









2020 Master Plan

Lisbon Master Plan Final 2020

The final 2020 Master Plan Update contains seven master plan chapters: 1. Guidance for the Future, 2. Community Profile, 3. Land Use, 4. Natural and Historic Resources, 5. Transportation, 6. Facilities, Utilities and Recreation, and 7. Action Plan.

These have been extensively reviewed and updated by the Planning Board over the last three years using the results of community surveys taken in 2016 and 2017, with much guidance and support from our Planning Consultant, Tara Bamford.

Our appreciation and gratitude also goes out to the Lisbon school students and the Lisbon Conservation Commission who worked on the Natural Resources Section, and to Andrea Fitzgerald who provided important information for the Historical section.

The Board spent many hours interviewing town staff, school staff and local residents to get input from them on existing infrastructure and future needs, to create a Master Plan that accurately reflects the community and its goals for the future.

Many thanks and a debt of gratitude to the Planning Board members, and our Consultant, Tara Bamford for the numerous hours and energy input into this project.

A Master Plan needs to be a living document, and to this end the final chapter, the "Action Plan" depicts just that, a call to "action". The Selectboard has indicated its support to participate with the other boards, town staff and residents to use the Plan to work together to take the strong foundation that Lisbon has as a community and help it prosper through the coming decade.

Respectfully,

Rosalind C. Page Planning Board Chair

Adoption Statement

The **Town of Lisbon, New Hampshire 2020 Master Plan** was adopted on December 10, 2020 by the Lisbon Planning Board in accordance with RSA 675:6.

Mr. Cheyp

Jandra Butson

Received by Town Clerk:

Signature

2/3/2021

Date

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Photo Credits

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Chapter 1. Guidance for the Future

Introduction

Under New Hampshire state law, planning boards have the responsibility to "prepare and amend from time to time a master plan to guide the development of the municipality." The master plan provides a framework for the Planning Board to ensure that it carries out its activities in a manner that will achieve the goals of the community. The master plan also represents the Planning Board's recommendations to other town boards and committees and to the voters regarding decisions that will affect the future growth of the community.

The previous Master Plan for the town of Lisbon was adopted by the Planning Board in July 2005. This document represents a comprehensive update. Public input to guide the update has been gathered in multiple ways, including a 2016 Community Survey and Visioning Sessions held in 2017.

This Master Plan represents - to the best ability of the Planning Board to determine - the wishes of the residents of Lisbon regarding the present and future vision of the town, with an emphasis on the decade ahead.

Vision

The Lisbon community envisions a future where:

- A vibrant family-friendly atmosphere attracts those seeking the safety and connectedness of life
 in a small town with a wide variety of recreation opportunities in close proximity to jobs and
 services.
- The walkable downtown area has a renewed focus on the Ammonoosuc River; storefronts
 reflect a diverse collection of businesses serving the community; historic buildings combine with
 recent improvements to add to the sense of place; the rail trail access adds the vibrancy of
 visitors.

- Growth is occurring in a manner that is compatible with the scenic landscape, natural resources, clean water and dark skies.
- Community spirit is strong and positive and exhibited in new events and new volunteers.
- The community feels welcoming to all.
- Well planned and well-maintained infrastructure has not put an undue burden on property taxes.
- Lisbon's schools continue to be one of its greatest assets.
- Town government cooperates with its neighbors on regional issues and services, including marketing of the area to tourists as well as potential residents, businesses and entrepreneurs.
- All of these factors have contributed to an improvement in property values.

Goals, Policies and Objectives

Land Use

GOAL

 Increase the tax base and property values while maintaining the small town characteristics.

- Ensure that the Planning Board has the tools needed to guide and manage development.
- Preserve green space and rural charm in visible areas while providing residential,
 commercial and industrial development opportunities.
- Ensure that Lisbon has a diverse mix of residential, recreational, commercial and light industrial uses consistent with the goals, objectives and actions of this Master Plan.
- Ensure that development occurs at a rate consistent with the capacity of the land to support it and the Town's ability to provide services.

- o Balance new development with protection of Lisbon's sensitive and significant natural, cultural, and historic resources.
- Consider the purchase of the land or other mechanisms to preserve the areas identified as open space conservation on the *Future Land Use Map*.
- o Encourage future development where public infrastructure is available to reduce sprawl.

Economic Development

GOAL

• Promote economic development in Lisbon in a fashion that protects and enhances the Town's quality of life in a manner consistent with the Master Plan and Lisbon's history.

- o Bring and retain small business and entrepreneurs into the community.
- o Improve physical appearance of existing local businesses.
- Improve tax base without increasing full value tax rate, e.g., ensure that the increased cost for services associated with new development is less than or equal to the increased tax revenues.
- Ensure that home occupations and home-based businesses are encouraged as one way to encourage economic development.
- Encourage small-scale commercial development in the Lisbon downtownarea.
- Create and maintain a balanced tax base by promoting and increasing the overall commercial and industrial base to reduce the tax burden borne by individual property owners.
- o Support development of industry in the Industrial Overlay Zone.
- Ensure that the housing stock and residential development opportunities in Lisbon support Lisbon's economic development goals.

Transportation

GOAL

Continue to maintain and upgrade the existing transportation infrastructure in town.

POLICIES/OBJECTIVES

- Continue to advocate for a well-maintained US Route 302 corridor and ongoing improvements as needed.
- Maintain an aggressive program to upgrade the town's roads.
- o Increase transportation alternatives for nondrivers.

Housing

GOAL

• Ensure the availability of a variety of housing types, which meet the needs of the town's diverse residential population.

- Support the efforts of AHEAD and others to increase housing opportunities for Lisbon's seniors, disabled and families.
- Promote home ownership by supporting existing state and federal homeowner programs.
- o Maintain existing housing opportunities for seniors in Lisbon.
- Encourage residential development in those areas designated in the Land Use
 Chapter of this document, which have access to services and infrastructure, and
 are most suitable for development.
- Continue to encourage a variety of housing types to meet the population's needs at all income levels.

Public and Community Facilities, Utilities and Recreation

GOAL

• Continue to provide affordable high quality recreational opportunities and community facilities/utilities for community residents and visitors of all ages.

POLICIES/OBJECTIVES

- Ensure that telecommunications facilities have the least possible visual and environmental impact, while providing adequate opportunity for these facilities.
- Continue to coordinate the operations and expenditures of town governance, throughroutine communication among local officials and employees, in order to provide services in a cost- effective manner.
- Strive to increase the number of volunteers assisting with local recreation programs and events.
- Support continuation of recreation opportunities provided by the Lions Club and other community groups.
- Provide recreational programs and opportunities for all ages and abilities, including programs for senior citizens such as recreational walking, fitness/wellness activities and group outings.

Natural Resources

GOAL

 Balance new development with protection and preservation of the town's natural resources.

- Take advantage of the wonderful assets Lisbon has by promoting the Ammonoosuc River, Pearl Lake, Perch Pond and other significant water bodies and utilizing them as an attraction and resource for recreation time in Lisbon.
- o Be better stewards of the Ammonoosuc River corridor.
- Preserve and protect agricultural lands and environmentally sensitive lands to enhance the open space characteristics of the town.

- Protect the rural character of the US Route 302 corridor east and west of the village.
- Protect critical natural resource areas by preventing development in and on wetlands, slopes over 25% and floodplains.
- o Protect and restore the town's water resources.
- o Encourage the conservation of important undeveloped lands for public recreation.

Historical and Cultural Resources

GOAL

• Preserve the town's historical and cultural characteristics.

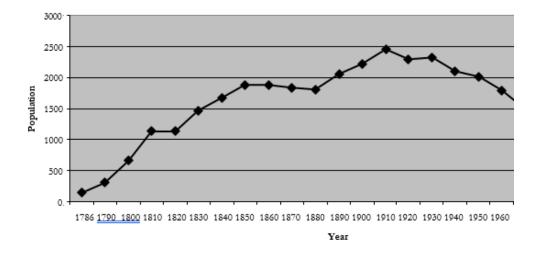
- o Ensure that growth and development complement the town's historical features.
- Recognize and encourage the activities of the Lisbon Main Street Program. and Historical Society.

Chapter 2. Community Profile

Population

The growth pattern for Lisbon shown in Figure 2.1 below is typical for many of the area's small towns. Lisbon's population grew from settlement in the 1700s until a peak of about 2,500 people in 1910, then fell off until the 1970s.

FIGURE 2.1 LISBON POPULATION 1786 - 1960



(Source: US Census Bureau)

In 1962, a portion of Lisbon was incorporated as Sugar Hill, a separate municipality. The first decennial count for the geographical area now known as Lisbon was 1970. As shown in Table 2.1 on the following page, Lisbon's population reached about 1,664 residents in 1990 and has since declined to around 1,600 residents. Between 2000 and 2010 growth slowed state-wide due to the recession, slowing in-migration from other states, and lower birth rates due to changing demographics.

TABLE 2.1
LISBON POPULATION 1970-TODAY

Year	Year-Round Population	Change
1970	1,480	
1980	1,517	+2.5%
1990	1,664	+9.7%
2000	1,587	-4.6%
2010	1,595	+0.5%
2017 NHOSI Estimate	1,611	

Sources: US Census, 1970, 1980, 1990, 2000, 2010; NH Office of Strategic Initiatives (NHOSI) Population Estimates, 2017

Population projections are difficult to make. Changes in the global economy and other world events, housing market trends in northern New England, and regional job growth all influence Lisbon's population. NH Office of Strategic Initiatives' most recent population projections showed Lisbon's population holding steady with a projected 1,629 year-round residents by 2030 (NHOSI, 2016).

While the population has stayed about the same, the make-up of that population has changed in recent decades. As shown in Table 2.2 on the following page, the number of children under 5 in Lisbon declined substantially from 1990 to 2010 as was true county-wide. Also similar to the county-wide trend, the number of school-age children in Lisbon increased from 1990 to 2000 and then decreased again to 2010. The median age in Lisbon increased from 36.7 in 2000 to 42.8 in 2010 (US Census STF1). These figures were very similar to the county-wide median age of 37.0 in 2000 and 41.2 in 2010. However, unlike the county-wide figures, the growth of Lisbon's population over 65 has not been a straight trajectory. The US Census counted 40 fewer seniors in 2000 than in 1990, and then by 2010 the number had rebounded and increased slightly.

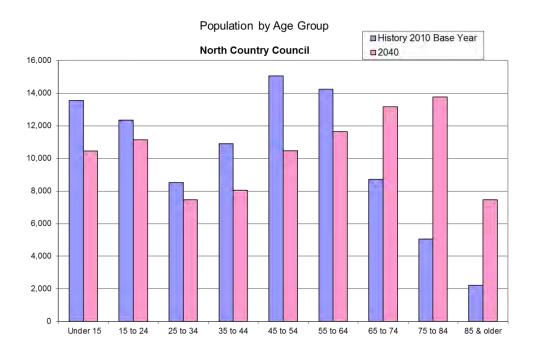
TABLE 2.2 CHANGING DEMOGRAPHICS 1990 TO 2010

	Total Population	% change over previous decade	Number Under 5	% Under 5	Number 5-17	% 5-17	Number 65 and over	% 65 and over		
LISBON										
1990	1664	+9.7%	132	7.9%	302	18.1%	221	13.3%		
2000	1587	-4.6%	118	7.4%	319	20.1%	181	11.49		
2010	1595	+0.5%	86	5.4%	280	17.6%	228	14.39		
GRAFT	ON COUNTY									
1990	74,929		4,928	7%	12,257	16%	9,286	129		
2000	81,743	+9%	4,215	5%	13,675	16%	10,973	139		
2010	89,118	+9%	4,096	5%	12,288	14%	13,811	159		

Source: US Census, 1990, 2000, 2010

Projections for northern New Hampshire show the senior population of the region continuing to grow in the coming decades (Figure 2.2 below).

FIGURE 2.2
PROJECTED INCREASE IN SENIOR POPULATION
NORTH COUNTRY COUNCIL PLANNING REGION



(Source: NH Center for Public Policy Studies, 2013 Headship Model)

Changes in the local demographics will carry with them changes in the services needed. Some small towns have initiated community-based approaches to assist those aging in place, such as an organized system of checking on residents after storms and during power outages, volunteer driver networks, or services for linking residents with home repair professionals and other sources of assistance.

Employment and Income

As shown in the heat map in Figure 2.3 below generated with the US Census Bureau Center for Economic Studies *On the Map* tool, the majority of Lisbon's employed residents work in Lisbon, Littleton or Haverhill. (A darker shade of purple indicates a higher number of Lisbon residents working there.)

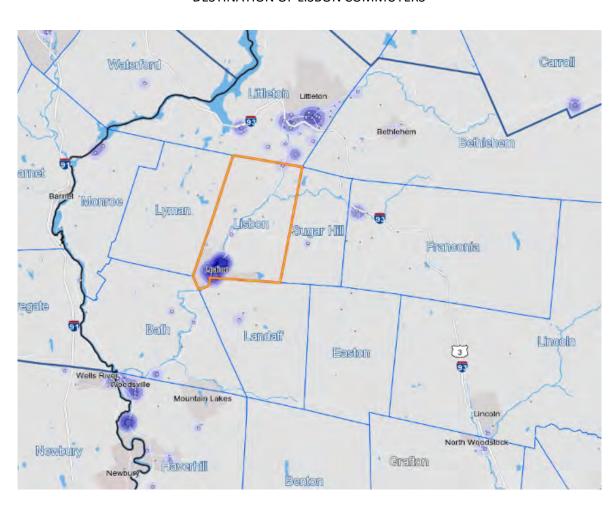


FIGURE 2.3
DESTINATION OF LISBON COMMUTERS

(Source: US Census Bureau Center for Economic Studies *On the Map*, 2015 data, https://onthemap.ces.census.gov/)

US Census Bureau Center for Economic Studies data showed 115 Lisbon residents with their primary jobs (highest paying) in Lisbon, and 623 residents with their primary jobs elsewhere. A total of 585

individuals commuted to Lisbon from other communities for their primary job. This represented 700 primary jobs in Lisbon, a decrease from the 749 reported in 2006 before the recession.

For employment data reporting purposes, Labor Market Areas (LMAs) are delineated by the US Office of Management and Budget and US Department of Labor based on commuting patterns. Lisbon is part of the Littleton NH-VT Labor Market Area along with the following other New Hampshire communities:

TABLE 2.3					
LITTLETON LA	BOR MARKET AREA				
Bethlehem	Lisbon				
Carroll	Littleton				
Dalton	Lyman				
Franconia	Northumberland				
Jefferson	Stratford				
Lancaster	Sugar Hill				
Landaff	Whitefield				
Source: NH Employment					

Table 2.4 on the following page shows the number of jobs in goods-producing industries, service-providing industries and government in Lisbon. Figures are also shown for the Littleton Labor Market Area, and for Littleton and Haverhill where many Lisbon residents work. As shown, although Lisbon followed the Labor Market Area trend with fewer goods-producing jobs in 2017 than it had 2008, Lisbon still has a substantially greater number of goods-producing jobs than service-providing jobs.

TABLE 2.4

AVERAGE ANNUAL EMPLOYMENT BY SECTOR IN 2008 – 2017

	Lisbon		Littleton LMA		Littleton		Haverhill	
	2008	2017	2008	2017	2008	2017	2008	2017
Private Goods-Producing	603	553	2132	1739	768	656	282	290
Private Service-Providing	143	219	7978	8078	3468	3602	1341	1557
Government	105	110	1728	1741	409	401	756	778

Source: NH Employment Security

As is true state-wide and labor market area-wide, Lisbon's goods-producing jobs tend to pay higher wages than jobs in the service-providing or government sectors. However, as shown in Table 2.5 below, jobs in Lisbon and other area communities tend to pay wages substantially lower than the average for each sector state-wide – goods-producing, service-providing, and government. This leads to employed Lisbon residents having median earnings substantially lower than the statewide median, \$26,285 vs. \$36,711 (2013-2017 American Community Survey 5-Year Estimates).

TABLE 2.5 AVERAGE WEEKLY WAGES IN 2017*								
Lisbon New Hampshire Littleton LMA Littleton Haverhill								
Private Goods-Producing	\$902	\$1294	\$860	\$898	\$988			
Private Service-Providing	\$595	\$1028	\$734	\$778	\$681			
Government	\$795	\$968	\$732	\$901	\$760			
*Rounded to the nearest dollar. Source: NH Employment Security								

As shown in Table 2.6 below, the lower wages in the region translate into lower incomes when compared to statewide figures.

TABLE 2.6 INCOME

	Median Household Income	Median Family Income	Per Capita Income
New Hampshire	\$71,305	\$86,949	\$36,914
Lisbon	\$51,726	\$57,350	\$28,059
Bath	\$54.167	\$66,050	\$28,238
Bethlehem	\$54,500	\$67,604	\$30,408
Landaff	\$48,036	\$59,167	\$28,270
Littleton	\$39.490	\$51,695	\$27,282
Lyman	\$56,964	\$64,773	\$29,688
Sugar Hill	\$83,125	\$98,611	\$53,875

Source: 2013-2017 American Community Survey 5-Year Estimates

Although American Community Survey data associated with small sample sizes can have very large margins of error, there is some indication that Lisbon has a higher poverty rate than the statewide average. Statewide, the average poverty rate is estimated to be 8.1% compared to 13.2% estimated for Lisbon. Of particular concern is that 16.6% of Lisbon's families with children under 18 are estimated to be living in poverty; the statewide average is estimated at 8.6%. (2013-2017 American Community Survey 5-Year Estimates)

Housing

During the 1980s the housing market in the state was flooded with an oversupply, leading to a 7% vacancy rate state-wide. During this period Lisbon's vacancy rate increased from 5.2% in 1980 to 8.3% in 1990 (Table 2.7, following page). Some of the demand for housing in the 1990s when new construction slowed was met by a reduction in the statewide vacancy rate. By 2000 the vacancy rate in Lisbon was back down to 5.9%. In addition, the general trend in the area in the 1990s was for a shift in use of some second homes to year-round, either through owners retiring to their vacation homes or through sales. During this period Lisbon experienced a drop in the number of seasonal units from 87 in 1990 to 55 in 2000, and then saw a rebound to 81 in 2010.

TABLE 2.7 LISBON HOUSING SUPPLY 1980 - 2017							
	1980	1990	2000	2010	2017 Est.		
Total Housing Units	640	769	727	809	865		
Occupied Housing Units	551	618	629	659			
Owner-occupied	393	419	442	473			
Renter-occupied	158	199	187	186			
Seasonal Units	56	87	55	81			
Vacant Units	33	64	43	69			
Vacancy Rate	5.2%	8.3%	5.9%	8.5%			

Sources: US Census SF 1 1980, 1990, 2000, 2010; NHOSI Housing Estimates 2017

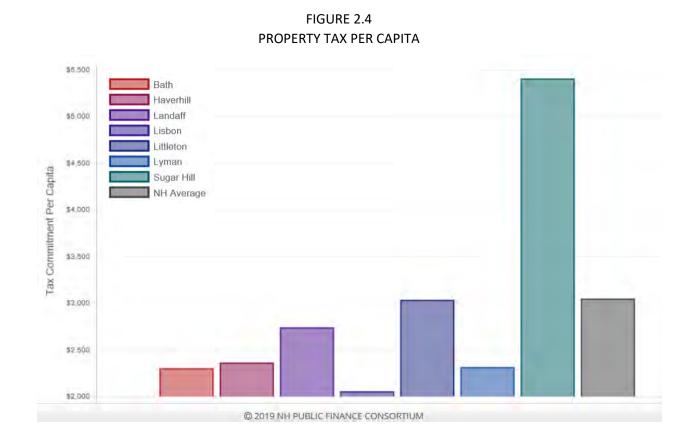
Lisbon is fortunate to have a diverse housing supply for a small town. The 2010 US Census reported that of the 809 total housing units counted, 524 were single family homes, 169 were multi-family homes and 116 were manufactured homes.

New Hampshire has several laws aimed at ensuring the state's workforce and those of limited incomes can obtain affordable housing. In 1983 RSA 674:32 was enacted to require municipalities to provide reasonable opportunities for the siting of manufactured housing. Lisbon's zoning ordinance allows manufactured homes on individual lots in all zoning districts, and manufactured home parks in two of its four districts. Concern for the shortage of housing affordable to median income working families, particularly in areas such as southern New Hampshire and the Upper Valley, where job growth outpaced home construction, led to the passage of SB 342 in 2008 (RSA 674:58-61) requiring all communities to ensure that local regulations "provide reasonable and realistic opportunities for the development of workforce housing, including rental multi-family housing." In Lisbon, duplexes and multi-family homes are already allowed in all zoning districts. In 2017, in consideration of the shortage of housing options

available in many communities, the state also began requiring that communities allow the addition of an accessory dwelling unit to any single family home, provided septic requirements can be met. Lisbon amended its zoning ordinance in 2019 to include this provision.

Tax Base

The following graph shows the actual property tax per capita for Lisbon compared with other area communities in 2017. Lisbon is shown with a property tax well below its neighbors and well below the state average when looked at on a per capita basis.



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Since communities vary in their schedules for reassessments, and in turn in their ratio of assessed value to true market value, total equalized valuation is typically used when discussing the tax base itself. The full value tax rate, the tax rate as it would be with 100% valuation, is shown below for Lisbon and other area communities. The statewide ranking is also shown, with the lowest being "1" and the highest "232." As shown in Table 2.8 below, Lisbon's full value tax rate is on the high end, both for the area and statewide, with a ranking of 215.

TABLE 2.8 2017 FULL VALUE TAX RATES AND STATE RANKING					
Town	Full Value Tax Rate Rank				
Lisbon	\$30.05	215			
Bath	\$20.85	105			
Haverhill	\$30.98	219			
Landaff	\$26.07	185			
Littleton	\$26.52	190			
Lyman	\$18.96	75			
Sugar Hill	\$21.75	120			
Source: NH Department of Revenue Administration					

Figure 2.5 below shows the equalized tax base per capita. As shown, Lisbon's tax base per capita is much lower than area communities and the statewide average. Continuing to keep costs down and strengthen the tax base, while maintaining a diversity of housing choices, will continue to be important considerations for land use planning in Lisbon.

