

CHAPTER III

TRANSPORTATION

A. INTRODUCTION

The patterns of land development in a town are influenced greatly by the layout of the road network. The purpose of the road network is to provide important links for residences, businesses, and farms. The availability of an efficient transportation system is an important consideration for new businesses in their decision to locate or expand facilities. The enhancement of transportation systems is a strategy a town can utilize to attract facilities and expand the tax base. However, transportation system choices can have impacts on community character and resources. Traffic is one of the more visible impacts of land development and economic activity. Traffic generated by residential, commercial and industrial land development not only affects the Town's local road network, but also impacts the regional highway system and inter-regional travel. Therefore, the Town must determine how its own growth patterns affect travel demands and to what extent the existing local and regional system can accommodate those demands. There needs to be a balance between maintaining community character and roadway efficiency and safety.

The purpose of the Transportation Chapter of the Master Plan is to develop strategies for an efficient and safe transportation system that will preserve the community's character, accommodate growth, and increase the availability of alternative transportation choices. It provides an inventory of the existing road infrastructure, to present a history of traffic and operational characteristics of the highway network, and to identify desired improvements to the transportation system. It provides an inventory of the existing highway network in the Town, including highway classification, traffic volumes, roadway conditions and travel patterns. Issues related to transportation and mobility is discussed including highway policy, travel demand, and non-motorized and alternative modes of transportation. Recommendations to improve the highway network and mobility in general, are also provided.

B. VISION

Nestled within the Merrimack Valley, Hollis has maintained its rural character as its scenic highways and rustic trails traverse its landscape. As Hollis grows and develops, it is important that its character is preserved while also adhering to the diverse needs of its residents. Through visioning sessions with the Planning Board and a community-wide survey, several key goals arose. The Town should continue to support road design standards that maintain and enhance the rural character of the community while maintaining public safety. Streetscape and landscaping of town streets should be utilized more to create perceived obstructions to both slow vehicles down and enhance aesthetics. Pedestrian safety should be encouraged through the installation of sidewalks in neighborhoods in the town center and school areas. Development and expansion of trails are highly desired throughout Hollis to create connections between open space areas and neighborhoods. Public transportation options in the community should be expanded to assist in accommodating population growth and aging demographics. By balancing the different transportation needs of the community, Hollis will remain an attractive place to those who live and travel within the Town.

C. EXISTING TRANSPORTATION NETWORK

1. Roadway Classifications

The State-aid classification system was developed by the state of New Hampshire, as defined by RSA 229 – 231, to determine responsibility for construction, reconstruction and maintenance as well as eligibility for use of state aid funds.

The state aid classification road mileage in Hollis is summarized in Table III-1. There are Class I, II, V and VI type roads in the Town. There are no roads in Hollis classified by the state as Class III (recreational roads). Approximately, 69.325 miles of Class V roads are paved, and 14.77 miles of Class V roads are unpaved.

Table III-1. State Aid Classification Road Mileage

State Class	Road Mileage	Percent of Total
Class I Primary State Highway	0.082	0.08%
Class II Secondary State Highway	19.843	18.71%
Class III Recreation Roads	0	0.00%
Class IV Compact Section	0	0.00%
Class V Rural Roads Local	84.099	79.29%
Class VI Un-maintained	2.046	1.93%
Total	106.07	100.00%

Source: NH DOT, 2017.

As shown in Table III-1, there is a total of 106.07 miles of roads in Hollis. 84.099 miles are Town maintained and 19.925 miles are maintained by the State. Within Hollis, there are 16.579 miles of private roads. The portion of NH Route 101A that crosses the northern tip of the Town is classified as a Primary State Highway. Routes 111, 111A, 122 and 130 are classified as Secondary State Highways.

Table III-2 provides a summary of the mileage for roads in the Town of Hollis based on the NH DOT assigned functional classifications.

Table III-2. Functional Classification of Hollis Roads*

State Functional Classification	State Aid Road Classification						Totals
	Class I Mileage	Class II Mileage	Class III Mileage	Class IV Mileage	Class V Mileage	Class VI Mileage	
Principal Arterial - Other	0.082						0.082
Minor Arterial		1.496					1.496
Major Collector		11.397			0.96		12.357
Minor Collector		6.648			2.06		8.708
Local Roads		0.302			81.079		81.381
Total	0.082	19.843			84.099		104.024

Source: NH DOT, 2017

* Other classifications are used for the NH DOT, but do not apply to the Town of Hollis.

Scenic Roads are special town designations of Class IV, V, and VI roads. The designation requires the municipality to obtain written permission of the planning board prior to any repair, maintenance, reconstruction or paving work on the road if such work requires damage or removal of trees, or the removal or destruction of stone walls. Likewise, any utility or other person who wishes to install or maintain poles, conduits, cables, wires, pipes or similar structures must obtain prior written consent of the planning board if the work involves tree cutting or removal of stone walls. Scenic road designation does not affect a municipality's eligibility to receive construction, maintenance or reconstruction aid. As shown in Table III-3, Hollis has 20 designated scenic roads.

Table III-3. Scenic Roads in Hollis

<i>Date</i>	<i>Name</i>	<i>Date</i>	<i>Name</i>
1972	Richardson Road	1974	Ridge Road
	Van Dyke Road		Wright Road
	Federal Hill Road		Rideout Road
1973	North Pepperell Road	1975	Hayden Road
	Flagg Road	1976	Plain Road
	South Merrimack Road	1981	Parker Lane
	Wheeler Road	1987	Farley Road
	Hardy Lane		Nevens Road
	Worcester Road	1989	Merrill Lane
		1991	Rocky Pond Road
		2003	Baxter Road

2. Traffic Volumes

Historic traffic volume data for the Town of Hollis is compiled from several sources. NH DOT collects traffic counts in accordance with federal guidelines under the Federal Highway Performance Monitoring Program. The guidelines describe federal procedures for sampling highway and road volumes. These procedures provide FHWA with highway volumes for design standards and meet the Environmental Protection Agency's (EPA) requirements for estimating vehicular highway travel. In addition to the NHDOT's annual traffic counting program, the Nashua Regional Planning Commission (NRPC) maintains an ongoing traffic count program for validating the region's traffic model. NRPC also provides traffic counts for member communities upon request.

Table III-4 and Map III-1 show the traffic volumes for the Town of Hollis. The most heavily traveled road in Hollis is NH 101A which runs east west from Nashua to Milford. However, the segment that runs through Hollis is only 0.082 miles and does directly connect to other roads in Hollis, so it is not indicative of the volume of traffic in the rest of the Town. The other roads with the greatest traffic volumes are NH 130, which serves as an alternative east west route to 101A and NH 111, which is a north-south thoroughfare that connects Nashua to Pepperell, Massachusetts.

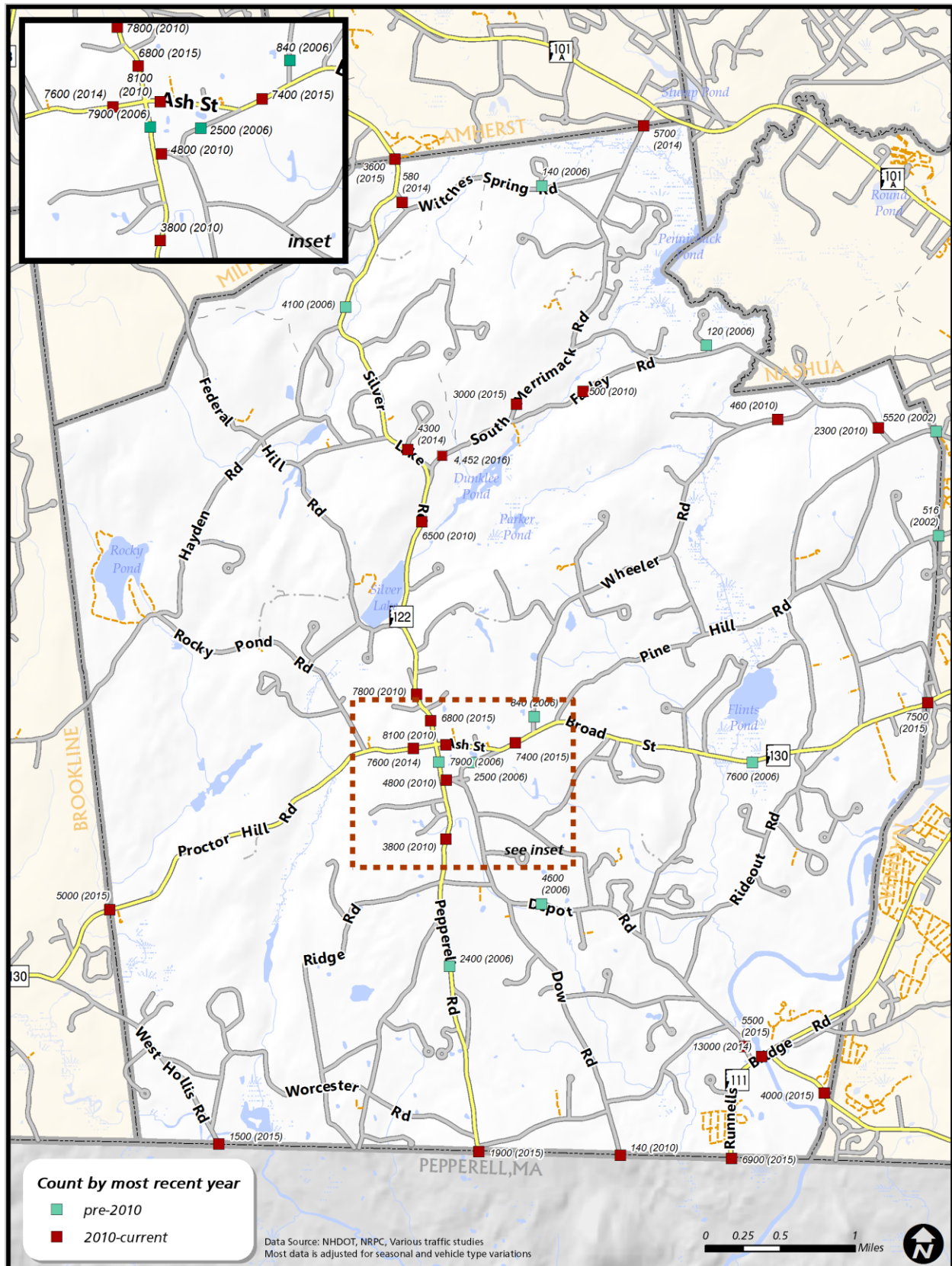
Per the Highway Performance Monitoring System Field Manual, traffic counts on local roads should be based on a six-year counting cycle. Traffic volume data that was collected before 2010 was still included in Map III-1 to give a reference to the Town, and to also indicate areas where the Town may wish to update its traffic counting data.

