

# CHAPTER 7

## TRANSPORTATION

### ASSESSMENT

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#### 1. Introduction

How people and goods move from one place to another is a fundamental issue that needs to be addressed when planning and managing growth in Conway. As the community continues to attract new commercial and residential development and existing businesses expand, adequate transportation infrastructure and services must be provided.

The primary focus of this transportation assessment is to identify important local and regional issues and opportunities to enhance and diversify the transportation network through expansion, maintenance, land use regulations and development policies. The first section of this chapter defines the existing transportation network. Trends and statistics are evaluated regarding local and state roads (congestion, capacity, traffic patterns, safety), transportation and parking issues in the villages, and alternative travel opportunities.

The next section provides an analysis of planned transportation projects in the community based on the four-pronged approach adopted by the community in 1992. This includes an evaluation of parkways (including the North-South Road and the proposed Conway bypass), Route 16 improvements, local road improvements and maintenance programs, and land use policies and regulations. The final section defines potential future implications of transportation issues and planned improvements in Conway.

In order to obtain data and information for this chapter, several different sources were contacted including the New Hampshire Department of Transportation (NHDOT) District 2 office, the North Country Council, as well as the Departments of Public Works (DPW), Police and Planning in Conway. Additionally, several previous studies and reports that examined transportation projects and issues in Conway were used during the preparation of this assessment.

#### 2. Summary of Findings and Conclusions

The following points summarize the transportation issues and conclusions presented within this chapter. Additionally, various implications (particularly regarding future land use policy) associated with Conway's transportation trends are discussed.

- Conway serves as the confluence of several state highways. Because these highways serve as critical links to other regions of Northern New England, a significant amount of interstate and interregional traffic flows through the community on a daily basis.

##### Conway Transportation Facts

Local Roads	161 roads totaling 82 miles
Federal Routes	Rt. 302
State Routes	Rts. 16, 112, 113, 153
	I-93 (Exit 23, 38 miles),
Nearest Interstate Exit Distance	I-95/495 (approx. 45 miles)
Railroad	Conway Scenic
Public Transportation	Statewide (no local)
Nearest Airport	Fryeburg, ME
Runway	4,200 Ft.
Lighted	Yes
Navigational Aids	Yes
Nearest Commercial Airport	Portland, ME.
Distance	60 miles

- Other forms of regional transportation, such as air and rail, have not been a major factor in moving people or goods in and out of Conway.

- Conway has approximately 82 miles of local roads that increased by over 10 miles in the last 25 years. The vast majority of these are Class V roads. The local road system consists primarily of sub-collectors and residential access roads, but similar road design standards are often applied even though they serve different purposes.
- Local public transportation is very limited in Conway with two taxi services, one interstate bus service with two daily runs, and independent human service programs. Like many rural communities, Conway has difficulty in justifying and sustaining regular public transportation. In fact, public transportation services have declined in Conway over the past 10 years.
- There are approximately 665 public parking spaces operated by the town in the three villages including: North Conway Village (416), Conway Village (219) and Center Conway Village (30). Additional parking spaces are provided by local businesses. Parking in the villages is a growing concern and a balance of well distributed public and private spaces, with appropriate time limits and management to accommodate the needs of residents and visitors alike, needs to be determined.
- The only significant sidewalk network in the town occurs in Conway Village and North Conway Village. A sidewalk along the east side of the Route 16 "strip" poses several safety issues and can be difficult to navigate. Walking is a key function in the village areas and sidewalk maintenance and enhancements should be made accordingly.
- There are bicycle lanes located along portions of the NH Route 16 and US Route 302 corridors and West Side Road. However, due to the extensive amount of vehicle traffic and turning movements, these corridors are not friendly for bike riders, particularly along the "strip" and in the villages.
- There are a multitude of trails and paths in Conway serving a variety of users including walkers, hikers, mountain bikers, cross-country skiers, and snowmobilers. Much of this network is informal and privately owned with no formal agreements for continued use.
- Because of the nature of the Mount Washington Valley as a resort destination, traffic volumes in Conway are unusual. Daily traffic counts resemble more of a suburban than rural community in that business hours for area workers and visitor usage create more peaks and lows in volumes than most comparable communities with a more stable year-round population.
- In 1978 there were over 320 reported accidents on Conway roads. About one-third of all these accidents occurred on Route 16. By 1990, the number of accidents dropped significantly with about 185 total reported. In 2001, the number of accidents rose significantly to a level of 684. Nearly half of these accidents occurred on Route 16.
- The North-South Road has the potential to separate a large amount of through traffic from shopping traffic creating new opportunities for higher quality and higher density infill development and redevelopment in other sections of the town. However, this opportunity must be carefully balanced with the need to enhance the vitality of Conway and North Conway Villages. Additional issues include:
  - Careful monitoring of traffic impacts at Kearsarge Road and Mechanic Street at the northern terminus on the North-South Road.
  - The installation of attractive directional signage.
  - Future access to the corridor by additional existing roads and private land parcels.
  - The channeling of bicycle riders and pedestrians to the new corridor
- The Conway bypass should serve as an effective diverter of through traffic, as well as an attractive gateway to the Mount Washington Valley region. The roadway will also have characteristics associated with a parkway, in terms of continuous natural buffers on the edge of the right-of-way, that is interspersed with views and vistas showcasing the natural attributes of the valley which is the foundation of the area's tourist-driven economy. Local efforts have been made to preserve these natural features including strict development and design controls at the four intersections, protection of view corridors and nearby natural resources, limiting outdoor advertising and lighting, and keeping the public well informed about progress in completing the roadway.

- Route 16 is the major existing arterial in Conway. In order to improve the efficiency, capacity, safety, aesthetics, and economic opportunities on the corridor, several upgrades and improvements are being considered. These include measures such as improving site access, limiting or reconfiguring curb-cuts, and signaling intersections with poor safety or levels of service (LOS) records. Improving sidewalks, bike networks, and streetscape enhancements should also be considered as important undertakings.
- Although Conway's roadway design standards were established to ensure that new roads would be safe in every situation, the result can be the over-design of rural and lower density residential streets. Additionally, dead-end streets should be connected where possible to provide better emergency access, utility looping, and dispersment of traffic.
- Conway's transportation planning principles should not necessary be based on maximizing a roadway's level of service (LOS), which amounts to vehicles operating at or above a given average speed. Rather, guiding principles for transportation planning in Conway should focus on keeping traffic flowing smoothly within the community and minimizing travelers' delay as well as other adverse impacts associated with stop and go driving. Slow and steady should be the goal rather than a high LOS and speed, which detracts from the sense of community. Additionally, alternative means of transportation must be developed within Conway in order to fully address a variety of local and regional needs.

### 3. The Existing Transportation Network

In conjunction with local and state officials, the following inventory of the existing transportation network has been assembled. Problem areas, based on existing infrastructure, have also been identified including capacity issues, traffic counts, accident data, and surface conditions.

#### Regional Transportation Network

Regional transportation facilities include highways, railroads, and airports.

**Highways** - The regional highway network is comprised of six classifications as defined by the New Hampshire Department of Transportation (NHDOT) and shown in Table 7-1 below.

