

TOWN OF CANDIA
TRANSPORTATION PLAN

FINAL DRAFT

January 2017

Adopted by Board of Selectmen:

Adopted by Planning Board:



Prepared by the Candia Transportation Steering Committee
&
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Candia Transportation Survey Results
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Introduction

The purpose of this plan is to provide guidance to the Town of Candia in transportation planning and infrastructure improvements. The plan is designed as both a standalone plan and as a reference document to be included as an essential component of the Town of Candia's Updated 2017 Master Plan. It is also intended to provide the NH DOT with information about the town's transportation vision, goals, priorities and recommendations.

Candia's transportation infrastructure consists of a hierarchy of local and State roadways and non-motorized paths that work together to facilitate regional through-traffic and local access and travel. The characteristics and condition of the local transportation network are important for both the well-being of the community and for its future growth. The Town's transportation network requires planning to ensure safe, convenient, and efficient local access and movement of traffic within the community. Because road maintenance and reconstruction expenditures generally represent a significant portion of the municipal budget, an efficient and comprehensive transportation improvement program is essential for the management of town's transportation infrastructure.

Candia Transportation Steering Committee

A Steering Committee was established by the Board of Selectmen and Town Planning Board to guide the development of this plan. Southern New Hampshire Planning Commission (SNHPC) staff provided an overall leadership and facilitator role. One of the major goals of the Steering Committee has been to engage public input, interest and participation in the project, including reaching out to active stakeholders, property owners and developers in the community involved in transportation and land development. A total of nine Steering Committee meetings were held during the course of preparing the plan beginning on November 10, 2015 and ending on October 13, 2016. Copies of all meeting agendas and meeting notes are available from the SNHPC and are posted on the town website.

Transportation Survey Questions and Responses

One of the most important public participation tools implemented for this plan was the Transportation Survey. The purpose of the survey was to obtain and evaluate public opinion about the quality of the town's roads, current road maintenance programs, speeding and other transportation planning and infrastructure concerns, including the need for bicycling and pedestrian accommodations within the community.

The survey was distributed during March 2016. The survey was delivered to all town residents by the local Boy Scout troop and posted electronically on the Town's website. Town residents could elect to drop off surveys at survey collection boxes at the town office, the library or the transfer station. Out-of-state residents were asked to mail in their surveys to the town. A total of 156 surveys were completed (63 hardcopies and 93 electronic copies) which represent roughly 4 percent of the town's 3,920 residents (2014 OEP estimate). The major highlights and each question from the survey is presented below.

Survey Highlights

Some of the major findings of the survey indicate that many town residents (almost half of the survey respondents) believe Candia's roads are in adequate to good condition, except for the following three locations:

- NH Route 27/Raymond Road/High Street intersection
- NH Route 43
- Rt. 101/Exit 3/Irving Station intersection

According to survey respondents, these three locations either (1) present the most serious threat to safety and property, (2) carry too much traffic considering their current design and surrounding setting, (3) need to be reconstructed, paved or repaved, or (4) need a traffic signal.

In order of public concern, the most pressing transportation issues facing Candia today include: potholes, cracking pavement, etc.; pedestrian safety; lack of sidewalks in selected locations; and lack of bicycle lanes. Candia's roads identified as the most frequently in need of sidewalks or bicycle lanes are Main Street; NH Route 27; NH Route 43; around Moore School and High Street. In terms of pedestrian/bicycle safety, a majority of the survey respondents feel Candia's roads are unsafe for bicycles and pedestrians.

In terms of public support for a program to improve Candia's town roads, a majority of the survey respondents (57.8 percent) indicated they would support financing these efforts through the issuance of a one-time municipal bond. The town roads most commonly identified in need of improvement include, in order of priority, Candia Road, South Road, New Boston Road and Merrill Road (some of these roads are currently being improved by the town).

When participants were asked to identify the best thing about Candia's roads, 64 percent of respondents said that Candia's roads are well-maintained and are well plowed in the winter. Another 44 percent indicated they like the scenic/rural/natural character of Candia's roads. In terms of the worst thing about Candia's roads, 61 percent of respondents indicated lack of maintenance, while 24 percent indicated safety for bicycles and pedestrians.

Existing Conditions

This section of the plan describes the current conditions of Candia's transportation network, including roads/highways and pedestrian/bicycle features.

Administrative/Functional Highway Classification

Municipal roads and highways are generally maintained and described according to an administrative classification system. The administrative classification system defines governmental responsibilities for construction and maintenance purposes.

The Administrative Classification system for highways under state maintenance and control include Class I, II, and III highways. Class IV, V and VI highways are under the jurisdiction of municipalities. The descriptions below, based on information contained in New Hampshire Planning and Land Use Regulation books, detail the various administrative classes.

Class I Highways consist of all existing or proposed highways which are part of the primary state highway system except for portions of such highways located within the compact sections of towns and cities as listed in RSA 229:5, V. Turnpikes and the national system of interstate and defense highways located within the compact sections of the cities and towns listed in RSA 299:5 shall also be class I highways. The only Class I highway in Candia is NH Route 101.

Class II Highways consist of all existing or proposed highways on the secondary state highway system, except those portions of such highways which are within the compact sections of the towns and cities listed in RSA 229:5 V. Examples of Class II highways in Candia include NH Routes 27 and 43.

Class III Recreational Roads consist of all roads leading to, and within, state reservations designated by the legislature.

Class III-a Highways consist of new boating access highways from any existing highway to any public water in this state. All class III-a highways shall be limited access facilities as defined in RSA 230:44. Class III-a highways shall be subject to the layout, design, construction, and maintenance provisions of RSA 230:45-47 and all other provisions relative to limited access facilities, except that the executive director of the fish and game department shall have the same authority for class III-a highways that is delegated to the commissioner of the department of transportation for limited access facilities. A class III-a highway may be laid out subject to the condition that it shall not be maintained during the winter months. A class III-a highway may be laid out subject to gates and bars or restricted to the accommodation of persons on foot, or

certain vehicles, or both, if federal funds are not used. The executive director of fish and game may petition the governor and council to discontinue any class III-a highway.

Class IV Highways consist of all highways within the compact sections of cities and towns as listed in RSA 229:5 V. The compact section of any such city or town shall be the territory within such city or town where the frontage on any highway, in the opinion of the commissioner of transportation, is mainly occupied by dwellings or buildings in which people live or business is conducted, throughout the year and not for a season only. Whenever the commissioner reclassifies a section of a class I or class II highway as a class IV highway, the commissioner shall prepare a statement of rehabilitation work which shall be performed by the state in connection with the turn back. No highway reclassification from class I or II to class IV shall take effect until all rehabilitation needed to return the highway surface to reputable condition has been completed by the state. Rehabilitation shall be completed during the calendar year preceding the effective date of the reclassification. A copy of the commissioner's statement of work to be performed by the state shall be attached to the notification of reclassification to class IV, and receipt of said statement shall be acknowledged, in writing, by the selectmen of the town, or the mayor of the city, affected by the reclassification.

Class V Highways consist of all other traveled highways which the town has the duty to maintain regularly and shall be known as town roads. Any public highway which at one time lapsed to Class VI status due to five years' no maintenance, as set forth in RSA 229:5, VII, but which subsequently has been regularly maintained and repaired by the town on more than a seasonal basis and in suitable condition for year-round travel thereon for at least five successive years without being declared an emergency lane pursuant to RSA 231:59-a, shall be deemed a Class V highway.

Class VI Highways consist of all other existing public ways, and shall include all highways discontinued as open highways and made subject to gates and bars, except as provided in paragraph III-a, and all highways which have not been maintained and repaired by the town in suitable condition for travel thereon for five successive years or more except as restricted by RSA 231:3, II.

Closed and Discontinued Roads

Pursuant to RSA 231:4, the Town of Candia is permitted to discontinue any Class IV, V, or VI highway by vote. The two exceptions to the statute are state highways, or any portion thereof that lead to public waters and any Class V highway that was established to provide access to a private property owner as a result of a taking (RSA 230:14). When a highway is determined to be discontinued, the selectmen are required to provide written notice 14 days in advance to all property owners abutting said highway. Furthermore, no property owner, without the owner's

consent shall be deprived of access over such highway. Discontinuance as a road is accomplished by a town meeting vote using language such as “completely discontinue” to insure the intent of the vote is clear. Discontinuance extinguishes public right of travel. Easements of land return to the owner. Land owners cannot be cut off by discontinuance but at their own risk can travel over a discontinued road to access their property.

Functional Classification System

Municipal roads and highways are also described as part of a functional classification system based on their role in terms of the amount of traffic they carry and the type of area they serve. The roadway functional classification system generally includes Interstate Highways as the highest classification followed by Other Freeways and Expressways, Principal Arterials, Minor Arterials, Collectors and Local Roads. The following roadway functional classifications as described in “Highway Functional Classification Concepts, Criteria and Procedures –FHWA 2013” and as shown on Map 1, Highway Classifications are found in the Town.

Collectors

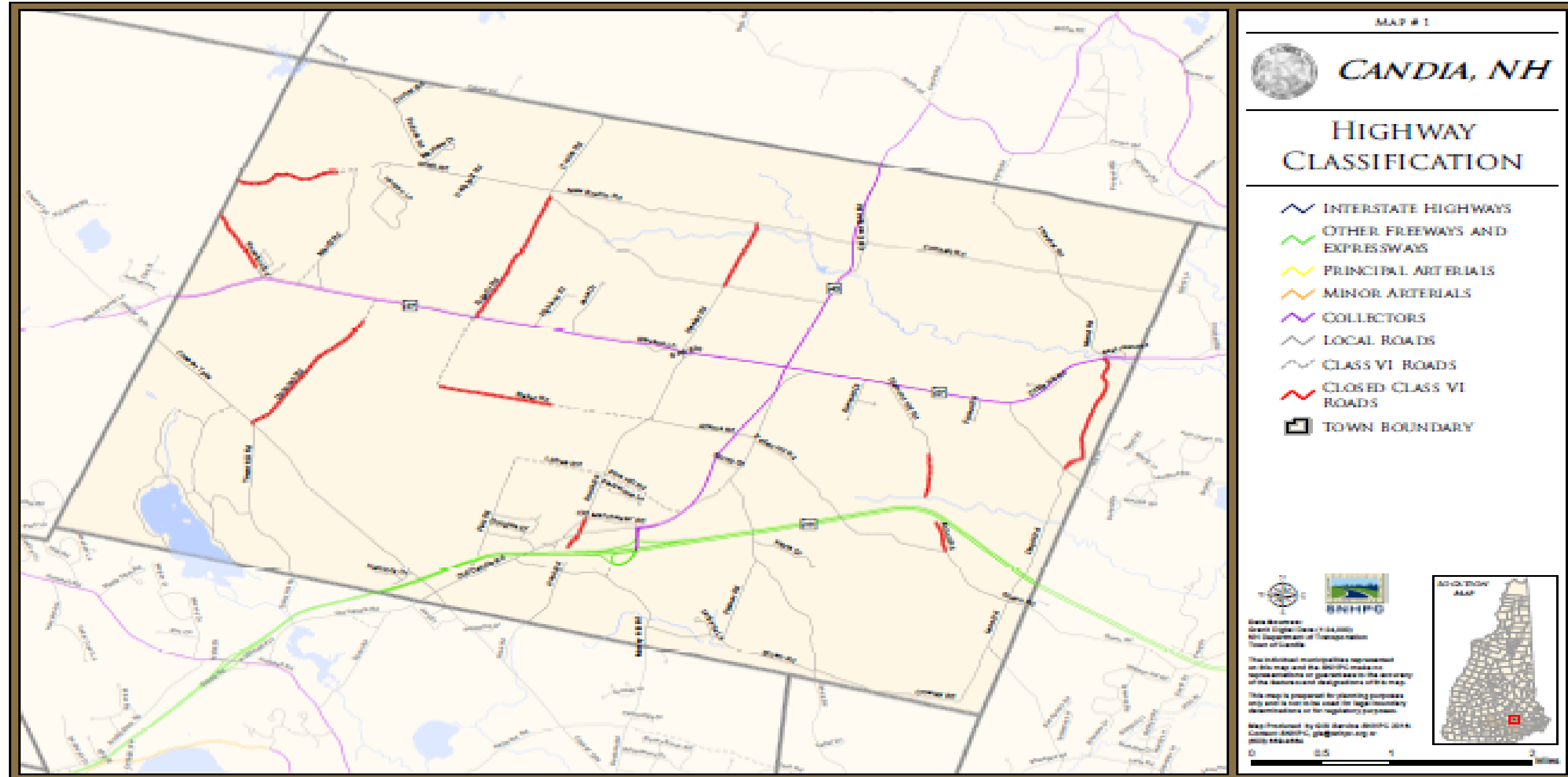
The purpose of Collector roadways (i.e. NH 43 and NH 27 in Candia) is to gather traffic from Local Roads and distribute it to the Arterial network. Collector roadways are broken down into two categories: Major Collectors and Minor Collectors. In a rural environment, Collectors generally serve primarily intra-county rather than statewide travel and generally serve trips whose travel distances are shorter compared to Arterial routes. Consequently, more moderate speeds may be posted.

Local Streets

Local roads account for the largest percentage of roadway mileage. The primary function of Local roads, which are not intended or designed for long distance travel or through traffic, is for access to abutting land. Bus routes generally do not run on Local roads and are often designed to discourage through traffic. Local roads are often classified by default once all Arterial and Collector roadways have been identified.

Development of a functional roadway classification system for the town will assist in highway system planning and encourage the development of an interconnected roadway network that meets the needs of both regional and local trip-making. An interconnected roadway network discourages through-traffic volumes, enhances pedestrian accessibility and emergency access, and provides increased opportunities for development of alternative modes of transportation.

Map 1: Highway Classifications



Roadway Mileage

Table 1 presents a summary of 2015 classified roadway mileage in Candia, as provided by NHDOT. There are approximately 88.9 centerline miles of public roads in town. Approximately 29.5 centerline miles of Class I and Class II highways exist, including sections of NH Routes 27 and 43. The majority of Candia’s roads, approximately 42.4 centerline miles, are Class V or town roads. There are approximately 10.5 centerline miles of Class VI roads in town.

Table 1: Candia Highway Mileage (Lane Miles)

Class	Type	Lane Miles
I	Primary	12.3
II	Secondary	17.1
III	Recreation	0
IV	Compact	0
V	Local	42.4
VI	Local Not Maintained*	10.5

*Note: Includes both Open and Closed Class VI Roads;
Source: NHDOT 2015

Class VI Roads

Table 2 compares the mileage of Class VI roadways in Candia with data for other similarly-sized towns in the SNHPC Region. As shown in Table 2, the towns of New Boston, Chester and Deerfield, as of 2012, had 19.1, 10.7 and 13.2 lane miles, respectively, of Class VI roadways.

Table 2: Class VI Roadway Mileage for Selected Towns in the SNHPC Region

Town	Class VI Roadway Lane Miles	Population**
Candia	4.36	3,900
New Boston	16.8	5,320
Chester	11.0	4,770
Deerfield	10.2	4,280

Source: NHDOT (2012); U.S. Census 2010

Road Design

The Candia Subdivision Regulations include design standards related to the arrangement, character, extent, width, grade and location of town roads. The document states that roadway

design must consider variables such as relation to existing or planned streets, topographical conditions, public convenience and safety and relation to land use. Roadways should also be designed so as to provide for the continuation of the principal streets in adjoining areas, provide for safe vehicular traffic circulation, discourage movement of through traffic within subdivisions and afford separation of through and local traffic.

The following Table 3 and Table 4 provide a summary of the geometric and other standards for streets and roadways in the Town of Candia based on the Town’s Subdivision Regulations. It should be noted that Candia’s design standards for new town roads are often coordinated with the town engineer and planning board and evaluated on an individual basis. In some instances, different standards may be appropriate for individual sites.

Table 3: Table of Geometric Standards for Streets

ITEM	Minor	Collector	Arterial
Number of Dwelling Units	1-30	31-50	50+
Average Daily Traffic (a)	1-300	300-500	500+
Minimum Right-of-Way (b)	60'	60'	60'
Minimum Paved Travel Surface Width	22'	22'	24'
Minimum Shoulder Width (each side)	4'	4'	6'
Minimum Horizontal Curve Radii	300'	575'	950'
Minimum Vertical Curve Radii	200'	300'	400'
Maximum Profile Grade	7%	6%	5%
Minimum Profile Grade	1%	1%	1%
Minimum Stopping Sight Distance	250'	300'	400'
Minimum “K” Value	--	--	--
*K is defined as the length of the vertical curve divided by the algebraic difference of the tangent grades entering and exiting the vertical curve. K indicates numerically that combination of the length of curve and the tangent grades provide adequate sight distance at a particular speed.			

SOURCE: Candia Subdivision Regulations – 2010

Table 4: Other Standards for Streets

Item	Minor	Collector	Arterial
Maximum Grade at Intersections	3% within 100'	3% within 100'	3% within 100'
Minimum Angle of Intersections	75°	75°	75°
Minimum Tangent Length between Reverse Curves	*	*	*

Road Base (Minimum)	6"	6"	6"
Sub Base (Sand)	12"	12"	12"
Sub Base (Bank-Run Gravel)	12"	12"	12"
Upper Base (Crushed Gravel)	6"	6"	6"
Pavement Thickness - Binder	2 ½"	2 ½"	2 ½"
Pavement Thickness – Wearing	1 ½"	1 ½"	1 ½"
Cul-De-Sac Streets and Loop Streets	1000'	--	--

SOURCE: Candia Subdivision Regulations – 2010

As provided in Table 4, the maximum length for loop and cul-de-sac streets is 1,000 feet with a minimum length of 400 ft. at a maximum road grade of four percent. This measurement also includes the total running length of the street up until the center point of the turnaround of the cul-de-sac. The measurement of total running length begins at the last intersection on a Class V or better road which provides more than one access route for emergency vehicles. The length of pre-existing streets must be included in the running length measurement where they too are accessed by that same multiple access intersection.

Scenic Roads

New Hampshire allows the establishment of Scenic Roads, under RSA 231:157. Under the statute, any road in a town, other than a Class I or Class II highway, may be designated as a Scenic Road upon petition of 10 persons who are either voters of the town or who own land that abuts a road mentioned in the petition. All abutters of the road must be notified within 10 days of the filing that a Scenic Road petition has been filed. Upon the approval of the petition, the voters of the town may designate the road as a Scenic Road at any annual or special meeting. Similarly, a Scenic Road may also be un-designated at any annual or special meeting.

The designation of a Scenic Road attempts to capture and preserve the natural and historic character of a road. Under RSA 231:158, the designation means that repair, maintenance, and reconstruction work to the roadway should not involve the cutting or removal of trees of 15 inches in diameter or more, or the tearing down or destruction of stone walls without prior written consent of the planning board or board responsible for the local Scenic Roads program.

RSA 231:158 states that designating a road as scenic will not affect the eligibility of the town to receive construction, maintenance or reconstruction aid for such a road, pursuant to the provisions of the Federal and State Highway Aid, RSA 235. Similarly, the designation of a road as a scenic road shall not affect the rights of any landowner with respect to work on his own property, except to the extent that trees have been acquired by the municipality as shade or

ornamental trees pursuant to RSA 231:139-156, and except that RSA 472:6 limits the removal or alteration of boundary markers including stone walls.

The following 11 roads have been designated as Scenic Roads by the Town of Candia. For locations see Map 6, Alternative Transportation.