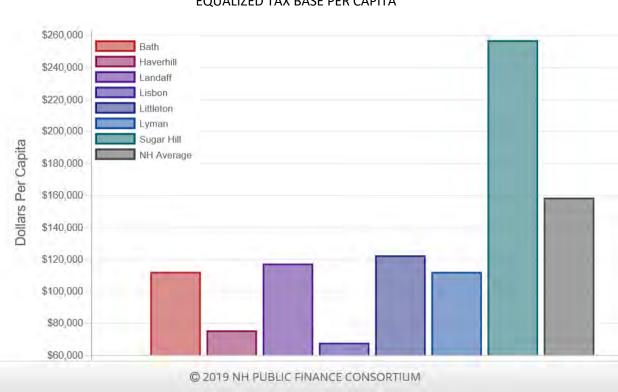


FIGURE 2.5
EQUALIZED TAX BASE PER CAPITA

Chapter 3. Land Use

Introduction

Land is a finite resource, and the thoughtful use of land is a critical issue for all communities. How the town decides to use its land has a direct impact on natural resources, water quality, community character, transportation infrastructure, housing affordability, the tax base, and the cost of providing services. While outside factors such as changes in demographics, evolving housing needs, and the changing regional and global economy will continue to have a direct impact on future development, there is much that the community can control. The land use plan forms the basis for land use regulations, including the zoning ordinance, subdivision regulations and site plan review regulations, and for large capital projects, programs and other priorities. The land use plan provides the roadmap connecting the vision of the community to these actions taken to implement the plan.

This chapter takes a look at the history and other factors that shaped the community, today's land use patterns and specific land uses, development limitations, current zoning districts, and finally provides guiding principles and considerations for future land use.

Land Use History

The 1991 Town of Lisbon Master Plan provided us with the following summary of the history of the development of the town of Lisbon:

... starting in 1753 when the area was first traveled through by Samuel Martin on a hunting trip. The original charter for the town was granted in 1763 to 64 prospective settlers under the name Concord. There was no permanent settlement until a second charter was issued in 1768, this time under the name Gunwaithe. In that year, Samuel Martin returned with his family, followed by Ebenezer Richardson; Enos Bishop was the third settler, arriving in 1770. In 1775, an official census of the town listed 47 persons. An old map of the town shows that in 1799 there were 52 settlers with numbered plots of land.

The confusion of having two names for the town, Concord and Gunwaithe, was resolved by the New Hampshire legislature on June 14, 1824 and the name Lisbon was chosen. Two changes in the geographical definition of the town occurred subsequently. In 1859, the corner of Landaff west and north of the Ammonoosuc River was annexed to Lisbon, and on July 16, 1963, Sugar Hill officially became a separate town after having petitioned for independence over a taxation dispute.

The early economy was based on farming and lumbering. Corn and wheat were the staple crops for home and market, and cattle raising and dairying were also important. Industries soon developed in conjunction with farming and lumbering; in 1790, a dam on the Ammonoosuc River was built to power a gristmill, a sawmill, and a shingle mill. The early 1800's saw the development of a boot factory, a tannery, a pill box factory, and later, a starch factory, a stamp mill and a smelting mill. In 1851, the first bobbin mill was started and in 1865, the first of many peg mills began operation. The potato starch factories and the bobbin and peg mills were all directly tied to the textile industry in Massachusetts which had become so important. Pulp mills, used for making paper, also sprang up in this period.

For most of its history, Lisbon had two villages centers, one on the Ammonoosuc and one on Sugar Hill. It is said that by 1859 the Lisbon Village center had long since shifted south to its present location on the southeast side of the river near the site of the original dam. The first shop in Sugar Hill started in 1834 and by 1880 it was a flourishing trade center itself. Commerce in town was devoted to crafts shops which supplied homes with needed goods, trade shops for supplying goods from outside, and other shops devoted to supplying goods and services for transportation and industry. The level of commercial activity was always influenced by the growth and development of local industries.

Lisbon suffered from devastating fires, floods, the Hurricane of 1938 and fluctuating economies but rallied and boasts a magnificent town hall, library, brick blocks and other historically significant structures as well as the gift of a naturally beautiful setting nestled in the valley along the Ammonoosuc River. Descendants of some of the first settlers in the 1700's still live in Lisbon and share its proud heritage with newcomers, and all seem to work together to preserve the rich history and utilize its natural resources.

Some Factors That Influence Land Use

In addition to economic and demographic influences, both the landscape itself, including its topography and the natural resources it provides, and available infrastructure have played an important role in the development of Lisbon and will continue to in the future.

The Landscape and Natural Environment

The topography in Lisbon is dominated by the Ammonoosuc River valley with headwater streams and hills such as Pine, Mormon and Northey Hill to either side. Both the river valley, with its floodplains and areas of eroding riverbank, and the areas of steep slope present certain challenges and limitations to development.

The desire to protect and preserve our natural resources such as wetlands, shorelines, prime agricultural soils and important wildlife habitat, is an important consideration. Some of Lisbon's high priority resource lands have been protected in the past through ownership by a public or nonprofit entity, such as the Lisbon Water Department's wellfield and Gordon Memorial Forest, or by conservation easement where the land is still owned by a private individual but future development is limited. Impacts in other areas have been managed through zoning, such as the flood hazard areas and Pearl Lake Conservation District. Wetland areas are another example of natural features valued by the community; state regulations have been relied upon in this case. The impact that different land uses could have on natural resources is important to assess when planning for future development of the town.

Infrastructure

The location of many northern New England villages such as Lisbon, and the transportation systems to connect them, was initially driven by the presence of water power for mills and the relative ease of valley travel. Historians tell us that many roads began as trails worn between farms and the local gristmill. The location of US Route 302/NH Route 10, on the primary state highway system, along the Ammonosuc River through Lisbon, as well as NH Route 117/ Sugar Hill Road, on the secondary state highway system, following Salmon Hole Brook, provide almost 15 miles of state-maintained highway in Lisbon. The town maintains about 40 additional miles of transportation infrastructure. (NHDOT, 2018 Roads & Highways Town Center Line Mileage by Legislative Class)

The other transportation system that influenced the settlement pattern of Lisbon was the railroad, which ran across town from the northeast to the southwest and passed through the village area, also following the river valley. Until the mid-1980s, Lisbon was served by the Boston and Maine Railroad, which provided freight service to and from local industries. The railroad initially served a much greater role in moving people and goods around and through Lisbon than did the road network. The loss of this

competitive advantage as interstate highways replaced railroads as the primary movers of people and goods was a factor is Lisbon's slowing growth in recent decades. The railroad right-of-way remains state-owned and is part of the 19-mile Ammonoosuc Rail Trail connecting Woodsville with Littleton for snowmobiles, ATVs and other users. Adequate parking in the village center makes this transportation infrastructure an economic asset as the interest in trail-based recreation continues to grow.

The water and sewer infrastructure and other public facilities built in Lisbon's village center supported a large concentration of residential and commercial development and will continue to make this one of the most favorable locations for future development in the future.

Another factor that could influence development in Lisbon and elsewhere is communications technology and other advances that change the way we live and work. For example, high speed internet has greatly increased the feasibility of telecommuting in many fields.

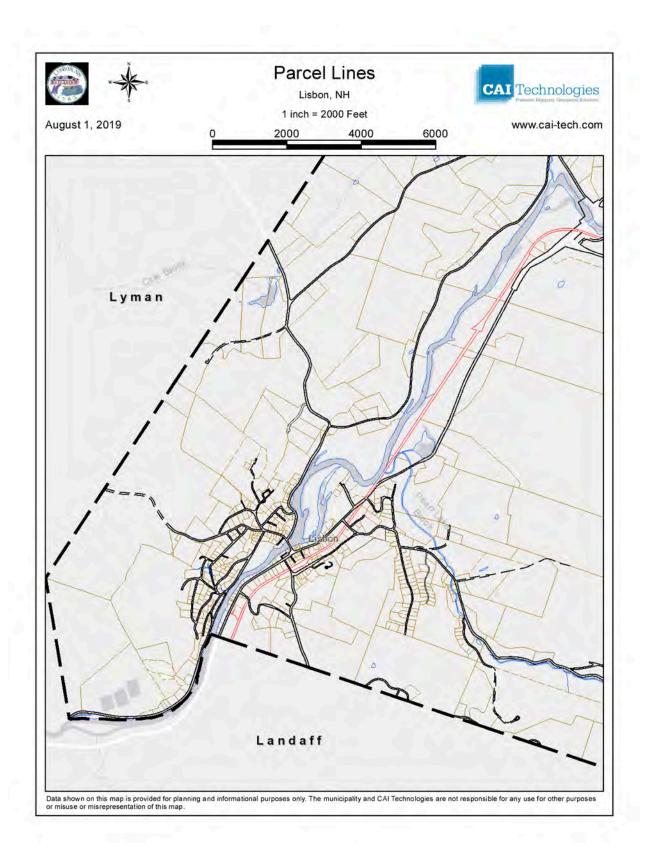
Today's Land Use Pattern

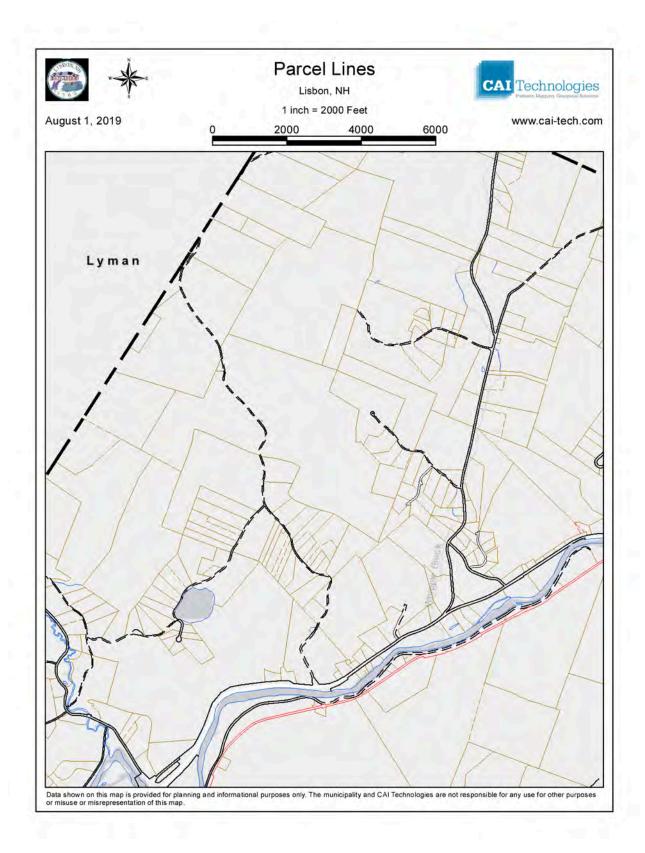
As shown on the photo on the following page, the vast majority of Lisbon's land area is comprised of forest. The open areas shown are primarily fields, and also a few wetlands, gravel pits, and recently logged areas.

Lisbon's village center has long been a center of activity, beginning with the first mills in the 1800s. This concentration began as the nucleus of an agrarian society developed around local farms and functioned as the hub of the community. This history is reflected in today's development pattern (shown on page - 3-6); the center of town is where many of the public buildings and much of the older housing stock is located. The village center today has a densely developed mixed use core surrounded by homes on small lots enabled by the public water and sewer.



As Lisbon's role as a center of commerce declined, farmlands reverted to forest, and automobiles became the dominant form of transportation, development began to be spread out all over town. The location of residential subdivisions was driven by individual landowner decisions rather than the town's collective land use goals. The figure on page 3-7 showing the development pattern in the northeast corner of town illustrates the random nature of today's land use pattern.





Some Specific Land Uses

RESIDENTIAL

Residential development in the most common developed land use in Lisbon. The town's estimated 865 units of housing are a mix of single family detached homes, duplexes, multi-family and manufactured homes; single family homes are the most common, with an estimated 542 homes (NH Office of Strategic Initiatives, Current Estimates and Trends in New Hampshire's Housing Supply, Update: 2010-2017, December 2018). The village center, where water and sewer infrastructure is available, has a relatively high density of residential development. Lower density residential development is found scattered throughout town. Growth has continued slowly with an average of less than 3 permits per year issued for single family homes and/or manufactured homes from 2010 through 2018 (NH Office of Strategic Initiatives, Current Estimates and Trends in New Hampshire's Housing Supply, Update: 2010-2017, December 2018; town building permit logs).

COMMERCIAL/SERVICES

The vast majority of businesses in Lisbon are located along US Route 302. In the village center include businesses that serve primarily local residents, such as a bank, market, and pizza shop; and those that serve both residents and passers-by, such as gas stations and other retail. Along US Route 302 outside the village area, businesses tend to be those that require more land, such as autobody, bed and breakfast, event center, septic tank service, campground, sports center, gravel pits and self-storage. In the rural areas of town away from the village and US Route 302, businesses tend to be more home business-like, such as auto repair and internet sales, and those that require a rural setting such as vacation cabins.

INDUSTRIAL

Lisbon's largest industry is New England Wire Technology Corporation, a specialty electric products maker which employs about 400 people (NH Employment Security, December 2018). This enterprise is located at the northeastern end of the village center on US Route 302/ Main Street. DCI, located south of the village center adjacent to the Landaff town line, is an institutional furniture manufacturer that employs about 200 people (NH Employment Security, December 2018).

PUBLIC FACILITIES/CIVIC/UTILITIES

Most public/civic facilities are situated within or close to the village center. These include the town hall/police station, fire station, school, library and restored train station now used for many town functions. Several churches are also located in the village center.

The wastewater treatment plant and transfer station are located just south of the village center close to the Bath/Landaff town line. A private septage treatment facility is located in the northeast corner of town off of Mt. Eustis Road.

RECREATION

Lisbon is fortunate to have several developed recreation facilities. These include a commercial fitness center with gymnasium and swimming pool, soccer fields and tennis courts on land owned by the New England Wire Technology Corporation, a winter recreation area owned by the Lions Club, and the multiuse Rail Trail owned by the NH Department of Transportation. All these amenities add to the recreation opportunities provided by the ample open space areas and quiet back roads.

OPEN SPACE LANDS

Conserved Lands

Lisbon has relatively few conserved acres. Forty-three acres around the town's wells between Bishop Road and the Ammonoosuc River are protected from development through town ownership. The New England Forestry Foundation owns the 76-acre Gordon Memorial Forest. An additional 154 acres in town has been protected from development through Ammonoosuc Conservation Trust conservation easements on four parcels. There is also a six-acre town forest parcel (deed restriction) off of Gulf Road.

Land in Current Use

The state's current use statute (RSA 79.A) declares that it is "in the public interest to encourage the preservation of open space, thus providing a healthful and attractive outdoor environment for work and recreation of the state's citizens, maintaining the character of the state's landscape, and conserving the land, water, forest, agricultural and wildlife resources." Although the statute does not interfere with an owner's right to develop their property, it does remove the incentive to develop that the property tax would otherwise provide. Normally, land is taxed at a rate that reflects its development

potential. Land enrolled in the current use program is taxed at a rate that reflects what it is actually used for now instead.

The town's acreage in current use has increased from 11,840 acres in 2004 to 13,290 acres in 2018 (2005 Master Plan, 2018 MS-1). The current use acreage is in the following categories:

Farm Land 1,052 acres
Forest Land 10,980 acres
Forest Land with Documented Stewardship 954 acres
Unproductive Land 138 acres
Wet Land 166 acres

Of the land currently enrolled in the current use program, 3,725 acres receive a further 20% reduction in the assessed value by allowing nonmotorized recreation, e.g., hunting, fishing, snowshoeing, hiking, skiing, and nature observation.

Development Limitations

Steep Slopes

Much of the undeveloped land in Lisbon presents challenges for development because of steep slope. The slope of the land can greatly impact the economic and physical feasibility of development. The steeper the slope, the more it will cost for construction and maintenance of septic systems, roads, driveways, foundations and stormwater infrastructure. Additionally, as the slope increases so does the potential for an increase in erosion, stormwater runoff, and nutrient movement. Poor soil conditions combined with steep slopes can present significant development constraints.

An additional concern regarding development on steep slopes is safety. This is due to both the difficulty of fighting forest fires on steep slopes which makes homes in these areas particularly vulnerable, and the difficulty accessing homes with steep driveways in an emergency, especially in winter. The Lisbon Hazard Mitigation Plan Update adopted by the Selectboard in 2016 recommended that the town limit building structures and driveways on steep slopes.

Soil-based slopes are shown on the map on page 3-13. The areas shown in yellow typically have slopes of 16-25%, the areas shown in light brown, 26-40%, and darker brown greater than 40%. As a general rule, slopes from 16% to 25% are considered to be difficult and costly to develop, and slopes over 25% are considered undevelopable. These lands also often have shallow soils unsuitable for septic systems as well.

Wetlands

Wetlands are not as large a factor in limiting development in Lisbon as they are in some other communities. Wetlands are shown in purple on the maps on pages 3-13 and 3-14. As shown, most of Lisbon's wetlands are associated with tributary streams. A few other small isolated wetlands are scattered around town.

Floodplains and Riverbanks

Flood hazard areas mapped by the Federal Emergency Management Agency along the Ammonoosuc River and its tributaries are also shown on the map on page 3-13. As shown, the largest floodplain area begins in the village area and extends to Salmon Hole Brook.

Another important consideration in siting future development is riverbank erosion. NHDES describes the erosion hazards associated with flooding like this in its **FLOOD AND GEOLOGIC HAZARDS ENVIRONMENTAL FACT SHEET** (CO-GEO-10):

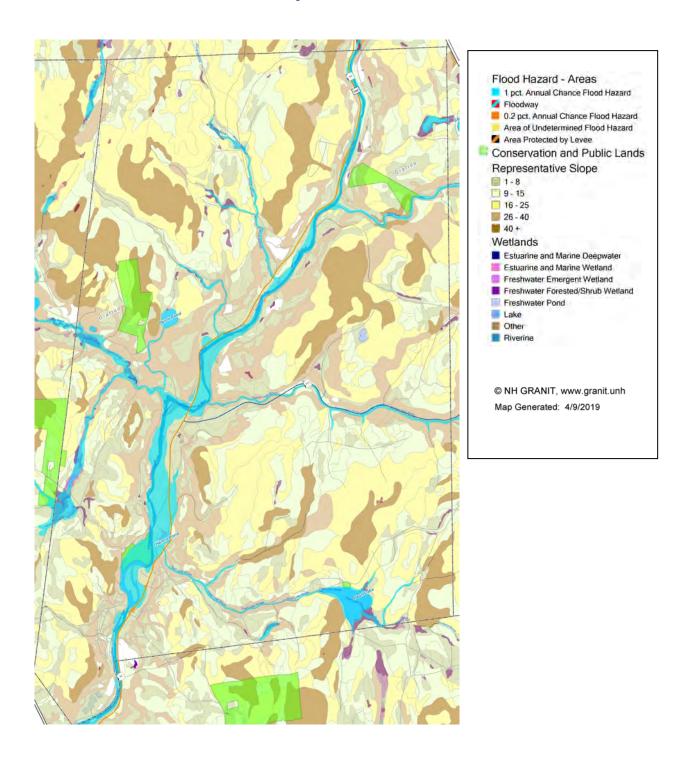
Floods pose inundation risks to properties and infrastructure in floodplains adjacent to rivers, but there is also danger from sudden channel scouring and riverbank collapse, bridge abutment failure and culvert washouts, or even wholesale changes in the course of rivers. The risks are highest during active flood events, when rivers and streams, with high velocities, have the greatest ability to erode and shape the streambeds and banks, particularly in steeper terrain north and west of Concord. The most dramatic kind of erosion event, known as an "avulsion," occurs when a river cuts through one of its banks and erodes an entirely new path, usually abandoning its old path in the process.

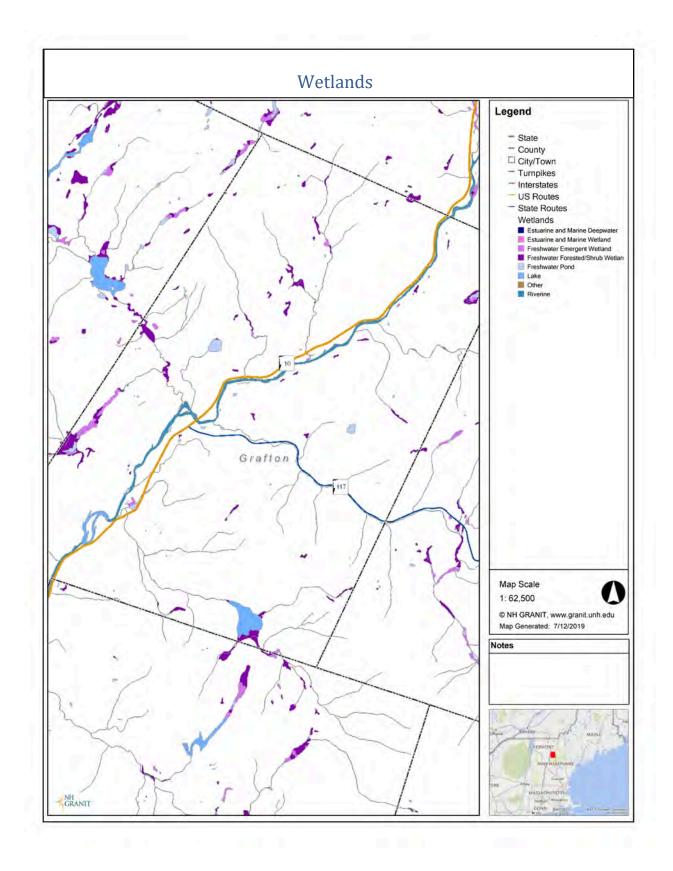
In 2011, Dr. John Field completed a detailed geomorphic assessment of the Ammonoosuc River to assist the Ammonoosuc River Local Advisory Committee with its corridor planning responsibilities and outreach and education to local officials. The study was made possible by a grant from NHDES, administered by the Connecticut River Joint Commissions. One of the products of the study was a set of detailed maps showing the erosion potential for each segment of the river. The maps on pages 3-15 through 3-17 show the degree of erosion hazard risk along the Ammonoosuc in Lisbon. As shown, as one would expect, there is a great deal of overlap between these areas and the floodplain areas, however there are a few areas that are only either floodplain or fluvial erosion hazard area.