<b>Class</b>	<b>Description</b>
I	Existing or proposed highways on the primary state highway system.
II	Existing or proposed highways on the secondary state highway system.
III	Recreational roads leading to and within state reservations as designated by the legislature
IV	Highways within the compact sections of designated municipalities (not applicable to Conway)
V	All other town maintained roads
VI	All other public ways, including closed roads and roads not maintained in conditions suitable for travel for five or more years

Source: NHDOT

New Hampshire's highway classification system can be divided into two broad categories – state highways and municipal highways. Class I, II, III highways are those controlled and maintained by the New Hampshire Department of Transportation (NHDOT). Class IV, V, and VI highways are controlled and maintained by local municipalities.

Routes 16 and 302 are maintained by NHDOT as part of the federal-aid primary system. Route 113, between Conway Village and Center Conway, is also part of the federal-aid primary system. Portions of Passaconway Road, River Road, and part of Washington Street are also federal-aid secondary roads (see Table 7-2).

**Table 7-2: Conway Classified Road Mileage**

	1978	2002	Remarks
Class I	16.17	16.07	Route 302
Class II	16.91	23.54	Route 16 +
Class III	0.67	0.69	Recreational Road
Class IV	0	0	Urban Compact Roads
Class V	72.17	82.75	All regularly-traveled town roads
Class VI	4.09	4.06	Subject to gates and bars
<b>TOTAL</b>	<b>110.01</b>	<b>127.11</b>	<b>17.1 new miles of roadway in 25 yrs.</b>

Source: NHDOT and Town of Conway

The primary and secondary classes are defined by NHDOT according to whether a road is considered to be major or minor and the amount of population served by the road. Other Class II highways in Conway include Route 113 (from Center Conway to East Conway), Route 153, Route 16, Route 112, East Conway Road, Green Hill Road, River Road, West Side Road, (north of River Road only), Cathedral Ledge Auto Road, Worcester Hill Road, and Hurricane Mountain Road.

Conway is the confluence where several regional highway corridors merge. The Routes 16 and 302 corridors are critical links in the highway systems of eastern New Hampshire and southwestern Maine. A substantial amount of interregional traffic moves through Conway along these corridors to points north, west and south. In addition, traffic from the south and southwest moves through to recreational areas in the north.

State Routes 16, 113 and US Route 302 carry regional traffic between Portland, Lewiston, Auburn, and more westerly areas of Maine (via Routes 302 and 113). The Crawford Notch-St. Johnsbury areas are served by Route 302; Lincoln-Woodstock areas by Route 112; Laconia-Moultonboro areas by Routes 25 and 113; and Chocorua-Wolfeboro and more southerly areas by Routes 16 and 153.

**Airports and Air Service** – The major airport in the area is the Eastern Slope Regional Airport in Fryeburg Village, Maine about 12 miles from North Conway. This municipally- owned facility was constructed in 1961 and includes a 3,700-foot long runway, which is barely long enough for a small jet. The nearest commercial airport is located in Portland, Maine (Portland Jetport) approximately 60 miles southeast of Conway.

Air travel at present is a relatively minor economic factor and means of access to the region. However, continued and planned expansions at several regional airports including the former Pease Air Force Base (about 50 miles to the south), Portland Jetport, Manchester (NH) Airport and Bangor (ME) Airport could significantly improve access to northern New England and the Mount Washington Valley.

**Railroads** – Two rail lines run through Conway – the Maine Central, which follows Route 302 and the Boston and Maine, which enters the southwestern corner of town along Routes 16 and 113, and then runs between Route 16 and the West Side Road, joining the Maine Central above North Conway. The Maine Central runs between Portland, Maine and St. Johnsbury, Vermont, where it connects to the Canadian Pacific. This rail connection served as the primary freight line for area businesses until the mid-1970s. While the line is listed as active by NHDOT, it is no longer in active use. There have been plans recently to reactivate the line as a visitor attraction similar to the Conway Scenic Railway.

A segment of the Boston and Maine line, south of Conway, has been abandoned or is in serious disrepair. Consequently, service to the east is not possible. The B&M line in Conway is currently owned and operated by the Conway Scenic Railroad. Significant policy discussions have taken place in Conway regarding the future use of rail corridors in the town. The major issue is whether railroad transportation could once again become an economically viable transportation entity, or whether the corridors should be put to more immediate uses such as the location for new highways, trails, or communication infrastructure. A NHDOT policy to preserve these corridors for future transportation use, while allowing interim recreational uses, has been considered, but not formally adopted by the town.

## Local Transportation Network

**Roadways** - The regional highway system also includes several major local arterials serving Conway residents. Roads can be broadly organized under these categories: arterials, collector roads, and local access roads. For the most part, the major roads in Conway are a cross between arterials and collectors.

Arterial roads move large volumes of traffic with limited access points. An example in Conway is the new section of Route 302 where it crosses the Saco River, between Route 113 and the new municipal complex.

Collector roads generally serve dual functions. Their primary purpose is to feed traffic from local roads onto arterials, with a secondary and subordinate purpose of providing access to adjacent land uses. Routes 16 and 302 can be classified as collector roads even though they have a significant number of private curb cuts.

Local roads comprise the remainder of roads in Conway. The primary function of local roads is to provide access to various types of land uses. These roads are generally smaller, in terms of pavement width, than collector roads.

An inventory of roads in Conway, as of 2003, that provides descriptive information about each roadway is located in an Attachment to this master plan. The town contains a total of 161 local roads, primarily in the Class V category. There are over 82 miles of regularly maintained local roads and just over four (4) miles of seasonal roads (Class VI). The town has added over 10 miles of locally-maintained roadway in the last 25 years (a 14.7% increase) and over 17 miles of total new roadways.

Conway also has five (5) seasonal roads, which are closed for vehicular use during snow season. Hurricane Mountain Road and Cathedral Ledge Auto Road are state maintained Class II seasonal roads, and neither is subject to significant development pressure. Leavitt Road and Greeley Road in South Conway, and Little Chatham Road in East Conway are town maintained Class VI roads. These roads have been designated as “highways to summer cottages” and state laws do not require that they be maintained for winter travel.

There are eight (8) scenic roads in Conway as designated by Town Meetings over the years including:

- Gulf Road
- Crown Hill Road
- Baird Hill Road
- Potter Road
- West Side Road
- Greeley Road
- Leavitt Road
- Davis Hill Road

With the exception of West Side Road, all of these are dirt roads in South Conway. State law restricts the cutting of trees and the removal of stone walls along scenic roads. The general intent is to preserve these corridors as attractive rural roads.

The town's road design standards typically require a 50 foot right-of-way (r-o-w) and 18 to 24 feet of paved area. A review of existing local roads indicates that the average roadway width is generally consistent with these standards (46.5 average right-of-way, and 20.6 pavement width). Many of these roads are very old and predate the town's design regulations. In most cases, these reduced r-o-w and pavement widths work well, particularly for local residential access roads. However, some roads have become more heavily used sub-collectors and collectors and their narrow width and minimal base construction has required substantial improvements by the town. On the other hand, it's not unusual for new residential subdivision roads (minor local access roads) in Conway to be built to a higher standard than the collector roads they feed into.

**Trucking** – Most Conway businesses use trucks to transport their raw materials or products into the area, for distributing goods locally, and to ship products to markets in New England and beyond. There are approximately 10 trucking firms located within 10 miles of Conway and 16 within a 30-mile range. Two firms are located in town and service the Conway area. A bonded warehouse, available for public storage, is also located in town.

