

# TRAFFIC AND TRANSPORTATION

## INTRODUCTION

The state statute that deals with Master Plans, RSA 674:2, VI, calls for a transportation section that shows “. . . *the location and types of facilities for all modes of transportation required for the efficient movement of people and goods into, about, and through the community.*” Good transportation planning is important because of its capital-intensive nature: streets and highways typically represent the most significant public investment in a town’s infrastructure. Outside of school taxes, the highway budget is usually the largest percentage of a town’s operating costs.

The primary goal of this section, then, is to identify current issues and/or needs crucial to orderly development and the safe and efficient movement of traffic. A corollary purpose is to assist the Town of Jaffrey in fully participating in all levels of transportation planning. Transportation infrastructure is heavily dependent on public funds, and the NH Department of Transportation (DOT) sets the priorities for spending through the development of a statewide Transportation Plan and Transportation Improvement Program. Both of these are required under federal legislation that prescribes the disbursements to states; in order for New Hampshire to qualify for its full allocation of funds, the NH DOT must comply with federal planning requirements.

To accomplish this task, the NH DOT requires each of the nine regional planning commissions in the state to develop a regional transportation plan that describes existing state road conditions within its region, identifies problems and concerns, declares goals and objectives for the regional network, and makes specific recommendations for improvements or new construction. Any local concerns relative to state-maintained roads must be addressed through the Regional Transportation Plan in order to be included in the State Plan. This section, therefore, takes the regional issues into account in the process of developing local goals for a safe and efficient transportation network.

## ROAD CLASSIFICATIONS

### STATE CLASSIFICATIONS

Public roads are defined by DOT by the type of service they provide and/or by the funding that is available to build, maintain, and repair them. New Hampshire statute RSA 229:5 specifies the following roads within the state system:

- Class I: Trunk Line Highways. These belong to the primary state highway system, and the state assumes full control and responsibility for construction and maintenance.
- Class II: State Aid Highways. These belong to the secondary state highway system. The DOT assumes full control and responsibility for construction and maintenance.
- Class III: Recreational Roads. These consist of all roads leading to and within state reservations designated by the NH Legislature. The DOT assumes full control and responsibility for construction and maintenance.

- Class III-a: Boating Access Roads. These consist of roads that lead to public waters from any existing highway. The DOT assumes full control and responsibility for these roads.
- Class IV: Town and City Streets. These consist of all sections of road that fall within urban compact areas of towns and cities with populations greater than 7,500. The municipality assumes full control and responsibility for construction and maintenance.
- Class V: Rural Highways. These consist of all other maintained roads that are not in the state system. They are town-owned and maintained.
- Class VI: Unmaintained Highways. These are all other existing public roads that are not maintained by the town and have not been for at least five years. The road may be closed subject to gates and bars, but it continues as a public roadway.<sup>1</sup>

Of these seven state road classifications, Jaffrey roads fall into five, as follows: Route 202 is the only Class I highway; Route 124, Route 137, Frost Pond Road, and Dublin Road are Class II state highways; Poole Road is a Class III Recreation Road; all other roads in town are Class V and Class VI town roads. These are illustrated on the accompanying map, and the number of miles comprised by each classification is described in Table #1 below.

**TABLE 1. ROAD MILEAGE BY STATE CLASSIFICATION**

Road Classification	Mileage
Class I	4.643
Class II	16.318
Class III	0.793
Class IV	0.000
Class V	60.652
Class VI	10.519
<b>Total Mileage:</b>	<b>92.925</b>

Source: NH DOT

## FUNCTIONAL CLASSIFICATION

A functional classification system identifies roads by the type of service provided and by the role of each highway within the state system, based on standards developed by the US DOT. The purpose of using such a system is to correlate the land planning and traffic planning functions of the Master Plan. Recognition of the principal function that any road is intended to serve can reduce potential conflicts between land use activities and traffic movements. For rural areas such as Jaffrey, the following categories are identified by the US DOT:

### Other Principal Arterial/Controlled Access.

<sup>1</sup> The Class VI designation is frequently applied to roads that have been abandoned or discontinued, which often leads to confusion as to the ownership of the road. If a vote was taken at Town Meeting to formally discontinue a road (or “throw it up”), that road is no longer public – it then belongs to the abutting landowners. If it is closed subject to gates and bars, it means that the landowner may enclose premises (historically this was done to contain cattle), but may not lock out the public, who still has the right to pass.

These consist of Interstates and some primary state routes. They are designed to move large volumes of truck and car traffic through and between population centers without disturbing local traffic and land uses. Controlled Access is a means of minimizing the number of curb cuts, thereby controlling the amount of turning movements along the roadway.