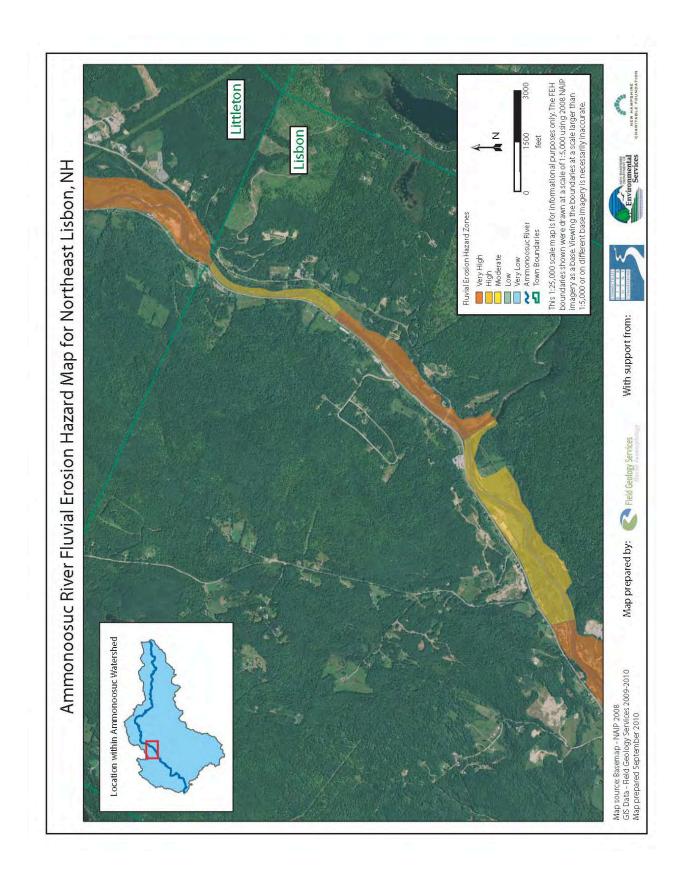
Current trends in the frequency and intensity of weather patterns make it imperative that future development be located outside of both flood hazard areas and fluvial erosion hazard areas whenever possible, and that efforts continue to increase the resilience of existing structures and infrastructure.

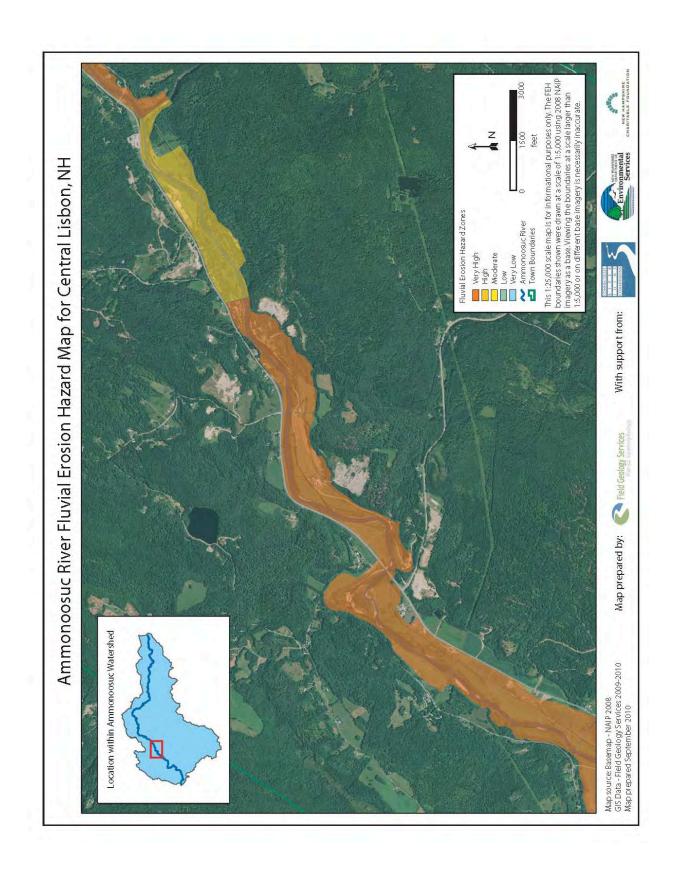
Protecting future development from risk from extreme weather events will require managing activity in both areas.

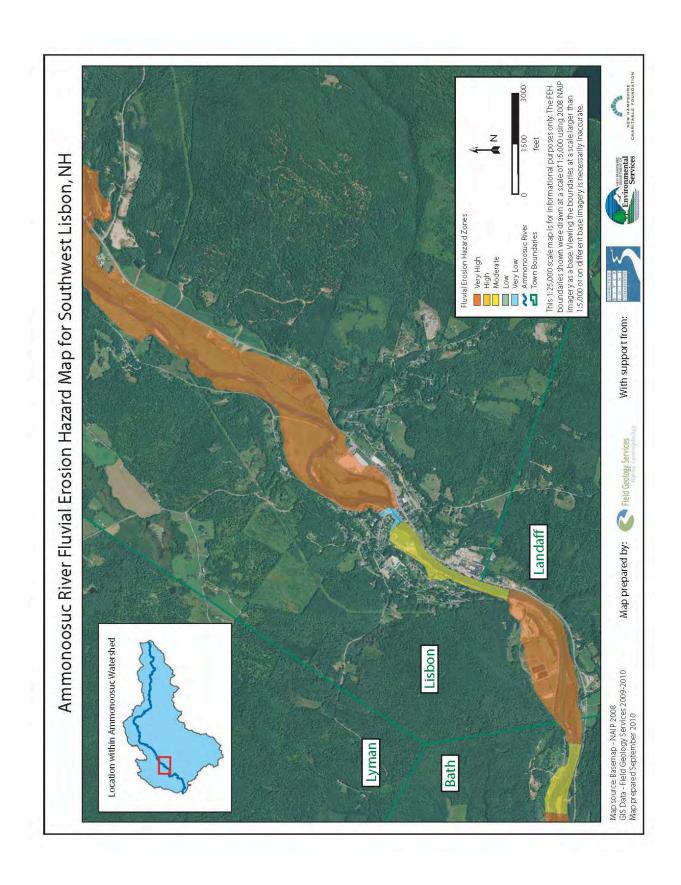
Development Limitations











Zoning Districts

The Lisbon Zoning Ordinance was first adopted in 1972 and has been amended several times. The Ordinance was last amended in March 2019. The Zoning Ordinance governs where each type of land use can locate in town, and what the pattern of that development will be, e.g., density, spread out vs. clustered, setbacks, etc., and influences the character of the community in the years to come. Following is a brief summary of each zoning district including the location and major uses allowed.

Village Center (B and C)

DISTRICT B

District B is the mixed use heart of the village center, south of the rail trail crossing on US Route 302, bounded on one side by the Ammonoosuc River and on the other side by the top of the terrace bank. This district permits single and two family dwellings, manufactured homes, home businesses, retail establishments, restaurants, offices, services, and auto sales and repairs. Multifamily homes and several additional nonresidential uses are allowed if they are found by the Zoning Board of Adjustment to meet the criteria for a Special Exception.

DISTRICT C

District C includes the village center neighborhoods back

LISBON ZONING ORDINANCE SPECIAL EXCEPTION CRITERIA

- 1. The specific site is an appropriate location for the use.
- 2. Property values in the district will not be reduced by the use.
- 3. The proposed use will be compatible with the character of the area, and will not adversely affect the surrounding property, the neighborhood, or the town, including, but not limited to, consideration of noise, air quality, noxious odors, vibration, traffic, lighting, glare, hours of operation, amount of impervious surface, or building mass.
- 4. No nuisance or unreasonable hazard will result to vehicles, pedestrians or the environment, including, but not limited to, traffic, air quality, or surface or groundwater quality through increased stormwater runoff or the use of toxic or hazardous substances.
- 5. Adequate and appropriate facilities will be provided for the proper operation and maintenance of the proposed use.

from US Route 302 that are serviced by public water. Permitted here are single family dwellings, manufactured homes, and home businesses. Multifamily homes and several additional nonresidential uses are allowed if they are found by the Zoning Board of Adjustment to meet the criteria for a Special Exception.

US Route 302 Corridor (A)

District A is a mixed use corridor along US Route 302. It is located north of the village area bounded on one side by the Ammonoosuc River and on the other side by a parallel line 1,250 feet from Route 302. This district permits single and two family dwellings, manufactured homes, agriculture, home businesses, restaurants, recreational facilities, and personal services. Multifamily dwellings and several types of additional nonresidential uses are allowed if they are found by the Zoning Board of Adjustment to meet the criteria for a Special Exception criteria.

Industrial (I)

An area of town has been zoned Industrial to provide a location for future businesses that require a large land area and do not require the visibility of US Route 302. This area is along Mt. Eustis Road, from the Littleton/Lisbon townline to Streeter Pond Road, and extends 3,000 feet south the Ammonoosuc River. The plan is for water and wastewater to be provided from the adjacent Littleton industrial area. Manufacturing, mills, processing plants or offices would be permitted in industrial parks or on individual lots. Other business types would be allowed by special exception. Residential subdivisions will not be allowed in order to ensure that ample space is available for industrial growth and to preclude issues that may arise from incompatible land uses.

Rural Areas (D)

District D is all property not included in District A, B, C or I described above. District D is the rural-residential district of Lisbon and covers the majority of town. Permitted uses include single and two family dwellings, manufactured homes, home based businesses and agriculture. Multifamily homes and several types of business are allowed by special exception.

Overlay Districts

PEARL LAKE CONSERVATION DISTRICT

All property surrounding Pearl Lake and within the Pearl Lake Watershed is within the Pearl Lake Conservation District. Pearl Lake is a former and potential future public water source. In this district, additional review is required prior to the issuance of a special exception to ensure water quality will be protected.

FLOOD HAZARD AREAS

All flood hazard areas (100-year floodplain) mapped on the latest Flood Insurance Rate Maps issued by the Federal Flood Management Agency require flood proofing of all new structures and major improvements. This is required in order to maintain the eligibility of residents for the purchase of federally subsidized flood insurance.

Future Land Use

The type, location and design of development all directly affect the physical appearance of the town, the need for certain public services and facilities, the cost of providing these services, the tax base, the impacts on important natural resources, and even the safety of residents and resilience of the community. Properly planned, development can be an asset to the community; it can not only add to the tax base, but it can also add to opportunities and community vitality.

The high quality of our natural and scenic resources has been recognized by the region's economic leaders as a critical foundation of the North Country economy. Properly planned, future development can support residents' vision for the future of the community, protect the town's natural and scenic resources, and build the tax base. Careful subdivision and site planning, coupled with innovative zoning tools such as clustering and overlay districts, can go a long way toward ensuring that landowners interested in developing their property can do so in a manner compatible with community objectives.

Some Guiding Principles and Considerations

COMMUNITY

Community participation should continue to be encouraged in the process of land use planning and subsequent implementation. Individual landowner interests need to be balanced with those of the community to protect priority resources, reduce risks and build the tax base.

INVESTMENTS IN PUBLIC INFRASTRUCTURE

The town's wastewater treatment facility has adequate capacity available for the foreseeable future.

Expansions of sewer and/or water service areas need to be carefully planned with careful consideration

to the desirability of growth in the target area vs. somewhere else for which capacity may no longer be available as a result.

Future capital investments, the Zoning Ordinance and policies and programs should work together to support the following elements of the existing land use pattern:

- Multi-use village center surrounded by dense residential development
- Diverse housing choices
- Large blocks of forestland available for forest products, recreation and wildlife
- Primarily open space uses in floodplains and fluvial erosion areas
- US Route 302/NH Route 10 corridor as economic driver

The Capital Improvement Program (CIP) should be annually reviewed and updated to link local infrastructure investments with master plan goals, land use regulations and economic development. A CIP bridges the gap between planning and spending, between the visions of the master plan and the fiscal realities of improving and expanding community facilities.

LOCATION OF DEVELOPMENT

Protection of the town's water resources remains a high priority. In addition to protecting water quality and wildlife habitat and corridors, siting development in a manner that is compatible with protection of water resources can often improve the safety of residents and the resilience of the community. The value that wetlands, floodplains and vegetated buffers provide for mitigating extreme weather events needs to be recognized and incorporated into land use planning and regulation. In addition to critical habitat for numerous species, wetlands provide numerous benefits for the community. These benefits include groundwater recharge and stream flow augmentation during low water periods, and the storage and filtering of flood waters. When stormwater can utilize wetland and floodplain areas, and is slowed and filtered by vegetated shoreline buffers, flood peaks are lower and of less velocity, and the associated erosion and sedimentation is reduced. Opportunities to strengthen our protection of this natural stormwater management mechanism through the regulation of land use include:

- Limiting opportunities to locate structures in the floodplains and requiring compensatory flood storage when alternative locations are unavailable
- o Protecting wetlands from development
- o Retaining and restoration the vegetated buffers along shorelines

To maintain the high quality of Lisbon's surface waters and its healthy aquatic ecosystems, it is necessary to both keep human activities separated from the town's rivers, brooks and wetlands, and to maintain a vegetated buffer around these surface waters. Shoreline vegetation and the layer of organic matter that builds up underneath it slow down the stormwater runoff that occurs naturally along with that which results from impervious surfaces such as roads, roofs and driveways. This riparian buffer traps sediment and other pollutants before they reach the river or brook. In addition, the vegetation also provides necessary shade for aquatic species, provides important habitat corridors, and slows the advance of some harmful invasive species. Following a thorough review of available research and consultation with natural resource professionals and state and federal regulators, New Hampshire experts recommended a minimum naturally vegetated buffer width of 100 feet for removal of pollutants and some of the needs of wildlife (BUFFERS FOR WETLANDS AND SURFACE WATERS: A GUIDEBOOK FOR NEW HAMPSHIRE COMMUNITIES, Chase, Deming, and Latawiec, 1997). The 100-foot width had been shown to be associated with 60% or better removal rate for pollutants. Subsequent research has reached the same conclusion. Studies have also shown that sensitive habitat areas and many wildlife species require larger buffers. Shoreline buffers are important for both open water such as ponds, brooks and rivers, and for wetlands. In Lisbon, several water bodies receive some protection from the state's Comprehensive Shoreline Protection Act. These are the Ammonoosuc River, the Gale River, Ogontz Brook downstream from the junction of Cole Brook, Pearl Lake and Perch Pond.

As discussed in the Development Limitations section, development on steep slopes can impair scenic quality, cause erosion and sedimentation, and pose a safety hazard due to wildfire and lack of access for emergency vehicles. Allowing a creative flexible approach to siting development in the rural areas of town, such as clustering development away from shorelines, wetlands and steep slopes can result in development more compatible with the community's vision for the future, protection of natural and scenic resources and public health and safety. This can also reduce the acreage lost for resource management, wildlife habitat and recreation.

DESIGN OF DEVELOPMENT

The US Route 302/NH Route 10 corridor provides the foreground for the town's scenic views most often seen by visitors to the region. Nonresidential development should be carefully designed and attractive

with due regard for landscaping and access management. Consideration should be given to a sign ordinance that would protect and enhance the appearance of the village area and Route 302.

Inadequate stormwater management has increasingly been identified by scientists as the primary cause of water quality deterioration associated with human activity. Increased stormwater runoff results from impervious surfaces such as roofs, yards, driveways and roads. It is now understood that it is best to both reduce the amount of stormwater runoff and return as much of it as possible to the ground on-site. This maintains groundwater infiltration and prevents sediments and other pollutants from being carried to nearby water courses. In addition to increased pollutant load, stormwater impacts on surface water include higher temperatures, changes to fish populations, more frequent high flows during wet weather — more frequent and severe flooding — and lower flows during dry weather. The resulting erosion of stream banks and channels causes further deterioration of the habitat. To prevent these cumulative negative impacts of development on surface water quality and habitat, it is necessary to keep land disturbance to the minimum area and time necessary, and to slow down stormwater and treat it on-site. Performance-based regulations requiring best management practices (BMPs) are recommended to address stormwater runoff. Development on steep slopes and hilltops often has the added factor of soils that are shallow and more easily eroded.

Examples of site planning and development BMPs to ensure that stormwater does not leave developed areas in increased velocity or quantity, or decreased quality, include:

- Disturb only the vegetation absolutely necessary for the construction activities
- Minimize soil compaction use smallest equipment practical and avoid parking heavy equipment on areas that will be used for infiltration
- Plan development so it follows the natural contours as much as possible
- Minimize cut and fill
- Limit contiguous area of disturbance
- Aerate and revegetate areas exposed by construction
- Maintain existing site hydrology

Other BMPs have been developed to reduce the pollutant load of stormwater and maintain groundwater recharge. Innovative Land Use Planning Techniques (NHDES, NHARPC, NHOEP, NHMA, October 2008) and NHDES New Hampshire Stormwater Manual contain guidelines for stormwater management during and after construction. BMPs specific to logging operations are also published by

the state. UNH's Technology Transfer Center provides training and technical assistance specific to road maintenance activities.

Away from the village area, Lisbon's dark night sky allows for wildlife and natural ecosystems to remain undisturbed by human light; it is an essential element of the town's rural character. Proper design of outdoor lighting is important for maintaining the dark night sky, and preventing glare, over-lighting, light trespass, and skyglow. "Glare" refers to lighting fixtures that shine a portion of the light into individuals' eyes rather than onto the object or area to be illuminated. In addition to causing glare, over-lighting negatively impacts the character of the area and wastes energy. "Light trespass" refers to light falling on a neighboring property because a fixture emits too much light at high angles or projects light too far. "Skyglow" is light pollution which is visible miles away due to reflection off of atmospheric particles. In the winter, snow adds to the skyglow. Careful review of lighting should continue to be a focus of site plan review.

DEVELOPMENT BEYOND LISBON'S BORDERS

In New Hampshire, RSA 36:54-58 (DRI) requires land use boards to notify potentially affected communities when developments are proposed which may have regional impact. Examples would include not only proposed development near Lisbon's borders, but also those that would increase traffic on Lisbon's roads or change seasonal traffic patterns, cause skyglow visible in Lisbon, share an aquifer, increase use of shared facilities, or affect the Ammonoosuc River upstream from Lisbon. The Planning Board should participate in review of such proposals when given the opportunity.

Specific Uses

RESIDENTIAL

Lisbon is able to offer current and future residents a range of housing options, from neighborhoods walkable to stores and services in the village center to quiet wooded rural areas. Dense residential development in the village center where water and sewer are available should continue to be encouraged. However it should be steered away from the floodplain and fluvial erosion hazard areas.

In the rural areas of town as well, development should be steered away from important resource areas such as floodplains and wetlands, and also from steep slopes where there is a high likelihood of erosion.

Those building on slopes, ridgelines or hilltops should be encouraged to incorporate design techniques that minimize the visual impacts. These include:

- Limiting the area to be cleared for development and for a view from that development
- Use of natural/neutral colors
- Minimizing reflective glass
- Use of low level indirect lighting
- Siting below the ridgeline
- Use of natural landforms and existing vegetation to screen structures
- Minimize cut and fill
- Screen driveways
- Siting to preserve important stands of trees

In addition, the Hazard Mitigation Plan Update adopted by the Selectboard in 2016 recommends that subdividers outside the water service area be required to provide a water supply for fire fighting, such as a fire pond, cistern or other water resource.

Home businesses are a normal part of residential and rural areas, but should not impact on neighbors with noise, light, excessive or unscreened outdoor storage, or traffic.

Nonresidential

Commercial development consistent with a walkable vibrant village center should continue to be encouraged in the village area. The available infrastructure offers an opportunity to grow this area. Town facilities should continue to be located here for accessibility and as an additional contributor to activity.

The US Route 302/NH Route 10 corridor is an economic development asset to the town and has the potential for additional development outside of the floodplain and fluvial erosion hazard areas. The site plan review process should be used to ensure that attractive development results, with careful access management incorporated to ensure that traffic continues to flow freely on this state highway. In addition to safety concerns, some traffic currently using this route would likely be shifted to other alternatives if it were to become congested. This would mean fewer potential customers for Lisbon's businesses.

In the rural residential areas of town, except for home businesses, only those businesses that require a rural atmosphere should be allowed, such as certain tourism and recreation uses.

INDUSTRIAL

Future industrial development should be encouraged in the area on Mt. Eustis Road, east of the Ammonoosuc River, southwest of the Littleton town line. This clustering of industrial businesses will minimize the possible negative impacts on residential areas and on the rural character of the town. Municipal water and sewer infrastructure and other industrial land uses in adjacent Littleton make this an ideal location.

SPECIAL LAND USES

Land uses such as telecommunications towers and commercial energy generation and transmission can pose special challenges for small towns like Lisbon. Federal and/or state regulations can add another layer of regulation, and, in some cases, even preempt local control. It is important for the town's Zoning Ordinance and other regulations to stay current, and also flexible enough so the town can be proactive about emerging land uses that grow out of our modernizing economy and technology. It is also important for the town to participate and have a strong voice in federal and state review processes when applicable.

Chapter 4. Natural and Historic Resources

Introduction

At the series of visioning sessions the Planning Board held to lay the foundation for this plan, participants identified the clean quiet environment, beautiful landscape with its mix of forested and open lands and dark skies at night, and forested areas where wildlife and recreation coexist with logging as important characteristics of the community to maintain. The Ammonoosuc River was identified as a high priority at each meeting due to the multiple values provided to the community, including recreation, scenic and hydropower. Historic resources were also discussed, including the importance of the historic buildings in the village area that form the core of the community. The Historical Society, Conservation Commission and high level of student engagement were all noted as important resources as well.

