# **TRANSPORTATION**

Loudon's transportation system and its connections to the regional and state network provide access to the goods and services that residents and commerce require. It plays a large role in the development of the Town, and in defining the Town's character. With all future development, balancing the desires of residents to maintain Loudon's rural character with the increasing demand on the transportation system will be vital to the Town's future.

The existing transportation network has a profound influence on the location and development of land use throughout the Town. Development trends in Loudon have traditionally been influenced by NH Routes 106 and 129. The Town's centralized village core, and the low density residential and undeveloped areas which give the Town its distinct character, have been, and will continue to be, important elements in what it means to live and work in Loudon.

All land use activities, regardless of scale or type require access to adequate transportation routes and are most likely to locate where access is the easiest and least costly. Due to the financial commitment required for the improvement and maintenance of an adequate transportation system and the direct relationship between land use patterns and traffic circulation, the identification and analysis of current transportation needs is crucial to the orderly accommodation of growth and development. This Chapter of the master plan is intended to provide such an analysis, while also enabling the Town of Loudon to fully participate in all levels of transportation planning – local, regional, state and federal.

The Master Plan Community Survey consistently pointed to the desire of the Town's residents to maintain Loudon's "small town atmosphere" and "rural character." The survey also highlighted the concerns that Loudon's residents have regarding traffic and speeding vehicles, truck volumes along particular routes, and the safety of several intersections. These issues are also documented in the 2012 NH 106 Interim Corridor Study that was completed by the New Hampshire Department of Transportation. At the same time, the Town's residents are conscious of the need to maintain and promote an efficient and safe transportation system that serves the needs of all residents.

# **VISION STATEMENT**

Promote the improvement of public roads in Loudon; encourage a system of transportation that will meet the mobility needs of all local residents by providing for the efficient movement of people, goods, and services within Loudon and throughout the region; maintain a commitment to the rural and historic character of the community; and provide a well-maintained and safe transportation system that meets the functional and aesthetic needs of the community, in a cost-effective manner.

# CHAPTER OBJECTIVES

# **OBJECTIVE 1**

Work with the New Hampshire Department of Transportation to ensure that state maintained roadways within the Town of Loudon are adequately maintained and achieve a reasonable service life.

# **OBJECTIVE 2**

To ensure a safe, reliable, and efficient system of bridges that will meet the transportation needs and goals of the Town of Loudon.

#### **OBJECTIVE 3**

Utilize available traffic count data from NHDOT & CNHRPC to identify corridors and routes that may become impacted by future development trends.

### **OBJECTIVE 4**

Regularly monitor road conditions in the Town to ensure that road improvement projects that are strategically important to Loudon's transportation network are adequately addressed.

#### **OBJECTIVE 5**

Reduce the number of crashes in Loudon that may be caused by unsafe road conditions or poor transportation infrastructure.

# **OBJECTIVE 6**

Identify local residential roads used to enter and exit Loudon and establish plans to make these roadways less suitable for commuter traffic.

#### **OBJECTIVE 7**

Promote connectivity through the requirement of local street connections between existing, new and future developments.

# **OBJECTIVE 8**

Establish a set of access management guidelines in order to properly plan for the traffic impacts of new developments in Loudon.

#### **OBJECTIVE 9**

Investigate potential traffic calming techniques to make Loudon more accessible and safer for all road users.

### **OBJECTIVE 10**

Identifying potential scenic routes and roads in Loudon to ensure that the intrinsic aesthetic and historic qualities of the Town are protected and preserved.

#### **OBJECTIVE 11**

Facilitate the creation of a bicycle & pedestrian infrastructure network that allows safe, efficient and reliable transportation options in certain locations in Loudon.

#### **OBJECTIVE 12**

Ensure that transportation options are available to all residents of Loudon regardless of socio-economic status.

#### **OBJECTIVE 13**

Encourage, support and facilitate an expanded Town Trail network in Loudon.

#### **OBJECTIVE 14**

Work with the NHMS, NHDOT and the State Police to ensure that the New Hampshire Motor Speedway continues to maintain steady traffic flows at all major events.

# **COMMUNITY SURVEY RESULTS**

In preparation for the master plan update, a community survey was available for residents to provide input. Like many communities in the Central NH Region, Loudon has a long history of residents with strong ties and commitment to their community. Completed in 2012, the survey demonstrated residents' appreciation of Loudon's village area, with many suggesting that sidewalks be added. Responders also stated the desire for public transportation to stretch from Concord to Loudon as well as improving the commute towards Concord Monday morning following a race weekend. Additionally, Route 129, Oak Hill Road, Ricker Road, Village Road, Lovejoy Road, Bee Hole Road, and Flagg Road were mentioned as those most needing improvement in Town.

**Community Survey Question 33:** In your opinion, what is the general condition of roads in Loudon?

Q. 33	Total	Percentage
Good	143	42.1%
Fair	165	48.5%
Poor	28	8.2%
No opinion	4	1.2%
Total	340	100.0%

**Community Survey Question 36:** Do you support the addition of bike lanes on local roads when appropriate?

Q. 36	Total	Percentage
Yes	187	55.5%
No	111	32.9%
No opinion	39	11.6%
Total	337	100.0%

**Community Survey Question 37:** Do you agree that traffic lights/intersection improvements are necessary at the NH 106/Staniels Road/Josiah Bartlett Road intersection?

Q. 37	Total	Percentage
Yes	214	64.1%
No	86	25.7%
No opinion	34	10.2%
Total	334	100.0%

**Community Survey Question 38:** Do you agree that traffic lights/intersection improvements are necessary at the NH 106/Chichester Road/S. Village Road intersection?

Q. 38	Total	Percentage
Yes	186	55.5%
No	124	37.0%
No opinion	25	7.5%
Total	335	100.0%

**Community Survey Question 39:** Do you have any other concerns regarding other intersections/access points along NH 106? If yes, please specify.

Q. 39	Total	Percentage
Yes	63	20.6%
No	185	60.5%
No opinion	58	19.0%
Total	306	100.0%

Responders who indicated that they did indeed have concerns regarding other intersections and access points along NH 106 stressed the need for turning lanes along Rt. 106. Access to Dunkin Donuts was mentioned by the majority of responders as

a problem area. Other intersections mentioned include Rt. 106 with Clough Hill Rd and Rt. 106 with Dump Rd.

**Community Survey Question 40:** Do you support the potential installation of center turn lanes along NH 106 as described in the NH Route 106 Interim Corridor Assessment?

Q. 40	Total	Percentage
Yes	214	64.7%
No	62	18.7%
No opinion	55	16.6%
Total	331	100.0%

**Community Survey Question 41:** Do you support the potential installation of passing lanes along NH 106 as described in the NH Route 106 Interim Corridor Assessment?