**Public Transportation** – There is no public transportation available within Conway or adjacent communities. Like many rural communities, Conway has not been able to demonstrate the feasibility for such service given the population base, wide dispersion of dwellings, and general independence of commuters. Additionally, there are no major nearby urban areas that serve as employment centers that could justify public transportation. Presently, the only form of public transit is provided by Concord Trailways, which makes two runs daily between Berlin, NH and Logan Airport in Boston via Concord and Manchester, NH.

**Taxi Service** – There is limited taxi service provided in Conway by two companies. Transportation is available on demand and both companies provide service on a 24-hour-a-day basis.

**Special Transportation Services** – Many social service organizations provide transportation to individuals and client groups, including the Senior Wheels program of the Tri-County Community Action Program, Headstart, Center of Hope, and Northern New Hampshire Mental Health. Because of the high cost of transportation in rural areas, these agencies are barely able to meet their own needs. However, the service that is provided is critical to individuals, whether they are senior citizens, mentally or physically handicapped, or pre-school children. As an example, Senior Wheels provides rides to over 100 senior citizens of Conway for congregate meals, medical appointments, shopping, and visiting.

**Public Parking System** – The town operates approximately 665 public parking spaces between North Conway Village (416), Conway Village (219) and Center Conway Village (30). Parking spaces at the Conway Post Office and public schools are not counted as part of this inventory. On-street parking provides the majority of public parking spaces in the villages. Off-street parking in Conway Village is available at Davis Park (36 spaces off East Side Road) and the Conway Library (14 spaces off Greenwood Avenue). In North Conway Village the vast majority of off-street parking is provided by private businesses. The town also leases 49 spaces from a private business owner off White Mountain Highway in North Conway Village. The future of these spaces is uncertain as the lease is scheduled to expire in 2003. Private on-site parking is also provided by various businesses in each of the villages (see Table 7-3).

**Table 7-3: Conway Public Parking System**

Area	Spaces	Description
<b>North Conway Village</b>	<b>416</b>	
Seavey Street	5	On-Street Parallel
Kearsarge Road	41	On-Street Parallel
Pine Street	6	On-Street Parallel
Main Street (RT. 16)	268	On-St. Perp. & Angle
Norcross Circle	41	On-Street Parallel
White Mt. Highway	49	Off-St., privately owned, leased
<b>Conway Village</b>	<b>219</b>	
Main Street	84	On-Street Parallel
W. Main Street	36	On-Street Parallel
Washington Street	39	On-Street Parallel
Greenwood Avenue	10	On-Street, Parallel
Conway Library	14	Off-Street
Davis Park	36	On-Street, E. Side Rd.
<b>Center Conway</b>	<b>30</b>	
Town Hall	30	Off-Street, municipal

Source: Town of Conway and Dufresne-Henry, Inc.

The majority of public parking in the North Conway Village has a 2-hour time limit, while Conway Village has a 1-hour limit. However, the town currently has no formal enforcement program. In the peak summer and winter weeks parking can be difficult to find, particularly in North Conway Village.

The Conway Zoning Ordinance requires that all new commercial and multi-family developments provide on-site parking, except where there is a municipal parking lot within 400 feet of the site. Although this type of requirement is logical in newer commercial districts where sufficient room is available for on-site parking, in the Villages of Conway and North Conway this is a difficult problem. These villages are densely settled and dependent primarily on existing on-street public parking. Also, there are very few existing and potential new on-site parking expansion opportunities available that would not negatively impact the traditional village development patterns.

**Sidewalks** – The only significant sidewalk network in town occurs in Conway Village and North Conway Village. There is also a sidewalk in Center Conway, along Mill Street, that is primarily used to provide a safe alternative for children walking to and from the Pine Street School. Pedestrian movement in the villages is a fundamental means of transportation and key to long-term viability. Consequently, streets and intersections should be designed to provide for safe and convenient pedestrian access. However, there are several areas in the North Conway Village where the sidewalk network is in disrepair.

The only other significant sidewalk in town is along the east side of the Route 16 “strip” that begins at the intersection of Route 16 and 302 and extends north into North Conway Village. A partial sidewalk is also located on the west side of the road. There are numerous safety issues associated with these sidewalks including minimal separation from travel lanes, multiple and wide curb cuts, and handicapped accessibility constraints. Navigating the strip as a pedestrian can be a dangerous undertaking.

**Bicycle Lanes** – As shown in Map 7-1, there are bicycle lanes located along portions of the NH Route 16 and US Route 302 corridors, as well as West Side Road. However, due to the amount of vehicle traffic and turning movements, these corridors are not friendly for bike riders, particularly along the “strip” and in the villages. Over the years there have been several accidents involving bicycles and cars. A network of bicycle lanes along major roads would greatly enhance rider safety and use. This network should include Route 16, Route 302, Route 113, Route 112, Route 153, West Side Road, River Road, East Conway Road, Green Hill Road, North-South Road and Brownfield Road. In order to facilitate this network, Conway will have to work closely with NHDOT, which is responsible for all of these corridors except West Side and Brownfield Roads. Additional information on bicycle lanes is provided in Chapter 6 (Recreation) of this master plan.

**Trails and Paths** – There are a multitude of trails and paths in Conway serving a variety of users including walkers, hikers, mountain bikers, cross-country skiers, and snowmobilers. Much of this network is informal and privately owned with no formal agreements for continued use.

### [Map 7-1 Bicycle Routes](#)

The town has been pursuing a formal multi-use trail network for non-motorized uses. The main trail would be located on an existing rural road along the northern bank of the Saco River from Redstone to Conway Village. Ultimately, spurs would be developed and the town would like to see the major villages connected to this network.

The only formal motorized use trail (trail 19) in Conway enters the community at the Albany town line along the railroad tracks then proceeds north, parallel to Route 16, to the area of Barnes Road, where it crosses Route 16 and follows Barnes Road easterly across the North-South Road to the railroad tracks. The trail then heads southbound on the tracks to Redstone and then easterly along private land towards Route 113 and Maine. The Conway Snowmobile Club manages this trail. More information relative to recreational trails and paths throughout the town is available in Chapter 6.

### **Traffic Circulation & Capacity Issues**

Traffic circulation in Conway is probably the most important transportation issue facing the community. Congestion during peak periods is widely known to residents and visitors alike, and can greatly diminish the experiences of both groups. It has been a major quality of life factor that is now beginning to be sufficiently addressed after years of debate and discussion.

The structure of the local highway network requires local and regional travelers to share, to a significant degree, the major arterials in Conway. Local traffic consists mainly of trips from residential areas in Conway, Center Conway, Conway Village, North Conway and surrounding towns to local businesses and services concentrated in the community. Commercial districts in Conway are also attracting more short and long-range trips each year. These linked commercial trips generate substantial turning movements. Combination of local trips and through trips on the major arterials often results in slow traffic, capacity constraints and delays.

Conway has significantly higher traffic volumes on its major roadways when compared to other communities of similar size. NHDOT has monitored daily traffic volumes for several years at a number of permanent and temporary traffic counting stations throughout the town. Table 7-5 illustrates that the highest daily traffic counts are recorded at the station on U.S. 302 and Route 16 south of Duprey Road where daily traffic averages over 20,000 vehicles per day (vpd) during the last 5 years. Other high traffic count locations (those approaching 20,000 vpd) include U.S. 302/Rt. 16 north of the intersection; Route 16 west of Route 153; and U.S 302/Route 16 south of Grove Street.