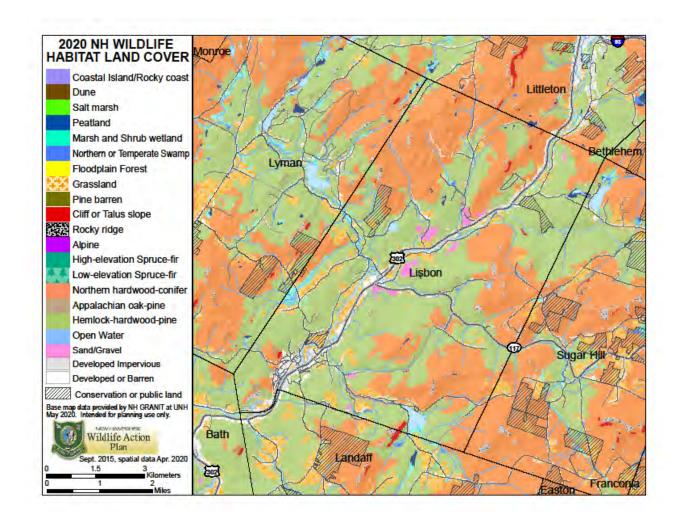
This chapter provides an overview of some of the resources and related issues important for the community to keep in its sights as growth and development continue and as opportunities for conservation arise. The Planning Board wishes to thank the Conservation Commission, Lisbon Area Historical Society and students of Lisbon Regional High School for their significant contributions to this chapter.

Forest and Agriculture

Forestland

As shown on the following map, Lisbon's land cover is mainly forested, and is comprised of two forest types: Northern hardwood-conifer and Hemlock-hardwood-pine. Forestland has many uses. Timber harvesting is the most obvious use and is a source of wood products and yield tax. Other uses and functions include recreation, wildlife habitat, water quality protection, open space and scenic enhancement. These are all important uses for the people of Lisbon, both from a quality of life and

economic standpoint. Forest resources provide habitat, erosion control, water filtering, improved air quality, and temperature regulation. These resources also pay their own way in terms of town services because of the little they demand. A properly managed forest can provide all of these benefits concurrently and sustainably.



Responsible harvesting of forest resources supports the local economy and provides access to local forest products. The working landscape is an important component of the character of the area for both residents and visitors.

Subdividing large woodland parcels into small lots for development can have long-term, nearly irreversible impacts. **New Hampshire's Vanishing Forests** (SPNHF, 2001) documented the loss of forestland in large enough tracts for long-term forest management activities. SPNHF reported that most forest landowners no longer rank timber production as their main reason for owning the land.

Only 10% of the landowners surveyed included timber production as a primary reason, with aesthetic enjoyment more than 50% of landowners' reason for owning the land.

With regard to the short-term impacts of logging, there are a couple of opportunities for the Conservation Commission to be made aware of upcoming cuts. One is the "Intent to Cut" filed with the town for tax purposes and the other is the Forestry Statutory Permit By Notification filed with NHDES when any stream crossings or wetlands are involved. These notifications can be found on NHDES's online OneStop tool. Forestry operations are bound by the latest version of Best Management Practices published by NHDES, NEW HAMPSHIRE BEST MANAGEMENT PRACTICES FOR EROSION CONTROL ON TIMBER HARVESTING OPERATIONS by UNH Extension and NH Division of Forests and Lands. Other resources helpful for the education of forestland owners and loggers on methods to protect the town's sensitive natural resources are available on-line as well, including BEST MANAGEMENT PRACTICES FOR FORESTRY:

PROTECTING NEW HAMPSHIRE'S WATER QUALITY published by UNH Cooperative Extension. These notifications can also help to identify logging operations that are planned on areas used for recreation such as trails. Steps can be taken to work with landowners and foresters to temporarily close or reroute trails during the logging operations.

Invasive species are non-native species that have the potential to do economic or ecological harm due to their ability to outcompete local species. One concern in Lisbon is invasive plants and insects that affect forest health. According to John Gunn, Research Assistant Professor of Forest Management at UNH, non-native species such as burning bush, glossy buckthorn, multiflora rose, and Japanese barberry already make up at least 30 percent by species of all plants in New England (UNH SCIENTIST TAKES AIM AT INVASIVE, NON-NATIVE PLANTS THREATENING NH'S FORESTS, NH Agricultural Experiment Station, March 20, 2017). Gunn and other researchers are trying to learn more about what steps landowners and forest managers can take to make our forests more resistant to invasive species to protect forest health. Non-native insects such as the Emerald Ash Borer are also expected to be a growing concern as our climate continues to warm. The Lisbon Regional High School 2016-2017 Biology classes provided the following discussion on the Emerald Ash Borer (*Agrilus planipennis*) in Lisbon in their *Natural Resource Inventory*:

In 2013, New Hampshire confirmed that the Emerald Ash Borer [Agrilus planipennis] officially invaded New Hampshire. As of 2017, it is limited to the Lakes Region; however other areas are still at risk, primarily due to the transport of nursery stock, cordwood, and firewood. As Lisbon is home to a KOA Campground, residents should be aware of the possibility of this pest.



(Source: USDA)

Adult beetles are metallic green and 1/2 inch long and leave D shaped holes in trees when exiting. If these are seen you should contact (800) 444-8978 or share a photo to www.nhbugs.org.

Agricultural Land

Like many New Hampshire communities,
Lisbon was once mainly open land outside
of the village as shown in the 1883 Library
of Congress lithograph to the right. Much
of the land once used by small, nonmechanized farms has now reverted back
to forest land or has been developed. Miles
of stonewalls in mature forest stands are
testimony to an agricultural heritage that
has been lost over the past several
decades. Today agriculture needs to



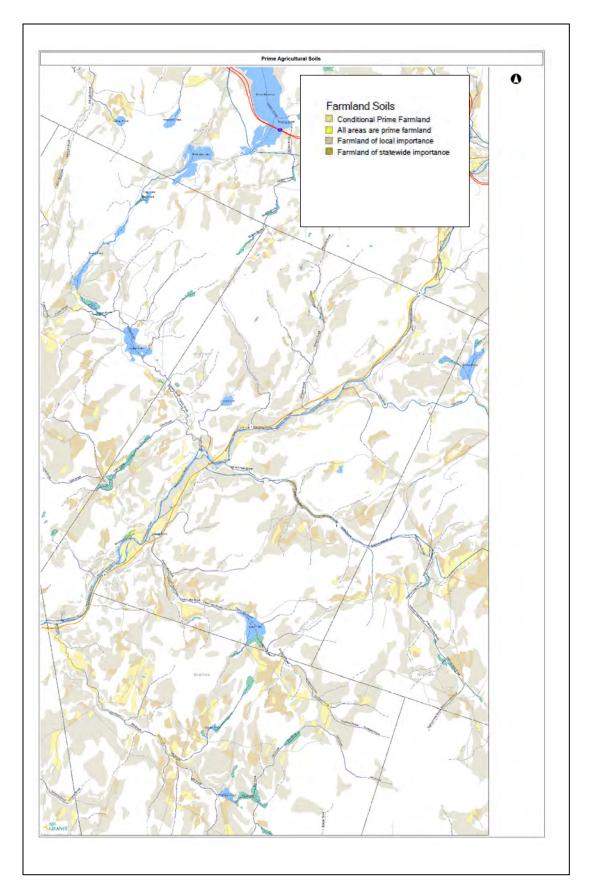
compete with development as level open areas are often the cheapest to develop. The state's current use program helps to offset this development pressure by allowing farms to be taxed at farmland values rather than development value. The land that does remain open and undeveloped adds a special rural, scenic character to the town while at the same time providing more diverse habitat for

local wildlife. According to the NH Department of Agriculture, the face of agricultural operations in New Hampshire is changing quickly. Niche markets including specialty crops and herds, customized farm products, and small-scale operations are redefining agriculture.

Nonetheless, NH Department of Revenue annual current use reports indicate that Lisbon's farmland may be continuing to slowly decline. Between 2011 and 2019 the acreage in the Farmland current use category decreased from 1,086.6 acres to 1,042.16 acres.

Lisbon is fortunate to have large areas of its remaining open lands on undeveloped prime agricultural soils along the Ammonoosuc River. Much of this land has little development potential due to floodplains. As shown on the following map, many other large tracts of prime agricultural soil are found throughout town; however, only a few small areas away from the river corridor remain open. Most have reverted to forest.

There are several benefits to keeping some current or potential future agricultural land open. One is to retain the possibility of producing agricultural goods locally. The current global pandemic and associated disruption of the global food distribution system has reminded us of the importance of being able to produce and obtain food locally. There is also an economic benefit for the town when produce is generated locally, as the land does not require the high level of town services that development demands. Agricultural lands also add to the visual and habitat diversity of the landscape and contribute to the character of the community. As New England has reforested, species that depend on open meadows and edge habitat have been severely impacted.



Planning for Open Space

Lisbon's Zoning Ordinance puts the community in a good position relative to maintenance of forest tracts and agricultural land. Lisbon has not made the mistake of applying large lot zoning to the rural areas. These were believed by many communities to be a way to preserve the low density development found in rural areas but instead forced developers to carve large acreages out of the working landscape unnecessarily. In addition, Lisbon's Zoning Ordinance provides options for clustering homesites away from important resource lands. In addition to these land use tools, maps of open lands can be used together with the prime agricultural soils map as one tool for prioritizing land for conservation.

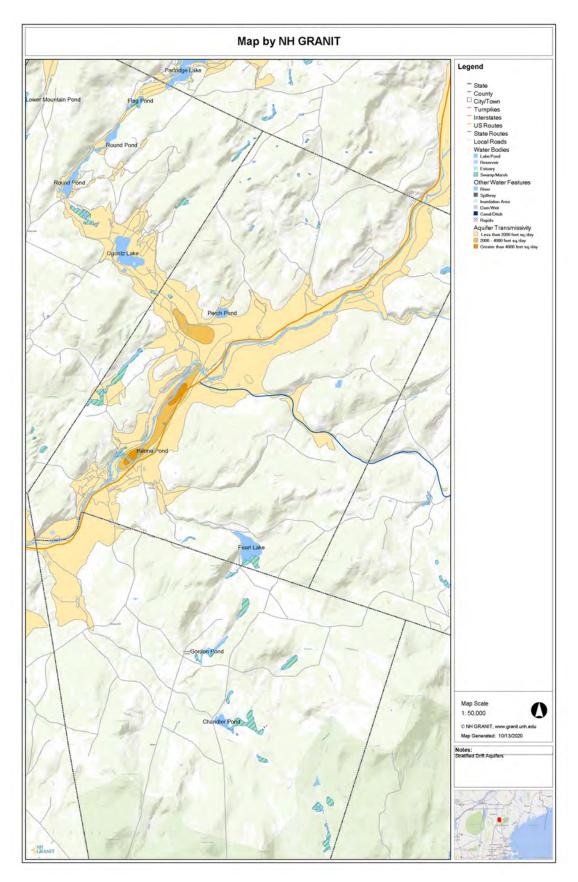
Water Resources

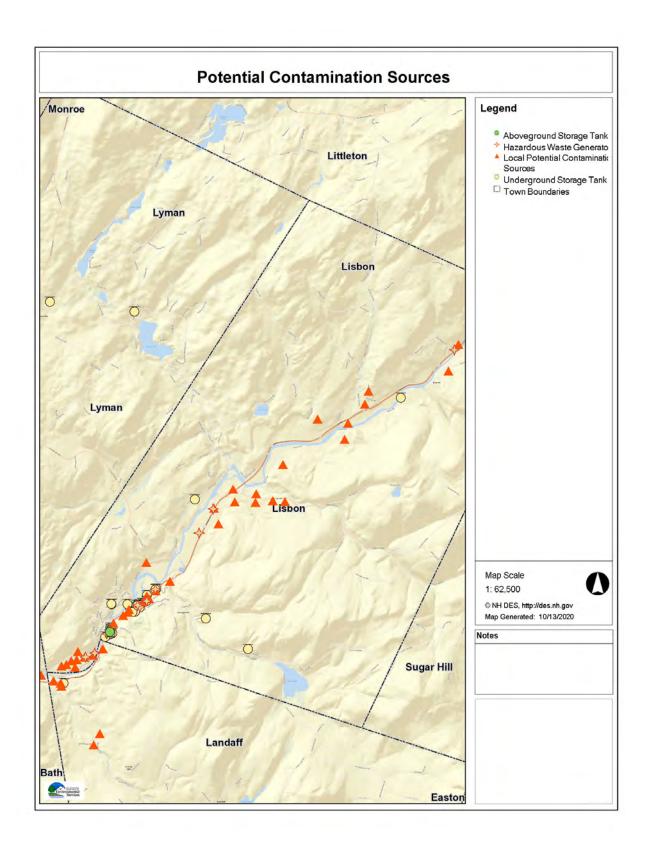
Groundwater

New Hampshire's important stratified drift aquifers have been mapped by N.H. Department of Environmental Services and U.S. Department of the Interior Geological Survey. As shown on the map on the next page, a major aquifer extends through town following the Ammonoosuc River corridor and into Lyman following Ogontz Brook. This aquifer serves the town wellfield and private wells for existing and future development, and provides a potential future wellsite for the town.

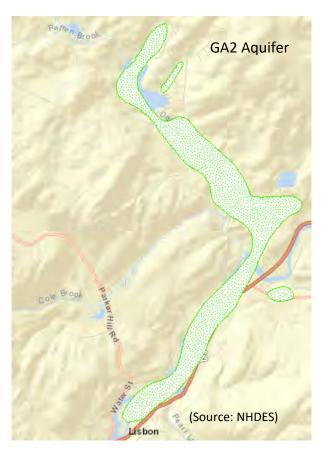
Like many northern New England communities, Lisbon's development and major transportation corridor has followed the town's major river. As shown on the next map, this has also meant a concentration of potential groundwater hazards over the town's major aquifer.

For uses that require a Special Exception from the Zoning Board of Adjustment, the Board must consider potential impacts to groundwater from the use of toxic or hazardous substances. Incorporation of an aquifer protection overlay district in the Zoning Ordinance would enable similar oversight of all businesses using toxic or hazardous substances in greater quantities than a typical home, and would enable the incorporation of best management practices into conditions of approval.





Another option for the town to protect the public water supply aquifer is the state's groundwater classification process (RSA 485-C). Initially, NHDES has analyzed aguifer maps and other data and classified potential public water supplies as GA2. In Lisbon, NHDES has classified the aquifer GA2 northeast of Water Street and up Ogontz Brook into Lyman. The town has the option to work with NHDES to reclassify this aguifer to GA1 which would provide for periodic inspection of businesses that use toxic or hazardous substances in quantities higher than a typical household to ensure that best management practices for storage and handling are being followed. This could be done either on its own or in conjunction with an aguifer protection overlay district.



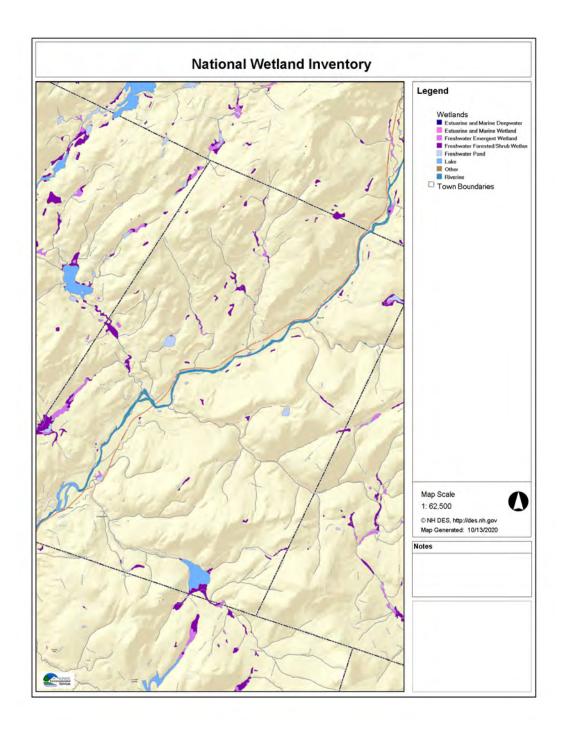
Wetlands

As shown on the map on the following page, wetlands make up only a small portion of Lisbon's land surface. Most are associated with ponds or brooks. Other small isolated wetlands can be found scattered around town.

Wetlands provide numerous benefits for the community, including the storage and filtering of flood waters, pollution filtration, groundwater recharge, and stream flow augmentation during low water periods. Wetlands also provide critical habitat for numerous species.

In March 2020, Town Meeting voted to amend the town's Zoning Ordinance to incorporate a Wetlands Conservation Overlay District. The new regulations apply to wetlands contiguous with perennial streams as well as a 25 foot wide buffer around these wetlands. In the new Wetlands Conservation Overlay District, activities compatible with protection of the wetland functions are permitted. A few activities that would pose a significant threat to the wetland functions due to their nature are prohibited. For certain other uses that could be sited and managed in a manner that would minimize

any negative impacts on the wetland, landowners can apply to the Planning Board for a Conditional Use Permit.



Lakes and Ponds

The Lisbon Regional High School 2016-2017 Biology classes provided the following narrative on Lisbon's ponds their *Natural Resource Inventory*:

Perch Pond

Perch Pond is a natural lake that doesn't have any man made barrier restrictions at the outlet. Perch Pond is a 16 acre body of water with only roadside access and is surrounded almost entirely by forest cover. Perch Pond Road, which is unpaved, follows closely along the western edge of the pond. The road's proximity to the water presents potential issues of road drainage and wildlife migration barriers, but these are relatively minor because the road does not carry much traffic. Perch Pond is located 3.2 miles outside of the center of Lisbon. This lake has many different varieties of fish and is great for fly fishing, spinning, or baitcasting. It has an average depth of 10 feet with the maximum at 17 feet.

The Conservation Commission reports that Perch Pond provides important habitat for eagle, loon, great blue heron, multiple ducks, and turtles that nest along the road.

Hanno Pond

Hanno Pond is a natural pond. It is also a favorite local spot for fishing and is home to many animals including ducks, fish, beavers, frogs, insects, and more aquatic plants and animals. The average elevation is 571 feet, and the pond's area is about 3 acres. Hanno Pond got its name from the Hanno family who used to live next to the pond. Hanno Pond is bordered on the east by US Route 302, which carries very heavy traffic. The impact of Route 302's proximity to Hanno Pond should be looked at more closely.

Pearl Lake

Pearl Lake, in the southeastern corner of Lisbon, comprises about 100 acres of open water nestled amid surrounding forest, wetland, and palustrine areas. On the western side, Scotland Road, a paved road which lies very close to the shoreline, may impinge on environmental quality by creating drainage issues and also by being a barrier to some animal species that utilize both the lake and the surrounding woodlands. On the north is Pearl Lake Road, which is unpaved and for the most part lies further back from the water.

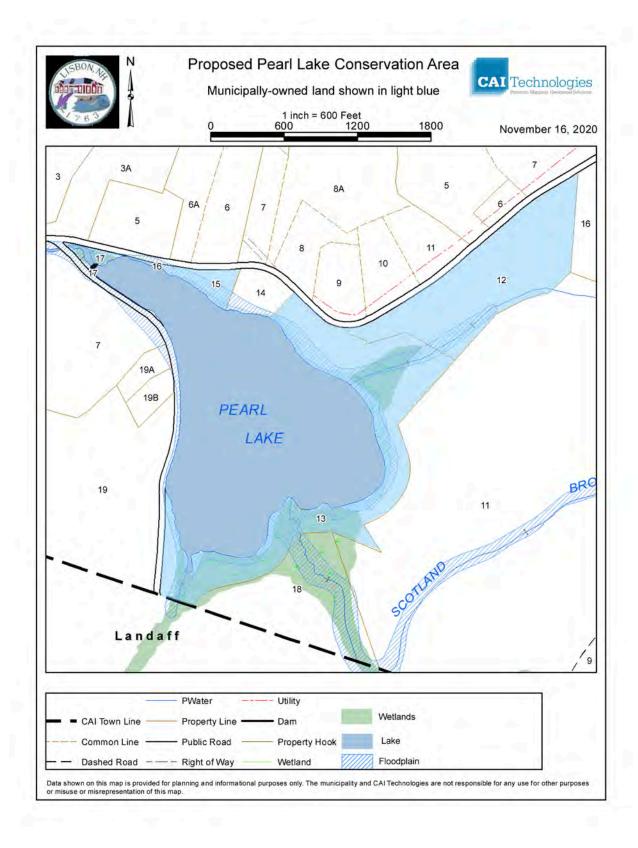
Pearl Lake is a great bird watching area; there are many people who live near it, however it doesn't bother the birds in the area. The lake is undeveloped but is managed for conservation by the Lisbon Conservation Committee. Pearl Lake was expanded by damming. Pearl Lake Dam is 14 feet in length and 21 feet in width. Pearl Lake is nestled to the west of the Cannon-Kinsman Range. Activities like flatwater

paddling, kayaking, or canoeing are great for this 1.5 mile circumference lake, that is only quietwater skill level. It only takes an hour to go around the whole pond's exterior. The elevation loss is very minimal and the gradient is a loop. You can visit this lake, depending on the weather, in any season.

The water quality of Pearl Lake has been of concern to the town for more than a century; as early as 1906 the Lisbon Board of Health was in contact with the State Board of Health to seek assistance with protecting the water quality of Pearl Lake - which was at the time the town's source of drinking water - resulting in a set of regulations being established (Clarke, 1906) which are apparently still applicable, and which include a prohibition against swimming...

The Pearl Lake Conservation District section of the Zoning Ordinance provides some protection for the Lake by requiring the Zoning Board of Adjustment to take a closer look at uses that require a Special Exception. Applications are reviewed to ensure that "the proposed use will not be detrimental to the health and welfare of the general public." Also, for proposals in the watershed in wetlands or on slopes in excess of 25%, water pollution, erosion and sedimentation and stormwater have to be examined.

As shown on the map on the following page there are several municipally-owned parcels on the shore of Pearl Lake and a tributary stream. Public ownership of the shoreland parcels with their intact vegetated buffer and associated wetlands and floodplain has helped protect the water quality of this former public water supply. The Lake has been home to nesting loons and provides an important food source for eagles and ospreys. The Conservation Commission has recommended that the Town permanently protect its Pearl Lake properties with a conservation easement in order to continue to protect water quality and habitat. Other benefits would include public recreation such as fishing, boating, hiking, cross country skiing and snowmobile use on the trail maintained by the Lisbon Stumpjumpers. The remaining privately-owned shoreline parcel is already under a permanent conservation easement.