Q. 41	Total	Percentage
Yes	106	33.0%
No	155	48.3%
No opinion	60	18.7%
Total	321	100.0%

**Question 8:** Do you have any other safety concerns regarding NH 106? If yes, please specify.

Q. 8	Total	Percentage
Yes	63	20.9%
No	179	59.5%
No opinion	59	19.6%
Total	301	100.0%

Of those who specified other safety concerns regarding NH 106, the majority of responders had concerns regarding the speed limit on Rt. 106, many stating the speed limit should be lowered. Other concerns included safety of bicyclist and lack of traffic enforcement Monday morning after a race weekend.

**Community Survey Question 45:** Do you have concerns/comments regarding NHMS race day traffic flow? If yes, please specify.

Q. 45	Total	Percentage
Yes	93	29.2%
No	198	62.1%
No opinion	28	8.8%
Total	319	100.0%

Comments regarding NHMS race day traffic flow were a mix of those who dislike race day traffic and those who believe it is handled well. Overall, the most common concern is the traffic Monday morning after a race weekend when traveling towards Concord.

**Community Survey Question 46:** Do you support the development of a potential park and Ride lot along Route 106?

Q. 46	Total	Percentage
Yes	212	63.1%
No	62	18.5%
No opinion	62	18.5%
Total	336	100.0%

Community Survey Question 49: Are you in favor of the Town investigating the potential installation of new sidewalks throughout the Village to improve pedestrian access to the Elementary School and Maxfield Public Library? The study and potential construction could be funded through the Federal Highway Administration's Safe Routes to School (SRTS) program. \*

\*The FHWA's SRTS program has been replaced by the Transportation Alternative Program.

Q. 49	Total	Percentage
Yes	241	71.5%
No	66	19.6%
No opinion	30	8.9%
Total	337	100.0%

# **EXISTING TRANSPORTATION NETWORK**

A key component in planning for future transportation improvements in a community is to carry out a complete inventory of the existing transportation infrastructure serving the Town. As previously mentioned, Loudon's transportation network is dominated by NH Routes 106 and 129; however, there are a number of different types of roads existent in the Town which are equally important to the overall transportation network.

#### **HIGHWAY CLASSIFICATION**

The State Aid classification system, which is identified by NH RSA 229:5 and 229:231, establishes responsibility for construction, reconstruction, and maintenance as well as eligibility for use of State Aid funds. This classification system also provides a basic hierarchy of roadways.

#### **CLASS I: TRUNK LINE HIGHWAYS**

This classification consists of all existing or proposed highways on the primary state highway system, except highways within the urban compact sections of cities. The state assumes full control and pays costs of construction, reconstruction and maintenance of its sections with the assistance of federal aid. NH Route 106 is the most recognizable example in Loudon.

# **CLASS II: STATE AID HIGHWAYS**

Includes all existing or proposed highways on the secondary state highway system, except highways within the urban compact sections of cities, which are classified as Class IV highways. All sections improved to the state standards are maintained and reconstructed by the state. All other sections must be maintained by the city or town in which they are located until brought up to state standards. The same applies to bridges on Class II highways.

# **CLASS III: RECREATIONAL ROADS**

Includes all roads leading to, and within, state reservations designated by the Legislature. NHDOT assumes full control of reconstruction and maintenance.

#### CLASS III-A: NEW BOATING ACCESS HIGHWAYS

Defined as new boating access highways from any existing highway to any public water in the state. All Class III-a highways are limited access facilities defined in RSA 230:44. There are no Class III-a roads in Loudon.

#### CLASS IV: TOWN AND CITY STREETS

Consisting of all highways within the compact sections of cities and towns listed in RSA 229:5. Extensions of Class I (excluding turnpikes and interstate portions) and Class II highways through these areas are included in this classification. Loudon is not included in the designated towns for this classification.

#### CLASS V: RURAL HIGHWAYS

This classification consists of all traveled highways that the town or city has the duty to maintain regularly. Lower Ridge Road, Clough Hill Road, Old Shaker Road, Youngs Hills Road, and Lovejoy Road are examples of Class V roads in Loudon.

#### CLASS VI: UNMAINTAINED HIGHWAYS

This class consists of all other existing public ways, including highways discontinued as open highways and made subject to gates and bars, and highways not maintained and repaired in suitable condition for travel thereon by the town for five (5) or more successive years.

#### **PRIVATE ROADS**

Private Roads are not part of the town network but may be open to travel.

Of the seven possible state classifications, Loudon's roads fall into fve of these: Class I, Class II, Class V, Class VI and private roads. Loudon's road system is typical of most New Hampshire towns, in that the most mileage is accounted for by Class V roads. Roadway mileage by classification is shown below in Table 10.1.

State Aid Class roads can be seen on the **Roads by Legislative Class Map**.

Table 10.1: State Legislative Class of Roads in Loudon

State Legislative Classification	Mileage
Class I: Trunk Line Highways	9.0 Miles
Class II: State Aid Highways	10.4 Miles
Class III: Recreational Roads	0.0 Miles
Class III-a: New Boating Access Highways	0.0 Miles
Class IV: Town and City Streets	0.0 Miles
Class V: Rural Highways	76.2 Miles
Class VI: Unmaintained Highways	20.0 Miles
Private Roads	14.4 Miles

Source: NH GRANIT

#### **FUNCTIONAL CLASSIFICATION SYSTEM**

The 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 Department of Transportation. While the state aid classification system outlined above is the primary basis for determining jurisdiction, the following system is important for determining eligibility for federal funds.

Recognition of the principal function that a highway, road, or street is intended to serve can reduce potential conflicts between land use activities and traffic movements. For example, from a theoretical standpoint, residential development should never be permitted or encouraged to locate along major highways due to the opportunity

for direct land use/traffic conflicts. The need for direct access to residential properties causes numerous left turn and crossover movements as well as ingress/egress movements, all of which slow and/or interrupt the smooth flow of traffic, while substantially increasing the potential for crashes to both pedestrians and vehicles. The five basic functional classifications are described below.

# PRINCIPAL ARTERIAL/CONTROLLED ACCESS

These highways consist of interstates and some primary state routes that form the basic framework of the State roadway system. They primarily function as the main routes for interstate commerce and traffic. In addition, they also link major geographic and urban areas to economic districts of the State. Controlled Access is a designation adopted by NHDOT, the effect of which is to minimize the frequency of curb cuts, thereby controlling the amount of traffic crossing lanes and stopping on the road. NH Route 106 is a good example of a principle arterial roadway that serves the Town of Loudon.

#### MINOR ARTERIALS

These roadways serve long distance traffic movements and are secondary to primary arterial roadways in that minor arterial primarily serve as links between major population areas, or between distinct geographic and economic regions.

# **MAJOR COLLECTORS**

These roadways differ from arterial roadways due to size and general service area. Collectors serve traffic in a specific area, whereas arterials generally serve traffic moving through an area. Thus, average trip lengths on collectors are shorter than trips on arterials. Furthermore, collectors gather traffic from local roads and streets and distribute them to the arterial.

# MINOR COLLECTOR

These roads provide access to smaller communities within a geographic area or economic region. They may link locally important trip generators, such as shopping centers, to surrounding rural areas. They also serve as links between two or more major collectors. NH 129 serves as a minor collector in Loudon.