Table III-4. Average Annual Daily Traffic (AADT), 2015

Road Location	AADT (Vehicles per day)
NH 130 (Broad St) East of Ash St	7,400
NH 130 (Broad At) at Nashua Town Line (EB-WB)	7,500
NH 130 (Proctor Hill Rd) at Brookline Town Line	5,000
NH 130 (Proctor Hill Rd) West of NH 122	7,600
Depot Rd North of NH 111	5,500
NH 111 (Runnels Bridge Rd) at Massachusetts State Line	6,900
NH 111 (Runnels Bridge Rd) at Nashua River	13,000
NH 111A (South Depot Rd) at Nashua Town Line	4,000
S. Merrimack Rd North of Farley Rd	3,000
S. Merrimack Rd at Amherst Town Line	5,700
NH 122 ((Silver Lake Rd) at Amherst Town Line	3,600
NH 122 (Silver Lake Rd) South of Plain Rd	4,300
NH 122 (Silver Lake Rd) North of NH 130	6,800
NH 122 (Pepperell Rd) at Massachusetts State Line	1,900
W. Hollis Rd at Massachusetts State Line	1,500
Ames Rd over Witch Brook	580

Source: NH DOT, 2015.

Map III-1. Average Daily Traffic on Hollis Roads



Figures III-1, III-2, and III-3 show the change in traffic volumes at Routes 101A, 111, and 130 since 1990. Overall, there have been steady increases in the volume on Routes 101A and 111. These increases can be accounted for by the increase in population and their role as major commuting routes for the Nashua Region. Since the mid 1990s, the volume of traffic for Route 130 has varied only slightly, even showing some decline in the 2010s.

Figure III-1. NH 101A Annual Average Daily Traffic Volumes at Merrimack/Hollis Town Line

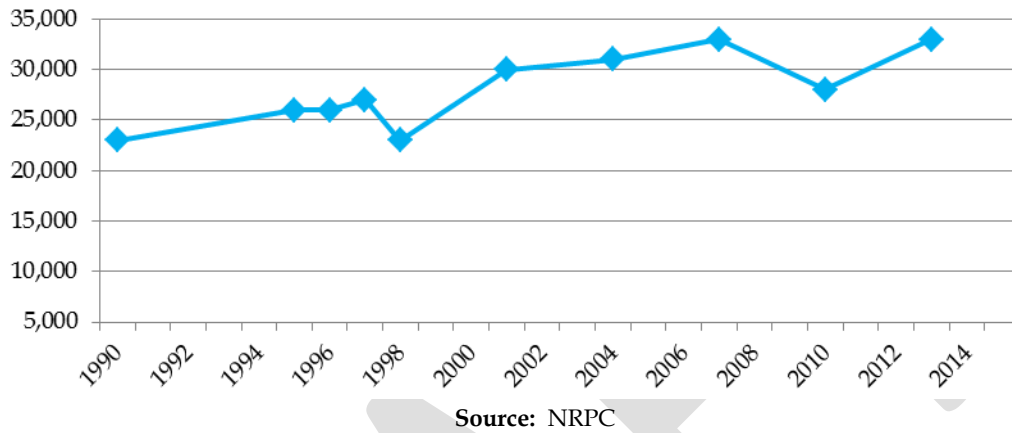


Figure III-2. NH 111 Annual Average Daily Traffic Volumes on the Hollis/Mass border

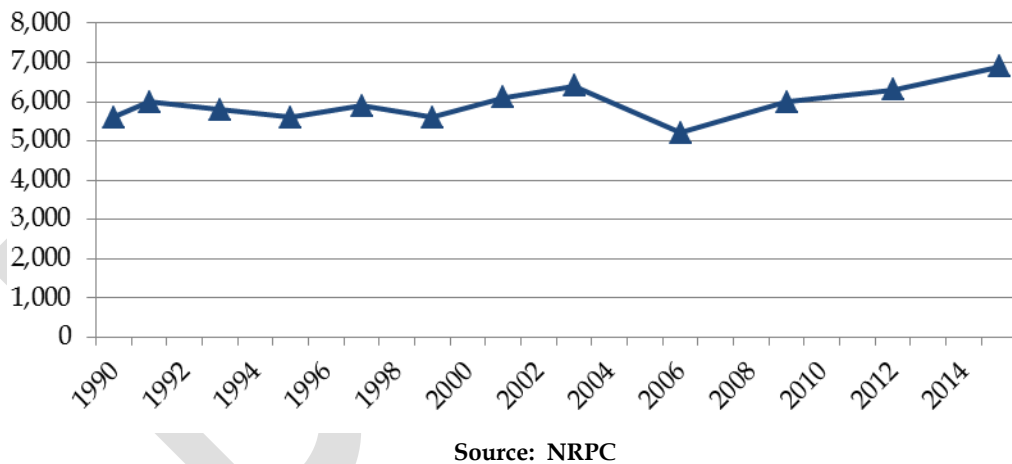
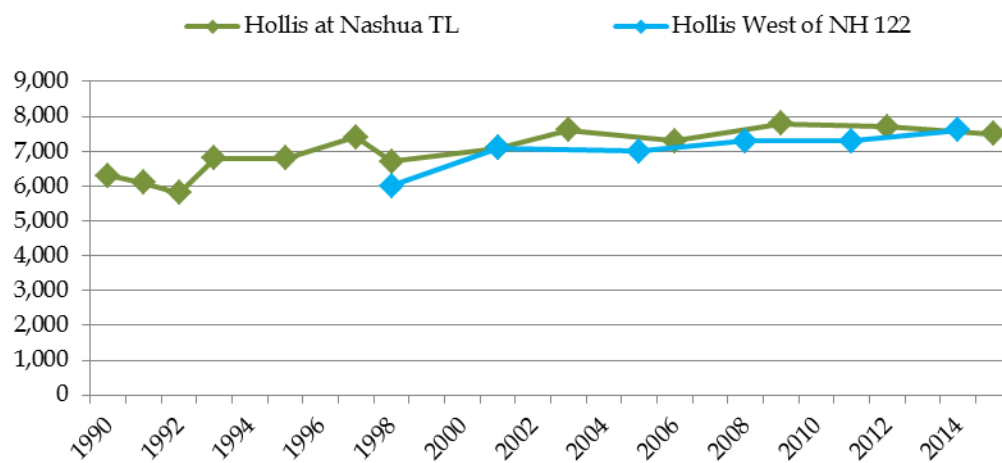


Figure III-3. NH 130 Annual Average Daily Traffic Volumes in Hollis



Source: NRPC

3. Level of Service

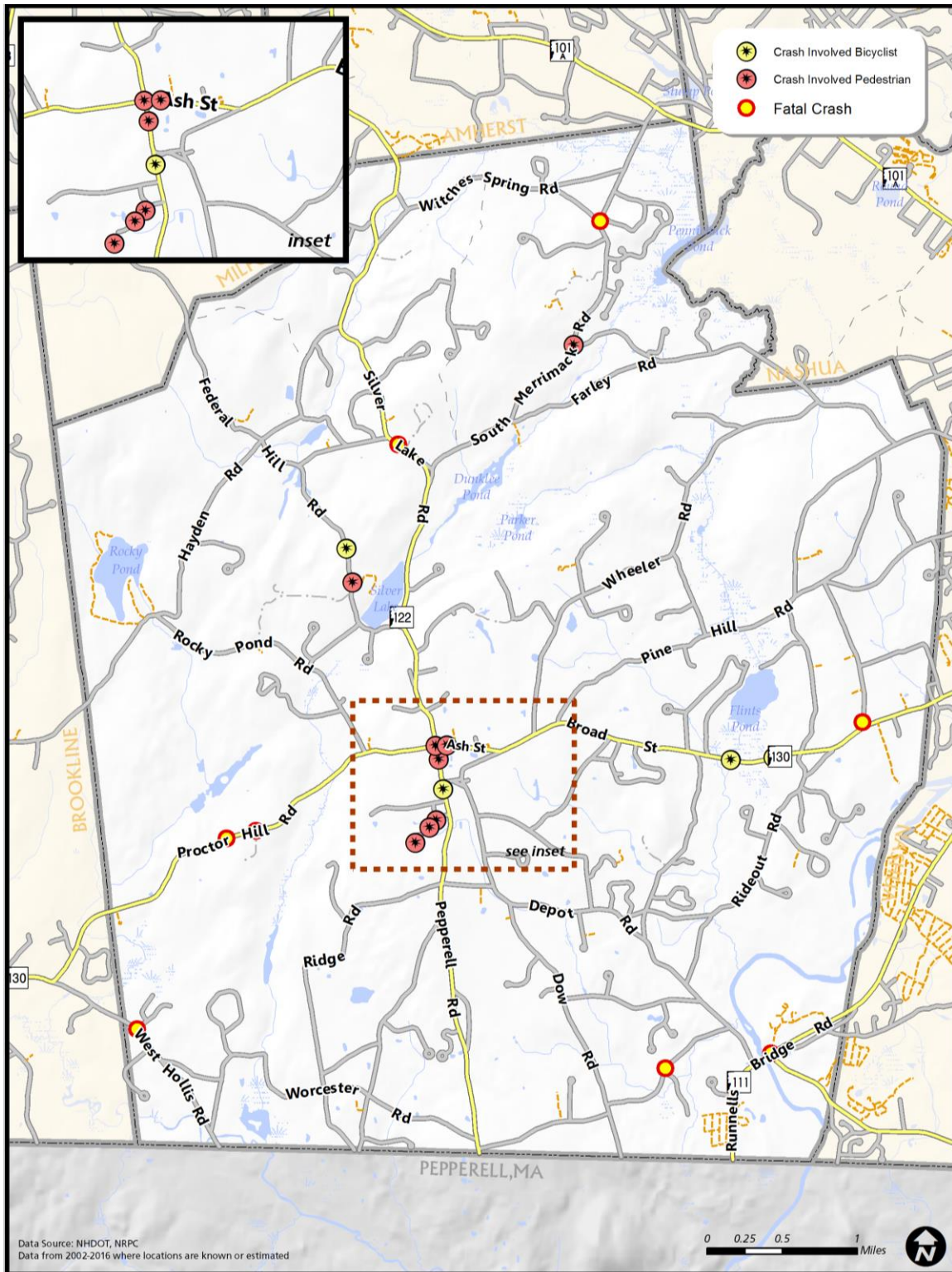
Using the observed traffic count data, it is possible to evaluate the performance of highway facilities through the use of highway capacity analysis. The principal objective of this procedure is the estimation of the maximum amount of traffic that can be accommodated by a given facility. It provides tools for the analysis, improvement of existing facilities and for the planning, and designs of future facilities.