**There are no Principal Arterials located in Jaffrey or in the Southwest Region.**

#### **Arterial System – Major and Minor.**

These are the streets and highways that connect communities and regions. They are designed to move large volumes of traffic to and from large traffic generators without disturbing local traffic and land uses. Minor arterials distribute traffic to smaller geographic areas, and place more emphasis on providing land access than the major arterials.

**There are no arterial highways in Jaffrey. Routes 12 (south of Keene), 101 and 9 are the only rural arterials in the Southwest Region.**

#### **Collector System – Major and Minor.**

Major Collectors are designed to move medium traffic volumes at low speeds between or within communities. They differ from the Arterial system in that collector streets go through residential neighborhoods, distributing traffic from the arterials through the area to its ultimate destination. Minor Collectors provide alternate routes to Major Collectors.

**In Jaffrey, Route 202 is a major collector and Routes 124 and 137 are minor collectors.**

#### **The Local Street System.**

This consists of all streets not classified in one of the other higher systems. Its primary function is to provide direct access to abutting properties and to other roads and highways. It offers the lowest level of mobility.

#### **SCENIC ROADS**

In addition to the state and federal classifications, RSA 231:157 allows towns, by a vote at Town Meeting, to designate any road other than a Class I or II highway as a Scenic Road. The effect of this designation is that, except in emergency situations, there shall be no tree cutting or alteration of stone walls within the right-of-way without approval of the Planning Board, after a duly-noticed public hearing. The law does not affect the rights of individual property owners; nor does it affect land uses as permitted by local zoning. The statute also authorizes towns to adopt provisions dealing with Scenic Roads that are different from, or in addition to, those that are spelled out in the law. One road has been approved as a scenic road by a vote of the Town, Thorndike Pond Road from Gilson Road to the Dublin town line; this road was formerly known as Slade Road.

## **TRAFFIC PATTERNS**

### **TRAFFIC COUNTS**

Information on traffic volume is collected by the NH DOT through the placement of traffic counting devices at various locations around the state. Some of these are permanently installed under the roadway and provide figures based on a full year count, while others are set out on a rotating basis for varying lengths of time – generally during the months of May to October for a seven-day period. Permanent counters are used only on state roads, while the temporary counters are used on both state and local roads. Table #2 presents average daily trips (AADT) counts for traffic at 18 locations in Jaffrey. Table #3 presents weekday, Saturday, Sunday and 7-day AADT counts for 15 locations in Jaffrey.

TABLE #2. AVERAGED ANNUAL DAILY TRAFFIC COUNTS, 1997-2005

Location	Functional Classification	Annual Average Daily Traffic (AADT)								
		1997	1998	1999	2000	2001	2002	2003	2004	2005*
NH 124 WEST OF HIGHLAND AVE	Minor Arterial (Rural)		4,700			5,400			4,800	
NH 124 WEST OF SLAB CITY ROAD	Minor Arterial (Rural)		3,600							
NH 124 AT TROY TL	Minor Arterial (Rural)	1,800		1,700		1,800			1,900	1,913
NH 137 AT DUBLIN TL	Minor Arterial (Rural)	900			1,200			1,100		1,178
US 202 AT PETERBOROUGH TL	Major Arterial (Rural)									7,793
NH 124 AT SHARON TL	Minor Arterial (Rural)	2,400		2,600		3,100			3,500	3,245
FROST POND RD AT TROY TL	Local Street		620							
US 202 & NH 124 EAST OF NH 137	Major Arterial (Urban)		12,000			12,000			13,000	12,440
PRESCOTT RD AT MILL POND OUTLETT	Local Street	1,600			1,900			2,200		
DUBLIN RD NORTH OF NH 124	Minor Collector						370		1,100	
NH 124 EAST OF DUBLIN RD	Minor Arterial (Urban)		2,800			3,100			3,600	
OLD FITZWILLIAM RD WEST OF FITZWILLIAM RD	Local Street	130								
SQUANTAM RD EAST OF STRATTON RD AT SILVER BRANCH	Minor Collector		1,600							
ANNETT RD EAST OF SQUANTAM RD	Local Street		1,100							
GILMORE POND RD OVER MOUNTAIN BROOK OLD PETERBORO RD	Local Street	670			760				650	
(NUTTING RD) OVER CONTOOCCOOK RIVER	Minor Collector	2,100			1,800				2,100	
FITCH RD OVER CONTOOCCOOK RIVER	Local Street	240			350				250	
HADLEY RD OVER CONTOOCCOOK RIVER	Local Street	40	N/A	N/A	50	N/A	N/A	N/A	150	