#### LOCAL ROADS

These roads and streets are used primarily to provide access to adjacent properties. These roads have numerous turning movements in and out of abutting driveways and curb cuts.

# **CLASS VI OR PRIVATE**

Not part of Town network but may be open to travel.

Generally, future development in Loudon should only be permitted to take place at locations where the primary road function is appropriate for the type of development proposed. As part of its Site Plan Review Regulations, the Planning Board should consider the functional classification of any road on which development is proposed to ensure that the proposed development is appropriate for the existing roadway function.

Federal Funcational Class of Roads can be seen on the **Roads by Functiononal Class Map**.

Table 10.2: Functional Classification of Roads in Loudon

State Legislative Classification	Mileage
Principal Arterial/Controlled Access	11.9 Miles
Minor Arterials	0.0 Miles
Major Collectors	0.0 Miles
Minor Collectors	13.4 Miles
Local Roads	71.2 Miles
Class VI or Private	34.6 Miles

Source: NH GRANIT

# **BRIDGE NETWORK**

Bridges are a key component of the highway system. 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 (NHDOT) 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. With an FSR greater than 80 a bridge is generally accepted to be 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 10.3 shows the bridges in Loudon as listed on the NHDOT Bridge Summary, most recently released in July of 2017. The classification of Structurally Deficient or Functionally Obsolete does not mean that the bridge is necessarily unsafe for use. Rather, Functionally Obsolete indicates that the bridge does not meet a particular standard such as an inadequate deck width, under clearance or approach roadway alignment. Structurally Deficient refers to a bridge with one or more deteriorated components whose condition is critical enough to reduce the safe load carrying capacity of the bridge. Culverts and bridges with less than a 20 foot span or newer than ten years are not applicable.

It should be noted that bridge inspections are done once every two years except red listed bridges which are inspected every year.

According to NHDOT 2016 records, there are no red listed bridges located in Loudon.

NHDOT manages three bridge aid programs including State Aid Bridge which is state funded, 2014 SB 367 which is also state funded, and Municipal Off-System Bridge Rehabilitation and Replacement which is federally funded. Projects begin by the town submitting an application for a preliminary estimate or hiring an approved consultant to do the estimate. NHDOT determines a potential program and year of funds for construction, this process takes several months. The **Bridges by Ownership Map** shows the location of bridges in Loudon and by ownership.

# **TRAFFIC VOLUMES**

Traffic volume data for the Town of Loudon are compiled from several sources. CNHRPC maintains an ongoing traffic count program for monitoring the region's transportation network. In addition, CNHRPC collects traffic count data for the NHDOT in accordance with federal guidelines under the Federal Highway Performance Monitoring System (HPMS). Finally, CNHRPC also conducts traffic counts for the two major events held annually at the New Hampshire Motor Speedway.

The Average Annual Daily Traffic Count Locations Map displays the Average Annual Daily Traffic (AADT) volumes for 2005 - 2014, which are published on the NHDOT website. AADT is a basic measure of traffic demand for a roadway and represents the volume of traffic travelling in both directions. As stated above, CNHRPC provides traffic count data to the NHDOT, who then calculates the AADT by applying correction factors to raw data to account for weekday and seasonal variations in traffic volumes.

**Table 10.3: New Hampshire State and Municipal Bridge Inventory in Loudon** 

				<u> </u>		
Bridge	Location	FSR	Deficiency	Owner	ADT/Year	Inspection Year
Wales Bridge Road	Soucook River	54.8	Not Deficient	Town	350 / 14	Sept 2015
Staniels Road	Suncook River	100.0	Not Deficient	Town	50 / 84	Sept 2015
Currier Rd	Soucook River	52.6	Functionally Obsolete	Town	200 / 84	Sept 2015
Sanborn Road	Sanborn Brook	79.0	Not Applicable	Town	30 / 84	Sept 2015
Kenny Road	Academy Brook	80.8	Not Applicable	Town	20 / 84	Sept 2015
NH Route 106	Soucook River	98.8	Not Deficient	NHDOT	14,000 / 14	Apr 2016
NH Route 106	Soucook River	99.0	Not Deficient	NHDOT	11,000 / 14	Apr 2016
Chichester Road	Bee Hole Brook	97.6	Not Deficient	Town	1,600 / 14	Sept 2015
South Village Road	Soucook River	59.0	Functionally Obsolete	Town	3,300 / 14	Sept 2015
NH Route 106	Recreation Trail	100.0	Not Applicable	NHDOT	11,000 / 14	Apr 2016
Cross Brook Road	Bee Hole Brook	98.7	Not Applicable	Town	100 / 06	Sept 2015
NH Route 106	Shaker Brook	94.4	Not Deficient	NHDOT	11,000 / 14	Apr 2016
Old Shaker Road	Shaker Brook	77.0	Functionally Obsolete	Town	400 / 14	Sept 2015
Clough Hill Road	Soucook River	70.5	Functionally Obsolete	Town	1,400 / 14	Sept 2015
NH Route 106	Gues Meadow Brook	99.1	Not Applicable	NHDOT	12,000 / 14	Apr 2016
Mackenzie Road	Academy Brook	67.0	Not Deficient	Town	640 / 11	Sept 2015
Pittsfield Road	Sanborn Brook	89.8	Not Applicable	NHDOT	610 / 11	Apr 2016
Lower Ridge Road	Academy Brook	48.5	Functionally Obsolete	Town	620 / 14	Sept 2015
Bumfagon Road	Academy Brook	78.5	Not Applicable	Town	620 / 14	Sept 2015
Loudon Ridge Road	Academy Brook	42.1	Functionally Obsolete	Town	330 / 14	Sept 2015

ADT=Average Daily Traffic

Source: NH Department of Transportation Bridge Summary dated July 6, 2017

Of the fourteen sites for which multiple AADT volumes for 2005 – 2014 have been calculated, seven show slight increases in volumes, with the remaining locations either remaining static or showing a slight decrease.

# **ROADWAY CONDITIONS**

Pavement condition data from 2016 was obtained from the NHDOT's Pavement Management Section for state-maintained (Class I and II) roads and is displayed on the **2016 Pavement Condition Map**. The pavement calculated directly from the average pavement roughness measured in the left and right wheel paths of roadways. That data indicates that NH Route 106 is in good condition while NH Route 129 in particular needs maintenance.

On local, town maintained roads surface conditions vary by location. Naturally, there are issues to be addressed in the Town's road network, particularly due to the increasing costs of maintenance. However, the Town's Highway Department and Board of Selectmen are to be commended for taking an extremely proactive approach to local road maintenance. In the 2012 Master Plan Community Survey, 42.1% of respondents considered Loudon's roads to be in good condition, with 48.5% stating that the road network is in fair condition. The Town's Capital Improvement Program regularly schedules improvements to the local road network and the Highway Department has a repaving and maintenance schedule that the majority of the Town's residents seem to be content with.