“Level of Service” (LOS) is a term which denotes the type of operating conditions which occur along a roadway or at a particular intersection for a given period of time, generally a one-hour peak period. It is a qualitative measure of the effect of a number of operational factors including roadway geometrics, travel delay, freedom to maneuver and safety. Level of Services measures range from “A,” which represents free flow to “F,” which represents forced or breakdown flow. Level of Service “A” represents free flow. Level of Service measures range from an “A” rating, Level of Service “F” is representative of forced or breakdown flow. As shown from data collected in 2011, the Level of Service on most roads in Hollis is at either an A or B level, indicating that users of the road are generally unaffected by congestion and other vehicles.

4. Crashes

Crashes for the Town’s roads are compiled by the NH Division of Motor Vehicles based on local police reports. Map III-2 is based on NH DOT’s accident database from 2002 to 2016. It depicts all fatal crashes as well as any crashes that involved a bicyclist or pedestrian, and includes only those crashes with estimated or known location data. Map III-3 shows nonfatal crashes in Hollis from 2014 to 2016, and are coded by their level of severity. Since 2002, there have been a total 1,261 crashes in Hollis (6 of which were fatal and 155 resulted in injuries). The primary cause of a crash was hitting into a fixed object, followed by crashing into another vehicle.

Map III-2. Fatal and Bike/Pedestrian Crashes in Hollis



5. Pavement Conditions

The Town's Public Works Department surveys the conditions of Hollis' roads on a regular basis. The Public Works Department will then develop a road improvement plan based on the survey. In 2009, the Town of Hollis contracted the Nashua Regional Planning Commission (NRPC) to assist in the development of a Road Surface Management Systems plan (RSMS), which was then updated in 2014. The serviceability and the cost of maintenance for a road within the initial 75 percent of a pavement's design life is less than one-fifth the cost of maintenance and reconstruction during the final 25 percent of the design life. The purpose of developing a pavement management system is to help the Public Works Department determine when a road has reached that critical 75 percent point and to define repair strategies, aid in prioritizing repairs and provide information to facilitate the budgeting process.

As part of the 2017 Town Road Improvement Plan, Pine Hill Road from Route 130 (Broad Street) to Hills Farm Lane and Pierce Lane from Pine Hill Rd to Wheeler Road has been reclaimed (ground up, injected with liquid asphalt, graded, and rolled). A two inch base coat was applied over these areas and then a one and one half inch finish top coat was applied. Tentatively scheduled roads to be paved as budget permits are, Love Lane, Winchester Dr. and Spaulding Lane. Of the 19.9 miles of Class I & II roads in Hollis, 8% are considered to have poor pavement.

6. Bridge Conditions

Per RSA 234:2 NH DOT inspects municipally owned bridges on local roads as well as state owned bridges. However, the bridges must have a clear span of at least 10 feet, measured along the highway's center line, spanning a water course or other opening or obstruction. Inspection and maintenance of culverts and other structures on local roads that do not meet this 10-foot span definition are the responsibility of the Town. The NH DOT regularly inspects bridges belonging to municipalities on class IV and V roads (in accordance with RSA 234:21-:25) and publishes the results of the inspections yearly in the state's bridge list. The state requires that the town must keep records. The inspections are a prerequisite for bridge-aid funds. There are nine bridges in Hollis that are regularly inspected by the NH DOT. As shown in Table III-5, the State of New Hampshire owns five of these bridges and the Town owns the other four. There are no restrictions, structural deficiencies, or functional deficiencies listed for these bridges in the state's official bridge list.

Although the NH DOT inspects all locally owned bridges as well as state bridges, it only recommends a load restriction posting on locally owned bridges. The municipality bears the responsibility for installing signs for the posting of load restrictions, in accordance with NH DOT recommendations. The Town should develop routine inspection and maintenance for culverts and other structures on local roads that are not inspected or maintained by the State.

Table III-5. Bridge Condition Report

Bridge	Bridge Number	Owner	Condition	Year Built/Rebuilt
West Hollis Road over Nissitissit River	069/028	State	Not Deficient	1978
Worcester Road over Beaver Brook	075/040	Town	Not Deficient	1978, 2010
Mill Road over Witches Spring Brook	082/125	Town	Not Applicable*	1979
NH 122 over Witches Spring Brook	084/136	State	Not Applicable	1930
NH 122 over Witches Spring Brook	085/144	State	Not Applicable	1929, 1978
NH 122 over Witches Spring Brook	087/150	State	Not Applicable	1930
Ames Road over Witches Spring Brook	089/155	Town	Not Deficient	2008
S. Merrimack Road over Witches Spring Brook	122/164	Town	Not Deficient	2007
NH 111 over Nashua River	144/042	State	Not Deficient	1950, 1982

*Bridges listed as not applicable do not meet the federal definition of a bridge

Source: NH DOT Bridge Summary, 2016

7. Travel Patterns

Information on commuting is available from the 2015 American Community Survey (ACS) 5-year estimates and is shown in Tables III-6 and III-7, as compared to the 2010 ACS 5-year estimates. 78.8% of Hollis' workers commuted by single occupant vehicle in 2015, slightly higher than the national average of 76.4%. However, this also represents a decrease of 9.2% since 2010. Coupled with this decrease in single occupant commuters is a 4.7% increase in people who carpool, and a 5.7% increase who work from home. The mean travel time to work in 2015 was 31.3 minutes, which is slightly higher than the national average of 25.9 minutes and an increase of 0.4 minutes from 2010. 69.9% of Hollis workers commute within New Hampshire with 30.1% commuting out of state. As demonstrated in Map III-4, the top three commuting destinations for residents of Hollis are Massachusetts, Nashua and Hollis. Workers in Hollis primarily come from Hollis, Nashua, and Milford, as shown in Map III-5. The trends in commuting patterns show that Hollis commuters are traveling longer distances to work each year with increased dependence on the automobile. These trends contribute to the overall congestion on the local and regional road networks.

The Town should encourage alternative modes to single occupancy auto use to help decrease traffic congestion and provide greater choices for Hollis commuters. The Town should work with the NRPC and the NH DOT to plan for and promote alternative modes of transportation. Programs should include efforts to increase commuter participation in existing region-wide carpooling and vanpooling programs, commuter bus lines and commuter rail. In addition, the Town should consider working with NRPC and the Nashua Transit System (NTS) in researching extending the existing bus routes from Nashua to Hollis to provide for an alternative mode for commuting within the Nashua region. The Town should also support the regional efforts to extend the commuter rail line from Boston and Lowell to Nashua. A potential commuter rail site has been identified for the Daniel Webster Highway in South Nashua, just south of the Sagamore Bridge, which would offer a short driving distance for most Hollis commuters. In addition to working and coordinating the alternative transportation effort with government agencies, the Town should also explore the option of working directly with large employers in the Town to coordinate the alternative modes initiative. Large employers have the single greatest impact on traffic in the Town and reduction in work trips to those locations will result in the greatest possible reduction in traffic.

**Table III-6. Means of Transportation to Work, 2006 - 2010 and 2011 - 2015
(Workers 16 years and over)**

Means of Transportation	2010 Census		2015 Census	
	Number	Percentage	Number	Percentage
Drove alone	3,292	88.0%	2,978	78.8%
Carpooled	60	1.6%	241	6.3%
Public transportation (incl. taxi)	14	0.4%	10	0.3%
Walked	61	1.6%	68	1.8%
Motorcycle or other means	63	1.7%	15	0.4%
Worked at home	251	6.7%	467	12.4%
Total	3,741	100%	3,779	100%

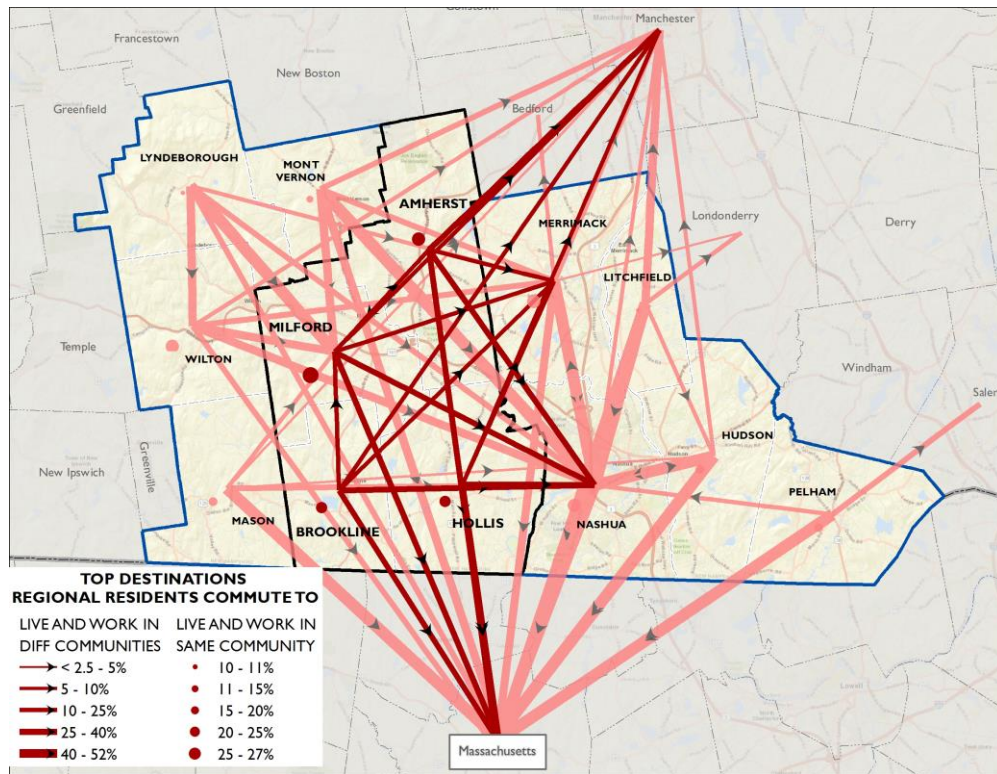
Source: 2010, 2015 American Community Survey