Source: NHDOT – AADT counts 1997-2004

\* 2005 counts that have not yet been reviewed by the DOT

**TABLE 3:  
2005 TRAFFIC VOLUMES  
WEEKDAY, SATURDAY, SUNDAY AND 7-DAY (AADT)**

<b>Counter</b>	<b>Location</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>	<b>7-Day- AADT</b>
1	137 at Dublin Town Line	1,249	1,159	917	1,178
2	Dublin Road at Dublin Town Line	228	555	245	285
3	124 at Troy Town Line	2,015	2,062	1,357	1,913
4	124 East of Troy Road	2,559	2,141	1,996	2,419
5	124 East of Sawtelle Road	4,472	5,395	3,351	4,439
6	202 at Rindge Town Line	8,973	8,852	7,119	8,644
7	124 at Sharon Town Line	3,443	3,259	2,435	3,245
8	202 at Peterborough Town Line	6,847	6,918	5,253	7,793
9	202 South of Hillcrest	8,419	7,692	5,236	7,767
10	137 North of 124	2,431	2,142	1,574	2,240
11	202 South of 124	8,917	8,990	7,076	8,622
12	202/124 East of 202/137	13,251	12,245	9,388	12,440
13	202 North of 124	10,531	10,504	7,554	10,030
14	Stratton Road S of 124	3,837	3,431	2,722	3,583
15	124 East of Stratton Road	4,035	3,189	2,546	3,646

Recent population increases in the southwest region of New Hampshire have resulted in increased demand on state highways and local streets. As shown in Table #2, roads and intersections with the greatest traffic increases between 1997 and 2005 include: NH 124 at the Sharon town line, Scott Road at the Mill Pond outlet, NH 124 east of Dublin Road, and Hadley Road over the Contoocook River. Roads with the highest 7-day traffic volumes in 2005, as shown in Table #3, include: US 202/NH 124 east of US 202/NH 137, US 202 north of NH 124, US 202 at the Rindge town line, and US 202 south of NH 124.

#### **COMMUTING PATTERNS**

The US Census collects information on commuting patterns of the labor force – that is, where people go to work from their town, and where people come from to work in a particular town. According to these 2000 Census figures, Jaffrey has an estimated 2,805 workers; of these, 1,590 (56.7%) commute out of town to work. The number of all people who work in Jaffrey, regardless of residence, is estimated to be 2,742; of these, 1,527 (55.7%) commute into Jaffrey from somewhere else. The following table illustrates where Jaffrey residents go to work, and where nonresidents working in Jaffrey come from.

TABLE 4. COMMUTING PATTERNS

Table: Commuting Characteristics 2000

	Jaffrey	Dublin	Peterborough	Sharon	Marlborough	Rindge	Fitzwilliam	Troy
<b>Commuting Out (2000)</b>								
Residents working	2805	730	2767	202	1,113	2459	1184	1071
Residents commuting - out of Town / County	1590	508	1239	179	902	1629	992	887
Commuting rate - out	56.7%	69.6%	44.8%	88.6%	81.0%	66.3%	83.8%	82.8%
Most common commute to:	Keene	Peterborough	Keene	Peterborough	Keene	Jaffrey	Keene	Keene
No. of Commuters	349	131	118	48	604	350	336	433
2nd most common commute to:	Peterborough	Keene	Nashua	Jaffrey	Swanzy	Keene	Rindge	Jaffrey
No. of Commuters	305	120	107	13	60	156	96	87
3rd most common Commute to:	Rindge	Rindge	Manchester	Keene	Jaffrey	Peterborough	Jaffrey	Swanzy
No. of Commuters	183	20	102	12	42	153	89	61
<b>Commuting In (2000)</b>								
Total Working in Town / County	2742	694	4881	158	608	1808	390	564
Residents Working in home Town	1215	222	1528	23	211	830	192	184
Non-residents commuting - in	1527	472	3353	135	397	978	198	380
Commuting rate	55.7%	68.0%	68.7%	85.4%	65.3%	54.1%	50.8%	67.4%
Most common commute from:	Rindge	Keene	Jaffrey	Peterborough	Keene	Jaffrey	Keene	Keene
No. of Commuters	350	87	305	23	125	183	58	91
2nd most common commute from:	New Ipswich	Peterborough	Hancock	Dublin	Winchester	Winchendon, MA	Troy	Fitzwilliam
No. of Commuters	106	79	283	14	31	129	41	46
3rd most common commute from:	Keene	Jaffrey	Antrim	Derry	Jaffrey	Fitzwilliam	Rindge	Swanzy
No. of Commuters	104	51	195	13	21	96	25	45

SOURCE: US CENSUS, 2000

As the figures in Table #4 illustrate, the largest percentage of Jaffrey's workers commuting out of town go to Keene – nearly 22% of all commuters, while the majority of commuters who commute in from a single town 23%, are from Rindge. It would appear that Route 124 and Route 202 carry the greatest amount of commuter traffic each day - both in and out of town.

### TRAFFIC GENERATORS

Travel can be defined by a wide variety of characteristics, including the purpose of the trip, the time the trip was made, the mode that was used, and the length of the trip. A starting point in all transportation studies is the number of trips generated for a particular land use. This measure is called trip generation and is usually described in terms of person trip generation or vehicle trip generation.

