Traffic and Transportation Analysis

Adopted December 8, 1998

TRAFFIC AND TRANSPORTATION ANALYSIS

INTRODUCTION

The thoroughfare and transportation system is one of the most important factors in a town's physical development. The existing infrastructure, which in the case of Walpole refers exclusively to the system of roads and highways, has a direct and profound influence on land use throughout the entire town. All land use activities require some sort of access via suitable transportation routes and will most likely locate where access has been proven the easiest. Following this pattern, future improvements to the transportation system will serve to alter existing land uses by providing access to once inaccessible areas.

The purpose of this thoroughfare and transportation section of the Master Plan is to identify and analyze the current and future transportation needs of the town. By looking at the existing road network, analyzing the impact of regional growth on traffic volumes, identifying road deficiencies, and outlining specific objectives, this section should be a great help in providing data to help in the planning of an orderly schedule of road improvements. In addition, this section will attempt to show how future land use can be affected by the transportation system.

I. Highway Classification and Existing Road Network

The first step in the development of this section was to update the Town base map identifying all roads by their proper classification and names. The state of New Hampshire in accordance with NH RSA 229:5, has assigned all roads in the state to one of the following six classes:

- Class I: Trunk Line Highways
- Class II: State Aid Highways
- Class III: State Recreational Roads
- Class IV: Town Roads within Urban Compacts
- Class V: Town Roads maintained
- Class VI: Town Roads not maintained

Of the six state road classifications, four are found in Walpole: Classes I, II, V, and VI. It is cited in NH RSA 229:2 that "there shall be a system of highways known as the Primary State Highway System, which shall consist of all existing or proposed highways designated on a map entitled Primary State Highway System." Class I highways consist of all of the roads in this system, excepting those located within a city or town compact.

The state retains full control and assumes all costs of construction, reconstruction, and maintenance of these highways. Sections of these highways which are located within compacts are controlled by the particular municipality in which the road is located. Those highways located within town or city compacts are instead labeled Class IV highways.

Routes 12 and 123 are the two Class I highways in Walpole. Route 12 traverses the entire length of town in a north-south direction. As the classification implies, the highway is the main traffic corridor in Walpole. Route 123 travels in an east-west direction with a junction at Route 12. At that junction it joins Route 12 for approximately three miles in a southern direction until the highways separate when 123 turns to the west to cross the Connecticut River.

As detailed in NH RSA 229:4, there is a designated "Secondary State Highway System" which consists of all existing or proposed highways shown on a map entitled "Secondary State Highway System". In turn, Class II highways consist of all the roads within this system. This classification also excludes roads within city or town compacts, with these roads labeled Class IV as well. All sections of Class II roads which are improved to the satisfaction of the New Hampshire Department of Transportation (NHDOT) are then maintained by the state. All unimproved sections, where no local or state funds have been recently expended, must be maintained by the city or town in which the road is located until it is brought up to state specifications, in which time the state will acknowledge responsibility for it's maintenance.

There are a number of highways in Walpole which have been classified as Class II roads; these are: South Street, Upper Walpole Road, Hubbard Road and sections of County Road and Prospect Hill Road. These stretches of Class II road are entirely state-maintained except for Prospect Hill Road which is jointly maintained by both the Town and NHDOT.

The majority of roads within the Town of Walpole are of the Class V category. These roads are maintained solely by the town and consist of both paved and gravel road surfaces.

The other road classification in Walpole, Class VI, is not maintained by the town. While there is no development permitted on lands that have frontage only on Class VI roads, there is potential for eventual development if the roads are upgraded to Class V status.

The approximate road mileage for these four road classifications are shown below in Table #1. The table represents both NHDOT data and data collected from the Walpole Road Agent by the Southwest Region Planning Commission (SWRPC). The classifications are also shown graphically on Map #1.

TABLE #1:
APPROXIMATE ROAD MILEAGE BY CLASSIFICATION AND ROAD SURFACE TYPE

CLASSIFICATION	# MILES
CLASS I:	
ROUTE 12	10.87
ROUTE 123	3.04
	13.91
CLASS II:	
SOUTH STREET	.50
COUNTY ROAD	5.14
PROSPECT HILL	1.37
UPPER WALPOLE ROAD	1.34
OLD DREWSVILLE ROAD	.54
LANGDON ROAD	.06
	8.95
CLASS V:	
PAVED:	53.85
GRAVEL:	7.10
	60.95
CLASS VI:	14.96
TOTAL	98.85

SOURCES: NHDOT AND WALPOLE ROAD AGENT, 1998

A. Scenic Roads

In addition to these state classifications of roads, the state enabling legislation allows towns to designate any of their roads as Scenic Roads. This designation does not affect the property rights of any landowners abutting a Scenic Road, but it does require the written consent of the Planning Board, following a public hearing, before "any repair, maintenance, reconstruction, or paving work done . . . by the state or municipality, or any action taken by any utility . . . to erect, install or maintain poles, conduits, cables, wires, pipes or other structures . . . [that] involve[s] the cutting, damage or removal of tress, or the tearing down or destruction of stone walls. . ." (RSA 231:158).

B. Scenic Byways

In 1996 Massachusetts, New Hampshire and Vermont received Federal Highway funds to study the feasibility of designating a Scenic Byway corridor along the Connecticut River, and develop a Corridor Management Plan. An objective of the federal funding program was to foster greater participation in transportation planning. As part of the study, an inventory was conducted that identified the historic, cultural, recreational and natural resources of the study area; the purpose of the Corridor Management Plan is to guide the protection of these resources while addressing potential transportation and safety issues associated with tourism/economic development along the byway.