Many communities in New Hampshire have begun to establish Road Advisory Committees and implement Road Surface Management Systems (RSMS) to help prioritize road improvements and develop a transparent system for short, medium and long term improvements. CNHRPC offers a RSMS at no cost to its member communities. RSMS is a methodology intended to provide an

overview and estimate of a road system's condition and the approximate costs for future improvements. It provides a systematic approach for local officials to gauge current network conditions and to guide future improvement and investment in line with municipal Capital Improvement Programs.

#### **MOTOR VEHICLE CRASHES**

Motor vehicle crash data from 2011 – 2015 was obtained from NHDOT, who receives the data from the Department of Safety for reported crashes with over \$1,000 in damage. The data represents roughly 80% of all crashes with over \$1,000 in damage that took place during this time period; the remaining 20% of crashes are not locatable based on the information contained in the crash reports. Locatable crashes that occurred in Loudon were reviewed and are summarized graphically on the **Crashes 2011 - 2015 Map** and in summary tabular form for the most frequent locations in Tables 10.4 – 10.5

During this five-year time period, the highest proportion of crashes occurred along the most heavily travelled routes in Loudon. NH Routes 106 and 129 are both state maintained highways that form the back bone of Loudon's transportation network. As such, it is important to work with the NHDOT to improve safety along both of these routes. The frequency of crashes at intersections on both these roadways is of particular concern.

The crash counts at the intersections are also included in the roadway totals. It is reasonable to assume that a number of smaller crashes may also have occurred during this time period which did not require the reporting from the police department. Any crashes reported in Loudon are a cause for concern and should be monitored at regular intervals to determine locations where improvements are needed on account of safety.

**Table 10.4: NH106 Summary Crash Data** 

Road or Intersection		Crash Type			Crash Severity					Conditions		
	Туре	Description	Type Total	Intersection Related	Fatality	Incapacitating	Non- Incapacitating	Possible	Unknown	No Apparent Injury	At night	During snow, rain, or sleet
Route 106	Collision	Other Motor Vehicle	48	28	2	1	6	3	5	31	6	10
(Rocky Pond Road):	Collision	Animal	8	1						8	6	
Concord Town Line	Collision	Fixed Object	7				2		1	4	3	2
To Route 129	Collision	Other Object	2							2		2
	Collision	Bicycle	1							1		
	Non-Collision	Overturn	3						2	1	1	2
<b>Location Totals</b>			69	29	2	1	8	3	8	47	16	16
	Collision	Other Motor Vehicle	24	10		1	2		7	14	2	5
Route 106	Collision	Animal	6			1				5	5	2
(Rocky Pond Road):	Collision	Fixed Object	4	1						4		2
Route 129 to Shaker Road	Non-Collision	Overturn	1							1	1	1
		Other	1				1					
<b>Location Totals</b>			36	11		2	2	0	7	24	8	8
	Collision	Other Motor Vehicle	28	7		2	6	3	5	12	2	1
Route 106 (Rocky Pond Road): Shaker Road to Gilmanton Town Line	Collision	Fixed Object	9	1			2		2	5	2	
	Collision	Animal	7				1		1	5	4	
	Non-Collision	Overturn	5	1		1	1			3	2	1
		Unknown	2	1			1			1	1	
Location Totals			51	10	0	3	11	3	8	26	11	2

Source: NH Department of Transportation/NH Department of Safety

Table 10.5: Route 126 Summary Crash Data

	Crash Type			Crash Severity					Conditions			
Road or Intersection	Туре	Description	Type Total	Intersection Related	Fatality	Incapacitating	Non- Incapacitating	Possible	Unknown	No Apparent Injury	At night	During snow, rain, or sleet
	Collision	Animal	2							2	1	1
	Collision	Other Motor Vehicle	8			1			1	6	1	2
Pouto 126 to Cilmanton	Collision	Fixed Object	19	2			4		5	10	1	7
Route 126 to Gilmanton Town Line	Non-Collision	Overturn	4						2	2	4	1
	Collision	Other Object	1						1		1	
		Other	4							4	3	3
	Non-Collision	Spill (2 Wheel Vehicle)	1			1						
Location Totals			39	2	0	2	4		9	22	11	13

Source: NH Department of Transportation/NH Department of Safety

**Table 10.6: Crash Hot Spots 2007-2015** 

State Maintained Highways	Number of Crashes 2011-2015
NH 106	159
NH 129	39
Pittsfield Road	4
Shaker Road	4
Town Maintained Roads	Number of Crashes 20011-2015
School Street	19
Old Shaker Rd	16
Chichester Road	12
Clough Hill Road	8
Lower Ridge Road	8
Intersection Locations	Number of Crashes 2011-2015
NH 106/Staniels Road	11
NH 106/Chichester Road	10
NH 106/NH 129	5
NH 106/Shaker Road	3
NH 106/Clough Hill Road	2

Source: NH Department of Transportation/NH Department of Safety

#### **COMMUTING PATTERNS**

The US Census Bureau's American Community Survey (ACS) is an ongoing survey that provides data every year in the form of 1-, 3- and 5-year period estimates representing the population and housing characteristics over a specific data collection period. The ACS differs from the decennial Census in that the Census shows the number of people who live in an area by surveying the total population every 10 years. The ACS shows how people live by surveying a sample of the population every year. ACS collects and releases data by the calendar year for geographic areas that meet specific population thresholds; for areas with populations under 20,000, such as Loudon, 5-year estimates are generated. The most

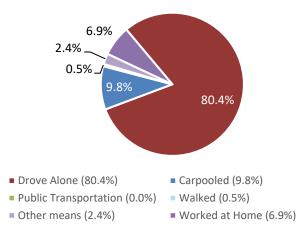
recent release represents data collected between January 1, 2012 and December 31, 2016.

Journey to Work Commuting data from the 2012-2016 5-year estimates for Loudon were reviewed and are displayed graphically in the following charts. In general, the majority of the working population residing in Loudon works outside of the community but within New Hampshire, drives to work alone, and commutes an average of about 28 minutes to work. It should be noted that the category "public transportation," is an option under "Means of Transportation to Work," however, there were zero respondents who chose that option.

As is typical in most New Hampshire towns, the most popular transportation option for Loudon residents is the private automobile. Carpooling, where one or more passengers accompany the vehicle driver to a shared destination point represents a sizeable portion of commuters in Loudon (Figure 10.1). This is an encouraging sign and points to the usefulness of Park and Ride locations in the state. It also highlights that a potential Park & Ride lot off or near NH Route 106 could receive significant usage from Loudon residents.

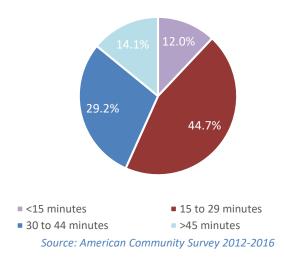
Figure 10.2 shows that 43.3% of Loudon's residents travel time to work exceeds thirty (30) minutes. This statistic highlights the importance of the arterial and collector road system that serves the Town. In all future planning decisions, at the local, regional or state level, Loudon should ensure that the functionality of these important routes is maintained and that future land-use and transportation decisions support the functional characteristics of Loudon's road network to ensure continued ease of access for residents and visitors to the Town.