Rivers and Brooks

Except for a bit of land in the northwest corner of town that drains via Mullikin Brook to the Moore Reservoir on the Connecticut River, Lisbon is all within the Ammonoosuc River watershed. This means that rain and snow that falls on the ground in Lisbon either recharges the groundwater or flows to the Ammonoosuc River, much of it via Whipple Brook, Ogontz Brook, Pearl Lake Brook (aka Mink Brook), Salmon Hole Brook, the Gale River or other smaller brooks.

The Ammonoosuc River is part of the state's River's Management and Protection Program (RSA 483). Through most of town the River is designated Rural-Community; the segment through the village area is designated as Community. Each of these categories is associated with certain specific protections under state law (RSA 483:9). In addition, the law enables Lisbon to have representation on a Local Advisory Committee (LAC) along with the other communities along the mainstem of the River. The LAC is charged with advising the NHDES Commissioner and watershed municipalities "...on matters pertaining to the management of the river or segment, tributary drainage areas, and disposal of state-owned lands." The LAC also has a duty to "...comment on any federal, state or local governmental plans to approve, license, fund, or construct facilities or applications for permits, certificates, or licenses..." that may affect the river. In addition, the LAC is tasked with developing a corridor management plan for the river under RSA 483:10. The Ammonoosuc River LAC adopted the current CORRIDOR MANAGEMENT PLAN for the Ammonoosuc River in June 2013. This Plan is a very useful resource for the town as it contains background information and recommendations on numerous river-related subjects.

Although many of Lisbon's surface waters have not been tested as part of the state's periodic state-wide assessments, available data indicate that water quality in Lisbon's rivers and brooks is high. Like many of the state's waters, NHDES reports concerns in the watershed regarding aluminum and pH levels, and atmospheric mercury which is accumulated in fish. The cause of the pH and aluminum is unknown (NHDES 2018 303(d) list). The Ammonoosuc River LAC tests the water in several locations along the River several times a year as part of the state's VRAP (Volunteer River Assessment Program). The data provides a baseline and enables any problems to be found and addressed early. The last several years of data have found no concerns among the parameters tested.

Riparian Buffers and Stormwater Management

The importance of riparian buffers and proper stormwater management for maintenance of water quality and healthy aquatic systems was discussed in Chapter 3 Land Use.

The state's Shoreland Protection Act provides some setbacks and limits on impervious surfaces and removal of shoreline vegetation along 4th order or greater waterways and lakes and ponds over 10 acres. In Lisbon the Act covers the Ammonoosuc River, the Gale River, Ogontz Brook from the juncture of Cole Brook Pond, Pearl Lake and Perch Pond. In addition, Town Meeting in March 2020 voted to add a Shoreland Protection Overlay District to the town's Zoning Ordinance. The Overlay District includes all lands within 25 feet of all perennial streams in town and prohibits most structures and removal of vegetation.

Lisbon's Subdivision Regulations and Site Plan Review Regulations were both updated by the Planning Board in recent years to incorporate the **New Hampshire Stormwater Manual** by reference as well as a requirement that stormwater not leave the site in greater quantity, velocity or pollutant loading post-development than was found pre-development. Consideration should also be given to a steep slopes ordinance to ensure that runoff from development on shallow highly erodible soils does not cause sedimentation of downstream surface waters.

Invasives

The Lisbon Regional High School 2016-2017 Biology classes provided the following discussion on invasive aquatic plants in Lisbon in their *Natural Resource Inventory*:

At this time, no invasive aquatic plants have been noted in Lisbon's bodies of water, but both Variable Milfoil (Myriophyllum heterophyllum) and Eurasian Milfoil (M. spicatum) have been reported in a variety of New Hampshire lakes and ponds as well as in the Connecticut River. Both species are presumed to be transported primarily on boats, boat motors, and boat trailers. The relatively small size of Lisbon's only water bodies has probably been an advantage in avoiding the import of these plants.

Fish and Wildlife

Lisbon's Important Species

For each community in the state, NH Fish and Game has identified the important species most likely to be found there. Those identified as likely to be found in Lisbon are listed in the following tables along with their status and habitat requirements. In addition to listing whether species are on the state endangered (SE) or threatened (ST) list or federal endangered (FE) or threatened (FT) list, the list also includes species of Special Concern (SC) and Species of Greatest Conservation Need (SGCN). Species of Special Concern in New Hampshire are those that are nearly threatened or that have recently recovered from being threatened or endangered. SGCN are those that are declining in numbers, squeezed into smaller patches of habitat, and threatened by other issues. The lists highlight the importance of protecting Lisbon's few wetlands and water bodies and remaining open lands.

REPTILES AND AMPHIBIANS		
COMMON NAME	SPECIES STATUS	Habitats
Blue-Spotted/Jefferson Salamander	SC, SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest, Northern Swamps, Peatlands, Temperate Swamps, Vernal Pools
Eastern Ribbon Snake	SGCN	Floodplain Habitats, Marsh and Shrub Wetlands, Peatlands, Vernal Pools
Mink Frog	SGCN	Lakes and Ponds with Coldwater Habitats, Marsh and Shrub Wetlands, Northern Swamps, Peatlands
Northern Leopard Frog	SC, SGCN	Coldwater Rivers and Streams, Floodplain Habitats, Grasslands, Lakes and Ponds with Coldwater Habitats, Large Warmwater Rivers, Marsh and Shrub Wetlands, Shrublands, Warmwater Rivers and Streams
Smooth Green Snake	SC, SGCN	Grasslands, Marsh and Shrub Wetlands, Peatlands, Rocky Ridge, Cliff, and Talus, Rocky Ridge, Cliff, and Talus, Shrublands
Wood Turtle	SC, SGCN	Coldwater Rivers and Streams, Floodplain Habitats, Grasslands, Shrublands, Warmwater Rivers and Streams

COMMON NAME	SPECIES STATUS	Habitats	
Golden Eagle SE, SGCN		Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, High	
		Elevation Spruce-Fir Forest, Lowland Spruce-Fir Forest, Northern	
		Hardwood-Conifer Forest, Rocky Ridge, Cliff, and Talus	
American Black Duck	SGCN	Lakes and Ponds, Rivers and Streams, Marsh and Shrub Wetlands, Northern Swamps, Peatlands, Temperate Swamps	
American Kestrel	SC, SGCN	Developed Habitats, Grasslands, Shrublands	
American Woodcock	SGCN	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Marsh and Shrub Wetlands, Northern Swamps, Shrublands, Temperate Swamps	
Bald Eagle	SC, SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, High Elevation Spruce-Fir Forest, Lakes and Ponds, Rivers and Streams, Lowland Spruce-Fir Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest	
Bank Swallow	SC, SGCN	Coldwater Rivers and Streams, Grasslands, Lakes and Ponds with Coldwater Habitats, Large Warmwater Rivers, Marsh and Shrub Wetlands, Warmwater Rivers and Streams	
Black-billed Cuckoo	SGCN	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Pine Barrens, Shrublands	
Bobolink	SGCN	Grasslands	
Brown Thrasher	SGCN	Pine Barrens, Shrublands	
Canada Warbler	SGCN	Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps	
Chimney Swift	SGCN	Appalachian Oak-Pine Forest, Developed Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest	
Eastern Towhee	SGCN	Appalachian Oak-Pine Forest, Peatlands, Pine Barrens, Rocky Ridge, Cliff, and Talus, Rocky Ridge, Cliff, and Talus, Shrublands	
Field Sparrow	SGCN	Pine Barrens, Shrublands	
Purple Finch	SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, High Elevation Spruce-Fir Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps	
Ruffed Grouse	SGCN	Appalachian Oak-Pine Forest, Grasslands, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest, Shrublands	
Scarlet Tanager	SGCN	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Northern Hardwood-Conifer Forest	
Veery	SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps	
Wood Thrush	SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Northern Hardwood-Conifer Forest	
Marsh Wren	SGCN	Marsh and Shrub Wetlands, Salt Marsh	
Northern Goshawk	SGCN	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest	

Olive-sided Flycatcher	SC, SGCN	Lowland Spruce-Fir Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest, Northern Swamps, Peatlands, Temperate Swamps
Common Loon	ST, SGCN	Lakes and Ponds with Coldwater Habitats, Large Warmwater Rivers, Warmwater Lakes and Ponds, Warmwater Rivers and Streams

INSECTS		
COMMON NAME	SPECIES STATUS	Habitats
American Bumble Bee	SGCN	Developed Habitats, Grasslands, Shrublands
Rusty-patched Bumble Bee	FE, SE, SGCN	Developed Habitats, Grasslands
Yellow-banded Bumble Bee	SGCN	Developed Habitats, Grasslands, Shrublands
Yellow Bumble Bee	SGCN	Developed Habitats, Grasslands
Monarch Butterfly	SC	Developed Habitats, Grasslands

FISH AND SHELLFISH		
COMMON NAME	SPECIES STATUS	Habitats
Eastern Brook Trout	SGCN	Coldwater Rivers and Streams, Lakes and Ponds with Coldwater Habitats
Finescale Dace	SC, SGCN	Coldwater Rivers and Streams, Lakes and Ponds with Coldwater Habitats, Warmwater Lakes and Ponds
Longnose Sucker	SGCN	Coldwater Rivers and Streams, Lakes and Ponds with Coldwater Habitats
Northern Redbelly Dace	SC, SGCN	Coldwater Rivers and Streams, Lakes and Ponds with Coldwater Habitats
Rainbow Smelt	SC, SGCN	Coldwater Rivers and Streams, Estuarine, Lakes and Ponds with Coldwater Habitats, Marine, Warmwater Rivers and Streams
Slimy Sculpin	SGCN	Coldwater Rivers and Streams, Lakes and Ponds with Coldwater Habitats
Creeper (Mussel)	SGCN	Coldwater Rivers and Streams, Lakes and Ponds with Coldwater Habitats, Large Warmwater Rivers, Warmwater Lakes and Ponds, Warmwater Rivers and Streams
Triangle Floater (Mussel)	SGCN	Large Warmwater Rivers, Warmwater Lakes and Ponds, Warmwater Rivers and Streams

MAMMALS		
COMMON NAME	SPECIES STATUS	Habitats
Canada Lynx	FT, SE, SGCN	High Elevation Spruce-Fir Forest, Lowland Spruce-Fir Forest
Northern Bog Lemming	SC, SGCN	High Elevation Spruce-Fir Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest
American Water Shrew (Eastern)	SGCN	Northern Swamps
Big Brown Bat	SC, SGCN	Appalachian Oak-Pine Forest, Caves and Mines, Floodplain Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps

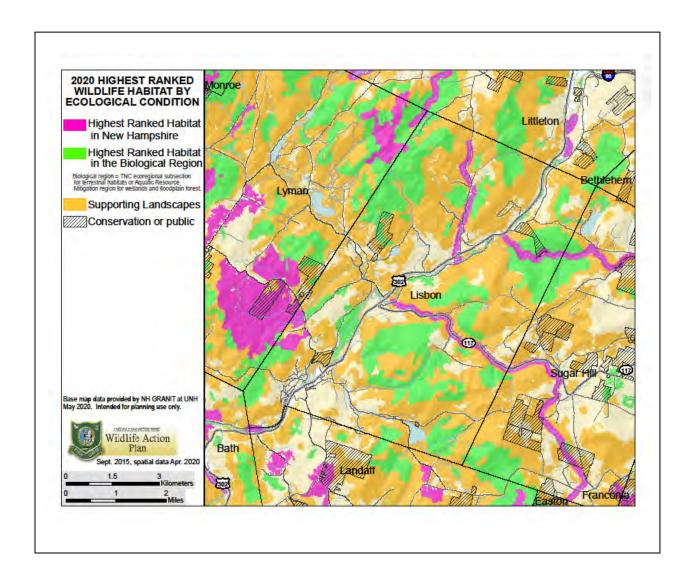
Eastern Red Bat	SC, SCGN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps
Hoary Bat	SC, SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps
Little Brown Myotis	SE, SGCN	Appalachian Oak-Pine Forest, Caves and Mines, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Pine Barrens, Temperate Swamps
Long-tailed Shrew	SC, SGCN	High Elevation Spruce-Fir Forest, Northern Hardwood-Conifer Forest
Moose	SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, High Elevation Spruce-Fir Forest, Lowland Spruce-Fir Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest, Swamps, Shrublands, Lakes and Ponds
Northern Long-eared Bat	FT, SE, SGCN	Appalachian Oak-Pine Forest, Caves and Mines, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest
Rock Vole	SGCN	High Elevation Spruce-Fir Forest, Northern Hardwood-Conifer Forest
Silver-haired Bat	SC, SGCN	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps
Southern Bog Lemming	SGCN	Northern Hardwood-Conifer Forest
Tricolored Bat	SE, SGCN	Appalachian Oak-Pine Forest, Caves and Mines, Floodplain Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps
American Marten	SC, SGCN	High Elevation Spruce-Fir Forest, Northern Hardwood-Conifer Forest

(Source: NH Fish and Game)

Lisbon's Important Habitat

As shown in the following map developed as part of NH Fish and Game's **WILDLIFE ACTION PLAN**, three of Lisbon's stream corridors (in pink) are considered by Fish and Game to be among the Highest Ranked Habitat in the state. These are Salmon Hole Brook, the Gale River and Whipple Brook. Two tracts of land west of Parker Hill Road are also part of a large area of Highest Ranked Habitat in neighboring Lyman. Areas that rank highest in the biological region are shown in green on the map. As shown, this category covers much of the community, and roughly corresponds with the areas of Hemlock-

hardwood-pine forest cover (map on page 4-2). Most of the remainder of town is considered to be supporting landscape.



Our understanding of the importance of wildlife corridors has grown in recent years. Corridors such as those highlighted in Lisbon along the three waterways connect wildlife to the different areas where their various needs are met, e.g., for water, food in different seasons, shelter in different seasons, and cover to move from one place to the other. The same trees and shrubs that provide this cover provide shade for aquatic species and help keep pollutants and sediment from reaching the water.

Both NH Fish and Game's WILDLIFE ACTION PLAN and INNOVATIVE LAND USE PLANNING TECHNIQUES – A

HANDBOOK FOR SUSTAINABLE DEVELOPMENT (NHDES, NHARPC, NHOEP, NHMA, October 2008) provide
guidance for communities, developers and homeowners for incorporating consideration of wildlife into
the siting and design of development. The Innovative Planning Handbook provides the following simple
checklist:

- Direct development away from rare and critical habitats.
- Maintain buffers between human activities and important habitats.
- Preserve wildlife corridors.
- Maintain the structure and function of aquatic systems.
- Minimize clearing, grading, and compaction of soil during construction.
- Protect stands of mature trees.
- Provide native plantings.
- Manage activities to minimize human-wildlife conflicts.

Invasive Species

A growing threat to habitat is Invasive plant species that outcompete and replace important native food species. The Lisbon Regional High School 2016-2017 Biology classes provided the following discussion on invasive plants in Lisbon in their *Natural Resource Inventory*:

Invasive plants disrupt ecosystems by displacing native plants, which in turn impact native animal species as well. There are many invasive plants which are known to be an issue in New Hampshire. The New Hampshire Fish and Game Department and N.H. Natural Heritage Bureau completed a joint project termed "Picking our Battles", which developed maps showing invasive plant hot spots in each New Hampshire town. Lisbon's highest priority spot for invasive plant control is the land between US Route 302 and the Ammonoosuc River beginning at a point just north of the bridge in the center of town and running north to Salmon Hole.

Among the invasive species that are problematic in New Hampshire, several are currently an issue in Lisbon, including:

Purple Loosestrife (Lythrum salicaria)
Japanese Knotweed (Fallopia japonica)
Garlic Mustard (Alliaria petiolata)
Multiflora rose/ Rambler rose (Rosa multiflora Thunb.)
Autumn olive (Elaeagnus umbellata)
Japanese barberry (Berberis thunbergii)
Norway maple (Acer platanoides)

Conservation Land

Six Lisbon properties have been conserved. One is the 76-acre Gordon Memorial Forest owned and managed by the New England Forestry Foundation for forest products, biological diversity, wildlife habitat, and educational opportunities. There is also a 6-acre town-owned forested parcel.

Four Lisbon properties have been conserved with the assistance of the Ammonoosuc Conservation Trust (ACT). One of these is owned by ACT. This property is along the banks of the Ammonoosuc River and also surrounding Hanno Pond. It was acquired by ACT to help with water quality management and river bank stabilization. Public access is also allowed on this ACT property. In addition, ACT holds a conservation easement on a small parcel on Pearl Lake that is surrounded by Town-owned land, to also protect the water quality for both people and wildlife. One other easement covers a working sheep farm on Walker Hill Road, allowing the property to remain in farming, while the last easement covers land that is maintained by the landowner for wildlife and habitat diversity.

Scenic Resources

THE LANDSCAPE

Lisbon's most valuable scenic resource is its development pattern. The historic settlement pattern with a picturesque village center hugging the Ammonosuc River and surrounded by the rural landscape has been maintained with the Zoning Ordinance and village infrastructure. To some extent the River's floodplain has helped keep the US 302/NH 10 corridor open to provide the highly valued scenic landscape of forested hills across open fields. March 2020 Town Meeting adopted a stronger Floodplain Ordinance to protect public safety and to protect the floodplain for flood storage purposes. The strengthened floodplain controls, coupled with the clustering provisions of the Zoning Ordinance, may make it possible to site development in a manner that leaves much of this land open. Where coupled with agricultural land protection and river corridor habitat protection, these lands can offer multiple conservation benefits.

SCENIC ROADS

RSA 231:157 allows 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 the land uses as permitted by local zoning. The town has not yet designated any roads as scenic roads.

SCENIC BYWAYS

US 302/NH 10

coming into

Lisbon from the

Landaff

direction up to

the junction

with NH 117,

and then NH 117

to Sugar Hill, is

part of the River

Heritage Trail.



The River

Heritage Trail is part of the NH Scenic and Cultural Byways

(northcountrybyways.org)

Program. Being part of the state byways program means that

the route appears on maps for tourists and has associated with it a responsible party who must maintain an up-to-date corridor management plan. In this case the corridor plan is maintained by the North Country Scenic Byway Council, a committee of North Country Council. The Council has recently launched a website, northcountrybyways.org, with a trip planner for the River Heritage Trail. In addition, NHDOT regulations prohibit the Department from issuing sign permits for off-premises signs on state byways.

Climate Change

Regardless of disagreements on how much various factors such as fossil fuels, deforestation and modern agriculture have contributed to climate change, the data show that our climate has been warming, and researchers agree that this trend will continue. Adapting to climate change will include staying abreast of current research focused on the Northeast and ensuring our forest ecosystem is

diverse enough to be resilient to insects and disease which may gain a competitive edge in our warmer environment. Warmer temperatures are also likely to mean a decrease in our region's traditional winter sports economy. Modeling specific to northern New Hampshire indicates increased precipitation, particularly in winter and spring, and an increase in extreme weather events. This will mean attention to stormwater management will become even more important to prevent erosion and protect our water quality and roads.

Conservation Commission

Lisbon has an active Conservation Commission that works on ongoing programs and land conservation projects. The Commission also conducts permit reviews as provided by NHDES rules and, when requested, in an advisory capacity to other town boards. Some of the Commission's current and future projects include:

- > Exploring the potential of a future Town Forest.
- Working with regional partners in maintaining and expanding walking, hiking, biking, ATV, and snowmobile trail systems.
- ➤ Keeping signage up-to-date for all conservation lands and aquatic resources.
- Creating some public education/awareness programs on current use, dark sky, and best practices for respecting wildlife.
- Increasing awareness of milfoil and the danger of bringing in invasive aquatic plants at all waterways in Lisbon, including public education and signage.
- Continuing to promote programs relative to the logo, "Nature for the Future," e.g., Lisbon town clean-up month, blue bags, and an anti-littering campaign for trails, rivers, lakes and all recreational areas.

The Commission coordinates with the Ammonoosuc River Local Advisory Committee, Ammonoosuc Conservation Trust, and neighboring town conservation commissions on projects and initiatives.

Lisbon has a conservation fund, which is a nonlapsing fund enabling the Conservation Commission to receive and use funds from a variety of sources for conservation projects. Ten percent of the land use change tax paid when land is taken out of current use is transferred to the conservation fund.

Historic Resources

The pre-Revolutionary War settlement of isolated cabins and necessary outbuildings expanded after independence and peace, especially with the utilization of early water-powered grist, saw, carding, shingle, and starch mills at the end of the 1700s and early 1800s. Churches, schools, stores, and businesses sprung up early to provide fellowship, education, and necessities. The first train came through Lisbon on July 4, 1853 after which more businesses and immigrant merchants and mill workers arrived. (Andrea Fitzgerald, Celebrating 250 Years, a Pictorial History of Lisbon, Lyman, and Landaff, New Hampshire, 2013)

Historian Andrea Fitzgerald tells us that "a little over 100 years ago, Lisbon had over 100 businessmen who were movers and shakers, so to speak." Much has changed since those days. With the automobile and good roads, residents could now more easily do business and work in other communities, meaning fewer businesses and professionals in Lisbon. Farming also declined as the midwest opened up for more productive farming on an industrial rather than subsistence model. Much of Lisbon's landscape reverted to forestland fragmented by roads with scattered residences. Yet much evidence of the town's rich past remains. This section, written with the invaluable assistance of historian Andrea Fitzgerald, will highlight some of the high priority historic resources of the town.

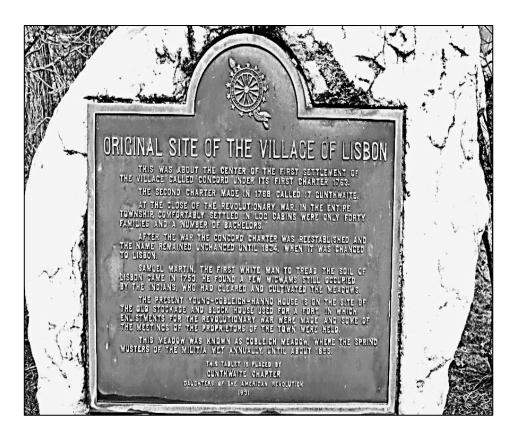
KNOWLEDGE

Some of Lisbon's most valuable historic resources are not buildings or sites, but knowledge. The Lisbon Area Historical Society has been instrumental in collecting and preserving photographs, inventories, letters and articles on the town's rich history. Much of this information is now available on-line at lisbonareahistory.org and whitemountainhistory.org.

