TOWN OF WILTON MASTER PLAN

CHAPTER V: Transportation

INTRODUCTION

The evolution of the transportation system, within a town and throughout a region, has a reciprocating impact upon the prevailing patterns of land development and the spatial layout of the town. Traffic is one of the more visible impacts of land development and economic activity. Traffic due to all types of land development (residential, commercial, industrial), and the economic activities that go along with the different types of land uses not only affects the town's local road network, but also impacts the highway system and inter-regional travel. As a part of the overall planning process, the Town should assess how its own growth patterns affect travel demands and to what extent the existing local and regional system can accommodate those demands.

The intent of this chapter is to provide information to assist in this assessment including an inventory of the existing highway network in the town, including highway classification, traffic volumes, roadway conditions, accident statistics and travel patterns. Issues related to transportation and mobility are discussed including highway policy, travel demand, and non-motorized and alternative modes of transportation. Recommendations to improve the highway network, and mobility in general, are also provided.

EXISTING CONDITIONS

State Aid Classification System

The State-aid classification system has been defined by RSA 229 - 231 to determine responsibility for construction, reconstruction and maintenance as well as eligibility for use of state aid funds. The following is a description of the state-aid system based on the categories that exist in the Town of Wilton:

Class I, Primary State Highways, consist of all existing or proposed highways on the primary state highway system, excepting all portions of such highways within the compact sections of towns and cities, provided that the portions of turnpikes and interstate highways within the compact sections of those cities are Class I highways.

Class II, Secondary State-Highways, consist of all existing or proposed highways on the secondary state highway system, excepting portions of such highways within the compact sections of towns and cities. All sections improved to the satisfaction of the NHDOT Commissioner are maintained and reconstructed by the State. All unimproved sections, where no state and local funds have been expended, must be maintained by the town or city in which they are located until improved to the satisfaction of the NHDOT Commissioner. All bridges improved to state standards with state-aid bridge funds are maintained by the State. All other bridges shall be maintained by the city or town until such improvement is made.

Class V, Rural Highways, consist of all other traveled highways which the town or city has the duty to regularly maintain.

Class VI, Un-Maintained Highways, consist of all other existing public ways, including highways subject to gates and bars, and highways not maintained in suitable condition for travel for five years or more.

The state aid classification road mileage in Wilton is summarized in Table 1 and shown in Figure 1. There are a total of 72.86 miles of roads in Wilton.

TABLE V-1
STATE AID ROAD CLASSIFICATION IN WILTON

State Funding Classification	***Mileage***
Class I- Primary State Hwys	5.91
Class II- Secondary State Hwys	13.59
Class V- Town Roads	52.8
Class VI- Non-Public Roads	0.56
Total	72.86

Source: New Hampshire Department of Transportation

Federal and State Functional Classification

Every ten years, the NHDOT, working with the Regional Planning Agencies, update the State's functional classification maps for highways. Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. While the state aid classification system is the primary basis for determining jurisdiction, the following systems are important for determining eligibility of federal funds. In general, there are four functional systems to be considered:

Functional System	***General Characteristics***
Principal Arterial	1. Provides corridor movement suitable for substantial statewide or interstate travel and provides continuity for all rural arterials which intercept the urban area..
	2. Serves the major traffic movements within urbanized areas such as between central business districts and outlying residential areas, between major intercity communities, or between major suburban centers.
	3. Serves a major portion of the trips entering and leaving the urban area, as well as the majority of the through traffic desiring to bypass the central city.
Minor arterial	1. Serves trips of moderate length at a somewhat lower level of travel mobility than principal arterials.
	2. Provides access to geographic areas smaller than those served by the higher system.
	3. Provides intracommunity continuity, but does not penetrate identifiable neighborhoods.
Collector	1. Collects traffic from local roads and channels it into the arterial system.
	2. Provides both land access and traffic circulation within residential neighborhoods, commercial and industrial area.
Local	1. Comprises all facilities not on higher systems.
	2. Provides access to land and higher systems.
	3. Through traffic usage discouraged.

FIGURE V-1

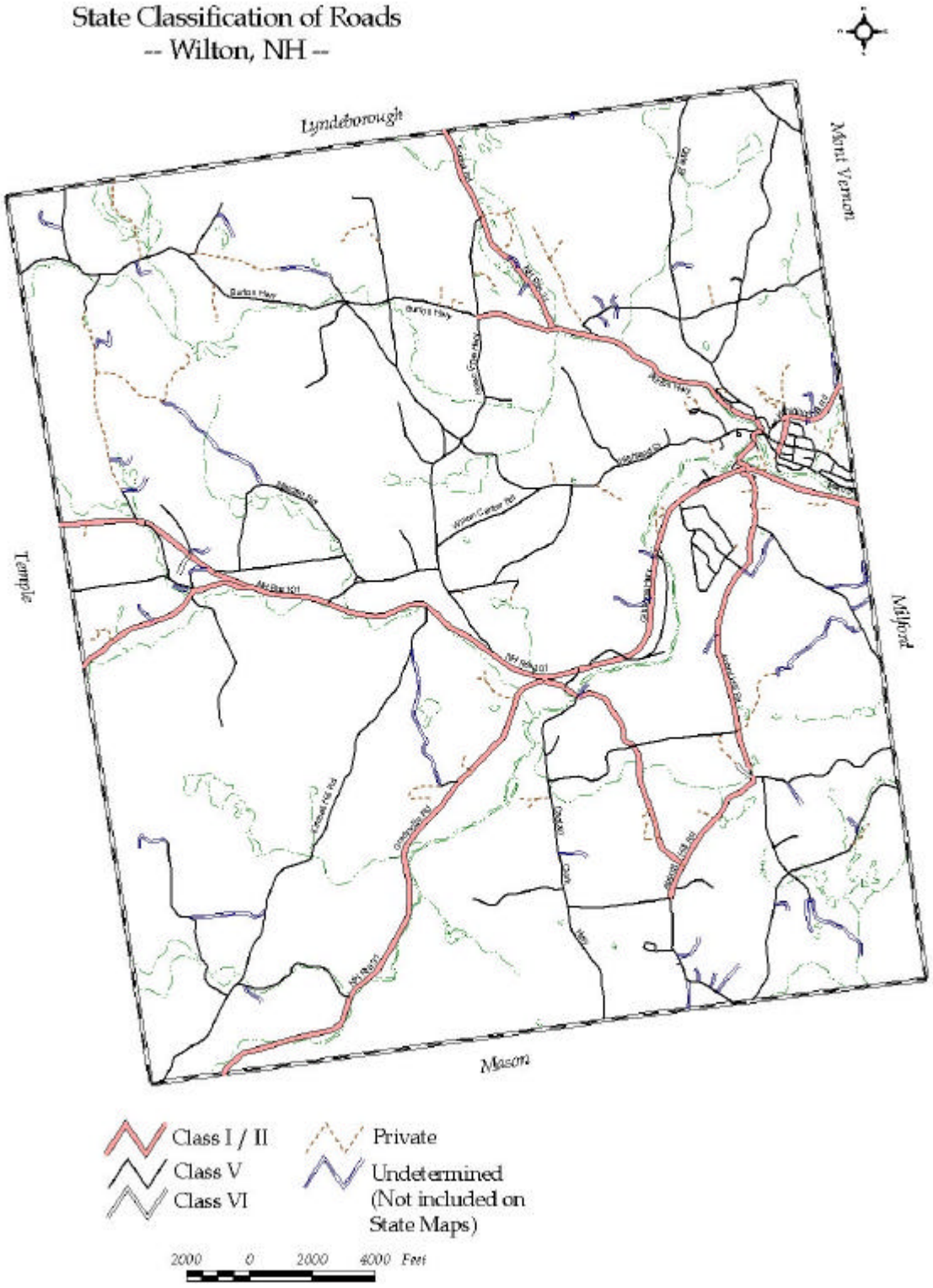
State Classification of Roads
-- Wilton, NH --
Lyndeborough
Mont Vernon
Temple
Milford
Mason
Class I / II
Class V
Class VI
Private
Undetermined
(Not included on
State Maps)
2000 0 2000 4000 Feet

