefits.

### Environmental Asset

As documented in the Chesterfield Natural Resource Inventory and Conservation Priorities, Spofford Lake serves as a critical habitat for migratory birds and waterfowl. It also serves as important habitat for a variety of fish and other wildlife. In the inventory, the Spofford Lake watershed was noted as one of five Conservation Focus Areas (CFAs) which are identified as having high priority for conservation. Other areas in the study include the California Brook Natural Area, Gulf Brook watershed, Hubbard Brook and Catsbane Brook watersheds, and the Connecticut River riparian corridor.

### Recreational Asset

Spofford Lake is enjoyed by many for recreational opportunities such as swimming, fishing, boating and waterskiing. It offers two public beaches, North Shore and Wares Grove Beach, which have bathrooms, grills, and picnic tables. Wares Grove Beach also has a concession stand, volleyball, basketball, tetherball, and a swing set. There is a public boat launch for motorized and non-motorized boats and a parking area.

### Economic Asset

The revenue that Spofford Lake brings to local businesses is very important. Maintaining a healthy lake will help to support those businesses that rely on the local users of the lake as well as seasonal and daily visitors. If the lake was to decline to the point that reduces the fish population, the fishing community may seek other bodies of water to fish. Other recreational sports such as kayaking, swimming, scuba diving, boating, and waterskiing may also decrease. All would have a negative effect to some businesses.

### Threats and Challenges

Spofford Lake has recently been downgraded to “impaired status” for aquatic life. It is important to identify the source of the water quality issues impacting the lake and take steps to make the necessary changes. There would be a negative domino effect to the town if the water quality in Spofford Lake was to further decline. Property values around the lake are dependent on maintaining good water quality. As the water quality declines, so does the recreational use, aesthetic quality, and resale potential of these homes. Since many of these homes are higher value homes, this in turn, could also have an impact on the tax revenue to the town.

The town has many older residences that no longer have children attending the Chesterfield school. The class sizes have been slowly getting smaller and smaller. We need to promote Chesterfield and attract younger families to be able to sustain the employment of teachers and teacher’s assistants. These employees are typically residents of Chesterfield. Not being able to work in the town they live in may cause them to relocate to other communities.

The Town of Chesterfield should seek all programs and grants that are available to return Spofford Lake back to the condition it once was. To improve and maintain water quality, the town may need to pass further regulations that will protect the water resources. While methods such as this may be unpopular with some of the residents, methods of protecting this resource should be carefully considered for the overall



benefits they bring. The Town of Chesterfield Master Plan is a document that should be considered by all Chesterfield Boards and Commissions in their decision making.

## Open Space

Demand for our natural resources increases, however, our natural resources do not increase. Therefore, the protection and management of these resources is critical. Providing open space is an important aspect of town planning. Open space provides many benefits to a community:

Maintenance of rural character and pleasant scenery.

Provides buffers between developments.

Wildlife habitat protection.

Groundwater protection, water retention, and groundwater recharge.

Flood control.

Food production.

Air purification and the production of oxygen.

Recreational opportunities.

### Federal, State and LCHIP Properties

The following table shows the amount of federal and state owned open space lands, as well as all parcels protected under the Land and Community Heritage Investment Program (LCHIP) in Chesterfield and surrounding towns. The New Hampshire Land and Community Heritage Investment Program (LCHIP) is an independent state authority that makes matching grants to NH communities and non-profits to conserve and preserve New Hampshire's most important natural, cultural and historic resources.

Chesterfield ranks second in percentage of total area of land dedicated to open space in its subregion with 23% of the town's total acreage. The higher percentage of open space in Chesterfield and Winchester is due to the large amount of acreage protected in Pisgah State Park. The State Park also stretches into Hinsdale, but with far less acreage.

### NEIGHBORING OPEN SPACE COMPARISONS

Municipality	Open Space in Acres	% of Total Area
Chesterfield	6,869	23%
Hinsdale	1,586	11%
Keene	4,861	20%
Swanzey	3,314	11%
Westmoreland	1,747	7%
Winchester	9,611	27%

Source: GRANIT Conservation/Public Lands Layer 2015

## Current Use

The Current Use Taxation program was enacted in 1973 to promote the preservation of open land in the state by allowing qualifying land to be taxed at a reduced rate based on its current use value as opposed to a more extensive use. The minimum land area currently needed to qualify is ten acres. The price of this favorable treatment is a 10 percent penalty tax (10% of the fair market value) when the property is later changed to a non-qualifying use.

In comparing conservation easements to current use taxation, easements are permanent, while current use may be reversed by change to a non-qualifying use and payment of the Use Change Tax. Thus, current use may satisfy the goals of a landowner who cannot afford to permanently abandon future development value but desires current property tax relief. If the property is later subdivided, the use change tax becomes an element of the development costs.

In Chesterfield, 100% of the monies collected from the Use Change Tax (10% of the market value of a piece of land taken out of current use and sold for development) with a maximum amount of \$25,000 per year going to the Conservation Commission for the acquisition of land and/or conservation easements.

The current use designation, authorized by RSA 70-A, provides the town other benefits as well: it encourages landowners to maintain traditional land-based occupations such as farming and forestry; promotes open space, preserves natural plant and animal communities, healthy surface and groundwater; and provides opportunities for recreational activities. More information about current use can be found in the land use chapter of this master plan.

## Forest Resources

Forest lands are a defining feature of the landscape and an asset for economic development and tourism. Forests play an important role in providing clean air, clean water, and essential habitat for plants and animals. Other roles of forestlands include protecting watersheds; reducing the impacts of floods; and, storing carbon from the atmosphere.

Forest types are distinctive associations of trees, shrubs and herbaceous plants, named after the predominant tree species. Climate, elevation, soil conditions and land use history all have an impact on which forest type is growing in a particular area. The variety of tree species and ages present in a forest help determine the kinds of wildlife that can be supported and the threats it can withstand. Chesterfield has three predominant forest types: the hemlock-hardwood-pine forest, Appalachian oak-pine, and wet meadow/shrub wetland. The threats facing these forests include: fragmentation, development, invasive species, disease, climate change and unmanaged forest practices.

The **Forest Types Map** for Chesterfield shows the locations of forest types that are in Chesterfield and across town lines.

## Challenges to Natural Resources

There are many threats to our natural environment that are likely to change the health and abundance of some plant and animal species. Lack of nesting and breeding areas, due to land uses, light trespass, and unfragmented conservation land can change the types and reduce the population of some of the wildlife species. Environmental changes due to extreme weather events, insufficient stormwater management, pollution, and atmospheric deposition, can impair water and soil quality.

Maintaining the resources that we have will help to ensure that they will remain for future generations. Good stewardship of the conserved areas should be encouraged. Involving youth in conservation practices and volunteerism should also be a priority. The use of best management practices on any size development, including stormwater management will help maintain the water quality and reduce the chances of erosion and flooding. Many of the actions proposed in the Hazard Mitigation Plan will reduce the severity of extreme weather events when they occur. (See Appendix A)

## Wildlife

Native fish and wildlife species are valued by residents and visitors for a variety of reasons. Some merely enjoy their presence, while others rely on them for sport, food or income. For many, it is a combination of these factors that plays a role in their appreciation of this resource. In addition to their recreational and economic benefits, fish and wildlife serve important ecological functions. The interactions between animals, plants, and microorganisms are vital to maintaining ecosystem balance and resiliency, and to the adaptability and long-term health of food supplies. Protection of their habitat is essential to ensuring that these species remain vibrant. These habitats include floodplains, wetlands, forests, grasslands, rivers, ponds, etc. The amount and distribution of food, water, cover, and space in a specific habitat influences the types of wildlife that can survive in an area.

The most common habitat type in Chesterfield and the Region is the hemlock-hardwood-pine forest, which provides habitat for numerous wildlife species such as the cerulean warbler, bobcat, and black bear. Other types include the Appalachian oak-pine forest, which is found at lower elevations along the Connecticut River and in much of Cheshire County. The NH Wildlife Action Plan's assessment of highest ranked wildlife habitat can be a useful resource in identifying which areas of the Region are most important to protect from future development. The **Wildlife Habitat Map** shows the locations of wildlife habitats within Chesterfield and across town lines.



Photo by: Elaine Levlocke

The NH Natural Heritage Bureau tracks the States' rarest and most endangered plant species. They also track rare animal species in cooperation with the Nongame & Endangered Wildlife Program of the NH Fish & Game Department. Having an awareness of these species can help in their continued survival.

*Endangered* species are defined as those species that are in danger of being eradicated from the state, while *threatened* species are defined as those that have the possibility of becoming endangered. A third category is the species that are listed as a *special concern*. These are defined as species that could become threatened in the foreseeable future if conservation actions are not taken or those species that were recently recovered enough to be removed from the endangered and threatened category.

In addition to tracking species, the NH Natural Heritage Bureau also lists the *natural communities* within the State. Natural communities are defined as predictable patterns across the landscape with similar physical attributes that are conducive habitats for certain plants or animals.

The table on the next page shows the *threatened* and *endangered* plant and animal species within Chesterfield as well those species which are listed as a *special concern*. The table also lists the Natural Communities found within the town boundaries.

	Species or Community Name	Listed		# Reported in 2012	
		US	NH	Chesterfield	NH
Natural Communities - Terrestrial					
	Appalachian oak - pine rocky ridge			Historical	14
	Appalachian wooded talus			Historical	1
	Birch - mountain maple wooded talus			Historical	6
	Dry Appalachian oak forest			Historical	15
**	Hemlock - hardwood - pine forest system			1	1
Natural Communities - Palustrine					
***	Drainage marsh - shrub swamp system			2	18
Plants					
	Appalachian bristle fern		E	Historical	2
	butterfly milkweed		E	Historical	9
	common star-grass		T	Historical	16
**	Downy False Foxglove		E	1	15
	Incurved Umbrella Sedge		E	Historical	10
	northern wild senna		E	Historical	10
	small-headed rush		E	Historical	6
Vertebrates - Birds					
**	Bald Eagle		T	1	88
	Cerulean Warbler		SC	Historical	2
Vertebrates - Reptiles					
*	Wood Turtle		SC	1	193
Vertebrates-Amphibians					
**	Jefferson Salamander		SC	1	4
Invertebrates - Dragonflies & Damselflies					
**	Arrowhead Spiketail		--	1	14
***	Rapids Clubtail		SC	1	9
**	Riverine Clubtail		SC	1	11
***	Skillet Clubtail		SC	1	7
**	Spatterdock Darner		--	1	21
Federal /State Listing					
These flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town.		E = Endangered			
**** = Highest importance		T = Threatened			
*** = Extremely high importance		SC = Special concern			
** = Very high importance					

Source: NH Natural Heritage Bureau

## **Natural Resources Goals, Objectives, and Strategies**

**Goal: Protection of our natural resources for current enjoyment and preservation for future generations.**

Objective 1: Encourage the preservation of the existing natural landscape through outreach and education.

Strategies:

Help landowners implement Best Management Practices for forestry, agriculture, waste management, and stormwater management through effective outreach and education initiatives as well as demonstration projects.

Consider adopting ordinances that:

protect and preserve scenic vistas and byways from visual impacts;

manage stormwater through low impact development;

protect riparian and wetland buffers;

protect groundwater resources from potential contaminants and threats.

The use of best management practices on any size development, including stormwater management, should be included in all applications.

Innovative land use techniques should be considered for new development within Chesterfield to help maintain the communities' vision and preserve the natural features.

Objective 2: Seek to improve the existing conditions of our natural resources where damage, degradation or impairment has occurred.

Strategies:

Apply to the NHDES for a 604b grant to perform a Comprehensive Lake Inventory and Management Plan for Spofford Lake.

Involve youth in natural resources best management practices and volunteerism.

Objective 3: Continue to support the conservation efforts that have already been done and encourage landowners to consider putting land into conservation.

Strategies:

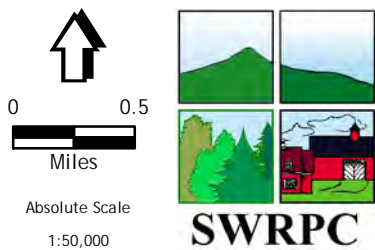
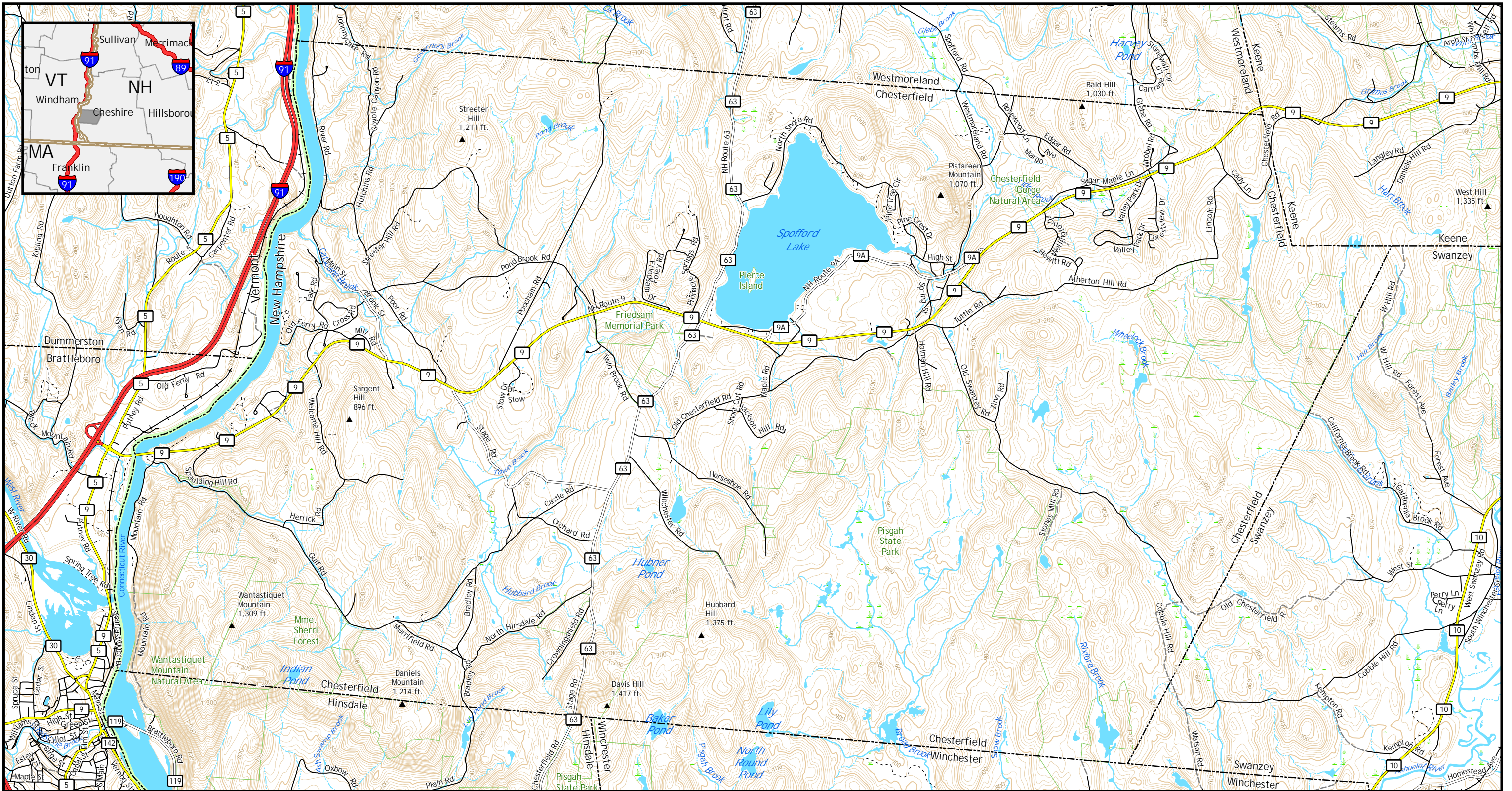
Promote good stewardship of the conserved areas.

Involve youth in conservation practices and volunteerism.

Work with adjacent communities to develop priority properties that would connect conservation areas thereby establishing unfragmented parcels of land for wildlife corridors.

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Elevation Contour

- Normal Index (100 ft.)
- Normal Intermediate (20 ft.)

Highway  
by Legislative Class

- Class I
- Class II
- Class V
- Class VI
- Private

River or Stream  
by Type

- Intermittent Stream
- Perennial Stream

Water Body

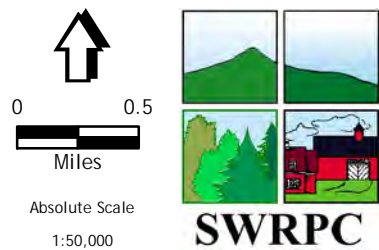
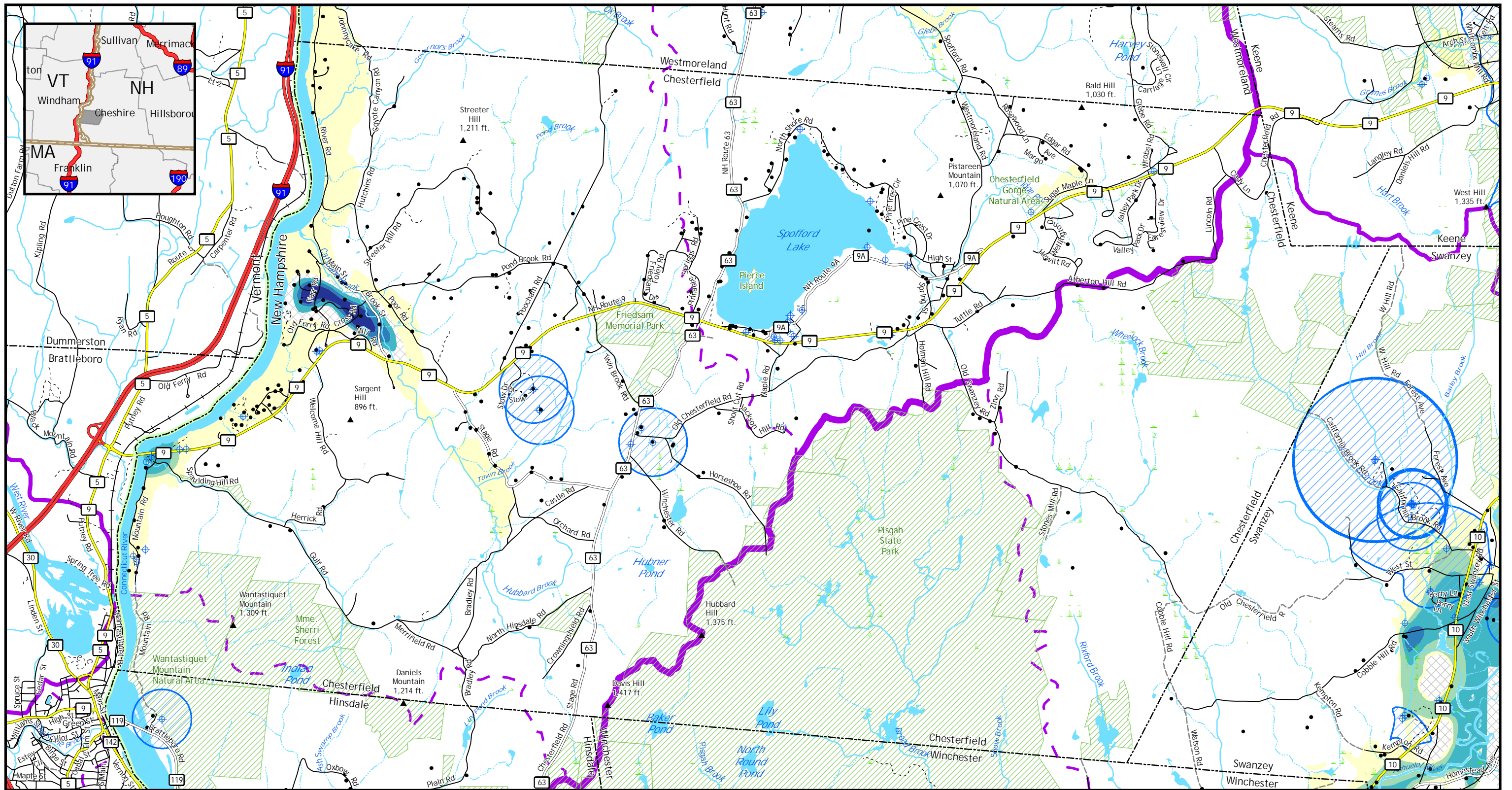
- Swamp or Marsh
- Lake or Pond
- Conservation Land

# TOWN OF CHESTERFIELD Topography Map

Maps prepared by Southwest Region Planning Commission (SWRPC) are for planning purposes only. SWRPC uses data from multiple sources at various scales of accuracies. No warranties, expressed or implied, are provided for the data herein, its use, or its interpretation.