The Historical Society has a museum in rented space in the Parker Block in the center of the village. Many railroad-related artifacts can also be seen in the Lisbon Railroad Station. The Historical Society would like to build a new museum near the Railroad Station and have that area become a history campus. The current museum is not large enough and lacks the security of a single purpose building.

ORIGINAL SETTLEMENT

Hanno Pond, originally named Henry Pond for the family that lived by it in the beginning of the settlement, was the site of the first church and school in town.



Erected in 1931 by Lisbon's Gunthwaite Chapter of the Daughters of the American Revolution, this monument is next to Henry Pond (more recently known as Hanno Pond) just north of Lisbon Village along U.S. Route 302. The monument marks the site of the early settlement of Lisbon. The quartz boulder came from a back pasture of the abutting Young-Cobleigh-Hanno property, part of the original plot granted to Major John Young on which, according to family lore, some of his sons settled one month after fighting in the Battle of Bunker Hill.

(Andrea Fitzgerald, **CELEBRATING 250 YEARS, A PICTORIAL HISTORY OF LISBON, LYMAN, AND LANDAFF, NEW HAMPSHIRE**, 2013)

Just north of the pond stands the oldest surviving building in town, the privately-owned
Young/Cobleigh Tavern. The Tavern sits on the original site of a
Revolutionary War stockade and blockhouse built around 1775.
Musters were held on the fields.
After the war, the stockade was taken down, and Sam Young lived



in the blockhouse and used it as Young's Tavern. In 1824, Levi Cobleigh bought the Tavern, split it in half and enlarged it, lifting the blockhouse to the third story to become part of the structure. The wings of the present structure were once Young's whole tavern building. The large barns across the street that once served as a livery stable for the tavern blew down in the 1930's.



(1930 photos from OLD HOUSES, LISBON, SUGAR HILL & LANDAFF, Mary C. Brummer, Lisbon Area Historical Society files on whitemountainhistory.org)



(Lisbon Village c. 1865 from the collection of the Lisbon Area Historical Society)

THE VILLAGE AREA

With the growing importance of water power for local industry, the center of activity moved to the current town center around the falls on the Ammonoosuc River.

The beautifully restored Lisbon Railroad Station is a reminder of the era when the railroad was one of the town's main ways of transportation of people and supplies. The Station, built by the Boston, Concord, and Montreal Railroad in the late 1860s and later used by the Boston & Maine

Railroad, now houses a small collection of railroad artifacts, the Lisbon Main Street office, and a lovely meeting room for town boards. It is believed to be the only BC&M/B&M railroad station of its design in existence. (NATURAL RESOURCE INVENTORY, Lisbon Regional High School 2016-2017 Biology classes) The Station is the only building in town on the State Register of Historic Places.



(from a 1912 postcard, https://commons.wikimedia.org/w/index.php?curid=20252251)

Lisbon's village area has four churches that are over one hundred years old. "The White Church," originally the Lisbon United Methodist Church, was built in 1842 as a single-story building and enlarged in 1887. The familiar steeple includes the original cast bell and beautiful four-sided clock tower built to accommodate townspeople and those traveling by train. "The Brick Church," originally the Lisbon Congregational Church, was built in 1914 by Lisbon-born architect Chase Roy Witcher. The Episcopal Church, Lisbon Church of the Epiphany, was built around 1911. The Roman Catholic Church, St. Catherine of Siena, was completed in 1909.

The Town Hall was built in 1902 following the fire of 1901 that devasted the business section of the west side of South Main Street. The opera house provided a venue for the two dramatic companies in town. (Lisbon Area Historical Society website and files on whitemountainhistory.org) The Town Hall continues to be used today for gatherings and town offices.

AHEAD's Lisbon Inn is the only structure in Lisbon on the National Register of Historic Places.

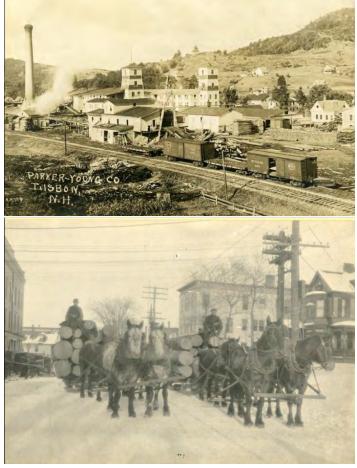
The Lisbon Inn is a key architectural component in Lisbon's central business district. The rectangular clapboard block with traditional two-tiered piazza employs both Queen Anne and Colonial Revival details. The resulting transitional style is an outstanding example of turn-ofthe-century vernacular architecture, and exemplifies the generally eclectic architectural fabric of the surrounding village. Because of its grand scale and prominent corner towers, the Inn provides an emphatic visual terminus to downtown Lisbon's commercial streetscape.

(From nomination for NHRP)

The Lisbon Inn is the third generation of hotels on the site. The Abram Hall Hotel was built in 1849 and razed in 1882. Brigham's Hotel was built in 1883 and burned in 1901. The Moulton was built in 1902

and rebuilt in 1925 after a fire.

The town's two largest employers are also both important parts of the town's history. New England Wire Technologies dates back to 1898 when it was called New England Electrical Works. (New England Wire Technologies and Lisbon Area Historical Society websites). DCI Furniture began in 1883 as the Parker-Young Company, one of the biggest lumber companies in the state, and at one time the largest manufacturer of piano sounding boards in the world. (NATURAL RESOURCE INVENTORY, Lisbon Regional High School 2016-2017 Biology classes)



(Parker Young Mill and Logging Sled c. 1910 from the collection of the Lisbon Area Historic Society)

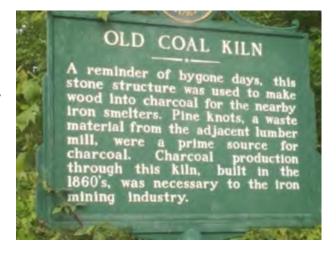
OTHER UNIQUE SITES IN LISBON

Lisbon was the site of New
Hampshire's first rope ski tow. It was
built in 1935 and operated for two
winters on US 302 before being
moved over to Cheney Road off of
Pearl Lake Road.



(Lisbon Outing Club Ski Tow, c. 1935, from the collection of Lisbon Area Historical Society)

The remnants of the coal kiln memorialized by this New Hampshire Historical Highway Marker mark one of the last remaining coal kilns in the state (Lisbon Area Historic Society). Unfortunately over the years stones have been removed and it has become overgrown. The site is on private property.



Chapter 5. Transportation

Introduction

Lisbon's transportation infrastructure connects residents, businesses and visitors with each other and to surrounding communities and major population centers. Within the community itself, the road network provides connections to homes, businesses, services and to trails for motorized and nonmotorized travel and recreation.

Lisbon faces challenges similar to other northern New England communities, such as aging infrastructure coupled with the increased costs of deferred maintenance, and the unavoidable conflicts when Main Street is a major US highway.

This chapter will review the existing transportation system, the condition and safety of the system, and look at some strategies for reducing conflicts between users and increasing safety in the future.

Highway Classifications

Legislative Classification

Public highways are classified by their role in the state highway system and responsibility for maintenance. Table 5.1 on the following page lists the legislative classes in Lisbon and the mileage in each.

Most major improvements on Class I and II highways are funded as projects through the state's Ten Year Plan process. This is a very competitive and long process conducted on a two-year cycle. Proposed projects need to be submitted through North Country Council (NCC) and then ranked by the NCC Transportation Advisory Committee (TAC). The TAC's recommendations and priorities are then submitted to NHDOT, which, in turn, prepares the Statewide Ten Year Plan draft for submission to the Governor's Advisory Commission on Intermodal Transportation (GACIT). GACIT then holds hearings on the draft, makes adjustments, and forwards the Plan to the Governor for submission to the state legislature. The projects on the approved Ten Year Plan are funded with federal funds and some state

match. Smaller projects can be conducted by NHDOT using Betterment Funds. These are state funds allocated to each NHDOT District for highway construction, reconstruction, resurfacing, highway maintenance, bridge construction, bridge reconstruction and bridge maintenance projects.

ROAD MILEAGE BY LEGISLATIVE CLASSIFICATION				
CLASS	DESCRIPTION	MILEAGE		
Class I	Primary state highways- US 302/NH 10	7.6		
Class II	Secondary state highway system - NH 117, Landaff Rd., Scotland Rd., Lyman Rd., Parker Hill Rd.	7.4		
lass V	All travelled ways which the town has a duty to maintain	39.6		
lass VI	All other existing public ways including those discontinued subject to gates and bars, and all highways which have not been maintained and repaired by the town in suitable condition for travel for five successive years or more	7.3		

LEGISLATIVE CLASS

Although Class I and II highways are state-maintained, improvements can be requested by the Town and paid on a cost-share basis. For constructing, reconstructing or maintaining Class V roads, the state provides Highway Block Grant Aid Funds to the town quarterly. The funds are from tolls and registration fees and are allocated using a formula based on mileage, population and equalized

valuation. This makes it important to update NHDOT when the Town takes over a private road or resumes maintenance of a town highway that had become Class VI.

State law provides that no permit can be issued for building on a Class VI road, or private road not approved by the Planning Board, unless the Selectboard votes to issue permits on that section of road and the applicant has filed a waiver of the town's responsibility for maintenance and liability for damages with the Registry of Deeds (RSA 674:41). The law also provides for the Selectboard to provide the Planning Board with an opportunity for review and comment. It is important to think not just about the town's liability, but also about the risks to visitors, future residents, and emergency responders. Sample Class VI road policies are available to help ensure that relevant issues are discussed and considered by the two boards ahead of time, and that all applications are evaluated against the same criteria. The Planning Board and Selectboard should review the samples and those from other towns and adopt a Class VI road policy.

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. Lisbon's roads are organized into the following categories:

ARTERIALS

US 302/NH 10 within Lisbon is a classified as a Minor Arterial. Minor Arterials are highways that are designed for long distance travel and connect to other Arterials. The Arterial Highway System is the group of roads constituting the highest degree of through-traffic movement and largest proportion of total travel. The roads are designed for larger traffic volumes and higher speeds. US 302 is an important east-west corridor in the northeast connecting Montpelier, Vermont's capital city in the center of the state, with Portland, Maine. Like the railroad in the early years of the community, this highway connects Lisbon with the region's other socioeconomic centers and the rest of the country.

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COLLECTORS

NH 117 connecting Sugar Hill to US 302/NH 10 in Lisbon is considered to be a Major Collector. Lyman Road and Pearl Lake Road are Minor Collectors. These roads are generally designed to move medium traffic volumes at lower speeds between or within communities. They connect to other Collectors or to Arterials. Collectors provide a link between roads serving primarily through-traffic movement and those with primarily direct private property access functions.

LOCAL STREETS

All other public roads in Lisbon are considered Local Streets. Local Streets are primarily for providing direct access to abutting properties. They are generally designed for lower traffic volumes and lower speeds. Local Streets can connect to any class of highway.

Traffic Patterns

Traffic Volumes

Traffic counts are conducted by NHDOT and NCC through the placement of traffic counting devices at certain specific locations on about a three-year cycle. Data are adjusted to produce average annual daily traffic (AADT). As shown on Table 5.2 on the following pages, although there have been some fluctuations in local traffic, volumes have not been increasing over the last fifteen years on either state or local roads.

TABLE 5.2

AVERAGE ANNUAL DAILY TRAFFIC, 2005-2019

Year	US 302 east of Mill Brook Rd.	US 302 over Pearl Lake Brook	US 302 over Ammo- noosuc River	US 302 at Littleton TL	NH 117 east of River Rd.	NH 117 at Sugar Hill TL
2005		5700	5200			
2006						
2007	3600			5000	880	850
2008		5400	5100			
2009						
2010	3500			4700	820	750
2011		4900	6300			
2012						
2013	3500			5400	800	690
2014		5200	5000			
2015						
2016	3460			4606	796	
2017		5296	5176			703
2018						
2019	3582			5235	872	785

Source: NHDOT TRANSPORTATION DATA MANAGEMENT SYSTEM

TABLE 5.2
AVERAGE ANNUAL DAILY TRAFFIC, 2005-2019, con't

Year	School St. over Ammo- noosuc river	Savageville Rd. west of Atwood Ave.	Parker Hill Rd north of Cole Plain Rd.	Pearl Lake Rd west of Barrett Hill Rd (in Landaff, just over TL from Scotland Rd.
2005	2100	450		
2006				
2007			280	130
2008	3000	360		
2009				
2010			270	150
2011	2500	350		
2012				
2013			240	140
2014	2300	440		
2015				
2016			276	129
2017	2175	559		
2018				
2019			281	131

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TABLE 5.2

AVERAGE ANNUAL DAILY TRAFFIC, 2005-2019, con't

Year	Bishop Rd. at Lyman Rd.	Lyman Rd. west of Bishop Rd.	Lyman Rd. at Lisbon TL	River Rd over Salmon Hole Brk	Streeter Pond Rd. over Ammo- noosuc River
2005	150	860		150	780
2006			670		
2007					
2008	120	680		160	820
2009			540		
2010					
2011	110	640		130	690
2012			560		
2013					
2014	80*	610		200	720
2015			550		
2016					
2017	82*	719		205	835
2018			498		
2019					

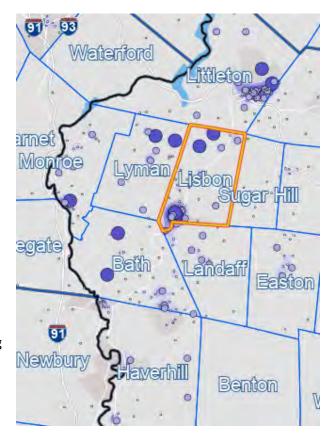
^{*}Lisbon Village Country Club no longer in operation

Source: NHDOT TRANSPORTATION DATA MANAGEMENT SYSTEM

Commuting Patterns

Lisbon has several large traffic generators associated with large traffic volumes in and around the village area at certain times of the day. New England Wire Technologies, a specialty wire products company, employs about 400 people (NH Employment Security, December 2018). This company is located at the east end of the village center with access to the facilities from US 302/NH 10. Lisbon is also home to DCI Furniture, a furniture manufacturer employing about 200 people with access also from Route 302/NH 10 at the west end of the village area (NH Employment Security, December 2018). Another traffic generator with peaks at certain times of the day is the Lisbon Regional School accessed from US 302/NH 10 in the middle of the village via School Street and Highland Ave.

The US Census Bureau collects information on commuting patterns of the labor force – that is, where people go to work from their town, and where people come from to work in a particular town. As was shown on page 2-5, the majority of Lisbon residents work in Lisbon, Littleton or Haverhill, most using US 302/NH 10 for at least part of their commute. The number of all people who work in Lisbon, regardless of residence, was estimated to be 823 in 2017 (ON THE MAP, U.S. Census Bureau, Center for Economic Studies). Of these jobs, 694 were reported to be performed by people commuting to Lisbon to work. As the heat map to the right illustrates, those commuting to Lisbon are coming from a broad area, utilizing various Collectors as well as US 302/NH 10.



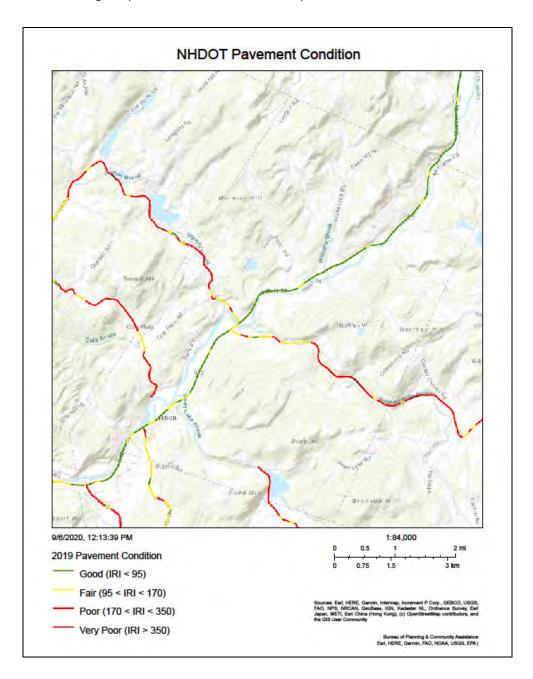
Larger, darker circles indicate a larger number of people commuting to Lisbon to work.

(Source: On The Map, U.S. Census Bureau, Center for Economic Studies)

Road Condition and Safety

Highways

NHDOT periodically measures the condition of state highway pavement surface as one factor in prioritizing the need for repaving or other work. Highway segments are scored using the International Roughness Index (IRI). As shown on the following map, in 2019, US 302/NH 10 was in good shape but all of the other state highways in town were rated fair or poor.



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Traffic Safety

One of the key items in determining a roadway's sufficiency is its safety record. Accident data is collected by local and state police and provided to NHDOT. Accident data should be used with caution for several reasons. Not all accidents are reported. Locations are variously given by street address, distance from an intersection, and/or simply a street name. Nonetheless, a concentration of accidents around a certain intersection or stretch of roadway is an indicator that further review is needed. In some cases, a safety audit can be arranged with professionals from NHDOT and UNH Technology Transfer Center to identify low cost approaches to improve safety.

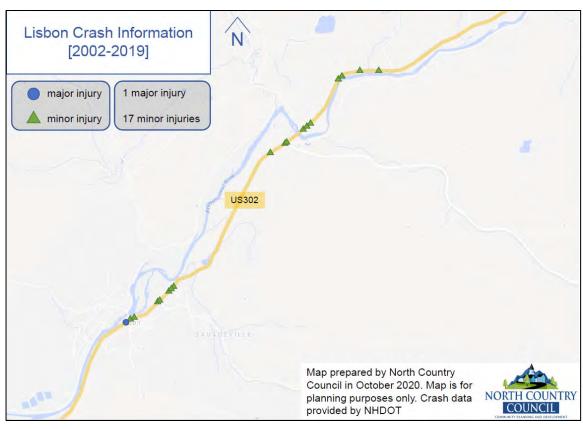
North Country Council provided an overview of crash data reported to NHDOT along the US 302/NH 10 corridor in Lisbon from 2002 to 2019, and a closer look at the village area (following page). As shown, crashes have been concentrated in three stretches - the village area; the vicinity of the intersection with NH 117, Ammonoosuc River bridge and Lyman Road; and the stretch from Perch Pond Road to the curve to the west. None of these locations experienced a very high number of accidents relative to the number of years or to the traffic volumes. As shown, only one major injury was reported. The Lisbon Police Chief, based on his experience, does not feel there are any locations in town that warrant a safety audit at this time. There are, however, a few locations that would benefit from further study and/or additional signage.

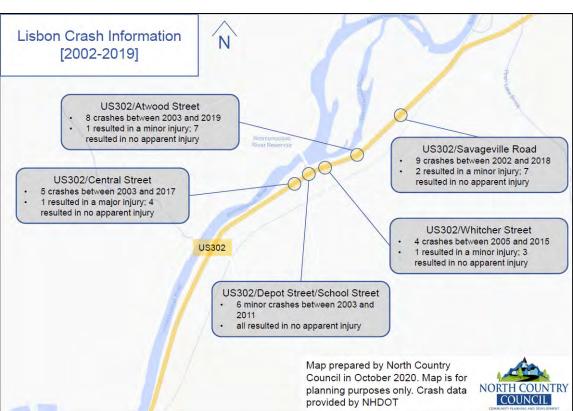
The intersection with NH 117 was mentioned in the previous master plan as an area of safety concern due to poor visibility. This is both due to the geometry of the roadway, guardrail placement, and lack of warning for drivers when NH 117 comes to an end. As shown in these Google images,





NHDOT removed the streetlight and downgraded the warning sign sometime between 2008 and 2019. Replacement of these safety devices, moving the guardrail back to improve the sight distance from NH 117, and signage for drivers approaching the end of NH 117 may all help improve safety in this location.





In the village area, the on-street parking, sidewalks and crosswalks, and high level of activity both cue drivers to slow down and present potential conflicts. As shown below, at the intersection of US 302 and School Street, the location of parking and configuration of the intersection are both sources of potential confusion and distraction for drivers and pedestrians, as well as poor visibility of those pedestrians who cross in the intersection rather than using the crosswalks. In addition, the angled parking makes it difficult for those backing out into the road to see if cars are coming until drivers are already well into the road. This intersection and parking configuration might benefit from further study to see, for example, if changing the angled parking to parallel parking would be helpful. The change would only reduce the number of spaces by one or two.



The traffic volumes and potential conflicts in this area are of course exacerbated at the beginning and end of the school day when parents drop off and pick up their children. One-way traffic is being trialed this year during these hours using West Street and Highland Ave and seems to be working well so far.

One additional area of concern is the Sports Center entrance on US 302. The grade of the road and grade and angle of the entrance make it difficult to see cars entering the roadway. One improvement in this area since the 2005 master plan has been the removal of the passing zone. Signs to warn drivers of traffic entering or of the blind drive might be beneficial as well.