A trip is one way movement from origin to destination. Each trip has two trip ends. Although the term round-trip is often used to describe travel that starts and ends at home it is not a technical term and is considered to be two or more separate trips. Trip generation is always given for a specific period of time which is generally a single hour (normally a peak hour) or a full day. Trip generation may be given for a weekday and/or a weekend day. Since the vast majority of travel is conducted by automobile, most trip generation data are provided in terms of vehicles trips. Vehicle occupancy varies by the purpose of the trip. Work trips tend to have low occupancies which relates to the high percentage of commute trips which are drive-alone types.

Most of Jaffrey's traffic is residential, since that is the primary land use in Town. There is of course some amount of truck/ commercial traffic that services the businesses, as well as travel through Jaffrey to and from neighboring towns; Routes 124 and 202, in fact, carry a significant amount of through truck traffic.

In 2004, DES developed a statewide GIS coverage to identify appropriate indicators for sprawl and changing development patterns in New Hampshire. SWRPC together with DES, UNH, and OEP developed a methodology to generate data on destinations and city/town/village centers for each community. Below are the destinations identified for the Town of Jaffrey.

**TABLE 5. DESTINATIONS**

<u>Destination Type</u>	<u>Destination Name</u>	<u>Street Address</u>	<u>Capacity or size</u>
Hiking Trail	Shattuck Hiking Trail	28 Dublin Road	13.8 acres
Library	Jaffrey Public Library	38 Main Street	14,190 sq ft
Town Office	Town Offices	10 Goodnow Street 80	
Village Store	Choppa's Meats & Deli	Peterborough St.	
Campgrounds	Emerald Acres Campgrounds	39 Ridgecrest Road	100 people
Post Office	US Post Office	30 Turnpike Road	
Middle School	Jaffrey -Rindge Middle School	1Conant Way	389 students
Ice Rink	Humiston Field/Rink	31 Howard Hill Intersection of Route	50 people
Pharmacy	Rite Aid Pharmacy	202	13,000 sq ft
Elementary School	Jaffrey Grade School	31 School Street	412 students
Elementary School	St. Patrick's School	70 Main Street	107 students
High School	Conant High School	3 Conant Way	68,000 sq ft
Airport	Silver Ranch Airpark Inc	190 Turnpike Road 28	
High School	Victory High School	Peterborough St.	60 students

Aside from the residential and local business traffic, Jaffrey has a few large traffic generators, the single largest being the Millipore Corporation, located on Route 124 east of the downtown, which employs 315 people. Other top employers include the Jaffrey-Rindge School District with 300 employees, TFX Medical, Inc. with 252 employees, DD Bean & Sons with 125 employees, Good Shepard Nursing Home with 115 employees, and Belletetes with 89 employees.

## ROAD AND BRIDGE CONDITIONS

### SURFACE WIDTHS & CONDITIONS

Roads in Jaffrey are of varying widths and surface conditions. The wideness of a road is not necessarily related to the ownership – i.e., the state roads are not always wider than the town roads, although they are more likely to have wider shoulders.

The NH DOT has developed standards for road construction, published in December 2003, titled “Suggested Minimum Design Standards for Rural Subdivision Streets”. The specifications recommended for minimum width and materials are based on average daily traffic – in other words, the more traffic a road carries, the wider the traveled way and shoulders, the deeper the base and top coat, etc.

According to these standards, the minimum width for the least-traveled road should be 18 feet, plus a two-foot shoulder; this is for a road carrying no more than 50 vehicle trips per day. Most roads in New Hampshire towns do not meet this standard and, even with new construction, many small towns will approve an 18-foot width for a Class V town road carrying more than 50 vehicle trips per day.

Add table: Road Miles by Surface Type and Pavement Width using GIS road data: “rpc4”

Some of the narrower road in Jaffrey contribute to the Town’s rural character. Consequently, even though these narrow roads are shown to be of deficient width, there is no apparent reason to widen the more scenic and less traveled roads.

### BRIDGES

Bridges present an ongoing maintenance and repair concern for all towns, oftentimes accounting for a large portion of local highway budgets. Bridges also present the potential for a number of safety hazards in instances where they are severely deteriorated or are significantly narrower than the road they serve. Bridges are rated by the DOT, using a system based on federal standards for type of construction, widths, surface condition, and ability to handle traffic volume, etc.; Table 6 points out the problems concerning the bridge network.