Because of the nature of Mount Washington Valley as a destination resort location, traffic volumes in Conway are unusual. Daily traffic counts resemble characteristics often associated with suburban areas, rather than a rural community, in that business hours for area workers and visitor destination trips create more peaks and lows in volumes than most comparable communities with a stable year-round population. Also unusual is that weekend traffic is likely to be higher than weekday traffic (see Table 7-4).

**Table 7-4: Annual Average Daily Traffic Volumes in Conway**

Station*	FC**	Location	Annual Ave. Daily Traffic (VPD)				
			1996	1997	1998	1999	2000
101024	2	NH 16 South of Intervale Rd.			12,000		
101045	2	NH 16 North of NH 113 at Saco River Bridge (SB/NB)	13,000	13,000			12,000

Overall, traffic has grown significantly over the past 20 years. Between 1980 and 2001, the annual total vehicle trips

101046	8	East Conway Rd. east of US 302		4,800		
101047	8	West Side Rd. north of Allen's Rd.	4,600		5,700	
101048	9	Intervale Cross Rd. east of US 302 & NH 16	1,500	2,400		
101049	8	Passaconaway Rd. east of Albany TL	440			
101050	9	Tasker Hill Rd at Madison TL	760			
101051	2	US 302 & NH 16 north of Jct. Of US 302 & NH 16		20,000		
101052	2	US 302 east of US 302 & NH 113		8,700	11,000	
101053	2	US 302 at Maine SL		8,500	9,000	
101054	2	NH 16 at Albany TL		12,000	12,000	13,000
101055	2	US 302 & NH 16 (North Conway) south of Grove St.		16,000	19,000	
101056	2	NH 16 west of NH 153	17,000			20,000
101057	2	NH 16 south of US 302			14,000	
101058	6	US 302 east of NH 16		7,900		10,000
101059	2	NH 113 south of US 302 & NH 113	7,300			8,000
101060	8	Lucy Brook				1,100
101061	2	NH 16 north of Washington St.			14,000	
101062	2	US 302 & NH 16 north of River Rd.		15,000	14,000	11,000
101063	2	NH 113 east of NH 16	7,400			6,800
101064	8	River Rd. at Saco River Bridge	5,300			6,400
101065	8	Kearsarge St. east of NH 16	2,300			2,400
101066	8	West Side Rd. south of River Rd.	5,100			6,500
101067	8	Passaconaway Rd. at B&M RR Crossing	930	830		
101068	9	Intervale Cross Rd. east of Wyman Ave.			930	
101069	9	Skimobile Rd. east of Kearsarge Rd.	720	760		870
101074	8	NH 113 (East Conway Rd.) at White Lot Bridge	1,500	1,600		1,800
101076	8	East Conway Rd. north of Road to West Fryeburg, Maine		1,100		
101077	8	East Conway Rd. at Mason Brook			2,900	
101078	9	Old Bartlett Rd. over Kearsarge Brook	390			390
101079	9	Artist Falls Rd. over Artist Brook	510			540
101080	9	Mill St. over Conway Lake Outlet	2,000			1,900
101081	2	US 302 & NH 16 south of Duprey Rd.	20,931	20,970	21,148	20,794 20,583

grew by 52% (from 431,091 in 1980 to 629,678 in 2001). Traffic volumes vary greatly over the course of a year in Conway. There are two peaks, one in mid-winter and the other in mid-summer as illustrated on Table 7-5. These peaks correspond to the winter ski season and the summer vacation period.

\* All stations are Type 82 except the following: 101052, 10154, (22); 101053 (62); 101081 (02)

\*\* Functional Class of Roadway

AADT: The total two way volume of traffic at a given location for a 24-hour period representing an average day of the year.

Source: NHDOT Traffic Volume Report, 2000

**Table 7-5: Town of Conway Automatic Monthly Traffic Recorder Report, 1980-2001**  
**US 302 & NH 16 South of Duprey Road**

Month	Total Veh. 1980	Ave. Sunday			Ave. Weekday			Ave. Saturday			Adj. Ave. Daily			Computed Total Veh.			1980-2001 Gain/Loss
		1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001	1999	2000	2001	
January	348,982	16,546	17,523	18,521	17,770	17,475	18,156	19,810	21,271	21,332	17,901	18,095	18,613	554,943	560,953	577,006	65.3%
February	359,238	nr	20,830	18,423	nr	19,648	19,613	nr	22,449	22,933	nr	20,135	19,917	nr	583,922	557,673	55.2%
March	351,016	nr	18,591	19,014	nr	19,229	17,493	nr	22,487	21,377	nr	19,567	18,315	nr	606,573	567,776	61.8%
April	334,355	nr	15,466	16,515	22,036	18,378	nr	nr	20,514	nr	nr	18,249	nr	nr	547,474	nr	63.7%
May	408,852	19,202	19,096	nr	19,853	19,039	nr	22,191	22,373	nr	20,125	19,477	nr	623,893	603,764	nr	47.7%
June	438,400	21,379	nr	18,695	22,589	nr	20,892	25,027	nr	22,339	22,753	nr	20,840	682,574	nr	625,214	42.6%
July	637,803	23,605	21,958	22,628	25,505	23,896	24,362	25,818	24,347	25,651	25,310	23,656	24,249	784,618	733,338	751,717	17.9%
August	664,236	23,027	23,179	23,301	25,232	24,569	24,793	25,747	25,488	25,602	24,943	24,507	24,705	773,230	759,747	765,860	15.3%
September	460,305	21,667	20,468	20,783	21,905	21,238	20,497	24,593	23,379	23,202	22,232	21,492	20,996	666,946	644,760	629,869	36.8%
October	nr	19,756	19,734	19,604	21,759	20,827	20,936	23,474	23,404	23,212	21,712	20,983	21,058	673,080	650,474	652,791	nr
November	352,712	17,657	15,615	18,004	18,866	17,172	18,377	22,547	21,209	22,154	19,196	17,503	18,831	575,865	525,086	564,925	60.2%
December	386,104	18,445	17,381	18,647	20,634	19,373	19,100	18,856	20,722	21,922	20,122	19,270	19,482	623,765	597,345	603,950	56.4%
<b>AVERAGE</b>	<b>431,091</b>	<b>20,143</b>	<b>19,076</b>	<b>19,467</b>	<b>21,615</b>	<b>20,077</b>	<b>20,422</b>	<b>23,118</b>	<b>22,513</b>	<b>22,972</b>	<b>21,588</b>	<b>20,267</b>	<b>20,701</b>	<b>662,102</b>	<b>619,403</b>	<b>629,678</b>	<b>52.3%</b>

nr: Not reported/station did not operate

\* Insufficient data to compute

Source: NHDOT Automatic Traffic Recorder Report, 2000

In the extended summer-fall season, from June through October, average daily traffic ranges from 22,000 to 25,000 vehicles.



This is a substantial increase over the 1980 average daily counts, which ranged from 15,000 to 20,000 vehicles. The peak months of the year are July and August when traffic exceeded 25,000 vehicles in 2001. Again, this is a substantial increase over the 1980 average of about 20,000 vehicles per day. Winter volumes are typically lower, between 18,000 and 19,000 vehicles per day. However, these levels again indicated a significant increase over the last 20 years when the average traffic in December and January was 11,000 and 13,000 vehicles per day.

