

VII. TRANSPORTATION

Chapter VII

TRANSPORTATION

Introduction

A sound transportation system is based on a balance between the needs and desires of its users. Some considerations in developing such a system include: a desire for growth, a desire to keep a small town character, a need to move people from place to place safely, a desire to promote alternative modes of travel, and a desire to protect the environment.

The Transportation Chapter of the Warner Master Plan is divided into the following areas:

- 1) Introduction
- 2) A review of the existing highway system
 - a) Highway Classification
 - b) Roadway Function
 - c) Bridge Inventory
 - d) Regional Traffic
 - e) Review of Collector Roads with permanent traffic recorder volumes
 - f) Review of Local Roads with non-permanent traffic recorder volumes
- 3) Commuter and development patterns
- 4) Scenic roads
- 5) Future projections and recommendations
- 6) New road construction

One of the goals stated in the first chapter of the Master Plan is to maintain and enhance Town services, including Town roads, in relation to the growth and expanding needs of the Town. An objective to accomplish this goal is to establish a study committee to review the need for new roads, bridges, intersections and connector roads in Town.

Existing Highway System

Highway Classification

In New Hampshire, all highways are defined according to one of six highway classifications. See Table 7-1 and Figure 7-1 for road mileage by State Classification for Warner. These six highway classifications, defined in RSA 229:5, are as follows:

Class I, Trunkline Highways shall consist of all existing or proposed highways of the primary state highway system, excluding all portions of such highways within the compact sections of cities and towns listed in RSA 229:5, V, provided that the portions

of the turnpikes and the national system of interstate and defense highways within the compact sections . . . shall be Class I highways.

Class II, State Aid Highways shall consist of all existing or proposed highways on the secondary state highway system, excepting all portions of such highways within the compact sections of the cities and towns listed in RSA 229:5, V.

Class III, Recreational Roads shall consist of all recreational roads leading to, and within, state reservations designated by the legislature. Examples of such roads in Warner include Kearsarge Mountain Road to Rollins State Park, and Old Main/Denny Hill/Pumpkin Hill Roads to Carroll State Forrest.

Class IV, Town and City Streets shall consist of all highways within the compact sections of cities and towns as listed in RSA 229.5, V. The compact sections of any such city or town shall be the territory within such city or town where frontage on any highway . . . is mainly occupied by dwellings or buildings in which people live or business is conducted throughout the year and not for a season only. By definition, Warner has no Class IV roads.

Class V, Rural Highways shall consist of all other traveled highways which the town has the duty to maintain regularly and shall be known as town roads.

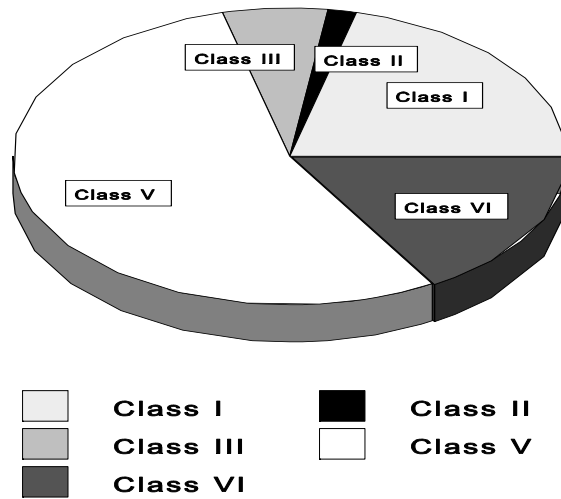
Class VI, Unmaintained Highways shall consist of all other existing public ways, and shall include all highways discontinued as open highways and made subject to gates and bars, all highways which have not been maintained and repaired by the town in suitable condition for travel thereon for five successive years or more.

**Table 7-1
Road Mileage by State Classification for Warner**

Classification	Mileage	Percent of Total
Class I	24.26	21.24
Class II	1.97	1.72
Class III	6.91	6.05
Class V	62.57	54.77
Class VI	18.53	16.22
Total	114.24	100%

Source: NHDOT

**Figure 7-1
Road Mileage by State Classification for Warner**



Highway Function

Highway functional classifications for all roads in the Town of Warner are defined as follows:

Interstate Highways

Interstate Highways are restricted access highways which move very large volumes of traffic over vast distances. Interstate 89 is the only Interstate Highway found in Warner.

Arterial Roads

Arterial roads serve to move large volumes of traffic through a town or to connect one section of the town with another section. An example of an arterial road as defined by the State DOT is Route 9/202 to Keene. Currently, no roads classified as Arterial Roads exist in Warner.

Collector Roads

Collector roads are highways that primarily feed traffic to/from local roads to/from arterial roads. Collector roads provide direct access to abutting properties. Routes 103, 114 and 127 are classified as collector roads.

