

## CHAPTER 5: TRANSPORTATION



## 5.1 INTRODUCTION

The Center Harbor village is situated on NH Route 25, a significant regional east/west corridor that provides direct access to the northern Lakes Region and connectivity to the Mount Washington Valley. While not as heavily traveled, US Route 3 and NH Route 25B represent connections from Center Harbor to the regional centers of Plymouth to the north and Laconia to the south. The transport of goods through Center Harbor to regional centers means a fair volume of daily truck traffic and commuting traffic to the job opportunities the centers offer. The seasonal attractiveness of Lake Winnepesaukee and other lakes and great ponds leads to increased traffic in the summer months on these major routes. Community character is preserved through the town designation of nine scenic roads. Center Harbor is located on the Lakes Region Tour as well, a state scenic byway that circles Lake Winnepesaukee and includes NH Routes 25 and 25B in Center Harbor.

The crew of three full-time employees that comprise the Center Harbor Highway Department is charged with maintaining 17 miles of town road. A total of 91 percent of the community survey respondents expressed satisfaction (46 percent satisfied and 45 percent very satisfied) with the highway department. Transportation related comments from the community survey included concerns about the lack of taxi service for elderly residents, summer traffic, lack of sidewalks, and the need to protect against strip development.

This chapter explores the existing transportation network in Center Harbor, provides an update to past master plan recommendations, and outlines recommendations for future improvements.

## 5.2 MODES OF TRANSPORTATION

The primary mode of transportation is the automobile. According to US Census Bureau data 85 percent of the Center Harbor workforce commutes to work alone by automobile. Approximately 20 percent of workers live and work in Center Harbor while 80 percent work outside the community that average a 21 minute drive to work. In 2000, the labor force in Center Harbor consisted of 621 employed residents of which approximately 12 walked to work.<sup>1</sup>

While walking and bicycling are not popular means of travel to work, pedestrian activity in Center Harbor is promoted by conveniently spaced businesses and municipal services in the village and proximity of the village to the waterfront and town docks. Recommended for bicyclists with advanced riding skill due to the volume of traffic and variable shoulder widths, NH Route 25 is identified on the New Hampshire Bicycle Map. Other recommended bicycle routes identified on the state bicycle map include Dane and Anthon Roads and US Route 3/NH Route 25. Belknap Woods and Chamberlain-Reynolds Memorial Forest offer easy access to off-road walking and bicycling opportunities. Both areas are maintained by the Squam Lakes Association; the forest is accessed from College Road and the woods access is off NH Route 25B.

Water travel is supported by infrastructure that is maintained by the Highway Department, which includes public docks and boat launches. The town has three public boat launches, one on each of the lakes, Squam, Winnepesaukee, and Winona. The town docks, located in the village center, are

---

<sup>1</sup> Source: <http://www.nh.gov/nhes/elmi/htmlprofiles/pdfs/centerharbor.pdf> (accessed 09-10-10).

comprised of four wooden wharfs ranging from 40 to 60 feet in length. Adjacent to the town docks is the winter home and summer port of call for the charter cruise ship, the M.S. Mount Washington. This privately owned and operated ship with capacity of approximately 2,000 passengers, increases the Winnepesaukee waterfront activity in Center Harbor which is often bustling with activity in the height of the summer season.

### 5.3 PUBLIC TRANSPORTATION

An aging population in Center Harbor will increase future demands for public transportation services, volunteer driving networks, and other alternatives to driving. Like other rural New Hampshire communities, a fully developed public transportation system complemented by a choice of private transportation providers does not exist. However, the limited service that does exist is scheduled for future expansion with the addition of commuter service provided by Carroll County Transit between West Ossipee and Laconia. Existing and scheduled expanded services include:

**Carroll County Transit Project:** a service of the Tri-County Community Action Program, Inc., a private, non-profit social service agency. The project anticipates three new service routes in the fall of 2010 – Route 1: North Conway to West Ossipee, Route 2: West Ossipee to Wolfeboro, and Route 3: West Ossipee to Laconia. Route 3 will include two AM and two PM stops in Center Harbor at Heath’s Plaza, Monday through Friday (one westbound trip to Laconia and one eastbound round to West Ossipee with potential connections north to North Conway and south to Wolfeboro.

**Center Harbor, Meredith, and Moultonborough Community Caregivers:** a volunteer organization that provides area transportation for needs such as doctor and dentist appointments, lab tests, pharmacy pick-ups, shopping, hair appointments, and when possible extended-area trips (e.g., Manchester, Lebanon, etc) for medical appointments. Transportation is provided at no cost by volunteers in their personal vehicles. This service is dependent on volunteers and donations.

