

Chapter 5

Transportation



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1.0 INTRODUCTION

Transportation means access to work, commerce, recreation, and services. An effective transportation system provides all citizens safe and efficient access to these basic needs, whether by car, bicycle, snowmobile, or on foot. Through transportation planning a community can help meet the needs of all its residents, ensuring that future generations will also be afforded the same access to those needs.

Transportation planning is a three-step process. We must:

- 1) understand where we are **today**;
- 2) decide where we want to be in the **future**; and
- 3) determine the best **ways** to get there.

The Transportation chapter addresses these three steps by examining existing conditions in the town's transportation system, identifying land use implications for the future, and finally proposing implementation steps for the Town to pursue. By following this three-step process Bridgewater can help to ensure all its residents are provided with a safe and efficient transportation system for work, rest, and play.

2.0 EXISTING TRANSPORTATION FACILITIES

There are approximately 30 miles of maintained roads within Bridgewater, of which approximately 27 miles are municipally-maintained roads. The major arteries of the road network in Bridgewater are US Route 3 (Daniel Webster Highway), and NH Route 3A (Mayhew Turnpike) which serves as a major north-south route through the community.

Table 1: Road Mileage by State Highway System Classification

Class	Mileage	Notes
I	2.96	Daniel Webster Highway, Mayhew Turnpike
II	4.60	River Road, Depot Street
V	22.18	Town Roads
VI	2.88	Not Maintained and Discontinued Roads

All of the roads in Bridgewater are part of the transportation system. Class V Roads are the chief priorities for local maintenance and improvements. Working with the Lakes Region Planning Commission, the Bridgewater Highway Department collected data on all roads maintained by the town in the summer of 2000. Table 2 represents a condensed version of the complete database.

Table 2 depicts the extent of roads maintained by the Town, and Table 3 identifies areas needing improvement in the next six (8) years. Collecting this data and identifying priorities forms a basis for the *Capital Improvement Program (CIP)* of the Town of Bridgewater.