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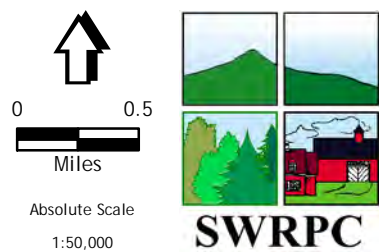
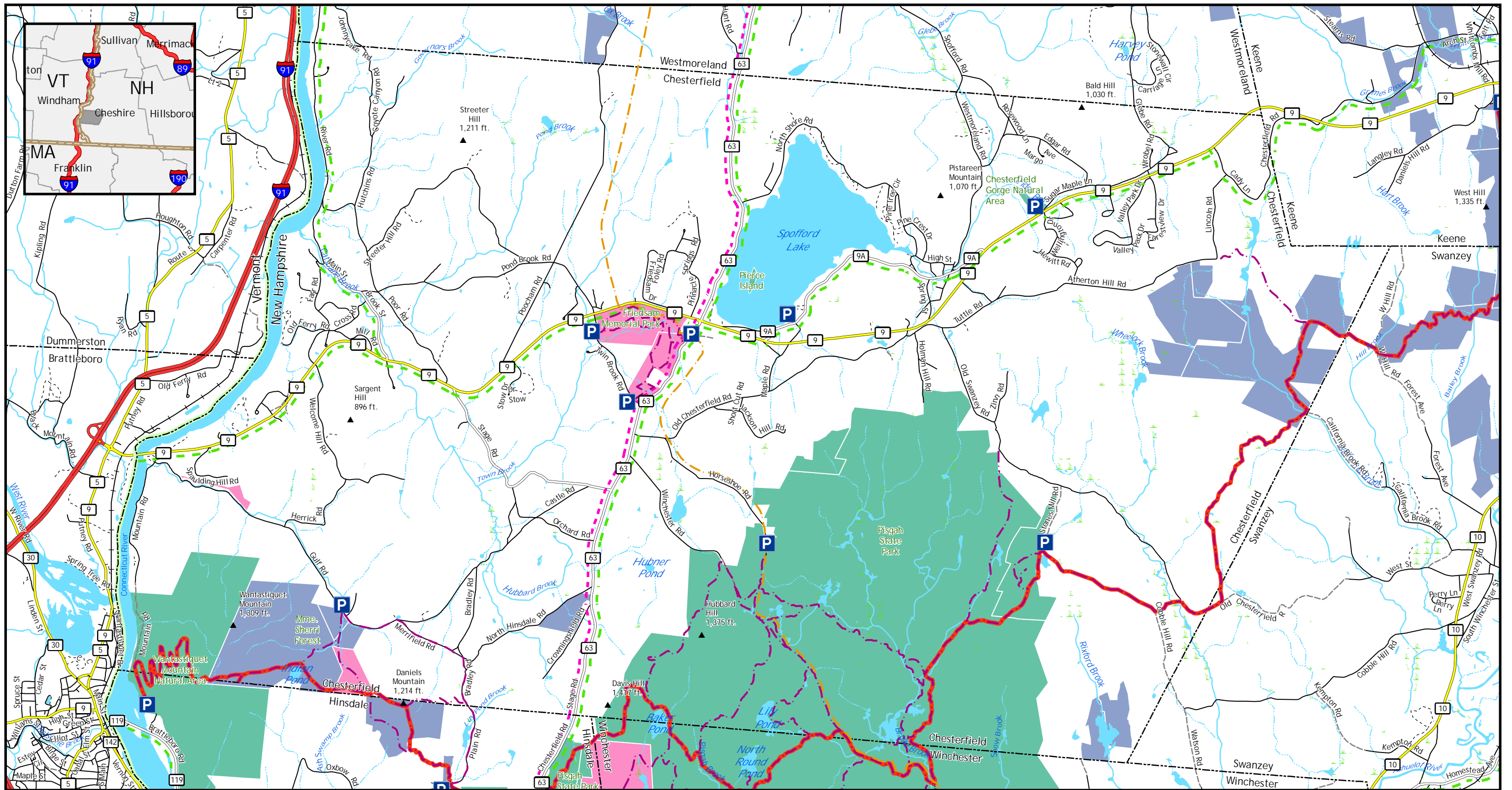
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7/14/2016

Hydrologic Unit	Highway by Legislative Class	River or Stream by Type	Aquifer Transmissivity
12-digit (Subwatershed)	Class I	Intermittent Stream	Unable to Contour
10-digit (Watershed)	Class II	Perennial Stream	0 - 1,000 sq. ft. per day
6-digit (Basin)	Class V	<b>Water Body</b>	1,000 - 2,000 sq. ft. per day
Water Well Inventory	Class VI	Swamp or Marsh	2,000 - 3,000 sq. ft. per day
Public Water Supply	Private	Lake or Pond	3,000 - 4,000 sq. ft. per day
Wellhead Protection Area		Conservation Land	4,000 sq. ft. per day and greater

# TOWN OF CHESTERFIELD Water Resources Map





Conservation Land  
by Primary Protection Agency Type

- Municipal
- State
- Private

**P** Parking Available

- # 5 Snowmobile Trail
- Other Recreation Trail
- Wantastiquet-Monadnock Trail
- Connecticut River Scenic Byway
- Designated Bicycle Route

Highway  
by Legislative Class

- Class I
- Class II
- Class V
- Class VI
- Private

River or Stream  
by Type

- Intermittent Stream
- Perennial Stream

Water Body

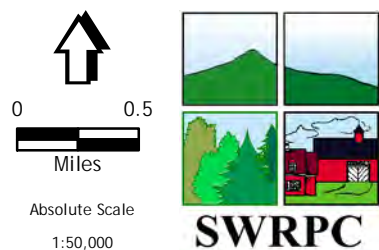
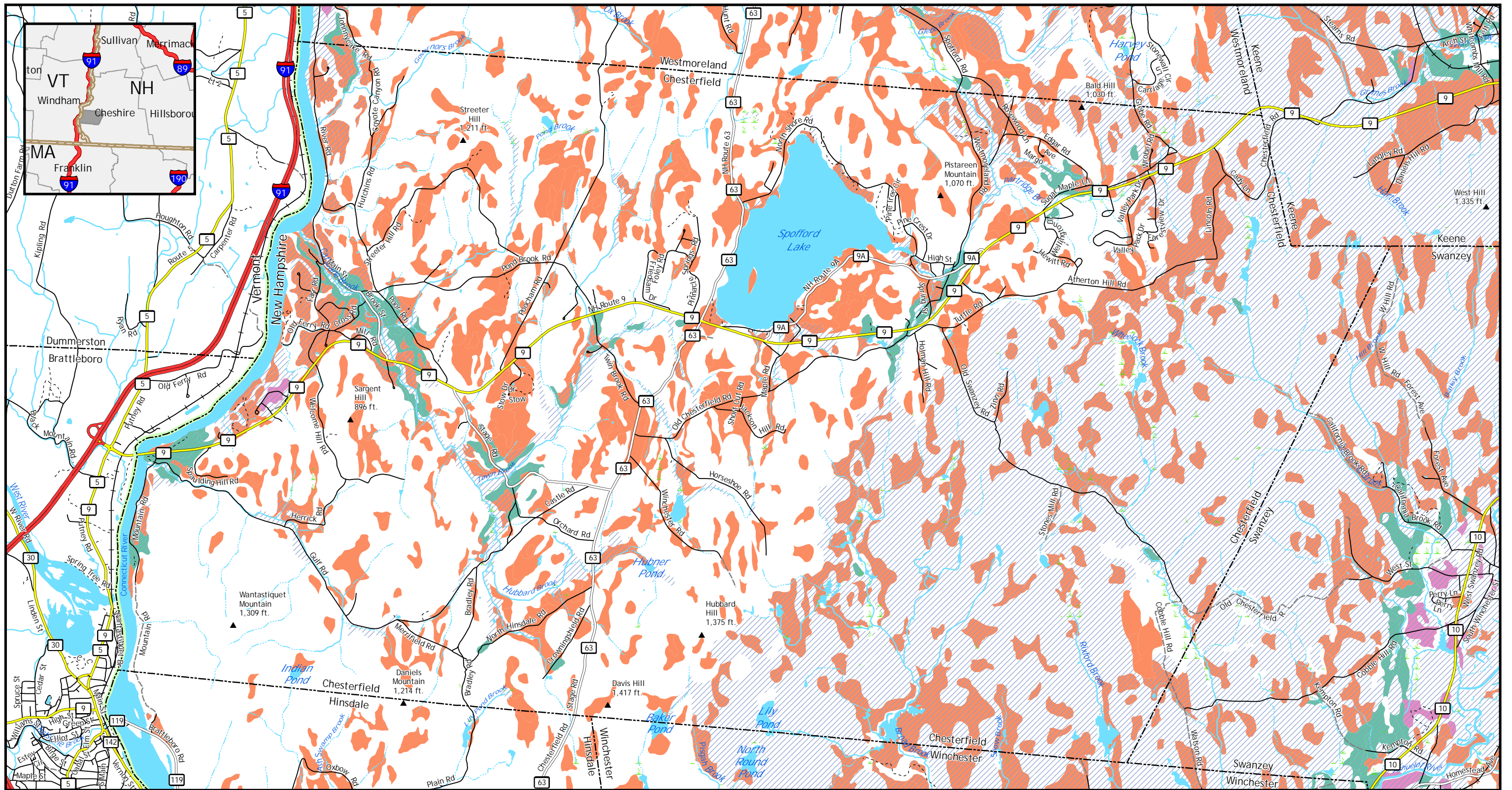
- Swamp or Marsh
- Lake or Pond
















# TOWN OF CHESTERFIELD Conservation Land Map

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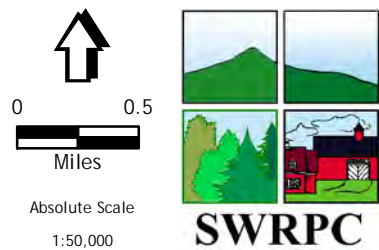
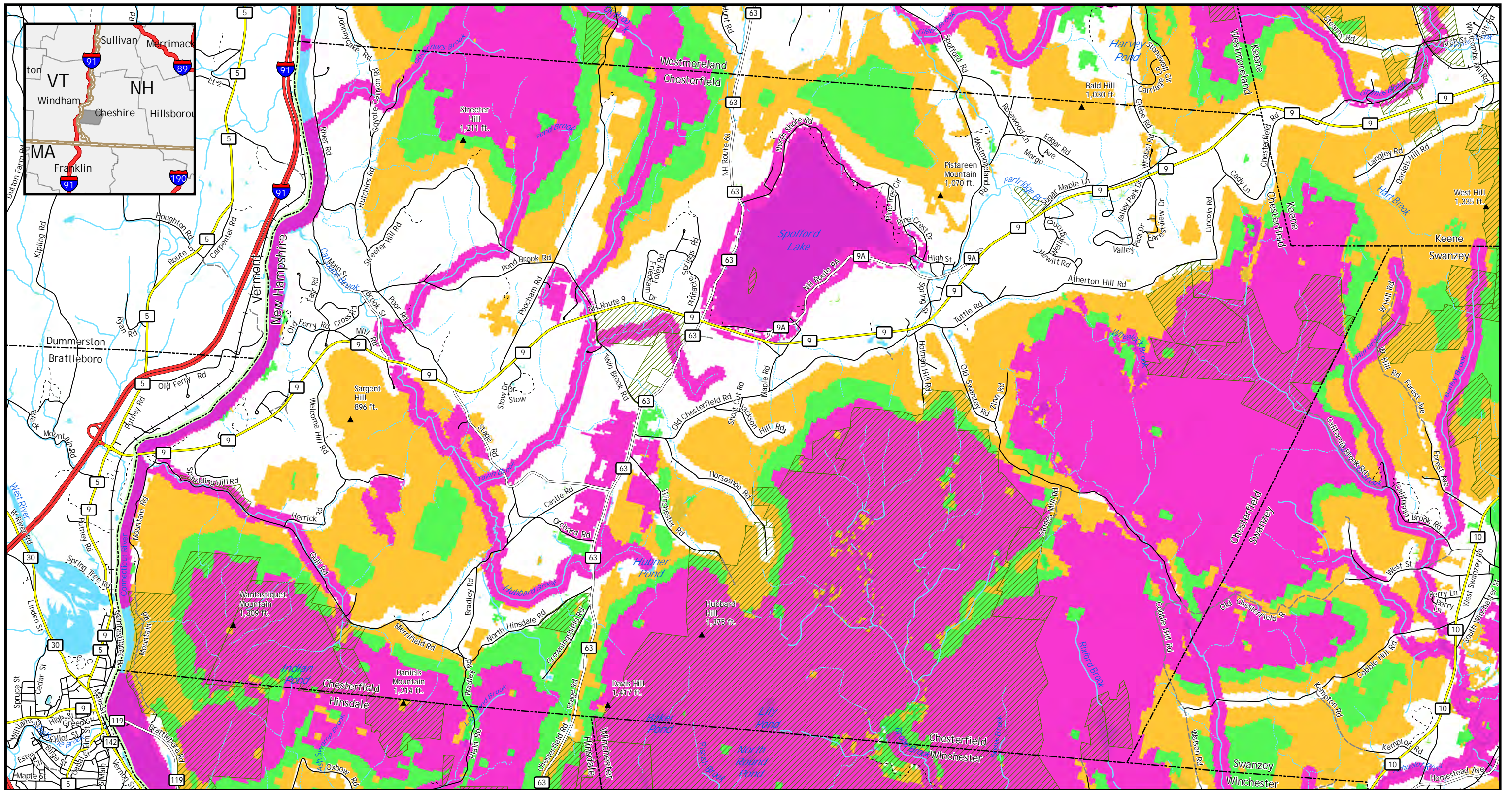




Sand Source	Highway	River or Stream
 Fair	by Legislative Class	by Type
 Fair	 Class I	 Intermittent Stream
 Fair	 Class II	 Perennial Stream
 Fair	 Class V	 Swamp or Marsh
 Fair	 Class VI	 Lake or Pond
 Good	 Private	
	Unrated and poor rating soil units not depicted. Soil survey data according to the United States Department of Agriculture Natural Resources Conservation Service.	

# TOWN OF CHESTERFIELD Construction Materials Map





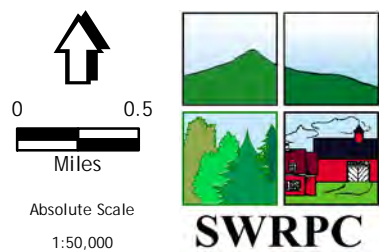
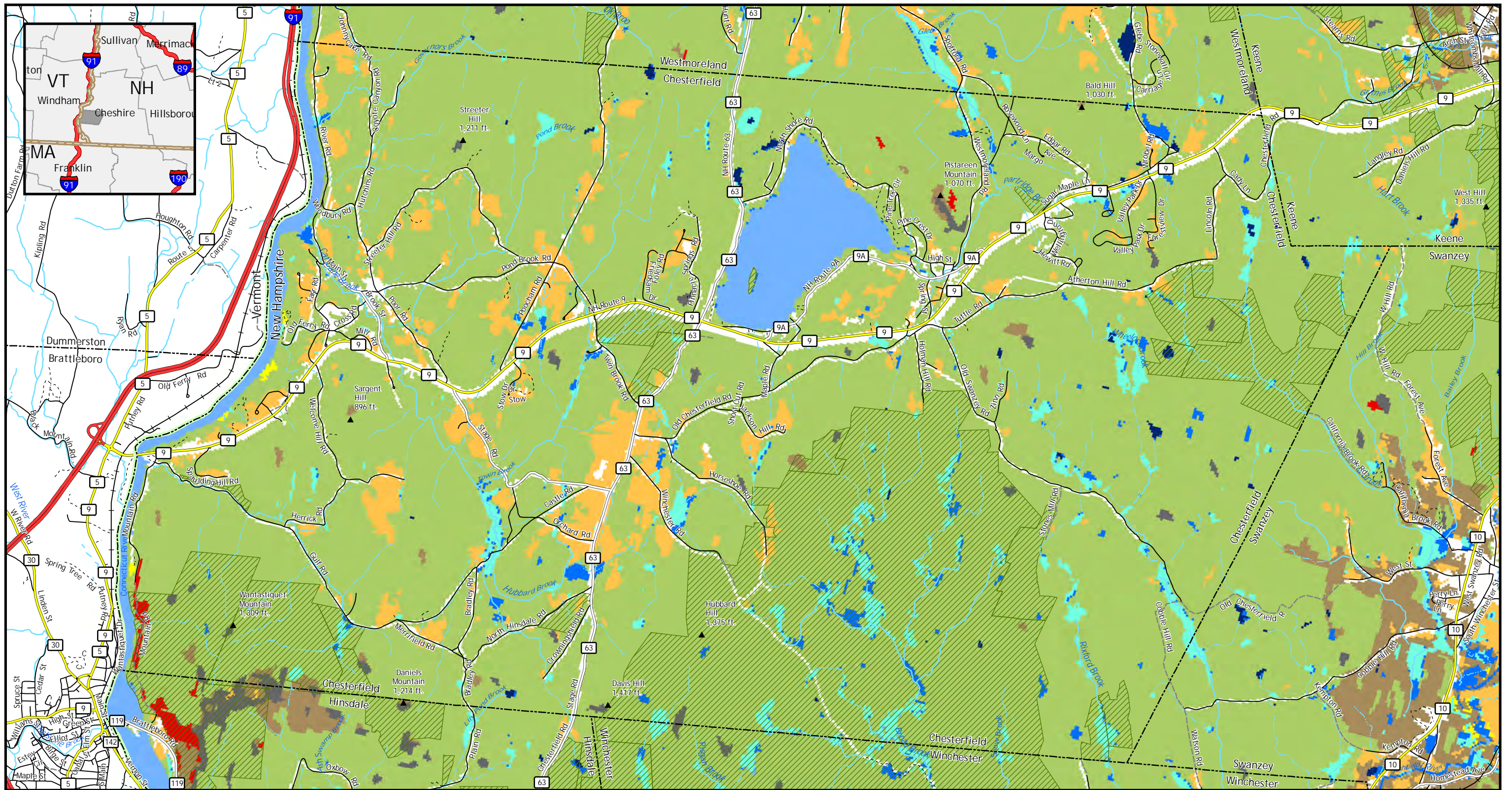
Highway by Legislative Class	River or Stream by Type	Wildlife Action Plan Highest Ranked Habitat by Ecological Condition
Class I	Intermittent Stream	Highest Ranked Habitat in New Hampshire
Class II	Perennial Stream	Highest Ranked Habitat in the Biological Region
Class V	<b>Water Body</b>	Supporting Landscapes
Class VI	Swamp or Marsh	Conservation Land
Private	Lake or Pond	

# TOWN OF CHESTERFIELD

## Wildlife Action Plan 2015

### Highest Ranked Wildlife Habitat





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10/18/2016

Highway	River or Stream	Wildlife Action Plan
by Legislative Class	by Type	Land Cover
Class I	Intermittent Stream	Appalachian oak-pine
Class II	Perennial Stream	Cliff and Talus
Class V	Swamp or Marsh	Floodplain forest
Class VI	Lake or Pond	Grassland
Private	Conservation Land	Hemlock-hardwood-pine
		Temperate swamp
		Developed or Barren
		Northern swamp
		Open water
		Peatland
		Rocky ridge
		Wet meadow/shrub wetland

# TOWN OF CHESTERFIELD

## Wildlife Action Plan 2015

### Land Cover



## ECONOMIC DEVELOPMENT

### Introduction

Like many small towns in New Hampshire, Chesterfield has a limited amount of commercial and industrial development. Most goods and services including medical and professional are provided elsewhere in towns such as Keene and Brattleboro, VT. These towns also serve as major employment centers. Although the town has maintained one of the lowest tax rates in the county, an economic issue facing the town is the increasing school tax.

### Overview of Economic Development Chapter

This Economic Development chapter begins with highlights of Chesterfield's recent business, socio-economic, and demographic trends, and the town's place in a broader economic landscape. Following this business profile is an overview of existing utilities (water, sewer, electric, and telecommunications) and any identified capacity limitations that may impact future economic development in Chesterfield. The final section outlines the recommended goals and objectives developed through this Plan.

Following are highlights of Chesterfield's economic environment:

Chesterfield's unemployment rate averaged 3.9% between 2005 and 2014 while New Hampshire showed an average of 4.7% and the national rate was 7.0%.

The *median household income* is 13% higher today than it was in 2000. When adjusting for inflation, this equates to a raise in annual household incomes of nearly \$10,000. This increase comes at the same time period that Cheshire County and New Hampshire experienced a decrease in median household incomes, showing a -6.9 and -6.1 percent change respectively.

Residents seeking higher education has increased over the last decade for bachelor degrees (an increase of 6%) and graduate degrees (an increase of 3%).

In 2013, approximately 90.1% of Chesterfield's valuation comes from residential buildings and land, 8.6% from commercial and industrial uses, 1.3% from utilities, and .2% from properties in current use.

The most recent change in property valuation and tax rates is a 16.9% decline in valuation and an increase in the tax rate by \$3.78 per \$1,000 (or 22.6%) between 2012 and 2013.

Chesterfield's full value tax rate of \$20.05 ranked 70 out of 227 communities in the State (ranking where 1 is the lowest and 227 is the highest rate.)

The equalized tax rates in Chesterfield and the surrounding communities vary from \$20.05 to \$34.20 per \$1,000 of assessed value. Chesterfield has the lowest rate of \$20.05 and Keene is the highest with \$34.20.

### Current Business Profile

This section will examine economic trends for Chesterfield and surrounding areas to provide background on Chesterfield's recent economic history and how Chesterfield fits in this regional context.

Situated along the eastern border of the Connecticut River, Chesterfield has a central location to several tri-state labor market areas including Keene, Peterborough, Brattleboro, VT, and Greenfield, MA and is within commuting distance to major airports and rail service.

## Population

Since 1970 Chesterfield's population has increased by 1,787 residents. This growth represents an increase of 98.3% during those four decades. Chesterfield's population has increased at a higher pace than the surrounding towns, Cheshire County, and the State of New Hampshire. Chesterfield's population density virtually doubled from 1970 to 2010, growing from a density of 38 persons per square mile in 1970 to 76 persons per square mile in 2010. In comparison, the population density of Cheshire County was approximately 109 persons per square mile based on 2010 population figures. Chesterfield experienced the largest growth in the 1970s and 1980s (98.3% and 21.5%). This growth spurt however, changed during the past decade as Chesterfield experienced a significantly lower increase in population and was the second lowest increase percentage among the surrounding towns. The Town of Hinsdale experienced a decrease in population during the same period.

**Comparison of Population Growth Rates, 1970 – 2010**

POPULATION	1970	1980	1990	2000	2010
<b>Chesterfield</b>	<b>1,817</b>	<b>2,561</b>	<b>3,112</b>	<b>3,542</b>	<b>3,604</b>
Hinsdale	3,276	3,631	3,936	4,082	4,046
Keene	20,446	21,449	22,430	22,563	23,409
Swanzy	4,254	5,183	6,236	6,800	7,230
Westmoreland	998	1,452	1,596	1,747	1,874
Winchester	2,869	3,465	4,038	4,144	4,341
Brattleboro, VT	12,239	11,886	12,241	12,005	12,049
Cheshire County	52,364	62,116	70,121	73,825	77,177
New Hampshire	737,681	920,610	1,109,252	1,235,786	1,316,256
% CHANGE	1970-1980	1980-1990	1990-2000	2000-2010	
<b>Chesterfield</b>	<b>40.9%</b>	<b>21.5%</b>	<b>13.8%</b>	<b>1.8%</b>	
Hinsdale	10.8%	8.4%	3.7%	-0.9%	
Keene	4.9%	4.6%	0.6%	3.7%	
Swanzy	21.8%	20.3%	9.0%	6.3%	
Westmoreland	45.5%	9.9%	9.5%	7.3%	
Winchester	20.8%	16.5%	2.6%	4.8%	
Brattleboro, VT	-3.0%	3.0%	-1.9%	0.4%	
Cheshire County	18.6%	12.9%	5.3%	4.5%	
New Hampshire	25.8%	20.5%	11.4%	6.5%	

Source: US Census

## Employment

Between 1970 and 2000 the growth rate for total employed Chesterfield residents outpaced the growth in total population. In this period, population grew by 95%, while the number of employed residents over age 16 increased by 141%. In 1970, about 43% of Chesterfield's population was in the workforce. This rate had increased to over 52% in 2000 and 55% in 2010 workforce participation.

### Labor Force by Occupation

Looking at the occupation trends of Chesterfield residents over time provides an indicator to the types of potential business growth in the town and the region. The data source for these categories has changed since the 2000 US Census, therefore expanding the tables below to include current occupation and industry information could be inaccurate and misleading. In an effort to provide current employment information, an additional table was added to show the figures using the US Census Bureau 2010-2014 American Community Survey.

The largest occupational sector increases since 1970 have occurred in the managerial/professional and sales/administrative service fields. In 1970, 15% of workers were employed in the managerial and professional fields; by 2000 this rate had grown to 42% and continued to increase in 2014 to 50%.

This growth in "white collar" employment and the decline in manufacturing employment witnessed in Chesterfield are typical throughout the region and across the country. Regional labor market projections forecast these trends to continue into the foreseeable future. Another trend projected to grow with the spread of high-speed telecommunications availability is home-based employment.

<b>Chesterfield Labor Force by Occupation Type- 2014</b>		
Management, Business, Science, Arts	903	50%
Service Occupations	193	10%
Sales & Office Occupations	309	17%
Natural Res., Construction, Maintenance	27	2%
Production, Transportation, Material Moving	380	21%
Civilian Employed 16 Years and Older	1,812	100%
<i>Source: US Census Bureau- American Community Survey 2010- 2014</i>		

### Labor Force by Industry Type

The table below shows the Chesterfield labor force by the type of industry in which they are employed. Educational services, health care and social services is the largest category among the Chesterfield workforce. Other categories with a greater number of employees includes: Manufacturing; Wholesale Trade; Professional, scientific, management, administration, and waste management services; and Transportation, warehousing, and utilities.

<b>Chesterfield Labor Force by Industry Type- 2014</b>	
Civilian employed population 16 years and over	1,812
Agriculture, forestry, fishing and hunting, and mining	15
Construction	44
Manufacturing	286
Wholesale trade	218
Retail trade	63
Transportation, warehousing, and utilities	107
Information technologies	0
Finance and insurance, real estate, rental and leasing	87
Professional, scientific, management, admin., and waste management services	158
Educational services, health care and social assistance	594
Arts, entertainment, recreation, accommodation, and food services	78
Other services, except public administration	84
Public administration	78

*\*US Census Bureau-American Community Survey (ACS) 5-Year Estimates 2010-2014*



## Major Employers

Chesterfield's top employers are shown below. Based on the 2014 employer data, there are approximately 1,288 jobs in Chesterfield. The main commuting route to these locations is NH 9. In addition to those businesses listed in the table, there are many smaller businesses not shown.

**Top Employers 2014**

Business Name	Approximate # of Employees	Business Category
United Natural Foods	500-999	Food Warehouse
Albert's Organics NE Division	500-999	Food
Hunter North Associates	100-249	Security/Investigation
Thomas Companies	65	Construction
Chesterfield Elementary	50-99	Education
Camp Spofford	50-99	Education/Recreation
Perkins Home Improvements	20-49	Lumber/hardware
Federal Express	20-49	Package Delivery
Foard Panel Inc.	20-49	Construction
Ames Performance	20-49	Auto Parts
Lexmark International	20-49	Printing/Office
Chesterfield Inn	20-49	Hotel/Lodging
Osterman Propane	20-49	Fuel
Prospect Park Press	10-19	Printing
Westfield Construction	10-19	Construction
Cheshire Tire	10-19	Tire Sales/Service
Tire Warehouse	10-19	Tire Sales/Service
Fleming Oil	10-19	Fuel

Source: NH Economic & Labor Market Information Bureau

## Income Trends

The income of Chesterfield residents has increased in each of the past three decades. The *median household income* is 3.3% higher today than it was in 2000 when adjusted for inflation using the consumer price index. This increase comes at the same time period that Cheshire County and the State experienced a decrease in median household incomes, showing a -7.3 and -6.5 percent change respectively.