**Concord Coach Lines:** offers coach bus service seven days each week from Berlin, NH to Logan International Airport. The route goes through Center Harbor twice each day, 9:37AM and 3:42PM, with returns from the airport at 12:32PM and 7:37PM. The coach makes stops in Tilton, Concord, and Manchester.

### 5.4 LOCAL TRANSPORTATION NETWORK

#### 5.4.1 Administrative Classification of Roads

All public roads and highways in New Hampshire are grouped in six administrative categories which relate to the governmental jurisdiction of roads. Class I, II, and III roads are owned by the state. State owned roads in Center Harbor consist of Class I – State Primary and Class II – State Secondary highways. Class III - Recreational highways do not exist in town. These roads provide access to and within state owned land such as state campgrounds.

The last three administrative classes of roads are owned by the town. Classes IV - Urban Compact roads only exist in the Lakes Region in Gilford, Franklin, and Laconia. Class V – Town roads are roads owned and maintained by the town and Class VI roads are unmaintained. The administrative classifications of roads in Center Harbor are displayed in Map 5-1 (located at end of chapter).

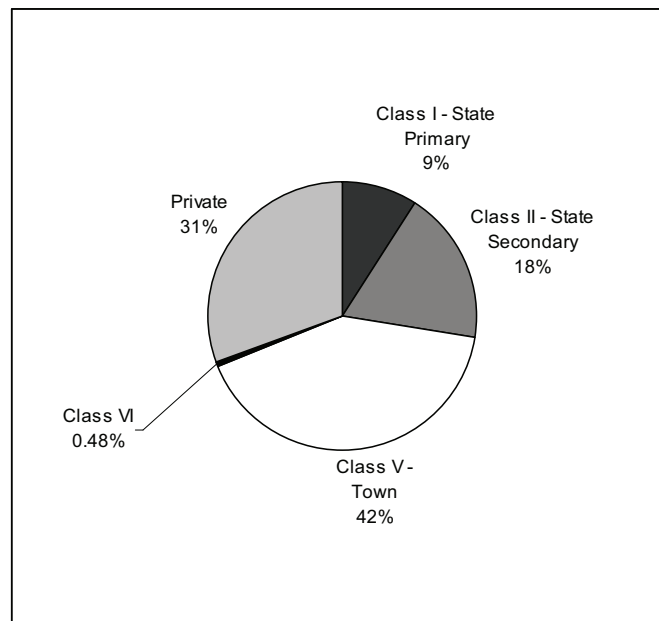
In Center Harbor there is a total of 17.28 miles of town maintained roads of which 96 percent is paved (16.54 miles) and approximately 4 percent is unpaved (.74 miles). In addition there are 12.76 miles of private roads; 19 percent are paved (2.48 miles) and 81 percent are unpaved (10.27 miles).

**Table 5-1: Miles of Paved and Unpaved Roads by Classification**

|              | Class I - State Primary | Class II - State Secondary | Class V - Town | Class VI    | Private      | Totals       |
|--------------|-------------------------|----------------------------|----------------|-------------|--------------|--------------|
| Paved        | 3.79                    | 7.61                       | 16.54          | -           | 2.48         | <b>30.42</b> |
| Unpaved      | -                       | -                          | 0.74           | 0.20        | 10.27        | <b>11.21</b> |
| <b>Total</b> | <b>3.79</b>             | <b>7.61</b>                | <b>17.28</b>   | <b>0.20</b> | <b>12.75</b> | <b>41.63</b> |

Source: Lakes Region Planning Commission

**Graph 5-1: Percentage of Road Network by Administrative Classification**



### 5.4.2 Traffic Volumes

The NH Department of Transportation (NH DOT) receives data from a number of permanent traffic counters statewide. Additional traffic counts are conducted by the regional planning commissions and seasonally adjusted by NHDOT to reflect annual average daily traffic counts (AADTs). The permanent traffic counters in closest proximity to Center Harbor are located on NH

Route 104 in Meredith and NH Route 25 in Tamworth. Table 5-3 displays a sample of the data from these two locations. The January and August data are actual traffic volumes before seasonal adjustment which is displayed as the adjusted average daily. January and August counts are displayed to illustrate the seasonal differences in traffic volumes which ranged from a 167 percent increase on NH Route 104 in 2008 to a 188 percent increase on NH Route 25 in 2003. Generally, the traffic volumes at both permanent locations have decreased slightly since early 2000 counts.