Local Roads

Local roads provide for internal movement within residential areas and for direct access to abutting property. Local roads consist of all those not mentioned above.

Bridge Inventory

Bridges are a key component of the highway system, as they connect road segments across streams, lakes, rivers and other roads. Bridges are the most expensive sections of roads, and a lack of adequate bridges can create transportation bottlenecks, which are often difficult to remedy.

The New Hampshire Department of Transportation (NH DOT) maintains an inventory of all bridges in New Hampshire using Federal Sufficiency Ratings (FSR), a nationally accepted method for evaluating bridges. An FSR represents the relative overall effectiveness of a bridge as a modern day transportation facility. An FSR greater than 80 means that the bridge is in good condition overall. A bridge having an FSR between 50 and 80, is eligible for Federal bridge rehabilitation funding. A bridge with an FSR less than 50 is eligible for either Federal bridge replacement or rehabilitation funding. These ratings are based on modern, Federally accepted standards, and often historic bridges do not meet these standards.

Table 7-2 shows the bridges in Warner that are listed on the NH DOT list of "A structurally deficient @ (SD)" or "A functionally obsolete @ (FO)" bridges. The classification of SD or FO does not mean that the bridge is necessarily unsafe for use. Rather, it indicates that the bridge does not meet a particular standard, for example it is a one lane bridge or has a particular feature that is outdated. The historic covered bridges listed in this table will always have an SD rating because they will never meet the modern standards. Most of the bridges listed here are owned and maintained by the State as part of the State highway system. The bridges on the list should be updated by the State to meet the most current standards. The Town should investigate updating the Town-owned Bible Hill Lane bridge to meet current standards.

**Table 7-2
Structurally Deficient or Functionally Obsolete Bridges in Warner**

Bridge	Location	FSR	Deficiency	Owner	ADT/Year
North Road	Meadow Brook	42	FO	Town	
Newmarket Road*	Warner River	14	SD	Town	290/94
Bible Hill Lane	Warner River	48	FO	Town	
I-89 (NB)	US 103	78	FO	State	8,500/96
I-89 (SB)	North Village Road	92	FO	State	8,500/96
Joppa Road West*	Warner River	13	SD	Town	120/94
I-89 (NB)	Joppa Road	59	FO	State	8,500/96
I-89 (SB)	Joppa Road	59	FO	State	8,500/96
I-89 (SB)	Warner River	89	SD	State	8,500/96
I-89 (NB)	Warner River	90	SD	State	8,500/96

FO= Functionally Obsolete
NB= North Bound

SD= Structurally Deficient
SB= South Bound

ADT= Average Daily Traffic
* Historic Covered Bridges

FSR= Federal Sufficiency Ratings

Source: NH DOT Bridge Summary

Traffic Patterns

Regional Traffic

The main routes for moving traffic through Warner are the primary and secondary highways, particularly Routes 103, 127, and 114, as well as I-89. Growth, both locally and on a regional level, can be seen in the increase of the Annual Average Daily Traffic (AADT) volumes on these major collector roads, as presented in Table 7-3 and 7-4. The DOT has established permanent traffic counters in different locations along these roads. The recorders are used to establish historic growth and seasonal fluctuations in traffic volumes on major roadways.

Table 7-3
NH DOT Permanent Counters in Warner Area

Location	Year	AADT	Gain/Loss (%)
I-89 - Sutton Town Line	1992	11,115	
	1993	12,634	13.7
	1994	13,429	6.3
	1995	13,581	1.1
	1996	14,232	4.8
	1997	14,216	-0.1
	NH 114 - At Henniker TL	1992	2,902
1993		2,965	2.2
1994		2,953	0.4
1995		2,784	-5.7
1996		2,823	1.40
1997		2,934	3.9

Source: NHDOT Permanent Traffic Volume Recorder Data, 1998 CNHRPC Traffic Volume Report

Collector Roads

The primary function of the collector roads is to move people from smaller local roads to arterial roads. Warner does not have any roads classified as arterial, instead, the collector roads function as direct links between local roads, Interstate 89 and other towns.

Route 103 is the major route of travel in Warner, besides Interstate 89. This route travels from the southeastern corner and continues to the northwestern corner of the Town. There are three exits off

Interstate 89 in Warner and all of them exit onto Route 103. The stretch of Route 103 from the Bradford Town Line to Interstate 89 experiences heavy commuter traffic in the AM and PM commuting hours. This section of Route 103 serves as the main link for towns northwest and west of Warner to connect with Interstate 89. The area just east of the Exit 9 junction and overpass has experienced rapid growth in recent years. The segment of Route 103 east through the Village Center does experience some commuter traffic in the AM and PM commuter hours. This area also deals with a large amount of local traffic as it travels through the center of town. There are also several trip generating business along this stretch of Route 103, which increase the traffic volumes.