The *per capita* table below also shows an overall upward trend for incomes, with a slight decrease between 1970 and 1980. The rebound during the next decade however was significant with wages nearly doubling for Chesterfield workers. The State and County also experienced a significant increase during the same period.

**Income Trends- Select Years**

	Median Household Income		
	1990*	2000*	2014**
Chesterfield	\$72,548	\$72,969	\$75,388
Cheshire County	\$60,422	\$60,224	\$56,139
New Hampshire	\$69,358	\$70,292	\$65,986

Source: US Census \*Figures were adjusted for inflation using the Bureau of Labor Statistics Consumer Price Index (2014 dollars). \*\*2010-2014 ACS 5-Year Estimates (2014dollars).

	Per Capita Income				
	1970*	1980*	1990*	2000*	2014**
Chesterfield	\$17,981	\$14,983	\$29,424	\$35,597	\$35,135
Cheshire County	\$17,481	\$18,507	\$26,518	\$29,393	\$27,874
New Hampshire	\$17,643	\$19,384	\$30,468	\$33,882	\$33,134

Source: US Census, \*Figures were adjusted for inflation using the Bureau of Labor Statistics Consumer Price Index (2014 dollars). \*\*2010-2014 ACS 5-Year Estimates (2014 dollars).

	Percent Change in Income Figures			
	Median Household Income Change		Per Capita Income Change	
	1990*-2000*	2000-2014**	1990*-2000*	2000-2014**
Chesterfield	+0.6%	+3.3%	+21.0%	-1.3%
Cheshire County	-0.3%	-7.3%	+10.8%	-5.4%
New Hampshire	1.3%	-6.5%	+11.2%	-2.3%

Source: US Census 1990 & 2000, \*Figures were adjusted for inflation using the Bureau of Labor Statistics Consumer Price Index (2013 dollars). \*\*2010-2014 ACS 5-Year Estimates (2014 dollars).

## Educational Attainment

A well-educated workforce is an important resource for both existing and new businesses. The table below shows the comparison of the educational attainment (highest level of completion) of New Hampshire, Cheshire County, and Chesterfield residents twenty-five years of age and older. The percentage of Chesterfield residents with a high school diploma, some college experience, and those with associates degrees declined slightly while those with bachelor's degrees and higher increased between the years of 2000 and 2014. On the other hand, residents seeking higher education has increased over the last decade for bachelor degrees (an increase of 6%) and graduate degrees (an increase of 3%). Those seeking associates' degrees slightly increased within the County and State educational attainment figures, while Chesterfield residents seeking associates degrees decreased from 9% to 7% during the same time

Educational Attainment of Residents Ages 25 and Older			
	Level of Education	2000	2014*
New Hampshire	High School (includes equivalency)	30%	30%
	Some College; not complete	20%	19%
	Associate Degree	9%	10%
	Bachelor Degree	19%	21%
	Graduate Degree	10%	12%
Cheshire County	High School (includes equivalency)	35%	34%
	Some College; not complete	19%	19%
	Associate Degree	7%	8%
	Bachelor Degree	17%	19%
	Graduate Degree	9%	11%
Chesterfield	High School (includes equivalency)	26%	24%
	Some College; not complete	23%	20%
	Associate Degree	9%	7%
	Bachelor Degree	20%	23%
	Graduate Degree	12%	19%

Source: US Census 2000; and American Community Survey (ACS) 2010-2014\*

## Unemployment Rates

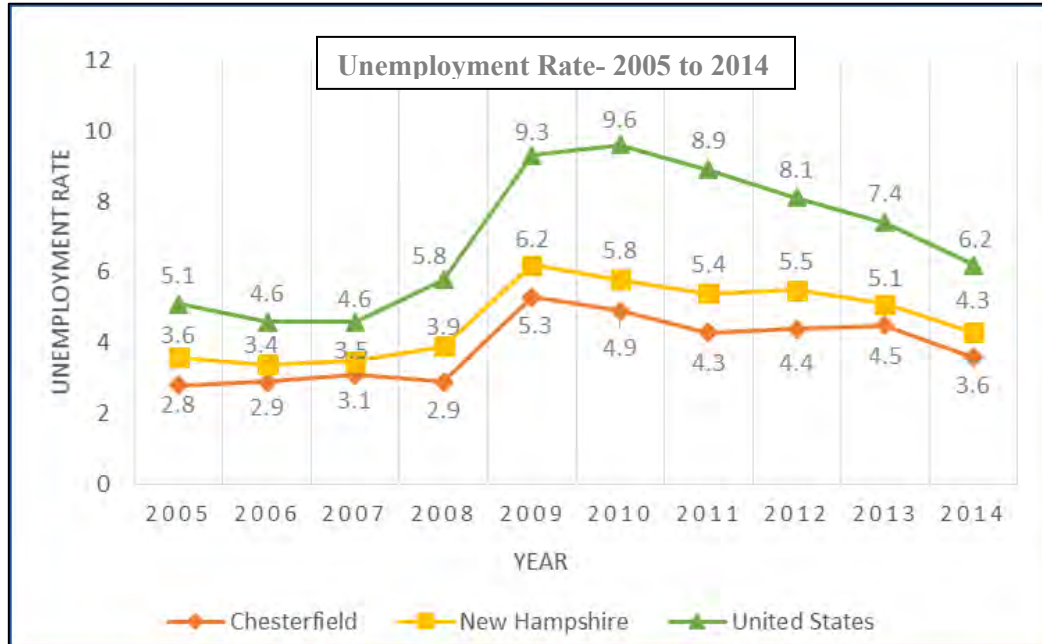
The unemployment rate refers to the percentage of the labor force (persons 16 and over) that is jobless, but looking for work. Simply put, if a person is not employed or looking, they are not part of the work-force, and not part of an unemployment rate calculation.

The unemployment rate in Chesterfield has historically been below the State and National rate. The past ten years was no exception. During this time period, Chesterfield's unemployment rate averaged 3.9% while New Hampshire showed an average of 4.7% and the national rate was 7.0%. The greatest gap in rates was in 2010 which showed a difference of 4.7 between the United States unemployment rate and Chesterfield's unemployment rate (nearly double). The gap has been narrowing each year since that peak. The trend in the New Hampshire unemployment rate is similar to Chesterfield's but is slightly higher.

**Unemployment Rate 2005-2014**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Chesterfield	2.8	2.9	3.1	2.9	5.3	4.9	4.3	4.4	4.5	3.6
New Hampshire	3.6	3.4	3.5	3.9	6.2	5.8	5.4	5.5	5.1	4.3
United States	5.1	4.6	4.6	5.8	9.3	9.6	8.9	8.1	7.4	6.2

Source: Economic and Labor Market Information Bureau, NH Employment Security; US Bureau of Labor Statistics



Source: Economic and Labor Market Information Bureau, NH Employment Security; US Bureau of Labor Statistics

## Commuting Patterns

According to the *US Census Bureau- Journey to Work and Place of Work 2010*, Chesterfield has an estimated 1,917 working residents. Of these working residents, 554 (or 29%) work within town and 1,363 traveled to work outside of Town. Approximately 30% of these residents commute to Keene and another 20% commute to Brattleboro, VT.

In addition to those residents commuting out to get to their jobs, there are approximately 1,288 jobs within town. Included in this figure are the 554 residents who live and work in town. An additional 734 commute into Chesterfield from other towns. The most common locations for workers commuting in to Chesterfield include Hinsdale, Keene, and Brattleboro, VT.

**Additional information on commuting can be found in the Transportation Chapter of this Master Plan.**

## **Valuation and Taxation**

### Valuation

Looking at a breakdown of valuation in 2013 by use, 90.1% of Chesterfield's valuation comes from residential buildings and land, 8.6 from commercial and industrial uses, 1.3 from utilities, and .2% from properties in current use. Compared to surrounding towns, Chesterfield relies more on residential property valuation and less on commercial/industrial use valuation.

**Percent of Valuation by Land Use: 2000, 2004 and 2013**

	2000	2004	2013
Commercial/ Industrial Land	3.2%	2.9%	2.6%
Commercial/ Industrial Building	6.7%	6.4%	6.0%
<b>Commercial/ Industrial Total</b>	9.9%	9.2%	8.6%
Manufactured Housing	0.2%	0.2%	0.2%
Residential Land	41.1%	38.2%	38.8%
Residential Building	47.1%	51.4%	51.1%
<b>Residential Total</b>	88.4%	89.8%	90.1%
Public Utilities	1.1%	0.6%	1.3%
Current Use	0.6%	0.4%	.2%
<b>TOTAL</b>	100.0%	100%	100%

*Source: NH Department of Revenue Administration*

### Chesterfield Valuation and Tax Rate 2003-2013

Year	Valuation	Tax Rate
2003	\$366,723,922	\$19.10
2004	\$373,565,222	\$18.48
2005	\$379,869,238	\$20.59
2006	\$382,713,863	\$21.27
2007	\$388,620,705	\$21.45
2008	\$554,574,625	\$16.71
2009	\$557,134,552	\$18.02
2010	\$560,747,288	\$17.00
2011	\$562,762,614	\$17.33
2012	\$566,339,284	\$16.72
2013	\$484,349,331	\$20.50

Chesterfield's valuation and tax rate are shown in the corresponding table and graph. Similar to the national and state trends, tax rates fluctuate with the land valuations. The greatest decline in the tax rate between 2003 and 2013 occurred in 2008 which also showed a noticeable increase in property valuation. The most recent change is a 16.9% decline in valuation and an increase in the tax rate by \$3.78 per \$1,000 (or 22.6%) between 2012 and 2013.

Source: NH Economic and Labor Information Bureau

### Chesterfield Valuation and Tax Rate 2003-2013



Source: NH Economic and Labor Information Bureau

Chesterfield and Westmoreland are comparable in percentage of residential and commercial/industrial property valuation. Keene has the largest percentage of commercial/industrial valuation in the subregion and Hinsdale has a high percentage of utilities.

## Subregional Property Valuation Statistics – 2013

	Chesterfield	Hinsdale	Keene	Swanzy	Westmoreland	Winchester
<b>Total Equalized Valuation</b>	\$491,907,392	\$321,240,909	\$1,753,891,265	\$523,604,178	\$165,794,400	\$250,859,170
<b>Residential (% of Gross)</b>	90.1%	53.5%	61.8%	82.8%	89.7%	80.6%
<b>Commercial &amp; Industrial (% of Gross)</b>	8.6%	14.1%	35.4%	14.3%	8.4%	15.1%
<b>Utilities (% of Gross)</b>	1.3%	32.3%	2.7%	2.9%	1.9%	4.3%

Source: NH Department of Revenue Administration

### Taxation

The table below shows the tax rates in Chesterfield for the years from 2005 to 2014. The tax rates varied from a low rate of \$16.71 in 2008 to a high rate of \$22.21 in 2014.

#### Tax Rates per \$1,000 of Assessed Value, 2005-2014 (Local Value)

	Valuation	Municipal Tax Rate	Local Education	State Education	County Tax Rate	Total Tax Rate
<b>2005</b>	378,083,638	3.2	12.33	2.84	2.2	20.59
<b>2006</b>	380,973,263	3.22	12.43	2.83	2.79	21.27
<b>2007</b>	386,850,105	3.22	12.25	3.25	2.73	21.45
<b>2008</b>	553,269,025	2.83	9.24	2.14	2.50	16.71
<b>2009</b>	\$555,574,552	3.17	9.95	2.05	2.85	18.02
<b>2010</b>	\$558,987,288	3.23	8.60	2.21	2.96	17.00
<b>2011</b>	\$561,486,614	3.42	8.39	2.22	3.30	17.33
<b>2012</b>	\$564,999,284	3.38	8.14	2.38	2.82	16.72
<b>2013</b>	\$482,929,331	4.0	10.53	2.44	3.47	20.50
<b>2014</b>	\$486,104,728	4.06	12.13	2.50	3.52	22.21

Source: NH Department of Revenue Administration

In order to levy a fair and proportional state-wide education property tax, the imbalance created by varying municipal assessments must be resolved. This process, called "equalization", involves the adjustment of a town's local assessed value, either upward or downward, in order to approximate the full value of the town's property.<sup>4</sup> The equalized tax rates allow a comparison between towns. The table below shows *Actual Rate*, *Equalization Ratio*, and the *Equalized Tax Rate* for Chesterfield and the surrounding communities.

<sup>4</sup> NH Department of Revenue Administration

The equalized tax rates shown vary from \$20.05 to \$34.20 per \$1,000 of assessed value. Chesterfield has the lowest rate of \$20.05 and Keene is the highest with \$34.20.

### Equalized Tax Rate Comparison per \$1,000 of Assessed Value, 2013

	Chesterfield	Hinsdale	Keene	Swanzey	Westmoreland	Winchester
Actual Rate	\$20.50	\$25.85	\$32.75	25.37	22.41	\$30.73
Equalization Ratio	98.3%	106.0%	105.23%	111.23%	104.69%	110.54%
Equalized Tax Rate	\$20.05	\$27.40	\$34.20	\$28.22	\$23.46	\$33.97

Source: NH Department of Revenue Administration-2013 rates

## Utilities and Public Services

The availability of certain utilities can support the community's goals for economic development. It is also vital to the welfare of the community, in particular for meeting the health, safety, and security needs of the citizens, and in general for meeting their desires for comfort, entertainment, and quality of life. To meet these needs, utilities presently being provided in the Town of Chesterfield include electricity and 3-phase power; telecommunications infrastructure (broadband, cable and satellite television, telephone/wireless communications, internet service); and solid waste (transfer station). Because of their diverse nature, each of these, as well as some public and private services not currently provided such as water, sewer, and gas, are considered separately in the following sections. It will be seen that, due to the rural nature of the town, not all utilities are available throughout the community, such as 3-phase power. However, electricity and certain telecommunications services, being somewhat easier to distribute, are available virtually everywhere in the town. Electrical and telecommunications infrastructure are provided by private business entities.

### Water and Sewer

The community does not currently provide public sewer and water, and there are no plans to develop such infrastructure systems in the next five to ten years. Residents and businesses are served by private water and sewer systems.

The Chesterfield Zoning Ordinance currently requires common sewage disposal systems for manufactured housing parks.<sup>5</sup>

### Electricity

The main electricity supplier for the town of Chesterfield is Eversource, formerly Public Service of New Hampshire (PSNH).

Eversource anticipates being able to provide adequate supply of electricity to Chesterfield at full build-out, extending distribution lines only where and when necessary. There are no foreseeable plans to add another

<sup>5</sup> Source: Chesterfield Zoning Ordinance (2004), Article III, Section 300.2:B.7



substation or any new circuits given the availability of the current stations to supply the necessary power to the customers in Chesterfield.

### 3-Phase Power

Eversource has indicated that three phase service, required for manufacturing operations, is available in selected areas of the town: NH 9 westward from its intersection with Wellington Drive to its intersection with Cross Rd.; NH 63 from the Hinsdale border to NH 9; along NH 9A to the old Spofford Hall, and extending out of Westmoreland along Old Westmoreland Road. While there are no plans to expand this service at the present time, it is possible that service could be expanded, within reason, if new customers requested the service. The cost for such projects would be reviewed on a case-by-case basis. Eversource indicates that the projected revenue from a new customer requiring three phase service would be reviewed and may be used to reduce customer contribution for the upgrade. 3-Phase Power areas are identified on the Community Facilities Map.

### Communications and Entertainment

Internet, cable and satellite television is available to residences and businesses throughout Chesterfield provided by private companies. Providers and service options vary depending on location.

### Telecommunication Towers

Federal law regulates the placement of cellular towers in a given community; however, emphasis has been placed on balancing the need for telecommunications infrastructure with a community's desire to maintain community character. The Telecommunications Act of 1996 preserved state and local regulatory authority for the placement, construction or modification of wireless facilities. There are currently four wireless towers in Chesterfield. In 2001, the town adopted a Telecommunications Facilities Ordinance in order to establish guidelines for the siting of towers and antennas.<sup>6</sup> Currently, telecommunications facilities may be permitted in all districts, provided that they comply with the ordinance. The following table identifies existing telecommunications towers in Chesterfield:

**Cellular Tower Locations**

Tower/Location	Date Constructed	Owner
Mt. Pistareen	1995	U.S. Cellular Corporation
Mt. Pistareen	2007	Verizon Wireless
Welcome Hill	2003	Crown Caste International

*Source: NH OEP Cell Tower Database (Nov. 2007), Personal Communications*

### Gas (Propane)

Propane gas is a private utility that provides customers with on-site storage tanks and periodic delivery of gas by truck. Several private companies provide service to residents of Chesterfield and other communities in the region. Natural gas is a private utility that provides customers with gas through underground pipes. This service is not currently available in Chesterfield.

<sup>6</sup> Source: Chesterfield Zoning Ordinance, 2004.

## Solid Waste

Solid waste and recyclables are collected at the Chesterfield Transfer Station located at 5 Brattleboro Road. There is no public curbside collection program in Chesterfield. Residents either take their waste to the transfer station or hire a private, commercial hauler that collects residential waste.

The transfer station currently accepts construction and demolition debris, household solid waste, and recyclables including glass, plastic, aluminum, cardboard, paper, brass, tires, and tin. Paper and cardboard are sold, while other recyclables are transferred to the Windham Solid Waste Management District in Brattleboro. Chesterfield pays a tipping fee for transferring the waste to these locations.

The Solid Waste Facilities Director for the town indicates that increasing demand by commercial businesses is a potential concern in the coming years. The ordinance may need to be amended in the future to address increasing demands for service.

Hazardous household waste is processed through a contract with the Keene Transfer Station through funding from the NH Department of Environmental Services Household Hazardous Waste grant program. Twelve household waste collection days are held annually. The contract with the City of Keene allows Chesterfield residents to deliver, at no cost to the residents, up to 10 gallons per collection day to the Keene Transfer Station. The Chesterfield Transfer Station maintains a schedule of the annual hazardous household waste collection days each year.

## **Economic Development Goals, Objectives, and Strategies**

**Goal: Provide for economic opportunities within the existing districts that permit commercial and industrial activity. By encouraging the development of businesses in these established areas, existing traffic patterns will be maintained with the least impact to residential areas.**

Objective 1: Have the necessary infrastructure in place to retain and foster economic growth of existing businesses, and to attract the development of new ones.

### Strategies:

Expand the availability and quality of broadband infrastructure by:  
Establishing a municipal broadband committee to plan for the expansion and development of broadband infrastructure; and  
Coordinating efforts and work with adjacent communities to expand broadband service.  
Seek public transportation options to encourage commercial activity. Work with NH DOT and SWRPC to establish a bus route that connects Keene to Brattleboro, VT with bus stops in Chesterfield.

Objective 2: Develop and implement a marketing strategy to promote Chesterfield's identity to attract new visitors and businesses.

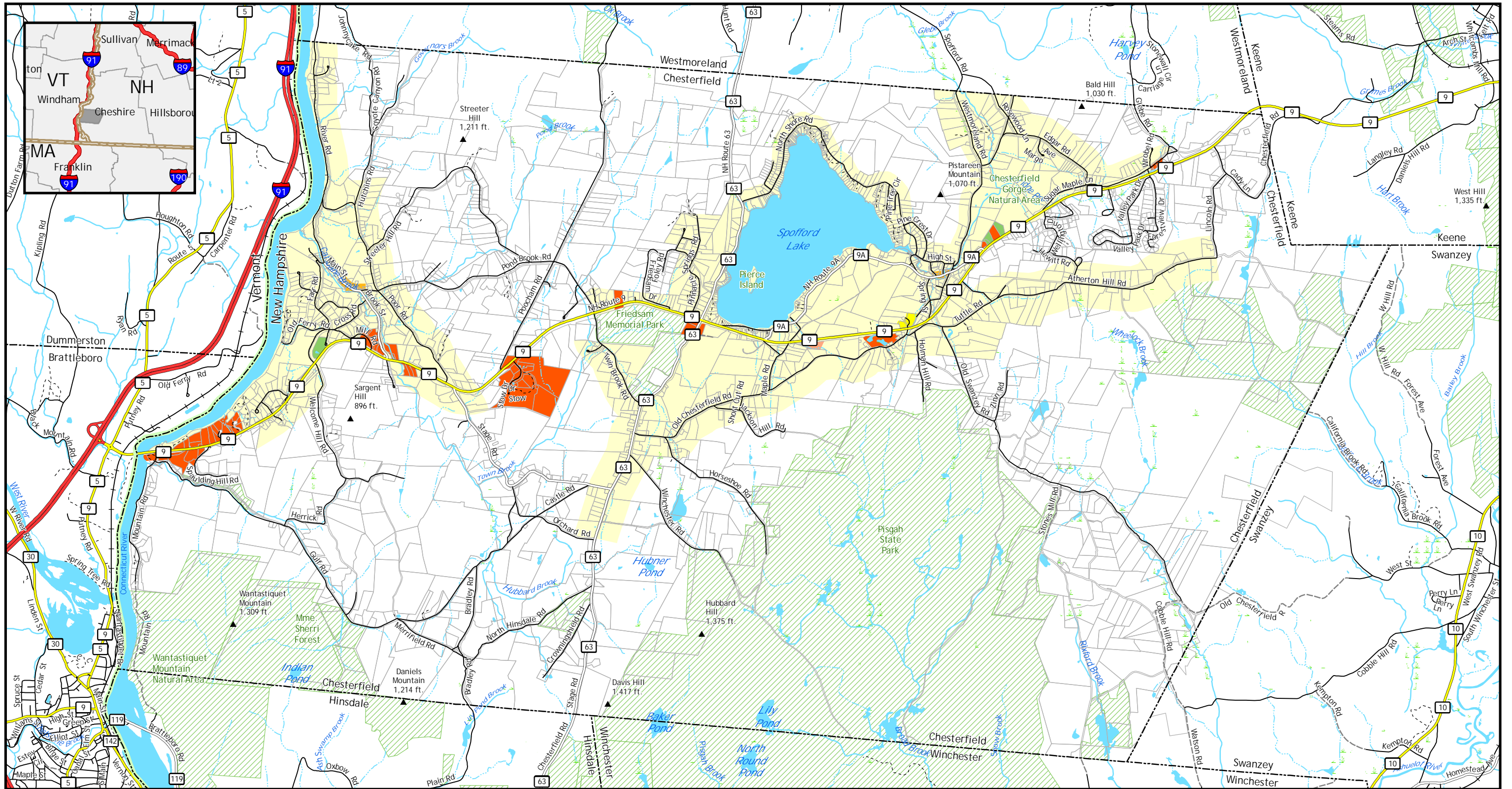
### Strategies:


Establish a "business friendly" community by reviewing ordinances, land use regulations, and application procedures to determine barriers to the expansion or development of appropriately zoned businesses. Improve the town website to show support of the Chesterfield businesses and to welcome the opportunity to work with new businesses.


Encourage commercial and industrial development to fill in vacant appropriately zoned properties. Consider adaptive reuse strategies/policies.

Facilitate tourism as a means to support commercial businesses. Update the Town website to provide user friendly information for hiking trails, public boat ramps, other recreational opportunities, and farm stands. Support organizations such as Monadnock Buy Local. Encourage business to become members and encourage residents to make purchases from locally owned and operated businesses.

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








  
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**SWRPC**

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7/14/2016

Zoning Districts	Highway	River or Stream	Water Body
 Commercial/Industrial	by Legislative Class	by Type	 Swamp or Marsh
 Planned Development District 3	 Class I	 Intermittent Stream	 Lake or Pond
 Planned Development District 4	 Class II	 Perennial Stream	 Conservation Land
 Office, Retail, and Services	 Class V		
 Village	 Class VI		
 Residential	 Private		
 Rural/Agriculture			
 Tax Parcel			

# TOWN OF CHESTERFIELD

## Zoning District Map



# **LAND USE PLAN**

## **Introduction**

Chesterfield is large in land area and complex in its land make-up. There are several hundred specific land uses, but, fortunately, these may be grouped into a manageable number of categories. The following pages, tables, and maps contain a generalized description of existing land use factors and categories. The purpose of this description is to provide information of the present land use patterns and to identify trends to develop a land use analysis which may affect future planning decisions.