**Table 5-2: Comparison of Seasonal Traffic Counts near Center Harbor**

| Permanent Recorder Data          |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|
| NH 104 at Wickwas Lake, Meredith | 2002   | 2003   | 2008   | 2009   |
| January                          | 9,103  | 9,335  | 9,499  | 8,909  |
| August                           | 16,607 | 16,681 | 15,830 | 15,536 |
| Adjusted Average Daily           | 11,930 | 12,116 | 11,635 | 11,169 |
| NH 25 at NH 113, Tamworth        |        |        |        |        |
| January                          | *      | 4,118  | 3,836  | 3,662  |
| August                           | 7,237  | 7,743  | 6,785  | 6,744  |
| Adjusted Average Daily           | 5,302  | 5,069  | 5,068  | 4,772  |

Table 5-4 displays AADT counts from several Center Harbor locations and NH Route 25 in Meredith. Typically these counts are conducted on a three year rotation. Noteworthy, is the increasing volume of traffic on NH Route 25 from 2006 to 2009 and a general decrease in traffic on secondary highways and town roads over time. In comparing Table 5-3 and Table 5-4, the volume of traffic in Meredith on NH Route 25 is significantly diminished in Tamworth, having dissipated in Meredith, Center Harbor, and Moultonborough.

**Table 5-3: Historic Annual Average Daily Traffic Counts 2002 - 2009**

| Location/Year                          | 2002   | 2003 | 2004 | 2005 | 2006   | 2007 | 2008  | 2009   |
|--|--------|------|------|------|--------|------|-------|--------|
| NH 25 east of US 3 / NH 25 (Meredith)  | 19,000 | -    | -    | -    | 19,000 | -    | -     | 21,000 |
| NH 25B east of Keewaydin Road          | 3,000  | -    | -    | -    | 2,300  | -    | 2,300 | -      |
| Winona Road at New Hampton town line   | 910    | -    | -    | 760  | -      | -    | 620   | -      |
| Waukewan Road at New Hampton town line | 680    | -    | -    | 660  | -      | -    | 390   | -      |
| High Haith Road at Squam Lake Channel  | 180    | -    | -    | 220  | -      | -    | 180   | -      |

The *NH Route 25 Corridor Study: April 2008* provides AM and PM peak traffic turning movements conducted in August 2007. The data show the morning peak hour (7:30 - 8:30 AM) traffic of 1,025 vehicles at the intersection of NH Route 25 and NH Route 25B. The PM peak hour (3:45 - 4:45 PM) at the same location produced 1,695 vehicles or approximately 30 vehicles through the intersection each minute. These counts, while conducted during the summer season, were taken

during mid-week and do not reflect Saturday and Sunday traffic which can produce stop and go traffic from this intersection to the junction of US Route 3 and NH Route 25 in Meredith.

The corridor study also includes a build-out analysis that estimates traffic generated, if land available in Center Harbor were developed according to existing zoning. While this analysis can not predict when the corridor will be “built-out” to capacity, or even if it will be, it illustrates a few important planning considerations for the town:

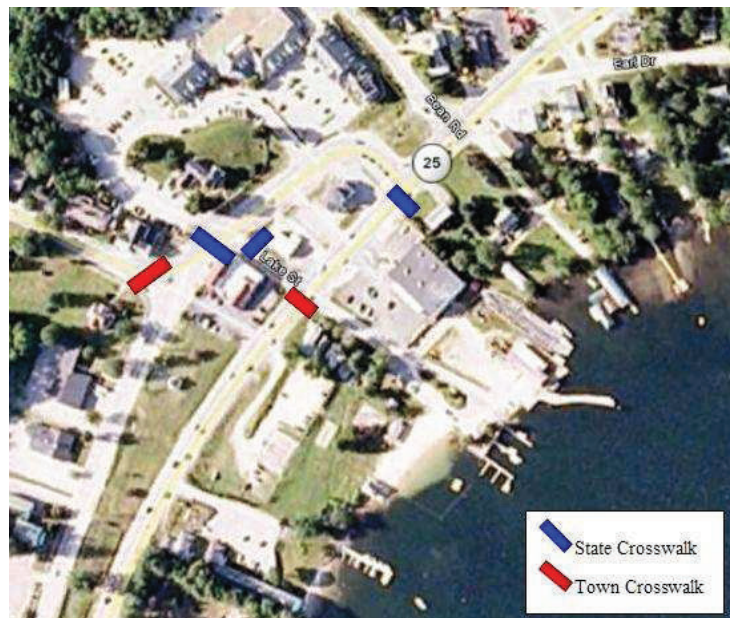
- 1) Land use has an impact on the transportation network. Local development in combination with seasonal and regional traffic will all affect the flow of traffic through downtown Center Harbor.
- 2) A pedestrian and bicycle master plan can be a useful tool to aid local planning that attempts to integrate traffic flow with accessibility.
- 3) Access management, a planning tool that balances property access and travel mobility, can have a positive impact on the safe and efficient movement of people and vehicles.