**TABLE 6. NHDOT BRIDGE SUMMARY, JUNE 2004**

<u>LOCATION</u>	<u>STATUS</u>
<b>Town Maintained Road</b>	
1. Gilmore Pond Road over Mountain Brook	Not Deficient
2. Gilmore Pond Road over Mountain Brook	Not Applicable
3. Nutting Road over Contoocook River	Functionally Obsolete

4. Nutting Road over Contoocook River	Functionally Obsolete
5. Nutting Road over Brook	Not Applicable
6. Fitch Road over Contoocook River	Not Applicable
7. Hadley Road over Contoocook River	Not Applicable
8. Bypassed Historic over Contoocook River	Not Applicable
9. Hadley Road over Contoocook River	Not Deficient
10. Chamberlain Road over Contoocook River	Not Applicable
11. Squantum Road over Brook	Not Applicable

### State Maintained Roads

1. NH 124 over Mead Brook	Not Applicable
2. NH 124 over Mountain Brook	Not Applicable
3. US 202 over Mountain Brook	Functionally Obsolete
4. US 202/NH 124 over Mill Race Inlet	Not Applicable
5. US 202/NH 124 over Contoocook River	Functionally Obsolete
6. US 202 over Contoocook River	Functionally Obsolete
7. US 202 over Mill Tail Race	Functionally Obsolete

Source: NHDOT – Bridge Design 2004 Bridge Summary

### ACCIDENT LOCATIONS

The NH DOT collects data on accident locations throughout the state. The most recent years for which this information is available for the Town of Jaffrey is 2002; nearly a fourth (25.4%) of all accidents occurred in the town center along US 202 or Main St.

**TABLE #7:  
JAFFREY ACCIDENTS BY INTERSECTION 1995-2002**

Intersection		Total # of Accidents
US 202	NH 124	34
US 202	Nutting	29
US 202	US 202	25
NH 124	Goodnow	21
NH 124	Milliken	20
NH 124	Fitzwilliam	16
US 202	Charlonne	15
US 202	Gilmore Pond	15
US 202	Lacy	14
US 202	Webster	14
NH 124	Prescott	13
US 202	Hillcrest	13
NH 124	Dublin	12
NH 124	Fitzgerald	9

TABLE #7: (CON'T)

NH 137	Parker	9
US 202	Cross	7
US 202	Tyler Hill	7
NH 124	Charlonne	6
NH 124	Sawtelle	6
Dublin	Gilson	5
NH 124	Witt Hill	5
NH 137	Crestview	5
Nutting	Letourneau	5
US 202	Adams	5
US 202	Stratton	5
	<b>Total</b>	<b>315</b>

### PROBLEM AREAS

The Jaffrey Public Works Director, Engineer and Police Chief met with SWRPC staff to discuss existing transportation problems in Town and rank those problems in order of priority. This discussion led to the creation of a transportation matrix depicted in Table #8 below (associated map included at the end of this chapter). The matrix focuses on the problem and location, description, additional comments, and possible solutions to problems such as road width, surface type, speed limit, accidents, other safety hazards, bridge deficiencies, drainage, pedestrian access, parking, vehicle class, snow and ice, and other maintenance issues. Items are not listed in order of priority, though the last column ranks each problem in terms of high, medium or low priority. Table #9 presents a summary of recommended transportation management projects which address town-wide maintenance needs rather than location-specific hazards. Additional information regarding transportation hazards and problem areas can be found in the Town's Hazard Mitigation Plan.

**TABLE #8:  
TRANSPORTATION PROBLEM MATRIX**

	<b>Problem</b>	<b>Location</b>	<b>Description</b>	<b>Additional Comments</b>	<b>Possible Solutions</b>	<b>Priority (High, Med., Low)</b>
1	Concentration of traffic	Peterborough and Cross Streets (Main Street to McDonalds)	-Concentration of activity -Number of turning movements -Speed	-Transition of rural area to commercial -More urban area -lack of familiarity with area -Police priority, speed reduced	-Traffic calming might assist with mitigation	Low-Medium
2	Traffic/ pedestrian concentration	Stratton Road in front of middle and high school campuses	-Increase traffic flow at 5-way intersection before and after school -High level of pedestrian activity -Off-site student parking with rush of traffic -Buses and vehicles	-Morning less of an issue - Limited resources for this patrol priority -Added crossing guard in 2004 to assist pedestrians across the street to the only sidewalk	-Move school to Rindge or other location -Improve pedestrian control (sidewalks on both sides of street) -Fund additional officer during school release	High
3	Volume of traffic	River Street (US 202)	-Concentration and volume of traffic -Narrow sidewalk -Limited site distance		-Create sidewalks for pedestrians (including school traffic) -Re-route 5-way intersection	Medium
4	Volume, level of service, pedestrian movements	5-way intersection (Main Street)	-Traffic/pedestrian interaction needs attention -Very limited time for pedestrians to cross the street -Tight turning corner (especially for trucks) -3 state routes converge -Back-up causes Cut-thrus and U-turns	-Roundabout may not be best solution (may not be adequate for pedestrians )	-By-pass/re-routing one-way with bridge -Synchronization of lights -Combine with geometric considerations -Striping/maintenance of lane designation (appeal to DOT)	High
5	Volume, Non-Local Users Unfamiliar with Conditions	Mountain Road	-Hilly/curves—inclement weather -Variations in speed limits -High concentration of out of town traffic -Mt. Monadnock visitors (3,000-5,000 annually in the Fall)	-Requires significant patrol -DOT does not permit additional signage even seasonal	-Additional signage -Speed radar monitor trailer -Additional traffic enforcement during peak periods	Medium (Higher during inclement weather)
6	Visibility, Speed	Turnpike Road	-Could be problem if traffic increases on Witt Hill Road, with periods of increased traffic around Kimball's, the church and Millipore	-Specific locations should be looked at including Witt Hill Road and Prescott Road regarding visibility issues -Speed recently reduced along portion of road	-Identify solutions for specific locations	Low