Table III-7. Travel Time to Work (Away From Home), 2010 and 2015

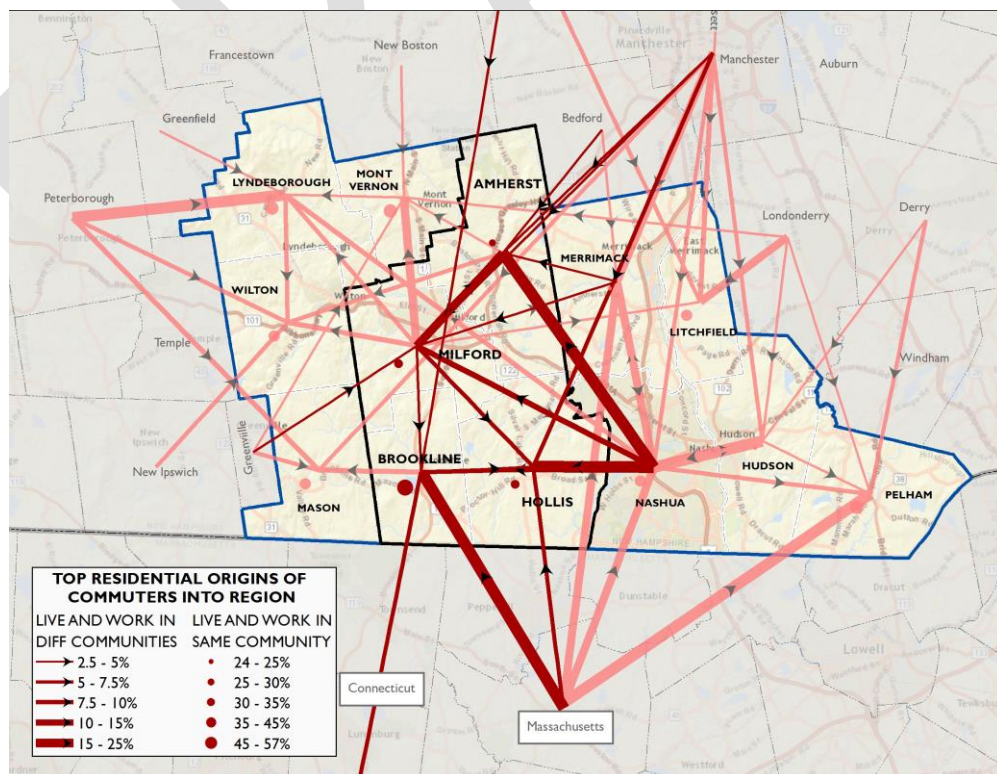
Travel Time	2010 Census		2015 Census	
	Number	Percentage	Number	Percentage
Less than 5 minutes	118	3.4%	28	0.8%
5 to 9 minutes	360	10.3%	354	10.7%
10 to 14 minutes	287	8.2%	245	7.4%
15 to 19 minutes	657	18.8%	373	11.3%
20 to 29 minutes	650	18.6%	673	20.3%
30 to 44 minutes	607	17.8%	646	19.5%
45 to 59 minutes	312	8.9%	524	15.8%
60 or more minutes	499	14.3%	469	14.2%

Source: 2006 - 2010, 2011 - 2015 American Community Surveys

Map III-4. Destinations NRPC Region Residents Commute to



Map III-5. Residential Origins of Commuters into NRPC Region



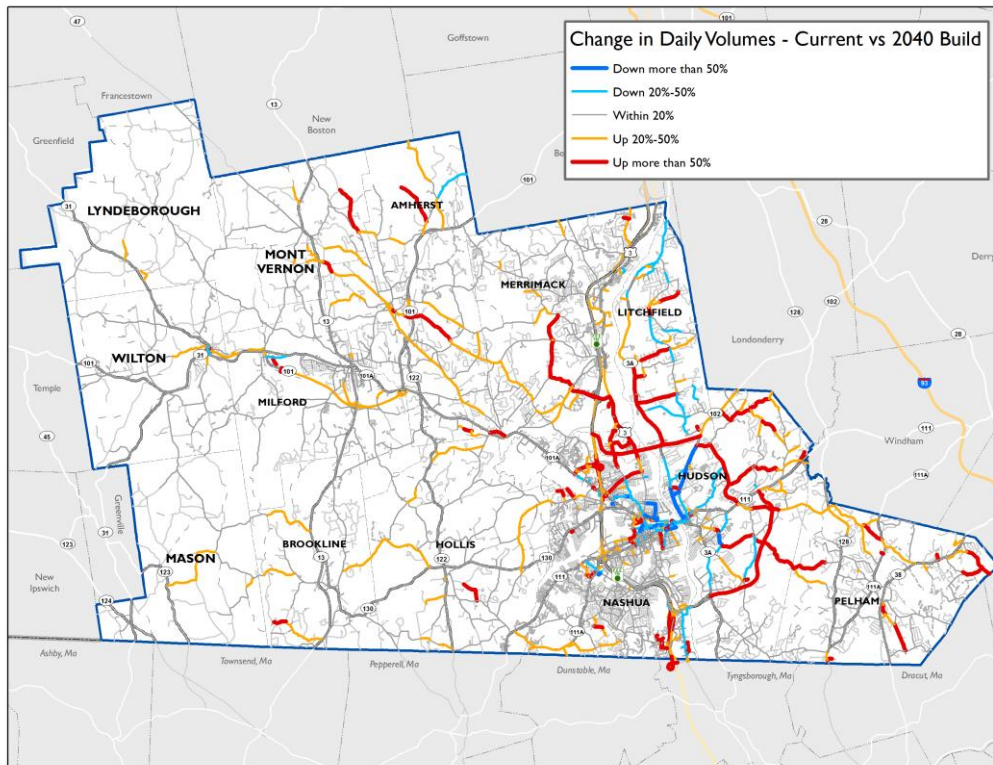
D. REGIONAL TRANSPORTATION ISSUES

NRPC serves as the Metropolitan Planning Organization (MPO) for the Nashua Urbanized Area, which includes the Town of Hollis. One responsibility of a MPO is to develop and maintain a Long-Range Metropolitan Transportation Plan (MTP). The MTP is a comprehensive, multimodal “blueprint” for transportation systems and services aimed at both meeting the mobility needs and improving the overall quality of life of residents in the region through the next 25 years.

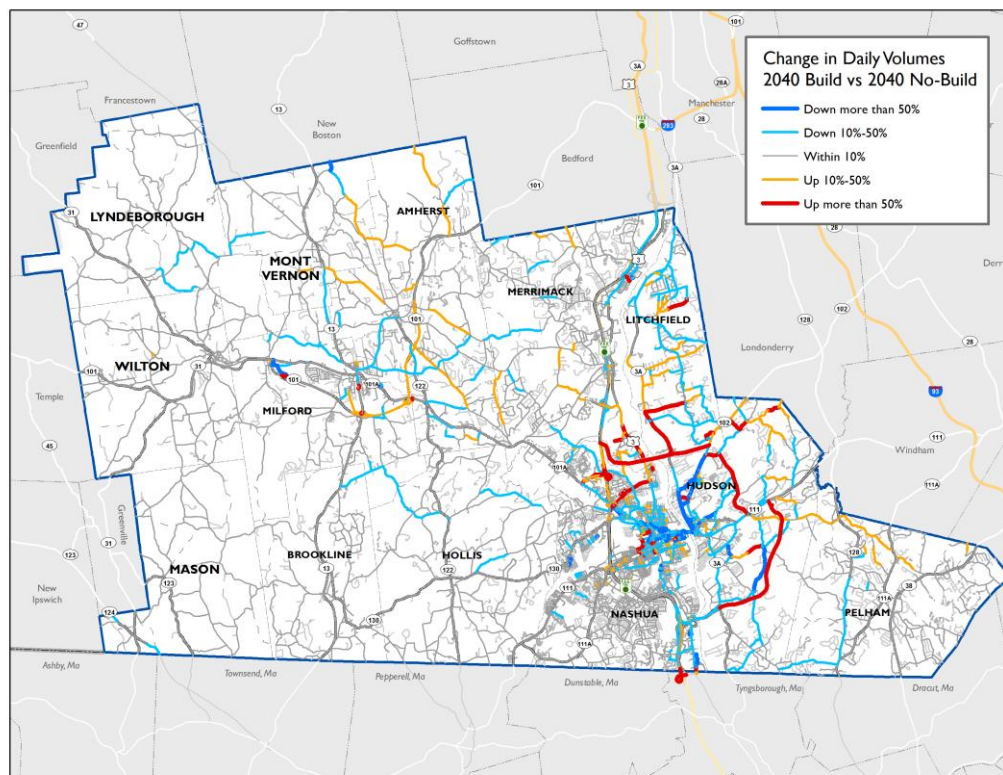
For the 2017 -2040 MTP, NRPC utilized its Travel Demand Forecasting Model to help predict the change in daily traffic volumes if all the projects listed in the MTP were built and implemented. The Model can predict vehicular traffic under an endless number of planning scenarios such as impacts from planned development or other changes to the road network. The model uses the latest socio-economic and land use data and undergoes extensive calibration to produce predictions with a high degree of confidence, which makes it well-suited to support traffic planning on local, corridor, and regional-scales. As Map III-6 shows, several roads in Hollis will experience an increase in the volume of traffic compared to the current rates if all of the projects listed within the MTP were built. The roads that are projected to have greater traffic are local roads (such as Witches Spring Rd, Rocky Pond Rd, and Rideout Rd) that intersect with major collectors (such as Routes 122 and 130). However, as Map III-7 shows, there will be a decline in traffic on some roads in Hollis (such as Federal Hill Rd) if the projects on the MTP are all funded and built than if no actions were taken. Therefore, Hollis should prepare for an increase in traffic stress on some of its major roads, as populations grow and drivers seek alternate routes throughout the NRPC Region.