During congested times, area residents have been able to find alternative routes such as West Side Road, the recently completed North-South Road, River Road, Kearsarge Road, Intervale Road, and portions of Routes 113 and 153 which parallel sections of the more widely know Routes 16 and 302 and the North-South Road. However, congestion on the arterials has had the effect of increasing the amount of traffic on alternative routes, and as more travelers discover these local alternative roadways, traffic congestion problems expand.

### Sufficiency and Safety Issues

Roadway safety is determined by a number of factors such as road conditions, traffic volume and speed, the number of access points and intersections, driver behavior, and vehicle condition. All of these factors create the potential for accidents. Highway traffic accident data is commonly used to identify hazardous situations and plan for necessary improvements.

**Table 7-6: Conway Traffic Accidents**

	1978	1990	2001
Total Accidents	322	185	684
Persons injured or killed	124	35	92

Source: Conway Police Department

In 1978 there were over 320 reported accidents on Conway roads (see Table 7-6). About one-third of all these accidents occurred on Route 16. By 1990, the number of accidents dropped significantly with about 185 total reported. In 2001, the number of accidents rose significantly to a level of 684. Nearly half of these accidents occurred on Route 16.

**Table 7-7: Conway Reported Accidents by Month, 1990 & 2001**

Month	1990				2001				
	Total	Involving Injury	Involving fatality	Hit cyclist/ Pedestrian	Total	Involving Injury	Involving fatality	Hit cyclist/ Pedestrian	
January	19	0	0	0	69	6	0		
February	26	3	0	1	61	11	1		
March	14	4	0	1	79	9	0		
April	6	0	0	0	32	11	0		
May	3	0	0	0	30	2	0		
June	13	2	0	0	54	5	0	Not available by month	
July	27	9	0	0	72	14	0		
August	22	7	0	2	77	11	0		
September	10	3	0	0	51	9	0		
October	19	2	0	1	52	2	0		
November	10	3	0	0	40	3	0		
December	16	2	0	0	67	8	0		
Total	185	35	0	5	684	91	1		11

Source: Conway Police Department

It is difficult to determine the reasons for the drastic fluctuation in recorded accidents over the last 20 years. It appeared that as improvements were made to the state highway system during the 1980s and early 1990s (i.e. new signals and reconfiguration of several curb-cuts), accidents levels dropped accordingly. However, as more developed occurred along the "strip" and daily traffic continued to growth, the capacity of the roadway was further strained and accident levels rose.

Accidents reported in 2001 were fairly evenly distributed throughout the years (see Table 7-7). Slight increases occurred during July and August, corresponding to peak summer traffic volumes.

Statewide accident rates estimated by NHDOT (Draft Environmental Impact Statement, 1988) indicated the following statistics:

- Total Accidents: - 270 per 100 million vehicle miles (MVM)

- Property Damage Only – 169 per 100 MVM
- Personal Injury – 99 per 100 MMVM
- Fatal Accidents – 2.38 per 100 MVM

The total reported accidents for Route 16 of 307 in 2001 appear to be well above the statewide average for both “total incidences” and “property damage only incidents”.

Highways in New Hampshire are evaluated according to a sufficiency rating system. Road features such as stopping distance, the width of the surface and shoulders, alignment, and grade are evaluated for each road segment under the state’s sufficiency rating system. Each segment is given points for condition, safety and service with 100 as the maximum rating. Segments that receive a rating of 60 or less are considered insufficient and generally given priority for improvements depending on traffic, population, and condition of adjacent segments.

In the early 1980’s, four segments of Route 16, one segment of Route 302, two segments of 16/302, and one segment of Route 113 had ratings of 60 or less. Reconstruction of Route 302 for 1.4 miles east of the Route 16 intersection has since been completed, as well as several other major roadway improvements.

#### **4. Transportation Network Improvements**

In the early 1990s the Town of Conway adopted a four pronged policy approach to improving the roadway system involving the following elements: new parkways (the Conway bypass and the North-South Road); upgrades to Route 16; local road maintenance and improvement program (7-year capital improvements program); and traffic demand management strategies.<sup>[1]</sup>

This comprehensive transportation policy was based on existing information and studies. It was intended to provide long-term policy direction to the Town of Conway with respect to transportation and the relationship of transportation improvements to land use planning. The primary problem identified in the report was traffic congestion during peak tourist periods. With few viable options for alternative transportation modes, tourists were driving to and through Conway to reach their destination. It was also determined that the existing system at the time was inadequate to handle resident traffic in combination with growth in the volume of regional traffic.

The solution was for the town and NHDOT to work together in providing increased highway capacity and efficiency in the system, develop long-term alternative modes, improve rail access, sustain an on-going planning effort, and make changes in land use policies and regulations in order to enhance transportation improvements.

##### **New Parkways**

A parkway is generally defined as a small-scale arterial road with little or no access to adjacent properties. This limited access design allows traffic to bypass existing areas of congestion, but permits traffic connections between the limited existing roads in the regional and local highway network. This approach could serve the needs of both local and regional traffic, as well as be sensitive to both the natural and built environments, especially existing communities and neighborhoods. The proposed Conway bypass and recently completed North-South Road are considered parkways.

**North-South Road** – The North-South Road, which opened in August of 2002, creates a network of local roads which serve to disperse traffic and partially separate through traffic from business traffic. Recent traffic counts indicate that the road averages about 4,000 to 6,000 vehicles per day.

The use and aesthetic appeal of this new travel corridor is already well established. It has limited access to intersecting streets, prohibits private driveway access, contains high quality directional signage (compared to advertising signs on Route 16), a pedestrian/bicycle network, and is a convenient bypass to areas of commercial development. From the intersection of Routes 16 and 302 this new corridor traverses north, parallel to Route 16, with connections to the following existing local roads:

- Artist Falls Road
- Depot Road
- Grove Street
- Seavey Street
- Kearsarge Road

- Mechanic Street

In designing this new roadway, both residents and NHDOT officials decided to limit access along the corridor to existing intersecting streets. However, there are several existing land locked parcels along the corridor that may need to be accommodated unless other access can be found. Future development proposed on these parcels should also be carefully reviewed in order to avoid creating the types of traffic issues that currently exist on Route 16, such as high turning movements and mixing local and visitor traffic. Other possible future side road connections include Mountain Valley Boulevard, Common Court, and Pudding Drive.

A unique pedestrian and bicycle network is included in this roadway design. Safe bicycle and pedestrian access along the new roadway is critical given the dangerous environment present on the Route 16 corridor due to high traffic volumes, turning movements and multiple curb cuts. The North-South Road corridor provides a convenient replacement and greatly extends the community's alternative transportation network.

The northern terminus (Kearsarge Street) has been an area of concern in terms of allowing for a smooth transition of traffic on the receiving street without disruption to the existing neighborhoods. Reasons cited include its narrow right-of-way and pavement width, the intimate scale and existing neighborhood character, and the area's capacity to absorb traffic entering and leaving the road. This final segment of the corridor will have to be monitored closely for potential negative impacts on the neighborhood.

The North-South Road may, however, indirectly affect growth and development in the community. For example, it is expected that traffic volumes will be reduced on the Route 16 strip thus expanding overall roadway capacity. Separating a large amount of through traffic from shopping traffic may also provide new opportunities for higher quality and higher density infill development and redevelopment. As a result, this opportunity for new development must be carefully balanced with the need to enhance and improve the vitality of North Conway Village.