Table 2: Town Roads by Surface Type

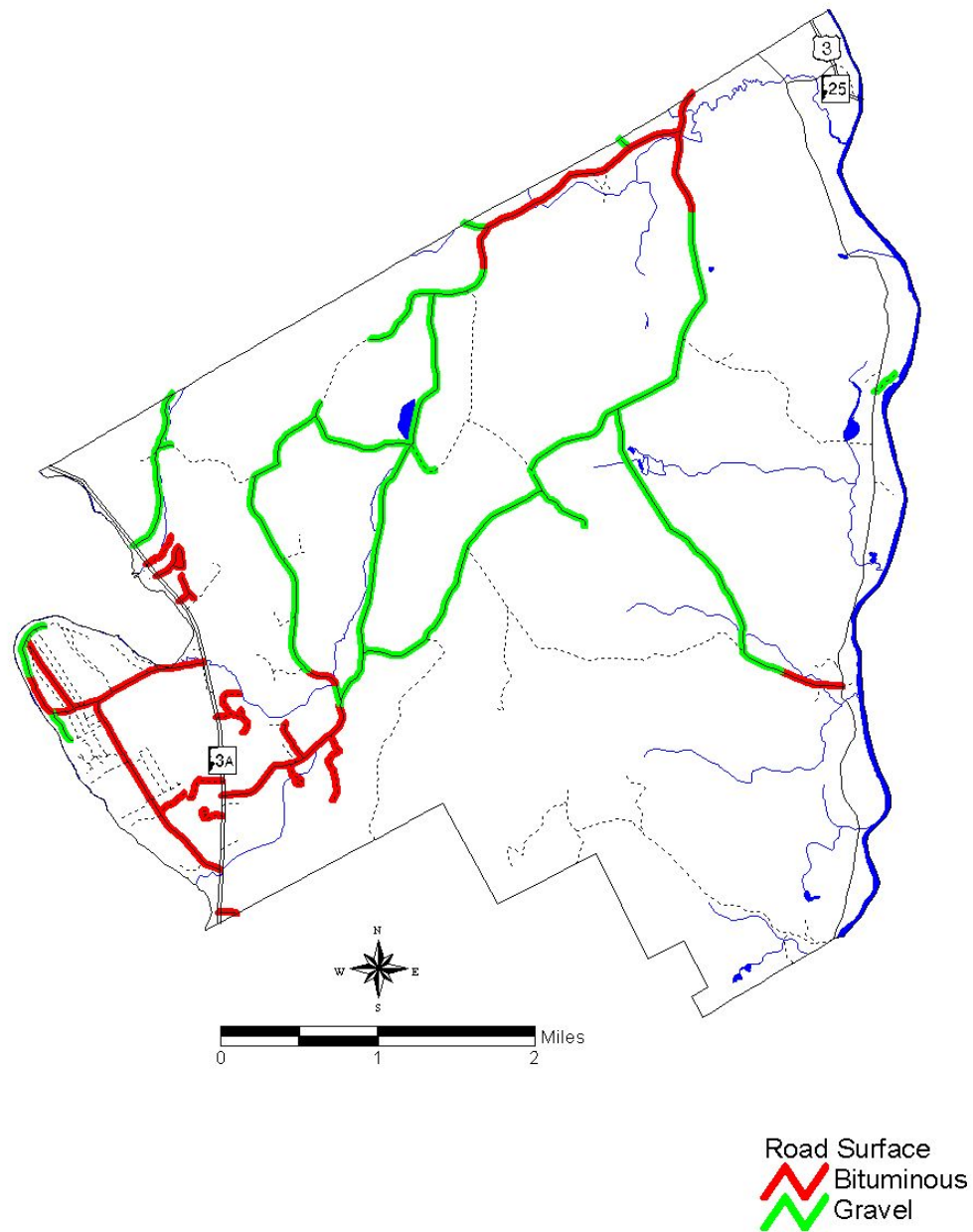
Road Name	Surface Type	
	Bituminous (Paved)	Gravel
Alpine Road	0.2404	
Berry Hill Road (<i>Class VI</i>)		0.5141
Bridgewater Hill Road	0.77	2.2198
Brock Hill Road		0.7167
Brookstone Terrace	0.051	
Carriage Road	0.4347	
Chrisden Drive	0.1548	
Dick Brown Road	2.688	3.1831
East Clement Road		0.5783
East Hunt Road		0.1701
Foxtail Lane	0.2198	
Hammond Hill Road *	0.4122	2.0981
HB Road (<i>Village District Road</i>)	0.2264	
Hemlock Brook Road	0.1418	
High Meadow Road		0.0474
John Smith Hill Road	0.2126	2.0153
Kingswood Lane	0.2071	
Ledgewood Terrace	0.416	
Meadow Brook Road	0.0964	
Pine Street North	0.5203	
Poole Hill Road *		1.7205
Ridgeview Drive	0.4746	
Rockledge Terrace	0.0365	
Sawhegenet Falls Park Road*		0.1467
School House Road (<i>Village District Road</i>)	0.3462	0.1584
Scott Drive	0.0711	
Shore Drive North	0.2856	0.3425
Shore Drive South		0.2034
Texas Hill Road		0.0928
West Clement Road		0.0822
West Hunt Road		1.0601
Whittemore Point Road North	0.7314	
Whittemore Point Road South	1.3347	
Woodside Drive	0.3136	
TOTALS:	10.3852	15.3495
TOTAL ALL SURFACE TYPE	25.7347	

* = Summer Roads

Note – Not all Class VI roads are depicted in this Table.

As Table 2 reveals, there are more miles of town-maintained roads with gravel or dirt surfaces than those with a bituminous surface. The map below offers locations of both bituminous and gravel surface roads in Bridgewater. Although more costly at the outset, bituminous roads are in the long run much more efficiently maintained, especially in areas of high travel and where natural occurrences, such as flooding and storm water, cause recurrent damage.