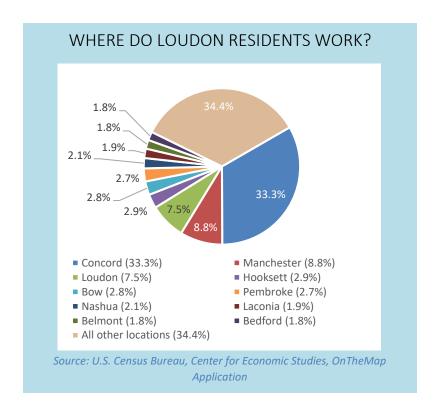
**Figure 10.1: Mode of Transportation to Work** 



Source: American Community Survey 2012-201

Figure 10.2: Travel Time to Work





Understanding the commuting patterns of the labor force in the community can assist in planning roadway improvements that will make important travel routes more efficient, safe, and promote economic growth in a sound and coordinated fashion. Similarly, local residential roads that are not suited for heavy commuter traffic should be identified and this "through traffic" should be minimized wherever viable alternatives can be provided. Traffic counts should be reviewed and analyzed to identify roads that have shown an increase in traffic over the years. Finally, yearly traffic counts should be carried out on roads that the Town sees as a concern in order for reliable usage patterns to be analyzed.

# **DEVELOPMENT & TRANSPORTATION**

#### **NEW DEVELOPMENT**

New development is often phased over extended periods of time and the ultimate, as well as the immediate, impacts of development on traffic volumes and transportation systems should always be considered. The magnitude of new development obviously determines the traffic impacts that the development will have. Depending on existing roadway traffic volume, distribution patterns, and the physical condition of local roadways, small scale as well as large-scale development can often have significant impacts on the surrounding roadway network. By requiring transportation/traffic impact studies for new developments of a certain size or for developments located in areas where significant transportation problems are known to exist, the Town of Loudon's Planning Board can effectively evaluate the scope of impacts associated with any new development. Through this kind of scrutiny, recommendations for project phasing, and developer participation in necessary improvements can be developed and problems of safety, congestion, and expensive upgrading of poorly planned roads can be avoided.

As federal and state assistance for local road construction has decreased (in most cases), in recent years, and will likely continue to decrease in future years, the construction, improvement, and maintenance of local roads has increasingly become the responsibility of municipalities and developers. The fact that a developer accepts the responsibility for performing all necessary "on-site" infrastructure improvements is now considered standard practice. However, where developments will have significant impact on the transportation infrastructure in Loudon, developers should also be responsible for addressing these issues.

The two basic methods for securing developer participation in roadway and other infrastructure improvements necessitated by new development are through negotiated development agreements and through the assessment of formula based development impact fees.

#### CONNECTIVITY

The functional roadway classification system provides an organized hierarchy to the Town's roadway system. However, for the roadway system to be effective, efficient, and to serve to maintain a sense of community, the roadway system needs to exhibit a sense of connectivity. Roadway connectivity refers to a street system that provides multiple routes and connections to the same origins and destinations.

One of the difficulties that the Town of Loudon, like other municipalities, faces is development projects that come before the Planning Board exhibiting poor connectivity. This can often be seen with residential subdivisions, where the subdivisions are designed as a series of cul-de-sacs. Although the residents who live on these types of streets generally prefer this type of disconnected street system because of the resulting low volume of traffic, the impact to the community as a whole can be detrimental.

A well connected street system provides motorists, pedestrians and bicyclists better, more direct and shorter travel routes to schools, shopping and other neighborhoods. A well connected street system not only provides shorter and more efficient connections but also serves to reduce traffic congestion along the major arterial roadways. The result is a more efficient roadway system with less need to be continually adding capacity to the Town's major roadways. A well connected street system also improves emergency response times for firefighters, police, and ambulance services. In

addition to the traffic operational benefits, a well-connected street system also serves to create a sense of community as opposed to a sense of isolation that cul-de-sacs can at times create. Cul-de-sacs are an important part of communities throughout the state and where appropriate should be encouraged. However, a well-planned and connected street system should be a key element in Loudon's transportation planning policy and accurately represented in the decisions of the Planning Board.

#### **ACCESS MANAGEMENT**

Access management involves providing (or managing) access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed. It is the practice of coordinating the location, number, spacing, and design of access points to minimize site access conflicts and maximize the traffic capacity of a roadway.

# 1. Land use and transportation.

Consider access management as an integral part of any zoning change, subdivision or site plan approvals. Access requirements in your zoning and subdivision regulations should fit each roadway's functional classification. Recognize that the greatest access control is needed for those roads intended to serve longer, higher speed trips especially NH 106.

# 2. Connect local streets between subdivisions.

Give your residents convenient options for travel from one neighborhood to another by connecting local streets from one subdivision to the next.

# 3. Design subdivisions with access onto local streets.

Avoid lot designs with driveways that enter onto major state highways. Orientate business and residential driveways to local

streets that feed onto the highway at a few carefully designed and spaced intersections.

# 4. Practice good site planning principles.

Locate entrances away from intersection corners and turn lanes. Provide adequate space on the site for trucks to maneuver and for vehicles to queue at drive-through windows without backing or stacking on the roadway. Adjacent businesses should provide shared driveways and cross access so customers can make multiple stops without entering the arterial.

# 5. Correct existing problems as opportunities arise.

Adopt a long range vision for improving access along older, developed corridors. Correct unsafe accesses as individual parcels expand or redevelop. Work with affected property owners to consolidate driveways and provide internal access between parcels.

# 6. Coordinate local development plans with NHDOT.

Share plans for subdivisions, site plans, and changes in zoning along state highways with NHDOT District 3 representatives early in the development process.

# **TRAFFIC CALMING**

Traffic calming is a significant challenge for most communities in the United States. This is particularly true for small, rural communities in New Hampshire where the main roadway through the town serves a dual role. Outside the town, the roadway provides high-speed travel over long distances; within the built-up area, however, the same roadway accommodates local access, pedestrians of all ages, on-street parking, bicycles, and the many other features unique to the character of a community.

Lowering speed limits is a well-established method of improving pedestrian safety and other non-motorized modes of travel. The

minimum speed limit a town can impose on town maintained roadways is 25 miles per hour based on an engineering study. Limits can be made lower at intersections (RSA 265:63) and in school zones (RSA 265:60). Limits can be made lower at intersections (RSA 265:63) and in school zones (RSA 265:60). Addressing the issue through law enforcement alone often leads to temporary compliance at a significant cost.

A more permanent way to reinforce the need to reduce speed is to change the look and feel of the road by installing traffic calming treatments that communicate to drivers that the function of the roadway is changing. Traffic calming has been evaluated and used extensively within low-speed urban areas in the United States but less so in rural areas where driver expectations and traffic characteristics are different.