**TABLE #8:  
TRANSPORTATION PROBLEM MATRIX, Cont.**

	<b>Problem</b>	<b>Location</b>	<b>Description</b>	<b>Additional Comments</b>	<b>Possible Solutions</b>	<b>Priority (High, Med., Low)</b>
<b>7</b>	Volume, level of service, pedestrian movements	Goodnow Street	-Used as a by-pass -Accidents at Main and Goodnow Streets -Periods of pedestrian traffic (school dismissal) -Downtown parking movements -Area of greatest traffic jam (1½ blocks into Town from Keene)		-Consider making Goodnow Street one-way away from Main Street (Northbound only) -Traffic calming (ex. bump outs) provide safety for crossing guard	Medium
<b>8</b>	Level of service, Speed	Old Sharon Road, Nutting Hill Road intersection onto US 202	-Heavy truck traffic off Old Sharon Road -Location of town transfer station. New England Woodpellets, and commercial/industrial traffic. -Speed on US 202	-Limited accidents at intersection -Reducing speed may not help -Trucks get hung-up on Old Sharon Road which slows movement through intersection	-Flashing caution light (may not be justifiable based on traffic data) -Widen intersection (on/off Old Sharon Road)	Medium
<b>9</b>	Design of Intersection	Prescott and Squantum Roads	-Stop sign in wrong location		-Move stop sign to Squantum Road (would require reconfiguration of intersection)	Low
<b>10</b>	Speed	Gilmore Street, 1 <sup>st</sup> ¼ mile off River Street	-Concentration of homes requires significant police attention		-Speed control -Additional patrols	Low
<b>11</b>	Seasonal Volume, Design of Intersection	Hunt/Stratton and Howard Hill and Squantum intersections	-Seasonal traffic volume (June-Sept.) -Homes in close concentration in Rindge must use these roads for access	-At intersection difficult to tell who has the right of way versus stop requirement	-Fix deceptive intersection	Low

**TABLE #9:  
RECOMMENDED TRANSPORTATION MANAGEMENT PROJECTS**

	<b>Project</b>	<b>Description</b>	<b>Comments</b>	<b>Priority (High, Med., Low)</b>
<b>1</b>	Maintenance and upgrade of Class V roads	-Upgrade and reconstruction needed -Including but not limited to Witt Hill Road and Old Sharon Road	-Budget for projects in CIP rather than pavement management funds -Develop cost effective, equitable, fair maintenance process, consider contracting with consultant or UNH T <sup>2</sup>	Medium-High
<b>2</b>	Continue Rails to Trails from Webster Street to Peterborough town line		-Continue efforts to secure funding -Will ensure cost effective, equitable, fair	Medium
<b>3</b>	Develop a Sidewalk Management Program	-Plan for new -Inventory existing	-Will ensure cost effective, equitable, fair process	Medium
<b>4</b>	Develop a GIS Inventory of Transportation Infrastructure	-GIS inventory of infrastructure (signs, culverts, bridges, sewer, waterlines, etc.) -Ensure accurate base maps for planning purposes -Will assist with gauging development projects and proposed projects	-Helpful for understanding municipal transportation inventory and more accurately estimate cost of repair, maintenance, and new construction -Complete within 2-5 years	Medium-High

## **PUBLIC/ALTERNATIVE TRANSPORTATION MODES**

### **PUBLIC TRANSPORTATION**

Public transportation plays a very small role in the overall service network. Vermont Transit serves Jaffrey on a daily basis with intercity bus service from Boston, Keene, Brattleboro, and Rutland. Community transportation for special needs populations is available from a number of social service organizations on an as-needed basis; some of these services are also open to the general public.