A land use analysis is an important element of community planning. This section is intended to guide the Town's thinking about future uses in long-term concepts. Once raw land is converted to a particular use, it is usually committed to that use for a very long time, if not indefinitely. It is difficult to change a pattern of development once it takes hold. Therefore, decisions about future land use should be made carefully, with a studied eye to the potential ramifications of those uses. A well-conceived land use plan allows for new growth and development while it protects and preserves the integrity of neighborhoods, businesses, transportation routes, and the environment.

This chapter describes the pattern of existing land uses in Chesterfield and analyzes changes that have taken place in the land use pattern since 1981. Comparisons in development patterns over the past 35 years are illustrated in tables to show trends that have occurred. These trends are analyzed and used to provide assistance in determining the future land use map. It is also helpful to consider *how* particular land uses evolved. Maps are used to identify the areas of town that have been developed, the kind of development that has occurred, and the relationship of one land use to another. These maps include the Existing Land Use Map and the Development Constraints Map. Together, this information provides the baseline necessary to evaluate the appropriateness of future development and the availability of suitable land for such development.

This chapter also provides guidance for future land use development by considering a variety of information including existing land uses, development constraints, the community survey, and discussions through the Master Plan update process with members of various Boards, Committees and Town staff.

The Land Use Plan is that section of the Master Plan required by RSA 674:2 that "takes into account natural conditions and which shows the existing conditions and the proposed location, extent and intensity of future land usage." The natural conditions to be taken into account include such features as wetlands, steep slopes, aquifers, surface water bodies, and any other natural features considered to be particularly significant. Existing conditions refer to the actual land uses found in town at the time, e.g., residential development, commercial uses, etc. Both the man-made conditions and the natural features impact the future development in the town.

The development of a land use plan forms the basis of land use regulations, which are effected through zoning ordinances, subdivision and site plan review regulations. The land use plan considers the goals and objectives found within each chapter; the regulations are the means to put these goals and objectives into place. For instance, if in the process of describing present land use patterns in Chesterfield, recommendations are made to encourage more commercial activity in a particular area, the zoning ordinance should be amended to permit that kind of activity in that location - if it does not already do so. Or, by the same token, the land use plan might recommend that the zoning ordinance be made more restrictive in particular areas, for the purpose of protecting and preserving certain natural features in town.

## **Factors Influencing Land Use**

Existing land use patterns in Chesterfield are the result of a variety of factors including history, location, topography, transportation and economics.

Chesterfield's location along the Connecticut River ensured its early development. The river was used for transportation and moving goods and services. With the growth of Brattleboro and Keene, Route 9 became a major east-west highway connecting Vermont and New Hampshire.

Chesterfield's rugged topography has been an important factor in determining its development patterns. The fast running brooks drew development with the increase of mills. The river bottom and gently sloping areas were developed and populated while the dominant steep mountainous areas have remained forested and undeveloped.

Spofford and West Chesterfield were areas with major commercial centers until the railroad came through Keene which led to many business closings.

More recently, people's desires to live in rural areas have changed, to better enjoy leisure and recreational activities. There has been an increase in residential development in the rural areas and in the ridgelines that overlook Spofford Lake. New development has tended to be in the rural areas on large lots as people relocate from urban and "in-town" environments.

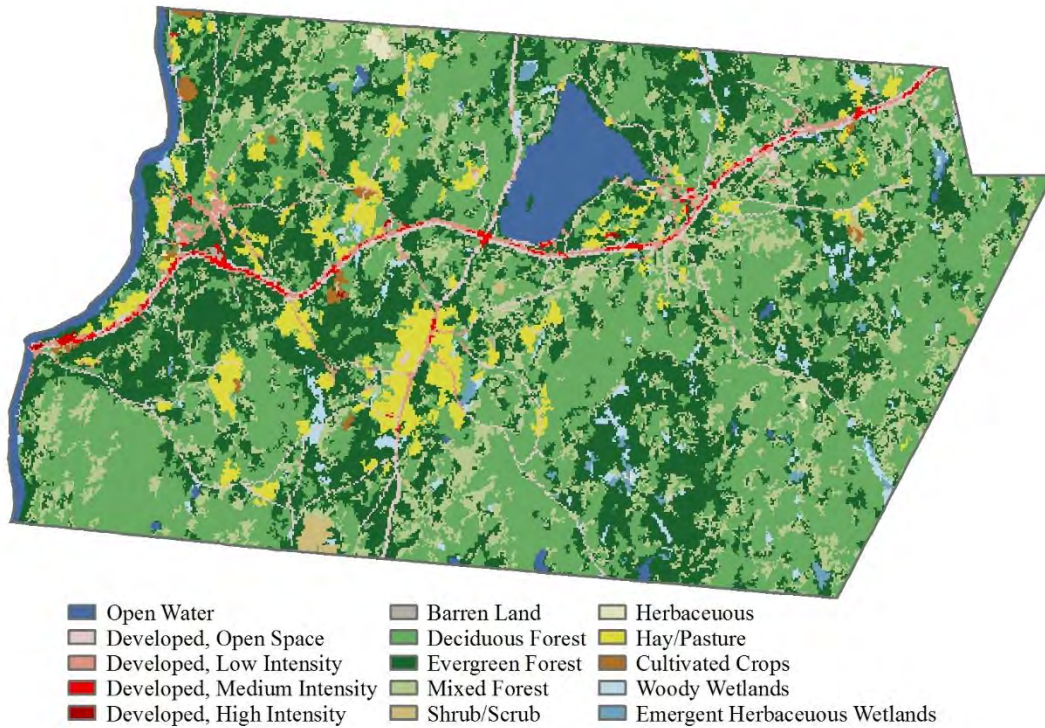
## **Land Use Trends**

The 1996 Town of Chesterfield Master Plan provided an assessment of land cover in three major categories. The data suggested a decline in agricultural uses, and increases in developed, woodland, and other categories between 1950 and 1990. Today, the National Land Cover Database (NLCD), administered by a consortium of federal agencies, serves as the primary source for consistent and relevant land cover information in the United States. Land cover information is critical for local, state, and federal managers and officials to assist them with issues such as land use planning, developing land management policies, and environmental protection.

Current NLCD data indicates that over 80% of Chesterfield's land area is classified as deciduous, mixed, or evergreen forest. About 5% of the total area is classified at some intensity of development, on a spectrum from open space adjacent to a residence to a high intensity development like an industrial facility or roadside commercial district. Past results of the NLCD (going back to 2001) indicate low growth in the developed categories of land cover. The decrease in forest land cover and an increase in shrub, grassland, and pasture categories is due to timber harvesting operations, especially with the introduction of logging in Pisgah State Park. The figure and table below describe the amount and distribution of all land cover types assessed with this program. Figure 1 shows a map depicting land cover classes. Developed areas are primarily adjacent to Route 9 and West Chesterfield. The largest continuous areas of pasture or hay, land cover types associated with agricultural uses, are primarily adjacent to Route 63 south of Route 9. Table 1 shows a comparison of the land use trends in 5 year increments.



**Figure 1: Town of Chesterfield 2011 Land Cover**



Source: Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Database (NLCD 2011)

**Table 1: Land Cover Trend (2001, 2006, 2011)**

Description	2001 Acres	2006 Acres	2011 Acres	2011 % of Total	Change 2001-2011	% Change 2001-2011
Open Water	1,285	1,285	1,285	4.2%	+0	+0.0%
Developed, Open Space	1,002	1,000	1,001	3.3%	-1	-0.1%
Developed, Low Intensity	458	458	459	1.5%	+1	+0.1%
Developed, Medium Intensity	173	175	178	0.6%	+4	+2.6%
Developed, High Intensity	25	26	28	0.1%	+3	+12.3%
Barren Land (Rock/Sand/Clay)	12	12	12	0.0%	+0	+0.0%
Deciduous Forest	11,449	11,392	11,440	37.6%	-8	-0.1%
Evergreen Forest	8,629	8,591	8,554	28.1%	-75	-0.9%
Mixed Forest	4,598	4,552	4,549	15.0%	-48	-1.1%
Shrub/Scrub	45	137	119	0.4%	+74	+164.4%
Grassland/Herbaceous	16	40	47	0.2%	+30	+187.7%
Pasture/Hay	1,376	1,400	1,397	4.6%	+20	+1.5%
Cultivated Crops	74	74	74	0.2%	+0	+0.0%
Woody Wetlands	1,060	1,062	1,064	3.5%	+4	+0.4%
Emergent Herbaceous Wetlands	225	223	221	0.7%	-4	-1.7%

Source: Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Database (NLCD), NLCD 2001 (2011 Edition), NLCD 2006 (2011 Edition), and NLCD 2011. Reported acreages calculated by SWRPC and rounded to nearest acre. Chesterfield municipal boundary per New Hampshire Geographically Referenced Analysis and Information Transfer System.

## Existing Land Use Analysis

An analysis of assessing records provides an alternate means to describe the distribution and proportion of land development in Chesterfield. On a routine basis, the town is required to undertake an assessment of properties within its jurisdiction. Trained, hired staff assign a unique code to each property record for the purpose of assessing its market value. The multitude of specific land use types can be understood using the following general categories below (Table 2).

**Table 2: Land Use by Property Type (2011)**

	Property Records	Sum of Land Area in Acres	% of Total Land Area	Sum of Total Assessed Parcel Value	% of Total Assessed Parcel Value
Agricultural/Horticultural	37	769	2.59%	\$88,230	0.02%
Commercial	68	395	1.33%	\$26,348,430	5.13%
Exempt Property	108	6,475	21.81%	\$26,228,300	5.11%
Forest Property	265	8,885	29.92%	\$360,840	0.07%
Industrial	16	100	0.34%	\$20,807,330	4.05%
Residential	2,119	13,070	44.02%	\$439,676,720	85.62%
Grand Total	2,613	29,695	100%	\$513,509,850	100%

*Source: Town of Chesterfield Assessing Records Dated 8/25/14.*

### Residential Land Use

In the past, residential development in Chesterfield has been focused in four locations: Chesterfield Village, West Chesterfield Village, Spofford Village, and along the shores of Spofford Lake. Recent development trends have been for larger lots in new areas along existing streets or in new subdivisions and cluster developments. According to 2013 assessing records, approximately 13,070 acres, or 44% of the total land area, was assigned a residential land use category, primarily from single-family residences, and over 85% of the town's total assessed value. Analyzed residential properties included property used for human habitation with one or more dwelling units, subdivided land in residential zones, and land accessory to these uses, with buildings or improvements.

### Commercial/Industrial/ Office Land Use

In general, commercial uses include office, retail, trade, service, recreational, entertainment, warehousing, farm buildings, and vacant accessory land holdings, primarily adjacent to Route 9. These properties account for approximately 395 acres, or 1.33% of all land. Some commercial activity is present near Spofford Lake as well, particularly at the southern end, including the golf course, rental cabins, inns and motels.

Industrial uses have the least representation of the general land uses, at 100 acres, or 0.34% of all land. In general, industrial uses are defined as property used for manufacturing, processing or fabrication of raw materials into commercial products. In Chesterfield they include sand and gravel operations, warehouses and offices for manufacturing operations, electrical transmission, and communications towers or facilities.

### Agricultural Land

In 1880, nearly 65% of New Hampshire land was in farm use, divided over 32,181 farms. In 1992, less than 15% remained farmed statewide. As of the 2012 USDA Census of Agriculture, 4,391 farms were listed in the State, a marked increase over the last decade due to growth in the smallest farm size (1 to 9 acres). However, the percentage of land used for farming in New Hampshire is approximately 8%, continuing the long-term decline.

Chesterfield has lost most of its agricultural economy as well, with no active dairy farms left in the community. Of the 4,500 acres of land in agricultural use in 1950, only about 1,040 acres remained in 1992 - a loss of 77% of Chesterfield's agricultural land. In 2007, 1,422 acres of land were designated as Current Use-Farmland. By 2013, 1,400 acres were reported in Current Use, a slight drop. Some has been lost to development but much has simply reverted to forestland. Overall, remaining agricultural land in Chesterfield is found in the western 1/3 of the town with the largest concentration around Chesterfield Village.

Currently, no mechanism exists in local land use regulations for maintaining land in agricultural use. Yet much of the rural character of Chesterfield is tied to the diversity, views and landscapes created by the community's farmland.

### Tax Exempt Property

According to assessing records, approximately 22%, or 6,475 acres of Chesterfield's land area, is publicly owned primarily by the State of New Hampshire and to a lesser extent, the Town. Conservation Lands, which are held by state, local, and private owners, are shown in the accompanying Conservation Lands Map. Table 3 lists all tracts and their size according to the New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT) Conservation/Public Lands Layer. Both Pisgah State Park and Wantastiquet Mountain Natural Area extend into neighboring communities, and their estimated area in Chesterfield was approximated utilizing a GIS analysis. All other tracts are listed with their recorded size to the nearest acre.

**TABLE 3: CONSERVATION LAND (2014)**

Name	Recorded Size (Acres)	Name	Recorded Size (Acres)
Chesterfield Gorge Natural Area	13	Hanna Easement	105
Cook Lot	57	Houghton Easement	197
Daniels Mountain	140	Mme. Sherri Forest	488
Doyle Fletcher Conservation Area	54	Pease	53
Fletcher Conservation Area	61	Pierce Island	5
Forecastle Easement	381	Pisgah State Park	4,665
Friedsam Memorial Park	589	Stokes	26
Greenbelt Area	19	Trask	52
Haley	29	Wantastiquet Mountain Natural Area	471
<b>Total</b>			<b>7,404</b>

Source: GRANIT Conservation/Public Lands Layer (2014)

## Landownership

The State of New Hampshire is the largest landowner in Chesterfield and owns the parcel with greatest size (Pisgah State Forest). The state also owns several small parcels not included in the preceding table scattered throughout the town.

Private holdings are many with no single landowner owning large portions of the town. Table 4 lists the 10 largest lots in private ownership. Their combined ownership is approximately 9.4% of Chesterfield's total land area.

**Table 4: Top Ten Largest Lots with Private Ownership (2014)**

Grantee	Tax Map	Land Area (Acres)
Yankee Arrowhead Inc.	19-A-1	529
Society for the Protection of New Hampshire Forests	25-A-14	488
Forecastle Timber NH LLC	19-A-2	367
Sandra D. & Lyle Hoag	1C-16	303
Forecastle Timber NH LLC	9-A-6	217
URO Realty LLC	15-B-9	211
Atherton Hill Land Co, LTD Partnership	10-B-20	183
Ann E. Trzasko	25-A-2	179
Yankee Arrowhead Inc.	18-A-2	162
Thomas E. Woodman	11-B-5	160

Source: Town of Chesterfield Assessing Records Dated 8/25/14.

The following tables describe the top ten landowners by number of parcels, land area, and total assessed value, respectively.

**Table 4a: Top Ten Largest Landowners by Number of Parcels (2014)**

Grantee	Number of Parcels	Land Area	Total Assessed Value
Town of Chesterfield	61	457	\$6,966,800
State of New Hampshire	30	5,959	\$5,144,400
Thomas E. Woodman	21	472	\$1,180,710
Evangelical Free Church of America	14	15	\$5,482,700
Betsey Chickering	12	489	\$379,630
Siegfried Richter	10	69	\$610,180
Paul M. Hubner	10	422	\$484,960
Cersosimo Industries, Inc.	10	103	\$450,690
Browne Limited Partnership	8	59	\$449,600
Very Mill Corporation	7	55	\$243,000

Source: Town of Chesterfield Assessing Records Dated 8/25/14.

**Table 4b: Top Ten Largest Landowners by Land Area (2014)**

Grantee	Number of Parcels	Land Area	Total Assessed Value
State of New Hampshire	30	5,959	\$5,144,400
Forecastle Timber NH, LLC.	14	1,243	\$68,340
Yankee Arrowhead, Inc	4	766	\$31,600
Betsey Chickering	12	489	\$379,630
Society for the Protection of New Hampshire Forests	1	488	\$18,040
Thomas E. Woodman	21	472	\$1,180,710
Town of Chesterfield	61	457	\$6,966,800
Paul M. Hubner	10	422	\$484,960
Lyle M. & Sandra D. Hoag,	3	307	\$421,480
Ann e. Trzasko	3	303	\$424,900

Source: Town of Chesterfield Assessing Records Dated 8/25/14.

**Table 4c: Top Ten Highest Total Assessed Value by Landowner (2014)**

Grantee	Number of Parcels	Land Area	Total Assessed Value
United Natural Foods, Inc.	1	32	\$9,799,260
Town of Chesterfield	61	457	\$6,966,800
Evangelical Free Church of America	14	15	\$5,482,700
State of New Hampshire	30	5,959	\$5,144,400
Eversource	1	0	\$4,526,600
Chesterfield School District	2	13	\$4,004,700
Pierre H. & Tilia K. Saba	1	3	\$3,339,200
Chakalos NH Personal Res Trust	1	88	\$3,026,140
Mulligan Associates, LLC J A	1	24	\$2,134,470
Nine A, LLC	5	96	\$2,057,000

Source: Town of Chesterfield Assessing Records Dated 8/25/14.

## Current Use

NH RSA 79A allows landowners to place land in a tax abatement program based on their current land use. The table below compares the status of current use lands in 1996, 2006 and in 2013. During the years in between 1996 and 2006, the total amount of current use land fluctuated; however, the ten year total change was only 5%. Table 5 shows that just 2% of the farmland with current use status in 1996 was taken out of current use during a ten year time span (1996- 2006). Over the following seven years, the amount of farm land in current use fell an additional 2.3% for a total of 1,400 acres. Forest land in current use however has been on an increase (5% between 1996 – 2006 and only 1.7% between 2006 – 2013). In 2013, nearly 58% of Chesterfield's total land acres were in current use, comprising 310 different owners and 542 individual parcels. According to New Hampshire Department of Revenue records, approximately 8% of current use acres were characterized as farm land, 71% were forest land, 17% were forest land with documented stewardship, 0.5% were unproductive, and 3% were wetland. In addition to the 16,915 acres in current use (as of 2013), an additional 5,897 acres owned for conservation were non-taxable, a combined total of 22,812 acres (over 78% of total land acres).

**Table 5: Land in Current Use**

	1996	2006	% Change 1996-2006	2013	% Change 2006-2013
Farm Land	1,462	1,438	-2%	1,400	-2.3%
Forest Land	13,923	14,631	+5%	14,886	+1.7%
Unproductive Land and Wetland	483	616	+28%	629	+2.1%
<b>Total # of acres under current use</b>	<b>15,868</b>	<b>16,685</b>	<b>+5%</b>	<b>16,915</b>	<b>+1.4%</b>

*Source: New Hampshire Department of Revenue 1996, 2006 and 2013 Current Use Reports*

Land can be taken out of current use with a penalty payment of 10% of land value. In Chesterfield, 100% of the penalty goes to a community conservation fund up to \$25,000 a year. Anything over \$25,000 goes into the general fund. In the year 2006, over \$14,000 was collected for the fund. In 2012, \$13,350 was added.

## Land Use Development Documents

### Master Plan

Chesterfield's first master plan was adopted in December of 1985. The plan was put together by the Planning Board with the assistance of a citizen advisory board. The plan was developed over a three- year period and included distribution of a community attitude survey to the town's residents and public meetings to assist the Planning Board in formulating goals and objectives.

### Zoning Ordinance

The current zoning ordinance divides the town into 6 districts shown below and on the accompanying **Zoning Map**. Table 6 shows the percentage of land per zoning district.

- ♦ Residential District (R)
- ♦ Rural/Agricultural District (R/A)
- ♦ Village District (V)
- ♦ Commercial/Industrial District (C/I)
- ♦ Office, Retail and Services District (O/R/S)
- Planned Development District (PDD)



**Residential District (R)** The purpose of the R District is to regulate the future use of land in Chesterfield in a manner compatible with the goals of this Master Plan for residential areas. The intent of the regulations is to promote the preservation of the natural land and rural character by encouraging primarily residential land uses at densities compatible with the development capability of the land, the limited availability of community facilities and services, and the limited capacity of the road network. Most of the existing residential growth occurs in the residential district (R). The vast majority of the town is in the rural agricultural zone or the residential zone. These two districts account for over 98% of the town's total land area.

**Rural/Agricultural District (R/A)** The purpose of the R/A District is to regulate the future use of land in Chesterfield in a manner compatible with the goals of this Master Plan for rural/agricultural areas. The intent of the regulations is to encourage land uses and densities of development compatible with the pursuit of rural and agricultural living.

**Village District (V)** The purpose of the V District is to regulate the future use of land in West Chesterfield and Spofford Villages in a manner compatible with the town village character that now exists. The intent of the regulations is designed to assure that new development is compatible with the land uses and structural types of the village while currently allowing for the filling in of vacant land with appropriate residential and commercial uses.

**Commercial/Industrial District (C/I)** The purpose of the C/I District is to regulate the future use of land in Chesterfield in a manner compatible with the goals of this Master Plan for commercial and industrial development. Commercial activity and limited types of industrial uses are allowed at specific locations along NH Route 9.

**Office, Retail and Services District (O/R/S)** The purpose of the O/R/S District is to regulate the future use of land in Chesterfield in a manner compatible with this Master Plan's goals for commercial development. Office, retail and service uses are allowed at specific locations along NH Route 9.

**Planned Development District (PDD)** The purpose of this district is to regulate the future use of the land in the areas designated as the Planned Development District #3 & #4. In its review of PDD applications, the Planning Board may apply standards and conditions in addition to those found in other sections of the Zoning Ordinance and/or in the Land Development Regulations to the extent it deems necessary to achieve the purposes of the regulations. Standards of design and functional elements are reviewed including: architectural design, transportation, site development, lighting, protection of natural and cultural resources, open space (conservation areas), buffers, sound abatement, and odor control.

**Table 6: Land by Zoning District (2015)**

District	Acres by District	% of Total
Commercial/Industrial	281	0.9%
Office, Service, Retail	21	<0.1%
Residential	6,274	20.1%
Planned Development District 3	8	<0.03%
Planned Development District 4	4.4	<0.02%
Rural/Agriculture	23,756	78.3%
Village	14	<0.05%

Source: SWRPC GIS 2015

The following table provides a breakdown of each district relative to area, minimum lot size, frontage requirements, and permitted uses.