- Libbee Road
- Pine Hill Road
- Adams Road
- Lane Road
- Depot Road
- New Boston Road
- Baker Road
- North Road
- Portion of Patten Hill Road
- Critchett Road
- Crowley Road

Traffic Conditions

Traffic Flow

Existing traffic volumes on the roadway network of the town were compiled using the results of the SNHPC's annual regional traffic counting program and data contained in the SNHPC regional travel demand model. Map 2, Existing Traffic Flow Conditions shows the existing (2014) average annual daily traffic volumes (AADT) on selected roadways in Candia. This information is also summarized in the following Table 5. Information on traffic congestion on the State highway system in Candia is presented in the State of New Hampshire Ten-Year Transportation Improvement Plan 2015-2024. Supporting documents for the Plan include a map presenting mobility on State roadways measured in terms of congestion. Congestion is measured by level of service, which is an indication of how well traffic flows on the highway system. Level of service (LOS) is expressed by a letter grade with LOS A representing no congestion and LOS F representing a roadway link operating with severe congestion. The information presented indicates that NH 43 and NH 27 in the town are currently operating at LOS A with no congestion.

In order to assess future traffic conditions in the town, the traffic volumes for the “existing” base year condition were projected to the 2040 “horizon year” utilizing a growth rate from the regional travel demand model. The 2040 projected AADT traffic volumes were developed for the locations chosen for base year analysis. The 2040 projected AADT traffic volumes for the selected locations in the town are shown on Map 3, Future Traffic Flow Conditions.

Crowley Road in Candia is anticipated to experience significant increase in traffic as a result of a proposed large subdivision to be built in the Town of Chester. Primary access to this new

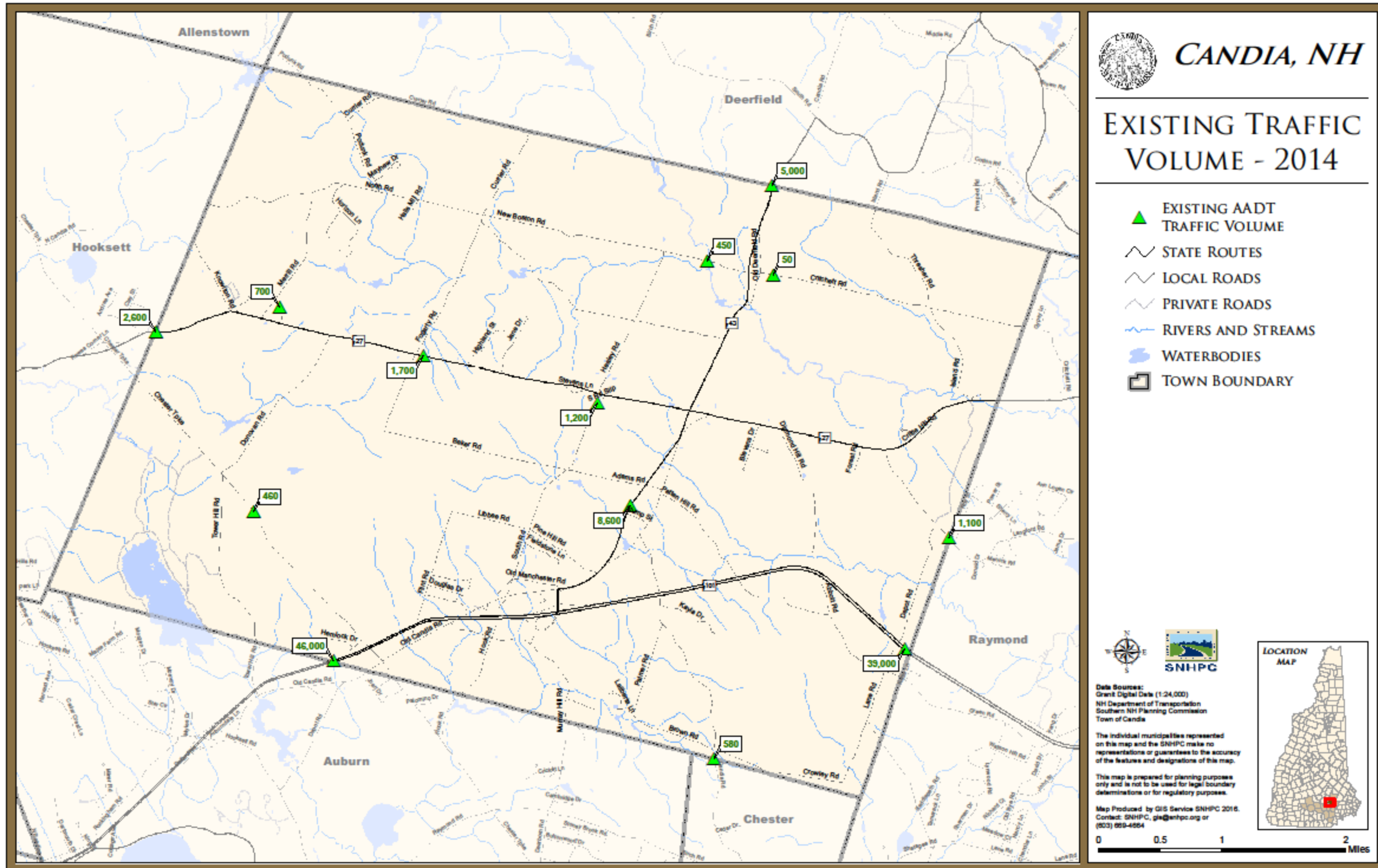
subdivision in Chester will be from Crowley Road in Candia. In addition, traffic volumes on NH Route 101 and at Exit 3 in Candia are projected to experience continued traffic growth.

Table 5: Candia 2014 and 2040 AADT Traffic Volume Summary

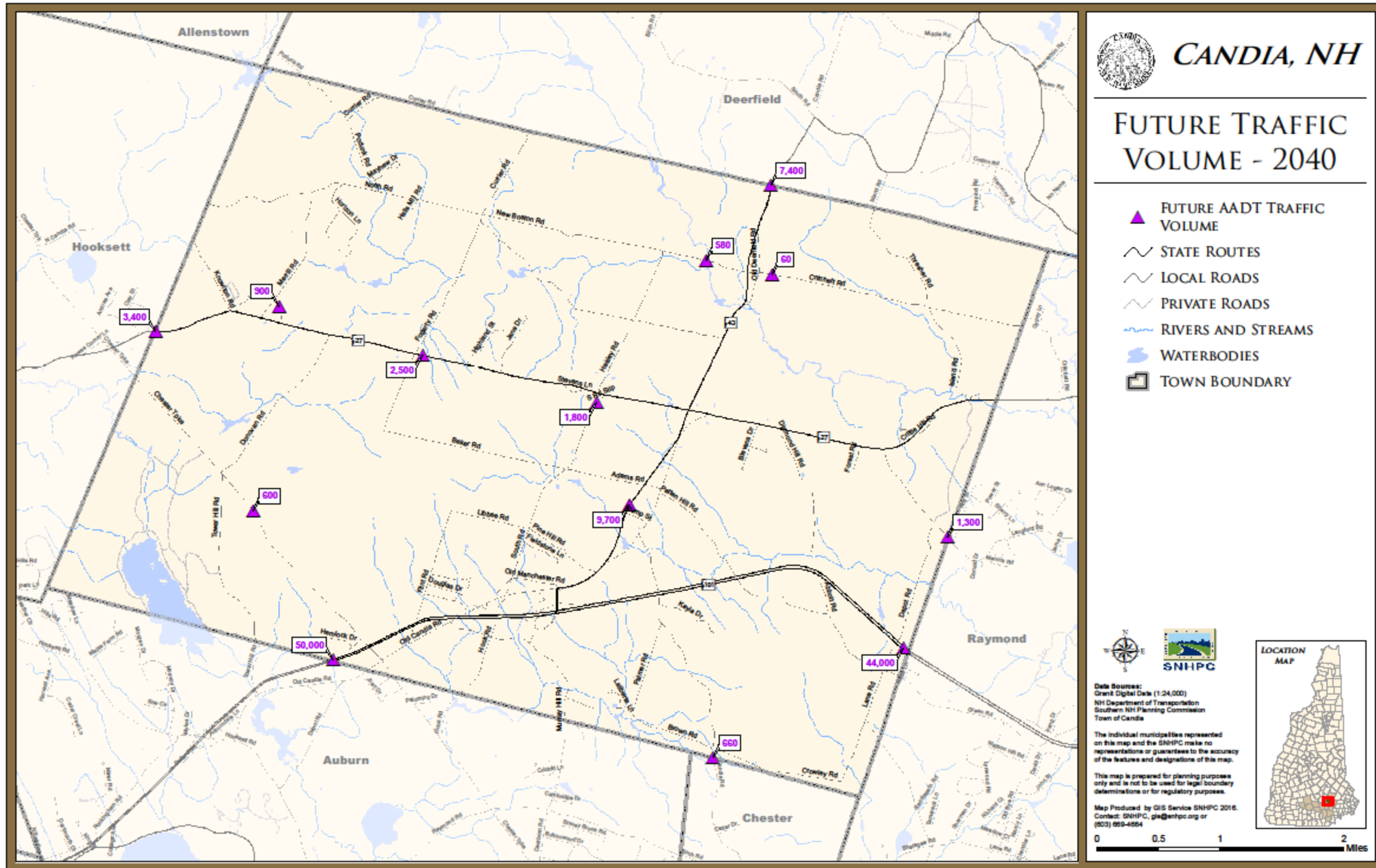
LOCATION	2014 Existing	2040 Future	% Change	Annual Growth Rate
Chester Rd at Chester Town Line	580	600	138%	0.52%
Chester TPK East of Tower Hill RD	460	600	30.43%	1.07%
Critchett Rd East of Old Deerfield Rd	50	60	20.00%	0.73%
Langford Rd South of NH 27	1,100	1,300	18.18%	0.67%
Merrill Rd North of NH 27 High St	700	900	28.57%	1.01%
New Boston Rd West of Deerfield Rd over North Brook	450	580	28.89%	1.02%
Crowley Road	100	800	700%	26.92%
NH 27 High St at Hooksett Town Line	2,600	3,400	30.77%	1.08%
NH 27 High St east of Baker Rd	1,700	2,500	47.06%	1.55%
NH 43 Deerfield Rd at Deerfield Town Line	5,000	7,400	48.00%	1.58%
NH 43 Old Candia Rd South of Adams Rd	8,600	9,700	12.79%	0.48%
South Rd south of NH 27 High St	1,200	1,800	50.00%	1.64%
NH 101 at Raymond Town Line Junction	39,000	44,000	12.82%	0.48%
NH 101 at Auburn Town Line	46,000	50,000	8.70%	0.33%

Source: SNHPC traffic count data and Regional Travel Demand Model

Map 2: Existing Traffic Flow Conditions Map



Map 3: Future Traffic Flow Conditions



Traffic Accidents

Crash data was obtained from the New Hampshire Department of Transportation (NH DOT) and the Candia Police Department for the period from 2004 to 2013. During this period, there were a total of approximately 929 accidents in the town, with 72 accidents occurring in 2008 and a total of 127 accidents occurring in 2013. Table 6 presents a summary of the annual accident totals between 2004 and 2013.

Table 6: Candia Accident History 2004 – 2013

Year	Total Number of Accidents
2004	87
2005	103
2006	77
2007	90
2008	72
2009	89
2010	91
2011	91
2012	102
2013	127

Source: Crash database 2004-2013 from New Hampshire Department of Transportation.

Crash data for the ten-year period 2004 to 2013 was used to identify high accident locations within the town. High accident locations at intersections and at roadway link locations between intersections were identified by the SNHPC. A listing of the high accident locations in Candia is presented in Table 7. This table shows that for the period from 2004 to 2013, the NH Route 27/Main Street intersection experienced the greatest number of accidents. A total of 18 accidents occurred at this location during this period.

Table 7: Candia High Accident Locations

Intersection	Total
Main Street / Raymond Road	18
Deerfield Road / Old Candia Road/Old Manchester Road	17
High Street / Main Street	14

Source: NH DOT 2004 - 2013 Crash Database

The Table 8 presents the high accident mid-block locations (non-intersections) in Candia from 2004 to 2013. The results of the evaluation indicate the segment of NH 101 both eastbound and westbound had the highest number of accidents. Apart from NH 101, segments of Old Candia Road and NH 43 experienced the highest incidences of traffic accidents. A total of 403 accidents occurred at these locations during this timeframe.

Table 8: Candia Mid-Block Accident Locations

Roadway	Segment	Total
NH 101 Eastbound	East Bound Between Auburn TL and Raymond TL	182
NH 101 Westbound	West Bound Between Raymond TL and Auburn TL	164
Old Candia Road	Between Old Manchester Road/Old Candia Road and Pine Hill Road	32
NH 43 Deerfield Road	Between High Street/Main St/Raymond Road and North Road	25
NH 27 Raymond Road	Between Diamond Hill Road and Forest Road	16
North Road	Between Fogarty Road and Healey Road	16
NH 43 Deerfield Road	Between New Boston Road and North End of Old Deerfield Road	14
Patten Hill Road	Between Lane Road/Depot Road/Green Road and Abbott Road	13
Patten Hill Road	Between Main Street and NH Route 101 West Bound	11
Main Street	Between Adams Road and Old Candia Road/NH 43	11
NH 27 Raymond Road	Between Blevens Dr and Diamond Hill Road	10
NH 43 Deerfield Road	Between South End of Old Deerfield Road and New Boston Road	10
NH 43 Deerfield Road	Between North Road and South End of Old Deerfield Road	10

Source: Crash database from New Hampshire Department of Transportation 2004 - 2013.

Identified Transportation Issues

A number of transportation issues in Candia were identified and discussed by the Steering Committee and are shown on Map 4, Identified Transportation Issues.

Flooding

Candia is prone to a variety of natural hazards according to the Town's Updated 2012 Hazard Mitigation Plan. These include: flooding, dam breach, severe wind events (downbursts, hurricanes, and tornadic activity), wildfire, drought, earthquake, hail, landslides, lightning strikes, extreme heat, and severe winter weather, in addition to man-made hazards. The extent of flooding within the town historically has been located along the North Branch River and minor tributaries. It generally takes a rainfall event of more than four inches to create sporadic flooding within the community. Mostly these flooding events result in damage to culverts and

roads. The extent of damage caused by any flood depends on the depth and duration of flooding, the topography of the area flooded, and velocity of flow, rate of rise, and the amount of and type of development within the floodplain. Flooding in Candia has primarily impacted the transportation infrastructure – roads and culverts - more than residential homes or buildings within the community.

After the floods of 1996, the town implemented a short-term solution for problem culverts on Depot Road, Patten Hill Road, South Road and Critchett Road by placing erosion stone in and around the culverts. Since then the town has experienced approximately two to three flooding occurrences a year which pose safety issues for drivers. Some of the problem culverts are shown on the Identified Transportation Issues Map as flooding issues and are located mostly on New Boston Road, Currier Road and Merrill Road.

The Mother's Day flood on May 13, 2006 was the most damaging to the town, washing out many roads and bridges and making them impassable. In Candia, Chester Road, Main Street, South Road, Critchett Road, NH Rt. 43, and Thresher Road all had major road wash outs and damage. NH Rt. 27 and New Boston Road flooded but did not have major damage. The former Verizon switching station located in Raymond also flooded and as result 911 service was shut down for a week.

The Town's 2012 Hazard Mitigation Plan recommends that the town's subdivision and site plan regulations be kept up-to-date with respect to storm water runoff; also, that the Candia Road Agent and NH DOT clean the drainage basins once a year and after major flooding events, including repairing and replacing problem culverts. Specific projects include upgrading culverts on Critchett Road, Patten Hill and South Road in 2016 and applying for pre-disaster mitigation grant funding to help pay for these costs. The Town should continue to plan for these culvert upgrades as part of the Capital Improvement Program (CIP).

Red Listed Bridges

The NHDOT Bureau of Bridge Design is responsible for inspecting and rating state and municipal bridges and culverts to monitor the conditions of these structures. This work includes those state-owned and municipally-owned "Red-List" bridges requiring interim inspections due to known deficiencies, poor conditions, weight restrictions, or type of construction. State-owned "Red-List" bridges are inspected twice yearly and municipally-owned "Red-List" bridges are inspected annually. There are currently (as of March 2016), two municipally-owned bridge structures in Candia being monitored by the NHDOT Bureau of Bridge Design. The bridge carrying Old Deerfield Road over the North Branch River and the bridge carrying Beane Island Road Bridge are both located in the northeastern portion of Candia. Both structures are on NHDOT's Municipal Red List.

Class VI Roads

RSA 229:5 defines Class VI roads as “all other traveled highways which the town has no duty to maintain regularly and shall be known as town roads”. Class VI roads include those that have been discontinued, subject to gates and bars, as well as those that have “not been maintained and repaired by the town in suitable condition for travel” for five successive years or more (RSA 229:5,VII). Class VI road status occurs by:

- Creation of road by the Selectmen “subject to gates and bars.” Gates and bars mean the road can be restricted by fencing and gates, but remains open to the public.
- The Town votes to discontinue the road AND make it subject to gates and bars.
- Town failed to maintain the road for a period of five years.

Thus, while Class VI roads entail no duty or responsibility for maintenance on the part of the town or any liability by the town, the town still retains the right to regulate the road, control driveways and authorize use by utilities. In addition, the public is free to use the road at their own risk.

RSA 231:59 grants authority for municipalities to spend money to repair Class IV and Class V roads, but not Class VI roads. RSA 231:93 states that municipalities have no duty to the condition of Class VI roads. Thus, if a municipality undertakes Class VI road maintenance, it exposes itself to the risk of liability for damage or injury resulting from that work. Similarly, maintenance or repair work could result in a lawsuit involving a landowner. A Class V road that attains Class VI status as a result of the lack of maintenance will revert to Class V status again if the town maintains it for at least five consecutive years.

While municipalities have no duty to maintain Class VI roads, they can give permission to private parties to conduct maintenance or repair work. RSA 236:9 prohibits anyone from excavating or disturbing the ditches, embankments or traveled surface of any town road, including a Class VI road, without the written permission of the municipality’s governing body (board of selectmen or town/city council) or the road agent. RSA 236:10 provides that the municipality may regulate such private road work and may require a bond for the satisfactory restoration of the road. RSA 236:11 requires anyone who excavates or disturbs town roads to restore them to the satisfaction of the authorized local official.¹

If a municipality wishes to spend money on a Class VI road, they are authorized under RSA 231:59-a. to raise and appropriate money for the maintenance of any Class VI road or private road that is declared an emergency lane by the governing body. This statute, also called the

¹ Slack, Susan. 2004. New Hampshire Municipal Association. *Class VI Roads and Maintenance Issues*. New Hampshire Town and City. <https://www.nhmunicipal.org/TownAndCity/Article/225>

emergency lane statute, requires a municipality to include a public hearing and written findings “that the public need for keeping such lane passable by emergency vehicles is supported by an identified public welfare or safety interest which surpasses or differs from any private benefits to landowners abutting such lane” if the town wished to declare the road an emergency lane. The statute also states that a municipality may establish a capital reserve fund for repairs, including the “removal of brush, repair of washouts or culverts, or any other work deemed necessary to render such way passable by firefighting equipment and rescue or other emergency vehicles.”

Class VI roads are also subject to “gates and bars”. This means private landowners may erect gates and bars so as not to interfere with public use of the road and must “be capable of being opened and reclosed by highway users” under RSA 231:21-a. While gates and bars may be erected by private landowners, the municipality is authorized to regulate the structure to “assure such public use, and may cause to be removed any gates or bars which fall into disrepair or otherwise interfere with public use of the highway.”

As identified in Table 1, Candia has 4.36 miles of Class VI roads. Map 4, Identified Transportation Issues identifies the following as closed Class VI roads in Candia:

- Knowlton Road – 100 feet from Route 27
- West end of North Road for only 900 feet
- Donovan Road – first 900 ft. section is Class V and balance is Class VI
- Baker Road
- Pine Hill Road from South Road to Route 43 is Class VI and balance is closed

Discontinuance as a road is accomplished by a town meeting vote using language such as “completely discontinue” to ensure the intent of the vote is clear. Discontinuance extinguishes public right of travel. Easements of land for the road returns to the owners and land owners cannot be cut off by discontinuance but at their own risk can travel over a discontinued road to their property.