### **BICYCLE/PEDESTRIAN TRAVEL**

The focus of this analysis has been on vehicular, private transportation. Alternative travel is limited in this region, although it has certainly seen resurgence over the last several years. Most roads were designed and built with little or no consideration for anything but vehicles; pedestrians and bicyclists must share the road with cars and trucks. In recent years there has been an increase in both pedestrian and bicycle traffic, and with it a recognition of the potential dangers of mixing these activities with vehicular traffic. These issues can be partly addressed at the local level by designing new roads with attention to alternative traffic. With existing roads the problems are more difficult, since the Highway Department is dealing with a circumscribed width in most cases; warning signs and speed limits are the traditional techniques for ameliorating the conflicts, although not always effective.

### **RAIL/TRAILS**

The Monadnock railroad was acquired by NH DOT for use as a recreational trail from the Massachusetts state line in Rindge through Rindge and Jaffrey. The trail continues through Peterborough and into Hancock. The rail trail essentially parallels US 202 through Jaffrey and passes through downtown at the intersection of NH 124, US 202 and Squantum Road at the east end of the "202 dogleg". The rail trail is used through four seasons by walkers and cyclists, cross country skiers and snowmobiles. Though not a problem unique to Jaffrey, rail trail use by ATV's can create conflicts among trail users and trail abutters. Currently the trail is missing one bridge to cross a stream crossing of a tributary to Cheshire Pond across US 202 from the rest area at the Pond.

### **SIDEWALKS**

Walking is the most basic form of transportation. Every trip we make, even by car, we begin and end as pedestrians. Sidewalks serve as critical links in the transportation network by providing pedestrian access to commercial districts, schools, businesses, government offices, and recreation areas. Sidewalks with curb ramps and benches invite strolling and shopping. In addition, a broader range of consumer, social, and recreational opportunities are available in areas catering to pedestrians.

Villages with well-designed sidewalks are generally safer because more people are out walking in the community. In addition, the safety and convenience of pedestrian travel is an important factor in quality of life. Downtown Jaffrey is well-suited with sidewalks on main streets. Low traffic volumes on neighborhood streets allow for bicycles and pedestrians to comfortably use the shoulders of local streets and roads. A gravel walking path was constructed parallel to NH 124 in Jaffrey Center in the later 1990's. Jaffrey's ongoing downtown enhancements include completed and planned pedestrian improvements such as crossing signals.

## **OTHER TRANSPORTATION SERVICES**

Many human service agencies in southwestern New Hampshire provide transportation to elderly, low-income and disabled residents. Most of the need is to access agencies' services or for employment, medical appointments, shopping, etc. Agencies such as Home Health Care, Red Cross, New Hope/New Horizons provide such transportation. Many agencies feel that their transportation service to their own clients is limited because of the costs in the frequency of service (service is usually weekdays only) and in geographic coverage (residents in outlying communities cannot be as frequently transported).

Thomas Transportation Services, Inc. offers service to airports and throughout the Northeast. Service is available 24 hours, including private vehicle service, courier service, charter and connections. Thomas Transportation provides approximately 20,000 round trips annually, employing 45 persons in the region.

Monadnock Transportation offers door-to door service to any city or airport in the Northeast including limited courier services. Currently 400 to 500 trips are provided monthly. Clients are businesses and corporations with some medical trips to regional hospitals (Dartmouth-Hitchcock-Keene and Boston General Hospital). Regarding the future, Monadnock Transportation cited possible expansion into the low-income market which is not currently served by public transportation or by private carriers.

Laidlaw Transit, Inc. provides service for public school (6,000 children, 68 routes, 90 buses) in Cheshire County (excluding Westmoreland) including special transportation for handicapped students (20 vehicles), sports and extra-curricular activities. Other service for Keene State and Franklin-Pierce Colleges include 12 to 15 trips daily (1,600 to 2,000 annually). Laidlaw employs 100 persons locally.

Laidlaw also operates fixed-route/fixed-schedule bus service in Brattleboro, VT. Ridership levels are steady at 50 to 60 riders/day with 180 service-miles/day. Operating costs are \$1.44/mile, or \$260/day and \$65,520/year (252 service days).

Adventure Limousine & Transportation, located in Swanzey, offers limousine and mini-van service for corporate clients and special events with 4-5 trips/week (50/50 corporate/special events). Regarding its future, Adventure reports increased demand for inter-city service (e.g. Keene to Jaffrey) but is unable to identify cause for increased demand.

Swanson Limousine Service, located in Keene, provides stretch limousines for weddings, special events and airport trips (corporate customers) averaging six trips/month. Demand is highest in May and October, and lowest in January.

## **TECHNIQUES FOR ADDRESSING TRANSPORTATION ISSUES**

### **PLANNING STRATEGIES**

- FOCUS DEVELOPMENT IN THE VILLAGE**

Provide for mixed uses and higher densities in the Village rather than in the outlying parts of Town.