Table V-2 provides a summary of the mileage for roads in the Town of Wilton based on the NHDOT/FHWA assigned functional classifications.

TABLE V-2
STATE FUNCTIONAL CLASSIFICATION OF WILTON ROADS

	State Aid Road Classification				
State Functional Classification	***Class I Mileage***	***Class II Mileage***	***Class V Mileage***	***Class VI Mileage***	***Totals***
Category 02 Principal Arterial (Rural)	5.901				5.901
Category 07 Major Collector (Rural)		6.572			6.572
Category 08 Minor Collector (Rural)		2.005	0.165		2.170
Category 09 Local Roads (Rural)		5.020	97.265	0.558	102.843
Total	5.901	13.597	97.43	0.558	117.486

Source: New Hampshire Department of Transportation

Traffic Volumes

Historic traffic volume data for the Town of Wilton is compiled from several sources. The New Hampshire Department of Transportation (NHDOT) collects traffic counts in accordance with federal guidelines under the Federal Highway Performance Monitoring System Program (HPMS.). In addition to the NHDOT's annual traffic counting program, the Nashua Regional Planning Commission maintains an ongoing traffic count program for validating the region's traffic model. The NRPC also provides traffic counts for member communities upon request.

The most heavily traveled road in Wilton is NH 101 which runs east west through the town from Milford to Temple. NH 101 provides access to Nashua to the east to Peterborough and Keene to the west, and to Manchester and Concord to the north. In addition, NH 31 provides north south access to Lyndeborough and Greenfield to the north and Mason and Greenville to the south.

Traffic count data collected for key roads in Wilton are compiled in Table V-3. These counts represent the average annual daily traffic (AADT) and have been adjusted by a seasonal factor. The average annual daily traffic volumes shown in Table V-3 are illustrated on a map of Wilton in Figure V-2.