Route 127 travels only a short distance inside Warner before it connects with Route 103. Route 127 carries a considerable amount of traffic from the towns of Webster and Salisbury through Warner to the Town of Hopkinton and the Village of Contoocook. Route 127 travels through a largely residential portion of Warner before it enters the more commercial area in the Village of Contoocook.

Route 114 travels through only a small portion of the southwestern corner of Warner. This collector road functions to move people between Henniker and Bradford.

**Table 7-4
NH DOT Non-Permanent Traffic Recorder Volumes**

Road	Location	1995 AADT	1996 AADT	1997 AADT
Burnt Hill Rd	North of Warner/Webster Rd	--	--	100
I-89	Hopkinton TL Exit 6-7	15,000	17,000	19,000
I-89	North of NH 103 Exit 7-8	16,000	17,000	19,000
I-89	South of NH 103 Exit 8-9	16,000	15,000	17,000
NH 103	Sutton TL	3,000	--	3,800
NH 103	Hopkinton TL	2,000	--	1,900
NH 103	Bradford TL	2,700		
NH 127	Webster TL	1,100	1,100	

Source: NHDOT Non-Permanent Traffic Volume Recorder Data, 1998. CNHRPC Traffic Volume Report

Local Roads

Local roads exist to connect neighborhoods and to move people to collector roads. In general, they function to move people around town. Many local roads in Warner experience low traffic volumes, often less than 500 cars a day, and many are partially or entirely unpaved.

Table 7-5 contains the average daily traffic volumes (ADT) collected by the CNHRPC between 1992-1998. The duration of these counts varies from two full days to one week. The roads on which these counts have been conducted were chosen by NHDOT and Town Officials. Please note that this data section is actual counts and is not in annual average daily traffic form, which accounts for seasonal fluctuations. As a result, the data in this table should be considered a random sample and should be used only as a guide. The data should be cause for further investigations and should not be considered as representative of the average or expected traffic on a particular road.

**Table 7-5
CNHRPC Daily Traffic Counts**

Route/Location	1992	1993	1994	1995	1996	1997	1998
Bean Road (Paved)							73
Bible Hill Rd (at Melvin Rd)							91
Collins Rd (at intersection)							79
Denny Hill Rd (N of Old Main)	129		150		182		
Depot St (S of 103 & Main)	404						
Dustin Rd						590	
E. Roby Dist Rd							68
E. Sutton Rd						288	
Geneva St						165	
Iron Kettle Rd						677	
Kearsarge Rd	695						
Kearsarge Mt. Rd			950	769			
Kirtland St						96	
Mason Hill Rd				223			
Melvin Mills Rd							97
Melvin Rd							140
Mill St	539						
New Market St				305			
North Rd			300				
North Village Rd			500		576		
Old Main (S. Of Denny Hill)	161		150				

Route/Location	1992	1993	1994	1995	1996	1997	1998
Pleasant Pond Rd	539				663		
Poverty Plains Rd						139	
Pumpkin Hill Rd (N of School)	528						
Red Chimney Rd				119			
Schoodac Rd (E of Pov Plains)				893			
Schoodac Rd (E of Connors Mill)				659			
School St (E of NH 103)	591		680				
School St (S of Pumpkin Hill Rd)					889		
Waldron Hill Rd					332		
Warner Rd (by State Shed)				845			
Warner Rd (by Davisville)					886		
Waterloo St						85	
W. Roby Dist Rd							56
Willaby Colby Rd							33

Source: Central New Hampshire Regional Planning Commission 1998 Traffic Volume Report

Commuter and Development Patterns

Route 103 and Interstate 89 serve as the major commuting corridors through Warner. The 1990 Census information shows that a large percentage of Warner's workforce commutes to towns and cities located south of Warner. Warner is fortunate in that I-89 can readily carry these large volumes of southerly commuter traffic. Route 103 also bears a fair percentage of the commuter traffic. The 1990 Census showed a large increase over the 1980 Census in the number of workers living and working in Warner: from 232 persons to 309 persons, a 33% increase. With a continuing increase in local job opportunities, Warner may experience a growing number of persons living and working locally, which will lead to additional strain of Warner's local transportation system.

The area east of I-89 has experienced a large amount of development in the past few years. This trend is likely to continue, due to the area's accessibility to the Interstate and its proximity to town center. Route 103 is the main roadway through this area and currently experiences some congestion problems at peak travel times. The additional construction of trip generating businesses, such as grocery stores, gas stations, or restaurants should be watched closely as these will greatly impact the traffic in this area.

Scenic Roads

New Hampshire law allows communities to designate certain roads as scenic. The designation is beneficial in two ways. First, it establishes a procedure for protecting the rural landscape within a public right-of-way; and second, it can be a demonstrated public intent to maintain a road's rural qualities.