Traffic calming involves road design techniques using active or physical controls (bumps, barriers, curves, rumble strips, etc.) and passive controls, such as signs and traffic regulations, to reduce vehicle speeds. Traffic calming measures foster safer and quieter streets that are more accommodating to pedestrians and cyclists and enhance neighborhoods and downtown environments. The potential benefits of traffic calming include reduced traffic speeds, reduced traffic volumes — by discouraging "cut-through" traffic on residential streets — and often improved aesthetic quality of streets. An example of some effective and applicable traffic calming techniques include:

Potential traffic calming methods that may be applicable to the Town of Loudon:

 Speed Humps, Speed Tables, and Raised Crosswalks: All of these techniques involve raising the height of the pavement in a more subtle fashion than with a speed bump, allowing vehicles to pass over them at the intended speed of the road, but preventing excessive speeds and alerting drivers to the existence of non-motorized users. These techniques would be applicable in the Village Center and around school zones, and walking routes to schools.

- Medians: These devices are also used to manage access to streets and highways, improve traffic safety and maintain roadway capacity by restricting left turn movements to controlled intersections along a corridor. When used this device can allow for additional landscaping and improve the visual experience for all users of the road. Medians may serve as a refuge by allowing pedestrians to cross one lane of travel at a time, and thus improving the safety of crossing pedestrians. On demand pedestrian signals can provide additional safety at crosswalks on major highways such as NH 106 at the New Hampshire Speedway. This may be an ideal application especially for off peak hours when Traffic Control officers cannot be present.
- Modern Roundabout: Not to be confused with a traditional high-speed rotary or traffic circle, this is an intersection treatment that forces motorized traffic to slow down to speeds under 25 mph in order to negotiate a center island that can be landscaped. Such speeds allow pedestrians to safely cross around the perimeter of the roundabout and cyclists to safely become a part of the circulating traffic.

#### SCENIC ROADS

A major component of a town's rural character can be its unpaved and scenic roads. These roads help to retain a sense of history and rural quality that Loudon's residents have indicated a strong desire to maintain. 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. A municipality may rescind its designation of a scenic road using the same procedure.

The effect of designation as a scenic road is that, except in emergency situations, there shall be no cutting of trees with a circumference of 15 inches at 4 feet from the ground or alteration of stone walls by the town or a public utility within the right-of-way without a hearing, review, and the written approval of the Planning Board. This law does not affect the rights of individual property owners; nor does it affect land uses as permitted by local zoning.

In recognition of the fact that the state law is not very stringent, the statute was amended in 1991 to allow towns to adopt provisions other than what is spelled out in the law. These additional regulations could include giving protection to smaller trees or by inserting criteria for the Planning Board to use in deciding whether to grant permission. RSA 231:157 is an important piece of legislation for the preservation of culturally important and scenic roads in Loudon. Its residents cherish the historic and aesthetic qualities of the Town. The Town of Loudon should therefore consider identifying and cataloguing roads with scenic vistas and aesthetic qualities to protect and preserve the intrinsic qualities of the Town.

# OTHER TRANSPORTATION NETWORKS

#### **BICYCLE & PEDESTRIAN INFRASTRUCTURE**

Residents of Loudon value the rural and historic character of the Town. In certain locations the volume of traffic and associated speeds can be detrimental to this sense of place that was evident in the community survey. Pedestrian facilities, such as paved sidewalks and gravel walking paths are essential features for roadways with high volumes of traffic or high speeds. The primary purpose of

sidewalks is to improve safety for pedestrians by separating them from travel lanes of roadways. In addition to this, sidewalks can also serve as a source of recreation for residents, a non-motorized mode of travel, serve to beautify an area, or stimulate economic activity in rural and village settings.

Similar to the provision of pedestrian infrastructure, planning for a bicycle network requires a different approach from that of motorized transportation planning. Bicyclists have different needs from those of motorists, including wider shoulders, better traffic control at intersections, and stricter access management.

As the concern over air quality, traffic congestion, and other issues increases, the need and desire for a well-maintained and safe bicycle & pedestrian route system will continue to grow from a luxury into a necessity. By creating adequate local bicycle & pedestrian infrastructure, members of the community will have the ability to travel within Town for employment, shopping, and recreational purposes without driving. Areas identified in the Master Plan survey for potential bicycle & pedestrian improvements

The establishment of a Loudon Trails Committee could expedite the process of developing bicycle and pedestrian recreation opportunities throughout town. There is a desire to link existing trail systems as well as develop a multi-use path within the Right-of-Way along NH 106 to improve safety for bicycle and pedestrian recreation along the corridor.

include Loudon village with a specific focus on Loudon Elementary School, South Village Road and the Loudon Recreational Fields.

#### **PUBLIC TRANSPORTATION**

As noted in the community survey and visioning section, a high number of residents stressed the need for more public transportation options in Loudon. Of these the vast majority requested service to and from Concord and Manchester. This is representative of the high number of Loudon's residents who work in both locations. Important demographics to consider in discussing public transit enhancements in Loudon are that 26% of the population in Loudon is over the age of 55 (2010 US Census). Increase in demand for public transit has been established as a defined need for aging populations throughout the United States.

Currently there are two volunteer transportation providers that serve Loudon. The John O. Cate Memorial Van provides direct service to Concord from Loudon. The Mid-State Regional Coordinating Council also runs a volunteer driver program that serves the region's elderly and disabled populations. The primary purpose or these trips are for essential social services and medical appointments (including long distance medical). Currently, there is no charge for both of these systems although donations are accepted.

# **CLASS VI ROADS & TRAILS**

Class VI roads are roads that are not maintained by the Town, may be subject to gates and bars, and normally consist of a gravel or dirt surface. A Class V road can become a Class VI road if the Town has not maintained it for five years or more. Under RSA 674:41, I(c), for any lot whose street access (frontage) is on a Class VI road, the issue of whether any building can be erected on that lot is left up to the "local governing body" (Town Selectmen) who may, after "review

and comment" by the planning board, vote to authorize building along that particular Class VI road, or portion thereof. Without such a vote, all building is prohibited.

Even if the Board of Selectmen does vote to authorize building, the law states that the municipality does not become responsible for road maintenance or for any damages resulting from the road's use. The purpose of RSA 674:41, I(c) is to prevent scattered and premature development. It seems that the residents of Town are in agreement with this law, as a strong view was represented during the community survey and visioning sessions that future development should be limited in remote areas of Town and on Class VI roads.

The Town of Loudon does allow the subdivision of land along a Class VI road, if the road is brought up to Class V Town road standards. The Town does allow building on existing lots along Class VI roads, without requiring upgrades, as long as the development meets all of the frontage requirements. However, the Town does not perform maintenance on these roads and the responsibility falls onto the individual property owners.

Across the State, many communities are beginning to look at Class VI roads as candidates for designation as Class A Trails. These roads have little or no development associated with them, are scenic, have no inherent liability concerns, public access is already allowed, and also serve to connect large areas of open space, conservation, and/or agricultural lands. By reclassifying certain roadways that meet these criteria to Class A Trails, the community could be taking a step in creating a community-wide system of greenway trails. Unlike Class VI roads that the Town does not maintain, Towns, at their option, may conduct maintenance on Class A Trails.