FIGURE V-2: TRAFFIC VOLUMES

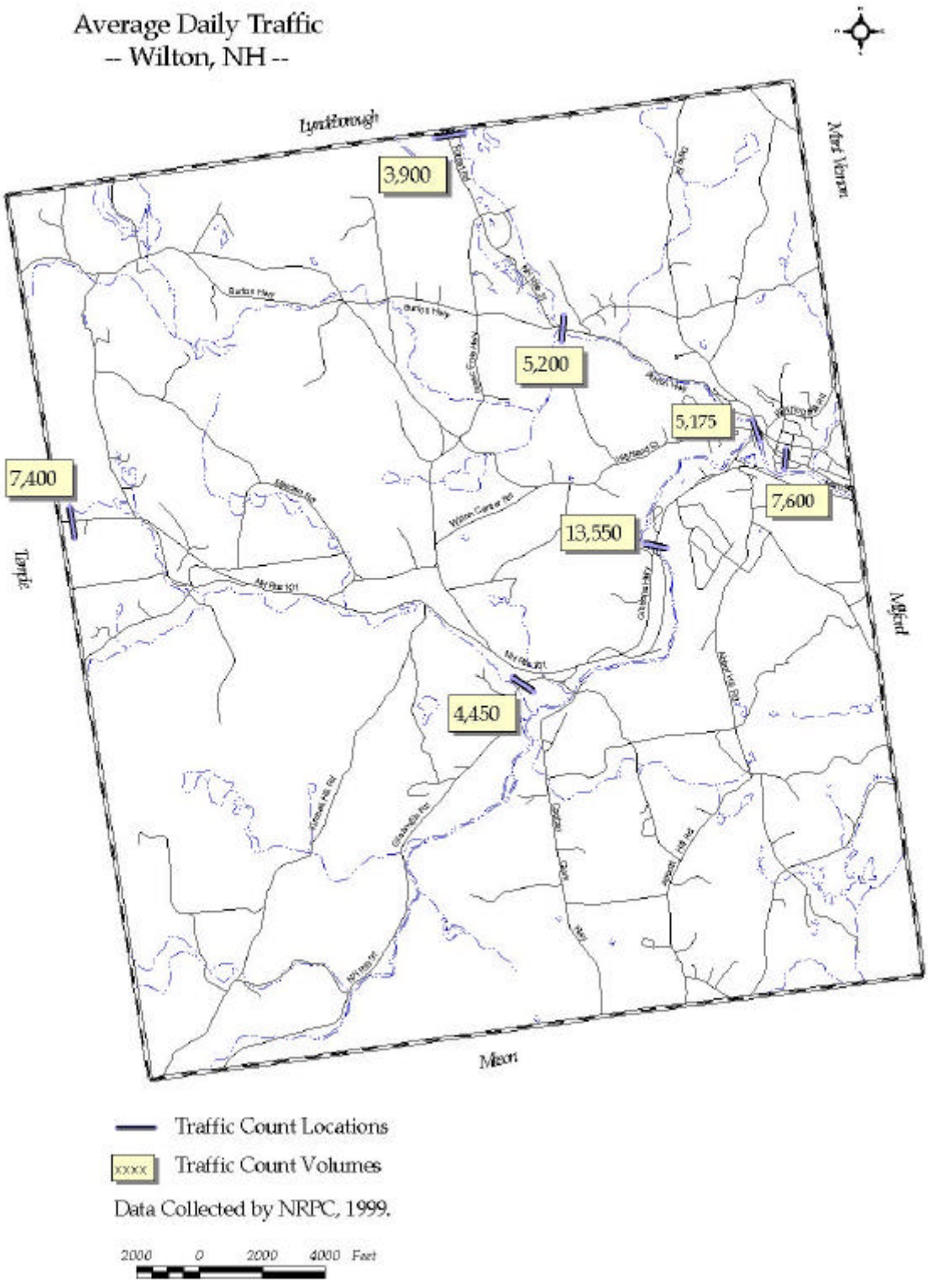

TABLE V-3
AVERAGE ANNUAL DAILY TRAFFIC (AADT) COUNTS IN WILTON

Street and Location	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*Annual Growth (Percent)*
NH 101 at the Souhegan River	na	na	13,300	13,750	13,500	13,550	0.62 %
NH 101 at Temple Town Line	na	7,350	na	na	7,800	7,400	0.17 %
Main Street East of Park Street	7,050	na	6,800	na	na	7,600	1.5 %
NH 31 East of Burton Highway	na	4,900	na	na	na	5,200	1.5 %
NH 31 South of NH 101	na	3,650	na	na	4,050	4,450	5.0 %
NH 31 South of Main Street	na	4,750	na	na	na	5,175	2.1 %
NH 31 at Greenville Town Line	na	3,600	na	na	3,900	na	4.0 %

Source: Nashua Regional Planning Commission, na= not available.

Highway Capacity Analysis

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

Level of Service (LOS) is a term which denotes the type of operating conditions which occur along a roadway or at a particular intersection for a given period of time, generally a one-hour peak period. It is a qualitative measure of the effect of a number of operational factors including roadway geometrics, travel delay, freedom to maneuver and safety. Level of service categories for roadway segments and descriptions are explained below.

Level of Service "A" represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.

Level of Service "B" is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is still relatively unaffected.

Level of Service "C" is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. Occasional backups occur behind turning vehicles.

Level of Service "D" represents high-density, but stable, flow. Speed and freedom to maneuver are restricted, and the driver experiences a below average level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

Level of Service "E" represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform level. Freedom to maneuver within the traffic stream is extremely difficult, and is generally accomplished by forcing other vehicles to give way. Congestion levels and delay are very high.

Level of Service "F" is representative of forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point, resulting in lengthy queues.

Table 4 indicates the relationship between traffic volumes and level of service for various roadway types. A volume to capacity ratio for the roadway segment is also calculated by dividing the two-way volume by the LOS "E" full capacity volume. Table 5 provides the average annual daily traffic (AADT) volumes for Wilton roadways, along with the Volume–to-Capacity (V/C) ratios and levels of service (LOS).

TABLE V-4
MAXIMUM DAILY TRAFFIC FOR EACH LEVEL OF SERVICE (LOS) BY ROADWAY TYPE (PER TWO-WAY SINGLE LANE VOLUME)

	LOS A	LOS B	LOS C	LOS D	LOS E
Expressway	10,000	19,000	27,000	32,000	38,000
At-grade Principal Arterial	4,200	7,500	12,000	18,000	28,000
Minor Arterial	4,000	7,000	11,500	17,000	26,500
Major Collector	3,600	6,300	10,400	15,300	23,800
Minor Collector	3,200	5,700	9,400	13,800	21,400
Local (Paved)	2,500	4,500	7,500	11,000	17,000

Source: Derived from procedures in the 1985 Highway Capacity Manual.

TABLE V-5
WILTON SELECTED LOCATIONS – AVERAGE ANNUAL DAILY TRAFFIC (AADT) AND LEVEL OF SERVICE (LOS)

Location	AADT	LOS
NH 101 at the Souhegan River	13,550	D
NH 101 at Temple Town Line	7,400	B
Main Street East of Park Street	7,600	B
NH 31 East of Burton Highway	5,200	B
NH 31 South of NH 101	4,450	B
NH 31 South of Main Street	5,175	B
NH 31 at Greenville Town Line	3,900	B

Source: Nashua Regional Planning Commission.

As shown in Table 5, the major roads in Wilton operate at level of service “B” conditions except for Route 101 at its location along the Souhegan River which operates at level of service “D”.

Accident Analysis

Accident rates can be measured for intersections based upon the total accidents generated per the number of vehicles present. The rate is calculated as the number of accidents per million entering vehicles (MEV) at an intersection. It is recognized that accidents involving personal injury are more symptomatic of serious hazards. Thus, an additional analysis is conducted that weights the personal injury (PI) accidents by a factor of three and adds the figure to the number of property damage-only (PD) accidents to produce a weighted figure known as the equivalent property damage-only (EPDO) accident total. EPDO rates for road segments and intersections are then calculated in the same manner as are the non-weighted accident rates.

Table 6 summarizes the accident analysis for the most recent three-year period for the highest accident generating intersections in Wilton. High accident rates can be an indication of poor horizontal and vertical alignment which causes insufficiencies in sight distances for vehicles entering and exiting the side streets.