The Town of Conway should continue to monitor traffic conditions and work with local residents, the business community and other interested groups in preparing a local traffic management plan for the North-South Road that addresses the following issues at a minimum:

- Careful monitoring of the impacts on Kearsarge Street at the northern terminus
- Installation of attractive directional signage
- Detailed evaluation of possible future access to the corridor by additional existing roads and private parcels
- Re-channeling bicycle riders and pedestrians to the new corridor

**The Conway Bypass** - The Conway bypass has been in the planning stages for nearly 30 years. The purpose of the bypass is to re-route through traffic around the villages of Conway and North Conway via a limited access highway. This would effectively separate local traffic from regional traffic, which has become overwhelming at certain times of the year within the two villages on Routes 16 and 302.

The Conway bypass project is included in the State's Transportation Improvement Program with funding of improvements tentatively scheduled during the next six years. Preliminary work has begun on the project, but the actual bypass is not scheduled to be completed for another 10 years.

Numerous studies and reports have been prepared about the bypass over a number of years in terms of traffic, environmental, social and economic impacts on Conway and the Mount Washington Valley. Much of the early discussion and concerns had to do with the direct impacts of the bypass on land and water resources in the path and adjacent to construction activities. Additional concerns were also raised over indirect and secondary impacts of potential growth and development, resulting from the project, if effective local growth controls were not in place. Specific concerns relate to the intersections, interchanges and properties that have visual exposure to the corridor.

In 1998, a series of special community planning workshops about these issues were held.<sup>[2]</sup> During these workshops a general consensus was reached that the Conway bypass should serve as an effective diverter of through traffic, an attractive gateway to the Mount Washington Valley, and have the character of a parkway, in terms of continuous natural buffers on the edge of the right-of-way, interspersed with views and vistas showcasing the natural attributes of the valley, which is the foundation of the area's tourist-driven economy.

While the Conway bypass could be considered a parkway in terms of design, the general consensus was that it should also

be in a “park-like setting”. In addition, protecting environmentally sensitive areas and important natural resources along the corridor and downstream from the impact area was a key community goal. Particular natural resources identified for close monitoring included Puddin Pond, Page Randell Brook, Conway Lake, the Saco River and nearby aquatic and wetland areas.

There are four (4) intersections planned for the bypass: Route 153; Routes 113/302; U.S. Route 302 (in the vicinity of Walmart), and the Cranmore area. Possible future development at these intersections is a critical community issue and it was determined that any development be aesthetically compatible with the site and have minimal land use impacts. The public consensus was that any new development visible or accessible from the bypass be in keeping with the parkway and gateway concept, minimize traffic congestion, and protect nearby natural resources.

The U.S. Route 302 and Cranmore intersections are particularly geared for future commercial development because of their location and highway orientation. Since new development could potentially diminish the efficiency of the bypass in serving through traffic, it was determined that special review requirements should be adopted for these areas to ensure high quality design consistent with the parkway concept. For example, it was suggested that curb cuts on intersecting streets be limited in order to minimize traffic impacts.

Protecting underutilized land areas and green spaces is another important public objective for the bypass corridor. This can be effectively accomplished by directing development to established commercial corridors (i.e. the villages and the “strip”), and emphasizing connectedness of the open space system. Funding mechanisms may be required however to compensate property owners, possibly through the purchase of development rights for example, in order to prevent sprawl or protect critical natural resources.

Based on previous studies, reports and a myriad of public meetings since 1998, the Town of Conway has taken several steps to manage growth as the project gets closer to construction including the following:

- A special highway corridor overlay zoning district was established that included provisions for:
  - An area of jurisdiction from the edge of the bypass right-of-way with a minimum natural buffer abutting both sides in which no tree or undergrowth clearing would be permitted
  - Limitations on tree clearing outside the buffer zone
  - Encouragement of traditional architecture with smaller structures and significant landscaping in parking areas
  - Establishment of limits on impervious surfaces
- Additional measures that should be considered for the inclusion in the overlay zoning district are the following:
  - Select planned opportunities for views of the valley and rural landscape
  - Control outdoor lighting and commercial signs visible from the bypass
  - Control strict curb-cut standards for streets intersecting with the bypass
- Established a design review committee to address the following issues: advertising, outdoor lighting, intersection design, “adopt a highway” program for litter, natural noise attenuation rather than walled noise barriers, and tree plantings where necessary to screen off development

Other future growth management measures that could be considered include:

- Request and work with NHDOT to pursue development of pullovers on the bypass, especially where an entire piece of property must be acquired, thereby increasing the right-of-way corridor width available for such purposes.
- Identify critical wetland resources and then follow through on appropriate measures to protect them through land use regulations
- Prepare a greenway master plan as an amendment to the Conway Master Plan to include concepts for continuous bikeways and multi-purpose pathways as well as a system of interconnected wildlife and green space corridors.
- The town should request funding from the NHDOT (possibly funds earmarked for wetland mitigation and construction costs related to the West Side Connector Road) to be allocated to acquire property rights and/or

conservation easements in locations which might otherwise be critically impacted by development induced by the bypass.

- The town should consider setting aside a predetermined percentage of the current use penalty tax in a special capital reserve account to be used to provide fair compensation for the purchase of property development rights in critical locations (i.e. bypass intersections adjoining critical wetlands).
- The town should keep the general public well informed on land use and environmental issues related to the bypass as the project progresses possibly through public meetings, radio, cable television, print media, the town's website and other methods.

## **Route 16 Corridor Improvements**

Route 16 is the major existing roadway arterial in Conway. It bisects the Villages of Conway and North Conway, and at certain times of the year traffic exceeds the roadway's capacity. In order to improve the efficiency, capacity, safety, aesthetics, and economic opportunities on the corridor, several upgrades and improvements are being considered. The NHDOT has been working with the town in designing various improvements to the corridor between the U.S. 302 intersection and North Conway Village.

In the past, property owners along the corridor have been opposed to significant widening or a median barrier. However, there are other measures that could be examined including, improving site access, limiting or reconfiguring curb-cuts, and signaling intersections with poor safety or LOS records that could be accomplished without significant changes to the highway's cross section. Improving sidewalks, bike networks, and streetscape enhancements are also reasonable alternatives that could be constructed. The Route 16 Corridor Improvement Plan (included in an Attachment to this master plan) illustrates preliminary corridor improvement concepts currently being considered.

In addition to improvements within the road's right-of-way, several other improvements could be made on town as well as private property. There may be adjoining properties located on the strip where internal connecting roads could be constructed between private parking lots. This could provide shared parking opportunities and improved access resulting in fewer trips and turning movements on Route 16. It may also be possible to connect some public and private dead-end streets, which access the corridor. This would result in improved internal distribution, traffic dispersement, and reduction of trips on Route 16. The opening of the North-South Road in August 2002 will continue to have a significant impact on the corridor in terms of improving access and safety, dispersing traffic and separating through trips from shopping trips.

## **Local Road Improvement Program**

Beyond the major projects discussed above, the town has been evaluating the entire local road network for several years in order to establish priorities for maintenance, safety, and capacity improvements. The town adopted an 8-Year Road Maintenance and Improvement Program in 1997, and the projects, through 2008, are listed in an Attachment to this master plan.