SURFACE OF TOWN-MAINTAINED ROADS



3.0 The Bridgewater Transportation Improvement Program

As part of the data collection process, the Bridgewater Highway Department was asked to identify those areas in town with a high priority for maintenance and improvement. The Highway Department identified fourteen (14) priority areas which require improvements over the next 8 years:

Year	Roadway Name	Activity
2006	Whittemore Point South to Intersection of North	Complete Resurfacing
	Meadow Brook	Resurfacing
	Alpine	Resurfacing
	Shore Drive	Complete survey, gravel and replace drainage
2007	Shore Drive North	Upgrade
2008	Scott Drive	Upgrade
	Alpine Road	Resurfacing
2009	Carriage Road	Resurfacing
	Chrisden Drive	Resurfacing
2010	Dick Brown Road – Rt 3a to Intersection of John Smith Hill Road	Resurfacing
	Fox Tail Lane	Resurfacing
2011	Pine Street North	Resurfacing
2012 – 2014	Dick Brown Road East	Resurfacing
	Bridgewater Hill Road	Resurfacing

4.0 ROADWAY DESIGN STANDARDS

Generally, roadway standards are established to ensure that new roads are safe in every situation. According to Bridgewater’s roadway standards, as found within the subdivision regulations, roads should be designed based on traffic volumes and terrain. Minimum roadway widths are typically from twenty feet with an additional four foot gravel shoulder on each side. More stringent design criteria have been developed for roadways with more than 120 vehicle trips per day, or a grade of 9% or greater.

In an effort to create safe roads, often an unforeseen result of roadway design standards has been the over-design of rural and lower density residential streets. Typically, over-design of these

streets includes elements such as unnecessarily wide pavement widths, as well as sidewalks and curbing which are generally suited for more urban and higher density locales. The Town should revisit the existing roadway design standards to ensure that they are meeting the needs of the Bridgewater transportation system.