**TABLE 7: CHESTERFIELD ZONING ORDINANCE (2014)**

<u>Residential (R)</u> % of Town Minimum Lot Size Frontage Coverage Clustering Manufactured Housing Excavations Multifamily Permitted Uses  Permitted Uses by Special Exception	20.1% 2 acres (4 acres for two-family buildings) 200 ft. (300 ft. for two-family buildings) Building not to exceed 10%, impermeable surface not to exceed 20% Yes Yes Yes (SE) Yes Single family, two family, multiple family, manufactured housing parks and subdivisions, clusters, municipal, farming, forestry, outdoor recreation, churches, schools, public utilities, cemeteries, golf courses/cross-country facilities  Home occupations, sand and gravel pits
<u>Rural/Agricultural District (R/A)</u> % of Town Minimum Lot Size Frontage Coverage Clustering Manufactured Housing Excavations Multifamily Major Permitted Uses  Major Permitted Uses by Special Exception:	78.3% 5 acres 400 ft. Building not to exceed 10%, impermeable surface not to exceed 20% Yes Yes Yes (SE) No (unless in Cluster development) Farming, forestry, single family, two-family buildings, municipal, greenhouses, golf courses/cross-country facilities, manufactured housing subdivisions, kennels, cemeteries, outdoor recreation, public utilities, churches  Home occupations, tourist homes (bed and breakfasts), manufactured housing parks, sand and gravel pits
<u>Village District (V)</u> % of Town Minimum Lot Size Frontage Coverage Clustering Manufactured Housing Excavations Multifamily Permitted Uses  Permitted Uses by Special Exception	<0.05% 2 acres 200 (300 ft for two-family buildings) Building not to exceed 10%, impermeable surface not to exceed 20% No Yes No Yes Single family, two family, multiple family, municipal, church, school, libraries, public utilities, meeting halls/lodges for non-profit social organizations Home occupations, general stores, tourist homes, day care, offices, gift shops, studios, banks/lending institutions

<u>Commercial/Industrial (C/I)</u> % of Town Minimum Lot Size Frontage Coverage Clustering Manufactured Housing Excavations Multifamily  Permitted Uses  Permitted Uses by Special Exception	0.9% 2 acres 200 Building not to exceed 50%, impermeable surface not to exceed 70%. No No No Yes (if in a building operating a permitted use and it occupies no more than 50% of the floor area)  Offices, laboratories, retail sales, shopping centers, motels, business services, restaurants, wholesale businesses, warehouses, auto/RV sales, boat sales, gas stations, greenhouses, farm stands, and public utilities  Manufacturing plants, assembly plants, trucking and freight terminals, attached dwelling units
<u>Planned Development District</u> % of Town Minimum Lot Size Frontage Coverage Clustering Manufactured Housing Excavations Multifamily  Permitted Uses  Permitted Uses by Special Exception	<0.05% 2 acres 200 Building not to exceed 20%, impermeable surface not to exceed 50% No No No No No  <b>PDD #3:</b> Business offices, warehouse and distribution, manufacturing, personal and business services, public utility and municipal buildings, multi use buildings and accessory uses(limited) <b>PDD #4:</b> Restaurant/ food Service establishments, retail sales (limited), social gathering facilities (limited), Maple sugaring, jungle gym and swing set, multi-use building (limited)  none
<u>Office, Retail and Services (O/R/S)</u> % of Town Minimum Lot Size Frontage Coverage Clustering Manufactured Housing Excavations Multifamily  Permitted Uses  Permitted Uses by Special Exception	<0.1% 2 minimum, 5 acres maximum 200 Building not to exceed 20%, impermeable surface not to exceed 50% No No No Yes (if in a building operating a permitted use and it occupies no more than 50% of the floor area)  Offices, retail sales, personal business services, day care, banks, nursing homes, clubs  Restaurants, assembly/repair businesses, attached dwelling units

Source: Chesterfield Zoning Ordinance 2014

## Land Development Regulations

The Chesterfield Planning Board adopted subdivision regulations in 1964 as permitted by state law. The regulations outline administrative procedures for receiving subdivision approval and contain a variety of requirements for approval including lot layout, roads, traffic, drainage, open space, flood hazard, etc. The town also adopted Site Plan Review Regulations in 1975. These documents have since been combined and are now titled the Land Development Regulations of the Town of Chesterfield. These regulations were most recently updated in 2014.

## Building Ordinance

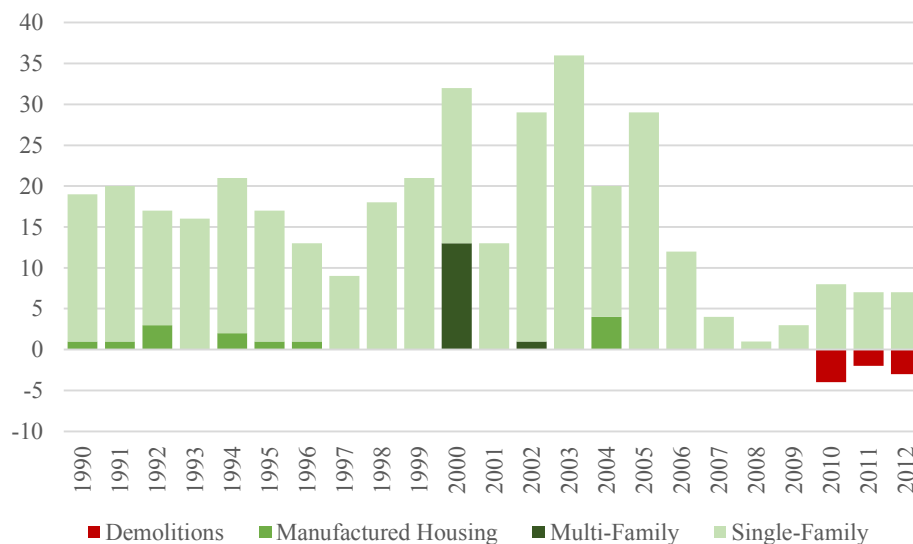
The Chesterfield Building Ordinance was adopted in 1992 and was last updated in 2011. The purpose of this ordinance is to promote the health, safety, convenience and general welfare off the community by regulating the construction of building in the town. National Building Code standards (building, plumbing, mechanical, fire, electrical, and life safety codes) were adopted in 1991.

Building Permits are issued by the building inspector for all new construction and renovation. All construction must meet zoning and other local and state regulations. Prior to occupying any structure, an occupancy permit is also required.

## **Residential Building Permit Activity**

The zoning ordinance requires a building permit to be received prior to most building activity and an occupancy permit prior to utilizing a new structure. The following graph reflects the number of residential building permits issued by year.

**BUILDING PERMITS ISSUED FOR NEW HOME CONSTRUCTION 1990-2012**



Source : New Hampshire Office of Energy and Planning  
Demolitions were not provided prior to 2010

## Subdivision Activity

Subdivision activity in Chesterfield was very heavy in the 1980's but slowed in the 1990s with the recession and the slowdown in the housing market. From 1981 to 1992 many new lots were created, however over the past two decades, the trend for smaller and fewer subdivisions has prevailed.

## Land Use Regulations in Surrounding Towns

The table below summarizes the zoning regulations for the seven towns surrounding Chesterfield.

All land areas in towns in New Hampshire abutting Chesterfield are zoned primarily for rural residential use. Although the zones are called by a variety of names (Forestry, Agricultural, etc.), Westmoreland has a zone called Medium Density Residential (MDR) which is along Route 63, but it has a 2-acre minimum lot size and is rural in uses allowed. Land east along Route 9 in Keene is zoned for single family use with a 5-acre minimum lot size. The abutting lands of Swanzey, Winchester and Hinsdale are all rural, primarily forested and zoned for rural residential uses on 1- to 3-acre lots.

Lands adjacent to or near the Connecticut River in Vermont are zoned for a higher intensity level of use primarily because of the presence of Interstate 91 and Route 5. Brattleboro has zoned land around the Junction of 5 and 9 as commercial, and land areas to the north of this junction as industrial. Dummerston has zoned most of the area as rural commercial, which allows a wide variety of residential and commercial uses in a mixed use zone.

**ZONING IN SURROUNDING TOWNS (2014)**

	District	Frontage	Lot Size
Chesterfield	Rural /Agricultural	400'	5 ac.
	Residential	200'	2 ac.
	Village	200'	2 ac.
	Commercial/Industrial	200'	2 ac.
	Planned Development	200'	2ac.
	Office/Retail/Services	200'	2ac. min./5 ac. max.
Keene	Conservation; Rural	50'	5 ac.
	Agricultural	50'	10 ac.
	Low Density (R)	60'	10,000 sq. ft.
	Low Density-1 (R)	100'	1 ac.
	Medium Density (R)	50'	8,000 sq. ft.
	High Density (R)	60'	6,000 sq. ft.
	High Density-1 (R)	50'	2 ac.
	Commercial	50'	15,000 sq. ft.
	Industrial	50'	-
	Industrial Park 1	200'	4 ac.
	Industrial Park 2	100'	5 AC.
Swanzey	Rural/Agricultural	225'	3 ac.
	Residential	150'	1 ac.
	Village Business	100'	1/2 ac.
	Business	125'	1 ac.
	Comm./Ind.	400'/125'	3/1



	District	Frontage	Lot Size
<b>Winchester</b>	Agricultural	200'	2 ac.
	Residential	100'	1 ac. w/o TW/TS 15,000 sq ft w/ TW/TS
	Rural Residential	200'	1 ac.
	Central Business	75'	10,000 sq. ft.
	Commercial	150'	35,000 sq. ft w/o TW/TS 20,000 sq. ft. w/ TW/TS
	Commercial/Industrial	500' (Class II)	5 ac.
<b>Hinsdale</b>	Highway Commercial	500'	5 ac.
	Rural Agricultural	200'	2 ac.
	Residential	100'	1/2 ac.
	Business	41'	5,000 sq. ft.
<b>Westmoreland</b>	Commercial/Industrial	100'	1 ac.
	Comm./Industrial	200'	2 ac.
	Forestry Residential	500'	10 ac.
	Med. Density Residential	300'	2 ac.
	Rural Residential	500'	5 ac.
	Village Center	200'	1 ac.
<b>Dummerston, VT</b>	Forest Reserve	400'	25 ac.
	Reserve	400'	10 ac.
	Conservation	300'	10
	Rural Residential	200'	2
	Rural Commercial	200'	2
	Comm./Light Industrial	250'	2 ac.
	Residential	200'	1 ac.
	Rural	300'	5 ac.
	Productive Lands	300'	5 ac.
<b>Brattleboro, VT</b>	Rural	300'	3 ac.
	Rural Residential	150'	1.5 ac.
	Residential	60'-100'	6,000 sq. ft.
	Multiple Residential	60'-100'	6,000 sq. ft.
	Residential Office	60'-100'	6,000 sq. ft.
	Commercial Office	60'-100'	6,000 sq. ft.
	Village Center	60'	6,000 sq. ft.
	Urban Center	0	2,000 sq. ft.
	Rural Commercial	60'-250'	.25 – 2 ac.
	Commercial	100'	15,000 sq. ft.
	Commercial Industrial	60'-100'	6,000-20,000 sq. ft.
	Industrial	75'	22,000 sq. ft.

Source: Town Websites November 2014

## **Future Land Use Plan**

### **An Overview**

The proposed future land use plan for Chesterfield has been developed using the following information: results of the Community Survey, the goals and objectives for each chapter, data, maps, and input by the Master Plan Committee.

Basically, the plan will attempt to achieve the following:

- Maintain the rural character while accommodating the demand for future needs;
- Promote the existing pattern of rural land uses;
- Protect Chesterfield's valuable natural resource areas by basing future growth on the land's ability to accommodate it;
- Provide areas for the continuation of recreational activities;
- Protect Chesterfield's aesthetic and historic values to insure its continued rural beauty and character;
- Protect Chesterfield's open space and forested land; and
- Manage growth so that fiscal and environmental impacts are minimized.

The development of vacant land depends in part on the physical capabilities and development constraints, and in part on the regulatory restrictions. The following future land use plan divides the town into several major land use categories; many of which generally correspond to their respective zoning districts.

### **Rural Agricultural**

Chesterfield has substantial areas of rural land that is suitable for development. Approximately 78% of the town falls into the Rural Agricultural District. However, these areas should be developed only at a density that can support on-site water and sewage disposal. Many of these rural areas in Chesterfield, even though developable from a land capability standpoint, are remote, making their development currently impractical due to the excessive costs of providing services to these areas.

Some of the land in this district abuts agricultural uses. In these cases, an opportunity exists to provide a development scheme which would protect even more agricultural land without hardship to the landowner. This would be accomplished by using innovative approaches to development such as Conservation Subdivisions. This type of approach designates sensitive areas as priority conservation areas first, then determines the layout of roads and building lots.

### **Residential**

These are lands which are suited to residential development that are also close to existing villages, state highways, and upgraded local streets. Approximately 20% of land in Chesterfield is zoned for this district. The minimum lot size is much smaller than in the Rural Agricultural District. Development should occur at a higher density than the rural agricultural lands because of their relative closeness to existing town services and facilities.

## **Villages**

Each of Chesterfield's villages has a unique history and mix of land use. They each have their own identity and vital role to play in Chesterfield's future just as they have in the past. The rural New England village is an important part of the heritage of a town like Chesterfield and needs to be protected. Villages can assimilate new development and actually benefit from it, if land use controls are designed to do so.

Chesterfield should encourage the continued existence of its villages and encourage a compatible mix of land uses including residential, commercial, and public. The areas currently zoned as "Village" (West Chesterfield and Spofford) are very small (11 and 6 acres respectively) and could be enlarged to provide additional areas for new village development. Chesterfield Center, Chesterfield's other village area, should be added to the village-zoned areas.

Traditional zoning, with minimum frontages, setbacks, and lot sizes, tend to stifle village development. Attempts at strict zoning in these areas makes for lengthy, cumbersome ordinances. A goal in Chesterfield could be to create land use regulations that would allow the existing villages to be built if they were proposed today.

## **Commercial/Industrial**

Chesterfield's location between Brattleboro and Keene make it ripe for future commercial and industrial development, especially areas in close proximity to I-91. Careful planning and guidance through ordinances, regulations and codes will help maintain a desired balance of land uses. These land use documents should be reviewed periodically to ensure that they still reflect the intentions of the community.

The most logical and accepted place indicated for this growth is along NH 9 because it provides easy access to Brattleboro and Keene and also keeps truck and other traffic out of the village and residential areas of the community. Most of the commercial/industrial zoned areas are currently located along NH 9, but changes can be made to land development regulations that will insure future development is restricted in the best interests of Chesterfield residents. All growth along NH 9 will require careful site plan review and layouts to minimize impacts on traffic flow, adjoining landowners, scenic and natural resources. Uses should be set back and screened heavily to avoid the appearances associated with traditional highway commercial growth.

## **Public Lands/Recreation**

Chesterfield is fortunate to have a large amount of publicly owned land. Additional public lands should be encouraged, particularly adjacent to existing ones and to protect identified open spaces, recreation areas, and sensitive natural resources.

Based on the responses in the Community Survey, 85% of participants view the preservation of open space as important. Many responses also indicated that additional public access to the Connecticut River and public trails system should be considered. This should include adequate parking areas and proper signage.

## **Critical Resource Areas**

The basic premise on which land use in Chesterfield is built is that growth should occur in areas that are capable of supporting it, both environmentally and at the least expense to the taxpayer. Some lands in Chesterfield are considered critical resource areas and include wetlands, ridgelines, steep slopes, and floodplains. These areas should be protected because of potential environmental, health, and safety concerns. They can also be less desirable to develop due the added development costs.

Many of these areas would be best suited for permanent conservation. There are areas to be considered for open space, conservation and recreation that are important for the town to preserve and protect. Chesterfield is fortunate to have over 20% of its land area protected by state ownership. However, there are other important scenic and natural areas which should be considered for protection. These steep slopes, ridgelines and wetlands areas are among the most naturally beautiful areas in town and also include much of the area used by citizens for recreation.

## **Rural/Forestry Areas**

Chesterfield does have substantial areas of land that should only be developed at a very low density due to its remoteness and the lack of adequate town services and facilities. Scattered or premature growth in these areas, which would necessitate excessive expenditures of public funds should be discouraged. These areas should remain primarily forestland and wildlife habitat with land management geared toward producing forest products in a manner consistent with good wildlife habitat retention and improvement.

## **Land Use Goals, Objectives, and Strategies**

**Goal: Maintain the existing atmosphere of the town while allowing for appropriate growth.**

Objective: Develop policies to meet emerging needs of the community while maintaining the rural character.

Strategies:

Review and consider revising land use regulations and building codes to address potential barriers to:

Rehabilitation of existing, older and historic homes and buildings for residential and commercial uses;

Home based businesses;

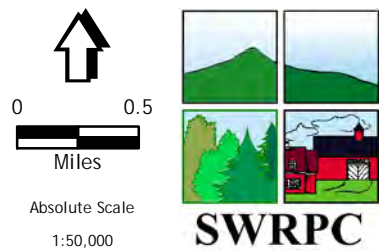
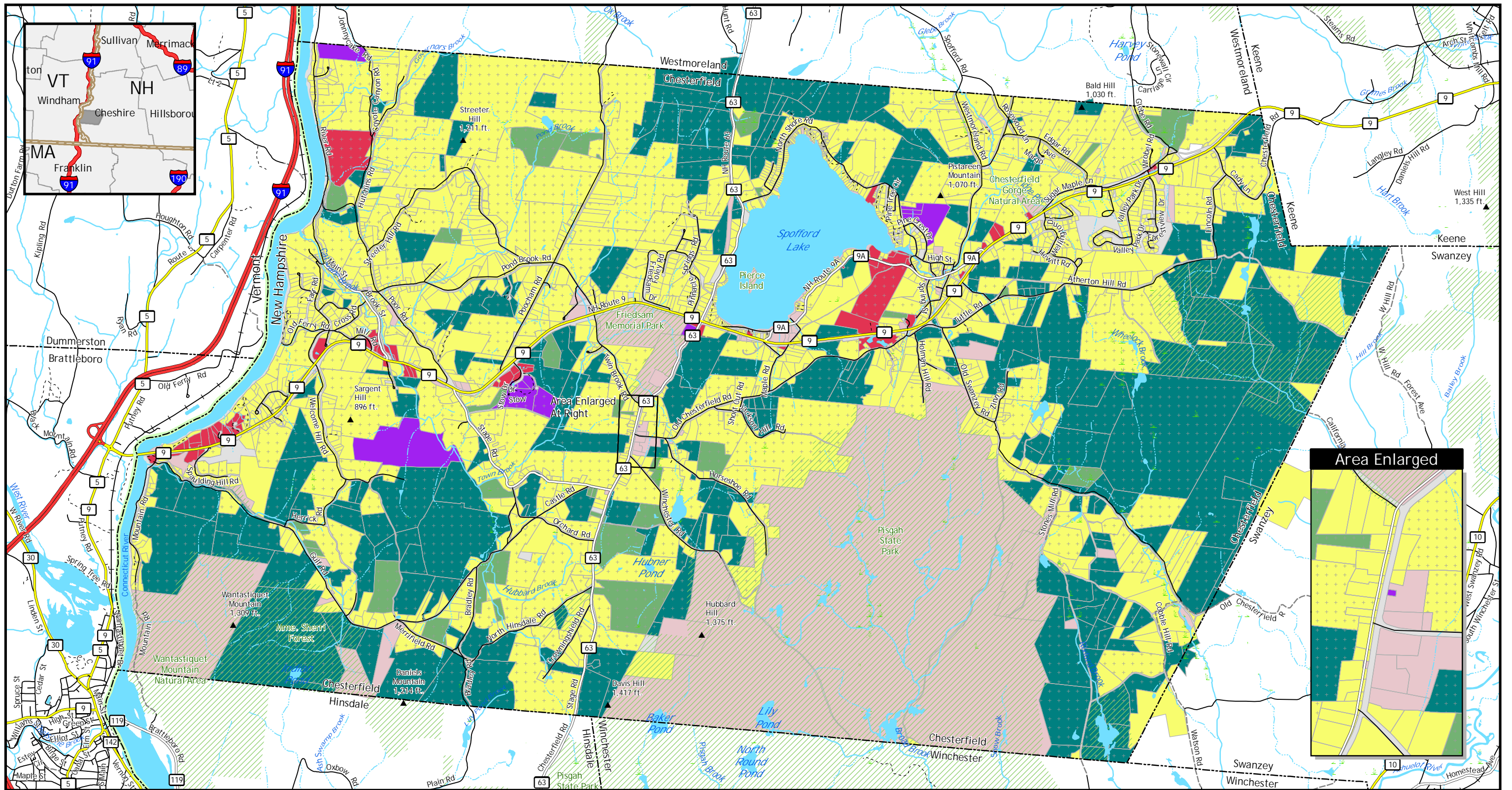
Agricultural enterprises such as farm stands, community gardens, local farms, etc.

Adopt innovative land use approaches (as found in RSA 674:21) such as conservation subdivisions, and in-fill development. Provide options to the development of land that considers the conservation of land as an integral part of the overall project.

Develop activities that promote agricultural practices to younger generations such as farm-to-school initiatives and school gardening programs.

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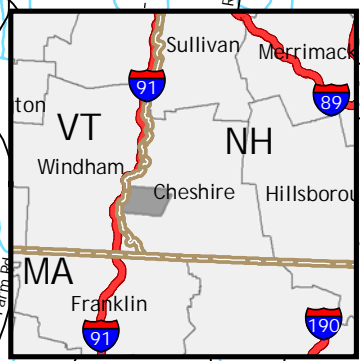
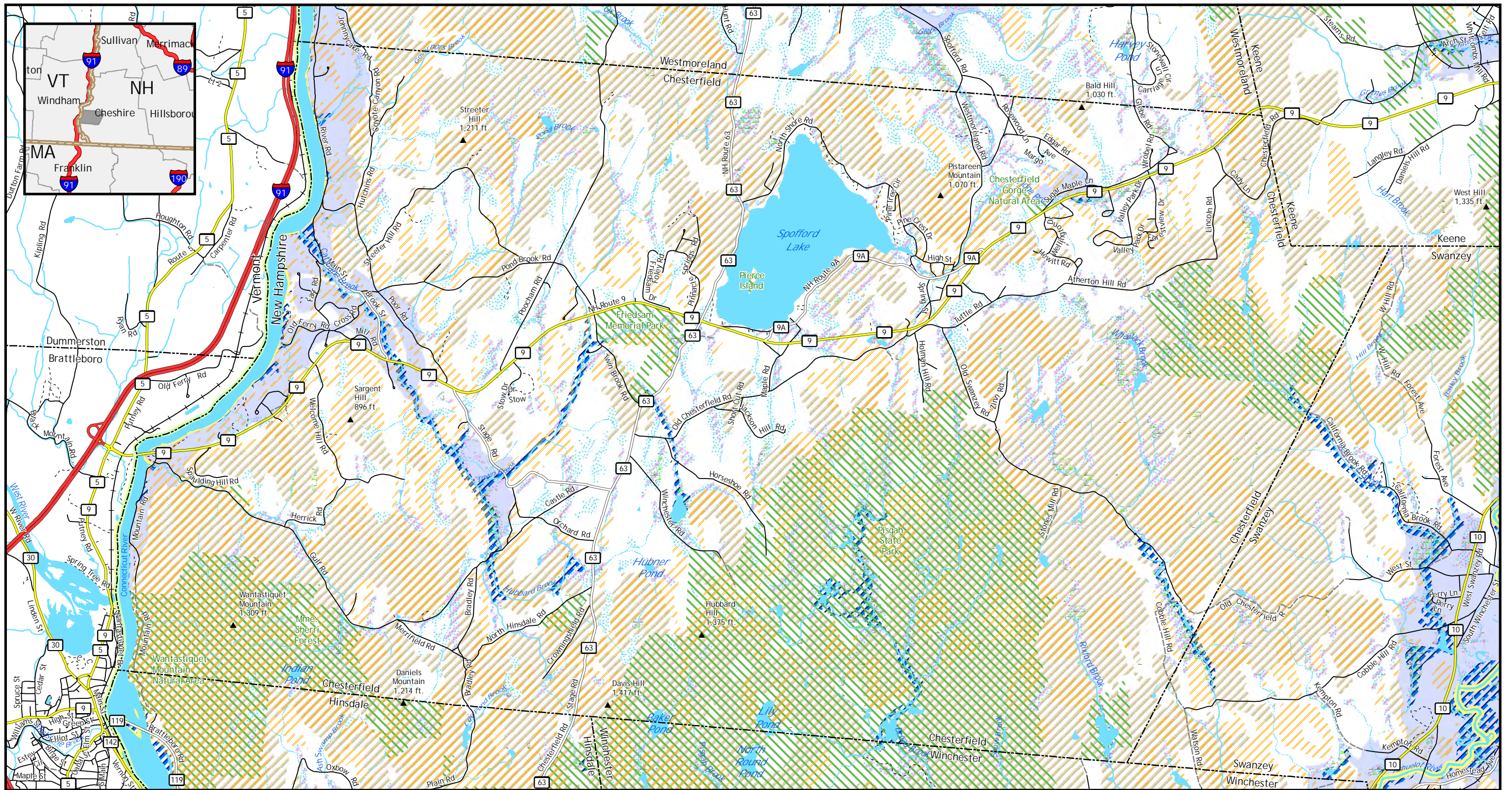
Land Use	Highway by Legislative Class	River or Stream by Type
Agricultural or Horticultural	Class I	Intermittent Stream
Commercial	Class II	Perennial Stream
Exempt Property	Class V	Swamp or Marsh
Forest Property	Class VI	Lake or Pond
Industrial	Private	Conservation Land
Residential		
Unknown		

Portion or All in Current Use

Current use status determined by difference between the appraised and assessed value of a given parcel of land. Parcels with an assessed value less than the appraised value have some portion or all of the land in current use.