Local road maintenance is an important issue in Conway. The 8-Year Program (which also includes a pavement management system and bridge maintenance program) provides a rationale approach for identifying and undertaking needed improvements. The town has continued to support this program as an efficient and fair use of tax revenues, and also includes many of these projects in the Capital Improvements Plan, which ensures efficient distribution of costs over time.

## **Land Use Policy & Regulations**

**Zoning** - The Town of Conway has a significant amount of commercially zoned land compared to similar size towns in New England. This is not surprising given the tourist-based regional economy and specific retail function of the community. However, as more and more commercial development has occurred over the past 30 years, so has concern about traffic congestion and safety issues.

With the construction of the North-South Road, and eventually the Conway bypass, traffic congestion is expected to decline along the Route 16 "strip" and in Conway and North Conway Villages. Additionally, the proposed extension of the public sewer system could free up commercial land in areas now designated for septic tank fields. Although this presents an opportunity for new or infill development within existing commercial districts, it should be done carefully. The town should also tightly control the expansion of commercial zoning to new areas, thereby avoiding the spread of traffic congestion over larger

areas of the community.

In addition to potential new commercial development along the “strip”, a program could be developed to provide incentives for infill and enhancement of certain properties in the these village areas as well. Possibly a transfer of development rights program (TDR) could be established that would permit the use of development rights from other portions of the community in existing commercial corridors, thereby protecting rural and open lands from future development. This would be in keeping with the community’s wishes to prohibit leap-frog and strip development along the bypass and other non-commercial local corridors.

**Roadway Design Standards** – Conway’s roadway design standards, as outlined in existing subdivision regulations, contain minimum roadway material requirements and design elements such as curbing, sidewalks and dimensions. Generally, roadway standards are established to ensure that new roads are safe in every situation. According to Conway’s subdivision regulations, as noted earlier, minimum roadway widths range from 18 to 24 feet. Relative to roadway widths, the standards specify:

*“The minimum pavement width is 18 feet. This width is only applicable to dead end roads with an average daily traffic count below 160 which do not have any truck traffic. If a road does not meet these conditions than the minimum width shall be 20 feet. When curbing is required...then the pavement width shall be increased by 2 feet. Roads in areas zoned commercial or industrial...the minimum width...shall be 24 feet”.*

According to Conway’s Town Engineer, current roadway design standards are flexible and are applied based on the merits of a respective development. However, in an effort to create safe roads, often an unforeseen result of roadway design standards has been the over-design of rural and lower density residential streets. Typically, over-designed rural and lower density residential streets include elements such as unnecessarily wide pavement widths, as well as sidewalks and curbing which are generally suited for more urban and higher density locales.

Conway needs to redefine the purpose of the town’s roads, which can be a difficult task because many of them serve two or more functions. Nonetheless, distinctions should be made between arterials, collectors, and local roads. Further, local roads should be defined as sub-collectors and residential access roads. The stated purpose of each road type should be the basis for its design, use, and maintenance requirements. Local access roads serving smaller residential developments could easily be reduced in scale to enhance neighborhood character, distinguish traffic speeds, reduce construction and maintenance costs, and still provide safe access.

**Dead-End Roads** – According to Conway’s Subdivision Regulations, the maximum number of homes than can be served off a dead-end street is 35. However, there are several streets in town with a greater number of homes than are currently permitted, or include branching dead end roads that have only one access point to an arterial. Where possible connections should be made between dead-end roads. There are several advantages to this including dispersement of traffic, improvement of emergency access, and the ability to loop utility systems. Provisions should be made in the town’s land use regulations to facilitate these connections where possible through easements for future use or actual construction. Connections should also be encouraged on existing dead-end streets where possible. Some examples include:

- Crown Ridge off Old Bartlett Road
- Thompson Road off Artist Falls Road
- Artist Falls Road (possible public service right-of-way connection)
- Ledge Road off of West Side Road
- Lamplighter Road
- Mountain Vale Trailer Park off of East Conway Road

A summary of various traffic improvement concepts (Conway Traffic Plan - pages one through five) is included in an Attachment to this master plan.

## 5. Trends, Issues, and Implications for the Future

### Protect Transportation Investments through Growth Management

The combination of the Route 16 Corridor, the North-South Road and the Conway bypass should be viewed as an integrated transportation system with each serving somewhat different travel needs. The bypass (as a limited access roadway) will serve through traffic with a limited access parkway that provides views of a scenic vista of the Mount Washington Valley. The

North-South Road will serve some through traffic and local traffic trying to avoid Route 16 or traveling to specific destinations. It will also provide an opportunity to disperse traffic off portions of the Route 16 corridor. The Route 16 corridor serves as the established high-density mixed-use corridor for the visitor-based economy. Development and redevelopment should be targeted for this area by infill and quality improvements.

Like most communities, Conway has designated the majority of land along major arterials for commercial uses and then waits for retailers and related businesses to gradually fill in the individual sites. Under this scenario, new development is scattered and spread out while sites closer to Conway Village and North Conway Village often remain underutilized. This is often referred to as leapfrog development. Also, by designating more retail than may be necessary, the town could dilute existing and established districts (primarily the villages and the Route 16 strip area) and reduce the effectiveness of both the North-South Road and the Conway bypass.

Land designated for commercial use should be based on regional market demands for various retail businesses and then allocate enough land for this purpose, not more. By controlling (or even reducing commercially-zoned land), Conway could stimulate retail growth, encourage revitalization, improve the quality of established shopping districts, and protect transportation improvements. The town should also consider the following steps:

- Limit the quantity of retail-zoned land to existing districts to provide economic strength and react more swiftly to consumer preferences
- Rezone excess land to encourage reinvestment and improve quality of existing retail properties
- Scale retail-zoned land to reflect the realistic assessment of size, strength, and character of the market.
- Stimulate infill, new forms of mixed use, and pedestrian oriented retail development on remaining land
- Structure zoning for mature strips to encourage denser forms of development than can be reached by multiple access modes
- Reserve some of the previously zoned commercial land for housing, office space, civic uses, recreational features and open spaces.

### **Reinvent “The Strip”**

Conway must anticipate changes in consumer preference as the community grows and changes. Consumers today are looking for attractive, pedestrian friendly and safe environments for shopping and entertainment. Conway should retain the flexibility necessary to adjust to these market demands, particularly in the areas of Route 16 referred to as “the strip”.

Transportation improvements should be scaled to the specific nature of the strip and balanced in order to serve multiple needs and purposes. With the added capacity resulting from the North-South Road and Conway bypass, there may be increased flexibility in terms of the roadway design. Intermittent landscaped medians could provide attractive gateway amenities to the strip and create a sense of arrival. This approach would also be effective in protecting turning movements and creating safe havens for pedestrians and bike riders.

Through site plan review, the town could encourage the consolidation of driveways and interconnect parcels so that automobile and pedestrian movements are possible without using the arterial road. Reducing access points could also significantly reduce the accident rate.

Parking commonly dominates the landscape on the strip due to extensive local requirements, which are often necessary because of the unique function of Conway as a retail outlet center. However, local regulations should be based on careful consideration of the following objectives:

- Size parking lots and structures for reasonable demand, as well as provide for peak parking in overflow areas
- Encourage and plan for shared parking among adjacent uses
- Create well-designed and landscaped parking lots
- Place parking on the side or behind buildings where possible to reduce the visual blight of endless parking lots.