TABLE V-6
ACCIDENT RATES AT WILTON INTERSECTIONS
(AVERAGE ANNUAL THREE YEAR ACCIDENT SUMMARY (1995-1997))

Intersection	Inter-section ADT	Total 3yr. Accidents	MEV/ Year	Accidents per Year					Acc./ MEV	EPDO/ MEV
				PD	PI	Total		EPDO		
NH 31, Forest / Main St. / Dale St.	9,000	4	3.29	1.3	0.0	1.3	=	1.3	0.41	0.41
NH 31, Greenville / NH 101	10,000	7	3.65	1.7	0.7	2.3	=	3.7	0.64	1.00
NH 101 / Abbott Hill Rd.	9,000	3	3.29	1.0	0.0	1.0	=	1.0	0.30	0.30

Source: New Hampshire Department of Transportation

Pavement Conditions

The pavement conditions of Wilton's roads are surveyed on a regular basis by the town's road agent. The road agent develops a budget for repairing and upgrading the roads based on the survey. The Town has recently resurfaced 2,500 feet of Lower Main Street from Prince Street to the Milford town line and reconstructed and resurface 3,800 feet of Wilton Center Road. Gravel roads are graded at least twice a year and culverts and catch basins are cleaned on a regular basis.

Commuting Patterns

Information on origin and destination patterns for travel to workplace is available from the U.S. Census. Although the 1990 US Census data is now nine years old and total commuter trips have likely risen or changed since that time (due to residential growth and changes in employment), this information represents the latest available data on destination patterns for travel to work. The 1990 US Census data is summarized in Table V-7.

TABLE V-7
COMMUTING PATTERNS FROM WILTON

Place of Work	1990 US Census Number of Wilton Commuters	Percentage
Wilton	363	23.3%
Milford	303	19 %
Nashua	251	16 %
Hudson	20	1.3 %
Merrimack	90	6 %
Manchester / Bedford	69	4.4 %
Peterborough	42	3 %
Massachusetts	154	10 %
Other New Hampshire	266	17 %
Total	1,558	100 %

Source: US Census Bureau

Overall, it is interesting to note that the largest percentage of commuters live and work in the Town of Wilton (23.3%) and that only 10% report that they commute to Massachusetts. The percentage of Wilton residents working in Milford is 19 percent, those in Nashua represent 16 percent, and workers commuting to Massachusetts represent 10 percent of the total. Wilton residents commuting to other destinations in New Hampshire represent 17 percent of the total.

Bridges

There are twenty bridges in Wilton that are regularly inspected by the NH Department of Transportation. Eleven bridges are owned by the Town of Wilton, with the remainder being owned by the State of New Hampshire. The New Hampshire department of Transportation lists eight bridges in Wilton on the "Municipal Red List". Bridges on the state's "Municipal Red List" are bridges requiring interim inspections due to known deficiencies, poor conditions, weight restrictions, or type of construction. Table 8 shows the status of all Wilton bridges.

TABLE V-8
BRIDGE CONDITION REPORT

Bridge	*Bridge Number*	*Owner*	*Status*	*Deficiencies*
NH 101 over Blood Brook	059115	State	Open no restrictions	
Keyes Road over Blood Brook	060 / 109	Town	Open, posting recommended but not in place	Structurally Deficient
Old County Farm Rd over Blood Brook	060 / 118	Town	Open, posting recommended but not in place	Structurally Deficient
West Wilton Road over Blood Brook	063 / 105	Town	Open weight restrictions posted	Structurally Deficient
King Brook Rd over King Brook	074 / 060	Town	Open no restrictions	
Burton Highway over Burton Pond Outlet	076 / 144	Town	Open weight restrictions posted	Structurally Deficient
NH 31 over the Souhegan River	077 / 052	State	Open no restrictions	
Frye Mill Rd over Burton Pond Outlet	080 / 145	Town	Open weight restrictions posted	Structurally Deficient
Burton Highway over Burton Pond Outlet	083 / 143	Town	Open weight restrictions posted	Structurally Deficient
Stage Coach Rd. over Burton Pond Outlet	086 / 142	Town	Open weight restrictions posted	Structurally Deficient
Russell Hill Rd over Blood Brook	092 / 104	Town	Open weight restrictions posted	Structurally Deficient
NH 31 over Stony Brook	094 / 162	State	Open no restrictions	
Isaac Frye Rd over Burton Pond Outlet	098 / 131	Town	Open no restrictions	
NH 31 over Blood Brook	102 / 095	State	Open no restrictions	Functionally Obsolete
NH 31 over Stony Brook	107 / 141	State	Open no restrictions	
Intervale Rd over the Souhegan River	110 / 096	State	Open no restrictions	
NH 101 over the Souhegan River	119 / 116	State	Open no restrictions	
Bypassed Historic over the Souhegan River	120 / 116	Town	Bridge Closed to all traffic	Structurally Deficient
NH 31 over the Souhegan River	129 / 126	State	Open no restrictions	
NH 31 over Stony Brook	132 / 127	State	Open no restrictions	Functionally Obsolete

Source: New Hampshire Department of Transportation

Although the NH DOT inspects all locally owned bridges as well as state bridges, the NHDOT can only recommend a load restriction posting on locally owned bridges. The municipality bears the responsibility for installing signs for the posting of load restrictions, in accordance with NH DOT recommendations. A "structurally deficient" bridge is one that no longer meets the current highway standards due to its age and deterioration. A "functionally obsolete" bridge is one that no longer meets the current standards for deck geometry, load carrying capacity, clearances, or approach roadway alignment due to the changing needs of the highway system. Although bridges are classified as "structurally deficient" or "functionally obsolete," they may not be in imminent failure condition and are allowed to carry traffic with load restrictions until corrective action is taken. At present, the

replacement of the Keyes Hill Road Bridge over Blood Brook is included on the NHDOT's list of projects authorized for construction. The project is municipally managed and includes 80 percent state funding.

Rail Line

The Hillsboro Branch railroad line that runs between Nashua and Wilton is currently an active line owned by Guilford Transportation Inc. There is a Trackage Rights Agreement between the B&M Corporation and the Milford-Bennington Railroad that will allow the Milford-Bennington Railroad the right to utilize the track from Wilton to the Granite State Concrete's processing plant in Milford.