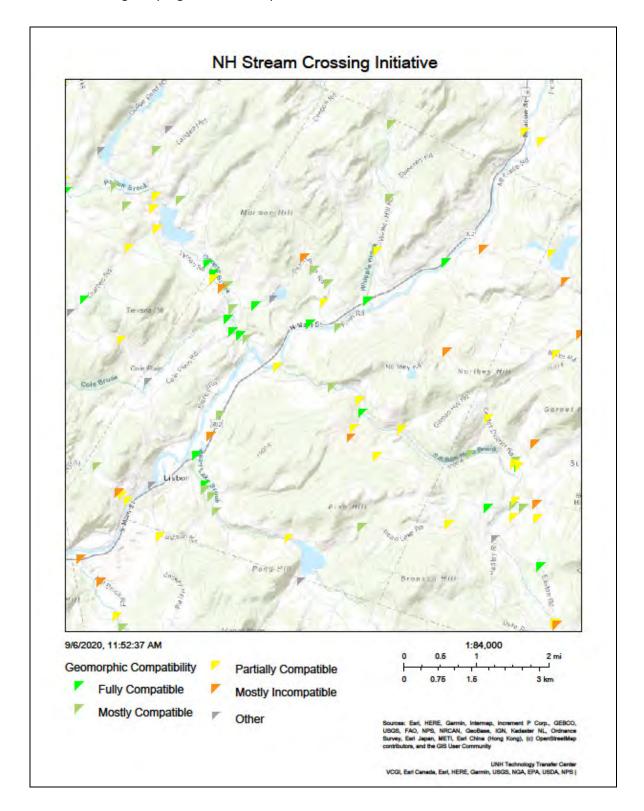
Bridges

The NH DOT has a state-wide bridge inspection program based on the National Bridge Inspection Standards System. All municipal bridges need to be inspected every two years. Bridges found to be structurally deficient are put on the "red list" and are inspected once or twice each year until funds are available for rehabilitation or replacement. Red List bridges are ranked for funding based on condition, risk, type, capacity and importance. There are no state bridges on the State Bridge Red List at this time. There is currently one bridge in Lisbon on the 2019 Municipal Bridge Red List - Plains Road over Ogontz Brook. A recent inspection indicated that the bridge on School Street over the Ammonoosuc River may need to be placed on the Red List as well. Federal and state funds are available for cost-sharing for construction or reconstruction of municipally-maintained bridges. The town puts money into a bridge capital reserve fund each year.

Other Stream Crossings

Stream crossings in Lisbon were inventoried and assessed in 2016 as part of the Ammonoosuc River Stream Crossing Assessment Project. The Project was carried out through a partnership of private conservation groups and public agencies and collected data important to NHDOT, NHDES and NH Fish & Game. The data inform municipal and state officials about culvert conditions, habitat connectivity and flood resilience. Culverts and other stream crossing structures that are compatible with the shape and size of a stream, called "geomorphic compatibility," are much less likely to back up or blow out during extreme storm events. Those that are misaligned, too narrow, or a different slope than the stream channel also increase the potential for sediment to deposit on the upstream end. This reduces the amount of water that can get through and so increases the velocity of the water during a storm. The map on the following page shows that several culverts in Lisbon were rated as partially or mostly incompatible with stream geomorphology. This data, along with consideration of the importance of each road and other data about the culvert such as condition and the degree of interference with habitat

connectivity (discussed in Chapter 4 Natural Resources) can be used to prioritize culvert replacements. There are several grant programs with the potential to assist with this work.



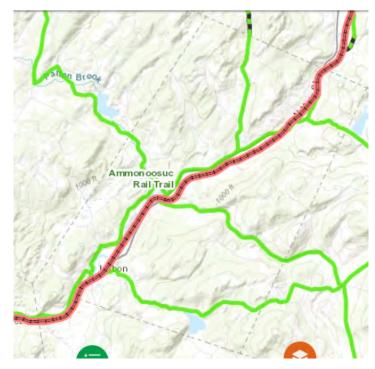
Infrastructure for Bicycles and Pedestrians

Most roads were designed and constructed with little or no consideration for anything but vehicles. This often leads to unsafe conditions for pedestrians, bicyclists, and those dependent on mobility aids who must share the road with cars and trucks.

Several thousand vehicles pass through Lisbon's village area on US 302/NH 10 each day, many of them large trucks. Sidewalks are available along US 302/NH10 in the village area, extending to the major employers at each end of the village. Sidewalks are also provided along most of the main routes to the village and to the school.

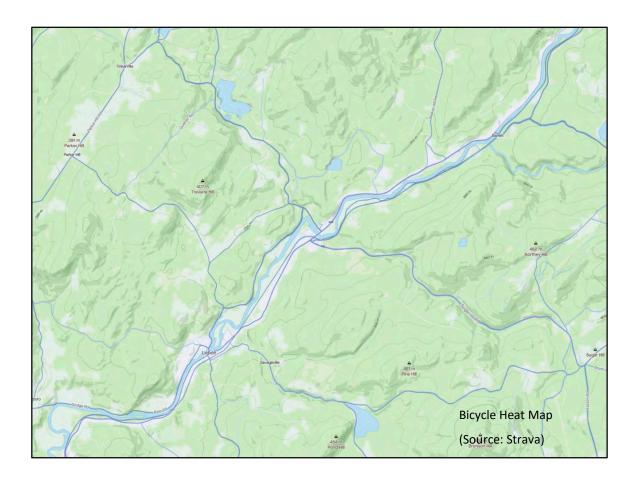
Several crosswalks can be found in the center of the village area. The area between these crosswalks and parking spaces should be clearly marked to ensure that drivers have a clear view of pedestrians starting across. Other traffic calming approaches that would tend to slow traffic and make drivers more aware that they are in a center of pedestrian activity starting at either end of the village area would include benches, pedestrian-oriented lampposts and sidewalk trash receptacles. Crosswalk locations should be reviewed periodically as well.

The number of adults riding bicycles has been increasing, both for the commute to work and for recreation. The map to the right shows the state's designated bicycle route in green and the rail trail in red. (The rail trail is denoted as "unimproved" due to the rough surface.) The following map is a heat map, showing, in blue, the routes in and around Lisbon used by bicyclists who use the Strava app to map and report their rides. The darker blue lines signify more rides. As shown, many other roads in Lisbon are used by bicyclists in addition to those designated as bicycle routes.



(Source: NHDOT STATEWIDE INTERACTIVE BICYCLE ROUTE MAP)

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High speeds, lack of paved shoulders of adequate size, and rough pavement (see map on page 5.9) all put bicyclists at risk. In the village area bicycles must share the travelled lane to pass behind parked cars, which in one section of road are backing out into traffic.

This lack of safe infrastructure can be addressed going forward by designing new roads with attention to users of all ages and abilities regardless of their mode of transportation, an approach known as "complete streets." With existing roads, the problems are more difficult. Where there is adequate right-of-way, paved shoulders should be widened to at least four feet when roads are reconstructed. Signage and speed limits are other tools to consider. Through the village area, "sharrows" might also be considered as a way to alert drivers to the presence of bicycles. The following photo shows the standard sharrow contained in FHWA's MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).



(Source: National Association of Transportation Officials (nacto.org))

Some federal funding is available to towns for improving the transportation system for users other than vehicles through the Transportation Alternatives Program (TAP). TAP funds can be used for on- and off-road pedestrian and bicycle facilities, rail trail improvements, and safe routes to school projects. However, it is a very competitive program with many more applications than dollars.

Public Transportation

There is presently no local fixed route public transportation in town. A network of human service and health care agencies and volunteers meet some of the transportation needs of the non-driving population in the area. These include the Littleton Care-A-Van, a partnership between Tri-County Transit and Littleton Regional Healthcare that provides rides for those going to appointments at Littleton Regional Hospital or affiliated physicians. Concord Coach Lines has stops in Littleton and Franconia and provides service to Concord, Manchester, and downtown Boston and Logan Airport.

Airports commonly used for long-distance travel are Boston (2.5 hours), Manchester (2 hours), Montreal (3 hours), Burlington (2 hours) and Lebanon (1 hours). There are also several small General Aviation airports in the region, the closest being the Dean Memorial Airport in Haverhill.

Strategies for Improving and Maintaining the Town's Transportation System

Role of the Planning Board

The Planning Board has several tools for assisting the town with the development and maintenance of a safe and effective transportation system. The different roles the Planning Board can play are:

- ➤ Laying out the Town's policies in the master plan.
- > Financial planning for transportation improvements as part of a capital improvements program.
- Recommending zoning ordinance amendments to Town Meeting that will direct intense uses to sites where the roads can handle them.
- > Preventing congestion and safety hazards through the regulation of driveway connections or curb cuts with driveway regulations.
- Ensuring that subdivision regulations and site plan regulations provide for safe and efficient transportation connections for users of all ages and abilities.

Planning Strategies

There is a significant relationship between land use and transportation. When road corridors are built or upgraded, additional development is encouraged. Similarly, road capacity must sometimes be increased to accommodate growth where it occurs. It is important for safety, cost and mobility that the interrelationship between land use and transportation is considered in land use planning and in planning road improvements. Some planning strategies to ensure that land use and transportation planning are well coordinated include:

FOCUS DEVELOPMENT IN THE VILLAGE

Providing for mixed use and higher densities in and around the village area rather than in the outlying parts of town allows for the efficient use of existing infrastructure.

IDENTIFY APPROPRIATE LAND USES

The Zoning Ordinance should be reviewed periodically 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

The Town can advocate for pedestrian and bicycle connections when NHDOT is preparing plans involving the state highways, and make every effort to see that all due consideration is given to the accommodation of non-motorized traffic including those dependent on mobility aids.

DEVELOP AND ADOPT A CLASS VI ROAD POLICY

The Planning Board and Board of Selectmen should 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 ameliorate 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 set forth the planned capital expenditures over a six-year period can also help guide road development. In conjunction with a Class VI Road Policy, the CIP can set the schedule as well as the degree and type of road improvements.

NCC 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 as well as the Regional Transportation Plan. It is also the best way to stay abreast of any other funding opportunities.

REGULATORY STRATEGIES

ROAD STANDARDS

Included in the Subdivision Regulations administered by the Planning Board are standards for road construction. In addition to certain local standards, the Regulations incorporate NHDOT's Standard Specifications for Road and Bridge Construction and Geometric Design Standards for Rural Roads.

The standards address such things as width of the traveled way, width of shoulders, type of materials to be used and depth of each layer. Ensuring that roads proposed to provide access to new lots are constructed and maintained to these standards can protect the town from expensive upgrades and repairs later on if the Town takes over the road. Steps the Planning Board can take to safeguard future residents and the town by ensuring new and upgraded roads are built to these standards include:

- Require the cost of inspections by a town engineer during and after the construction of the road to be paid by the developer and placed in escrow before plans are signed and recorded.
- Require a performance bond or letter of credit, reviewed by the town attorney, to be provided to the town for the cost of road construction prior to plans being signed and recorded.
- Require covenants, reviewed by the town attorney at the developer's expense prior to approval, to be incorporated into each deed ensuring that there will be a mechanism in place with the capacity to carry out and pay for summer and winter maintenance of the proposed road in perpetuity.
- In case the road is allowed to deteriorate despite these precautions, include as a condition of approval that, prior to any request for the town to take over the road, it will need to be brought up to town standards at the expense of homeowners.
- Require that all conditions be either written on the plan to be signed and recorded, or write a separate notice of action including all conditions to be recorded with the plan.

DRIVEWAY REGULATIONS

The Planning Board is allowed 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. Driveway regulations ensure that the access will not threaten the safety of those using the town highway due to poor visibility or drainage of water and ice onto the road.

ACCESS MANAGEMENT TECHNIQUES

For the US 302/NH 10 corridor, which still has quite a bit of development potential, careful land use planning can manage the impacts of land development on highway congestion and safety. Access management requirements and traffic calming in the village area can help ensure that future development doesn't have a negative impact on through-traffic or existing local traffic on this arterial

highway. Some access management techniques are applied through the zoning ordinance or subdivision and site plan regulations and others are applied at the time of review of a specific development proposal. Access management techniques include:

- Reduce the number of curb cuts by increasing frontage requirements or the required distance between driveways, and encourage the use of common driveways.
- Encourage the development of service roads parallel to the arterial to allow for access to adjacent commercial developments. Determine whether buildings, parking, and signs should be set back from the road sufficiently to allow for a future parallel frontage road, or moved closer to the roadway with all access from the rear of the lots.
- Require connections to adjacent developments and other roads when possible, not just the arterial roadway, to allow employees and customers to move from site-to-site without repeatedly entering and exiting the arterial.
- Place parking behind or beside buildings and screen parking when possible to make the building the focal point of the destination. Use green spaces to articulate the differences between driveways, parking, and pedestrian areas.
- Allow for pedestrian access between developments. Crossing points for pedestrians should be across driveways rather than through parking areas.
- ➤ Non-residential driveway entrances should be designed to prevent vehicles on the arterial from backing up while waiting to access the site. By providing adequate depth or driveway throat length at the curb cut access, vehicles are allowed sufficient maneuvering space on-site to move away from the entrance and allow other vehicles to efficiently and safely enter or exit the site.
- Vehicular and pedestrian traffic should be separated as much as possible. Foot traffic should be permitted to access buildings without crossing driveways or excessive parking areas.

Subdivision and Site Plan Considerations

During the subdivision or site plan review process the Planning Board has an opportunity to review each proposal to ensure that it will augment rather than negatively impact the town's provision of a safe and efficient transportation system. Some of the pertinent issues include:

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. For example, if the lot fronts on more than one road, decisions can be made about which roads would better serve as access.

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.

PARKING LOT LOCATION AND DESIGN

Parking lots can be located and designed to be in harmony with the town's land use and transportation system with considerations such as:

- Locating the building (s) close to the road and putting the parking on the side or in the rear of the parcel
- Requiring shared parking when feasible.
- Planning for future shared parking by designating reserved areas on the plan.
- Prohibiting parking and loading that requires backing out onto the street.
- The use of vegetative buffers between parking lots and roads.

DRIVEWAY LOCATION AND DESIGN

Some of the general guidelines for planning accesses to commercial properties in a manner that will enhance the community include:

- Do not allow more than one entrance and one exit drive on any lot.
- Make sure the driveway is long enough to allow vehicles to pull off the road and stack inside the lot.
- Require two-way driveways to intersect the road at an angle of 70-90 degrees. Address sight distance from the access point. Adequate sight distance will depend on the road classification

and traffic volumes and should conform with American Association of State Highways and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*.

- > Avoid curb cuts on sharp hills.
- > Limit the grade of driveways as they approach the public highway.

Chapter 6. Facilities, Utilities and Recreation

Introduction

This section of the Master Plan discusses some of the facilities and utilities that serve as infrastructure for provision of some of the basic needs for the Lisbon community. The degree to which these facilities are developed has a significant impact on the quality of life and general character of a community. An important function of town government is to provide residents, businesses and visitors with a level of service that meets the current needs of the populace in an efficient and cost-effective manner. In Lisbon's case, these include public safety (police, fire and EMS), public works (water, sewer, roads, solid waste disposal and cemetery maintenance), schools, recreation and town government operations (Selectmen, property maintenance, and assessment). This chapter of the Master Plan presents an inventory of such facilities and utilities, and any plans or recommendations to expand, improve, or add to an existing facility or service where needed. Included in this chapter are community facilities, facilities provided by others to serve the health care needs of the community and some of the housing needs that are not met by the private market, public utilities provided by the town and others, and recreation facilities available to the Lisbon community.

Community Facilities

Town Hall/Police Station

The administrative services of Lisbon are located in the Town Hall in the village area on School Street. The second floor has a large auditorium style room and offices for the Town Clerk/Tax Collector, Administrative Assistant and Selectboard. The third floor is currently



finished storage space without heat and with minimal lighting. This contains Planning Board and Zoning Board of Adjustment files and a locked area for storage of old town documents.

This facility is not accessible to many as the offices are located up from the street with steep steps. There are also no handicap accessible restrooms. The office space is adequate for the present but lacks sufficient conference/meeting space. Options are being explored to either rehabilitate this space or relocate town offices to the old Ross Funeral Home at 151 South Main Street in front of the new Fire and EMS station. Rehabbing a hundred-year-old building on a tight lot may prove not to be the most cost-effective solution. Retrofitting the old Ross Funeral Home itself or using the site to build a new simple town office provide other alternatives to consider.

The Police Department is located in the ground level of the Town Hall. The Town employs three full-time and six part-time officers, including a chief, part-time sergeant, and patrolmen. With the Fire Department now at 153 South Main Street, the office space is adequate for the Police Department and includes a meeting room. The Police Department has two functional police cruisers and a town administrative car. The two vehicle bays are being adapted for use as a sally port and for indoor patrol car storage. Being able to get patrol cars out of the weather will help response times in snowy weather. The station is also being revamped to be more compliant with their IT equipment. Securing their database is an important part of cybersecurity. Having a drive-in bay and booking room that is not accessible to the rest of the Police Department is another very important security measure. The Town maintains a capital reserve fund for future equipment needs. Keeping up with the rapid changes in technology will continue to be important in the future.

Railroad Station

Lisbon Station is a very unique building for the Town of Lisbon. The Station, on the State Register of Historic Places, was beautifully totally restored through a multi-year community effort. Renovations have also included a ramp and accessible restroom.



The Lisbon Main Street headquarters is in the former station master's office. The meeting room, with a capacity of 32, serves Lisbon Main Street, the Selectboard, Zoning Board of Adjustment and Planning Board. With routine maintenance such as painting and cleaning, this building should provide another 25 plus years for the Town of Lisbon. Recently the Selectboard has started to change all lighting within the building to LED bulbs. The COVID-19 pandemic has created interest in the capacity to hold hybrid meetings in the future (with groups meeting in person but some members and the public able to participate remotely if desired). This will require an internet connection and a videoconference system. The Town should also look into improving the parking situation. With only room at the Station for a few cars, the remainder park on the state's unimproved rail trail property. This is less than ideal in the dark and in winter months.

Fire and EMS

Fire protection and emergency medical services (EMS) are provided by an all on-call, paid, volunteer team. The Fire Department has sixteen members and EMS has 15 members. Some volunteers belong to both



Fire and EMS. Members are from Lisbon, Lyman, Landaff and Bath. The Fire Department covers Lisbon and Lyman and is a member of Twin State Fire Mutual Aid along with 24 other departments in New Hampshire and Vermont. Dispatch services are provided by the Grafton County Sherriff's Department. EMS covers Lisbon and Lyman and is contracted as First Responders to Landaff. EMS calls are about 300 calls per year. The Fire Department receives approximately 150 calls per year. Both the Fire Department and EMS have received increased calls over the past five years.

Like many communities without full-time professional fire and EMS staff, Lisbon faces challenges maintaining an adequate pool of volunteers. This is in part due to shifting demographics toward more senior residents and to increasing training requirements. An EMT for example, in addition to other screening and exams, is required to have 150-190 hours of initial training plus clinical/field requirements and then 48 hours per year of continuing education.

In 2018 townspeople passed a bond to build a new Fire/EMS/EOC station at 153 S. Main Street behind the old Ross Funeral Home. Construction began in the spring and was completed in December 2018. A 66 ft. X 100 ft. building was constructed. The building includes four bays at one end and an apparatus bay facing towards Dickinson Street, a locking medicine room, a gear room, a decontamination room, and a 550-foot mezzanine for storage and air refill station. At the other end of the building are offices for the EOC/EMS/Fire Chief, a radio room, a training room that includes a videoconference system and a kitchen area. The building was made as energy efficient as possible with all LED lighting and radiant heat in the slab. Currently the Department has one engine, one ambulance, one ladder truck, two tankers, one forestry truck, one six-wheeler and an antique 1946 fire truck. All equipment can be housed at the new station. All infrastructure standards are being met with the new building. Future needs include a new air pack refill station and/or a possible mobile refill station. The Town maintains capital reserve funds for Fire and EMS equipment.

Department of Public Works (DPW)

The role of the Lisbon Department of Public Works is to maintain town roadways, as well as water and sewer infrastructure, and make improvements that are necessary to provide safe and convenient services. Road maintenance duties of the Department include road grading, paving, snow removal, drainage improvements and other repairs as they are needed. The Department purchases equipment as approved at Town Meeting and performs most repair and maintenance in- house at the town garage.



The town garage is located on Bath Road just north of Ecology Drive. Four full-time and one part-time employee are responsible for all town roads, and water and wastewater distribution systems. The Department maintains about 64 miles of road, mostly gravel and some paved. The employees also

assist in maintaining public buildings, vehicles and land owned by the Town. The Department of Public Works equipment includes three dump trucks, three pickup trucks, and several pieces of heavy equipment including a grader, a loader, an excavator, a roller and a backhoe. The Town maintains a capital equipment fund for Highway Department equipment.

A new town garage will be needed in the next ten years. The current 4,000 sq. ft. wood with metal roof one story building dates back to the 1940s along with a 900 sq. ft. storage shed. Both were constructed from a collection of old lumber from other construction projects and have little insulation. This prevents snow buildup on the roof, which is helpful in that the roof is not adequately pitched to shed snow and ice, but not the best energy efficient solution. Heating in the main building is provided by an outside wood furnace which is about 15 years old, augmented by propane heaters.

The main building houses the public works office, a restroom, bays for four of the vehicles and a workshop area. Issues arise due to the fact that several of the town's large trucks cannot fit into the building due to the lack of height and depth of the bays. Some vehicles and the plows have to be kept outside or stored down at the sewer treatment plant shed.

Other buildings on the site include a salt storage shed which can hold about 50% of a typical winter's need, and a fuel shed which does have 100% containment area in case of spills. These buildings were constructed about 25 years ago.

Since the Town has made the significant investment in purchasing new 10 wheel trucks along with other vehicles and plows to improve the efficiency of maintaining the town road infrastructure, the next logical goal would be to plan to build a new public works garage that can accommodate the storage of these vehicles and the ongoing maintenance needs of the Department.

Library

The Lisbon Library is located in the village area on School Street in front of the Town Hall. The building was constructed in 1926 and has been used continuously as a library ever since. The library serves Lyman and Landaff as well as Lisbon. The staff consists of one full-time and one part-time librarian. In 2019 the Library had 11,535 holdings and a circulation of 5,413. Wifi is also provided for access to internet-based resources.

The building is in need of handicapped access and other ADA improvements. Work is ongoing to raise funds to carry out this work. Funds are maintained in a capital reserve fund. The library recently secured a grant and hired an architect and has been meeting with him to come up with a phased plan to



accomplish this goal. Depending on the plans, an expansion may be needed. More space is also currently needed for holdings and activities.

Education

The Lisbon Regional School District is made up of the towns of Lisbon and Lyman and receives tuition students from the towns of Landaff and Bath. Originally established in 1891, Lisbon Regional, a small K-12 school, opened its doors to a new middle and high school addition in 1993. Approximately seventy-five staff members serve the needs of 322 students, substantially fewer than the 410 students reported in the 2005 Master Plan. This is consistent with the demographic trends discussed in Chapter 2. As shown in Table 6.1 on the following page, enrollment has been fairly steady over the past ten years although variable from year to year.

School needs, more than any other community facility, are dictated by the future population trends of a community. As the numbers of school-aged children rise and fall, staffing, facility and operating projections need to be made and budgeted for. Because many of these expenses, such as an addition to a building, can take years to plan and finish, enrollment projections are vital to ensuring that adequate budgeting and planning are done.