# TOWN OF CHESTERFIELD Land Use Map





0 0.5  
Miles  
Absolute Scale  
1:50,000

**SWRPC**

- |                              |  |                             |                        |
|------------------------------|--|-----------------------------|------------------------|
| Designated River             | Shallow to Water Table (50 cm or less) | <b>Highway</b>              | <b>River or Stream</b> |
| National Wetland Inventory   | Depth to Bedrock (100 cm or less)      | <b>by Legislative Class</b> | <b>by Type</b>         |
| Steep Slope (25% or greater) | Poorly or Very Poorly Drained Soils    | Class I                     | Intermittent Stream    |
| Conservation Land            | Stratified Drift Aquifer               | Class II                    | Perennial Stream       |
| 1% Annual Chance of Flooding |  | Class V                     | <b>Water Body</b>      |
|                              |  | Class VI                    | Swamp or Marsh         |
|                              |  | Private                     | Lake or Pond           |

# TOWN OF CHESTERFIELD

## Development Constraints Map

Maps prepared by Southwest Region Planning Commission (SWRPC) are for planning purposes only. SWRPC uses data from multiple sources at various scales of accuracies. No warranties, expressed or implied, are provided for the data herein, its use, or its interpretation.

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7/14/2016



## **REGIONAL CONTEXT**

### **Introduction**

While other chapters of this Master Plan address conditions and issues specific to the Town of Chesterfield, or within the town's control to some extent, this chapter surveys the region of which Chesterfield is a part. Chesterfield's Master Plan is stronger when it accounts for regional development patterns and trends such as: the geographic distribution of homes, jobs, shopping and services; the water, soil, forests and wildlife that blanket the hills around Chesterfield without regard for political boundaries; the highway network; regulations and policies of neighboring towns; and the often far-reaching social networks of residents. While development within New Hampshire's Monadnock Region is affected by local regulations, services and infrastructure, it is driven by the central New England economy and strongly influenced by the Merrimack Valley and central and eastern Massachusetts. The Monadnock Region gets its name from Mount Monadnock, which rises 3,165 feet above sea level and is believed to be the second most climbed mountain in the world.

This chapter is included in Chesterfield's 2015 Master Plan update to ensure awareness of the regional conditions that create limitations and opportunities for private and public enterprise within Chesterfield and shape opinions and ideas of Chesterfield residents.

### **The Southwest Region**

The landscape of the Southwest Region, a 34-town area in Cheshire, western Hillsborough, and Sullivan Counties, is mostly forested with rural and suburban residential development dispersed between village centers. Approximately 100,751 people lived in 45,744 households in the 976-square-mile Region of 34 towns in 2010. Town populations ranged from 23,409 in Keene to 224 in Windsor. Population density region-wide has grown from 64 persons per square mile in 1970 to 103 persons per square mile in 2010.

While a strong sense of local identity defined by municipal boundaries prevails, there is variety in where people work and shop, have social connections, and spend leisure time. Mount Monadnock and its highlands bisect the landscape into two sub-regions. One is dominated by the Connecticut River Valley's population centers of Keene and Brattleboro as employment, commercial and population centers. The other is a more linear configuration of the Contoocook River Valley's population centers of Peterborough, Jaffrey, and Rindge. The majority of the Region's largest employers are located in these areas. Since Chesterfield borders Vermont, it is also part of the Greater Brattleboro Region for cultural, employment, shopping and emergency services.

Workers in the Region are more likely to work in their county of residence (76%) when compared to the workforce of the entire state, where only 65% work in their county of residence. The Region's workers are also making shorter commutes. Almost half of commuters travel less than 10 miles from home to work. Yet, there are approximately 4,000 workers or 7.6% of the Region's workforce that travel greater than 50 miles to work on a regular basis. Since 2000, there has been a reduction in long commutes to work (over 40 minutes) for Southwest Region workers. This is contrary to national and state trends, where longer commutes have been the trend over the same period. The City of Keene, which serves as an employment, commercial and population center for the Southwest Region, contains the highest concentration of job opportunities in the Region. Peterborough, Jaffrey, Rindge, and New Ipswich, on the eastern side of the

Region, also have significant concentrations of employment. Seventeen of the Region's 20 largest employers are located in Keene, Peterborough, Jaffrey and Rindge.

Approximately 23% of the Region's land is currently in conservation through ownership by natural resource agencies, conservation organizations, municipalities or by permanent conservation easement. This land is distributed across the Region with large segments in the areas encompassing Pisgah State Park in Chesterfield, Hinsdale, and Winchester; portions of the Wapack Range in Sharon, Temple, New Ipswich, Peterborough, and Greenfield; Mount Monadnock, and its host towns of Dublin, Marlborough, Jaffrey, and Troy; and the Town of Stoddard. Six towns in the Region have 40% or more of their total land area in conservation. These include Chesterfield, Gilsum, Richmond, Stoddard, Surry, and Westmoreland. Most of the land area in the Region is zoned for low density residential use, with a variety of agricultural and commercial uses allowed by right or special exception, and typically requires from two to five acres as a minimum lot size. A relatively small proportion of the land in Southwest Region towns is zoned for medium or high density (smaller than 2-acre lots) residential, commercial or mixed uses and these areas are usually existing village centers and downtowns. There are few and small areas zoned exclusively for commercial or industrial use.

### Population

The trend of high population growth that characterized much of the mid to late 20<sup>th</sup> century in the Southwest Region has substantially decelerated. Although our Region's population of 100,751 grew by 54% between 1970 and 2010, the vast majority of this growth occurred before 1990. Prior to 1990, the Region's population growth had far outpaced that of the nation. Since 2000, the population has grown by only 5%, well below the national average of 10%. According to the most recent projections from the NH Office of Energy and Planning (OEP), this trend of slow growth is anticipated to continue into the future. These 30-year projections indicate both dramatically lower population growth and some declining populations over the short and long terms. OEP estimates that there will be a 6% increase in the Region's population between 2010 and 2040, a growth of 0.2% per year.

### Housing

In 2010, the Southwest Region had a total of 46,040 housing units. These include single-family, multi-unit, attached-units like row houses or condominiums, manufactured homes, and vacant units. The City of Keene had nearly three times the number of housing units (9,719 total units) as the next highest community, Swanzey (3,205 total units). Compared to 1990 figures, the Region as a whole added 6,659 units by 2010, an increase of 17%. However, the Southwest Region's total housing units grew more slowly than the state as a whole (22%), and the nation (29%). Over the period 1990-2010, New Ipswich, Greenfield, and Franconia were the only towns in the Region with total housing units that grew more quickly than the national average. Jaffrey, Bennington, and Greenville experienced the least increases in total housing growth, with 5% or less growth. Almost half (49%) of the total increase in the Region's housing units came from five towns: Keene, Peterborough, Swanzey, New Ipswich, and Rindge.

### Employment

The employed civilian population over the age of 16 increased from 50,058 to 53,287 between 2000 and 2011, an increase of approximately 6.5%. This rate exceeded the rate of population growth over a similar time period, 5.1% between 2000 and 2010. Between 2000 and 2011, employment levels fluctuated in the five largest industry sectors in the Southwest Region. Total employment increased 6% or 3,229 jobs. The largest sector (educational services, health care, and social assistance) increased in size from 10,907 jobs to 14,790 jobs, an increase of 36%. The second largest employer in 2000, the manufacturing sector,

decreased 16% from 9,499 employees to 7,936 employees. Employment in the retail trade sector held relatively steady, decreasing from 6,816 to 6,669, or 2%. The construction sector increased employment from 3,704 to 4,259, or 15%. The fifth largest sector by employment, the arts, entertainment, and recreation, and accommodation, and food services sector, increased in size by about 35% from 2,887 to 3,906 employees.

### Transportation

Most residents work and shop outside their towns of residence. Having safe and convenient options for accessing employment, goods, services, social and recreational activities is integral to maintaining a healthy, vibrant community. While maintaining adequate roadway infrastructure is critical to enhancing safe access, it is also important to improve the travel options available for getting around the Region. These options are especially important in the Southwest Region, where low population density, hilly terrain, far distances between service centers, and limited public transportation are significant challenges to getting around. For many living in the Region, the only safe or practical way to access destinations, is by automobile. Some communities including Keene, Peterborough, Jaffrey, and Swanzey, have been establishing multiuse paths that can accommodate both bicycles and pedestrians for recreational and daily trips. These pathways, are integral components of the Region's transportation system. They provide safe alternatives for travel between places and to downtown areas. They also promote opportunities for physical exercise and tourism. Currently, there are 45.4 miles of hard-pack or paved multiuse trails in the Region.

The Region's residents and visitors have reasonable access to interstate highways and major airports. Interstates 89, 91 and 93 can be reached from most parts of the Region within an hour. Three international airports are within convenient driving range: Manchester International Airport (55 miles from the center of the Region), Logan International Airport in Boston (95 miles), and Bradley International Airport in Hartford (95 miles). A recent addition to these options is Green Airport in Warwick, Rhode Island (120 miles) which also offers some international flights.

While a strong sense of local identity defined by town boundaries prevails, there is great variety in the "personal geography" of residents. That is, the map people carry in their minds determined by where they work and shop, where they have social connections, and where they spend leisure time. The Region is as connected with Vermont and Massachusetts, socio-economically, as it is with the rest of New Hampshire and the Region's population is as highly mobile as any in the U.S.

### Land Use Patterns

The Southwest Region is many things: natural beauty, historic villages, Yankee tradition, good jobs, strong economy, and, perhaps most importantly, a community of capable residents. All of these things that residents enjoy and take pride in are, in part, products of change. Change has come to the Region by design and by chance, bringing good fortunes and misfortune. While residents have many different visions and hopes for the future, there seems to be consensus that protecting the good things we have and improving our community are priorities.





Figure 1. Rural Development Pattern

Figure 2. shows a different version of that same view developed for housing using medium-sized lots of conventional subdivisions. Whether arising one new house at a time or in large developments, this suburban development pattern is what most of the region's rural residential zoning is creating.

The Monadnock Region's lower cost of living, economic vitality, scenic beauty, access to outdoors, and appeal of small town life will continue to attract new residents and drive the development of new homes and commercial sites. Managing development to create opportunities for positive change while protecting against loss is a principal challenge for the entire Region today. To adequately prepare for continued development it is important to understand that the Southwest Region is on the edge of a very powerful engine of change to the south and east – powerful in terms of numbers, number of people, dollars, households, commercial floor space, and jobs.

As the regional economy waxes and wanes with national business cycles and regional advancements and downturns, the principal determinants of development patterns are highway access, public infrastructure and services, and municipal zoning.

The Region's 34 municipal zoning and capital spending plans are our future land use plan. The vast majority of the land in the Southwest Region is zoned for medium or low density residential use with a variety of commercial uses allowed by right or special exception. The availability of road frontage and public sewer and water is an important determinant of development density. The current distribution and future development of highway access, public infrastructure and services, and municipal zoning will have immediate effects on land values, development patterns, traffic patterns, distribution of jobs versus housing, demand for public services and infrastructure, and the quality of our natural resources ranging from scenic beauty and biodiversity to water supply and clean air.

The development of forests and fields along town and state roads may be the single most common concern among residents and local governments in our region today. There are many opinions about how the ongoing development of new homes and commercial sites affect our community character, services and infrastructure, our social fabric, our economic vitality, and our natural resources. Figure 1 is a hypothetical bird's-eye view of the New England landscape most of us envision for the Monadnock Region and want to preserve.

Figure 2. Suburban Development



The Southwest Region Planning Commission (SWRPC) publishes studies and reports to provide a more developed regional perspective for use by municipal governments. Several of the Commission's reports and research, which are available on the SWRPC website ([www.swrpc.org](http://www.swrpc.org)) or by contacting the Commission, are described below:

Monadnock Region Future: A Plan for Southwest New Hampshire (2015)

The Southwest Region Planning Commission (SWRPC) developed this document to provide information and guidance to anyone with an interest in planning for the future of the Southwest Region. This Plan maps out a vision for the future based on an understanding of the Region's assets and opportunities, ongoing initiatives and current challenges. It encourages the reader to think broadly about the Region and the factors affecting its success, and presents strategies that can enhance current efforts, as well as promote new and emerging opportunities. It is intended to promote regional thinking, coordination, and action.

Guiding Change, The Southwest Region at the Beginning of the 21<sup>st</sup> Century (2002)

Guiding Change, The Southwest Region at the Beginning of the 21<sup>st</sup> Century, is Region's Master Plan. RSA 36:45 requires regional planning commissions to prepare plans for their respective regions ... "taking into account present and future needs with a view toward encouraging the most appropriate use of land, such as agriculture, forestry, industry, commerce, and housing; the facilitation of transportation and communication, the proper and economic location of public utilities and services; the development of adequate recreational areas; the promotion of good civic design; and the wise and efficient expenditure of public funds."

This Plan, prepared by Commission staff and the SWRPC Board of Directors with input from municipal officials and citizens, considers those qualities and attributes which residents thought defined the Southwest Region, and were considered important to preserve. This list includes the physical environment, the historical and cultural richness, a strong economy, and the public spirit of citizens who have worked together for years to preserve these qualities in the Monadnock Region.

Southwest New Hampshire Housing Plan (2014)

The Southwest New Hampshire Housing Plan provides a detailed analysis of housing trends and housing cost burdens by income level based on US Census data for the Southwest Region. The report highlights housing needs and trends in the Southwest Region and its counties, as well as statewide totals. The report uses Census data to analyze changes in population, households by tenure, vacancy rates, and housing cost burden for renters and single family homeowners, and estimates the range of and demand for housing production.

Southwest New Hampshire Broadband Plan (2015)

This Plan contains recommendations oriented around a central vision and four primary goals, which respond to broadband challenges and needs specific to the Southwest Region at the time of release. The objectives and proposed strategies identified in this Plan are viewed as realistic measures for improving the landscape of broadband in the Southwest Region over the next five years and beyond. They are directed at regional organizations, municipalities, community anchor institutions, broadband providers, policy and decision makers and others to consider, pursue, and/or support their efforts to increase access to and the utilization of high quality broadband in the Region.

Southwest New Hampshire Natural Resources Plan (2014)

This Plan provides an overview of the significant conditions and trends, issues and challenges and opportunities facing the Region's diverse natural resources, and the infrastructure we rely on to safely access and utilize these resources. It highlights strategies for communities, organizations, and others to

consider in addressing natural resource, water infrastructure, energy, and climate challenges at the regional and local level. Additionally, it addresses opportunities for regional coordination and action, and outlines some of the many resources communities and others can use to advance certain objectives.

#### Southwest Region Natural Resources Inventory (2003)

The Southwest Region Natural Resources Inventory provides a basic analysis of natural resources and landscape fragmentation on a regional scale that can be used “as is” by municipalities as their first edition NRI, or used as a template to be enhanced with original local research and local knowledge. While a set of topographic maps annotated with information by residents about the character of the forests and ponds, movement of wildlife and viewscapes that define their town is a perfectly acceptable starting point for conservation planning, the Planning Commission offers this analysis of available GIS information. It is hoped that this project can provide a common point of departure for the development of municipal NRI’s in the Southwest Region.

#### Southwest Connects: Southwest Region Transportation Plan 2014 – 2035 (2015)

Southwest Connects: Southwest Regional Transportation Plan presents policy and technical information relevant to local, regional, and state activity of the planning and management of the transportation system. The Plan facilitates a regional approach among local and state decision makers to planning and decisions regarding transportation, land use, and community development.

#### Comprehensive Economic Development Strategy for Southwest New Hampshire (2015)

The purposes of the Comprehensive Economic Development Strategy (CEDS) for Southwest New Hampshire are to promote greater coordination among communities and economic development interests and to establish eligibility for federal assistance through the U.S. Economic Development Administration. The current CEDS was developed through the coordination of regional economic development stakeholders and municipal officials through the CEDS Advisory Committee as part of the Monadnock Region Future: A Plan Southwest New Hampshire. The Committee reviewed and analyzed existing trends and developed goals and objectives to help the Region manage its destiny and protect its competitive advantage in New England and the global economy in the coming years. The CEDS will be updated annually and revised every five years.

## **Chesterfield’s Role in the Region**

Located in the southwestern area of New Hampshire’s Monadnock Region, there are a number of outside influences that affect Chesterfield, but which the community has little control over. For many of these issues, Chesterfield can similarly affect other communities with its own actions. This section highlights the primary areas that Chesterfield should be concerned about and offers suggestions on how the town can work toward addressing the issues. The town’s awareness of these issues will help to ensure that Chesterfield is prepared to deal with issues as they arise and that Chesterfield is a good neighbor to its abutting communities.

### Environment

#### **Ashuelot River Watershed**

The Ashuelot River watershed, which comprises 268,800 acres in southwestern New Hampshire, is a remarkably diverse and ecologically significant river system. The river and its tributaries, which flow through 25 New Hampshire and two Massachusetts towns, provide clean water, extensive wildlife habitat, abundant wetlands, productive forests and outstanding recreational resources. The Ashuelot River watershed is the largest watershed in southwestern New Hampshire, and comprises a major tributary of the Connecticut River basin.

While the river does not flow through the Town of Chesterfield, a significant portion of eastern Chesterfield is located within the watershed. As Chesterfield and the region grow and change, it is critical that the type and location of development be considered in relation to the significant role of the watershed both within and beyond the region.

### **Connecticut River**

The Connecticut River, New England's largest river, comprises the entire western border of the Town of Chesterfield. The Connecticut River flows 410 miles from its source at Fourth Connecticut Lake just yards away from the Canadian border, to Long Island Sound. New Hampshire and Vermont share approximately two thirds of the river's length, or 271 miles with fifty-three towns bordering the river, 26 in Vermont and 27 in New Hampshire, and 114 Vermont towns and 93 New Hampshire communities within the Connecticut River Watershed. In 1998, the White House designated the Connecticut as an American Heritage River.

The river is a valuable resource within the landscape that provides habitat for wildlife including abundant wetlands and productive forests; supports fisheries and agriculture; and, tells the story of the region's historic and cultural heritage. Today, several entities exist with the mutual purpose of protecting the river: Connecticut River Joint Commissions which maintains a River Corridor Management Plan which was funded by a grant through the Clean Water Act. The Connecticut River Joint Commission promotes communication about the river in the New Hampshire and Vermont river corridor; the Connecticut River Watershed Council advocates for the conservation and protection of the entire river; and, the Wantastiquet River Local Advisory Committee (a subcommittee of the Connecticut River Joint Commissions) implements its own River Management Plan.

In addition to the resources identified above, the Connecticut River provides tremendous recreational and economic opportunities for its bordering communities. Currently, one public access point to the river for boating, swimming, or fishing exists within the Town of Chesterfield; access is located on River Road. Many other public access points exist in the regional communities through which the river flows. Economic benefits of the river include regional tourism encouraged by the many activities promoted along the river as well as the attraction of businesses to the region due in part to its unique resources, including the river.

Shoreland Water Quality Protection Act, previously called the Shoreland Protection Act, New Hampshire's state law, protects the New Hampshire shoreline of the river, while local ordinances protect the shoreline in Vermont. Chesterfield's Zoning Ordinance enforces the state shoreland protection requirements for the portion of the river that borders the town from the Westmoreland town line to the Hinsdale town line.

### **Spofford Lake**

Spofford Lake is one of the region's largest and most spectacular fresh water lakes. At 793 acres, Spofford Lake provides habitat for wildlife including a variety of fish such as rainbow trout, small and largemouth bass, white perch, northern pike, pickerel, and horned pout. The lake is one of the state's "trophy" lakes for local and out-of-state fishermen.

In addition to its many natural resource values, the lake has a long history of serving as a resort area for seasonal respite – a legacy that continues today. Public access allows local residents and visitors to swim and boat on the lake. Much of the development that exists today around the lake is seasonal dwellings, though many of the dwellings are being converted to year-round use.

## Transportation

### **NH Route 9**

Chesterfield is located between the larger communities of Keene, New Hampshire and Brattleboro, Vermont, with NH Route 9, which runs east to west through the town, dividing the community. NH Rte. 9 serves as the most efficient route for traveling between these two major regional centers for employment and shopping. In addition, the nearest interstate to Chesterfield, Interstate 91, can be accessed in Brattleboro, VT from NH Rte. 9. Seasonal tourism to New Hampshire's Lakes Region, White Mountains, and Seacoast, as well as the southwest region's lakes, ski mountains, and other tourist attractions, greatly increases traffic on NH 9 with visitors from Massachusetts, Connecticut, Vermont, New York, and beyond. As the region grows, increased use of NH Rte. 9 for accessing Keene and Brattleboro should be expected, and may require improvements or increased maintenance of the road in coming years.

### **Connecticut River Scenic Byway**

In 1999, the States of Vermont and New Hampshire officially designated a bi-state route for the new Connecticut River Scenic Byway along the Connecticut River. The designated byway runs some 271 miles the length of the border between New Hampshire and Vermont. The goals of the two states in designating the scenic byway include balancing the preservation, promotion, enjoyment and stewardship of the river valley and linking people, organizations, communities, and agencies in promotion of the river byway as a tourism asset.

NH 63, which runs north to south through Chesterfield, is one of the scenic driving routes along the southern portion of the river in New Hampshire and Vermont. Waypoint interpretive centers have been established in river valley communities with larger populations and commercial centers to provide Byway travelers with amenities and information about dining, lodging, things to see and do, as well as the natural and social history of their community. Brattleboro is the closest Waypoint community to Chesterfield.

## Recreation

### **Pisgah State Park**

Pisgah State Park, located within the Cheshire County towns of Chesterfield, Winchester, and Hinsdale, comprises more than 13,500 acres (21 square miles), 5,695 of which are in Chesterfield. The park is of rough forested terrain, and encompasses a complete watershed north of the Ashuelot River. In addition, the park protects seven ponds, four highland ridges and numerous wetlands. Pisgah State Park is the largest property in the New Hampshire state park System. It was purchased by federal land and water trust funds and is subject to federal guidelines.

Six trailheads around the park disperse use and subsequently lessen visitor impact and encourage the discovery of Pisgah's natural and cultural features. Three of the six trailheads are located in Chesterfield on Winchester Road, Horseshoe Road, and Beal's Road. Maintained trails offer a diversity of options for short, moderate and long treks into the backcountry for year-round use. Park staff monitor the impact of motorized and bicycle use on the park seasonally. Trail and road use designations, specific to surface conditions, can be found on the park map at the trailheads.

Until recently, the park was maintained and operated by the State of New Hampshire Division of Parks and Recreation. The New Hampshire Division of Forest and Lands has now become the primary managing agency to facilitate the new emphasis on forestry management. The Friends of Pisgah, Inc. is a group of volunteers organized to assist the New Hampshire Department of Resources and Economic Development in the planning, operation and maintenance of the park so that the forests are enhanced in accordance with an approved management plan. The Friends meet regularly, under the supervision of the Division of Forests



and Lands, and have been critically involved in the development and maintenance of the park's trail system and have extensively documented the history of the area.

## **Regional Topics of Concern**

Below is a list of strategies found in the Monadnock Region Futures (Regional Plan) that outline regional concerns. Many of these can best be addressed with a coordinated effort among several communities working toward the same outcome. Therefore, these strategies should be taken into consideration during the review process of applicable development proposals.

### Economic Development

The availability of high-speed Internet, also known as broadband, has a significant impact on long-term economic growth. However, access to reliable broadband in the Region varies significantly. The speeds needed to conduct most business on the Internet have increased 100-fold over the past 15 years. The need for faster broadband will only increase over time.

While the Region has a strong base of diverse industries, civic engagement, and high quality of life to build on, this alone cannot ensure future prosperity and economic resilience. We have the opportunity to identify what it takes to build a competitive regional economy in a post-recession, globalized economy and to address areas that we know need improvement. To do so, we might consider expanding a skilled workforce; growing business and industry; strengthening our existing assets; and maintaining adequate infrastructure. It also requires promoting a balanced and diverse mix of business and industry that offers quality employment for a range of skills and abilities.

In the Region, our infrastructure needs are great; however, we are challenged in our ability to repair, maintain, and upgrade these systems and structures. High-performing and reliable infrastructure is a vital component of a robust regional economy. Without functioning roads and bridges, access to clean drinking water, constant supplies of energy, high-performing Internet, and other critical support services (e.g. childcare or eldercare), most businesses would be unable to function, let alone compete in a global economy.