The Town of Candia, it should be noted, is prohibited by RSA 674:41 from issuing a building permit for properties situated on closed or discontinued roads. The statute is preemptive in nature and supersedes the Town’s authority in these matters.

Closed or Discontinued Roads

The Town of Candia is prohibited by RSA 674:41 from issuing a building permit for properties situated on closed or discontinued roads. The statute is preemptive in nature and supersedes the Town authority. A complete List of the Closed and Discontinued Roads in Candia is provided on following pages and as shown on Map 4.

List of Closed and Discontinued Roads in Candia

CLOSED AND DISCONTINUED ROADS IN CANDIA, N.H.

DATE CLOSED	DESCRIPTION OF ROAD
Mar. 14, 1797	Sold Clay Pitt Road
Mar. 12, 1811	Discontinued a part of the old highway by Amos Knowles's and to leave the matter with the Selectmen to sell the road.
Mar. 10, 1840	Discontinued the several pieces of old road not used in traveling and not covered by the record of the new road from Deerfield line to Chester line, reserving to Simon French a privelege to pass to his Sherburn pasture at the southwest corner and also to pass to his field south af Sarah Dustin's.
Mar. 14, 1848	Discontinued that part of the Road not laid out by the Court's Committee which crosses the lot of land on which John Buswell now lives.
Mar. 12, 1850	Discontinued that part of the Reserve Way on which the Congregational Meeting House and Schoolhouse stand.
Mar. 8, 1853	Discontinued the road leading from near Ephraim Davis to the corner near Steven Colcord. (Road from Critchett to Thresher)
Mar. 11, 1856	Discontinued the highway between the house of Coffin M. French and Schoolhouse in District #4 and not included in the new Highway as altered by the Selectmen.
Jan. 20, 1872	Discontinued the highway leading from J.C. Langford's house to the Island, so called. (Aunt Mary Brook Road)
Mar. 11, 1875	Discontinued highway beginning and extending from a stake on the easterly line of the Londonderry Turnpike in Hooksett thence northeasterly to a stake on the southwest side of Candia High Street about 20 rods north of the dwelling of Ira ordway and at the end of the Merrill Road.
May 24, 1884	Discontinued highway from Arthur L. Thomas's to Elijah Evans's.
Nov. 4, 1890	Discontinued old highway leading over Hobbs Hill.
Mar. 12, 1901	Discontinued the highway leading from the corner near Webster Varnum's and leading to the corner near John M. French on High Street and make it a private way. (Baker Road) from High St to corner
Mar. 10, 1914	Discontinued Pine Hill Road.
Mar. 12, 1957	Turn back the section of 101, not in use, to French Sargeant.
Mar. 11, 1958	Discontinue Knowlton Road 200' north from Route 101-B to the Hooksett line.
Mar. 10, 1959	Discontinued Fogarty Road.
" " "	Diamond Hill Road - 50' north of Waldo Glidden res. to driveway at Harold Kelley

CLOSED AND DISCONTINUED ROADS IN CANDIA, N.H.-PAGE 2

DATE CLOSED	DESCRIPTION OF ROAD
Mar. 8, 1960	Discontinued Abbott Road to Patten Hill Road.
Mar. 8, 1971	Discontinued Healey Road between North Road and New Boston Road.
Mar. 8, 1971	Discontinued Flint Road from Old Candia Road to Route 101.
Sept. 12, 1825	Discontinued road leading from the road by Josiah Maloon's house to the road leading by Jonathan Woodman's house.

Respectfully Submitted,

Christine Dupere

Town Clerk, Candia, N.H.

Unsafe Intersections and Roads

In evaluating Candia's intersections and roads, the Transportation Steering Committee identified the following intersections/roads of concern and requested that these areas be evaluated with respect to operational capacity and geometric design and safety. Five primary areas were identified and highlighted on Map 4 as locations A through E:

- A. NH 43/Old Candia Road/Old Manchester Road
- B. NH 27 (High Street)/Raymond Road
- C. NH 43 (Old Candia Road)/Main Street/Raymond Road
- D. NH 27 (High Street)/Healy Road/South Street
- E. Crowley Road/Lane Road

SNHPC staff conducted an analysis and field inspection of these locations and developed a number of recommendations and solutions which are summarized in the following Problem Location/Proposed Solutions section of this plan. The Steering Committee's recommendations as a result of this analysis are included in the section Candia's Transportation Vision, Priority Goals and Recommendations.

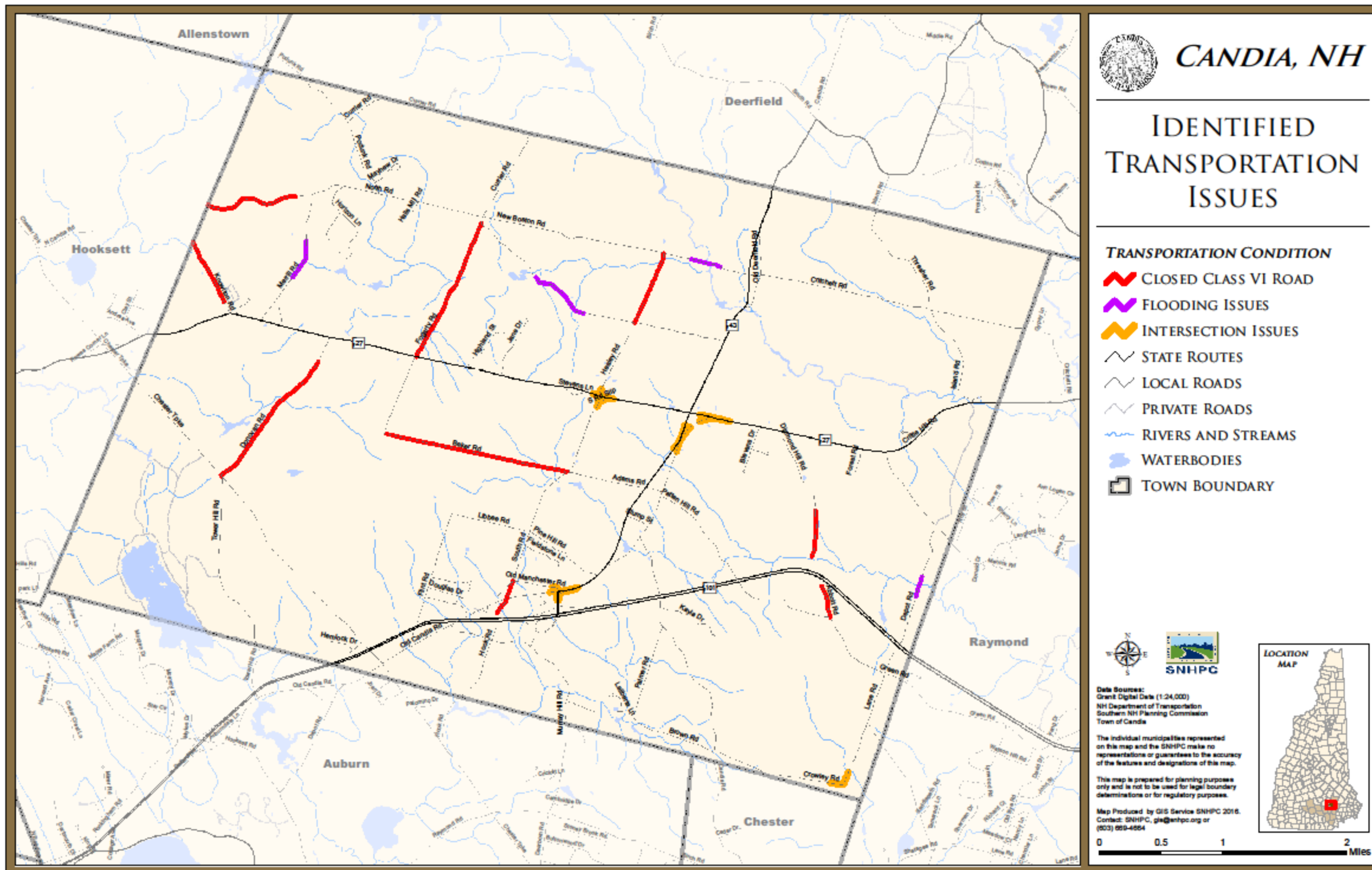
In addition, in 2016 the Town Police Chief requested that a signal warrant study be conducted by SNHPC at the intersection and driveway location with the existing Irving Station on NH 43 (Old Candia Road) and at NH 43 (Old Candia Road), Main Street and Raymond Road. SNHPC recently completed this study in December 2016 and found that several warrants are met and that a traffic signal is warranted (a copy of this study is available from SNHPC).

Over the past several years, the NH DOT has also conducted several transportation studies and road safety audits which have been considered and included in the Problem Location/Proposed Solutions section of this plan. These studies have also been evaluated by the Steering Committee and have been considered in the development of the Committee's Transportation Vision, Priority Goals and Recommendations of this Plan.

Copies of correspondence and the NH DOT 2014 road safety audit and proposed concept drawings (C1 – C4) are available from the Town of Candia, SNHPC and NH DOT and include the following:

- Town of Candia Board of Selectmen Letter to District Engineer, dated September 20, 2006; and
- Road Safety Audit (RSA) – dated May 2, 2014, prepared by Vanasse, Hangen, Brustlin, Inc. for NH DOT of the intersection of Raymond Road, Main Street and Old Candia Road and intersection of High Street and Raymond Road.

Map 4: Identified Transportation Issues Map



Problem Locations/Proposed Solutions

The following section provides information on five intersections identified as problem locations by the Town. Specific operational and/or safety issues are identified at each location and recommendations designed to address these issues are also included.

A. NH 43/Old Candia Road/Old Manchester Road (Adjacent to Exit 3)

NH 43/Old Candia Road/Old Manchester Road is a four-way unsignalized intersection located in the southern portion of the Town. At this location, NH 43 provides access between NH 101 Exit 3 and the village. NH 43 is a two lane rural major collector roadway with 12-foot travel lanes and 10-foot shoulders. It has a posted speed limit of 35 miles per hour. NH 43 and Old Candia Road are maintained by the State and Old Manchester Road is maintained by the Town.



Exit 3 / Route 43 / Old Candia Road / Old Manchester Road Intersection

At the NH 43/Old Candia Road/Old Manchester Road intersection, the westbound NH 43 approach forms the major intersection leg. It consists of an exclusive left turn lane and a through/right turn lane. The eastbound Old Candia Road approach consists of a left turn lane and a through/right turn lane. The northbound NH 43 approach consists of a through/left turn lane and a channelized right turn lane. The southbound Old Manchester Road approach consists of a single general purpose lane. The northbound NH 43 and southbound Old Manchester Road intersection approaches are median divided. The eastbound Old Candia Road, northbound NH 43 and southbound Old Manchester Road approaches are under STOP-sign control while the NH 43 westbound approach acts as a free movement. The predominant NH 43 westbound left turn provides access to the NH 101 Exit 3 interchange.

SNHPC has estimated based on existing counts average annual daily traffic volume of 8,600 vehicles exiting NH Route 101 onto NH 43 and headed north to the four corners area. By the year 2040 this average annual daily traffic will increase to 9,700 vehicles. In addition, the intersection of NH 43/Old Candia Road and Old Manchester Road has a history of crashes involving eastbound Old Candia Road traffic and left turns from the westbound NH 43 approach. It has also been found that driver confusion concerning vehicle rights of way at the

intersection often results in eastbound through traffic on Old Candia Road failing to yield the right of way to the westbound NH 43 left turns. Also the Candia Transportation Steering Committee has pointed out that there is no opportunity to safely cross the road given increasing traffic along Old Manchester Road or even safely turning right from Old Candia Road eastbound. It is possible a traffic light at the intersection could be tripped by traffic on the side roads thus enabling vehicles to obtain an opportunity to cross the road during peak hours. Steering Committee members expressed concerns that costs associated with moving traffic from outside the community on state maintained roads through this intersection should not a responsibility of the Town of Candia, but rather NH DOT.

SNHPC has provided assistance to the Town to help address the safety issues at this intersection and in May 2010, collaborated with NH DOT, FHWA and the Town to conduct a Roadway Safety Audit (RSA) for this location. In addition to the numerous conflicts between eastbound through traffic and westbound left turns at the intersection, the RSA also identified additional instances of westbound left turning vehicles striking the guardrail and excessive speed on NH 43 north of the intersection. As a result of the completion of the RSA, the following short term solutions were identified and have been implemented by NH DOT and the Town of Candia:

- 1) installation of a signage package on the eastbound Old Candia Road approach indicating that on-coming (westbound) traffic does not stop; and
- 2) targeted enforcement of the intersection.

The RSA also recommended eliminating the eastbound Old Candia Road right turn lane as a medium term solution. The long term solution would be a traffic light. Improvements to the eastbound Old Candia Road approach were completed in 2013 as a result of the RSA. These improvements also included reducing the approach to two lanes and improving signage which has helped improve the safety of the intersection.

B. NH 27 (High Street)/Raymond Road (Near Fred's Former Garage)

NH 27 (High Street)/Raymond Road is a three-way unsignalized intersection located about one quarter mile east of the Town village. In the vicinity of the intersection, NH 27 (High Street) is a two-lane rural arterial roadway that provides east-west access through the Town.



Route 27 / High Street / Raymond Road Intersection

Near the intersection, Raymond Road, which has a posted speed limit of 55 miles per hour, has a single 12-foot travel lane in each direction and 6-foot shoulders. NH 27 (High Street), which also has a single travel lane in each direction, is about 26 feet wide with variable shoulders. To the east of the intersection, Raymond Road continues as NH 27.

At the NH 27 (High Street)/Raymond Road intersection, the northbound and westbound Raymond Road approaches form the major intersection legs and the NH 27 (High Street) eastbound approach acts as a STOP-sign controlled minor intersection leg. All three intersection approaches at this location consist of a single lane.

Safety issues at this “skewed” intersection result principally from the acute angle at which NH 27 (High Street) and Raymond Road intersect. Drivers turning left from NH 27 (High Street) onto eastbound Raymond Road must look over their right shoulder at a difficult angle in order to check for approaching traffic on Raymond Road to the south and this tends to draw the driver’s attention away from the direction of travel. The acute intersection angle also allows drivers on westbound Raymond Road to negotiate right turns onto High Street at very high rates of speed and this reduces reaction times for opposing traffic. Left turns from northbound Raymond Road to High Street are also difficult because of the acute intersection angles, particularly for trucks and heavy vehicles. Turning movements at the intersection are also complicated by driveways for residential and commercial properties. Sight distances at the intersection are also limited by a horizontal curve and vegetation on Raymond Road southwest of the intersection.

SNHPC provided assistance to the Town to address the safety issues at this intersection and in May 2014 collaborated with NHDOT and the Town to conduct a Roadway Safety Audit (RSA) for this location. The RSA identified 1) roadway geometry, 2) driver behavior, 3) signing and pavement markings, 4) proximity to access points and 5) drainage as the principal safety issues at the intersection. Short term recommendations resulting from the completion of the RSA include:

- 1) re-striping and realigning the High Street intersection approach
- 2) installation of warning signage
- 3) addressing speed issues
- 4) improving access management
- 5) conducting a field review to identify drainage issues

Long term recommendations included installation of a continuous two-way left turn lane along Raymond Road and a complete realignment of the intersection. A depiction of this complete realignment of the intersection is provided in two concept plans prepared for NH DOT identified as Figure C 1- Concept C-1 and Figure C-2 – Concept C2.

C. NH 43 (Old Candia Road)/Main Street/Raymond Road (Across from CYAA)

NH 43 (Old Candia Road)/Main Street/Raymond Road is a four-way unsignalized intersection located about one quarter mile south of the Town village. NH 43 follows north from NH 101 Exit 3 as Old Candia Road to this intersection and then continues on to the village as Main Street. In the vicinity of the intersection, NH 43 (Old Candia Road) and Raymond Road are both posted at 45 miles per hour. Main Street is posted at 35 miles per hour. In this area, Old Candia Road and Raymond Road are approximately 36 feet wide with 12-foot travel lanes and 6-foot shoulders while Main Street has 11-foot lanes with variable shoulders.



Route 43 / Old Candia Road / Main Street / Raymond Road Intersection

At the NH 43 (Old Candia Road)/Main Street/Raymond Road intersection, the northbound NH 43 (Old Candia Road) and southbound Raymond Road approaches form the major intersection legs and the Main Street westbound and NH 43 (Main Street) eastbound approaches are the STOP-sign controlled minor intersection legs. All four approaches at this intersection consist of a single lane.

Safety issues at this intersection result principally from the acute angles at which the four intersection approaches meet. Drivers negotiating right turns from the NH 43 (Main Street) eastbound approach to southbound NH 43 (Old Candia Road) must look over their left shoulder at a difficult angle in order to check for approaching traffic from the north. The acute intersection angles also allow drivers on southbound Raymond Road and northbound NH 43 (Old Candia Road) to negotiate left turns onto Main Street at high speeds and this reduces reaction times for conflicting traffic. These left turns are particularly difficult when they occur simultaneously at this intersection.

The NH 43 (Old Candia Road)/Main Street/Raymond Road intersection was also included in the May 2014 Roadway Safety Audit (RSA) completed by NHDOT and SNHPC. The RSA identified 1) roadway geometry, 2) driver behavior, 3) signing and pavement markings, 4) roadside hazards and 5) proximity to access points as the principal safety issues at the intersection. Short term recommendations resulting from the completion of the RSA include:

- 1) adjusting the positioning of the STOP bar on the westbound Main Street approach;
- 2) closing the Main Street approach as a temporary traffic control measure;
- 3) conducting a speed study;

- 4) adjusting the intersection centerline and edgelines;
- 5) extending the no passing zone on NH 43;
- 6) installing object markers; and
- 7) gating the Candia Cemetery.

Improvements proposed in the intermediate term include an intersection realignment, installation of a continuous two-way left turn lane along Raymond Road between NH 43 and NH 27, and redesign of drainage structures. A depiction of this complete realignment of the intersection is provided in a concept plan prepared for NH DOT identified as Figure C 3- Concept C-3. Long term recommendations include installation of a roundabout.

D. NH 27 (High Street)/Healy Road/South Road (Across from Smyth Memorial Building)

The NH 27 (High Street)/Healy Road/South Road intersection is located in the central portion of the Town just west of the village center. In the vicinity of the intersection, NH 27 (High Street) is an east-west two-lane rural arterial roadway that extends through the Town. In the vicinity of the intersection, NH 27 has a single 12-foot travel lane in each direction with one-foot shoulders.



Route 27 (High Street) /Healy Road/South Road Intersection

At the NH 27 (High Street)/Healy Road/South Road intersection, the eastbound and westbound NH 27 approaches form the major intersection legs and the northbound South Road and southbound Healy Road approaches are the STOP-sign controlled minor intersection legs. All four approaches at this intersection consist of a single lane. The northbound South Road intersection approach is located on an uphill grade.

The NH 27 (High Street)/Healy Road/South Road intersection is situated at the crest of a hill on NH 27 and this creates sight distance issues for motorists looking east and west on NH 27 from the minor intersection approaches. Sight distance issues on the northbound South Road approach are exacerbated by the uphill grade of the intersection approach. Turns from the southbound Healy Road approach are also complicated by the wide intersection approach width and the existence of a utility pole. Additionally, the STOP-sign at the Healy Road approach is set

back too far from the intersection and it is necessary for vehicles to move forward further into the intersection to safely negotiate movements.

Short-term measures to address safety issues at this intersection include:

- 1) installation of intersection warning signs on NH 27 east and west of the intersection
- 2) re-positioning of the STOP-sign on the southbound Healy Road approach

Vehicles on northbound South Road wishing to travel eastbound on NH 27 could be directed away from the intersection to use the South Road slip ramp. More long-term measures to address safety issues at this intersection include adjusting the vertical alignment of NH 27 to increase sight distances at the intersection approaches.