5.0 BICYCLE AND PEDESTRIAN FACILITIES

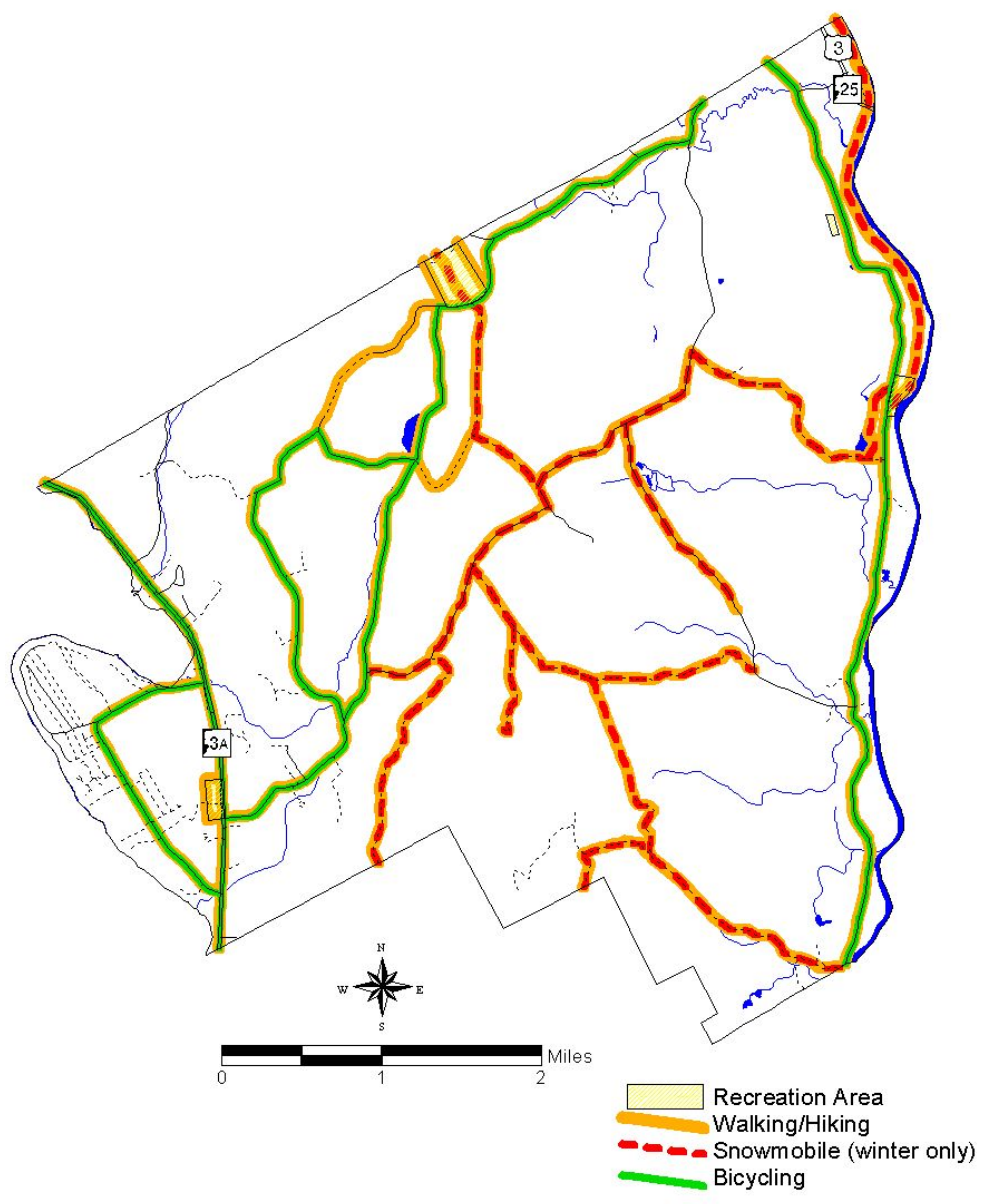
Bicycle and pedestrian facilities deserve separate attention as a transportation mode. Bicycling and walking, as well as other outdoor activities, have long been recognized as important activities which can improve a person's physical as well as mental health. This mode of transportation is important not only for personal health reasons, but also as a way of reducing the amount of travel by automobiles and the resulting energy and pollution issues automobiles present. The Town of Bridgewater should promote these activities through its transportation improvement program, and when working with developers.

The Town of Bridgewater currently faces serious safety deficiencies in the two areas of town where the demand is greatest for walking and biking. These two areas include Whittemore Point, and the area around the school and the Town Offices. However, this is not to say that these are the only places people walk and bike in Bridgewater. On the contrary, much of the town is in fact a bicycle and pedestrian facility. When conducting transportation improvements and general maintenance throughout the community, the Town should also consider the infrastructure and safety needs of these modes of travel.

The following Recreational Opportunities Map depicts areas suitable for walking and bicycling in Bridgewater. Transportation improvements should recognize these areas as important to townspeople, and search for ways to promote safe and pleasurable walking and bicycling in all of these identified areas.



RECREATIONAL OPPORTUNITIES



6.0 OTHER TRANSPORTATION ISSUES IN BRIDGEWATER

In order for Bridgewater to create a transportation system where function and safety will be improved, and the longevity of the system will be ensured for all modes, the community must recognize the connection between land use decisions and transportation improvements. The strong relationship between Bridgewater and the surrounding communities is also extremely important, and transportation between and within the communities should be enhanced to further strengthen the regional bond that they share.

Other important transportation issues for the community to be aware of include:

Access management - Access Management is the process of managing the placement of driveways on roadways, especially on those roadways classified as arterials. The speed, volume, and safety of traffic on an arterial is greatly reduced by vehicles entering and exiting side streets and driveways. In general, access management policies involve the regulation of the number of driveways, the design and placement of driveways, and the design of any roadway improvements needed to accommodate driveway traffic.