### Emergency Preparedness

There are many factors that influence a community's resilience - the ability to prevent or withstand and recover from natural or manmade disasters, public health emergencies and other crises. Resilience involves developing the capacity to account for and mitigate vulnerabilities, establishing strong social networks, considering preparedness and mitigation in local planning efforts, reducing negative health consequences, and rapidly restoring community functions. While many communities in the Southwest Region have in place plans and trained volunteers to respond to a disaster or emergency, building resilience is an ongoing task. Critical infrastructure, such as transportation, water and wastewater, energy, emergency management, health care, agriculture, and telecommunications, is intricately linked with the overall resilience of a community. Therefore, protecting these systems against disruptions and adverse impacts is an important component of preparedness and hazard mitigation.

### Housing

There is a regional need to expand the diversity of housing options. The Region's current supply and location of housing is not aligned with the evolving preferences among different age groups. As our population ages, the need for appropriate housing, transportation, health care, and support services will continue to increase. While seniors and 'Baby Boomers' generally want to grow old in their own homes or locale, most of our Region's communities do not currently support the appropriate housing, social services and transportation these older adults need to be able to live independently. Nor do many communities

support the housing or transportation preferences of younger generations, who are more inclined towards renting and short commuting distances. Communities can support the development of a more adaptable housing inventory by creating a regulatory environment that supports innovative land use approaches such as allowing for accessory dwellings, the conversion of single family units to multi-family units, and mixed use development.

#### Transportation

Within the Region, public transportation in the form of fixed-route service is primarily limited to Keene and small portions of Hinsdale and Walpole. Most residents in need of transportation rely on family members and friends, or volunteer driver networks, such as those operated by the American Red Cross and Contoocook Valley Transportation Company. These services, which primarily provide rides to medical appointments, meet some of the demand for transportation options. Multi-modal transportation options should be expanded throughout the region to stay in line with the emerging needs.

## **Regional Resources**

The following regional and state groups, organizations and agencies are key resources for implementation of the Master Plan:

#### Connecticut River Joint Commissions

New Hampshire's Connecticut River Valley Resource Commission, created by the legislature in 1987, and Vermont's Connecticut River Watershed Advisory Commission, similarly created in 1988, were directed to cooperate with each other to preserve and protect the resources of the Connecticut River Valley, and to guide its growth and development. They have met together as the Connecticut River Joint Commissions since 1989. Both Commissions are advisory and have no regulatory powers, preferring instead to advocate and ensure public involvement in decisions which affect their river and their valley.

#### Connecticut River Watershed Council

The Connecticut River Watershed Council is a broad-based citizen advocate for the environmental well-being of the entire Connecticut River. The Council's primary mission is to promote improvement of the water quality and the restoration, conservation, wise development and use of the natural resources of the Connecticut River watershed.

#### Monadnock Business Ventures

Monadnock Business Ventures (MBV) is a Non-Profit Regional Economic Development Corporation providing the following services to communities in the Monadnock and Contoocook Valley regions:

- Assist business start-ups, expansions and relocations.
- Advise businesses and communities about state programs available for economic assistance.
- Operate an "incubator" facility for new business start-ups.
- Maintain a database of available commercial and industrial property
- Initiate, process and receive Community Development Block Grants (CDBG) for local governments to create employment opportunities.
- Operate a revolving loan fund for new and expanding businesses.
- Work with others to market the region for the creation of jobs.

#### Monadnock Conservancy

The Monadnock Conservancy is a regional non-profit land trust that assists land owners and municipalities with protecting land through easement, donation or purchase of land. Preservation efforts may include farmland; productive forest; open space; recreational trails; water supply; wildlife corridors; scenic

ridgelines above the City of Keene and the Ashuelot River Valley; floodplain, aquifer and wetlands along the Contoocook River; and, scenic forests along the Wapack Trail and the Monadnock-Sunapee Greenway.

#### Monadnock Economic Development Corporation

Monadnock Economic Development Corporation (MEDC) is one of 15 Non-Profit Regional Economic Development Corporations located throughout New Hampshire. MEDC is a private, not-for-profit regional development organization committed to the creation of jobs and the broadening of the tax base for New Hampshire's Monadnock Region communities. The Board of Directors and staff of MEDC concentrate their efforts on business retention, relocation, expansion, and recruitment projects, as well as downtown revitalization and rehabilitation projects. In addition to its revolving loan fund, its USDA Rural Development Intermediary Re-lending Program and its network of financial institutions, MEDC has access to state and federal funds earmarked for economic development.

#### NH Department of Environmental Services

The goals of the NH Department of Environmental Services (NH DES) are to protect and promote wise management of the State's environment. The Department's responsibilities include ensuring high levels of water quality for water supplies, regulation the emissions of air pollutants, fostering the proper management of municipal and industrial waste, and managing water resources for future generations.

#### NH Department of Resources and Economic Development

The Department of Resources and Economic Development (NH DRED) consists of four divisions: Forest and Lands, Parks and Recreation, Travel and Tourism Development, and Economic Development. The Division of Forests and Lands protects and promotes the values provided by trees, forests and natural resources (and includes the Natural Heritage Bureau) while Parks and Recreation aims to protect historic and natural resources. Promoting New Hampshire as a travel destination is the mission of Travel and Tourism Development. Similarly, Economic Development promotes businesses and the expansion of existing businesses.

#### NH Municipal Association

The New Hampshire Municipal Association (NHMA) was established in 1941 to serve member cities and towns. NHMA has evolved into a service and action arm for New Hampshire local governments. The Association prides itself on its ability to meet the ever-changing educational and training needs of municipal officials and employees, as well as the flexibility to develop new programs designed to meet the needs of local governments. Today, NHMA offers legal and technical assistance, legislative representation, training, workshops, and personnel services.

#### NH Office of Energy and Planning

The NH Office of Energy and Planning (NH OEP), formerly known as the Office of State Planning, is based in Concord and is legislatively required to plan for the orderly development of the State and the wise management of the State's resources. NH OEP compiles, analyzes, and disseminates data, information, and research services to advance the welfare of the State; encourages and assists with planning, growth management, and development activities of cities and towns; administers select Federal and State grant-in-aid programs; and, participates and advises in matters of land use planning regarding lake and river management programs. NH OEP typically does most of its work with communities through the regional planning commissions.

#### Southwestern Community Services

Southwestern Community Services, Inc. (SCS) is one of six community action agencies throughout New Hampshire, and part of the larger network of 70 agencies in New England and nearly 900 agencies nationwide. SCS advocates for and assists citizens in need through a variety of program areas including Head Start, fuel assistance, developmental services, economic development, elderly services,

weatherization, homeless services, housing rehabilitation, affordable housing, health and nutrition, and workforce development.

#### Southwest Region Planning Commission

The Southwest Region Planning Commission (SWRPC) currently serves 34 member-municipalities in Cheshire, western Hillsborough, and Sullivan Counties. SWRPC provides local assistance on a wide range of planning issues to member municipalities through activities including community master planning, site plan review, capital improvement planning, subdivision reviews, ordinance preparation, interpretation of state and local planning requirements, grant administration, cartographic support, and geographic information system (GIS) applications. The agency has a diverse work program made up of six major program areas: Local Planning Assistance, Natural Resources Planning, Community and Economic Development, Transportation Planning, Hazard Mitigation Planning, and Regional and Geographic Information Systems.

#### U.S. Environmental Protection Agency, Region I

The goal of the Environmental Protection Agency Region I (New England) is to protect human health and safeguard the natural environment where people live, learn, and work in the six New England states: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont. One way to help accomplish this goal is to ensure that communities have access to accurate information sufficient to effectively participate in managing human health and environmental risks. This federal agency is a resource for information on environmental regulation, resource protection, and human health protection.

#### Wantastiquet Local River Subcommittee (WLRS) of the Connecticut River Joint Commission

The Wantastiquet Local River Subcommittee of the Connecticut River Joint Commission is one of six LAC's in Southwestern New Hampshire convened by the Rivers Management and Protection Program of the NH Department of Environmental Services. The main responsibilities of this citizen advisory committee is to develop and implement a local river corridor management plan and advise local, state, and federal governing bodies and agencies of activities which may affect the water quality or flow of the protected river or segment. The DES offers the committee technical assistance in developing and implementing the management plan.

## **Conclusion**

The information presented in this chapter offers Chesterfield the opportunity to work closely with abutting communities and communities of the greater Monadnock Region to accomplish together what they could not accomplish alone due to funding, resources or the sheer size of the goal. The regional concerns identified in this chapter could have a greater impact on the Town of Chesterfield if the town takes an isolated approach to addressing the issues.

The larger regional context, as described in the identified resources prepared by the Southwest Region Planning Commission, provides a basis for Chesterfield to more fully understand the problems at hand, in order to better plan for the changes to come. Establishing a relationship with abutting communities and regional groups will ensure that the town is in the best possible position to handle each demand that comes its way.

## Regional Goals, Objectives, and Strategies

**Goal: Understand the value and importance of Chesterfield's role in the region.**

Objective 1: Provide infrastructural needs within Chesterfield that connect to other communities within the region.

Strategy:

Work with adjacent communities to provide or improve upon critical infrastructure to further meet the needs of Chesterfield and the region.

Objective 2: Encourage and support regional protection of natural resources.

Strategy:

Work with adjacent communities to develop priority properties that would connect conservation areas thereby establishing unfragmented parcels of land for wildlife corridors.

Consider adopting the language of NH RSA 36-A:4-a to authorize the Chesterfield Conservation Commission to expend funds to purchase land outside the boundaries of the town to further the protection of the State's natural resources.

Objective 3: Support the efforts of Southwest Region Planning Commission and State of New Hampshire that provide outreach and education on all aspects of planning within the region and state.

Strategies:

Participate in regional and state workshops that seek to develop solutions and improve upon strategies concerning local, regional and state issues such as housing, transportation, education, natural resources/environment, economic development and tourism,

Continue to send Chesterfield representatives to participate on regional advisory committees and determine where additional representatives are needed.



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## IMPLEMENTATION

### Introduction

This Master Plan not only describes existing conditions, assets and problems, but also provides guidance for the future development of Chesterfield. This section contains goals and objectives that are based on ideas from the town-wide attitude survey, discussion and comments from town officials, boards, and departments, input from individual citizens, and recommendations from the Southwest Region Planning Commission. The rationale for these goals and objectives is based on data in the previous chapters. Strategies are also provided as a potential means to achieve the goals.

The success of a Master Plan in shaping future growth and influencing public policy decisions is dependent upon the degree to which the plan is actually carried out by those responsible for its implementation. It is recommended that the Planning Board establish an annual meeting dedicated to bringing together all of the responsible entities (at least 1-2 representatives of the Selectboard, Planning Board, Zoning Board, Conservation Commission, Recreation Commission, Road Agent, etc.) for the purpose of discussing, assigning, and reporting on actions relating to the Master Plan goals and objectives.

The first meeting should occur soon after this Master Plan update is approved. The purpose of the meeting is to prioritize the goals and assign which entity will be responsible for working on the goal. Subsequent annual meetings would require each entity to report on their progress, to date, relative to each goal. The intent being that some amount of progress will be made each year. These meetings should be public so that residents may provide input as appropriate.

The Master Plan is not an end product but the beginning of a means for dealing with land use decisions that Chesterfield may encounter, including how development and growth might affect the town's services and financial structure. The Planning Board should consult the plan regularly and see that it is updated so that it remains relevant to the needs and desires of the town.

### Historic and Recreational Resources Goals, Objectives and Strategies

**Goal: Protection of our historic and recreational resources for current enjoyment and preservation for future generations.**

Objective 1: Encourage the preservation of historic structures that make up the cultural fabric of Chesterfield's past through outreach and education.

Strategies:

1. Conduct a survey of historic and cultural resources such as older buildings, barns, stone walls, historic sites, etc. to be used to inform and guide preservation efforts. A historic resource survey involves collecting and recording information about existing historic buildings and sites in the community, and is considered a first step in documenting historic resources for planning purposes. This type of survey is needed to list a site(s) on the State or National Registers of Historic Places. Surveys typically include detailed descriptions of the resource, photographs, and field notes on age, setting and geographical location.

- a. Identify funding mechanisms to support historic and cultural preservation efforts.
2. Consider the adoption of an historic district to protect historic character in a specific area or areas.
3. Consider the adoption of a neighborhood heritage district, which incorporates more flexible, less stringent standards than an historic district. This would include the establishment of a Neighborhood Heritage Committee to review applications within the district on meeting the standards for criteria established in the ordinance. The committee is advisory to the Planning Board and has no regulatory authority.
4. Consider the adoption of a demolition review ordinance to help prevent the loss of historically and architecturally significant structures. This ordinance would be an amendment to the building code and would not prevent demolition, but instead provides for a delay period to allow additional time for a community to evaluate the significance of the building, meet with the owner to discuss options, hold a public hearing, document the structure, and explore alternatives.
5. Review and consider revising local land use regulations and building codes to address potential barriers to the energy efficient rehabilitation of historic structures and the addition of alternative energy sources.
6. Encourage new development to be compatible with existing cultural and historic features.

**Objective 2:** Encourage the continuation of Chesterfield's recreational opportunities and seek to expand as the demand for additional recreation needs and options evolve.

Strategies:

1. Inventory and evaluate the locations and adequacy of available public use and access to outdoor recreation resources. This includes resources such as number of ball fields, access to trails, parking, etc.
2. Inventory the condition and supply of recreational equipment and indoor facilities.
3. Evaluate the adequacy of current activities and programs. Seek to provide opportunities that include all ages and abilities in healthy activities.
4. Explore opportunities for additional recreational access to the Connecticut River.

## **Community Facilities and Services Goals, Objectives and Strategies**

**Goal:** Meet the needs of Chesterfield residents by providing quality services and maintaining the facilities necessary for those services.

**Objective 1:** Develop opportunities and spaces that foster social capital and encourage relationship building within communities.

Strategies:

1. Repurpose and enhance the utilization of existing community facilities and outdoor spaces, such as the school, library, and town hall, to provide space for and access to a variety of community services including public Wi-Fi networks, evening programs, trainings, community gardens, etc. Prepare a plan that will broaden the types of activities offered to meet the interests of all ages and abilities.
2. Establish new, and promote existing events that bring together multiple generations in the community (e.g. Old Home Festivals, community performances, fairs, etc.). Appoint a

committee to explore a variety of event options. This should include dates, locations, associated costs and staffing needs, and methods of public outreach.

3. Encourage volunteerism and civic engagement with representation from a variety of sectors and generations. Determine the type of volunteer service needed such as firefighting, local boards and commissions. Initiate a public outreach campaign to generate interest by utilizing methods such as the Town website, newsletter, and public events.

**Objective 2:** Upgrade public facilities for maximum efficiency and capacity to fulfill community needs.

**Strategies:**

1. Look for opportunities to provide additional fire suppressant sources (i.e. fire ponds, dry hydrants, and cisterns). Identify locations that are lacking sufficient water sources and seek opportunities to obtain the use of the land to install the appropriate source.
2. Determine the facility needs for the Highway Department by projecting the future operational and storage needs for maintaining Chesterfield roads.
3. Upgrade the Town Hall to be used as a gathering place and an emergency shelter. In determining the upgrades, consideration should be given to accessibility, energy efficiency, and restoration of the historic value of the building.
4. Perform energy audits in publically owned buildings to improve energy efficiency. Establish a realistic schedule to perform audits in each building.
5. Determine the feasibility of installing solar panels or other alternative energy sources in public facilities. Develop a cost/benefit analysis for the buildings that are capable of supporting the alternative energy source.

## **Population & Housing Goals, Objectives and Strategies**

**Goal: Understand and maintain the housing needs of Chesterfield residents with the evolving demographic changes.**

**Objective:** Implement innovative land use techniques to meet our housing needs while preserving our resources.

**Strategies:**

1. Explore housing options for our senior residents and amend the ordinances and regulations to accommodate their needs.
2. Encourage the development or rehabilitation of diverse housing types that meet the needs and preferences of multiple generations, diverse abilities, and a range of income levels.
3. Review regulations and building codes to identify barriers to workforce housing development opportunities.
4. Encourage innovative construction of new structures that promote energy efficiency and location efficient housing.
5. Develop a policy that highlights ways to incorporate low impact stormwater management techniques and principles into site and streetscape designs.

## **Traffic and Transportation**

**Goal: Meet the infrastructure needs to provide safe transportation options throughout Chesterfield.**

Objective 1: Maintain and upgrade transportation infrastructure to protect the public investment.

Strategies:

1. Identify funding strategies to enhance and expand stormwater management efforts. Explore grant opportunities through State and Federal sources such as NH DOT, FEMA, and NHSEM for culvert upgrades, erosion control, bridge repair/replacement, etc.
2. Identify and advocate for transportation projects to be included in the New Hampshire Ten Year Transportation Plan. Work with SWRPC through the Transportation Advisory Committee on potential projects.
3. Consider planning for emerging modes of transportation such as electric vehicles (i.e. electric substation location).

Objective 2: Provide opportunities for multi-modal transportation.

Strategies:

1. Seek public transportation options to reduce the number of vehicles on the road and negative effects to the environment. Work with NH DOT and SWRPC to establish a bus route that connects Keene to Brattleboro, VT with bus stops in Chesterfield.
2. Work with other communities to encourage employer sponsored vanpool, carpool, or bus voucher programs.
3. Continue to support the park and ride lot. Develop methods for commuters to connect with others that are commuting to similar locations.
4. Improve the condition and availability of pedestrian and bicycle infrastructure. Seek funding sources to support this effort.

## **Natural Resources Goals, Objectives, and Strategies**

**Goal: Protection of our natural resources for current enjoyment and preservation for future generations.**

Objective 1: Encourage the preservation of the existing natural landscape through outreach and education.

Strategies:

1. Help landowners implement Best Management Practices for forestry, agriculture, waste management, and stormwater management through effective outreach and education initiatives as well as demonstration projects.
2. Consider adopting ordinances that:
  - a. protect and preserve scenic vistas and byways from visual impacts;
  - b. manage stormwater through low impact development;
  - c. protect riparian and wetland buffers;
  - d. protect groundwater resources from potential contaminants and threats.
3. The use of best management practices on any size development, including stormwater management, should be included in all applications.
4. Innovative land use techniques should be considered for new development within Chesterfield to help maintain the communities' vision and preserve the natural features.



Objective 2: Seek to improve the existing conditions of our natural resources where damage, degradation or impairment has occurred.

Strategies:

1. Apply to the NHDES for a 604b grant to perform a Comprehensive Lake Inventory and Management Plan for Spofford Lake.
2. Involve youth in natural resources best management practices and volunteerism.

Objective 3: Continue to support the conservation efforts that have already been done and encourage landowners to consider putting land into conservation.

Strategies:

1. Promote good stewardship of the conserved areas.
2. Involve youth in conservation practices and volunteerism.
3. Work with adjacent communities to develop priority properties that would connect conservation areas thereby establishing unfragmented parcels of land for wildlife corridors.

## **Economic Development Goals, Objectives, and Strategies**

**Goal: Provide for economic opportunities within the existing districts that permit commercial and industrial activity. By encouraging the development of businesses in these established areas, existing traffic patterns will be maintained with the least impact to residential areas.**

Objective 1: Have the necessary infrastructure in place to retain and foster economic growth of existing businesses, and to attract the development of new ones.

Strategies:

1. Expand the availability and quality of broadband infrastructure by:
  - a. Establishing a municipal broadband committee to plan for the expansion and development of broadband infrastructure; and
  - b. Coordinating efforts and work with adjacent communities to expand broadband service.
2. Seek public transportation options to encourage commercial activity. Work with NH DOT and SWRPC to establish a bus route that connects Keene to Brattleboro, VT with bus stops in Chesterfield.

Objective 2: Develop and implement a marketing strategy to promote Chesterfield's identity to attract new visitors and businesses.

Strategies:

1. Establish a "business friendly" community by reviewing ordinances, land use regulations, and application procedures to determine barriers to the expansion or development of appropriately zoned businesses. Improve the Town website to show support of the Chesterfield businesses and to welcome the opportunity to work with new businesses.

2. Encourage commercial and industrial development to fill in vacant appropriately zoned properties. Consider adaptive reuse strategies/policies.
3. Facilitate tourism as a means to support commercial businesses. Update the Town website to provide user friendly information for hiking trails, public boat ramps, other recreational opportunities, and farm stands.
4. Support organizations such as Monadnock Buy Local. Encourage business to become members and encourage residents to make purchases from locally owned and operated businesses.

## **Land Use Goals, Objectives, and Strategies**

**Goal: Maintain the existing atmosphere of the Town while allowing for appropriate growth.**

Objective: Develop policies to meet emerging needs of the community while maintaining the rural character.

Strategies:

1. Review and consider revising land use regulations and building codes to address potential barriers to:
  - a. Rehabilitation of existing, older and historic homes and buildings for residential and commercial uses;
  - b. Home based businesses;
  - c. Agricultural enterprises such as farm stands, community gardens, local farms, etc.
2. Adopt innovative land use approaches (as found in RSA 674:21) such as conservation subdivisions, and in-fill development. Provide options to the development of land that considers the conservation of land as an integral part of the overall project.
3. Develop activities that promote agricultural practices to younger generations such as farm-to-school initiatives and school gardening programs.

## **Regional Goals, Objectives, and Strategies**

**Goal: Understand the value and importance of Chesterfield's role in the region.**

Objective 1: Provide infrastructural needs within Chesterfield that connect to other communities within the region.

Strategy:

1. Work with adjacent communities to provide or improve upon critical infrastructure to further meet the needs of Chesterfield and the region.

Objective 2: Encourage and support regional protection of natural resources.

Strategy:

1. Work with adjacent communities to develop priority properties that would connect conservation areas thereby establishing unfragmented parcels of land for wildlife corridors.
2. Consider adopting the language of NH RSA 36-A:4-a to authorize the Chesterfield Conservation Commission to expend funds to purchase land outside the boundaries of the town to further the protection of the State's natural resources.

Objective 3: Support the efforts of Southwest Region Planning Commission and the State of New Hampshire that provide outreach and education on all aspects of planning within the region and state.

Strategies:

1. Participate in regional and state workshops that seek to develop solutions and improve upon strategies concerning local, regional and state issues such as housing, transportation, education, natural resources/environment, economic development and tourism,
2. Continue to send Chesterfield representatives to participate on regional advisory committees and determine where additional representatives are needed.

# APPENDICES

## Chesterfield Town Master Plan Questionnaire 2007-2014 Comparative Analysis

### General

The first several questions are basic questions to understand the ownership, tenure, and reasons for residing in Chesterfield. No significant changes have occurred in responses between the 2007 and 2014 surveys. The decrease of 32% in seasonal residents from 2007 to 2014 is likely due to confusing options in the question.

1. Are you a:		
Answer Options	2007 Response Percent	2014 Response Percent
Home Owner	92%	96%
Renter	3%	2%
Year Round Resident	33%	1%
Seasonal Resident	8%	0%
Non-Resident Property Owner	2%	0%
No Answer	1%	0%

2. How long have you lived in Chesterfield?		
Answer Options	2007 Response Percent	2014 Response Percent
Less than 1 year	3%	2%
1-5 Years	14%	10%
5-10 Years	16%	11%
10-20 Years	22%	33%
Greater than 20 years	45%	43%
No Answer	1%	1%

In 2014, one third of respondents reported living in Chesterfield for 10-20 years. This is an increase of 11% from the 2007 responses. All other categories were relatively similar in both years. The majority of respondents are still in the 20+ year bracket at 45% and 43%.

In both survey years, the majority of participants reside in Spofford. From 2007 to 2014 there was a small decrease in the number of Spofford participants, with a corresponding increase in the number of West Chesterfield and Chesterfield Center participants.

3. Where in Chesterfield do you live?		
Answer Options	2007 Response Percent	2014 Response Percent
Spofford	47%	41%
West Chesterfield	34%	38%
Chesterfield Center	15%	20%
No Answer	4%	1%



4. In what town do you work?		
Answer Options	2007 Response Percent	2014 Response Percent
Chesterfield	11%	12%
Keene	26%	15%
Brattleboro	14%	6%
Retired	29%	44%
Chesterfield Business Owner	4%	5%
Chesterfield Home Occupation Owner	4%	4%
Other (please specify)	15%	14%

Regarding employment and commuting to work, participants were asked what town they work in. The category with the largest percentage in both years is “retired”. The number of respondents who reported being retired increased by 15% from 2007 to 2014, with a corresponding decrease in respondents who reported employment in Keene and Brattleboro (-9%, -8%).