RSA 231:157 provides that: Any road in a town, other than a class I or class II highway, may be designated as a scenic road upon petition of 10 persons who are either voters of the town or who own land which abuts a road mentioned in the petition (even though not voters of the town), the voters of such town at any annual or special meeting may designate such road as a scenic road.

If a road is designated as a scenic road, any repair, maintenance, reconstruction, or paving work done with respect thereto by the State or municipality, or any action taken by any utility or other person acting to erect, install or maintain poles, conduits, cables, wires, pipes or other structures pursuant to RSA 231:159-189, shall not involve the cutting, damage or removal of trees, or the tearing down or destruction of stone walls, or portions thereof, except with the prior written consent of the planning board, or any other official municipal body designated by the meeting to implement the provisions of this subdivision, after a public hearing duly advertised as to time, date, place and purpose, two times in a newspaper of general circulation in the area, the last publication to occur at least 7 days prior to such hearing.

However, a road agent or his designee may, without such hearing, but only with the written permission of the selectmen, remove trees or portions of trees which have been declared a public nuisance pursuant to RSA 231:145 and 231:146, when such trees or portions of such trees pose an imminent threat to safety or property, and provided, further, that a public utility when involved in the emergency restoration of service, may without such hearing or permission of the selectmen, perform such work as is necessary for the prompt restoration of utility service which has been interrupted by facility damage and when requested, shall thereafter inform the selectmen of the nature of the emergency and the work performed, in such manner as the selectmen may require.

As used in this law, "tree" means any woody plant which has a circumference of 15 inches or more at a point 4 feet from the ground.

Designation of a road as a scenic road will not affect the rights of any landowner with respect to work on his own property, except to the extent that trees have been acquired by the municipality as shade or ornamental trees pursuant to RSA 231:139-156, and except that RSA 472:6 limits the removal or alteration of boundary markers including stone walls.

In the Warner Master Plan Survey, 63% of the respondents favored the Town designating some roads as scenic. The respondents favored Kearsarge Mountain Road, Pumpkin Hill Road and Burnt Hill Road for designation as scenic roads.

Future Projections and Recommendations

The Route 103 corridor through Warner is the major area of concern for traffic congestion problems in the future. Populations in the towns to the north and west of Warner, as well as the population of Warner itself, are expected to continue to grow over the coming years. With this increase in population, traffic volumes are expected to rise steadily. Warner also experiences heavy traffic associated with tourists on weekends in the spring, summer and fall. This type of tourist traffic is expected to increase substantially as populations grow rapidly in the larger cities to the south.

The level of service (LOS) of Route 103 is hampered as it travels through the Village center. The decrease in the LOS is due primarily to the following: several intersecting roads, on street parking, local business parking areas and curb cuts. These factors may have to be looked at in the future to allow for Route 103 to continue to adequately serve the Warner area as traffic volumes increase. The increase of traffic on Route 103 in the Village center causes pedestrian problems as well. The use of traffic calming measures should be investigated to slow traffic as it passes through the Village.

New Road Construction

Recognizing the need for transportation planning, the Master Plan Committee met with the Town Road Agent on several occasions to determine future transportation needs. The Committee analyzed the current paved and unpaved road system and compared it with a map of the unfragmented land, which is land that has no significant development.

The consensus was that there should be a plan for alleviating the future increase of traffic on Route 103 through the Village Center. As mentioned in earlier chapters, one of the goals of the Master Plan is to encourage concentrated development close to the village center and discourage development in the outer sections of Town. One way to accomplish this is to create roads that link the village center roads together rather than creating new roads on the fringe.

It was determined that there are three areas where the village roads could be linked to help alleviate Route 103 traffic.

1. Between North Road/Split Rock Road to Kearsarge Mountain Road. Because this route is the most viable option, it is strongly recommended that a feasibility study be commissioned to determine possible routes and cost estimates. This link would also serve a public safety purpose by providing an alternative means of access to Kearsarge Mountain Road in case of a fire or other emergency which closed the lower portion of the road to traffic.



2. Between Kearsarge Mountain Road and Pumpkin Hill Road. Due to the wetlands in this area, this option is less feasible, however it should still be investigated.
3. Reroute traffic in the area of Denny Hill, School, and Old Main Streets and construct a connector road from Denny Hill to Main Street. This link was recommended in the 1989 Master Plan and continues to be a recommendation strongly urged by the Road Agent for safety, as well as traffic relief.

Re-construction Program

In order to advance the goal of keeping development along existing developed routes, the following roads should be completed and be funded by a schedule set forth in the capital improvements program:

Paving Projects

1. Retreat Road
2. Newmarket Road
3. Poverty Plains Road
4. Mason Hill Road

Reconstruction Projects (no paving)

1. Parade Ground Cemetery Road