E. Lane Road/Crowley Road

The Lane Road/Crowley Road intersection is located in the southeastern portion of the Town near the Raymond town line. In this area, Lane Road runs north-south parallel to the Raymond town line. In the vicinity of the Lane Road and Crowley Road intersection, Lane Road is approximately 18 feet wide with two narrow travel lanes in each direction.



Lane Road / Crowley Road Intersection

South of the intersection, Lane Road continues into the Town of Raymond. At the Lane Road/Crowley Road intersection, the northbound and southbound Lane Road approaches form the major intersection legs and the eastbound Crowley Road approach forms a STOP-sign controlled minor intersection leg. The Lane Road/Crowley Road intersection is situated on a curved section of Lane Road resulting in sight distance issues for motorists looking north and south from the minor Crowley Road intersection approach. Sight distance issues at the intersection are limited further by the steep uphill grade of the Crowley Road approach and by the acute angle at which Crowley Road meets Lane Road. Excessive speeds at the intersection are also encouraged by the downhill grade of the southbound Lane Road intersection approach.



Approach from Crowley Road to Lane Road Intersection

Short-term measures to address safety issues at this intersection could include installation of intersection warning signs on Lane Road north and south of the intersection and adding a STOP bar on the southbound Crowley Road approach to encourage vehicles to position themselves properly to maximize sight distances looking north and south on Lane Road. More long-term measures to address safety issues at this intersection could include realigning Lane Road at the intersection and adjusting the acute angle at which Crowley Road meets Lane Road.

On Crowley Road about one-half mile south of the Lane Road/Crowley Road intersection, drivers negotiate a 90-degree curve to travel on Crowley Road to the west. There are five mile per hour speed limit warning signs on Crowley Road north and west of this location. This portion of Crowley Road, which is less than 20 feet wide, provides access to residential properties. Additional development in this area is anticipated by the Town.

Town of Chester and Crowley Road

The Town of Chester and Town Road Agent have been currently communicating with the developer of a proposed new subdivision to be located in the Town of Chester. Direct access to this proposed subdivision would be provided through a loop road to be built from Crowley Road within the Town of Candia. See proposed draft subdivision plan below. Increased traffic from the proposed subdivision will directly impact Crowley Road. In addition deeds for the new road connections from the subdivision to Crowley Road will need to be reviewed and approved by the Town of Candia. Through the review and approval of these deeds, the Town of Candia can request that the developer pay to mitigate the impacts from the increased traffic including making improvements to Crowley Road. This will require coordination with the developer and the Town of Chester Planning Board as part of the public review and approval of the proposed subdivision. The proposed subdivision plan should also be reviewed by the SNHPC through the Development of Regional Impact statutes.



Planning Tools

Transportation Improvement Program Planning Process

The Transportation Improvement Program (TIP) is a vital link between plan development and project implementation where plans are converted into specific improvement projects and then programmed for implementation on the basis of priority and fiscal constraint. The FY 2015 – FY 2018 TIP is a staged multi-year program of regional transportation improvement projects for the SNHPC Metropolitan Planning Organization (MPO) area. Based on guidelines contained in the “Fixing America’s Surface Transportation” (FAST) Act, the TIP is updated at least once every four years. The TIP is updated by the MPO in accordance with joint federal metropolitan planning regulations, 23 CFR 450, issued by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), U.S. Department of Transportation.

In New Hampshire, the TIP is generally updated every two years by the MPO, concurrent with the NH Department of Transportation (NHDOT) State Transportation Improvement Program (STIP). The first two TIP years include those projects that have been selected for funding as agreed upon by the NHDOT and the MPO. The projects included in the TIP are included in the air quality determination. Those fiscally constrained projects included in the fourth year of the TIP subsequently become the first year projects following the biannual TIP update. All transportation projects utilizing Federal transportation funds in the SNHPC MPO region must be included in a conforming approved TIP in order to be incorporated into the STIP and proceed to implementation. Other requirements pertaining to the development and maintenance of the TIP include:

- The TIP must contain all transportation projects including all capital and non-capital projects within the MPO area to be funded through Title 23 or the Federal Transit Act, projects consistent with the recommendations of the long-term Region Transportation Plan (RTP) and all regionally significant projects regardless of whether FHWA/FTA approval is required;
- The TIP must include a financial plan demonstrating that it is financially constrained by year and must include project-specific costs by funding source and category. Funding for the first two years must be available and committed and funding for the third and fourth years should be reasonably approved;
- The TIP must be established through the use of effective early and continuing public involvement; and
- If adopted by the MPO and approved by the Governor, the TIP must be included in the STIP without modification.

The TIP serves as the short-range project-specific component of the long-range plan for the region, which is called the Regional Transportation Plan for the Southern New Hampshire Planning Commission (RTP). The RTP, which addresses all forms of transportation used in the fifteen municipalities of the region and for each mode, is intended to serve as a guide for funding of transportation projects. Prioritization of the Plan recommendations results from a screening process to assure that impacts associated with health, safety, welfare and the environment are properly weighed in the public interest. The current FY 2015-2018 SNHPC TIP was approved by the MPO in December 2014.

Past and Present TIP Projects

Currently there are no transportation projects in the Town of Candia included in the current (FY 2015-2024) Statewide Transportation Improvement Program (STIP) or in the prior FY 2013- FY 2022 STIP. Additionally there are no projects from Candia included in the Draft FY 2017- FY 2026 Ten-Year Plan signed by the Governor in 2016. The inclusion of town supported transportation improvements to the statewide system and these improvement programs and statewide and regional plans should be a major goal of the Town of Candia in the near future, particularly with respect to implementation of the recommendations of this plan.

SNHPC recently contacted the Chair of the Town of Candia Board of Selectmen asking the town to provide the planning commission with any updates that they would like to include in the planning horizon portion of the Regional Transportation Plan fiscally constrained project list. Currently Candia has projects for two safety audits for NH 27 and NH 43 which are identified on Page 1 of the project list. These safety audits have been recently completed by NH DOT and can

CANDIA	NH 27	0.184	Raymond Rd	ATT	Intersection Improvements. RSA is in process.
			2028	0.184	
			Total	0.184	
CANDIA	NH 43	0.264	Main St	ATT	Intersection Improvements. RSA is in process.
			2027	0.264	
			Total	0.264	

be removed and replaced with proposed improvements requested by the Town of Candia.

The TIP process provides an opportunity for the town to determine if they would like to include any additional local priority transportation projects in the Regional Transportation Plan. The Problem Location/Proposed Solution and Recommendation Sections of this Plan suggest additional projects which could be included in the Regional Transportation Plan as well as the

Statewide Transportation Improvement Program (STIP) and Ten-Year Transportation Plan. In the absence of a Town Manager or Town Planner, the Southern New Hampshire Planning Commission is available to provide assistance to the Town of Candia with respect to local transportation planning and the development and inclusion of transportation projects in the Regional Transportation Plan as well as the Statewide TIP and Ten-Year Transportation Plan.

Statewide Asset Data Exchange System (SADES)

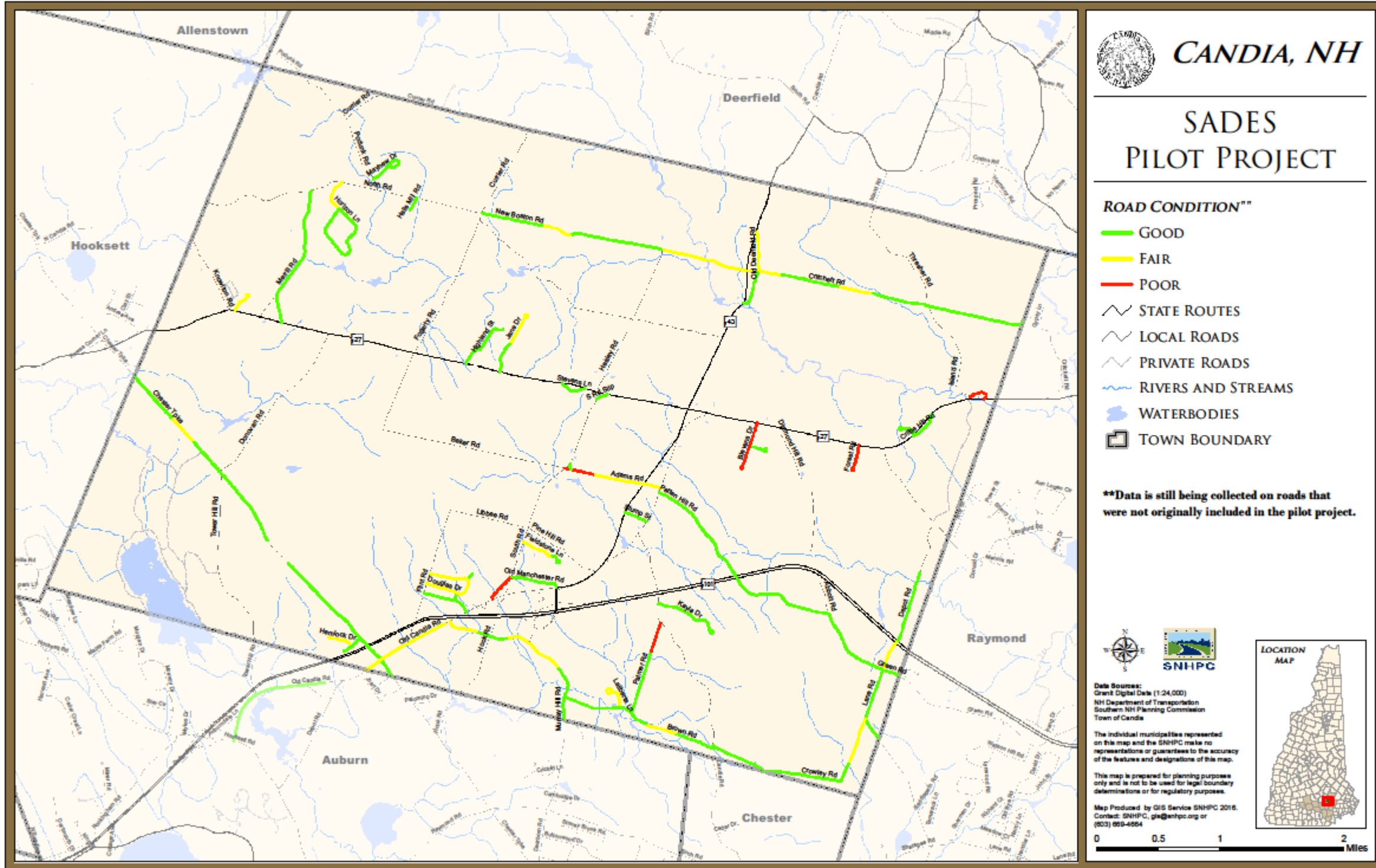
Asset Management -- Roadway Surface

Beginning in 2015, the Town of Candia and the Southern New Hampshire Planning Commission participated along with NHDOT and the other regional planning commissions (RPCs) in the Statewide Asset Data Exchange System (SADES) Road Surface System Project. The project involves each RPC working with a local community to develop a roadway conditions inventory database and road surface management strategies utilizing the latest version of the Road Surface Management System (RSMS) software developed by the University of New Hampshire Technology Transfer Center. The intent of the project is to develop a methodology that will enable the RPCs to offer economical options for municipalities to utilize the RSMS software for ongoing management and capital planning of roadway surfaces. Each RPC chose a member community as a test site for development of the project and the Town of Candia was selected by SNHPC for this project.

In the Fall of 2015, SNHPC staff met with the town to discuss the scope of work, schedule and general objectives of the project. SNHPC staff then conducted a field survey of the roads to gather roadway surface data using an iPad and the RSMS software. Following town input into the data collection, roadway condition/location maps were produced for municipal review. In May 2016, SNHPC staff received training in pavement management scenario planning and in the use of the RSMS software to customize pavement management/capital planning strategies for the town. SNHPC will soon be working with the Town Road Agent to begin to implement the road surface assessment model.

This will involve meetings with the town to discuss local desired road surface management strategies, beginning the development of detailed pavement management strategies and discussing the benefits of these strategies. It is envisioned that by the end of 2016 or first part of 2017, SNHPC will deliver the final reports, maps and recommended strategies to the town which can then be used by the town in updating its Capital Improvement Program (CIP) proposed road reconstruction and paving plan as well as providing assistance to the town in considering a future road improvement bond including other financing tools and opportunities.

Map 5: SADES Pilot Project Map – Road Conditions



Capital Improvement Program (CIP)

The Town of Candia adopted its current Capital Improvement Program (CIP) on December 15, 2014 for the period of 2015-2020. The CIP provides an overview of the capital improvement needs, priorities and projects the town would like to implement in the future pending local town approval.

Candia's CIP is an important document to help the town plan over a six-year timeframe where existing facilities and services need or should be expanded or improved to meet the demands of existing and new residents and businesses. Under the town's CIP, a capital improvement project is defined as a project which cost at least \$10,000 and has a useful life of at least five years. Eligible items include new buildings or additions, land purchases, some studies and substantial road improvements and purchases of new vehicles and equipment. Operating expenditures for personnel, maintenance or repair of existing facilities and services and other general costs are not included. Since 2009, Candia's total expenditures or debt service for capital improvements has decreased approximately 51.1 percent from \$377,600 in 2009 to \$184,500 in 2013. While it is a goal of the town to increase its tax base in order to improve the availability of funding for the town's capital needs in the future, currently the town only has one outstanding bond in place which is for improvements at the Recycling Center. This ten-year bond was established in 2008 and the last payment comes due in 2017, thus providing the town with an opportunity to fund another capital improvement in the near future.

Currently, the town's CIP recommends with respect to existing road conditions in Candia that the town should strive to be equal or better than surrounding communities and should diligently pursue the town road agent's proposed reconstruction and repaving schedule. The CIP identifies that many roads built over the last 20 years will need substantial repair in the years ahead including the road surfaces, catch basins and drainage pipes. Roads have a known useable life span. Minimal provision has been made in the Town Budget for this anticipated need, which the CIP anticipates will be substantial in the years ahead. The following table provides a summary of highway department capital improvement projects which are currently included in the 2015-2020 CIP. As can be seen under the CIP Priority Recommendations, the Highway Department's 15-Year Road Reconstruction Plan is recommended for funding through Warrant Articles approved at Town Meeting. The projects identified in the 15-Year Plan have been prioritized as "D – Desirable", i.e. projects needed to improve quality or level of services within the town. The goal of the next CIP update and adoption of this transportation plan should be to obtain a higher priority of at least one of the following rankings with regard to the Highway Department's 15-Year Road Reconstruction Plan, including appropriate financing to implement the plan within a reasonable period of time.

- “U – Urgent” Cannot be delayed; needed for health and safety
- “C – Committed” Part of an existing contractual agreement or otherwise legally required
- “N – Necessary” Needed to maintain existing level and quality of community services

**Town of Candia, CIP 2015-2020
Summary of Projects Requested**

	Department/Project	Department Cost Without Debt/Revenue	Starting Year (Dept. Request)	Financing Method (Method Recommended by Department)	CIP Priority Recommendations (DETERMINED BY BOARD)								
					U	C	N	D	F	R	I		
	All Requests By Municipal Entities -- In the Order Requested												
I.	FIRE/POLICE DEPARTMENT												
	A.	Add Shower / Decontamination area	\$3,000	2015				x					
	B.	Replace Police Crusier	\$34,000	2015									
II.	SCHOOL DISTRICT												
	A.	Upgrade Window / Door Systems	\$65,000	2015	?				x				
	B.	Replace Roofing System	\$350,000	2016	?			x					
	C.	Floor Replacement	\$75,000	2017	?			x					
	D.	Parking Lot Playground Area	\$300,000	2018	?						x		
	E.	New Gym / Community Center	\$500,000	2019	?			x					
III.	HIGHWAY DEPARTMENT												
	A.	15-Year Road Reconstruction Plan											
		Box Culverts on North Road	\$150,000	2015	Warrant Article				x				
		Critchett Road	\$300,000	2016	Warrant Article				x				
		Island Road	\$150,000	2017	Warrant Article				x				
		Chester Turnpike	\$300,000	2018	Warrant Article				x				
		Flint Road	\$150,000	2019	Warrant Article				x				
		Currier Road	\$150,000	2020	Warrant Article				x				
		Healey Road*	\$300,000	2021+	Warrant Article				x				
		Adams Road*	\$300,000	2021+	Warrant Article				x				
		Diamond Hill Road*	\$150,000	2021+									
	B.	Gravel Road Upgrade to Paved Roads (In Order of Importance)			Funded Through Operating Budget								
		Bean Island Road							x				
		Currier Road (Southeast section)							x				
		Donovan Road							x				
		Flint Road							x				
		Hook Road							x				
		Currier Road (West End)							x				
		Podunk Road							x				
		Thresher Road							x				
	C.	Capital Improvements							x				
		Salt/Sand Storage Capacity	\$60,000	2017					x				
IV.	HERITAGE COMMISSION												
	A.	Smyth Memorial Building	\$200,000	2018	Grants / ?				x				
V.	SOLID WASTE												
	A.	Horizontal Bailer	\$100,000	2019	War. Article / Grant				x				
VI.	EMERGENCY MANAGEMENT												
	A.	Upgrade Radio Communications	\$250,000**										

* These items are outside the limits of the 6-year CIP

**ASSUMED - NO COST PROVIDED

Impact Fees

Traffic Impact Fees provide for equitable means to share the cost of constructing existing and proposed transportation improvements within a community. The basis of the fee is that the Town of Candia is responsible for addressing or fixing existing roadway deficiencies while future users of the town's road system will be responsible for paying their proportionate share of the cost of providing sufficient capacity to accommodate future growth. As a building permit for a new commercial development or residential dwelling unit is issued, the Traffic Impact Fee assessed by the Planning Board and collected by the Town can then be applied to existing or planned transportation improvements taking place or proposed within the town.

The Candia Planning Board adopted a Traffic Impact Fee on June 17, 2009 and assessed and collected a total of \$69,973.70 in fees between 2009 and 2015. Unfortunately the Traffic Impact Fee expired at the end of the six-year period (June 17, 2015) and none of the fees collected by the Town were expended or used for specific transportation related projects within the community because of limitations in how the funds could be used. As a result, the Town has been slowly returning the fees back to the payer(s) over the past several years. As this Transportation Plan is considered by the Planning Board and Board of Selectmen, the Steering Committee recommends that the Town adopt a new the Traffic Impact Fee methodology. Although the writing of the new fee methodology would require some investment by the town because of the technicality and complexity of the language needed to withstand legal challenges, it is likely to yield thousands of dollars that could be used to fund specific transportation improvement projects planned and included within the Town's CIP. In addition, if the town proceeds with a new highway bond in the future, the traffic impact fees could be used to help pay down the bond payments to reduce the property tax burden.

The Steering Committee realizes that SNHPC is particularly well-positioned to write this new methodology because of its work on this document, familiarity with the old methodology, and work with other towns in the region on similar issues. The development of impact fee methodologies is technical and complex and must address state statutes in order to withstand legal challenges.

While the Town of Candia has developed a 15-Year Road Reconstruction Plan which is included in the Town's Capital Improvement Plan (CIP), there is no official adopted future roadway improvement plan for the Town of Candia. As the Town of Candia continues to work through its 15-Year Road Reconstruction Plan and CIP, it would be advisable for the Town's Highway Department and Planning Board to also update the Candia Road Construction Plan Map. This map could be used as a guide in planning future transportation improvements within the community.