FUTURE CONDITIONS

Analysis Methodology

Future traffic volumes were projected to the year 2020, utilizing the NRPC regional traffic model and incorporating forecasts made by the NRPC, in conjunction with local planners, regarding land use growth within the study area. The traffic model converts land use inputs, specifically the number of housing units, employment and school enrollment, into vehicle trips based on pre-determined trip generation equations. The equations were developed based upon a regional home-interview survey that produced specific trip generation data for this region. The trips were then distributed throughout the regional study area and beyond utilizing a "gravity" dispersal model. Each municipality is divided into a number of subareas known as traffic analysis zones (TAZ). All land use data are entered and vehicle trips are produced at the TAZ level. Figure 3 shows the Wilton TAZ boundaries.

Developable Land

An estimate of remaining developable land in Wilton was derived by the NRPC through an analysis of development constraints utilizing the NRPC Traffic Model. These constraints are general landscape conditions that may pose a barrier to using land for residential, commercial or industrial development. The restricting factors for future development include wetlands and steep slopes.

Table V-9 provides a summary of the remaining developable land within each Wilton Traffic Analysis Zone (TAZ) by type of zoning. Approximately 4,700 acres are available for residential and agricultural development, 10 acres for commercial development, and 211 for industrial development. There are approximately 43 acres available for office park district development within TAZ 304.

FIGURE V-3

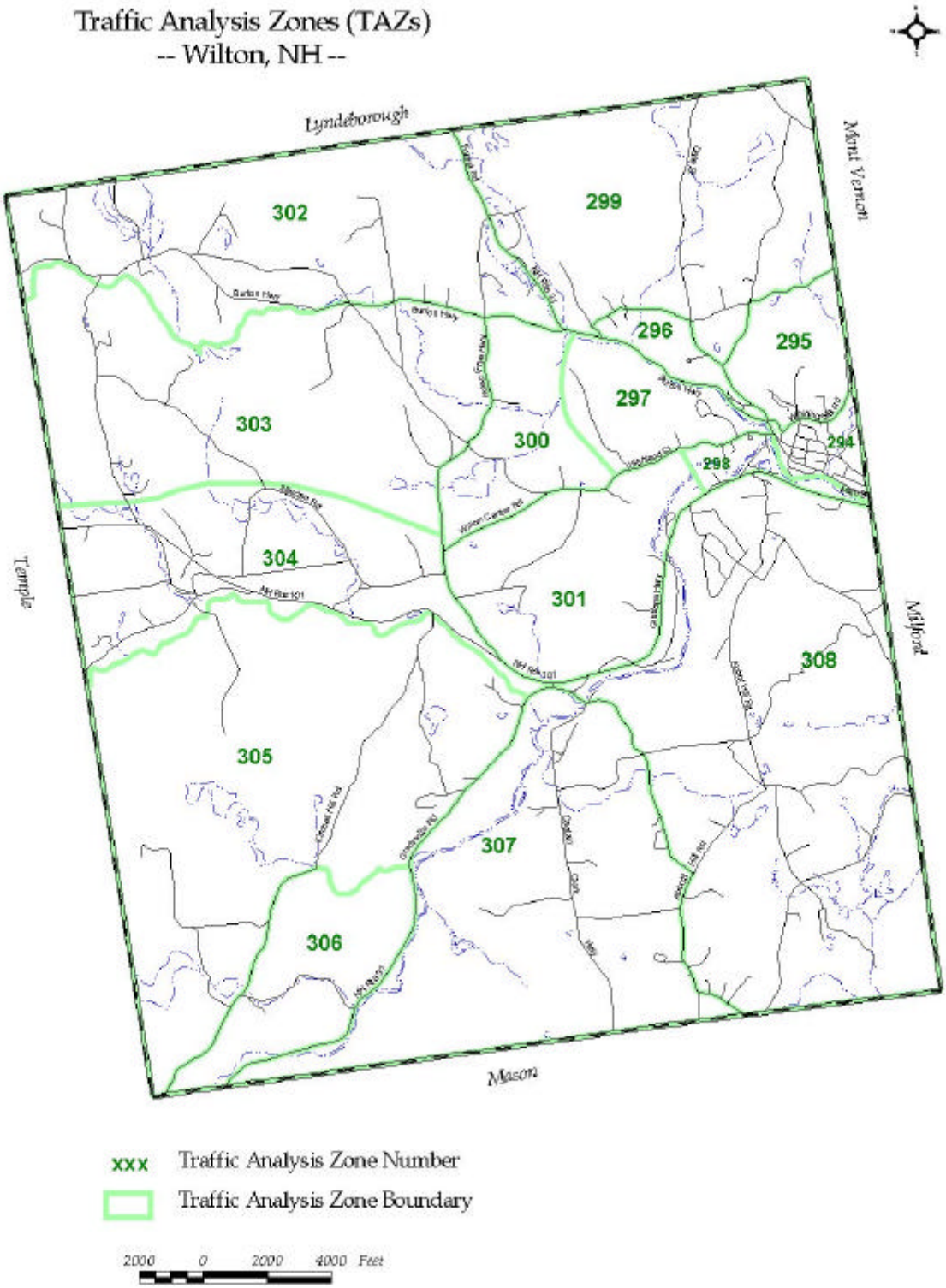
Traffic Analysis Zones (TAZs)
-- Wilton, NH --
Lyndeborough
Mont Vernon
Temple
Milford
Mason
302
299
296
295
297
303
300
294
298
304
301
308
305
307
306
xxx Traffic Analysis Zone Number
Traffic Analysis Zone Boundary
2000 0 2000 4000 Feet

TABLE V-9
REMAINING DEVELOPABLE AREA BY TRAFFIC ANALYSIS ZONE (TAZ)

TAZ #	Total Area	Developable Land (Acres) Zone IND	OPD	COMM	R&A	RD
294	126.7	0.0	0.0	0.0	10.6	0.0
295	309.4	0.0	0.0	0.0	118.4	0.0
296	133.1	0.0	0.0	0.0	18.6	0.0
297	361.1	1.8	0.0	0.1	59.2	4.5
298	105.0	2.7	0.0	0.0	0.0	7.9
299	1,576.1	9.4	0.0	0.0	482.0	0.0
300	462.5	0.0	0.0	0.0	128.8	0.0
301	821.6	80.1	0.0	0.0	229.1	5.7
302	1,593.8	0.0	0.0	0.0	289.5.	0.0
303	1.883.4	0.0	0.0	0.0	653.5	0.0
304	1,131.4	6.3	42.8	5.9	303.3	2.3
305	2,601.0	55.2	0.0	0.5	847.2	0.0
306	576.7	0.0	0.0	0.0	188.9	0.0
307	1,943.5	48.5	0.0	0.0	518.0	0.0
308	2,820.6	7.6	0.0	3.9	855.1	17.6
	16,446.8	211.5	42.8	10.4	4,702.1	38.0

IND= Industrial
OPD= Office Park District
COMM= Commercial
R&A= Residential & Agricultural
RD= Residential

Source: Nashua Regional Planning Commission

*Please Note: The technique utilized to derive the figures in this table does not include a detailed overlay zoning process.