Currently, the only project on the 2017-2040 MTP that is located within Hollis is the Four Corners Intersection Improvement at the intersection of NH 130 and NH 122. For a more detailed description of this project, please see Section E.6 and Section G.

Map III-6. Change in Daily Traffic Volumes if 2040 MTP Plan Implemented



Map III-7. Comparison of Traffic Volume between 2040 MTP Implementation and No Change



E. KEY HIGHWAY ISSUES

1. Signage

Signs play a crucial role in wayfinding, traffic calming, and ensuring safety on roadways. The placement, size and direction of signs are vital for their effectiveness. However, the use of signs should adhere as much as possible to the community character. The Town should work with NHDOT to review the number and placement of signs along state highways to determine effectiveness and if any can be removed or condensed.

In order to balance Hollis' rural character with its location along state highways and to meet the needs of Town businesses, Hollis has designated certain roads with "No Thru Truck" signs to guide larger vehicles along roads that can handle the weight. However, there have been reports of trucks utilizing these prohibited travelways due to their location. In order to better maintain the longevity of some of the roads in Hollis and preserve neighborhood character, the Town should consider reviewing the placement of "No Thru Truck" signs to lower the number of violations. The Town should keep abreast of changes or proposed changes to the Manual on Uniform Traffic Control Devices that would include specifications for "No Thru Traffic," "No Thru Trucks," and "Except Local Deliveries" signs, especially when re-considering future or revisions to current sign placement.

2. Road Salting

The Town has an official policy of pre-treating town maintained roads using road salt. A salt/sand mixture is then used as the snow progressively increases during a storm. It is left to the discretion of the Department of Public Works (DPW) to determine how much salt is necessary to provide properly maintained roadways for the given weather conditions.

The low cost and abundant supply of salt makes it one of the cheapest and most efficient ways to clear ice and snow from winter roads. However, the impact of spreading vast quantities of road salt may cause higher total costs when other factors are included such as salt induced damage to agriculture and drinking water. Much of the salt applied to roadways eventually enters groundwater aquifers leading to increased sodium levels in drinking water supplies. Road salt runoff from highways percolates into roadside soils affecting salinity and alkalinity as well as deteriorating soil characteristics.

The Town should consider alternative deicing chemicals for use on roads during winter storms, in order to preserve its ground water sources and agricultural resources and should work with the NH DOT to study the long term effects of alternative deicers on the environment compared with the present policies. Based on the 2016 Master Plan Survey, respondents overwhelmingly supported using more environmentally friendly deicing agents, with a slight majority of the respondents supporting any extra costs the Town may incur.

3. Road and Sidewalk Layout

A number of criteria should be considered in updating the design standards for local streets:

- *Design and maintain street space for the comfort and safety of residents.* Local residential streets should be designed with consideration to the needs of children, pedestrians, and bicyclists. The main function of the local street is to provide access to adjacent residential properties. A residential street with pavement width of 20 feet is sufficient to allow for emergency vehicle access with *no* on-street parking. A pavement width of 24 to 26 feet is sufficient for a residential street to allow for emergency vehicle access *with* on-street parking.
- *Provide a well connected, interesting pedestrian network.* Convenient and safe pedestrian access to schools, shopping, recreation, employment and other destinations should be provided. This may include the development of an interconnected pedestrian pathway system. The Town should reconsider its 4 foot width requirement for sidewalks. The Americans' with Disabilities Act

(ADA) guidelines call for a minimum sidewalk pavement width of at least five feet. This buffer provides a margin of safety between the pedestrian flow and high speed and high volume traffic. Furthermore, a better developed pedestrian network can provide opportunities for egress during emergency situations, such as connecting cul-de-sacs.

- *Provide convenient access for people who live on the street, but discourage through traffic; allow traffic movement, but do not facilitate it.* Traffic control measures should be considered to eliminate extensive through traffic on local streets. The Town should consider traffic calming measures on streets that serve as cut throughs in neighborhoods. The traffic calming measures should be implemented with input from the Town Highway Safety Committee and the public.
- *Differentiate streets by function.* Streets should be clearly distinguished within the network in terms of the functional differences between local residential streets and major collectors or arterials in the overall street design.
- *Relate street design to the natural and historical setting.* Street design should relate to and express the terrain, natural character, and historic traditions of the locale. Irregularities of a site such as large rocks or trees and slopes should be incorporated rather than removed. Street details including curb design, sidewalk paving or signs must relate to the regional vernacular rather than being anonymous from a handbook.
- *Reduce impervious surfaces by minimizing the amount of land devoted to streets.* There are several factors that should shape a plan including a design concept, on-street parking needs, traffic volumes and land constraints (steep slopes, wetlands, etc.). Narrower residential streets reduce the amount of impervious surfaces and allow for better groundwater recharge.

4. Traffic Calming

Excess traffic and speeding on local roads through residential neighborhoods have been a by product of growth experienced by the Town and the region as a whole. Speeding vehicles are consistently ranked as the top quality of life concern for Town residents, as reflected in the community-wide survey. Between 2016 and 2017, the Police Department has reported a significant uptick in the total number of cars being stopped (predominantly for traffic violations). In January to July 2016, there were 2,980 stops and 83 arrests. In the same time period in 2017, there were 5,088 stops and 204 arrests. Part of this increase can be explained by increased enforcement and monitoring due to additional grant funding. The Town should consider acquiring additional speeding vehicle monitoring technology (e.g. radar display signs, ITS signs) to increase enforcement and deter speeding.

In addition to increased enforcement, there are many other ways in which to deter speeding vehicles. Traffic calming is an integrated approach to traffic planning that seeks to maximize mobility while reducing the undesirable effects of that mobility. Traffic calming measures are designed to alter the behavior of drivers and improve safe conditions for pedestrians and cyclists. Traffic calming techniques may also help accommodate farm equipment (such as tractors) that utilize public right of ways at lower speeds. There are a number of techniques that are described to achieve the goals of traffic calming:

- Change the psychological feel of the street through design or redesign. The use of traffic control devices, signs, pavement markings and landscaping should enhance the image of the residential street as a place that is safe for pedestrians. Raised crosswalks are a physical approach to slowing speeds and textured or colored crosswalks are visual approaches to slowing speeds.
- Create traffic signals with pedestrian features to provide safety for pedestrians; signage can also be an effective method for reducing speed and providing safe pedestrian passage.

5. Cul-de-sacs

Cul-de-sacs can be an integral part of an efficient road network if properly designed. If improperly designed, cul-de-sacs can lead to an inefficient road system and level of service problems on collector

roads. Cul-de-sac length should be limited to prevent extended streets with no outlet. Long cul-de-sacs increase the potential for blockage due to fallen trees, with no alternate access for emergency vehicles. One of the many issues raised when reviewing plans with cul-de-sacs is whether the road should extend to the property boundary. The Planning Board should encourage cul-de-sacs to the property edge to have less curb cuts off of major routes or where a future possible connection may be appropriate for establishing an efficient road network in the Town. The Planning Board should discourage cul-de-sacs to the property boundary in the following situations:

- Where the cul-de-sac would be between two zones. For example, a through road leading from a residential zone to a commercial zone may not be appropriate. A through road may encourage truck traffic and patrons to drive through a residential neighborhood to get to the commercial area.
- Where extending it would produce a dangerous intersection.
- Where it is coming off an existing cul-de-sac. This may produce long cul-de-sacs, when an option of building a proper road network exists.
- Where an extension of the cul-de-sac to abutting property would not be feasible due to steep slopes, major wetland areas or other natural features of the land.

6. Areas of Concern

a. “Four Corners” Intersection (NH Route 130 and Route 122)

The signalized intersection of two major state routes and its proximity to Hollis’ Town Center make this one of the most heavily traveled intersections in the Town with an average annual daily traffic count of 8,100. The lack of left turning lanes, narrow turning radii and diminished right of way distance cause congestion at this intersection. Freight trucks have the most difficulty making turning movements while remaining in their lane.

A project proposal to add left turn lanes to help facilitate flow of traffic and mitigate congestion is listed in the 2017 – 2040 MTP. The estimated cost of this project is \$6 million, with funding phases estimated for 2027 to 2029. This project is currently not listed on State Ten Year Plan, and therefore currently does not yet have a source of funding. Town officials should work with NRPC to discuss the project’s status and decide whether to pursue the project or remove it from the MTP project listing.

b. Crosswalk at Middle School

Due to the Middle School’s proximity to Monument Square, there is a relatively high degree of pedestrian activity along this segment of Route 122, which has a high traffic volume. To promote pedestrian safety, a crosswalk has been installed on Main Street between the Farley Building and “The Block.” This project was identified as a priority in the Safe Routes to School (SRTS) Plan for the Town of Hollis in 2011. The Hollis Highway Safety Committee initially recommended installing a crosswalk at the April 18, 2016 meeting, but reversed their decision at the June 6, 2016 meeting. The cost of installation is approximately \$5,000. On November 7, 2016, the Board of Selectmen of the Town of Hollis fully supported authorizing the Hollis Brookline Cooperative School Board to work directly with NH DOT to organize the installation of a crosswalk and supporting safety signs as they deem appropriate for the protection of citizens and children who utilize the schools. The Hollis Brookline Cooperative School Board was responsible for budgeting and funding the project. The crosswalk was constructed in the fall of 2017 in front of the Farley Building. The Town of Hollis should coordinate with NRPC to monitor pedestrian and car traffic at this location to assess the effectiveness of the crosswalk over time. The addition of flashing lights to better ensure pedestrian safety should be considered when evaluating the sidewalk’s performance; currently, a vertical barricade is in use at this time.