While limited development opportunities exist in the Center Harbor village center under existing zoning, access management can be an effective tool for addressing potential sprawl in areas adjacent to the village.

### 5.4.3 Pedestrian Circulation

According to the 1990 Center Harbor master plan “The importance of the automobile as a mode of transportation has overshadowed the need for good pedestrian circulation.” Pedestrians are accommodated in Center Harbor by nearly a mile of sidewalks (5,191’) with major road crossings at crosswalks (Map 5-2) maintained by the state and town. The existing sidewalk network provides pedestrian access to many municipal services including Town Hall, the bandstand, town docks and beach, library, and post office.

**Map 5-2: State and Local Crosswalks in Center Harbor Village**



**Table 5-4: Length of Sidewalks by Location**

**Center Harbor Sidewalks**

| Town Road     | Feet         |
|---------------|--------------|
| Kelsea Avenue | 1,008        |
| Lake Street   | 597          |
| Main Street   | 2,010        |
| NH Route 25B  | 1,576        |
| <b>Total</b>  | <b>5,191</b> |

**5.4.4 Scenic Roads**

The town of Center Harbor has designated 9.46 miles of town road as Scenic Roads. The town uses the requirements outlined in RSA 231:157 when managing these designated roads. These requirements include planning board approval prior to roadway repairs, maintenance, reconstruction or paving that necessitates cutting, damage, or removal of trees (15” inches in circumference), or removal or destruction of stonewalls. While these standards apply to the state, municipality, and utility companies, land owners are not affected.

In addition to the locally designated scenic roads, Center Harbor is part of the Lakes Region Tour Scenic Byway which is a state designated scenic route (see Map 5-3 located at end of chapter). More than four miles of the byway is located in town. State designated byways require corridor management plans similar to a master plan and an active byway committee. This program is community-based and can be used to effectively promote archaeological, cultural, historic, natural, recreational, and scenic qualities. The work of the byway committee relates directly to quality of life, coordination of local land use planning among byway communities, and the economic well-being of the region.

**Table 5-5: Center Harbor Scenic Roads and Byways**

| Town Scenic Road        | Miles       |
|-------------------------|-------------|
| Butterfield Road        | 0.48        |
| Center Harbor Neck Road | 0.85        |
| Coe Hill Road           | 1.06        |
| College Road            | 0.92        |
| Follet Road             | 0.86        |
| Hawkins Pond Road       | 0.96        |
| Keyser Road             | 0.77        |
| McCrillis Hill Road     | 1.33        |
| Piper Hill Road         | 2.23        |
| <b>Total</b>            | <b>9.46</b> |
| State Scenic Byway      | Miles       |
| NH Route 25             | 1.56        |
| NH Route 25B            | 2.89        |
| <b>Total</b>            | <b>4.45</b> |

**Source:** Town of Center Harbor

### 5.4.5 Road Conditions

The Lakes Region Planning Commission evaluated the road surface of all town roads in June 2010. The data collected along with road importance and traffic information provided by the Road Agent was modeled using a program called Road Surface Management Systems (RSMS). The results of the RSMS provide a snapshot of the town road network which compares and prioritizes road improvements. The results provide supporting information for a local transportation improvement plan and can be updated on a 2-3 year basis to provide future road improvement budgeting information and a way to track and re-prioritize road improvements over time. Table 5-6, developed by the Center Harbor Road Agent, outlines priority road improvements for 2010-2012 based on the assessment. New RSMS software is being developed by the University of New Hampshire Technology Transfer Center. The new software will have the ability to perform scenario planning allowing a community to estimate an annual level of road improvement funding based on an acceptable over-all road network level of service.