Projected 2020 Land Use

Table V-10 presents the projected growth in land use inputs now being used for developing future traffic estimates. These projections were developed based upon the constraints analysis shown in the previous table, long-term trends in housing development patterns and likely commercial/industrial development types for the remaining available areas. Consideration should be given to the fact that the regional economy is constantly changing and future trends will significantly impact the projected totals. Also, changes in zoning or variances granted could result in changes to the market forecasts.

A total of 273 additional housing units are estimated for Wilton by the year 2020, representing a 20 percent increase from the 1996 total. Trade employment is estimated to grow to 314 by 2020 and non-trade employment is projected to increase to 1,892.

TABLE V-10
2020 ESTIMATED HOUSING UNITS AND EMPLOYMENT
BY TRAFFIC ANALYSIS ZONE

	Housing Units			Trade Employment			Non-Trade Employment		
TAZ	1996	2020	Percent Change	1996	2020	Percent Change	1996	2020	Percent Change
294	167	167	0%	132	148	12%	349	439	26%
295	71	74	4%	0	0	0%	2	3	50%
296	107	127	19%	26	29	12%	18	23	28%
297	43	53	23%	8	9	12%	70	88	26%
298	59	59	0%	0	0	0%	232	292	26%
299	82	92	12%	18	20	11%	422	531	26%
300	26	26	0%	0	0	0%	0	0	0%
301	73	89	22%	15	17	13%	0	200	--
302	91	124	36%	7	8	14%	10	13	30%
303	61	64	5%	0	0	0%	34	43	26%
304	81	120	48%	33	37	12%	96	121	26%
305	35	42	20%	5	6	20%	54	68	26%
306	5	5	0%	0	0	0%	0	0	0%
307	88	121	38%	9	10	11%	8	10	25%
308	345	444	29%	27	30	11%	51	64	25%
	1,334	***1,607***	***20%***	***280***	***314***	***12%***	***1,346***	***1,892***	***41%***

Notes:
Assumes TAZ 301 industrial development 100 acres in 5 years, 200 non-trade employees
Baseline growth assumed at 0.5% per year for trade business, 1.0%per year for non-trade.
Source: Nashua Regional Planning Commission.

The NRPC regional traffic model was run with the 2020 regional land use forecasts producing weekday traffic forecasts for Wilton as shown in Table V-11. A 31 percent increase in traffic is expected along NH 101 east of Abbott Hill Road resulting in LOS "E" conditions. An increase in traffic on NH 101 at the Temple town line is also expected. The future traffic on this section of NH 101 is expected to increase 36.5 percent from 8,500 vehicles per day in 1998 to 11,600 vehicles per day in 2020 which will result in LOS "C" conditions in 2020. Main Street is expected to experience a 20 percent increase in traffic from 8,450 vehicles per day to 10,100 vehicles per day

TABLE V-11
FORECASTED 2020 WEEKDAY TRAFFIC COUNTS AND ROADWAY LEVEL OF SERVICE

Highway	LOCATION	1998 Weekday Traffic	2020 Weekday Traffic	Percent Change	Vol/ Cap.	LOS
NH 101	East of Abbott Hill Rd	15,000	19,700	31.0%	0.68	E
NH 101	at Temple Town Line	8,500	11,600	36.5%	0.42	C
Main St	East of Park St	8,450	10,100	20.0%	0.43	D

Source: Nashua Regional Planning Commission.

OTHER TRANSPORTATION-ISSUES

NRPC Regional Transportation Plan and Transportation Improvement Program

The NRPC Transportation Plan serves as the short and long-range transportation planning document for the NRPC region. It is intended to guide the development of the area's transportation system for a 20-year period. The Plan contains the region's adopted policies, goals and initiatives regarding the transportation system and is written in compliance with the newly adopted Transportation Equity Act for the 21st Century (TEA21) and the Clean Air Act Amendments (CAAA). Central to the Plan are the project-specific recommendations including the Fiscal Year 1999-2001 Transportation Improvement Program (TIP) and the long range project recommendations for the years 2002 –2020.

The following are the goals for the development of a long-range transportation system plan for the NRPC area. These goals incorporate the interests of the region's local communities with those of the State of New Hampshire and the U.S. Department of Transportation.

Transportation Planning Process Goals

Ensure that decisions regarding transportation improvements are based on technical expertise, community goals and objectives and sound planning principles.

Work toward coordination with federal and state agencies and local officials in the development of transportation plans and programs.

Provide the general public with an opportunity to provide comments and make recommendations for transportation plans and programs.

Highway System Goals

Provide for the proper maintenance of existing streets and highways by encouraging the adoption of pavement management systems by local communities.

Establish a functional street and highway classification system that provides for an orderly flow of traffic between areas and a hierarchy for receiving federal highway funds.

Identify low cost transportation systems management actions that facilitate the flow of traffic.

Identify the long-range need for corridor widening along regional arterials and develop improvement plans.

Identify the need for the construction of new highway corridors and produce forecasts of the traffic demand for these facilities and the resulting relief along congested existing facilities.

Transit System Goals

Within the financial constraints that are established by the allocated level of federal funding to the Nashua urbanized area for public transportation and the level of municipal funds that are deemed appropriate for this purpose by the citizens of Nashua, the City shall endeavor to operate a public transportation system for the following purposes:

- To provide a system of fixed-route public transportation, within City and Federal budgetary constraints, that seeks to maximize ridership, thereby resulting in the most cost-effective service possible.