The pictures above show the crosswalk from the north with the vertical barricade (left photo) and from the south (right photo) with sign to signal drivers.

c. Monument Square

Monument Square serves as Hollis' Town Center with nearby municipal and school buildings. So, there is a higher level of pedestrian traffic in this area (and consequently more sidewalks) compared to the rest of Hollis. However, several noticeable gaps exist within the Town Center, including the segment along the southern portion of the Square and in front of Monument Square Marketplace. One critical gap in the pedestrian network is at the intersection of Monument Square and Broad Street. No crosswalk exists in front of the Monument Square Market, a popular destination for pedestrians. Automobile drivers coming from Broad Street have poor sightlines due to the curvature of the road as they enter Monument Square, and thus have reduced visibility of pedestrians. Adding in a crosswalk with accompanying signage could potentially increase the safety of pedestrians in that area. The Town may want to consider working with the State on building a raised and painted crosswalk to increase its effectiveness, as NH DOT is responsible for Monument Square. The Highway Safety Committee, in a letter to the Board of Selectmen on May 1, 2016, requested (at the behest of the Fire Chief) the placement of a crosswalk at the intersection of Broad Street and Monument Square.



This photo shows the intersection of Broad Street and Monument Square where the Town may want to consider adding a crosswalk to increase connectivity

d. Intersection of Ash Street and Broad Street

The angle of the intersection creates a hazard as drivers traveling east on NH Route 130 (Ash Street) are required to stop and yield to automobiles traveling eastward on Broad Street. Drivers on Ash Street are forced to move into the travel lane to view oncoming traffic. Traffic traveling eastward on NH Route 130 is forced to negotiate a difficult and dangerous curve as the state highway enters Broad Street. Westbound automobile travelers on Broad Street will turn right onto Ash Street to remain on NH 130. However, due to the angle of the intersection, the turn from Broad Street onto Ash Street is only a slight right. This leads many automobile travelers to not use their signal to alert other cars, which contributes to congestion for cars turning from Ash Street onto Broad Street. A construction project to improve the intersection was listed on the 2005 – 2014 State Ten Year Transportation Improvement Plan. The estimated cost of the reconstruction of the intersection was \$400,000. However, lack of local support was cited as the reason the project was not completed. The Town should consider trying to re-list this project on the Ten Year Plan in order to reconstruct the intersection, such as installing a roundabout to ease traffic flow.

e. Intersection of Ash Street and Glenice Drive

Glenice Drive is the street on which the Fire Station is located. Department vehicles have a difficult time turning onto Ash Street due to the high volume of traffic along that road. Additionally, traffic from Glenice Drive travelling onto the westerly direction of Ash Street has a diminished line of sight. One previous proposal to facilitate the movement of emergency vehicles is to install a traffic light. The Town should work with NH DOT to see if this intersection could be incorporated into potential solutions for the intersection of Ash and Broad Streets.

f. Parking on Route 111A for Nashua River Rail Trail

As the popularity of the Nashua River Rail Trail increases, many people are utilizing the auxiliary parking lot for the trail located on Depot Road/W. Groton Rd (NH Route 111A), which is on the Nashua/Hollis border. Most of the unpaved parking lot is on private property within the City of Nashua, but the western segment is on private property in Hollis. The parked cars and changes in topography contribute to sightline obstruction for vehicles travelling the route and pose a danger to cyclists and pedestrians utilizing the crosswalk that connects the Rail Trail. The Town of Hollis should work with the City of Nashua and the private landowners to see if a

more structured parking lot can be created. Additionally signage may also help ensure safety along this road corridor.

g. NH Route 122, Wheat Lane, and S. Merrimack Road

The angle of the intersection creates a hazard for many drivers, despite the presence of a yield sign on Wheat Lane. The Highway Safety Committee worked with NH DOT to add a no left turn from Silver Lake Road (NH Route 122) onto S. Merrimack Rd. No left turns signs from Wheat Lane onto Silver Lake Road were also added. The Town should monitor the intersection and pursue any necessary solutions for this issue, considering the growing impact of the nearby Montessori School. Additionally, many drivers face issues, such as reverse camber, on S. Merrimack Road. During the winter months, sunlight does not hit the road, causing the road to be unexpectedly icy for travelers. The Town should research solutions for this issue, including additional signage or de-icing methods.

h. Rideout Road

The geometry of the intersection of Rideout Road and Broad Street presents a hazard for many drivers. A major cut-through for Town residents, the road is also utilized by trucks as well. However, the road has a 35,000 lbs. limit, so a portion of the road is marked by No Thru Truck signs. Therefore, many trucks must go halfway and turn around on the road. The Town should consider increased signage as a solution.

i. Parking and Traffic Needs for School Facilities

One of the greatest causes of congestion for Hollis residents is student drop off and pick up during the beginning and end of the school day. Many cars queue up along sides of roads causing congestion, backups, and decreased line of sight for other cars. Also, as the Hollis-Brookline Cooperative School District builds additional athletic fields to meet the needs of student sports program, parking is becoming increasingly constrained. Although no parking signs are well placed to ensure safety, the lack of parking causes some to park further away from their destination, without a complete pedestrian network to ensure their safety. The Town should work with the School to identify any solutions to these issues, including the timing of the school days, the timing of sports games, clearly designating areas for buses and cars, and creating more parking areas.

j. Intersection of Merrill Lane and Depot Road

There is poor visibility for traffic coming out of Merrill Lane, turning left onto Depot Road. The addition of a convex mirror on a nearby telephone may help increase visibility for cars.

k. Intersections less than 90 degrees

Roads that intersect with each other at angles less than 90 degrees can present sight-distance and operational problems for drivers. A high incidence of right-angle accidents, particularly involving vehicles approaching from the acute angle, may be the result of a problem associated with skew.

F. ALTERNATE MODES OF TRANSPORTATION

Although most trips in Hollis are taken by automobile, opportunities are available to enhance the provision of bicycle, pedestrian and public transit facilities. Each trip taken by bicycle, foot or transit removes one private vehicle from the roadway, thereby enhancing the capacity of the road network and providing options for those who cannot or do not wish to drive.

1. Public Transportation and Paratransit

Areas with high densities, high populations of youth, elderly, and disabled persons as well as low median incomes, high poverty rates and lack of automobile availability typically have a significant need for public transit services. Introducing fixed route transit service in this area would facilitate mobility and increase access to employment opportunities, commercial and retail establishments, and potential commuter rail service.

Hollis is a member of the Souhegan Valley Transportation Collaborative (SVTC), a volunteer based grassroots association of the six communities participating in the Souhegan Valley Rides bus service (SVR). SVTC was established in 2008 by residents and community leaders of Amherst, Brookline, Hollis, and Milford based on a documented need for local alternative transportation options. In 2013 and 2014 respectively, Mont Vernon and Wilton joined the collaborative. SVTC organized, implemented and oversees the Souhegan Valleys Rides bus service. Each participating community is guaranteed a voice in the governance of the service and shares in the operating costs to provide the actual transit services. Often referred to as “The Blue,” Souhegan Valley Rides is a dial-a-ride curb-to-curb type bus service where passengers share rides within the six towns and to and from Nashua. SVTC purchases handicap-accessible vehicle and call center services from the Nashua Transit System (NTS). This arrangement was determined to be the most effective and efficient way to bring a handicapped-accessible transportation service to the Souhegan Valley without duplicating assets already on the ground.

The buses are wheelchair-accessible, feature step-less entry, and seat approximately 14 passengers. Souhegan Valley Rides operates Monday through Friday, 8:00 am to 6:00 pm including travel time to and from the NTS garage. Pre-registration is required but this can be done easily by completing a one page form available on the SVTC website or from NTS. Riders must call at least 48 hours in advance on weekdays to schedule a ride, and at least 24 hours in advance to cancel a ride. For ease of use, registration, scheduling and cancellations can be done by calling one number at the NTS call center – (603) 880-0100. To facilitate use of the service by residents in greatest financial need, SVTC offers a free bus pass program that is funded solely by donations and is administered in conjunction with the local welfare offices and SHARE Outreach, Inc.

The focus for “The Blue” continues to be on assisting those in greatest need – elderly residents, those living with a disability, and residents who are unable to drive. Other residents may use the service as space is available. Rides are provided principally for non-emergency healthcare appointments, including medical appointments, outpatient therapy, counseling, laboratory visits, addiction services and dialysis. In addition, rides are available to social service agencies, local pharmacies, town facilities and libraries, senior activity centers, local Meals-on-Wheels community dining centers, the Nashua YMCA and more. Rides for shopping are available on Mondays, Thursdays and Fridays to seven local plazas. Based on requests from Hollis residents, the Hannaford supermarket and pharmacy on Coliseum Ave in Nashua is included as a shopping destination, and the Harvest Market will be added as a shopping destination. In the fiscal year 2017-2018, SVTC will be increasing the days for shopping rides from three to five days per week and adding new destinations including rides to Market Basket at Westside Plaza in Nashua where there is an NTS fixed route bus stop. SVTC frequently receives requests for work related transportation, rides to secondary education locations, and rides to connect with the Boston Express. Currently, funding limitations prevent expansion to specifically include those types of rides.

As of September 2017, SVTC has provided a total of 26,131 rides with Hollis residents using over 14% of those rides. In fiscal year 2017, 97% of rides used by Hollis residents were to attend various healthcare appointments and senior services in Nashua. The balance was for shopping in Amherst and Milford.



Other than paratransit services, no other public transportation exists within Hollis. Two of the NTS bus routes (Route 8 and Route 9) respectively follow NH Route 130 and NH Route 111 and terminate at the border of Hollis. Hollis may want to consider a service contract with NTS in order to extend bus routes into Hollis.