### **Use Transportation Improvements to Enhance the Villages’ Character**

Individual preferences have changed nationwide over the past several years making older villages with traditional mixed-use development increasingly popular. While this may be considered a land use issue, it is directly tied to the local and regional

transportation system, as all commercial development has been over the past 30 years in Conway.

The existing transportation corridor through the North Conway Village is particularly wide with approximately 80 feet of pavement from curb to curb in the center. A boulevard or center island treatment in the centers of both Conway and North Conway Villages would provide a sense of arrival, a refuge for the numerous pedestrians who cross the street at this point, and a traffic calming device which would slow vehicle speeds.

The existing grid system of North Conway Village provides an attractive and traditional development pattern with older and historic homes and commercial operations (mostly shops, restaurants and bed & breakfasts). Streets are typically narrower with curbing and sidewalks on each side. A number of these local streets, however, are in poor shape with broken curbing and sidewalks. While sidewalk improvements are included in the 8-Year Capital Improvements Plan, the town should also consider adopting new street cross section plans for Conway and North Conway Villages that enhance the pedestrian environment and calm traffic.

Both villages are heavily dependent on public parking to serve local and visiting customers. The primary public parking issues and future improvements needed in the two village areas are as follows:

- More balance between public parking and private parking
- Do not expand parking at the expense of eroding the village character. Additional parking should be located on-street when possible, or on sides or in the rear area of existing and new buildings.
- Visible and high quality directional signage should be provided in North Conway and Conway Villages to direct potential customers to parking areas.
- Shared parking should be encouraged and remote lots should be permitted within a certain distance of a given business or residence.
- Consider a meter system for on-street parking – this will improve short-term parking turnover, and could provide a funding source for enforcement, maintenance, improvements and expansion

### **Facilitate Transportation Demand Management Strategies**

The town adopted a policy in 1992 to “work with the State of New Hampshire and other organizations to develop means of transportation other than personal vehicle use.” Developing regional and local mass transportation systems, a multiuse path system, designated bike lanes, changing land use development patterns, and similar approaches are considered a means of reducing demands on the highway network.

The town has made some progress on transportation demand management (TDM) improvements, but other options to the automobile are needed. The following are future issues and strategies that should be considered by the town:

- Ensure that local requirements for access, driveway design, and traffic impact standards are compatible with alternative transportation modes.
- Avoid over-design and over-construction of town roads.
- Improve traffic signal use on Route 16
- Create a multi-use path system and bike lanes on regional highways
- Improve and extend sidewalk network beyond the village areas.
- Evaluate the potential for a satellite parking system on edge of commercial district and in villages with complimentary uses (i.e. bike and blade rentals, shopper storage)
- Evaluate the potential for a village trolley system during peak seasons and times
- Consider storage systems (for parcels and packages) to reduce interior trips, and encourage walking and possibly transit use.
- Encourage TDM programs for employment centers

In order to manage peak hour street demand, TDM approaches such as ridesharing incentives, modified work hours, and telecommuting can help. Large employers such as the major tourist attractions and along the Route 16 Corridor are the best candidates for TDM programs. They have more ability to match employee ridesharing needs, stagger shifts, and the financial resources to carry out an effective program.

### **Improve Neighborhood Accessibility to Desired Activities**

Residential accessibility is measured in terms of access to desired locations such as work, recreation, and shopping.



Accessibility affects residents' ability to efficiently link trips for different purposes and the opportunity to complete more than one activity at a single stop. Residential development patterns have a significant effect on household travel. To better understand travel patterns in Conway neighborhoods, the following variables should be measured periodically through surveys:

- Trips/person (work-related and non-work related)
- Percent that drive alone or carpool with others
- Percent that walk or bike
- Travel time (work and non-work related)
- Total hours of travel/person
- Total vehicle hours of travel/person
- Total vehicle miles per year/household

### **The Street Network Should Have Multiple Connections and Direct Routes.**

Large-scale development projects should have connections to surrounding roads where feasible. This can be accomplished by facilitating internal collectors and subcollectors, multiple entrances, and interconnections between subdivisions. Traditional grids (such as in the village areas) have short blocks, straight streets, and multiple internal connections. They disperse traffic rather than concentrating it at a handful of intersections. These types of roadways offer a more direct route and hence generate fewer vehicle miles of travel. They also encourage walking and biking.

Many new residential streets in Conway have large blocks, curving roadways and branching patterns. There are certain advantages of this type of system such as reducing through trips, discouraging crime, and the ability to circumvent valuable natural resources more easily. The town should strive to provide the advantages of both traditional and contemporary streets – a hybrid network. With proper design, new streets can be safe, easily interpreted by the driver, short, and curved to follow the lay of the land.

### **Apply Traffic Calming Measures.**

The “livability” of streets declines as volume and speed of traffic increases. Controlling traffic speed is a key to pedestrian-oriented commercial streets. Residents are also more likely to walk, bike, and play along streets where speed is low to moderate.

Several traffic calming measures could be applied in Conway (see the Traffic Calming Measures Table located in an Attachment to this master plan). The goal of these traffic calming measures is to reduce speed through design (not just posted speed limits). Design speeds between 20 and 35 mph are recommended. Speed limits should be self-enforcing, however, particularly on local streets.

Roundabouts are a very effective traffic calming device for intersections. They typically have more capacity and produce shorter delays than signals when traffic flows are fairly well balanced. Properly designed, they can slow traffic down as it enters an intersection making them safer than signals. Landscaped islands visually break up expanses of pavement and close vistas. They can also be less expensive to install and maintain than signals. As compared to rotaries, they have smaller center islands, greater angles of deflection at entries, and flared approaches.

The width of local streets is probably the most important factor in effective traffic calming (other important factors include high street-side activity, short blocks, on-street parking, limited building setbacks, and street trees).

### **Keep streets as narrow as possible.**

There is a growing consensus that streets, particularly local ones, are over-designed, and represent a substantial cost for communities. Narrow streets save energy as well as construction and maintenance costs. They require less asphalt and energy to construct, have less effect on ambient air temperatures and thus moderate air conditioning demands. Narrow streets also calm traffic and vehicle operating speeds tend to decline.

**Table 7-8: Recommended Residential Street Widths for Conway**

Street Type	Typical Stds.	Recommended Stds.	Ave. Daily Traffic
Access Street	22-24 ft.	16-26 ft. (depending on parking)	0-300 tpd
Subcollectors	20-36 ft.	20 feet	301-800 tpd
Minor Collectors	24-36 ft.	24 feet	801-1,200 tpd

Major Collectors	24-36 ft.	36 ft.	1,501-3500 tpd
Source: Dufresne-Henry, Inc.			

In the past, Conway's street construction requirements have produced excessively wide roads in some parts of the town resulting in higher speeds and potential safety concerns. However, revised standards have recently been adopted exhibiting narrower roads and with more curves according to DPW. As illustrated in Table 7-8 and on the Potential Roadway Design Standards Figure (located in an Attachment to this master plan), alternative street design standards are applicable to the town.

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[1] Conway Transportation Policy Report, adopted 6/25/92

[2] *Summary Report of Community Planning and Consensus Building Process for the Conway bypass*, Glenn Harbeck Associates, January 1998