- To provide demand-responsive transportation to "certified disabled persons" within the "complementary paratransit service area", as such terms are defined by the Americans with Disabilities Act.

Expand regular route transit services beyond Nashua's boundaries and link public transit with other present and future transportation modes.

The NRPC updates the Long-Range Transportation Plan and Transportation Improvement Program (TIP) every two years in conjunction with the State of New Hampshire 10-Year Transportation Improvement Program process. The TIP contains a priority list of transportation projects along with financial information for a ten-year period for the Nashua Regional Planning Commission (NRPC) region. It is prepared in accordance with regulations issued by the United States Department of Transportation, Federal Highway Administration and Federal Transit Administration. Projects are broken out for each of the first three years for inclusion in the State TIP (STIP). A prioritized project list with financial information for an additional seven-year period is also provided. The TIP includes only those projects recommended in the NRPC Long-Range Regional Transportation Plan.

The TIP projects are submitted by municipalities every other year to the Nashua Regional Planning Commission (NRPC), which is the Metropolitan Planning Organization (MPO) for the region. The TIP is reviewed and endorsed every two years and incorporated into a State TIP in October of even-numbered years.

Currently, the State 10-Year TIP (STIP) is in draft form and includes a project along NH 101 from Amherst to Bedford. It is specifically referred to as "Amherst – Bedford NH 101 Safety Improvements at Various Locations ($3,000,000). The Town is soliciting support from NHDOT to have the section of NH 101, specifically including the Abbott Hill Road intersection, added to the STIP.

Funding Roadway Improvements

The Inter-modal Surface Transportation Efficiency Act of 1991 (ISTEA), replaced federal funding programs that date back to the Federal Interstate System of Highways under President Eisenhower. ISTEA created two road systems; the National Highway System (NHS), and the Interstate System (which is a component of the NHS.) The NHS is intended to provide for interstate and inter-regional travel and to meet national defense requirements.

In addition to the NHS funding program, a new block grant type funding program called the Surface Transportation Program (STP), is available for all roads (including NHS roads) not functionally classified as a local road or rural minor collector. Presently, STP funds are available for use on all roads except those functionally classified as local or rural minor collectors. In Wilton, Route 101 is the only highway designated as part of the National Highway System and NH 31 is classified as a major rural collector and is eligible for funding under the STP category.

ISTEA also created the Congestion Mitigation and Air Quality Improvement Program (CMAQ) to help states implement their air quality plans and attain the national standards for carbon monoxide, ozone, and particulate matter. CMAQ funding is focused on air quality improvements and provides funds that expand or initiate transportation services or policies with air quality benefits. In addition, the Transportation Enhancements Program (TE) provides funding for a variety of transportation related projects such as pedestrian and bicycle facilities, preservation of abandoned railway corridors, and rehabilitation of historic transportation facilities.

The major source of funding for the maintenance of local or rural minor collector roads comes from the Town of Wilton and the New Hampshire state block grant for roads. The Class V (local or rural minor collector roads) mileage in Wilton totals 97.43 miles of roads.

Wilton Main Street Program

In 1998, Wilton was selected as a national Main Street community. The Wilton Main Street Association is planning activities that draw additional pedestrian traffic to the downtown district which is a traditional small downtown area with one block long structures and storefronts that are directly abutting the street. It is a compact district and is heavily traveled since it is the hub of several through-roads leading to rural communities north and south of Wilton. Also, the confluence of Stoney Brook and the Souhegan River occurs directly behind the stores. The downtown is within easy walking distance for a large percentage of the town's population.

The current district is in great need of unified pedestrian-friendly improvements. Traffic calming features and other proposed improvements will greatly add to the safety of the pedestrians. The Town of Wilton, as part of the 1999-2000 Transportation Enhancement (TE) funding round submitted an application for approximately $1,000,000 in improvements to the downtown area including traffic calming features that will greatly add to the safety of the pedestrians. Phase I includes improvements to sidewalks and cross-walks, development of two downtown spaces into public gathering spaces, improvements to lighting design and fixtures, improvements to landscaping, and access to a future riverwalk.

Access Management

Access Management is the process of managing the placement of driveways on roadways, especially on those roadways classified as arterials. Arterial highways are similar to limited access freeways in that their primary function is to move people and goods over long distances quickly and efficiently. However, arterials do not have the benefit of strict access controls to adjacent parcels as do limited access highways. The speed and volume of traffic on an arterial is greatly reduced due to vehicles entering and exiting side streets and driveways. In general, access management policies involve the regulation of the number of driveways, the design and placement of driveways, and the design of any roadway improvements needed to accommodate driveway traffic. The primary goal of implementing access management policies is to prevent the loss of roadway capacity due to development along arterials by reducing turning movements that conflict with through traffic.

Of primary concern to Wilton, NH 101 is an important arterial and traffic congestion is characterized as level of service "D". In order to preserve the existing roadway capacity, access management policies should be applied to future developments along NH 101. Specifically, the Town should develop a formal "Memorandum of Understanding" with the New Hampshire Department of Transportation regarding any permitting of curb cuts along state highways. The memorandum should require applicants to include access management practices in the site development plans for adjacent land along NH 101 and other state highways in the Town prior to the issuance of curb cut permits.

The following general policies can be implemented throughout Wilton through zoning ordinances and the subdivision and/or site plan regulation review process, and driveway permitting processes in order to achieve access management goals:

- The safest possible location for access shall be selected (NH RSA 236:13).

- There must be adequate drainage and grades to permit a safe and controlled approach to the highway in all seasons of the year (NH RSA 236:13).

- For all access points, the following AASHTO standards should be applied:

Type of Road	***Speed Limit, or if None, Typical Speed***	***Minimal Safe Sight Distance***
(a) minor roads	30 mph or lower	200 feet
(b) through roads	31 - 40 mph	275 feet
(c) through roads	41 - 50 mph	400 feet
(d) major roads	50 - 60 mph	525 feet

- Reduce the number of curb cuts along arterials and encourage the use of common driveways for commercial developments.

- Encourage the development of service roads parallel to arterials that allow for access to adjacent commercial developments.

- The minimum distance allowed between curb cuts along arterials should conform to the following table:

Posted Speed Limit	***Minimum Spacing***
35 MPH	150 feet
40 MPH	185 feet
45 MPH	230 feet
50 MPH	275 feet

Source: "Access Management for Streets and Roads", FHWA, 1982.