Existing/Future Transportation Initiatives

Alternative Modes of Transportation

Public Transportation

The “Coordinated Public Transit-Human Services Transportation Plan for the SNHPC Region” states that about 81 percent of work trip travel for Candia residents was completed using a single-occupant automobile. Despite this reliance on the single-occupant automobile for travel, there are many individuals in the town who require transportation via alternative modes, including elderly, handicapped and youth populations.

In 2006, the State of New Hampshire developed the *Statewide Coordination of Community Transportation Services Plan* to implement statewide coordination of human service and community transportation. Significant portions of the statewide plan have been implemented, including formation of the State Coordinating Council for Community Transportation (SCC) and Regional Coordinating Councils (RCC), development of regional coordination plans, and implementation of new services and coordination efforts at the regional level using funding committed by the NH DOT. Other elements of the statewide plan have not been implemented because of existing fiscal and policy environments. The SCC is currently developing a new Statewide Coordination Plan for human and public transportation services that will include a strategy for implementation.

Those with special mobility needs in the region are currently served by a number of Community Transportation options. Community Transportation refers to all transportation resources in a community that are available to help meet the mobility needs of a community including groups such as the elderly, those with physical disabilities and others for whom operating private passenger vehicles is not feasible from a physical or economic standpoint. Community Transportation includes public and private services such as conventional public transit, public and private shuttles for seniors, vans owned/operated by churches or other community organizations as well as other services operated by volunteers.

There is general agreement on the part of the RCCs that coordination of Community Transportation has progressed within the regions. However, most regions have suffered from a lack of public awareness of the RCCs and many of the RCCs have decreased in membership since their establishment. New Community Transportation services have been established through the RCCs but many other coordination efforts were unsuccessful due to issues such as insurance and regulatory barriers, driver shortages and the lack of public awareness of the RCCs.

SNHPC is responding to current and future challenges in Community Transportation through continuing participation in the Region 8 (Greater Manchester) RCC under the direction of the SCC. Region 8 includes the City of Manchester and the towns of Auburn, Bedford, Candia, Deerfield, Goffstown, Hooksett, New Boston, Raymond and Weare.

The Region 8 RCC is currently working to improve coordination of services and increase the availability of Community Transportation in these areas through projects implemented with FTA 5310 Purchase of Service and Formula funds made available through NHDOT.

Bicycle/Pedestrian Transportation

Materials produced in cooperation with the NH DOT indicate there are approximately 15 miles of roadways in the town designated as regional bicycle routes. Candia's roadways currently designated as regional bicycle routes include:

- Chester Road
- Chester Turnpike
- Deerfield Road (Rt. 43) Green Road
- High Street
- Main Street
- Old Candia Road
- Patten Hill Road
- Raymond Road (Rt.27)

There are currently no public sidewalks or designated bike lanes in Candia. Crossing the major arterials in Candia, Route 43 and Route 27, can be difficult during peak traffic times due to high traffic volumes and limited gaps in the traffic stream. Bicycling along these roads can be hazardous due to the absence of a parallel path and lack of adequate shoulder. Since January 1, 2009, motorists in New Hampshire have been required by law to exercise due care when sharing roadways with cyclists. State statute 265:143-a states that "Every driver of a vehicle, when approaching a bicyclist, shall insure the safety and protection of the bicyclist and shall exercise due care by leaving a reasonable and prudent distance between the vehicle and the bicycle. The distance shall be presumed to be reasonable and prudent if it is at least 3 feet when the vehicle is traveling at 30 miles per hour or less, with one additional foot of clearance required for every 10 miles per hour above 30 miles per hour."

Work is currently underway to establish a regional system of bicycle and pedestrian facilities with the potential to link communities and form a network of alternative transportation corridors. A regional system of bicycle and pedestrian facilities can connect locally-developed systems with sidewalks, shared-use paths, and local streets. SNHPC is currently participating along with NHDOT and local trail stakeholder groups in the Regional Trails Coordinating

Council (RTCC). Since 2010, the RTCC has worked to build upon the past work of similar groups providing assistance to member organizations to develop and implement a comprehensive trail plan (2012). The RTCC is working to connect existing and planned trail networks in the region by providing a forum for cooperation and collaboration among trail organizations and serving as an information clearinghouse for stakeholders. The goals of the RTCC include but are not limited to the following:

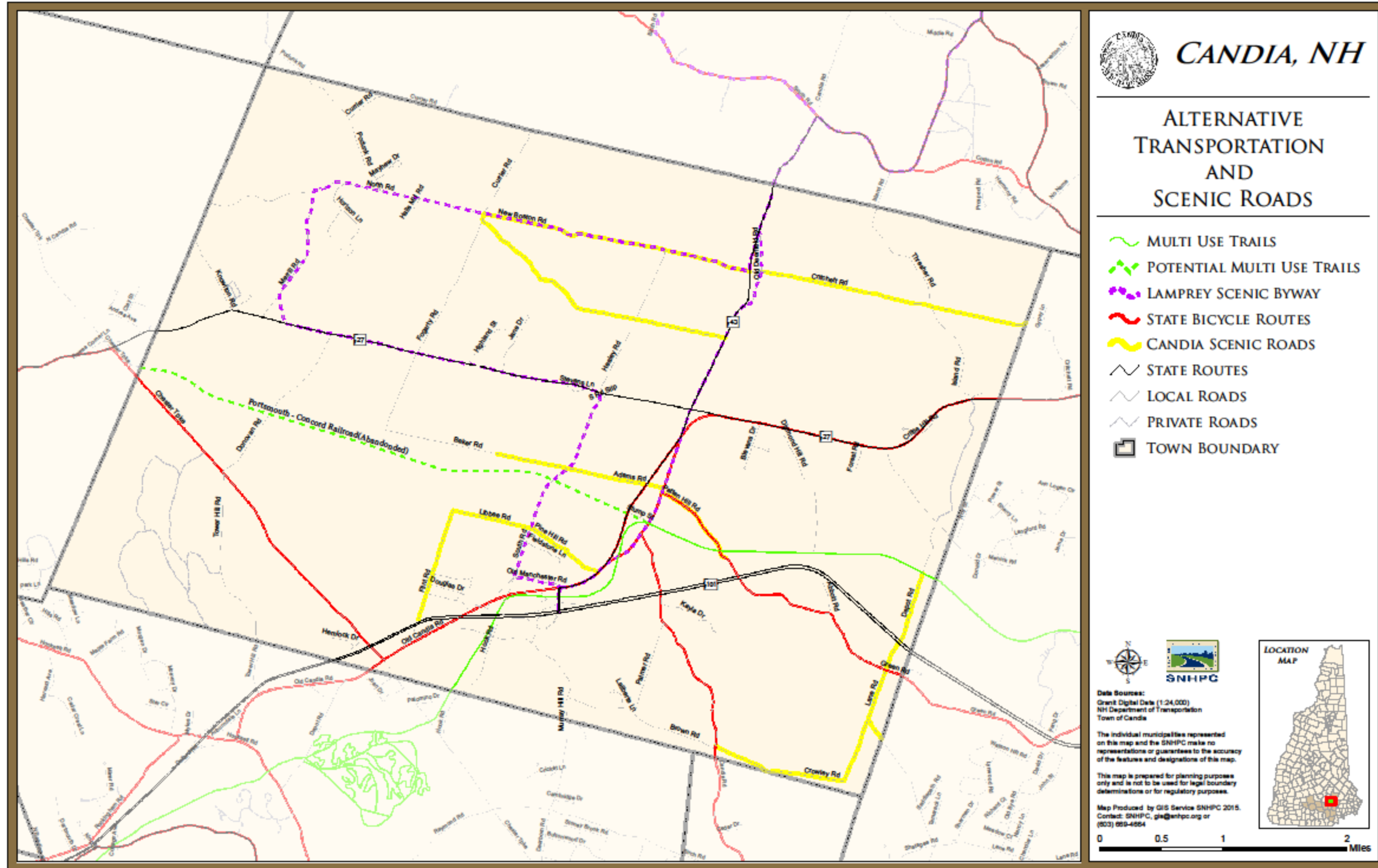
1. Assist in the development of individual trails to form a continuous network in the southern and central regions of the State of New Hampshire;
2. Develop maps of the region's trail network, including completed, as well as planned and missing segments and their conditions;
3. Identify and assist in obtaining available public funding (state, federal, etc.) for trail use;
4. Identify and assist organizations in obtaining available funding;
5. Identify and prioritize trail segment development tasks;
6. Provide forums and events to educate the public as to the importance of non-motorized multi-use trails in the health and quality of life of the regions;
7. Combine and augment the passion of volunteer groups and the power of Regional Planning Commissions to achieve common missions and values to accomplish common goals while, as necessary, overlapping jurisdictional boundaries. Existing off-road trails and regional bicycle paths in the Town are presented in Map 6.

Park and Ride, Exit 3

There is currently no designated or formal Park and Ride facility or parking lot located within the Town of Candia. There are commuters in Candia who generally park at the Irving Station and other locations during the day to carpool or vanpool to work outside of Candia. However, the closest NH DOT owned and operated Park and Ride facility is located in Epping on NH Route 101 and in Hooksett, NH at the Hooksett Toll. If land could be found or made available in Candia at Exit 3, this could be a feasible location for a NH DOT Park and Ride facility. If the Town of Candia wished to pursue a Park and Ride for Candia, the town could consider the following options:

- Propose a TIP project
- Propose a project for the Congestion Mitigation and Air Quality (CMAQ) program
- Apply for State Aid Highway funding (1/3 local match required)
- Construct it using municipal funds
- Ask developers to install as part of future development proposals within the Exit 3 area

Map 6: Alternative Transportation and Scenic Roads

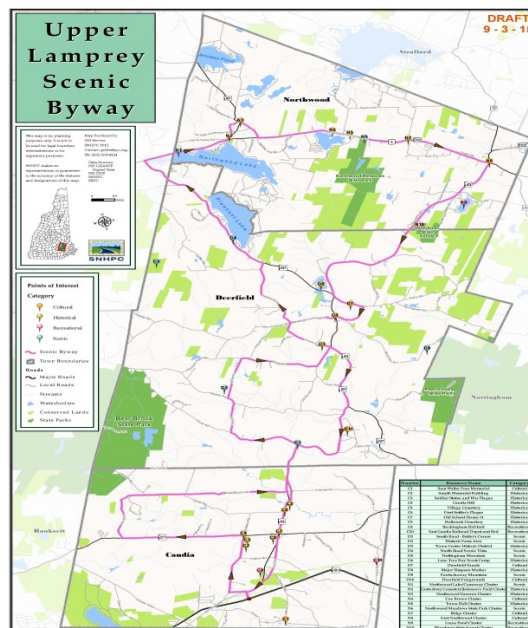


Scenic Byways

The Upper Lamprey Scenic Byway connects the towns of Candia, Deerfield and Northwood, and contains an assortment of historical, cultural, and natural resources, ranging from hilly vistas and lakeside panoramas to classic New England downtown areas. In addition to scenery and recreation, the traveler experiences a myriad opportunities for antiquing along the Northwood stretch. Historical architecture also exists throughout the 50-mile byway.

The Byway was designated on May 8, 2014. With the help of the Southern New Hampshire Planning Commission, the Byway Council is developing a Corridor Management Plan (CMP) for the Byway with an expected completion date of November 2016. The CMP is a planning tool that identifies and highlights the significance of the intrinsic qualities (such as scenic, historic, natural, cultural, and/or recreational resources) along the byway that merit designation, and includes an inventory of those building, sites, and cultural events.

The Plan also includes a summary of existing conditions along the byway, including traffic volumes and road conditions, current land use, zoning and other regulations in each community. Finally, based on multiple meetings with local selectmen and town councils over three years, input from the Byway Council, and input from a public visioning session (tentatively scheduled for September 2016), the Management Plan identifies strategies for the preservation, enhancement and promotion of those historic buildings, scenic views and cultural events that define the area. It also highlights strategies for enhancing tourism opportunities along the corridor; and improving safety for all users of the Byway.



Village Center – Improved Traffic Circulation Options

The Four Corners area has been an area of both land use and transportation importance for the Town of Candia for many years. In October 2003, PLAN NH conducted a Design Charrette which identified several options for addressing the layout and traffic circulation of the area with specific attention to creating a livable and walkable village center within the community.

The Design Charrette involved an “Envision Candia Center” Committee consisting of the Board of Selectmen and community residents which worked with a variety of design professionals on the PLAN NH team. Through the Design Charrette and public engagement process, a future vision of the Four Corners and the future of Candia’s Village District were formulated with the goal of developing the Four Corners area as the “Heart of Candia”. Candia has never had a true “town center” but has loosely organized around six separate geographic villages within the town.

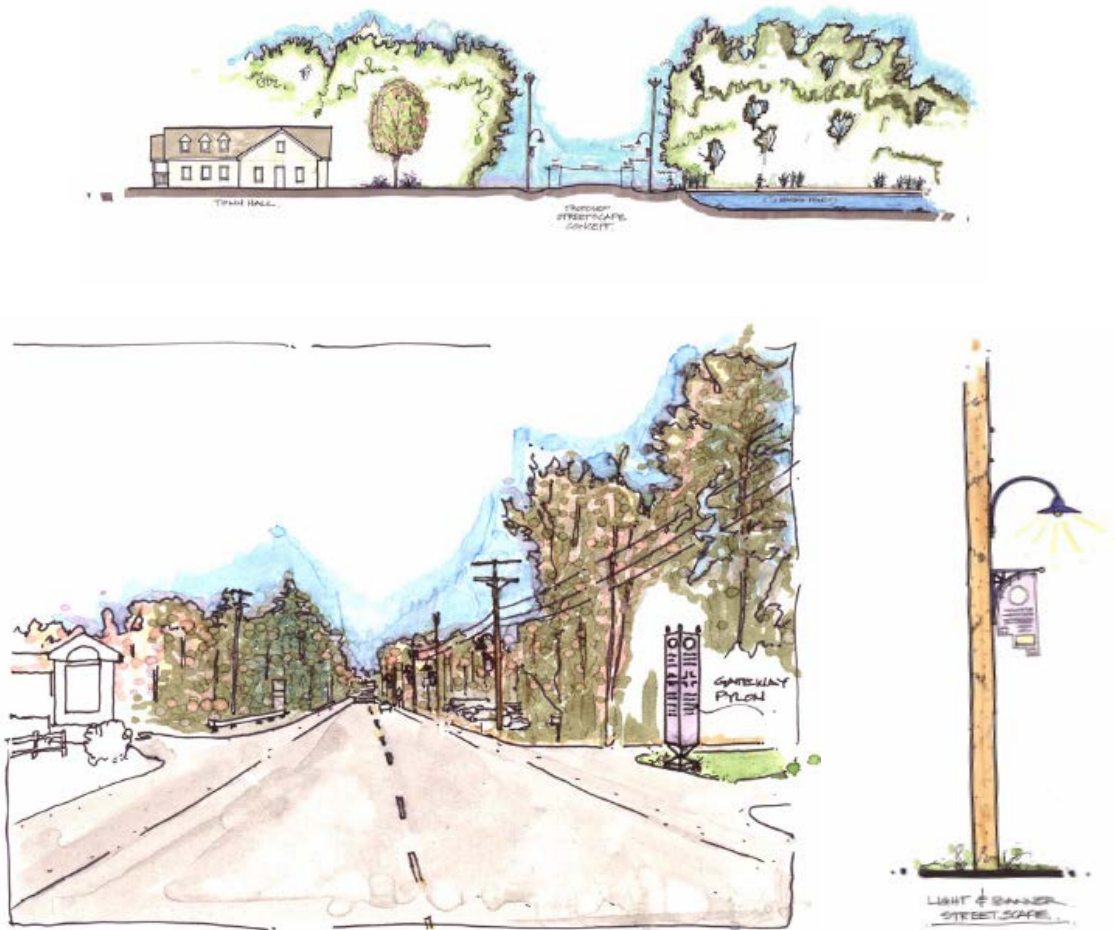
The Design Charrette focus ranged from site access onto NH Route 43 and 27, the school property, the intersections of Routes 27 and 43, as well as the surrounding properties at the four corners. The team also considered the town’s two other existing villages west up NH Route 27 and north up NH Route 43. A number of design themes were identified to create new and inviting streetscapes within the town. For example, the following theme below was conceived for NH Route 27, Looking East at the top of the Hill with the Fitts Museum on the left and the old library on the right.



Proposed Streetscape View NH Route 27 at Top of Hill Looking East

The idea was to create a streetscape within the Four Corners area consisting of sidewalks and street lights which would enhance spaces and venues for community services, meeting places, businesses, as well as improved access to the existing school, the library, the town hall and recreation facilities, etc.

The idea for sidewalks would help to make the village center more walkable and livable for all ages. Additionally, all parking spaces would be placed in the rear of buildings and the Old Library could be converted into a community or senior center with a daycare.



Renderings from PLAN NH October 2003 Design Charrette

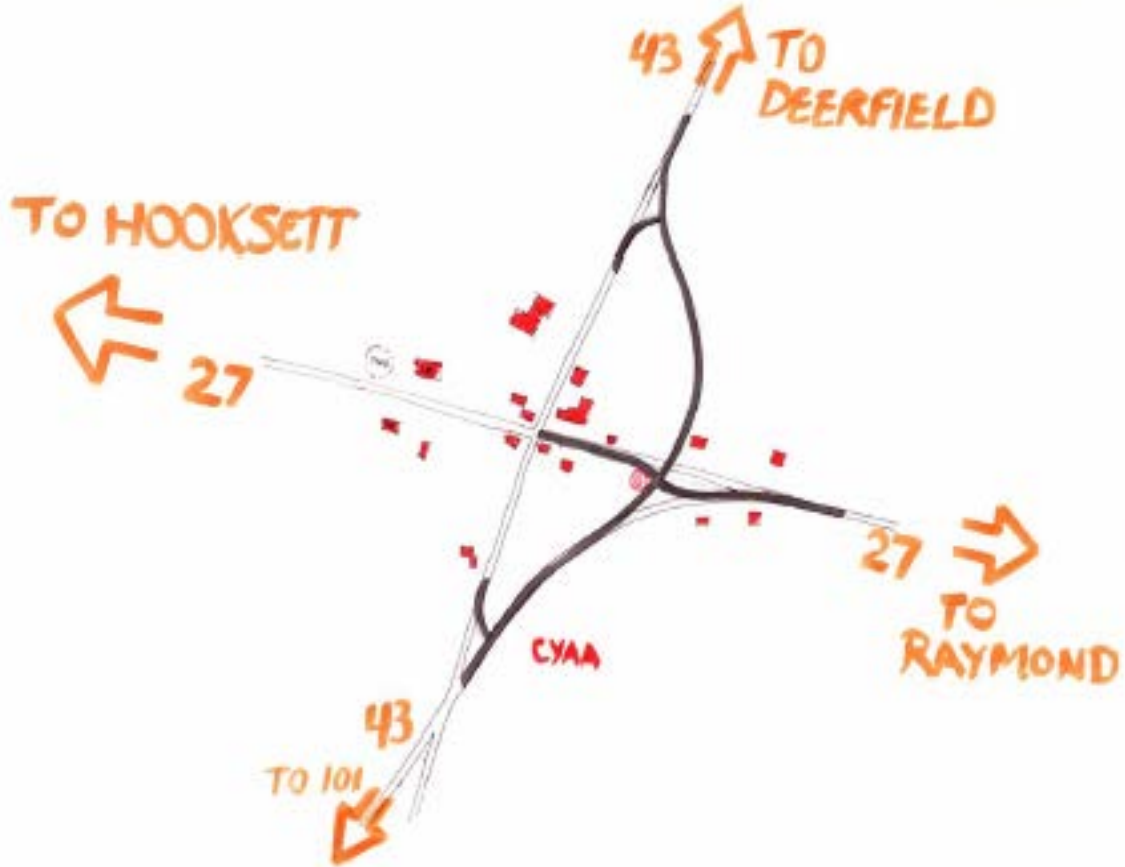


Rendering from PLAN NH October 2003 Design Charrette

Perhaps one of the most frequent recommendations from a transportation perspective was a proposal to add a new by-pass road east of the Four Corners which would travel north behind the fire station and enter onto NH Route 43 North of the Four Corners as shown in the following concept plan. It is envisioned that this new traffic circulation plan would reduce existing traffic through the Four Corners by half (as most of the existing traffic is pass through traffic going to and from the Town of Deerfield to the north of Candia along NH Route 43).