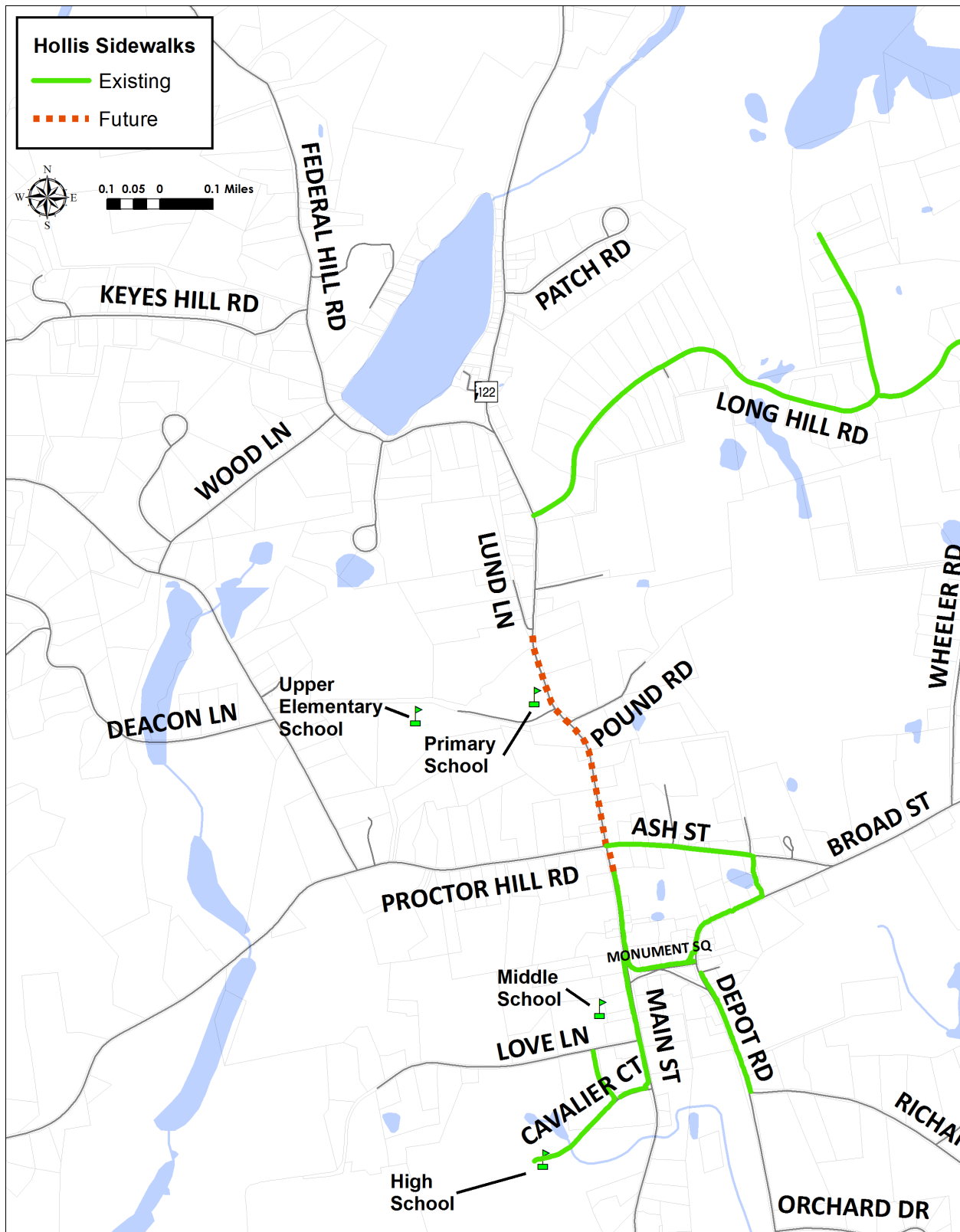
2. Pedestrian

Planning for pedestrian traffic involves providing areas and amenities that allow pedestrians to get to their destination by walking. Providing sidewalks, crosswalks, and pathways is the way to accomplish this form of transportation. Adding amenities, such as benches and shade trees will help to encourage walking. Another point of consideration for this mode is connectivity from one location to another. The proximity and safety between locations will be a deciding factor for some users. Sidewalks that don't connect pose a safety risk for pedestrians, especially those with physical challenges and strollers. It forces them to walk in the roadway or walk across unpaved and uneven terrain. Curb cuts should be provided at the end of each sidewalk and driveway entrances.

Sidewalks are not prevalent in Hollis due to the Town's rural character. The densest sidewalk network that exists in Hollis is within the Town Center and the high school. In 2011, NRPC assisted the Town of Hollis in completing a SRTS study to develop a strategy for encouraging a greater number of students to walk and bicycle to and from school. The study found that there were significant gaps in the sidewalk network. For example, there are no sidewalks connecting the Primary or Upper Elementary Schools to any neighborhoods. The plan recommended creating sidewalks along Route 122 and Route 130 to help fill in gaps and encourage multi-modal transportation. Proposed sidewalks off of Route 122 (e.g. Lund Lane and near the Department of Public Works building) were added to the plan by the SRTS committee to follow existing informal pathways and provide alternative pathways on roads with lower traffic volumes.

The Town should revisit the Plan to assess the progress it has made in fulfilling the recommended goals and create a strategic plan for completing them in conjunction with the Capital Improvements Program (CIP) process. Since the SRTS Plan was created, the Town of Hollis has built sidewalks along Ash Street. Map III-8 is was updated to reflect the progress the Town has made and adapted to show priorities segments of the sidewalk that should be constructed to better provide access for the nearby schools. Furthermore, to encourage pedestrian activity in the Town, there should an outreach program to educate the community that it is a state law to yield to pedestrians in crosswalks.

Map III-8. Existing and Future Sidewalks based on 2011 SRTS Report



Source: Adapted from 2011 Hollis Safe Routes to School Report, NRPC

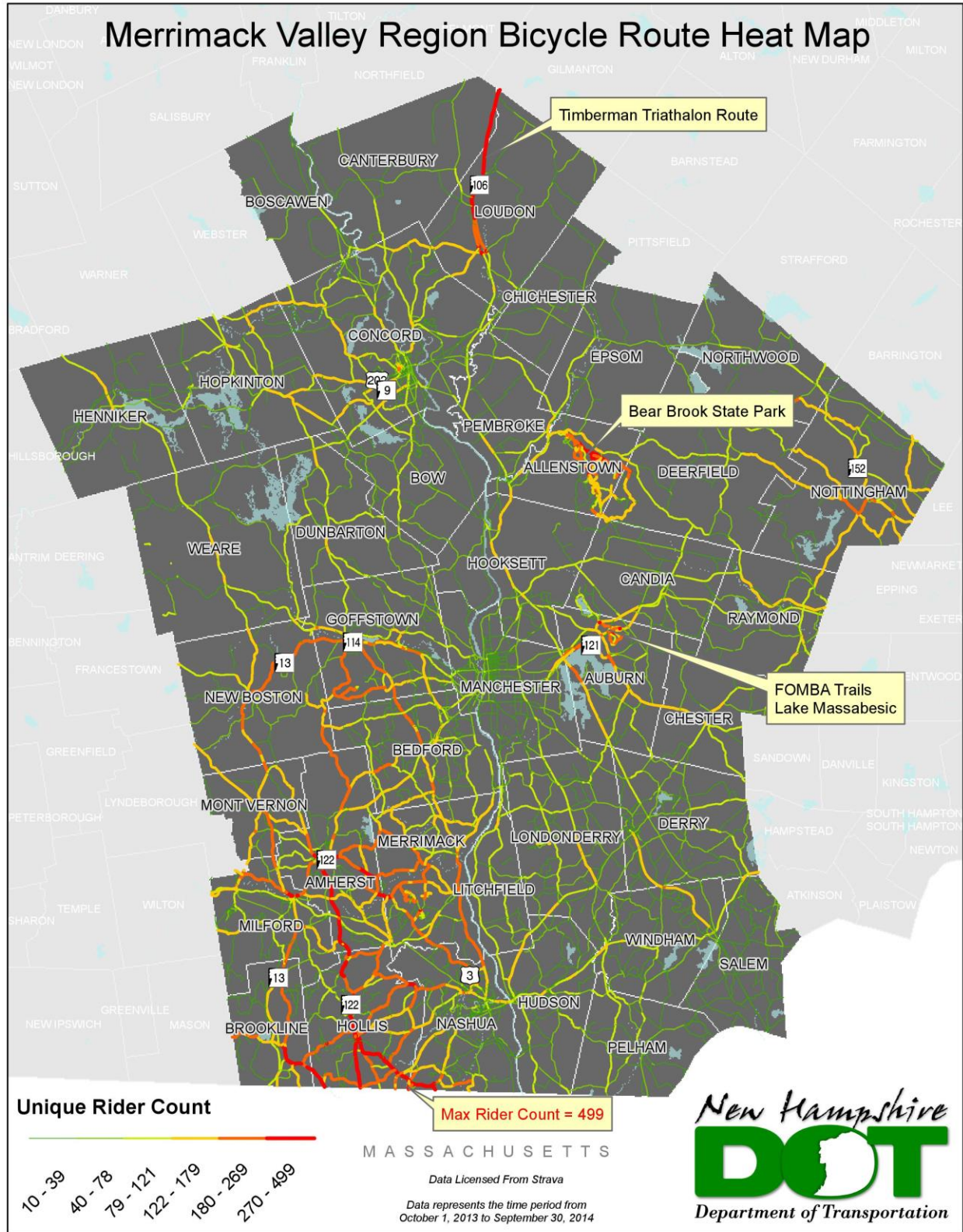
3. Bicycle Amenities

State highways can function as bicycle routes since they connect communities and/or town centers and involve greater distances than the average pedestrian would travel. These routes can also function to aid cyclists and pedestrians who are making shorter distance, in-town trips. As Map III-9 shows, the Town of Hollis attracts a high volume of cyclists along its regional routes (especially Route 122 and segments of Route 130).

Local routes are bicycle and pedestrian facilities that people would generally use to ride or walk to work, school, social visits, town facilities, shopping and/or recreation attractions. They include most local residential roads. Segments of these routes may overlap with the regional and/or key connector bicycle and pedestrian routes. Depot Rd is a relatively highly trafficked local road considering its connection to the Nashua River Rail Trail. The high ridership rates in Hollis should encourage the Town to work with NHDOT to determine if bike lanes or paved shoulders can be added to the state highways that run through Hollis to improve safety conditions. The Town should also consider adding design elements to local roads, especially key connector routes, which are bicycle or pedestrian facilities that connect to regional routes within the municipality or to other regional routes/destinations in surrounding communities. Creating infrastructure for bicycles should be done in conjunction with an outreach program to educate the community that it is a state law to share the road with bicycles. The cable channel and Town website are good mediums for promoting this educational program.