- Require developers to fund road improvements that reduce the impedance of through traffic such as right turn lanes, left turn pocket lanes, and bypass lanes for left turning vehicles.

- Set buildings, parking, and signs back a sufficient distance from the road to allow for a future parallel access road and to reduce road side distractions and obstacles.

- Place parking behind or beside buildings and screen parking when possible to make the building the focal point of the destination. Use green spaces to articulate the differences between driveways, parking, and pedestrian areas.

- Encourage easements between parcels for the interconnection of non-residential sites that allows employees and customers to move from site to site without repeatedly entering and exiting the arterial.
- Allow for pedestrian access between commercial developments. Crossing points for pedestrians should be across driveways rather than through parking areas. Vehicular and pedestrian traffic should be separated as much as possible. Foot traffic should be permitted to access buildings without crossing driveways or excessive parking areas.

- Driveways and tapers should be long enough to permit deceleration of entering vehicles.

- Non-residential driveway entrances should be designed to prevent vehicles on the arterial from stacking up while waiting to access the site. By providing adequate depth or driveway length at the curb cut access, vehicles are allowed sufficient maneuvering space on site to move away from the entrance and allow other vehicles to efficiently and safely enter or exit the site.

The Town should consider developing a formal "Memorandum of Understanding" with the New Hampshire Department of Transportation regarding any permitting of curb cuts along state highways. The memorandum should require applicants to include access management practices in the site development plans for adjacent land along NH 101 and other state highways in the Town prior to the issuance of curb cut permits.

Right-of-Way and Travelway Width

A right-of-way (ROW) width of 50 feet (minimum) is recommended for all local roads in town, with the exception of private ways and drives. This will allow the upgrading of any roadway, if necessary, should development occur in a manner that was not anticipated. It will also allow for the inclusion of pedestrian and bicycle paths, where desired. A greater width may be required for arterial and collector streets.

Travelway width may vary depending on the type of roadway and the nature of the traffic. A minimum single lane width of nine feet is recommended for each direction of traffic traveling at slow speeds. Higher speeds or traffic volumes will require a wider lane width for each lane of traffic. Generally, the centerline of the travelway should coincide with the centerline of the ROW. The fifty-foot minimum ROW, however, not only allows upgrading of the roadway as stated earlier, but also allows for the diversion of the roadway to avoid difficult or sensitive natural formations during the course of construction.

The NH Department of Transportation distributes suggested guidelines for the minimum geometric and structural lay out of local roads and streets. These standards can be used as a guide in street design.

Development Impacts On Roadways

Communities face the problem of having to upgrade the local road network as new development occurs. To the extent that new development projects create a need for improvements, developers should be required to pay their portion of the cost to implement these improvements. The amount of developer contributions should bear a rational connection to the needs created by and the benefits conferred upon the subdivision. Wilton may want to consider the implementation of a Road Impact Fee System.

Cul-De-Sacs

Cul-De-Sacs can be an integral part of an efficient road network if properly designed. If improperly designed, cul-de-sacs can lead to an inefficient road system and level of service problems on collector roads. One of the many issues raised when reviewing plans with cul-de-sacs is whether the road should extend to the property boundary. The Planning Board should encourage cul-de-sacs to the property edge to have less curb cuts off of major routes or where a future possible connection may be appropriate for establishing an efficient road network in Town. The Planning Board should discourage cul-de-sacs to the property boundary in the following situations:

- Where the cul-de-sac would be between two zones. For example, a through road leading from a residential zone to a commercial zone may not be appropriate. A through road may encourage

truck traffic and patrons to drive through a residential neighborhood to get to the commercial area.

- Where extending it would produce a dangerous intersection.
- Where it is coming off of an existing cul-de-sac. This may produce long cul-de-sacs, when an option of building a proper road network exists.
- Where an extension of the cul-de-sac to abutting property would not be feasible due to steep slopes, major wetland areas or other natural features of the land.
- Where an extension would lead to property, which would be better serviced from another road.

(Source of above information: Nashua Regional Planning Commission.)

NH 101 CORRIDOR STUDY

NH 101 in Wilton has been included in a recent corridor wide study conducted jointly by the Nashua Regional Planning Commission and the Southwest Regional Planning Commission. The extent of the study includes NH 101 from the NH 101 bypass / NH 101A intersection in Milford westward to Keene. The study's purpose was threefold:

- To develop a schedule of local capacity and safety improvements on NH 101.
- To develop local land use and economic development approaches consistent with the protection of highway capacity and safety in the NH 101 corridor.
- To institutionalize a comprehensive strategy shared by local and state decision makers for the development and use of NH 101. The strategy will treat NH 101 as a unified public resource.

The NH 101 study includes traffic and roadway elements, environmental factors and concerns, demographics and economics, and future development and traffic forecasting. An advisory committee made up of officials and citizens from the seven affected towns was appointed to oversee the study. Public workshops were held in each of the communities to allow input from the townspeople.

There are two major recommendations for NH 101 in Wilton resulting from the study:

1. The Town should institute Access Management Techniques to increase safety and preserve capacity along NH 101 in Wilton. A "Memorandum of Understanding" outlining the desired Access Management techniques to be used should be drawn up between the Town and the NHDOT to communicate and coordinate the town's implementation strategies with the NHDOT's curb cut permitting process.

2. Significant improvements should be made to the intersection of Abbott Hill Road and NH 101 to increase safety and eliminate stopping sight deficiencies. Improvements to the vertical and horizontal alignment of the intersection are needed. The possibility of re-aligning Abbott Hill Road to the east to meet up with the intersection of NH 31 / NH 101 to create a new four way intersection should be explored by the NHDOT. NRPC staff feels that improvements to the vertical and horizontal alignment of the approaches to the intersection are necessary to lengthen stopping sight distances and increase

safety. These improvements include the removal of ledge from the western shoulder of Abbot Hill Road."

As previously discussed in this chapter, the Town of Wilton is actively pursuing the addition of the section of NH 101 through Wilton, including the Abbott Hill Road intersection, to the State of New Hampshire 10-Year Plan. It is considered a significant priority to the community.

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