**Table 5-6: Priority Road Improvements 2010-2012 based on Road Surface Management System Assessment**

#### 2010

| Section ID | Section Name            | Section Length in Feet | Improvement Type |            |                |            |
|------------|-------------------------|------------------------|------------------|------------|----------------|------------|
|            |                         |                        | Crack seal       | 2" Overlay | 1 1/2" Overlay | 1" Overlay |
| 24         | Center Harbor Neck Road | 4,351                  | X                |            |                |            |
| 5          | Center Harbor Neck Road | 6,665                  | X                |            |                |            |
| 1          | Anthon Road             | 2,339                  | X                |            |                |            |
| 8          | High Haith Road         | 2,253                  | X                |            |                |            |
| 11         | Chase Circle            | 1,935                  | X                |            |                |            |
| 2          | Kelsea Avenue           | 1,039                  | X                |            |                |            |
| 16         | Kelley Court            | 286                    | X                |            |                |            |
| 29         | Bartlett Hill Road      | 3,669                  | X                |            |                |            |
| 14         | Whispering Wind Drive   | 426                    | X                |            |                |            |
| 21         | Beaverside Drive        | 1,412                  | X                |            |                |            |
| 9          | Meadow Drive            | 1,076                  | X                |            |                |            |
| 40         | College Road            | 2,597                  | X                |            |                |            |
| 25         | Keyser Road             | 1,724                  |                  | X          |                |            |

#### 2011

| Section ID | Section Name    | Section Length in Feet | Improvement Type |            |                |            |
|------------|-----------------|------------------------|------------------|------------|----------------|------------|
|            |                 |                        | Crack seal       | 2" Overlay | 1 1/2" Overlay | 1" Overlay |
| 20         | Overlook Drive  | 979                    |                  |            |                | X          |
| 26         | High Haith Road | 986                    |                  |            | X              |            |
| 10         | High Haith Road | 2,850                  |                  |            | X              |            |
| 17         | College Road    | 3,912                  |                  |            |                | X          |

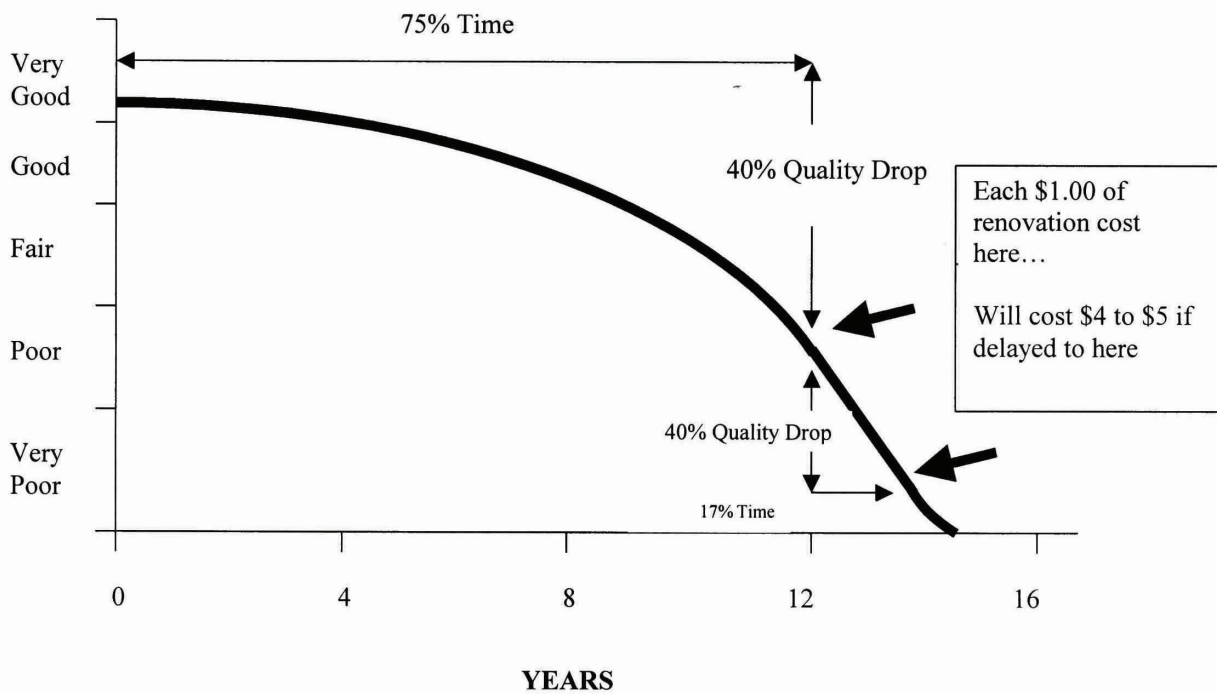
#### 2012

| Section ID | Section Name     | Section Length in Feet | Improvement Type |            |                |            |
|------------|------------------|------------------------|------------------|------------|----------------|------------|
|            |                  |                        | Crack seal       | 2" Overlay | 1 1/2" Overlay | 1" Overlay |
| 31         | Butterfield Road | 2,540                  |                  | X          |                |            |
| 27         | Piper Hill Road  | 5,056                  |                  |            | X              |            |