The Town presently contains 2.6 miles of Class VI roads (un-maintained). Opportunities for obtaining rights of way to develop a town-wide bicycle and pedestrian system are dwindling due to ongoing residential, commercial and industrial development. The Class VI un-maintained roads in the Town represent an opportunity to add to the recreational trail system in the Town and can provide both bicycle and pedestrian access at limited cost.

Map III-9. Merrimack Valley Region Bicycle Route Heat Map



4. Trails

A trail network throughout the community will provide for recreational activities such as walking, hiking, bicycling, horseback riding, snowmobiling, and cross-country skiing. In cases where people live near their place of employment, the trail system may enable local non-motorized journeys to work. In some instances in Hollis, the lack of sidewalks requires the provision of separate paths for safe pedestrian and non-motorized vehicle circulation.

Hollis has developed an extensive trail network that is considered one of the best in southern New Hampshire. All trails on Town Land are multi-use trails, which prohibit wheeled vehicles except for authorized and registered Trail Maintenance Vehicles. The trails are open year-round except for “mud season” when they are closed to everyone except hikers. In addition to the Beaver Brook Association trails, which are primarily hiking trails, the remainder of the approximately 30 miles of trails in town are either on town owned land or private property. The Hollis Trails Committee and Hollis Nor'Easters Snowmobile Club have obtained land owner permission for snowmobiles to use the trails. The Nor'Easters Snowmobile Club does most of the maintenance and upkeep of the trails year-round, with the support of the Hollis Trails Committee (which has oversight of the trails). The club also does trail improvements including building and repairing bridges where needed. The town does not incur any costs associated with trail maintenance as all the funds for upkeep come from club membership and registration fees. Over the past 20 years, the snowmobile club has done an estimated \$300,000 worth of work improving and maintaining the trails.

To accommodate the need for trails, a system of paths should be planned to correspond with the major arterials in Town, providing connections to schools, parks and municipal facilities. Such a trail system should be designed to provide access to the recreational amenities and local attractions where possible. The Town should conduct outreach with homeowners, research any former railroad right-of-ways, and utilize already conserved land. New development and re-development, through regulation and cooperation from developers may allow for access.

G. OTHER PLANNING DOCUMENTS AND STUDIES

1. 2016 – 2021 Capital Improvement Program (CIP)

Enabled by RSA 674:5, the CIP is a short-term planning document that identifies a recommended list of municipal capital improvement projects over a period of at least six years. Only municipalities that have master plans are allowed to produce CIPs. The sole purpose and effect of the CIP shall be to aid the Board of Selectmen and the budget committee in their consideration of the annual budget.

Currently, around 15% of Hollis’ operating budget is dedicated to road maintenance. The Town of Hollis utilizes the RSMS for a roadway improvement schedule in conjunction with the CIP. This document can serve as the primary method of integrating proposed transportation-related recommendations into future Town budgets.

2. Town of Hollis Road Surface Management System (RSMS) Plan, 2010

Between 2009 and 2010, The Town of Hollis contracted the NRPC to produce a RSMS Plan. This study was conducted using the RSMS software, which was developed by the Department of Civil Engineering at the University of New Hampshire, to assist municipalities in roadway surface management and maintenance. This report includes an inventory of pavement structure and location, a prioritization of maintenance needs, how to justify maintenance budget increases, and recommendations on efficiently using the Town’s highway budget.

3. Town of Hollis Safe Routes to School (SRTS) Travel Plan, 2011

During 2010 and 2011, the Town of Hollis worked with the NRPC to create a SRTS Travel Plan. The purpose of the Hollis SRTS Travel Plan is to develop a strategy for encouraging a greater number of

students to walk and bicycle to and from school. The study process was designed to gather information from students and their parents regarding the trip to and from school. A physical inventory of the existing traffic and sidewalk conditions was also conducted. Input from the community was also gathered with the help of the Hollis Safe Routes to School steering committee, Middle School PTA, Elementary School PTA, Highway Safety Committee, Hollis Police Department and Board of Selectmen. Included in the study is a list of recommendations in filling in the gaps in sidewalk and bicycle lane networks.

4. 2008 Town of Hollis Strategic Planning Final Report

The Hollis Strategic Planning Committee was chartered by the Hollis Board of Selectmen in 2005 to make assessments of what Hollis may look like in the future, and how that future may differ from Hollis today and/or from the visions of its residents. This report compares the community's vision as determined from public input to the buildout analysis, and present recommendations (including changes to the Master Plan) with cost/benefit analyses that the Town could enact to achieve its vision. With regard to transportation, this report concluded that transportation needs for the elderly will be a major issue as Hollis continues to grow. Also, pass-through traffic from surrounding communities will increase over the years, which will put a strain on Hollis Roads.

5. 2015 Nashua Regional Plan, Transportation Chapter

This document provides a basic blueprint for long-term transportation investment in the Nashua Region to the horizon year 2040. The plan is structured around four major goals, developed through public outreach and coordination with advisory committees, which include Mobility and Accessibility, Quality of Life, System Sustainability and Implementation. Included in this document are existing conditions data for the Nashua Region, which includes specific data for the Town of Hollis. There is also a section of this chapter dedicated to future projected conditions for the Region.

Included in this Plan was the 2015 – 2040 MTP, which has been revised as the 2017 – 2040 MTP to account for updates to the project list and a fiscal constraint analysis. This portion of the plan assesses the needs related to all modes of surface transportation in the region including driving, bicycling, walking, rail and bus transit, and rail and truck freight for the period covering 2017 – 2040. It is a path towards the transportation vision for the region. The State Ten Year Plan and the Transportation Improvement Program (TIP) are the implementation vehicles for the MTP.

The only project in the 2017 – 2040 MTP that could directly influence Hollis' transportation system is the Four-Corners Improvement at the Intersection of Routes 122 and 130. The project proposal is to add left turn lanes to help facilitate flow of traffic and mitigate congestion. The estimated cost of this project is \$6 million, with funding phases estimated for 2027 to 2029. This project is currently not listed on State Ten Year Plan, and therefore currently does not yet have a source of funding.

H. CONCLUSION

As Hollis is a primarily residential and agricultural community that abuts more urban areas, Hollis must ensure that its transportation system adheres to the Town's rural character while also preparing for future development. As the Nashua Region continues to grow, Hollis roads may serve as alternatives to more congested thoroughfares leading to an increase in traffic. Therefore, Hollis must work to better ensure the safety of its residents, workers and visitors. The road system can be developed in ways that not only handle increased traffic demands, but make the roads a suitable environment for pedestrians, equestrians, and bicyclists as well as automobiles. Furthermore, the Town should work to provide alternative modes of transit for its senior population by promoting public transit and demand transit services.

I. RECOMMENDATIONS

Recommendations	Time Frame
<p>Develop Bicycle and Pedestrian Amenities by:</p> <ul style="list-style-type: none">• Implementing improvements as recommended in 2011 Safe Routes to School Plan• Creating a Bike and Pedestrian Committee to develop an implementation plan• Adopting a policy of adding bike lanes to roads during repaving efforts.• Amending Section XV: Hollis Rural Character Preservation Ordinance, Part F.4 to add bicycle and pedestrian amenities to list of roadway design features.• Assessing feasibility of providing paved shoulders suitable for safe bicycle and pedestrian use on all roads as part of planning process when developing roadway improvement and maintenance strategies. Construct where feasible. The preferred facility for bicycle travel is a four-foot paved shoulder separated from motorized travel lanes by a six to eight inch painted white stripe. Where paved shoulders and bicycle lanes are not possible, shared roadways with appropriate signage and safety improvements are recommended• Creating a Bicycle and Pedestrian Plan for the Town of Hollis with a focus on connecting the Nashua River Rail Trail with Hollis Town Center	1 – 10 Years
<p>Develop Road and Bridge Maintenance Plans 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.</p>	1 – 3 Years

Recommendations	Time Frame
<p>Coordinate with NH DOT to include intersection improvements as part of state pavement maintenance and rehabilitation activities on Class I and Class II roads. Specific improvements include:</p> <ul style="list-style-type: none"> • NH 130 at NH 122 (Four Corners Intersection): <ul style="list-style-type: none"> ○ Add left turn lanes to help facilitate flow of traffic and mitigate congestion is listed in the 2017 – 2040 MTP. ○ Town officials should advocate to advance project funding schedule and have it listed in the State Ten Year Plan. • NH 122 and NH 111A <ul style="list-style-type: none"> ○ Improve bicycle amenities by adding dedicated lanes or widening roadway to construct shoulder • NH 130 at Ash Street <ul style="list-style-type: none"> ○ Research intersection redesigns including creating a roundabout 	<p>Ongoing; dependent on NH DOT maintenance and improvement plans Consider applying for Highway Safety Improvement Program (HSIP) Funding through NH DOT (Division of Project Development, Bureau of Highway Design)</p>
<p>Work with utility company to install more efficient street lights</p>	<p>1 – 3 Years</p>
<p>Coordinate with NRPC to update traffic volume count at key locations.</p>	<p>Ongoing</p>
<p>Seek funding for additional equipment to monitor speeding vehicles through grants or the CIP</p>	<p>1+ Years</p>
<p>Work with Hollis-Brookline Cooperative School District to mitigate traffic and parking issues:</p> <ul style="list-style-type: none"> • Clearly indicate parking areas for athletic events • Enlist the help of the Hollis Police Department to aggressively enforce traffic and parking laws (including warnings and citations) during school drop off and pick up times and develop a strategy for enforcement during the rest of the year • Coordinate with the Hollis Police Department on holding education outreach campaigns in schools regarding proper pedestrian safety methods • Coordinate with NRPC to monitor newly constructed crosswalk at Middle School to see if things like additional lighting and signage are needed 	<p>1 – 3 Years</p>

Recommendations	Time Frame
Develop a plan for strategic land acquisitions or agreements with private landowners to redesign intersections as close to 90 degrees as possible.	8 - 10 Years
Accommodate the growing number of electrical vehicles by installing charge ports at municipal buildings. This would accommodate Hollis' growing population of private residents who own electric vehicles and maintain Hollis' reputation for being technologically advanced.	3 - 5 Years
Research the feasibility of burying powerlines underground during roadway repavings	1 - 3 Years
Utilize more environmentally friendly road deicing agents rather than salt rock.	1 - 3 Years