**IDENTIFY APPROPRIATE LAND USES .**

Existing land uses can be monitored and the Zoning Ordinance consulted to ensure that development will be compatible with the road system. Applications for development must always be reviewed with the scale of proposal relative to the road network and abutting land uses in mind.

**PLAN FOR PEDESTRIAN AND BICYCLE CONNECTIONS.**

The Town can make sure that it is always at the table when the NHDOT is considering plans involving the state routes, and make every effort to see that all due consideration is given to the accommodation of non-motorized traffic.

**DEVELOP AND ADOPT A ROAD POLICY.**

The Planning Board, in conjunction with the Board of Selectmen, can develop a road policy that would guide development in town based on the status of existing roads and any future plans for roads. This can go far to ameliorate potential questions and problems when applications are submitted for the upgrading of a road, or for a building permit on a Class VI road.

**CAPITAL IMPROVEMENTS PROGRAM.**

A Capital Improvements Program (CIP) that sets forth the planned capital expenditures over a six year period can also help to guide road development. In conjunction with a Road Policy, the CIP can set the schedule as well as the degree and type of road improvements.

**SWRPC TRANSPORTATION ADVISORY COMMITTEE**

Participation in this Committee provides an opportunity for the Town to be involved in the development of the Region's 10-Year Highway Plan.

## **REGULATORY STRATEGIES**

**ROAD STANDARDS**

Included in the Subdivision Regulations administered by the Planning Board are standards for road construction. These essentially mirror the DOT standards discussed above, which address such things as width of the traveled way, width of shoulders, type of materials to be used and depth of each level.

**DRIVEWAY STANDARDS**

The Planning Board is allowed by state statute to adopt and administer regulations for the construction and permitting of driveways. The NH DOT regulates curb cuts on state roads; towns are allowed the same authority for town roads. A local driveway regulation, however, can cover all aspects of driveway construction for the entire length, not just the access area off of the road. Driveway standards can encourage safe and efficient transportation corridor management through provisions that:

- reduce the number of curb cuts along a road;

- separate curb cuts and intersections;
- align driveways either opposite one another or offset them by at least 125 feet for safe sight distance;
- relate driveway design such as width, length and curb radii, to travel speed and traffic volumes;
- require shared access and parking where appropriate; and
- prohibit parking that requires backing out onto the road.

#### **DEVELOPMENT OF BACKLOTS**

Backlot development is a zoning technique that allows the subdivision and/or development of lots that cannot meet the frontage requirement for the district. Allowing for this type of development gives towns the opportunity to set standards for the roads that serve these backlots, and require that the backlot share an access with the front lot, when appropriate, etc.

#### **SCENIC ROADS**

Jaffrey has one scenic road, Thorndike Pond Road from Gilson Road to the Dublin town line. This designation, in and of itself, does not affect land use or traffic along the road, but it could serve as the basis for developing a Scenic Road Corridor, in which land use and traffic would be reviewed in concert with the objectives of the designation.

#### **ACCESS MANAGEMENT TECHNIQUES**

These techniques range from various driveway standards and requirements to the use of medians, signalization and signage.

### **SUBDIVISION AND SITE PLAN CONSIDERATIONS**

During the subdivision or site plan review process the Planning Board has an opportunity to review all proposals based on the transportation issues identified in this section. Some of the pertinent issues include:

#### **■ VIEWING THE WHOLE PARCEL**

It is always important to step back from an individual plan and look at it in relation to the neighboring properties and land uses. If the lot fronts on more than one road, decisions can be made about which roads would better serve as access, how the parking should be laid out, etc.

#### **■ LOT LAYOUT**

When the opportunity presents itself through a multi-lot subdivision, the subdivision design should consider shared driveways or an interior street, with lots fronting off of the interior rather than the main roads.

#### **■ PARKING LOT LOCATION AND DESIGN**

There are a number of issues with parking lots for commercial uses, such as:

- ✓ locating the building(s) close to the road and putting the parking on the side or in the rear of the parcel;
- ✓ requiring shared parking, when feasible;
- ✓ planning for future shared parking by designating reserved areas on the plan;
- ✓ prohibiting parking and loading that requires backing out onto the street; and
- ✓ the use of vegetative buffers between parking lots and roads.

■ **DRIVEWAY LOCATION AND DESIGN**

- ✓ Do not allow more than one entrance and one exit drive on any lot.
- ✓ Make sure the driveway is long enough to allow vehicles to pull off the road and stack inside the lot before entering the road.
- ✓ Require two-way driveways to intersect the road at an angle of 70-90 degrees.
- ✓ Address sight distance from the access point. Adequate sight distance will depend on the road classification and traffic volumes, but ideally, sight distance should be at least 11 times the speed limit.
- ✓ Avoid curb cuts on sharp corners or the crest hills.
- ✓ Limit driveway grades within 20 feet of the road to no more than 3% uphill and 6% downhill.