Context sensitive design – On state routes, the Town of Bridgewater should work with the New Hampshire Department of Transportation to ensure that the designs of any proposed improvements are “Context Sensitive Solutions” (CSS). The intent of CSS is to ensure that roads are not designated solely by the requirements of motor vehicle traffic. Transportation should preserve the scenic, historic, and environmental resources of the places it serves, and allow for a variety of uses beyond motor vehicles.

Many of the items discussed in this chapter can be addressed in the Bridgewater Land Use Regulations. Others can be pursued simultaneously in a non-regulatory process of outreach and education. Business owners may choose to apply access management elements into proposed changes to their properties, and may wish to work with their employees on reducing and reshaping demand on the transportation system. Organizations within the community can then be encouraged to partner on transportation services that meet the needs of their clients as well as the broader community. It is important to note that Bridgewater does not have to make all of these transportation and land use changes at once. The Implementation Chapter of this Plan will provide an opportunity for prioritizing these actions within various time periods, and assigning these tasks to responsible parties so they can be accomplished incrementally.

Land Use Implications and Potential Actions

Land Use Implications

Bridgewater’s existing transportation facilities are a critical resource for area residents and visitors, and for commerce in the region. The community would like to continue to provide a safe and efficient transportation system that is sensitive to environmental, historic, cultural, and

scenic resources Here are a few items to consider related to the existing transportation facilities in Bridgewater:

- 1) Roadways should be designed and constructed based on the role they fill in the local road system. Roads should provide the necessary access while controlling the speed of vehicles. If the role of the road changes over time then the design of that roadway should change accordingly.
- 2) Reducing roadway widths reduces the amount of impervious surface in the Town. This is much better for stormwater management and slows traffic.
- 3) Strip development, intersections, and extensive curb cuts along major roadways cause friction and conflict points for through traffic. This reduces the ability of the roadway to handle the level of traffic it was designed to carry, and often leads to safety deficiencies, and the need for expensive roadway expansion earlier than expected.
- 4) Bridgewater's roadways should not be designed for motor vehicle traffic alone. Incorporating Context Sensitive Solutions into Town and State roadway projects will provide the infrastructure for a range of transportation modes and preserve some of the scenic, historic, and environmental features within the project areas.

Potential Actions

There are an array of possible actions the Town may want to consider pursuing as it evaluates and improves the existing transportation facilities in Bridgewater. This section will be used to identify the specific actions for Bridgewater to take upon completion of the master plan.

- 1) Work to maintain seasonal road access to the Town House while maintaining the rural nature of Hammond Hill Road, Poole Hill Road, and Bridgewater Hill Road.
- 2) Develop construction and maintenance standards for the Highway Department and outside contractors to follow that promote good environmental practice and erosion control in all transportation efforts, whether during regular maintenance or transportation improvements.
- 3) Continue to review and update the snow removal and salt/sand application management plan for Bridgewater.
- 4) Design roadway improvements and future road construction to control the flow of traffic and the number of access points to the roadway. Consider requiring access management in the zoning and subdivision regulations. Discuss these requirements with the New Hampshire Department of Transportation, and consider signing a Memorandum of Understanding with the Department. This will ensure better coordination over future curb cuts.

- 5) Include provisions for bicycle and pedestrian facilities in the zoning and subdivision regulations.
- 6) Apply for Transportation Enhancement Funds, through the NH Department of Transportation, for the construction of sidewalks and multi-use paths in key locations.
- 7) Consider allowing mixed-use development when adopting changes to Bridgewater's land use regulations, so that daily activities are integrated rather than separated. Activities that are separated require vehicle trips between districts. Mixed-use development can be successful in village and commercial corridor locations. Nodes of development that generate a higher number of potential riders at one location are also more conducive to public transportation.