TABLE 6.1
LISBON REGIONAL SCHOOL ENROLLMENT - 2010-2019

(Reported for October 1 of each year)

Grade	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Pre-School	1	0	0	0	0	0	0	0	0	0
Kindergarten	17	16	22	29	27	24	19	31	32	22
1	29	21	13	22	16	23	23	17	28	30
2	20	27	22	13	22	16	19	25	18	27
3	19	22	30	19	13	19	20	19	27	21
4	28	26	29	34	23	19	25	22	21	30
5	29	31	28	27	36	20	21	32	25	23
6	27	28	29	27	27	38	21	22	33	27
7	37	35	34	33	31	33	50	23	27	32
8	38	38	33	31	34	25	30	43	23	28
9	28	40	36	32	31	30	28	31	42	24
10	30	32	33	37	29	26	31	22	27	33
11	35	34	26	27	31	28	19	28	23	23
12	24	33	34	24	25	30	30	22	25	22
TOTAL	362	383	369	346	345	331	336	337	351	342

Source: NH Department of Education, Division of Education Analytics and Resources, Bureau of Educational Statistics



The Lisbon Regional School building is approximately 45,000 square feet and sits on 3.73 acres. The original building was built in 1959 and the majority was rebuilt and added on in 1993. Improvements since that time have included energy upgrades such as LED lighting, insulation and a more efficient heating system that uses both oil and propane. The roofs and hot water system have also been replaced. Improvements needed in the future include replacement of the sixty-one-year-old windows and replacement and/or rebuilding of the pumps and motors for the heating and cooling systems which are beginning to show their age and leak.

There are plans for a new building on the Annex location across from the school. This Ammonoosuc Valley Academy building will house a special education center and a preschool. The special education center has the potential to bring in additional tuition money for the school while reducing the number of students being sent out of the district. The school may be eligible for 57% of the cost to be covered by the state building aid. The Town maintains capital reserve funds for this and other school needs.

Cemeteries

The Town of Lisbon has two cemeteries, Grove Hill Cemetery and Salmon Hole Cemetery. Grove Hill Cemetery is situated on 16 acres of land and was established in 1867. Records of plots and interments are located at the Town Hall in vital records. The grounds are maintained by an insured private



contractor, i.e., mowing, raking, general clean-up. Landscaping and interments are conducted and scheduled by the Department of Public Works under the direction of the sexton.

Planned changes to this cemetery would be future expansion on the eastern slope of the upper section of the cemetery if test holes show suitability for interment. This additional space is estimated to be needed in six to ten more years. Future plans would also include resurfacing roadways with pavement for erosion control within its boundaries. Including in these plans would be to digitize the cemetery lot maps to record every burial lot within its boundaries and enable access to this information through the town website.

Salmon Hole Cemetery, situated on 1.5 acres on the northern end of the village, was established in the late 1780s. This was the original cemetery for the town. This cemetery is no longer active, but bears historical significance for not only this town, but for the nation. Within the boundaries of this cemetery are interred Civil War solders as well as Revolutionary War soldiers, most notably Major Benjamin Whitcomb, a Ranger leader in the American Revolution who is considered America's first sniper for single-handedly shooting and killing a British general.

Future plans are a full restoration of the grounds and the markers within the boundaries and to try to compile and digitize records of this cemetery.

Health Care and Housing

Health Care

Lisbon residents and visitors have access to healthcare partners providing a full range of services in nearby communities. Both Littleton Regional Healthcare in Littleton and Cottage Hospital in Woodsville are Critical Access Hospitals providing emergency and primary care services. Area residents in need of specialized services have Dartmouth Hitchcock Medical Center in Lebanon an hour and quarter away.

In addition to hospital facilities, there are numerous medical services nearby, including:

- Walk-in clinics are available seven days a week at Littleton Regional Healthcare and Convenient MD on Meadow Street in Littleton.
- Ammonoosuc Community Health Services in Littleton and Woodsville is a full-service primary care organization with sliding scale, also offering behavioral health and dental care.

- Littleton Veteran Administration Clinic provides primary care and laboratory services for veterans.
- Mental health services in the area include the Center for New Beginnings, and White Mountain Mental Health, Northern Human Services.
- Skilled rehabilitation services on an in-patient basis are available at Littleton Regional
 Healthcare, Cottage Hospital, Grafton County Nursing Home, Genesis Franconia, and the
 Morrison Home. Outpatient rehabilitation services are available at Littleton Regional
 Healthcare, Cottage Hospital's Rowe Health Center, the Alpine Clinic and The Morrison.
- Long term care options include Genesis Franconia, Grafton County Nursing Home in Haverhill,
 Riverglen House Assisted Living, North Country Manor, On the Green, and Summit by
 Morrison.
- Home health and hospice services include North County Home Health & Hospice and Visiting Nurse and Hospice for Vermont and New Hampshire.

Housing

For those unable to afford market rents, AHEAD (Affordable Housing, Education and Development) manages two properties in Lisbon, the Lisbon Inn and Lisbon Family Housing. The Lisbon Inn, a centerpiece of Lisbon's Main Street, is a former hotel building as shown in the foreground in the c. 1910 postcard and is on the National Register of Historic Places. The building now has nineteen independent-living apartments for those over age 62 or persons with a disability. Two of the units meet ADA (Americans with Disabilities Act) requirements. Lisbon Family Housing is comprised of 10 units in 4 buildings. One unit is ADA compliant.



Area assisted living homes for those needing assistance with daily living activities include Riverglen House and North Country Manor in Littleton, On the Green in Haverhill, and Summit and Morrison in Whitefield. For those needing a higher level of care, whether long term or short term for rehabilitation, area nursing homes include Genesis Franconia, Grafton County Nursing Home in Haverhill, and the Morrison in Whitefield.

Utilities

Solid Waste Disposal

The Town of Lisbon operates a transfer station/recycling facility on Ecology Drive that services the towns of Lisbon, Lyman and Landaff. The Transfer station currently employs one full-time and one part-time person. A large building provides shelter for equipment and recyclables. There is also a smaller building for the scale house and some special wastes. These buildings are expected to serve the town's needs for the foreseeable future, although there is no restroom for the employees.



Solid waste is a pay-by-the-bag program. Special bags must be purchased and used to dispose of waste at the transfer station. The transfer station also accepts construction debris, furniture, tires, refrigerators, electronics and other bulky items for a fee. A separate fee schedule is available for these items. Separate vendors are contracted to take away much of the bulky waste items. The transfer station handles about 650 tons of mixed solid waste (MSW) per year in addition to recyclables and special wastes.

Solid waste not recycled at the transfer station is currently transported to Casella's NCES landfill in Bethlehem. Casella received a permit modification from NHDES in October 2020 which enables an expansion of the landfill to a level the company feels will provide six more years of capacity. Casella is also in the process of applying for permits to develop a landfill in Dalton. The nearest alternatives for Lisbon and the other member communities of the Pemi-Baker Solid Waste District would currently be Rochester, which would greatly increase the hauling distance, or Berlin, which would require changing contractors. This means that the cost to the town is likely to increase once the NCES landfill reaches the end of its permitted life if a new landfill is not developed nearby.

Equipment used at the facility currently includes a Bobcat, several bailers, a trash compactor, glass crusher and vehicle scale. The Town maintains a capital reserve fund for the transfer station and for Public Works equipment used at the transfer station.

Municipal Water and Sewer

Both municipal water and sewer serve approximately 380 connections throughout the village area, including New England Wire, and eight homes in Landaff. In 2016 the town invested in GPS data collection for the water, sewer and drainage features and any known connectivity, and have linked them to the town's GIS.

The wastewater treatment plant is an aerated lagoon system with the effluent discharged to the Ammonoosuc River after disinfection. The plant has a design flow of 320,000 gallons per day and an average flow of 130,000 gallons per day (NHDES 2015). These figures are an indication that there is more than adequate excess capacity for additional development in the village area. The treatment plant was originally built in 1978 and was upgraded in 1992. No additional upgrades or expansions are anticipated at this time. The facility has two aerating lagoons. The main building on site holds the monitoring and testing equipment. There is a smaller building on site with the blowers for the lagoons. The treatment plant is currently operated by one full- time employee.

The pumping station on the Bath Road is currently in need of upgrading with new pumps and control panel. Work is being done as funding permits over the next couple of years.

Water is provided by two gravel-packed wells located off Bishop Road along the Ammonoosuc River. One well yields approximately 350 gallons per minute and the other 175 gallons per minute. Water is pumped from the wells to two storage tanks totaling 850,000 gallons, and gravity feeds to the users from the tanks. The larger of the two wells gets contaminated with high water levels of the Ammonoosuc River and so needs to be monitored more closely. There have been two places identified as possibilities for a new well location that would not be in the floodplain. A \$100,000 grant is available to the town for drilling test wells to identify a new well location. Treatment is provided at the Reed building.

The Town maintains capital reserve funds for both the water system and wastewater treatment facility.

In the past, plans were considered for bringing in water and sewer from Littleton if the Industrial Zone were to be developed.

Telecommunications, internet, cable

Consolidated Communication provides landline telephone service to Lisbon and DSL internet where equipment and lines are available. Spectrum provides cable television and internet to the village area and US 302/NH 10 corridor.

Verizon, AT& T and T-Mobile all show most of Lisbon as part of their service area maps. However, cell phone service is very spotty in town, including along the US 302/NH 10 corridor. This is a safety concern regarding accidents and other emergencies. EMTs are increasingly reliant on cell phones for communications, such as with emergency department personnel while en route to the hospital with a patient. Two additional cell towers received approval from the Planning Board but no carriers have contracted to use them for their antennas yet.

The lack of broadband in much of Lisbon has highlighted the challenges of distance learning in this rural area, an issue of high importance during the COVID-19 pandemic. Good broadband is essential now for education and business and is increasingly a factor in real estate sales. Good broadband throughout town has become a key requisite for future growth and development of any community. Grafton County Commissioners have recently formed a committee with the goal of bringing large-scale broadband access to communities.

Electricity

Two utility companies serve the town of Lisbon, Eversource with 736 customers and NH Electric Cooperative with 280 customers. Three-phase power, important for many industries, is available along the US 302 corridor from the town line with Landaff almost to the intersection with NH 117. In the village area, three-phase power is available on Central Street to Atwood Ave and along Atwood; on School Street to the powerline and up Kelsea Ave to the school; along a portion of Bishop Road; and along another connector from US 302 to the powerline in the area of Peterson Hill Road.

Recreation

Lisbon's location between the Connecticut River and the White Mountain National Forest provides residents and visitors with easy access to a broad range of outdoor recreation activities.



Successful public-private partnerships enable the town of Lisbon to offer families a number of organized recreation activities. The main recreation area with the town pool and bath house and soccer and baseball fields in the heart of Lisbon is owned and maintained by the Lisbon Lions Club. The Lisbon Lions Club provides sporting programs to children in grades K-6 that consists of soccer, basketball, baseball, softball, skiing lessons and swimming. The school contributes to the maintenance and uses the fields for school athletics programs and the Town pays for a lifeguard for the pool. The Lions Club is currently building a new cook shack for the baseball, softball and soccer fields. An additional soccer field is provided for the school on property of New England Wire.

The town also has a section of 14 miles of rail trail that runs through it. This rail trail is managed by the NH Bureau of Trails but is maintained by the Lisbon Stump Jumpers snowmobile club. The Stump Jumpers also maintain almost another 80 miles of trail throughout the town. These trails provide year-round activities including snowmobiling, biking, atv riding, snowshoeing, horseback riding and more. Private companies provide guided ATV and snowmobile tours year-round.

There is a general consensus that with the popularity of the rail trail, it will need to be widened down the road and the existing gates will need to be removed or widened as the ATVs continue to grow in size. There is also an idea for a "grand kiosk" for all 90+/- miles of trails in town. An idea to build it near

and model it after the Railroad Station has been brought up. This may not only provide guidance to visitors but also give them ideas and directions on local commerce as well as info about the area. As the trails and local water attractions are getting more popular a need for more available parking is also on the rise.

For bicyclists, the 83-mile Cross New Hampshire Adventure Trail passes through Lisbon on its way from Woodsville to Bethel, Maine. There are two routes offered through Lisbon - one using backroads to avoid the rockier section of the rail trail.

Lisbon also offers several water bodies that provide a place to fish, boat and swim. Both Perch Pond and Pearl Lake have public accesses. Although there is not yet a formal public access to the Ammonoosuc River in Lisbon, the River is accessible from adjacent roadways in several locations in town.

Chapter 7. Action Plan

Economic Development

Periodically convene meetings of local boards, business owners, Lisbon Main Street, and economic development partners to ensure that improvements in the Village area are coordinated and focused on improving appeal for businesses, residents and visitors.
Identify opportunities to strengthen the presence of the river through the Village area as an asset.
Identify a local economic development champion to develop a list of available buildings and sites for business and use it to populate NH Economic Development's on-line database.
Continually monitor the Zoning Ordinance to ensure that it reflects the changing nature of home occupations and businesses while ensuring that impacts are compatible with neighboring residential uses.
Market Lisbon in urban areas with a focus on the family-friendly nature of the community, natural beauty and recreation opportunities, and close proximity to Littleton's offerings.
Conduct a parking study in the Village area to assess the capacity and configuration of available parking, and the signage of parking areas for the public.
Stay abreast of grant opportunities to improve existing facilities, such as USDA Rural Development and Northern Borders.
Actively encourage development of the Industrial District to increase the tax base and create jobs.
Ensure that existing and prospective businesses have access to information on assistance available from regional and state groups and programs.
Implement the town's hazard mitigation plan to reduce the potential financial impacts of disasters on business.
Cooperate with efforts to develop a kiosk by the rail trail nearby the railroad station with a trail map and information on local businesses.

		Continue to cooperate with the work of trail groups who are maintaining and publicizing Lisbon's trails.
Hou	sir	ng
		Encourage clustering to reduce the cost of site development.
		Ensure that the Zoning Ordinance allows a variety of housing options for all ages, income levels, and lifestyles.
		Continue to research and pursue the possibilities of obtaining Community Development Block Grants and other resources for the rehabilitation and repair of existing substandard units in the housing stock.
		Maintain and improve Lisbon's housing code and building inspection program.
Lan	d L	Jse
		Periodically reevaluate the clustering provisions in the Zoning Ordinance to ensure the effectiveness in steering development away from critical natural resources and steep slopes.
		Review the Zoning Ordinance on an annual basis, in conjunction with the other town boards and the public, to ensure that it reflects the community's vision for the future and meets the needs of current local conditions.
		Through zoning and site plan review, ensure that the economic potential of the US 302 corridor is realized by protecting the scenic value as development increases.
		Utilize the Developments of Regional Impact (DRI) statute to collaborate with neighboring planning boards to consider cross-town line impacts.
		Ensure that the Zoning Ordinance discourages sprawl and keeps the rural areas of town viable for businesses that require rural lands such as agriculture, forestry, tourism and recreation.
		Ensure that Lisbon's resilience and water quality are not impaired by siting development in unstable areas or those needed for stormwater management such as floodplains, erosion hazard areas, wetlands, and shoreline buffers.
		Ensure that stormwater created by developments neither increases the volume or velocity of surface waters nor carries pollutants to them.

		Continue the annual monitoring of gravel pits.
		Strengthen the town's sign regulations.
Vati	ura	al Resources
		Provide Conservation Commission with notice of Intent to Cut forms to enable identification of opportunities for engagement with loggers and forest landowners on resource-protection issues.
		Increase education on invasive species.
		Encourage the use of and periodically reevaluate the clustering provisions in the Zoning Ordinance to ensure the effectiveness in steering development away from prime agricultural lands and discouraging sprawl.
		Consider additional protection for the town's important aquifer to ensure that toxic and hazardous materials are handled in a manner that will not result in contamination of the town's current or future public water supply.
		Ensure that the Zoning Board of Adjustment gives careful consideration to potential groundwater impacts when reviewing applications for Special Exceptions and incorporates best management practices into conditions of approval.
		Enforce and periodically review the new environmental overlay district provisions in the Zoning Ordinance regarding wetlands, shorelines and floodplains.
		Work with a conservation organization to permanently protect the five town-owned parcels around Pearl Lake to create a community-owned conservation area for recreation and habitat.
		Participate actively on the Ammonoosuc River Local Advisory Committee.
		Consider amending the Zoning Ordinance to require erosion control and proper stormwater management measures on steep slopes.
		Continue public education on important wildlife species and guidelines for reducing our impacts on habitat. Consider habitat as an important factor when prioritizing land for protection.
		Continue to transfer a portion of the land use change tax funds to the town's conservation fund.

		Evaluate the possibility of classifying some town roads as Scenic Roads pursuant to RSA 231:158 II to increase consideration of protecting roadside trees and stonewalls.
		Maintain and enforce up-to-date stormwater management requirements in the town's subdivision and site plan review regulations.
		Encourage the protection of scenic views through outreach and education on design guidelines.
		Continue to support the work of the Conservation Commission.
		Strengthen the town's lighting regulations to ensure that the public is protected from glare, overlighting and the loss of dark night skies.
Hist	or	ic
		Continue to maintain an up-to-date digital inventory of Lisbon's historic resources such as inventories, photographs, letters, and articles and make available for the public on the internet.
		Support the Historical Society's efforts to develop a museum space owned by the Town or Historical Society.
		Promote the appreciation of the town's rich history and historic buildings of the village center.
		Expand place-based education such as the engagement of students in education of the community on the town's history and historic resources.
		Support the use of state and nonprofit programs available to preserve Lisbon's historic structures.
		Work with willing landowners to preserve and protect the town's remaining historic structures.
Trai	ısp	portation
		Ensure that NHDOT's road inventory for Lisbon is up-to-date and update NHDOT annually whenever the town adds mileage to the Class V inventory.
		Adopt a Class VI road policy.

Ensure that roads are managed in a way that prevents the increased costs associated with deferred maintenance. Technology Transfer Center is one source of assistance on topics such as pavement preservation and making the most of each dollar in the highway budget.				
Maintain a priority list for town road and sidewalk improvements. Include:				
\square Repaving Atwood Street in coordination with water and sewer.				
\square Address drainage problems at junction of Hodge Hill and Savageville/Pearl Lake Road.				
☐ Address drainage and pave Ecology Road.				
Include associated infrastructure on the priority list such as repairing and refacing retaining walls by the Riverside Market and along the river by the Town Hall and Library.				
Continue to monitor utility work, e.g., at Grafton Street and Lincoln Street, to ensure that placement of poles and lines does not interfere with road maintenance activities or safety.				
Work with NHDOT to evaluate safety improvements for the US 302/NH 117 intersection including restoration of the streetlight and improved/additional signage.				
Evaluate options for improving vehicle and pedestrian safety at the US 302/School Street intersection.				
Continue to monitor and assess one-way traffic for school drop-off and pick-up times.				
Request that NHDOT place signage to alert drivers on US 302 to traffic entering from the Sports Center.				
Periodically review accident data with Police Department and NHDOT to determine if any locations warrant a safety audit to identify causes and alternatives for addressing problems				
Continue to maintain and contribute to the bridge capital reserve fund.				
Address the Town's Red Listed bridges.				
Identify and prioritize high priority culverts based on assessment data and critical transportation routes.				
Provide for pedestrian walkways wherever warranted by traffic and development.				

	improve safety.
	Clearly mark the area between parking spaces and crosswalks to ensure that drivers have a clear view of pedestrians starting across.
	Continue to regularly maintain sidewalks in the Village Center and around the school and improve and repair when needed.
	Continue to utilize RSA 261:153 to utilize a portion of vehicle registration fees for a municipal transportation improvement fund for the repair and reconstruction of sidewalks and other pedestrian infrastructure.
	Incorporate "complete streets" principles into road design and reconstruction plans as appropriate.
	Work with NHDOT to improve bicycle and pedestrian safety in the village area.
	Periodically review sidewalk locations.
	Incorporate access management into development plans on US 302 as needed to ensure continued safety and attractiveness for economic development.
	Review and readopt the town's driveway regulations.
	Review and readopt the town's driveway regulations. ies, Utilities, and Recreation
Facilit	
Facilit General	Develop and maintain a Capital Improvement Program (CIP) to link local infrastructure investments with the master plan goals including the town's land use and economic
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Facilit General	Develop and maintain a Capital Improvement Program (CIP) to link local infrastructure investments with the master plan goals including the town's land use and economic development plan. Continue to maintain capital reserve funds for each department for the purchase of equipment and building upgrades and replacements.

		Provide a teleconferencing system with a camera and screen at the railroad station to expand usability.
		Keep up with the rapidly changing equipment and technology needs of the Police and Fire and EMS.
		Explore ways to attract more volunteers to Fire and EMS and support training needs.
		Plan for a new town garage.
		Continue to work toward accessibility for the library.
		Develop a new school building for special education and preschool.
		Continue to expand and improve Grove Hill Cemetery as needed.
Healt	h C	are and Housing
		Continue to support local community service agencies providing essential services to residents.
Utiliti	ies	
		Require developers outside of the public water service area to provide a water supply adequate for fire suppression.
		Evaluate the feasibility of installing a restroom at the transfer station.
		Follow the permitting for the potential new regional landfill and work with other towns to stay abreast of options for solid waste disposal.
		Perform maintenance and upgrades to the wastewater and water systems when needed.
		Identify and develop an additional well.
		Coordinate with Littleton and utilities to provide services to the Industrial Zone if there is interest in developing the area.
		Participate in regional efforts to improve broadband and cell service in the area.

□ Develop and promote access areas to the river along Lisbon roads and Route 302. □ Develop a river walk in the village area and on theisland. □ Promote the recreational use of the river as an attraction to enhance economic opportunities in Lisbon village. □ Consider events or other activities that could be utilized to attract new volunteers for the town's recreation programs. □ Create community spaces (built or open) for seniors and children with the option of interaction. □ Expand outreach on Lisbon's rail trail to improve and enhance bicycleand pedestrian opportunities in Lisbon. Implementation □ Convene a meeting of the Selectboard, Planning Board and Conservation

Commission each fall to review progress on implementing the Master Plan Action Plan and identify priorities and opportunities for the coming year.