The Town of Loudon has an extensive system of snow mobile trails on both public and private properties. Class A trail designation can act to preserve and protect portions of these trails.

It is important to stress that reclassification of Class VI roads to Class A Trails will not inhibit the access rights of landowners along the roadways. In the case of a Class A trail, landowners can continue to use the trail for vehicular access for forestry, agriculture, and access to existing buildings. However, under such classification, new building development as well as expansion, enlargement, or increased intensity of the use of any existing building or structure is prohibited by New Hampshire Statute. The Town and owners of properties abutting Class VI roads are not liable for damages or injuries sustained to the users of the road or trail.

Class VI roads are an important component of a Town's transportation infrastructure due to their rural character and potential recreational opportunities.

# **NEW HAMPSHIRE MOTOR SPEEDWAY**

Located on approximately 1,200 acres just off NH Route 106, The New Hampshire Motor Speedway (NHMS) is the largest sports facility in New England in terms of seating capacity. NHMS features a 1.058-mile oval speedway, with total capacity for 105,491 spectators. During a typical season at NHMS, more than 600,000 spectators attend races and stand-alone events, while the speedway provides both full and part-time employment to more than 1,500 workers.

With a facility of this size major events such as the NASCAR Sprint Cup Series produce significant increases in traffic volumes on both state and town roads in Loudon. Typical race day traffic volumes over the last three years see a trifold increase on normal volumes of 11-12,000 AADT. By working closely with the NHMS, NHDOT and NH State Police the Town of Loudon is able to ensure that the traffic control operations implemented for these events maintain steady flows of traffic with little or no disruptions. Over 62% of respondents to the Master Plan survey stated that they do not have concerns with race day traffic flow in Loudon.

From an economic standpoint, the presence of NHMS in Loudon is extremely important to the Town of Loudon, along with the regional and statewide economy. Recent planning efforts such as the NH106 Interim Corridor Study highlight the importance of maintaining excellent transportation linkages to and from the Speedway and this is a view that is echoed in the Master Plan survey results. The Town of Loudon should actively work with its partners at NHMS and NHDOT to ensure that these transportation links are maintained and improved where applicable.



Source: NHMS.com

During NASCAR Race events in July and September a model traffic control plan is implemented to handle the over 100,000 spectators and over 37,000 vehicles. Traffic control measures involve NH 106, Interstate 393 and Interstate 93.

On race day mornings, NH 106 is converted from a two lane rural highway with 10' shoulders to a four lane highway with three lanes northbound from I-393 in Concord to the NHMS. Also on race day mornings the I-93 northbound ramps at Exit 15E in Concord be will be converted to two temporary lanes while other ramps at nearby interchanges are closed and local traffic detoured to facilitate this conversion.

After a race is concluded in the early afternoon, NH 106 is closed to northbound traffic from I-393 in Concord to the NHMS. Three southbound lanes will be provide for southbound traffic with local intersections closed temporarily with detours provided. NH 106 to the north of NHMS is altered temporarily to allow for two lanes northbound through Belmont with local road closings and detours provided for local traffic. On I-93 from Exit 15 three southbound lanes are temporarily created for a distance of five miles by borrowing one north bound lane until approximately 11:00 PM. At the I-393/I-93 (Exit 15) interchange the westbound to south bound ramps are temporarily converted to two lanes. Other ramps at the Exit 1 on I-393 interchange, I-393/I-93 interchange and Exits 14 on I-93 are closed to facilitate the wet bound to southbound traffic a series of detours in place to allow for full directional movement. Traffic control plans for each event are posted on the NHDOT website under News Releases.

# NH 106 IMPROVEMENT PLAN

#### **TRAFFIC STUDIES**

In 1994 a public hearing was held by the NH Department of Transportation regarding improvements to NH 106 from Concord to Laconia. 1995 an Environmental Assessment (EA) was undertaken by NHDOT. This transportation study recommended that NH 106 be widened to five lanes from Concord to Laconia, two through lanes and a center turn lane. Intersection and shoulder widening has occurred along the corridor but the ultimate widening recommended has not been undertaken. However, additional right-of-way was subsequently acquired to facilitate the future widening of the highway.

In 2011, the consulting firm of McFarland Johnson was selected to complete an updated traffic study for the corridor. In March of 2012, a new study of the corridor was published and a public hearing held on this study on August 15, 2012. The study concluded that:

- Traffic volumes which were predicted to reach 23,000
   ADT by 2010 in the 1995 EA. Traffic volumes did not grow at the rates predicted in 1995 and the 2010 ADT volumes were just under 17,000 ADT. Traffic volumes have remained fairly stable since 2001. The 2012 traffic study projects volumes to grow to 20,000 ADT in 2035.
- Consequently, the study concludes that a five-lane section proposed in 1995 is not needed even in the design year of 2035.
- The study recommends the addition of one additional lane through the entire corridor which will consist of a

center turn lane, and a through lane in each direction. In portions of the corridor the center lane would become a passing lane, and at major intersections a dedicated left turn lane.

- Two additional signalized intersections were proposed on NH 106 at Staniels Road/Josiah Bartlett Road and NH 106 at Chichester Road/South Village Road. In 2015 the recommend improvements to the NH 106/ Staniels Road/Josiah Bartlett were completed.
- An additional thru lane is proposed at each of the signalized intersections. An example of this is the recently completed project on NH 106 at the Staniels Road/Josiah Bartlett Road intersection.
- Interim improvements would focus on the intersections in the corridor.

#### **NH 106 PROGRAMMED IMPROVEMENTS**

In an effort to begin implementing some of the recommendations contained in the Corridor Improvement Plan, the State of New Hampshire Ten Year Transportation Improvement Plan 2017-2026 has included major improvements in the NH 106 corridor in Loudon as follows:

# NH 106 Phase 1 Improvements to Enhance Traffic Operations and Safety from Clough Pond Road to Shaw Road

2017 - Preliminary Engineering		\$440,000
2018 - Preliminary Engineering		\$227,040
2018 - Right of Way		\$652,740
2019 - Right of Way		\$1,101,235
	Total	\$2,421,015

# NH 106 – Widening of 1 mile from Shaker Road to beyond NHMS South Entrance

2018 - Construction \$2,838,000

# NH 106 Roadway Widening for 3.6 miles from Soucook Road, Loudon to Ames Road, Canterbury

	Total	\$5,556,634
2020 - Construction		\$3,743,111
2020 - Construction		\$1,816,523

# NH 106 and South Village Road/Chichester Road Intersection Improvements

	Total	\$1,400,285
2025 - Construction		\$1,202,954
2024 - Right of Way		\$68,568
2022 - Preliminary Engineering	,	\$128 <i>,</i> 763

Of note is the current timeline for future improvements at the NH 106/Village Road/Chichester Road intersection. With its identification as a safety concern in the survey responses and community visioning session discussions, the need for this project to be completed earlier than 2025 has been identified as a key transportation issue in Loudon.