Caring for roadway infrastructure is a great expense for small a community that requires good timing to maintain a repair schedule that minimizes costs. Pavement management is based on the pavement deterioration curve displayed in Graph 5-2, which illustrates that: roads in good shape cost less to maintain than roads in bad shape. A reality of small town road maintenance is that many communities allow their roads and streets to deteriorate through deferred treatment. Though built at a considerable cost, many roads show signs of major distress and if not corrected, the cost to bring the road to an acceptable condition can be many times more than the cost of timely repair. As roads worsen, maintenance budgets need to increase, possibly resulting in more deteriorated streets each year with the cost per mile increasing disproportionately.

The basic premise is that paved roads have a “service life”, generally about 15 years, without maintenance. After the first 75 percent of a surface’s service life, the performance level only drops from excellent to fair – a 40 percent drop in quality. In other words, after 10-12 years, it is still in satisfactory condition. However, in the next 12 percent of life, the quality of the surface drops an additional 40 percent, from fair to poor. More importantly, a surface that would cost \$1 to renovate at 75 percent of its life will cost considerably more to renovate at 87 percent of its life. Allowing the condition of the surface to deteriorate from fair to poor will increase repair costs five times.

**Graph 5-2: Paved Road Service Life**



**5.5 TOWN ROAD STANDARDS**

New road construction and existing road improvement standards are outlined in the Center Harbor Subdivision Regulations. Last updated in 1992, these sections call for 24’ wide roads, with the ability of the Planning Board to vary the width. A recent trend has placed more emphasis on road design that minimizes lane width based on traffic volume, road purpose, and desired vehicle travel speeds.

One result is increased space for wider shoulders, bicycle lanes, sidewalks, and other amenities within the right of way. Another result is a roadway of appropriate scale for the site where vehicle and non-vehicle uses are safely accommodated. Scale and context road planning are consistent with the community's desire to maintain rural character. Variable design standards are often described in a community's regulations based on anticipated traffic volumes.

## 5.6 RECOMMENDATIONS

### 5.6.1 Previous Master Plan Recommendations

The 1990 Master Plan identified recommendations for transportation improvements. Largely these recommendations have been accomplished including the following:

- Designate additional scenic roadways
- Discontinuance of Highway Department plowing snow on private roads
- Utilizing State Aid Highway funds to make improvements on Center Harbor Neck, Anthon, and Squam Lake Roads
- Build sidewalks on NH Route 25B from library to Kelsea Avenue
- Extend the concrete at Lake Winnepesaukee town boat launch

Additional recommendations articulated in the past plan that should be considered again in this update are:

- Review town road standards and consider creating a separate ordinance.
- Form a town docks capital reserve fund.
- Limit curb cuts along Waukewan Road, US Route 3, and NH Route 25B. Sources of information to accomplish this task include:
  - NH Route 25 Corridor Study, April 2008 - access management considerations (pages 30-32) and Appendix K: Site Plan Checklist for Access Management
  - Route 16 Corridor Protection Study, May 1998 – Access Management video.

### 5.6.2 Additional Recommendations

For the Town overall:

- Research all sources of potential funding available to the town for any project or purchase.
- Work to establish and maintain a Road Surface Management System (RSMS) program for the maintenance of town roads and explore methods to fund such a program.
- Work to form a heavy equipment replacement plan in conjunction with the Highway Department Truck or Equipment Capital Reserve Fund.

For the downtown/village area and Coe Hill Road:

- Review stormwater management practices and existing infrastructure in the area.
- Engineer drainage needs utilizing best management practices (BMPs).

- Plan possible phased installation of upgrades while exploring funding sources.
- Review downtown/village pedestrian traffic plan as well as fire department and utility plans prior to reconstruction so as to include them in the planning process.

For Hawkins Pond Dam Crossing:

- Form a “Memorandum of Understanding” with the NH Dam Bureau regarding responsibilities.
- Work with engineering firm to review potential deck and guardrail deficiencies and formulate a repair strategy.
- Design any needed upgrades and install while exploring funding sources.