This concept still has validity today as the traffic count for Route 43 is 8,000 cars a day and the NH Route 27 traffic count is 1,200 cars per day. The largest traffic count occurs on Deerfield Avenue, NH Route 27 and Main Street. Coming out to the Candia Youth Athletic Association (CYAA) from NH Route 43 to NH Route 27 is a big concern and there have been fatalities as documented in the recent NH DOT Road Safety Audits (copies of these Audits are available from the Town of Candia and SNHPC).

Another major recommendation was that the intersections of NH Route 43 and 27 be redesigned to improve public safety, eliminate the acute angles and poor visibility and reduce traffic accidents at these highly visible intersections. This redesign could be accomplished as suggested in the following concept plan discussed at the Charrette by bringing the roads together at a right angle with a traffic light and/or a roundabout at the intersection of NH Routes 43 and 27. This concept is similar to the recommendations contained with the Road Safety Audits performed at these intersections by NH DOT and SNHPC. Overall, the redesign of the intersections would improve and allow for the creation of a pedestrian sidewalk and crossing between the CYAA and the school providing an enhanced livable and walkable Village Center.



Another suggestion to improve traffic circulation through the Four Corners area presented at the Design Charrette would be to provide a new access road behind the Town Office building connecting through the existing recreation park (skate board park) and an adjacent property to the new redesigned intersection of NH Route 43, thus improving access to NH Route 27 and the CYAA. A new access road behind the Town Office Building connecting through adjacent property to NH Route 27 today however would require relocation of the skate board park. In addition, this concept would not address increasing traffic along NH Route 43 through the existing Four Corners intersection.

Creating a short bypass from NH Route 43 to NH Route 27 behind the Fire Station however makes more sense as this new route would address the traffic issues through the Four Corners intersection and more importantly the cost for such a project could be shared between NH DOT and the Town of Candia and could be included in the SNHPC Regional Transportation Plan, the statewide Transportation Improvement Program (STIP) and the ten-year statewide Transportation Improvement Plan.

Proposed Conceptual Roadway Alignments

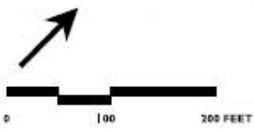
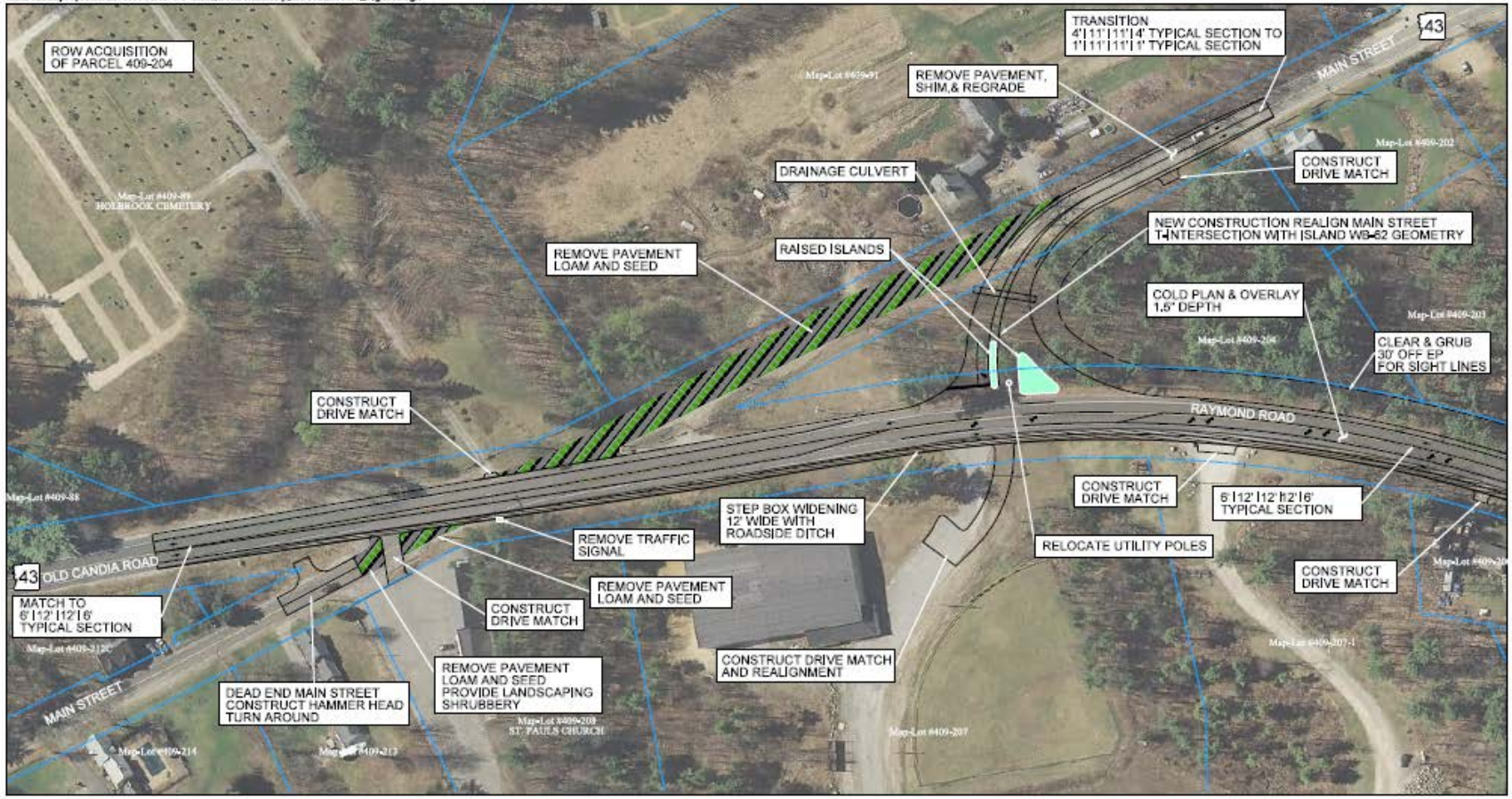
In evaluating these PLAN NH ideas, the Steering Committee explored additional new traffic circulation options for the Village Center designed to achieve the same goals. One of these options would be to utilize the by-pass idea, but expand it to create a roundabout at the NH Route 43 and NH Route 27 intersection (see following Map 7, Conceptual Roadway Alignments). The idea of the roundabout would improve traffic circulation by separating traffic and directing it to points north and south of the village center. It would also eliminate and reconfigure the existing traffic light and intersection of NH Routes 43 and 27 at the four corners and provide an alternative route for traffic going north and south between NH Route 101 and between the Town of Deerfield to the north and Town of Raymond to the east.

In addition, as noted earlier in this plan, the NH DOT conducted a road safety audit in 2014 in Candia and prepared the following four proposed conceptual drawings to improve traffic flow around the “Four Corners” area:

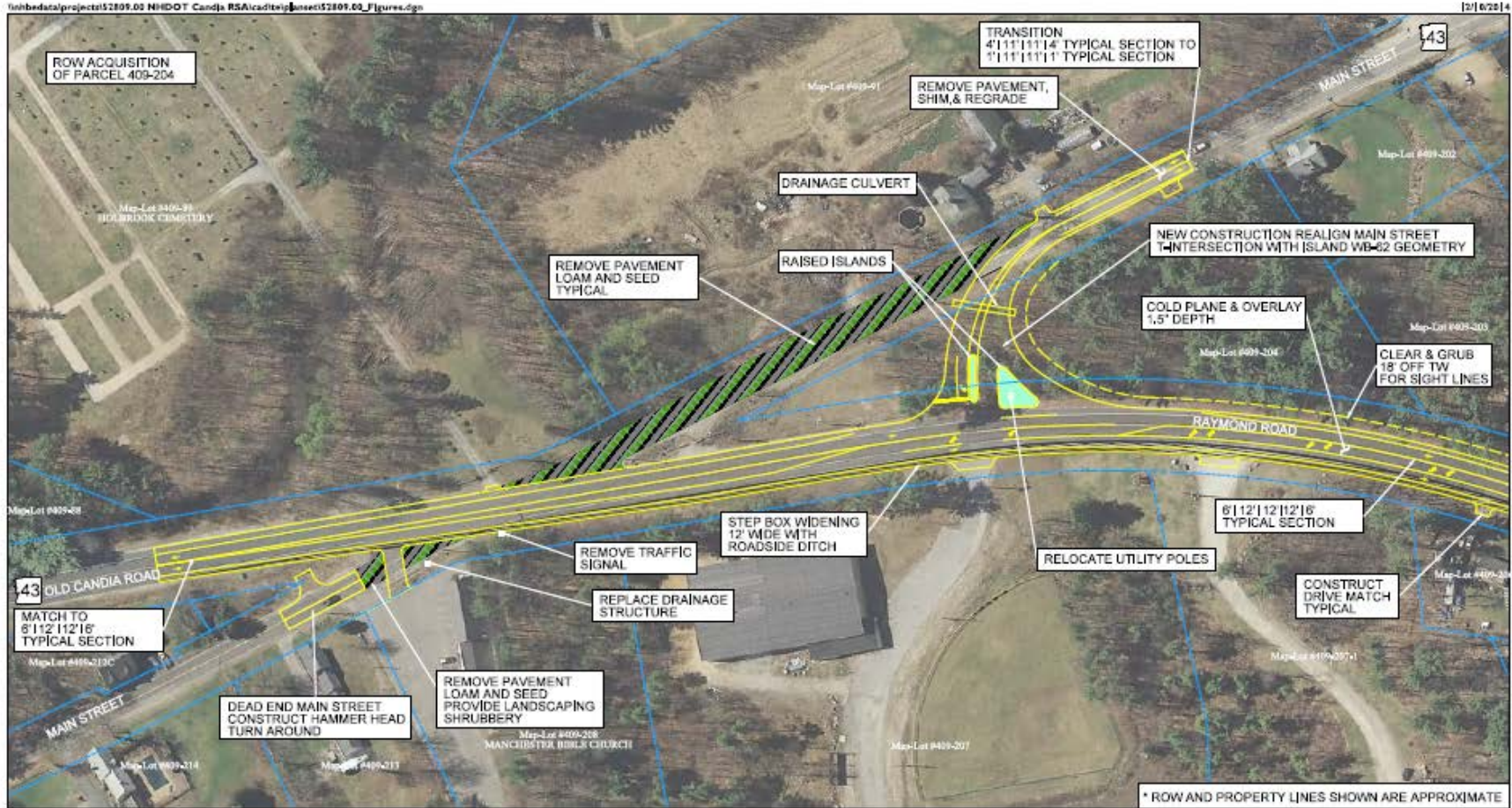
- “T” Intersection Raymond Road to Main Street (Drawing C1);
- “T” Intersection Main Street to Raymond Road (Drawing C2);
- Single-lane Roundabout Main Street, Old Candia Road & Raymond Road (Drawing C3);
and
- “T” Intersection High Street to Raymond Road (Drawing C4).

At the September 22, 2016 meeting, the Steering Committee voted to recommend that the proposed conceptual roadway alignments and roundabout as shown on Map 7 and three proposed NH DOT conceptual drawings (C1, C2 and C3) be considered and evaluated by the Town of Candia and to post these concepts for town residents to review and comment as part of the approval of this plan. The Steering Committee also discussed the possibility of the Board of Selectmen recommending a warrant article to appropriate roughly \$15,000 of town funds to conduct an engineering study of all the alternatives and prepare preliminary engineering plans of the recommended alternative. If supported by town voters this engineering study and preliminary engineering plans would form the basis to move a formal transportation improvement project forward as part of the SNHPC regional transportation plan and the statewide 10-year transportation improvement program.

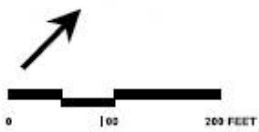
In summary, the Steering Committee believes a redesign of the NH Route 43 and NH Route 27 intersections and the realignment of NH Route 43, including the addition of a new route behind the Town’s Fire Station and a new roundabout would significantly improve traffic circulation patterns; address projected traffic increases and public safety issues; and provide for a safe school zone without the burden of heavy commuter traffic traveling through the Town Center during rush hours.



VHB *Yanase Hangen Brustlin, Inc.*
 Figure C 2 - Concept C 2
 T-Intersection Main St
 to Raymond Rd (WB-62)
 Candia, NH



* ROW AND PROPERTY LINES SHOWN ARE APPROXIMATE



Summary	Total Estimated Benefits	Total Estimated Cost (including ROW cost)	B/C Ratio
Realign intersection, moving SB Main Street approach to the east.	\$500,353		
Install continuous two-way left-turn lane (TWLTL) along Raymond Road between NH 43 and NH 27.	\$42,249	\$1,345,000	0.38
Install left-turn lane on SB approach at the intersection.	\$68,381		

RSA CONCEPT PLAN
SUBJECT TO CHANGE
DATE 12/10/2014

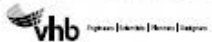
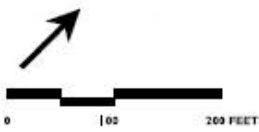
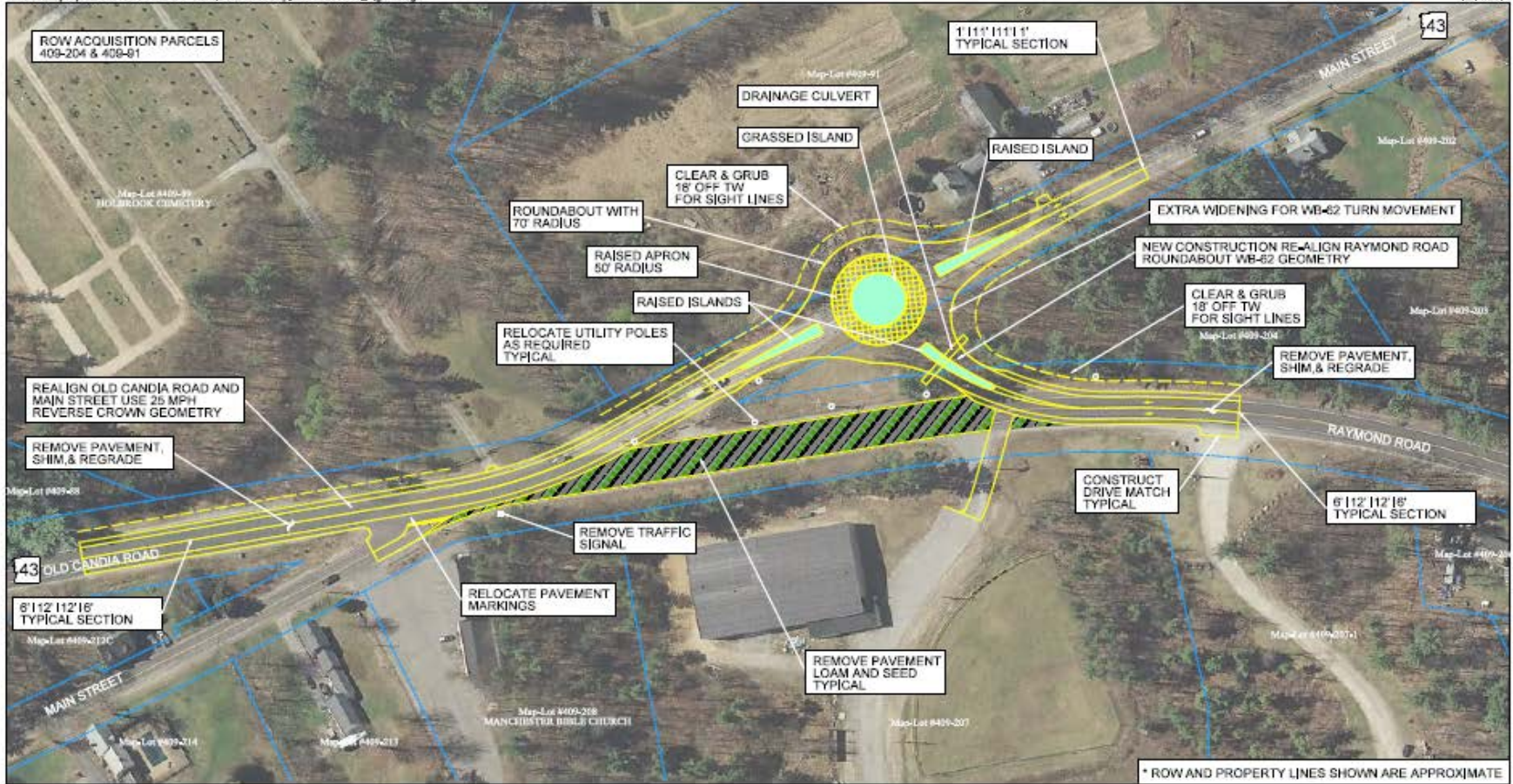


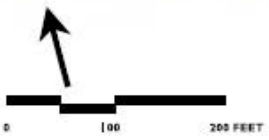
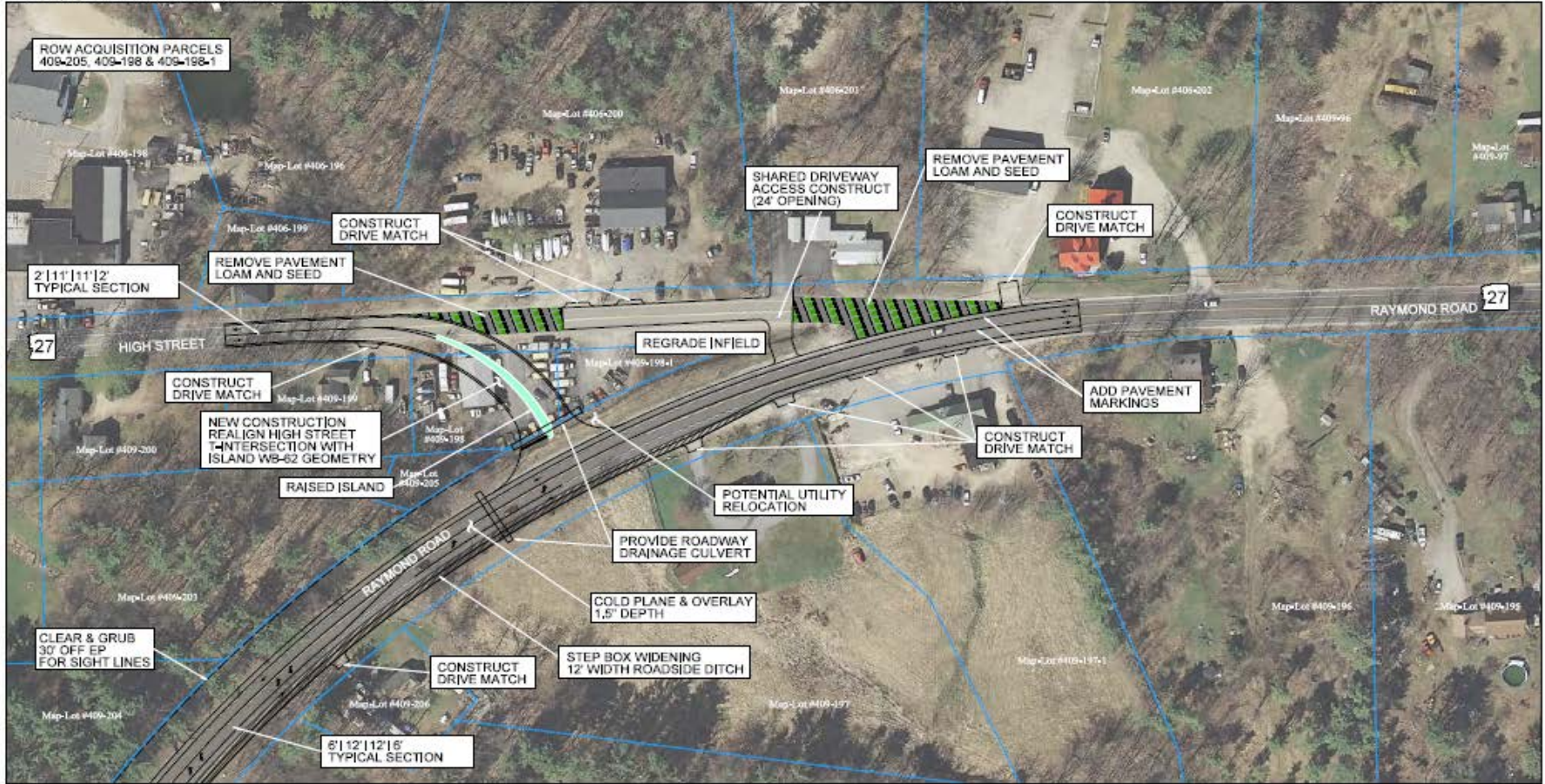
Figure C 2 - Concept C 2
T-Intersection Main St
to Raymond Rd (WB-62)
Candia, NH