# OBJECTIVES AND RECOMMENDATIONS

# **OBJECTIVE 1**

Work with the New Hampshire Department of Transportation to ensure that state maintained roadways within the Town of Loudon are adequately maintained and achieve a reasonable service life.

- → Ensure that Loudon's transportation needs and priorities, such as acceleration of the NH 106/ Village Road/ Chichester Road intersection improvements as part of the NH 106 improvement project, are adequately represented in both the Regional and the Statewide Transportation Improvement Program by engaging with the Central New Hampshire Regional Planning Commission (CNHRPC) and the New Hampshire Department of Transportation (NHDOT).
- → Pursue State Highway Aid grant opportunities, such as the State Highway Aid and State Bridge Aid programs, to maintain and improve the Town's transportation network.

#### **OBJECTIVE 2**

To ensure a safe, reliable, and efficient system of bridges that will meet the transportation needs and goals of the Town of Loudon.

- → Repair, replace, and/or upgrade bridges that have fallen into a serious state of disrepair by working with NHDOT.
- → Continue to annually contribute a specific amount to the bridge maintenance capital reserve fund, as decided by the Board of Selectmen for appropriation.
- → Inspect the Town-owned bridges on an annual basis and provide a status report to the Board of Selectmen, Planning Board and NHDOT.

# **OBJECTIVE 3**

Utilize available traffic count data from NHDOT & CNHRPC to identify corridors and routes that may become impacted by future development trends.

- → In locations where traffic has increased significantly, land use trends and access management policies should be closely examined, adopted, and modified to best maintain and promote an efficient transportation network.
- → Identify and conduct traffic counts on roads of concern in the community on an annual basis through continuing work with NHDOT and CNHRPC.
- → Ensure effective and appropriate emergency management procedures are in place for redirecting traffic through the Town by working together with the NHDOT.

### **OBJECTIVE 4**

Regularly monitor road conditions in the Town to ensure that road improvement projects that are strategically important to Loudon's transportation network are adequately addressed.

- → Implement a Road Surface Management System to guide the selection and prioritization of infrastructure improvements and maintenance activities, including road widening, improvements to horizontal and vertical alignments (grading and curves), drainage system improvements, and paving/resurfacing.
- → Work with the Central New Hampshire Regional Planning
  Commission and the New Hampshire Department of
  Transportation to ensure that transportation projects that are
  eligible for Federal-Aid funding in Loudon are adequately
  represented in the Regional Transportation Improvement

- Program and considered for inclusion in the State Ten-Year Plan for Transportation Improvements.
- → Create a road advisory committee to assist the Highway Department in the review of proposals for road construction and improvement projects.

#### **OBJECTIVE 5**

Reduce the number of crashes in Loudon that may be caused by unsafe road conditions or poor transportation infrastructure.

- → Identify and prioritize locations that need improvement on account of safety issues.
- → The Police Chief, Fire Chief, Town Road Agent and associated staff/committees should annually review crash locations and determine enhancements that could be made to improve safety.
- → The Town should actively work with the NHDOT to address safety concerns on state maintained highways in Loudon.

#### **OBJECTIVE 6**

Identify local residential roads used to enter and exit Loudon and establish plans to make these roadways less suitable for commuter traffic.

- → The Town of Loudon should identify local residential roads that are not suited for heavy commuter traffic, and work to minimize this "through traffic" wherever viable alternatives can be provided.
- → Traffic counts should be reviewed and analyzed to identify roads that have shown an increase in traffic over the years.

→ Yearly traffic counts should be carried out on roads that the Town sees as a concern in order for reliable usage patterns to be analyzed.

# **OBJECTIVE 7**

Promote connectivity through the requirement of local street connections between existing, new and future developments.

→ Require developers where applicable to provide rights-of-way and/or direct access to connect both new and existing developments, thus creating parallel access routes which will help to reduce congestion and slow the need to expand highway capacity.

# **OBJECTIVE 8**

Establish a set of access management guidelines in order to properly plan for the traffic impacts of new developments in Loudon.

- → Establish a set of access management standards, including on NH 106 north of Shaker Road and where traffic volume has increased significantly to best maintain and promote an efficient transportation network, to better plan for future development in Loudon.
- → Enter into a Memorandum of Understanding with NHDOT District Engineer to coordinate permitting for access to new and redeveloped development along State maintained highways in Loudon.

#### **OBJECTIVE 9**

Investigate potential traffic calming techniques to make Loudon more accessible and safer for all road users.

- → Promote a "share the road" campaign to alert drivers to the possibility of pedestrians and bike users at certain locations in Loudon.
- → Investigate the use of innovative methods to increase safety, such as raised crosswalks, stripped of colored crosswalks, increased signage, and clear and defined walking paths.
- → Investigate the use of appropriate traffic calming measures to discourage high speeds where the potential for conflict with other roadway users exists.

#### **OBJECTIVE 10**

Identifying potential scenic routes and roads in Loudon to ensure that the intrinsic aesthetic and historic qualities of the Town are protected and preserved.

- → The Town should work with its residents to provide outreach and education about the State Scenic Road Law and its potential for preserving the historic and rural qualities of Loudon.
- → Identify roads with scenic vistas and aesthetic qualities, such as traditional New England stone walls, historic buildings, natural aesthetically important fauna, and farms.
- → The Town should consider designating Scenic Roads for protection.

# **OBJECTIVE 11**

Facilitate the creation of a bicycle & pedestrian infrastructure network that allows safe, efficient and reliable transportation options in certain locations in Loudon.

- → Promote a pedestrian route system to maximize transportation opportunities in and around Loudon village.
- → Adopt and support the statewide and regional bicycle networks and take all available steps to help implement them within Town.
- → Research funding opportunities for creating and maintaining a local bicycle & pedestrian network.
- → Consider widening, striping, and paving the shoulders of Town roads to accommodate bike lanes where applicable.
- → Promote and educate the public on bicycle safety and transportation, working with the Elementary School and the residents of Richard Browne house.

# **OBJECTIVE 12**

Ensure that transportation options are available to all residents of Loudon regardless of socio-economic status.

- → Research the possibility and feasibility of implementing a rideshare, carpool, or shuttle program from Loudon to Concord to correspond with morning and evening commuting times.
- → Coordinate with neighboring towns and communities to investigate the feasibility of having Loudon as a stop in a larger movement corridor leading to Concord.
- → Continue to support and promote the volunteer driver programs currently serving Loudon.

# **OBJECTIVE 13**

Encourage, support and facilitate an expanded Town Trail network in Loudon.

- → Identify Class VI roads, existing paths, and areas along the various water bodies in Town which connect open space, forest, conservation, and/or agricultural land, that would be suitable for development of a non-motorized greenway trail system.
- → Identify some of the Class VI roads within Town for designation as Class A Trails by working with abutting landowners.

#### **OBJECTIVE 14**

Work with the NHMS, NHDOT and the State Police to ensure that the New Hampshire Motor Speedway continues to maintain steady traffic flows at all major events.

→ Ensure adequate and appropriate transportation access to and from NHMS is maintained by engaging with NHMS, NHDOT and other parties.