Participants were then asked to rate the reasons for living in Chesterfield. The top 3 “Very Important” reasons did not change much between the two surveys: 2014 Survey - *rural character* (63%), *environment* (56%), and *low crime rate* (52%). This was the same response for the first and second choice in the 2007 survey but *small town atmosphere* (57%) was the third choice with *environment* (56%) close behind.

The top 3 “Not important” reasons for living in Chesterfield also were consistent in both surveys.

5. Rate the following reasons why you live in our town:								
Answer Options	Very Important		Important		Not Important		No Answer	
	2007	2014	2007	2014	2007	2014	2007	2014
Family Ties	24%	25%	17%	17%	41%	43%	18%	15%
Rural Character	56%	63%	34%	28%	4%	4%	7%	6%
Closeness to job	23%	18%	31%	28%	27%	38%	19%	16%
Educational System	29%	29%	25%	32%	28%	28%	19%	12%
Town Services	18%	20%	46%	53%	18%	14%	18%	12%
Low Crime Rate	54%	52%	32%	39%	5%	2%	10%	7%
Recreational Opportunities	30%	29%	40%	45%	17%	17%	13%	9%
Environment	56%	56%	30%	38%	4%	1%	10%	5%
Small Town Atmosphere	57%	51%	31%	39%	6%	4%	7%	6%
Employment Opportunities	4%	7%	16%	19%	56%	55%	24%	20%
People/Community Spirit	27%	31%	47%	50%	11%	10%	15%	9%
Historic Character	20%	24%	41%	47%	24%	20%	14%	10%
Affordability	37%	44%	40%	40%	8%	6%	14%	11%
Scenic Areas	39%	44%	42%	46%	9%	3%	10%	6%
Other		9%		2%		1%		89%

*Employment opportunities* (55%) and *family ties* (43%) were the first and second choices, while *closeness to job* and *educational system* were third and fourth.

6. From the list above, rank in order your top reasons why you live in our town.

Ranking	2007	2014
1	Rural Character	Rural Character
2	Small Town Atmosphere	Environment
3	Environment	Low Crime Rate
4	Low Crime Rate	Small Town Atmosphere
5	Scenic Areas	Scenic Areas

Although the exact rankings are different for 2007 and 2014, the top 5 reasons for residency have not changed.

Question 9 asks participants to give their opinion on potential issues that the town may be facing.

9) Please Rate the following issues facing our town today:

Issue	Serious Issue		An Issue		Not an Issue		No Answer
	2007	2014	2007	2014	2007	2014	2007
Solid Waste Disposal	12%	6%	26%	21%	39%	73%	23%
Property taxes	44%	46%	31%	37%	14%	17%	12%
Education	16%	20%	27%	26%	37%	54%	20%
Roads	13%	23%	35%	38%	35%	40%	17%
Employment Opportunities	6%	11%	19%	25%	54%	65%	21%
Excessive Commercial	21%	15%	16%	21%	43%	65%	20%
Inadequate Commercial	12%	8%	18%	27%	46%	65%	25%
Excessive Residential Development	27%	17%	23%	27%	31%	56%	19%
Inadequate Residential	4%	2%	11%	15%	60%	83%	25%
Open Space Preservation	36%	27%	23%	32%	25%	40%	15%
Emergency Services	9%	6%	24%	24%	47%	70%	20%
Lack of High-income Housing	1%	0%	5%	3%	71%	97%	23%
Lack of Middle-income Housing	6%	3%	25%	24%	47%	74%	22%
Lack of Low-income Housing	12%	11%	15%	23%	50%	67%	22%
Traffic	19%	16%	30%	33%	34%	52%	17%
Water Quality	14%	7%	17%	18%	47%	75%	22%
Water Quantity	10%	8%	15%	19%	52%	74%	23%
Drugs & Crime	7%	14%	27%	37%	45%	49%	21%
Lack of Youth Activities	11%	5%	25%	30%	40%	65%	23%
Loss of Farm & Forestland	30%	29%	29%	33%	23%	39%	18%
Lack of Adequate Internet Service	n/a	38%	n/a	24%	n/a	38%	n/a
Other	n/a	52%	n/a	40%	n/a	8%	n/a

In the 2014 survey, there was an increase in respondents who rated *roads* as a serious issue (+10%) and a decrease in the number of respondents who rated *excessive residential development* as a serious issue (-10%). There was an increase in the number of respondents who rated *open space preservation* as an issue (+9%), however, fewer people felt that it is a serious issue (-10%). An increased number of respondents rated *drugs and crime* as an issue (+10%) and an increase in the number who rated *inadequate commercial development* as an issue (+19%).

There was a sizable increase from 2007 to 2014 in the number of respondents who selected “not an issue” on all issues except *property taxes*, indicating that the residents who participated in the survey are generally satisfied with the categories mentioned.

This question provides an opportunity to provide information about the performance of town departments, Boards and Commissions, services and functions.

**10. How well do you think our town is performing/providing the following services or opportunities?**

Answer Options	Good		Fair		Poor		No Answer	
	2007	2014	2007	2014	2007	2014	2007	2014
Selectman's Office	51%	45%	26%	30%	3%	6%	20%	19%
Planning Board	39%	36%	32%	34%	4%	7%	25%	23%
Zoning Board of Adjustment	37%	31%	29%	36%	8%	11%	27%	23%
Conservation Commission	45%	45%	23%	25%	4%	7%	28%	24%
Town Clerk	72%	69%	12%	15%	2%	5%	14%	11%
Animal Control	43%	36%	20%	23%	6%	7%	31%	33%
Cemetery Care	62%	67%	13%	14%	1%	0%	74%	19%
Police Protection	74%	79%	11%	9%	1%	0%	14%	12%
Fire Protection	75%	80%	9%	9%	1%	0%	15%	11%
Historical Preservation	55%	57%	21%	23%	1%	0%	23%	19%
Library	71%	77%	12%	7%	0%	2%	17%	14%
Enforcement of Zoning & Building Codes	39%	36%	26%	30%	11%	11%	25%	23%
Land Conservation	41%	42%	28%	31%	6%	4%	26%	24%
Public Assistance	32%	34%	25%	27%	3%	4%	40%	36%
Disaster/Emergency Preparedness	39%	55%	25%	18%	5%	1%	32%	26%
Recreational Facilities and Trails	56%	55%	19%	21%	4%	3%	21%	21%
Snow Removal	74%	79%	11%	14%	3%	1%	11%	6%
Road Maintenance	60%	56%	22%	25%	8%	11%	11%	8%
Access to Public Waters	54%	50%	21%	25%	6%	7%	19%	17%
Town Website	35%	40%	18%	30%	3%	8%	44%	22%
Educational Opportunities	48%	82%	18%	11%	4%	0%	30%	7%
Transfer Station		45%		25%		4%		27%

There was a sizable increase in the 2014 responses for those who rated Educational Opportunities as good quality (34%), which corresponds with a decrease in the number of respondents who did not answer on the 2007 survey (23%). There was a moderate increase in the number of respondents who rated Disaster/Emergency Preparedness as good quality (16%).

**11. Do you have concerns about population growth in our town?**

Answer Options	2007 Response Percent	2014 Response Percent
Yes	76%	61%
No	20%	36%
No Answer	4%	3%

The next few questions ask about peoples’ perception regarding growth in Chesterfield. There was an overall decrease in the 2014 survey in respondents who are concerned with population growth (15%). The next question looks for concerns related to population growth.

There was a decrease in responses in every category from 2007 to 2014, however there was an increase in the number of respondents who did not answer this portion of the question. The highest ranking concerns in 2014 included loss of rural character, loss of open space, and increased taxes.

If yes, what concerns relating to population growth do you have?		
Answer Options	2007 Response Percent	2014 Response Percent
Increased school enrollment	51%	32%
Increased demand on town services	45%	33%
Increased taxes	56%	42%
Increased traffic	51%	37%
Increased cost of building lots	26%	13%
Decreased privacy	41%	27%
Loss of open space	54%	45%
Loss of rural character	60%	46%
Increased drugs and/or crime	33%	32%
No Answer	24%	39%

12. In your opinion, which best describes our town's rate of overall growth?		
Answer Options	2007 Response Percent	2014 Response Percent
We're growing too fast	32%	12%
Our growth rate is just right	42%	45%
We're not growing fast enough	3%	7%
No opinion	16%	28%
No Answer	7%	8%

From 2007 to 2014 there was a decrease in the number of respondents who believe the town is growing too fast (-20%), with a corresponding increase to respondents with no opinion (+12%).

Similar responses in both surveys indicate the respondents feel that the town is managing growth well. A slightly lower proportion of respondents answered this question on the 2014 survey.

13. In your opinion, which best describes how our town is managing its growth?		
Answer Options	2007 Response Percent	2014 Response Percent
We're managing growth well	47%	50%
We're not managing growth well	28%	21%
No Answer	25%	29%

14. What types of housing would you like to see our town encourage? (Please check all that apply)		
Answer Options	2007 Response Percent	2014 Response Percent
Single-Family Homes	63%	64%
Two-Family Homes	8%	12%
Conversion of large homes into apartments	7%	12%
Accessory Apartments with Single-Family Homes	11%	14%
Condominiums / Town Houses	10%	14%
Cluster Developments	27%	26%
Manufactured Homes on Individual Lots	8%	8%
Manufactured Homes in Parks	2%	1%
New Apartment Buildings	3%	3%
Elderly Housing	48%	50%
Mixed Residential with Business	16%	15%
No Answer	11%	10%

There was a slight increase in responses for two-family Homes, conversion of large homes into apartments, accessory apartments, and condominiums in the 2014 survey, but overall there was very little change between the two survey years.

15. Do you feel that our town should promote the development of housing for aging residents?		
Answer Options	2007 Response Percent	2014 Response Percent
Yes	73%	71%
No	19%	20%
No Answer	8%	8%

No significant change from 2007 to 2014. In both years, a great majority of respondents feel that the town should promote the development of housing for aging residents.

The next two questions were developed to help understand opinions on growth of economic development and other land uses. There was an 8% increase in respondents who would support rezoning additional land for commercial/industrial development. This may, however, have been due to removal of the “Maybe” option in 2014 survey.

16. Would you support rezoning additional land for commercial/industrial development?		
Answer Options	2007 Response Percent	2014 Response Percent
Yes	37%	45%
No	48%	48%
Maybe	10%	-
No Answer	5%	7%



Question 17 provides a list of 23 types of land uses that could occur in Town and asks participants to provide an opinion on the potential growth in each category. There was a significant increase (16-20%) in encouragement for Small Retail, Professional Offices, Home-Based Businesses, and Small Manufacturing Firms. There was also some increase (10-15%) for Assisted Living Facilities, Bed and Breakfasts, and Sit-Down Restaurants.

Respondents who were in favor of discouraging Large Retail, Shopping Centers/Malls and Auto Sales also increased significantly.

17. How should our town respond to growth in the following areas?							
Answer Options	Encourage		Stay As Is		Discourage		No Answer
	2007	2014	2007	2014	2007	2014	2007
Assisted Living Facility	53%	63%	24%	23%	8%	14%	16%
Child Care Centers	40%	45%	32%	44%	7%	11%	21%
Farms	61%	69%	24%	31%	1%	0%	14%
Protected Land	63%	66%	22%	29%	2%	5%	13%
Medical/Dental Offices	36%	38%	34%	46%	13%	16%	17%
Medical Clinics	23%	35%	30%	41%	25%	24%	22%
Recreational Facilities	45%	50%	32%	45%	5%	6%	17%
Hotel/Motels	13%	12%	30%	51%	39%	38%	17%
Bed & Breakfasts	42%	54%	33%	39%	10%	8%	15%
Large Retail Stores	9%	12%	12%	15%	62%	74%	17%
Small Retail Stores	22%	43%	30%	36%	21%	22%	16%
Professional Offices	28%	45%	32%	38%	15%	17%	15%
Home-based Businesses	46%	65%	31%	29%	6%	6%	17%
Restaurants (sit down)	40%	53%	22%	29%	22%	18%	16%
Restaurants (fast food)	7%	11%	14%	19%	62%	71%	17%
Gas Stations/Mini-marts	9%	4%	43%	57%	34%	38%	15%
Shopping Centers/Malls	8%	9%	11%	10%	65%	81%	17%
Large Manufacturing Firms	14%	24%	17%	25%	52%	50%	17%
Small Manufacturing Firms	35%	52%	24%	28%	26%	21%	15%
Distribution Warehouses	15%	21%	34%	40%	35%	39%	16%
Mini-Storage	8%	10%	38%	45%	37%	45%	17%
Auto Sales	5%	9%	33%	31%	47%	60%	15%
Auto repair	9%	18%	48%	55%	29%	27%	14%

It should also be noted that there was a 10% increase in the number of respondents that thought Large Manufacturing Firms should be encouraged, however, the majority in both survey years feel that it should be discouraged.

The value of natural and historic resources to Chesterfield residents was shown in responses to previous questions of these surveys. The next series of questions was directed to help understand participants' opinions on protection of these resources.

18. How important is it for our town to protect and enhance the following?								
Answer Options	Very Important		Important		Not Important		No Answer	
	2007	2014	2007	2014	2007	2014	2007	2014
Forested Areas	72%	64%	18%	24%	3%	7%	8%	5%
Farmland	70%	66%	19%	24%	4%	6%	7%	4%
Historic Buildings and Sites	60%	50%	28%	36%	4%	9%	9%	5%
Connecticut River Corridor	63%	55%	26%	33%	3%	6%	9%	7%
Scenic Roads	56%	47%	29%	37%	6%	9%	9%	7%
Wildlife Habitat	67%	60%	20%	26%	3%	8%	9%	6%
Wetlands	60%	51%	24%	34%	7%	8%	9%	7%
Spofford Lake	79%	76%	14%	15%	2%	4%	5%	4%
Streams and Ponds	70%	64%	19%	25%	2%	5%	9%	6%
Aquifer	63%	64%	20%	21%	2%	5%	14%	10%
Barns	39%	35%	35%	33%	15%	25%	11%	7%
Recreational Areas	52%	46%	34%	41%	4%	6%	10%	7%
Recreational Trails	53%	48%	33%	40%	5%	5%	9%	6%
Scenic Vistas	52%	43%	32%	37%	6%	10%	11%	10%

All options saw a decrease in the number of "very important" rankings, with the exception of Aquifers, which had a 1% increase. The difference was generally split with an increase in both the "Important" and "Not Important" categories.

19. Should our town create/maintain regulatory standards for the following?								
Answer Options	Yes		No		Unsure		No Answer	
	2007	2014	2007	2014	2007	2014	2007	2014
Aquifer Protection	69%	69%	6%	9%	14%	15%	11%	7%
Construction on steep slopes	57%	59%	16%	17%	15%	16%	13%	9%
Construction on ridgelines	52%	52%	17%	17%	16%	21%	14%	10%
Sand pits / Gravel excavations	62%	65%	13%	13%	11%	13%	13%	9%
View Shed protection	60%	41%	12%	15%	14%	32%	14%	11%
Logging Operations	67%	65%	12%	17%	9%	11%	12%	7%
Landscaping of Commercial/Industrial Developments	69%	64%	12%	15%	5%	9%	14%	11%
Noise	76%	72%	10%	13%	4%	9%	10%	7%
Outdoor Lighting	61%	65%	16%	18%	10%	10%	13%	7%
Setbacks from streams, ponds and wetlands	72%	69%	8%	14%	8%	6%	13%	11%
Off highway Recreational Vehicle (OHRV) Activity	67%	61%	14%	21%	8%	9%	11%	8%
Protection of Special Habitats and Places	71%	68%	10%	11%	7%	11%	12%	10%

The majority of respondents in both survey years indicated that the town should create and/or maintain regulatory standards for the resource protection in all of the listed categories. View Shed Protection was the only issue with significant change in respondent support from 2007 to 2014 (a decrease of 20%). There was a corresponding increase in the number of respondents who answered unsure (18%).

20a. Please indicate your view of the importance of preserving open space in our town.

Answer Options	2007 Response Percent	2014 Response Percent
Important	87%	90%
Not Important	6%	10%
No Answer	7%	---

A great percentage (87% and 90%) of respondents view open space preservation as being important to the Town. There was no significant change from 2007 to 2014.

In terms of acceptable methods of financing the protection of Open Space, similar responses were generated in both survey years. The majority of participants said they would be in favor of all of the categories except for bonds and property tax increase. Changes in the “Yes” category were generally the same in both surveys except in respondent support for using a portion of the current use penalty tax (11%). In the “No” category, three methods increased in 2014 by greater than 10% (bonds, property tax increase, and creation of a municipal land trust to purchase Open Space). There was also an increase in respondent opposition to using Bonds (15%), property tax increase (10%), creation of a land trust (12%), and contribution to a capital reserve fund (9%).

21. What means should our town use to finance the protection of Open Space?

Answer Options	Yes		No		No Answer	
	2007	2014	2007	2014	2007	2014
Bonds	36%	32%	29%	44%	35%	24%
Use of a portion of the current use penalty tax	48%	59%	22%	19%	30%	21%
Property tax increase	8%	9%	63%	73%	29%	18%
Use a portion of the town budget surplus	50%	50%	23%	31%	27%	20%
Creation of a municipal land trust to purchase Open Space	56%	53%	16%	28%	28%	19%
Seek grants from state, federal, private sources	81%	87%	4%	5%	15%	8%
Make annual contributions to a Capital Reserve Fund	46%	45%	23%	32%	31%	23%

22. Which of the following methods for protecting Open Space would you support?

Answer Options	Yes		No		No Answer	
	2007	2014	2007	2014	2007	2014
Make Cluster developments mandatory on any parcel 10 acres or larger.	23%	19%	47%	61%	30%	20%
Make Cluster developments optional, but encouraging developers by giving them more than the normally allowed number of lots.	25%	28%	43%	52%	31%	20%
Expand on the "Village" concept by allowing higher density building in our existing villages, or creating new villages and less density elsewhere.	37%	42%	33%	36%	30%	22%
Increase the minimum size of building lots.	39%	40%	35%	41%	26%	19%
Multi-Use developments (for large scale developments)	23%	28%	43%	44%	34%	28%

There were no significant changes in the responses between the two surveys for methods of protecting Open Space except that 14% more respondents were opposed to making cluster developments mandatory on large parcels in the 2014 survey.

In 2014, a greater number of participants responded to the question regarding consideration of a conservation easement on their property (33% of participants did not respond in the 2007 survey). This translated to a 10% increase in the number of respondents that were against putting an easement on their property and a 5% increase in those that would consider it. In both years, a majority of residents were not interested in obtaining more information about preserving some or all of their property.

23a: I would consider putting a conservation easement on my property.

Answer Options	2007 Response Percent	2014 Response Percent
Yes	26%	31%
No	41%	51%
No Answer	33%	18%

23b: I would like more information about how I can preserve some or all of my property.

Answer Options	2007 Response Percent	2014 Response Percent
Yes	27%	20%
No	40%	57%
No Answer	33%	23%

In both years, the majority of respondents support the creation of an Historic District Commission (60% and 55% respectively). However, there was a slight decrease in respondent support in 2014.

24. Would you support the creation of a Historic District Commission or Heritage Commission?		
Answer Options	2007 Response Percent	2014 Response Percent
Yes	60%	55%
No	25%	35%
No Answer	15%	10%

The question regarding the town's recreational opportunities yielded very similar responses in both survey years.

The top five uses in the 2007 survey included: Swimming (59%), Town Beaches (54%), Hiking/Running (52%), Bird Watching (45%), and Boating (43%).

The top five uses in the 2014 survey included: Hiking/Running (61%), Town Beaches (60%), Swimming (59%), Bird Watching (50%), and Canoe/Kayaking (47%).

The largest increase was in the use of Friedsam Forest (14%), followed by Snowshoeing (12%), Hiking/Running (9%), and Canoeing/Kayaking (9%).

Fishing, Biking, Cross Country Skiing, Boating, and Youth Athletics all decreased slightly from 2007 to 2014.

25. In what ways do you enjoy our town's recreational opportunities? (Please check all that apply)		
Answer Options	2007	2014
Bird Watching	45%	50%
Fishing	36%	34%
Hiking/Running	52%	61%
Canoe/Kayak	38%	47%
Playgrounds	24%	25%
Ann Stokes	18%	22%
Horseback Riding	8%	10%
Biking	37%	36%
Cross Country Skiing	24%	21%
Swimming	59%	59%
Spofford Boat Landing	36%	41%
Daniels Mountain	11%	17%
Camping	7%	9%
Golf	23%	26%
Hunting	15%	22%
Tennis Court	12%	15%
Town Beaches	54%	60%
Boating	43%	38%
Snowmobiling/ATVing	19%	20%
Showshoeing	25%	37%
Youth Athletics	17%	14%
Friedsam Forest	27%	41%
No Answer	10%	4%
Pisgah	2%	-
Other (please specify)	-	7%



28. Chesterfield's road network is:						
Answer Options	Yes		No		No Answer	
	2007	2014	2007	2014	2007	2014
Is adequate for your personal travel needs.	91%	89%	3%	4%	6%	7%
Limits growth in town.	17%	20%	48%	59%	35%	21%
Encourages growth in town.	20%	19%	40%	48%	40%	33%

A great majority of participants feel that Chesterfield's road network meets their personal needs. In both years, the majority responded that the road network neither limits nor encourages growth. In 2014, there was an increase in support of both of these opinions.

29. Should our town participate in providing/funding public transportation service to Keene, Brattleboro, and/or other neighboring communities for residents?		
Answer Options	2007 Response Percent	2014 Response Percent
Yes	33%	36%
No	52%	49%
No Answer	16%	15%

There was a small increase in support for the town to participate in providing/funding public transportation to Keene and Brattleboro. The written responses within the survey indicate that there is some interest to having a local bus stop for residents and commuters between the two locations.

## Appendix B

### Chesterfield Traffic Counts

This table represents the traffic counts that were done during the summer of 2015.

Site	Type	Description	FC	Weekday Average (ADT)	Saturday	Sunday	Weekly Average (ADT)	Axle Factor	Seasonal Adjustment (2014)	Raw AADT	Rounded AADT
Special 1	Event	Cady Ln. south of NH 9	9	192.3	178	151	183.2	0.986	0.92	174	170
Special 12	Vehicle	Stage Rd. south of Dexter Rd.	9	613.3	553	446	578.4	1	0.92	564	560
Special 11	Event	Poor Rd. north of NH 9	9	364.9	289	240	333.2	0.986	0.92	331	330
Special 5	Event	Pinnacle Springs Rd. north of NH 9	9	364.5	289	273	337.4	0.986	0.92	331	330
Special 4	Vehicle	Old Swanzey Rd. between Tuttle Rd. and Zinn Rd.	9	429.7	357	682	462.2	1	0.92	395	400
Special 6	Event	North Hinsdale Rd. west of NH 63	9	315.0	302	250	302.5	0.986	0.92	286	290
Special 8	Event	Gulf Rd. south of Castle Rd.	9	190.1	217	197	195.0	0.986	0.92	172	170
Special 10	Event	Gulf Rd. east of Mountain Rd.	9	514.4	544	528	521.7	0.986	0.92	467	470
Special 9	Vehicle	Gulf Rd. between Herrick Rd. and Merrifield Rd.	9	264.0	284	263	268.0	1	0.92	243	240
Special 2	Vehicle	Edgar Rd. between Sugar Maple Ln. and Margo Ave.	9	353.1	302	255	330.5	1	0.92	325	330
Special 7	Event	Bradley Rd. at Hinsdale town line	9	406.4	427	314	393.2	0.986	0.92	369	370
Special 3	Event	Atherton Hill Rd. west of Hewitt Rd.	9	113.2	110	89	108.5	0.986	0.92	103	100

## **APPENDIX C**

**The following documents, plans, reports, and studies are included in this Master Plan by reference:**

- Town of Chesterfield Natural Resources Inventory and Conservation Priorities, March 2011
- Chesterfield Hazard Mitigation Plan Update 2016
- New Hampshire Route 9 @ NH Route 63- Road Safety Audit, January 9, 2015