Concept 3			
Summary	Total Estimated Benefit	Total Estimated Cost (excluding ROW cost)	B/C Ratio
Install roundabout	\$1,212,226	\$1,650,000	0.75

RSA CONCEPT PLAN
SUBJECT TO CHANGE
DATE 12/10/2014

vhb Engineering | Planning | Construction
Figure C 3 - Concept C 3
Roundabout - Main St, Old Candia Rd & Raymond Rd (WB-62)
Candia, NH



VHB Vanasse Hangen Brustlin, Inc.
Figure C 4 - Concept C 4
T-Intersection High St to Raymond Rd
(WB-62)
Candia, NH

Proposed Sidewalks and Pedestrian Crossings

It is important to note that there are currently no sidewalks in Candia and in particular no sidewalks located within the Village Center. This area of Candia is home to the Town's Municipal Building, the Smyth Public Library, the Henry W. Moore School and Moore Park. Additionally, the Candia Youth Athletic Association (CYAA) is located just south of the NH Route 43 intersection on Raymond Road. All of these facilities are popular destinations within the town, including school children walking to the CYAA building for after school youth sports, along the busy state highways and crossing the highway unassisted. Yet while these facilities are located in close proximity to one another they are largely disconnected. The only means of safely traveling from one facility to the other is by automobile. Because of the close proximity of these facilities, there is a tremendous opportunity to create a sense of place and Village Center by improving pedestrian access and walkability within the Four Corners area. To improve pedestrian connectivity, provide for public safety and at the same time create a livable and walkable Village Center, the Steering Committee identified the following potential standalone pedestrian sidewalk and crosswalk project for the town. This sidewalk project is described below and is shown on the following aerial photograph. To consider the feasibility of this project, the Steering Committee recommends that the School Board, Planning Board and Board of Selectmen hold a joint public planning meeting to discuss existing and future pedestrian access in the Four Corners area, including exploring the NH DOT Safe Routes to School Program and Transportation Alternatives Program. These programs could be a source of potential funding for this project or other similar sidewalk/crosswalk projects or multi-use paths in Candia.

As identified by the Steering Committee, the proposed sidewalk could begin at the existing mid-block crossing on NH Route 43 across from Henry W. Moore School as well as the existing mid-block crossing on NH Route 27 located near the entrance to the Town municipal building (see photos to the right).

The sidewalk could extend along the east side of NH Route 43 and the north side of NH Route 27 from these two mid-block crossing locations and continue to the signalized Four Corners intersection.



Existing Mid-block Crossings

At the Four Corners intersection, the sidewalk could continue south along the east side of NH Route 43 to the existing Farmer's Wife parking lot and cross this property to NH Route 27 across from the entrance to the Candia Youth Athletic Association driveway. To provide for crossing on private property, the Town of Candia would need to obtain an access easement from the owners of the Farmer's Wife property to construct this portion of the sidewalk between NH Routes 43 and 27. Along NH Route 27, the Steering Committee suggests that a mid-block solar activated beacon pedestrian crossing could be installed connecting the last section of the sidewalk to the entrance of the Candia Youth Athletic Association driveway.

Potential Sidewalk and Pedestrian Crossings in Candia's Four Corners



With appropriate design, signage and maintenance, this sidewalk project could improve pedestrian safety and provide for handicapped accessibility within the Four Corners area and most importantly provide a safe environment for children and adults to walk between the Town Municipal Building, the Town Library, Henry W. Moore School and the Candia Youth Athletic Association facilities.

The Federal Highway Administration states that Rectangular Rapid Flash Beacons (RRFB) can enhance public safety by reducing crashes between vehicles and pedestrians at unsignalized intersections and at mid-block pedestrian crossings by increasing driver awareness of potential pedestrian conflicts (see photo below of an existing RRFB mid-block crossing located within the Town of Marlborough, NH along NH Route 101). According to the FHWA:

- RRFBs are user-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system.
- RRFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles.
- RRFBs can be installed on either two-lane or multi-lane roadways.



An Example of an Existing RRFB located in the Town of Marlborough, NH at a Mid-Block Crossing of NH Route 101

- RRFBs are a lower cost alternative to traffic signals and hybrid signals that are shown to increase driver yielding behavior at crosswalks significantly when supplementing standard warning signs and markers.
- An official FHWA-sponsored experimental implementation and evaluation conducted in St. Petersburg, Florida found that RRFBs at pedestrian crosswalks are dramatically more effective at increasing driver yielding rates to pedestrians than traditional overhead beacons.
- The novelty and unique nature of the stutter flash provides a greater response from drivers than traditional methods.

Pedestrian Infrastructure Funding Opportunities

There are various opportunities for state and federal funding which could be used to fund pedestrian infrastructure improvements in Candia. Because the sidewalk project suggested for the Four Corners area would enhance pedestrian safety through appropriate marked crossings and sidewalks for students to access the Henry W. Moore School, the project is likely eligible for Safe Routes to School (SRTS) funding. While the funding from SRTS may not fund the entire project, it may leverage additional NH DOT funding such as the Transportation Alternatives Program which could be used to develop all the improvements. Further information on the state's Safe Routes to School and the Transportation Alternatives Program is available on the NH DOT website and is also summarized below.

Non-Infrastructure Funds Remain Available

A limited pool of funding currently remains available for new non-infrastructure awards. These funds reimburse communities for efforts that can be part of a comprehensive SRTS program. Efforts can include four of what are known as the Five 'E's: Evaluation, Education, Encouragement, and Enforcement (The fifth "E" is Engineering, the term used to describe infrastructure projects).

Three types of non-infrastructure awards are made:

1. Startup
2. Travel Plan
3. General Non-infrastructure

SRTS startup awards are currently available at \$5,000 per school. These startup awards provide seed money for initial efforts. Program funds have reimbursed sponsors a wide range of expenses. These include bicycle and pedestrian safety programs; incentive prizes such as helmets, pedometers, and water bottles for participating youngsters; healthy snacks for children and volunteers; and costs for publicizing an event. Startup awards are a good way to support an event during Bike-to-School or International Walk-to-School Day and Month.

Travel plan awards of up to \$15,000 per school are used to develop a walking and bicycling plan tailored to a specific location. Usually working with a Regional Planning Commission (RPC) or private-sector consultant, communities develop plans that show the connections between residential neighborhoods and nearby schools. The best existing or potential route or routes between the destinations are identified. Most plans show infrastructure changes needed to make the route safe and convenient for children. A travel plan also describes any non-infrastructure efforts to encourage use of the new and existing facilities. Awards can include up to \$5,000 per school for engineering consulting services.

Although NH DOT does not plan to make additional SRTS infrastructure awards, a travel plan can support an application for an award through the new Transportation Alternatives Program (TAP) under the federal highway MAP-21 (Moving Ahead for Progress in the 21st Century) and the FAST Act.

In addition, NH DOT will consider applications for general non-infrastructure programming in communities that have already initiated SRTS programs or may need more funds than are available under the startup awards. These will be particularly useful in communities that have already built new infrastructure but need to work on the other “E”s to encourage safe walking and bicycling. NH DOT has recognized that infrastructure projects are sometimes finished long after initial non-infrastructure funding has been used up. Awards of up to \$10,000 are available.

Applications can be found on the home page of the New Hampshire SRTS website. They are filed with the Regional Planning Commission serving the applicant’s community and with the NH DOT. Because funds are awarded on a first-come, first-served basis, it is important for the Town of Candia to act.

Once a project is initiated, the local sponsor is responsible for ensuring that it advances according to a schedule prepared by the sponsor in consultation with the department. It is expected that most will be completed within two years. Monthly status reports and documented reimbursement requests are required.²

Applying for TAP Funding

New Hampshire communities interested in improving pedestrian and bicycling infrastructure can submit letters of intent for the Transportation Alternatives Program (TAP) between June 1 and July 1, 2016 this year.

This is the first step in a competitive process for more than \$5 million in federal funds that will be used to reimburse up to 80 percent of the costs for such projects. Candia officials and town residents interested in this or another similar sidewalk/pedestrian crossing project should monitor the N.H. Department of Transportation (NH DOT) website including TAP announcements and program details released by the Southern NH Planning Commission. It is envisioned that there will be another invitation for the submission of Letters of Intent for the next round of funding in 2018.

TAP combines a number of individual federal programs into a single, more flexible program. These include: Transportation Enhancement (TE); Safe Routes to School (SRTS); and Scenic

² NH DOT. *Safe Routes to School Winter-Spring 2016 Newsletter*.
<https://www.nh.gov/dot/org/projectdevelopment/planning/srts/>. Accessed 5/24/16

Byways. The overall purpose of TAP is to foster non-motorized transportation infrastructure that is safe, in good physical condition, accessible and capable of reducing traffic congestion. There is more than \$5 million available through a competitive process; funding is used to reimburse up to 80 percent of the costs for such community projects.

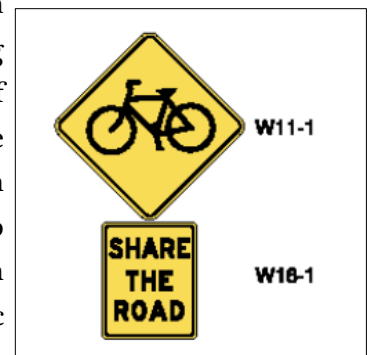
The first step in the competitive process is for communities to submit a letter of intent. New Hampshire communities submitted letters of intent for the Transportation Alternatives Program (TAP) between June 1 and July 1, 2016 for this round. It is expected that there will be another invitation for the submission of Letters of Intent for the next round of funding in 2018. Candia officials and town residents interested in this or another similar sidewalk/pedestrian crossing project should monitor the NH Department of Transportation (NH DOT) website including TAP announcements and program details released by SNHPC.

Proposed Bicycle Improvements

In addition to the need for pedestrian improvements, the results of the Candia Transportation Survey clearly indicate the need for improving bicycle safety by providing safe bicycle transportation infrastructure within the Town. As stated in the Bicycle and Pedestrian Transportation section of this Plan, work is currently underway to establish a regional system of bicycle and pedestrian facilities with the potential to link communities and form a network of alternative transportation corridors at a regional scale.

The NH DOT has also identified and mapped multiple state bicycle routes that run through Candia, as seen on the Alternative Transportation and Scenic Roads Map. The bicycle route located on NH Route 27 and Old Candia Road have widened shoulders that allow room for bicyclists to travel throughout the Town and into surrounding communities. This route was once the original Route 101, and thus has a wide enough road to provide widened shoulders or breakdown lanes. Similarly, there is a proposed multi-use off-road trail which would run through Candia.

This proposed unpaved trail, also known as the Rockingham Recreational Rail Trail, enters Candia from the east, intersecting Depot Road and continuing southeast until it enters the Town of Auburn where users can enjoy the many trails that surround Lake Massabesic. The Rockingham Recreational Rail Trail heads south upon reaching Stump Street; however there is an opportunity to extend the trail along the abandoned Portsmouth-Concord Railroad in Candia, as depicted in the Alternative Transportation and Scenic Roads Map. Creating a dedicated rails to trail facility along this



former rail bed presents a tremendous opportunity that can be explored by Candia Town residents working in concert with the Regional Trails Council.

To improve on road bicycle safety, the Town could also consider installing bicycle signage throughout the community, including “Share the Road” signs. The FHWA’s Manual on Uniform Traffic Control Devices (MUTCD) provides for “Share the Road” word message sign (W16-1) which may be used with the farm machinery symbol (W11-5), the bicycle symbol (W11-1), and other appropriate symbol signs where a need exists to warn drivers to share the road with other modes of transportation.”³

In addition to the placement of Share the Road signs, the Town of Candia could also evaluate existing roads suitable for establishing “Shared Travel Lanes” and designated “Bike Lanes”. A Shared Travel Lane consists of bicycle sharrow markings on both sides of the street pavement and installation of “Share the Road” signs. Shared Travel Lanes typically are wider outside travel lanes in the order of 14 feet wide. Bike lanes on the other hand are designated and separated travel lanes striped to be 4 or 5 feet in width and located on both sides of the road.



Examples of Bicycle and Pedestrian Signage; 2009 MUTCD - Manual on Uniform Traffic Control Devices

Typically Shared Travel Lanes and Bike Lanes are located on streets in developed areas to better distinguish vehicles and bicycles sharing and using the same road as opposed to rural roads. An assessment of Candia’s roads could still be accomplished to determine which roads have the best suitability for either type of treatment. Because Candia is mostly a rural residential community, the streets most suitable for these types of bicycle facilities would be roads containing wide shoulders or wide breakdown lanes. Examples of bicycle sharrow markings, bike route and share the road signs are shown in the figure above.

³ Federal Highway Administration. *Manual on Uniform Traffic Control Device*. <http://mutcd.fhwa.dot.gov/>

Candia's Transportation Vision, Priority Goals and Recommendations

In the review of this plan, the Candia Transportation Steering Committee has endorsed the following vision, priority goals and recommendations for improving the town's transportation network and infrastructure. The Committee recommends that the Town of Candia begin to implement the vision, priority goals and recommendations upon adoption of this plan and that the town strive to achieve this plan within the next ten years.

Candia's Transportation Vision

The Town of Candia recognizes it has many beautiful scenic and rural roads which need to be protected and preserved. Many of these roads however are in need of repair and some roads are unsafe for pedestrians and bicyclists as the Town has no sidewalks, no bicycle facilities and very few pedestrian crosswalks.

At the crossroads of several major state roads, in particular NH Route 43 and Route 27, a significant portion of Candia's traffic is through traffic either going or coming from adjacent communities such as the towns of Deerfield and Raymond. As a result, Candia residents believe they should not be responsible for transportation improvements within their community which are caused or exacerbated by traffic from outside of the town, particularly along state owned and maintained roads within the town.

Over the past ten years, traffic volumes and traffic related vehicular accidents have been increasing within the community, particularly for traffic traveling through Candia along NH Routes 43 and 27, and at Exit 3. This traffic and associated accidents are projected to continue to increase. In particular, the convergence of these two major state highways at the only signalized intersection within the Village Center, and the poorly designed and unsafe intersections of NH Routes 43 and 27 directly to the south and east of the Village Center, demonstrate that the design of this infrastructure is no longer meeting the town's needs.

To ensure a safe and efficient transportation network of roads and infrastructure for all Candia residents today and in the future, the Steering Committee believes town residents want a community with (1) less traffic routed through the Village Center (currently 8,600 average vehicles per day) and (2) the intersections of NH Routes 43 and 27 to the south and east of the Village Center be redesigned and improved to enhance public safety and reduce motor vehicle accidents and pedestrian/motor vehicle conflicts.

To accomplish this vision, town residents desire the NH DOT to work with public officials and local property owners to plan and realign NH Route 43 east of the Four Corners by building (1) a short bypass connection from NH Route 43 north of the Village Center to NH Route 27 utilizing vacant property behind the Town Fire Station; (2) building a roundabout where this new NH Route 43 bypass connects into the intersection of NH Routes 43 and 27; and (3) realigning the intersection of NH Route 43 and Main Street in accordance with Map 7, Conceptual Roadway Alignments as presented in this plan.

In addition, the Committee believes that town residents want the town officials to work with NH DOT to obtain federal and state funding for bringing about these improvements, including the installation of pedestrian sidewalks and crosswalks to ensure pedestrian connectivity within and between the Village Center and the adjacent Candia Youth Athletic Association (CYAA) recreation complex. The Committee believes that these pedestrian improvements are needed to make the Village Center more accessible for all town residents, especially students and residents that are handicapped or have other special needs.

As part of this vision, the Steering Committee believes that town residents would support a warrant article requesting funding to develop necessary preliminary engineering plans to support the inclusion and scheduling of these improvements in the regional transportation plan and in the state's ten year transportation improvement program. In addition, the Committee suggests that all of the roads within the town be evaluated for bicycle safety and bicycle improvements and that a bicycle/pedestrian plan be developed for the town. The Committee believes this could be accomplished with the support of the Southern New Hampshire Planning Commission and as a part of the Town Conservation Commission's current efforts in mapping existing trails and planning future trails.

The Steering Committee also recommends that Candia's public officials place a high priority on maintaining and improving all town roads throughout the community. Specifically the Committee recommends that this be accomplished by proposing and securing a road improvement bond and making necessary appropriations to the town's capital improvement program over the next several years in implementing a short and medium term road improvement and maintenance plan as part of the town's CIP. This could also include implementing a new traffic impact fee methodology and applying the impact fees to help pay down the interest payments on the town's new road improvement bond and make local transportation improvements.

The Steering Committee understands that all of these improvements are going to take time and funding to achieve. But most importantly the vision and recommendations of this plan will never be achieved unless Candia's public officials begin to work towards implementing this

vision and begin to coordinate these plans with the NH DOT, local property owners and town residents.

Priority Goals and Recommendations

In addressing Candia's Transportation Vision, the Transportation Steering Committee has identified the following priority transportation goals and recommendations for the Town of Candia. The priority goals are as follows:

- Improve and Maintain Candia's Existing Road Infrastructure
- Improve the Major Intersections in Candia
- Identify and Make Pedestrian and Bicycle Improvements

Improve Candia's Existing Road Infrastructure

The SADES Pilot Project conducted in Candia has and will continue to provide the town with important information and documentation about the overall condition of existing road surfaces and pavement conditions. Through the SADES Pilot Project, Candia's roads are identified as either in good, fair or poor condition as shown on Map 5 in this plan. This road assessment can be used by the Town and Town Road Agent in identifying and programming funding for necessary road and drainage improvements, road pavement maintenance, road reconstruction and repaving projects going forward in the future. The Transportation Steering Committee agrees that the most important goal to be achieved as a result of this plan is to maintain and bring the Town of Candia's existing road infrastructure and network up a level of adequacy safety for the present and future times, which exceeds the quality of the road networks of surrounding towns.

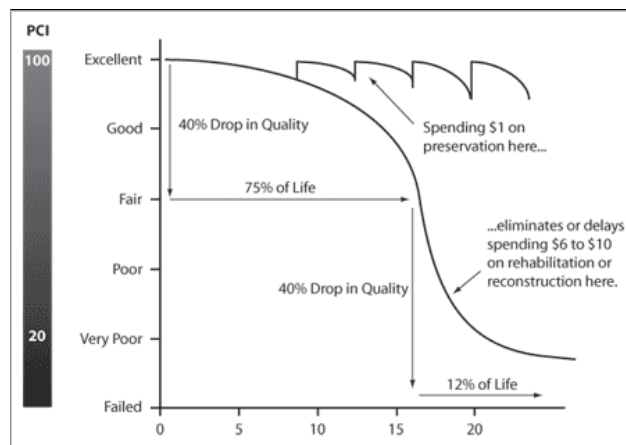
To accomplish this goal, town officials will need to evaluate and compare the SADES Pilot Project assessment results with the Town Highway Department's existing 15-Year Road Reconstruction Plan which is included in the Town's CIP. Where necessary, the 15-Year Road Reconstruction Plan should be updated to reflect the SADES road assessment recommendations. Once this is accomplished, the updated 15-Year Road Reconstruction Plan should be inserted into the Town's CIP.

Secondly, and most importantly, the Selectmen and Town Road Agent should work together with assistance provided by UNH and SNHPC to begin to identify potential funding sources to implement the town's updated 15-Year Road Reconstruction Plan. Specifically, a funding plan should be developed to presented to town voters for a municipal road improvement bond in an amount equivalent to the town's existing Recycling Bond which matures in 2017, or in an amount that is necessary to address all of the town road's identified as "in poor condition" and "in

need of improvement” as documented in the Town’s updated 15-Year Road Reconstruction Plan. This bond could be presented to town voters as early as the 2017 or 2018 town meeting. The timing in pursuing a major road improvement bond today is excellent while interest rates are relatively low and before road improvement costs significantly increase with inflationary pressures. Based on the results from the transportation survey prepared for this plan, there is likely to be a good amount of support from town residents favoring the issuance of a one-time municipal bond for this purpose.

Investing in the town’s existing road network through proactive road improvement and maintenance saves both the town and town residents’ money and improves the quality and long-term performance of the town’s roads. The Federal Highway Administration (FHWA) has prepared the following pavement deterioration curve to illustrate pavement condition versus time and the negative impacts of deferred maintenance. According to the FHWA, this graph portrays the steep deterioration curve commonly seen in pavement once it reaches a “poor” condition.⁴ Timely preventive maintenance and reactive treatments create substantial value by restoring pavements to a high condition and preventing the onset of the rapid deterioration commonly seen in poorly maintained pavement. Spending a \$1 on maintenance and treatment early on in the pavement life cycle eliminates or delays spending \$6 to \$10 on pavement rehabilitation or reconstruction later on. Thus, timely preventive pavement maintenance in the short term produces a very high benefit/cost ratio and delays spending more road rehabilitation or reconstruction in the long term.

The Pavement Deterioration Curve



Source: Federal Highway Administration, Figure 6, Asset Sustainability Index: A Proposed Measure for Long-Term Performance

⁴https://www.fhwa.dot.gov/planning/processes/statewide/practices/asset_sustainability_index/page01.cfm

Improve the Major Intersections in Candia

The second most important goal to be achieved as supported by the Steering Committee and the majority of the town residents responding to the transportation survey is to make improvements to the following major intersections in Candia. These intersections include:

- NH Route 27/Raymond Road/High Street
- NH Route 43 (Old Candia Road)/Main Street/Raymond Road
- NH Route 101 Exit 3/Old Candia Road/Old Manchester Road
- NH 27 (High Street)/Healy Road/South Road

All of these intersections involve state maintained roads and highways and thus will require coordination with the NH DOT. This also includes the NH Route 43/Irving Station Intersection. Improvements to this intersection can be addressed through the NH DOT driveway permit process by considering the traffic impacts resulting from future private development occurring at and through this driveway and intersection location. This should also be the case with respect to the NH Route 101 Exit 3/Old Candia Road/Old Manchester Road intersection.

In addressing the intersections of NH Routes 27 and 43 south and east of the Village Center and the proposed realignment of NH Route 43 including a new bypass and roundabout as well as the realignment of the intersection of NH 27 and Main Street, the Town of Candia should consider implementing the following actions:

Step #1: Set up a Meeting with the NH DOT Highway Planning Bureau, SNHPC transportation staff and the District 5 Engineer to discuss NH DOT support for the NH Route 43 proposed realignment and improvements; preliminary engineering needs and federal and state funding opportunities, including what if any local funding would be needed from the Town of Candia to initiate these improvements at the state level.

Step #2: Work with Southern New Hampshire Planning Commission and NH DOT to determine if the above improvement projects could be eligible for Highway Safety Improvement Program (HSIP) Funding through NH DOT. Currently, NH DOT has programmed HISP funding in the amount of \$9,000,000 statewide for FY 2018, 2019 and 2020. HSIP funding has been used and awarded for the construction of roundabouts in several municipalities in the state in the past.

Step #3: With guidance from NH DOT and SNHPC, town officials should begin to take necessary steps to request the proposed NH Route 43 realignment improvements be included in the SNHPC Regional Transportation Plan, the Metropolitan Planning Organizations (MPO) Transportation Improvement Plan (TIP) and the Statewide Transportation Improvement Plan (STIP). The MPO's TIP is updated every two years by the SNHPC Metropolitan Planning Organization. It is important for the town to seek inclusion of transportation projects in the first

two years of the TIP as these are the projects which are typically selected for funding as agreed upon by NH DOT and the MPO. This process will take several years to complete.

Identify and Make Pedestrian and Bicycle Improvements

The third most important goal to be achieved as supported by the Steering Committee is to identify and make pedestrian and bicycle improvements in Candia. Specifically, the Town of Candia should:

- Participate in the SNHPC's Regional Trails Coordinating Council. This Council works together with other municipalities, state and federal agencies in identifying, planning and implementing regional and local systems of bicycle and pedestrian facilities, including shared use paths and rails-to-trails efforts;
- Create and appoint an official Town of Candia trails and multi-use path coordinating committee to plan and develop both on-road bicycle facilities and off-road shared use trails in appropriate locations throughout Candia, including the development of an off-road multi-use path located along the former Portsmouth-Concord rail bed. This potential path would require permission or an easement from the property owner(s) who currently own the former rail bed. This rail trail would provide a significant link in the regional trail network;
- Ask the SNHPC or an engineering firm to conduct an assessment of the town's streets and roads for possible on-road bicycle improvements, including "share the road" signage; bike lanes, and the markings of bike sharrows; and
- Consider drafting and adopting a Bicycle/Pedestrian Plan and updating the town's road specifications and street design standards as part of the Planning Board's land use regulations to ensure that all transportation improvement projects in Candia address all users of the street, including pedestrians and bicyclists of all ages and needs.

Additional Recommendations

As part of the priority goals of this plan, the Steering Committee has also identified the following additional recommendations which will help to improve Candia's transportation network and infrastructure today and in the future:

- Utilize and update the Town's Hazard Mitigation Plan to identify and replace problem culverts and drainage structures in Candia which are subject to frequent flooding and would not hold up in a severe flooding event;

- Continue to monitor and work with the NH DOT Bureau of Bridge Design to inspect the Town's two red listed bridges: Old Deerfield Road over the North Bank River and the Beane Island Bridge;
- Continue to update the Town's Capital Improvement Program (CIP) to include priority road, bridge and other transportation improvement needs within the town;
- Consider updating and adopting a new Traffic Impact Fee methodology that can be used to raise funding to help pay the interest on a municipal road bond and help pay for necessary transportation improvement projects and needs identified in the Town's CIP;
- Consider developing and adopting an official major street map for the Town of Candia as provided for by RSA 674:9. All the town's existing street lines and lines of future streets as reflected in the Town's 15-Year Road Reconstruction Plan including the transportation improvements as proposed in this plan could be included and shown on this map. An official major street map works to inform the public, town residents, property owners and the NH DOT of the town's overall transportation vision, location of existing streets and location of proposed new roads and road improvements;
- Continue to participate in the Upper Lamprey Scenic Byway project including developing and implementing the corridor management plan and working with adjacent municipalities and the Byway Council in raising and securing funding; and
- Continue participating in the Statewide Coordinating Council for Community Transportation (SCC) and the Regional Coordinating Councils (RCC) in the development and implementation of regional coordination transportation plans and the coordinated public transit-human services transportation plan for the region. This participation is especially important because of Candia's aging population and their probable increase in need for transportation assistance.

The Candia Transportation Steering Committee submits this Plan with hopes that it will be fully adopted, and identified issues will be addressed in a timely way to improve the future of Candia.

Appendix

Candia Transportation Survey Results

Question 1: Are you a Candia:		
Answer Options	Response Percent	Response Count
Full- time resident	96.9%	155
Seasonal Resident, or	0.6%	1
Business Owner	2.5%	4
	<i>Total</i>	160

Question 2: What Candia roads do you generally use when leaving home to go to work?	
Answer Options	Response Count
	149
<i>answered question</i>	149
<i>Skipped</i>	7

Q2: Major Roads Most Commonly Identified	
Road	Count
Old Candia	43
North	24
Merrill	11
Exit 3	5
South	33
Patten Hill	4
Langford	6
Raymond	4
Diamond Hill	1
High	23
Brown Rd	17
Crowley	3
Chester Tpk	34
New Boston	9
Podunk	5
Kayla	1
Old Manchester	5
Donovan	3
Main	17

Q:2 Major Roads Most Commonly Identified	
Pine Ridge	4
Palmer	3
Douglas	6
Deerfield	9
Chritchett	4
Tower Hill	2
Depot	1
Old 101	3
Rte 101	21
Rte 27	53
Rte 43	30
Mayhew	2
Jane	1
Murray	1
Island	2
Healey	10
Chesterfield	1
Blevens	1
Fieldstone	1
Christine	2

Question 3: How would you rate Candia's roads?		
Answer Options	Response Percent	Response Count
Excellent	2.6%	4
Good	45.5%	70
Adequate	44.2%	68
Poor	7.8%	12
Don't Know	0.0%	0
	<i>answered question</i>	154
	<i>Skipped</i>	2

Question 4: Which road or intersection in town..... (add road names on blank lines below)		
Answer Options	Response Percent	Response Count
(a)...pose the most serious threat to safety and property?	30.1%	114
(b)....has too much traffic, considering its design and surrounding setting?	23.0%	87
(c)...need to be reconstructed, paved or repaired?	23.5%	89
(d)...needs a traffic signal?	23.5%	89
<i>answered question</i>		379

	A	B	C	D
Q 4: Major Roads Most Commonly Identified				
Road	Poses the most serious threat to safety and property	Too much traffic, considering its design and surrounding setting	Needs to be reconstructed, paved or repaired	Needs a traffic signal
27/Raymond/High	59	18	8	21
Route 43	28	22	4	11
43/27	6	1	1	2
101/Exit 3/Highway/Irving	43	19	7	35
Adams	5	0	1	1
Blevens	0	0	2	0
BP	1	0	0	1
Critchett	0	0	1	0
Crowley	1	1	2	0
Depot	1	0	0	1
Diamond Hill	1	0	7	0
Donovan	1	0	2	0
Fieldstone	1	0	1	0
Healey	4	1	4	2
Hook	0	1	2	0
Lane	3	2	3	1

Langford	1	2	3	0
New Boston	0	1	4	0
Roads	Poses the most serious threat to safety and property	Too much traffic, considering its design and surrounding setting	Needs to be reconstructed, paved or repaired	Needs a traffic signal
None	16	12	10	17
Old Candia	18	6	9	9
Patten Hill	0	2	1	0
Church	6	1	0	8
South	15	5	3	4
Tower Hill	0	0	3	0
Unsure	1	1	1	1
Douglas	1	0	7	0
Podunk	0	0	1	0
Pine Ridge	2	0	2	0
Old Manchester	2	1	1	0
4 Corners	3	3	0	1
Kristine	1	0	1	0
Chester	15	7	11	3
North	1	2	10	0
Forest	0	0	1	0
Total	237	110	116	118

Question 5: What, in your opinion, is the most pressing transportation problem facing Candia? Please check up to three items from the following list:		
Answer Options	Response Percent	Response Count
Lack of Park & Ride facility	4.2%	15
Potholes, cracking pavement, etc.	25.8%	93
Snowplowing	2.2%	8
Lack of alternative transportation	5.0%	18
Traffic volumes	5.6%	20
Lack of bicycle lanes	10.3%	37
Maintaining mobility for the elderly	2.8%	10
Lack of sidewalks in selected locations	11.7%	42
Heavy trucking	5.6%	20
Improve school bus service	1.9%	7
Insufficient police enforcement	3.6%	13
Pedestrian safety	12.5%	45
Lack of parking	0.6%	2
Road flooding	3.9%	14
School traffic	3.1%	11
Lack of car and vanpooling options	1.4%	5
<i>answered question</i>		360

Question 6: Do you feel Candia needs more bicycle/walking opportunities?		
Answer Options	Response Percent	Response Count
Yes	52.0%	79
No	34.2%	52
Don't Know	13.8%	21
If so, where?	42.1%	64
<i>answered question</i>		152
<i>skipped question</i>		4

Q 6: Major Candia Roads Most Commonly Identified	
Roads/Locations Need of Bicycle Lanes / Sidewalks	Count
Main	17
Route 27	11
All Candia Maintained Roads	9
Route 43	10
School	7
Bear Brook State Park	1
None	5
Village	4
Town Center	5
Lack of Enforcement	3
Route 101	4

Roads/Locations Need of Bicycle Lanes / Sidewalks	Count
4 Corners	2
Courthouse	2
Library	2
Most Candia Maintained Roads	4
N/A	2
Town Offices	2
Old 101	2
Post Office	1
Deerfield Rd	1
High	7
Langford	1
Old Candia	1
CYAA	3
South	4
Raymond	1
Brown	1
New Boston	1
Total	113

Question 7: Do you feel Candia's roads are safe for bicycles and pedestrians?		
Answer Options	Response Percent	Response Count
Yes	32.5%	50
No	57.8%	89
Don't Know	9.7%	15
<i>answered question</i>		154
<i>Skipped</i>		2

Question 8: Would you support a program to improve Candia's town roads and correct their maintenance deficiencies by financing this effort through the issuance of a one-time municipal bond?		
Answer Options	Response Percent	Response Count
Yes	57.8%	89
No	13.6%	21
Don't Know	28.6%	44
<i>answered question</i>		154
<i>Skipped</i>		2

Question 9: Which roads do you feel the town should specifically improve, such as signage, speed limit, visibility, pavement condition, drainage, etc.?

Answer Options	Response Percent	Response Count
Chester Turnpike	13.8%	31
Green Road	0.4%	1
Candia Road	16.1%	36
New Boston Road	8.9%	20
Patten Hill Road	4.9%	11
Merrill Road	6.7%	15
Podunk Road	3.6%	8
Knowlton Road	0.9%	2
South Road	13.8%	31
Other (please specify)	30.8%	69
<i>answered question</i>		224

Question 10: What's the BEST thing about Candia's roads?

Open-Ended Question	Response Count
	124
<i>Skipped</i>	32

Q 10: Theme	Frequency
Low Traffic	10
Scenic/Rural/Natural Character/Quiet	44
Well Maintained/Good Snow Plowing	64
Access to local and major road networks	3
Appreciate Road Agent	11
Good lighting and signage	4
Potential for future development	1

Q 9: Major Candia Roads Most Commonly Identified

Other: (Road)	Frequency
Adams Road	4
Blevens Drive	2
Bridge on New Boston Road	2
Brown Road	5
Chester Road	1
Christine	1
Critchett Road	2
Currier Road	7
Dearborn Road	1
Depot Road	2
Diamond Hill Road	1
Donovan Road	2
Douglas Drive	3
Fieldstone Lane	1
Forest Road	1
Healey Road	1
High Street	4
Hook Road	2
Langford Road	4
Main Street	2
Manchester Road	1
None	1
North Road	6
Old Candia Road	2
Palmer Road	1
Pine Ridge Drive	1
Raymond Road	1
RT 27	2
RT 43	3
Old Candia Road/Exit 3	4
Tower Hill Road	1

Question 11: What's the WORST thing about Candia's roads?	
Open-Ended Question	Response Count
	126
<i>Skipped</i>	30

Q 11: Most Frequent Response	Frequency
Unsafe for pedestrians and bicyclists (no sidewalks, shoulders, bike paths)	24
Roads in need of repair (potholes, debris, road cracking, in need of new paint)	61
Drainage issues	5
Speeding vehicles	13
Narrow/ Curvy roads	5
Poor visibility (lighting, natural objects obstructing view, intersection)	6
Poorly marked house numbers	2
Dirt roads	3
High traffic from major transportation routes and abutting towns	8
Traffic from Deerfield fair	2
Improper signage	2
No complaints	2

Question 12: If you could identify one improvement to Candia's roads what would it be?	
Open-Ended Question	Response Count
	107
	<i>Skipped</i> 49

General Comments from Question 12:
A better intersection in the center or town (by cemetery, church, farmers' market)
Amount of traffic on 43 from Deerfield - reroute
Contract out to professionals: Replace Road Agent
Dangerous Left turn from Chester Rd onto Main St (blind turn and people drive too fast on Main St) exit 3
fix Fieldstone lane
Flashing yellow at South & High Streets
I think all are pretty good where I go except Diamond Hill Rd.
Improve Candia 4 corner with some kind of bypass
Increase the speed on Candia Road from Exit 3 to Auburn to 45mph.
Leave them just the way they are!
new road agent
Pave Hook Rd
Rectify the two intersections mentioned above. With CYAA at the intersection of 43 & 27, we have been very lucky, thus far, a family entering or exiting hasn't come to serious harm
Repair New Boston Rd. wetlands bridge
Some of our intersections need to be converted to a 90 degrees instead of 90's with 45's.
Street Signs at all intersections
The first phase of Chester Turnpike was well done!
Traffic lights at both exit 3 and intersection of main st + rte 27 towards exit 3 at corner of vacant gas station
More town border protection w/ law enforcement, particularly Lane/Depot, Crowley, Chester, Old Candia & Chester Turnpike
Lower speed limit, remove passing lane on Old Candia Rd from Adams Rd to Raymond Rd

Theme	Frequency
Create walking/biking lanes/widen shoulder/ Pedestrian and bicycle education	26
Maintenance improvements: Repair potholes / General Paving/plowing	39
Increase funding	2
Ensure vehicle traffic does not exceed capacity / Limit larger vehicles to main roads	4
Improve Lighting	5
Enforce speed limit /lower speed limit	9
Trash clean-up programs	1
Standardize House Numbers	1
Improve drainage	1
Increase Speed limit	1
General comments: specific roads and road agent	21

Question 13: General Comments:	
Open-Ended Question	Response Count
	77
<i>answered question</i>	
<i>skipped question</i>	79

Theme	Frequency
Improve Bicycle & Pedestrian Facilities: Add bike/walking paths; widen shoulder	8
Improve Signage	2
Increase Annual Road Budget	3
Decrease Annual Road Budget	1
General appreciation	14
Comments showing appreciation towards the Road Agent	9
Drainage issues	3
School Bus traffic/School Bus Route	2
Issues with State roads	5
Comment relating to increasing revenue	2
Vision problems at '4 Corners'	2
General Maintenance comments	9
Use less salt on roads	2
General comments on specific roads	10
Better traffic control during Deerfield Fair	2
In-depth descriptions of issues relating to Candia's roads (attached separately)	2
Other	3

2004 Class VI Road List

2004 Class VI Road List
Prepared by Road Agent Dennis Lewis on 3/31/04

North Road- Approximately 900 feet West from Merrill Road Intersection

Baker Road- from High Street to Peter O'Neil's property known as Map 410, Lot 098 and from South Road to Tamara and Scott Cambell's property known as Map 410-103.

Donovan Road- from Chester Turnpike to the driveway entrance adjacent to the residence located on the property owned by Richard and Priscilla Blevens known as Map 404, Map 027.

Knowlton Road- approximately 200 feet from the intersection of High Street.

Libbee Road- from South Road to Flint Road

Flint Road- south from Libbee Road for approx. 900 feet.

Pione Hill - south road to old Candia, (43/01)