The study area for the Connecticut River Scenic Byway study is one town wide on either side of the Connecticut River, from its headwaters in New Hampshire, south to South Hadley, Massachusetts. The 274 miles of roadway includes 69 communities. Within the Southwest Region, the Byway consisted of Routes 12 and 63, and traversed four towns: Walpole, Westmoreland, Chesterfield, and Hinsdale. The summary of the report pertaining to this region, including the recommendations derived from the public planning process is appended to this document.

III. Functional Classification System

State classifications should not be confused with each highway's functional classification. These classifications attempt to identify the role of each highway within the state system based upon standards developed by the U.S. Department of Transportation (USDOT).

The functional classification of a highway details how each road provides for the efficient channeling of traffic throughout an area and how much of an impact that particular highway makes.

The functional classification system provides a way to connect the land planning and transportation elements of the Master Plan. By staying with a highway's intended functional use, possible conflicts between land use and adjoining roads can be avoided. The differences in functions of roads provide for the different uses of adjacent lands. One such example of land use is that of a residential development. From a theoretical or ideal standpoint, residential development should not be permitted to indiscriminately locate along major arterial highways or roads. This is because of the obvious opportunity for direct land use/traffic conflicts. The need for direct access to residential properties can prompt numerous left turns and crossover movements which slow down traffic flows and create ample potential for accidents. Such a development would be better suited for a less traveled minor arterial or collector road where the majority of traffic is local.

Major arterial highways are designed to carry the largest percentage of traffic entering and leaving a region as well as the greatest amount of traffic traveling through the region. The majority of trips throughout a region that do not require a stop in the area should be handled by the major arterial highway.

Based upon the USDOT criteria, Route 12 is classified as a minor arterial highway on a regional scale. While it serves as the main north-south traffic corridor for the Town, from a regional standpoint it is still classified as a minor arterial. When looking at the role of Route 12 within Walpole's local transportation system it is easy to see that the highway has a greater function than that of a minor arterial highway. With this in mind it seems reasonable that Route 12 should be described as the town's major arterial highway from a local standpoint. The highway provides the main access to Bellows Falls and points north in Vermont and to the City of Keene and eventually western Massachusetts to the south.

Route 123 has been classified from a regional standpoint as a major collector. When looking at the highway's functional use at a larger scale this is correct, with the highway providing land access, service, and traffic circulation throughout residential and commercial areas with a low traffic volume. While Route 123 does fit this description, it also serves as the main thorough-fare connecting Walpole with towns to the east. Because of this access the highway affords to neighboring towns, from Walpole's standpoint, the highway can be classified as a minor arterial highway.

Two other roads can also be classified as minor arterial roads in Walpole. The first is South Street which provides the most direct access to and from the center of Walpole to Route 12. The second is County Road which provides the major access road to the southern section of town.

The collector system provides more in the way of land access than do arterial highways. Collector streets may enter residential areas, business districts, and industrial areas. A collector street will often act as a funnel by channeling traffic onto a minor arterial highway which in turn may channel this traffic to a major arterial. Collector streets differ in another way from arterial highways in that they are more likely to distribute traffic on to its ultimate destination than a major or minor arterial.

Major collectors include Old Keene Road, Wentworth Road, Turnpike Road, and Cheshire Turnpike. The roads which have been classified as minor collectors, a step below major collectors, include Prospect Hill Road, March Hill Road, and Walpole Valley Road.

The local street system includes all other streets not already classified by the higher systems. The primary function of the local system is to provide direct access to the higher systems and abutting properties. It offers the lowest level of mobility and through traffic is generally deliberately discouraged.

A functional classification map for the Town of Walpole (Map #2) and an accompanying illustration have been prepared to provide a graphic explanation of the functional classification system and how it applies to the Town.

IV. Highway Department Expenditures

The Highway Department budget tends to be the largest portion of a town's budget, excluding school costs. Equipment is expensive, and the public expectations of what constitutes an adequate roadway has risen, including the expectation that roads should be driveable during winter storms. Some of the town costs are offset by a State Highway Block Grant that is allocated to towns on an annual basis. A detailed examination of annual highway department expenditures can be found in the Community Facilities Analysis (pending). The amount available to be distributed to all towns through the highway block grant is 12% of the total road toll revenues from the previous fiscal year. The amount apportioned to each town is then determined using a formula of which 50% is based upon municipal population and 50% relies upon how much Class IV and Class V road mileage lies within the town borders.

V. Traffic Volumes

Population increases in the southwest region of New Hampshire result in increased traffic volume over state and local roads. NHDOT monitors traffic with traffic counting devices at approximately 6000 locations on state highways over a three year period. Each year at approximately 2000 locations the DOT collects traffic data for about week at each location. Data compiled by these traffic counters are in the form of average annual daily trips (AADT) over each respective segment of road. NHDOT also maintains permanent traffic counters at 78 locations around the state; within the southwest region, there is one permanent traffic counter - on Route 12 in Westmoreland at the Walpole Town Line.

In Walpole there are 26 locations at which traffic counts have been taken. Only three of these locations provide any historical trend information - one of these being the permanent counter on Route 12; all three are at Town or State boundaries. The table below presents varied historical traffic count information for these three sites; the Westmoreland location is the only one that has consistent data through the 1990s; the other two cover only 1970 to 1990/91. Table 3 following presents AADT's for all 26 sites from 1990 to 1996.

TABLE #2:
AVERAGE ANNUAL DAILY TRAFFIC COUNTS

ROUTE 12 CHARLESTOWN TOWN LINE

YEAR	AADT	AV. ANN. % INCREASE
1970	2,500	-
1980	2,600	.04%
1990	3,500	3.5%

1970-90 % Change: 4%

ROUTE 123 - CT. RIVER BRIDGE

YEAR	AADT	AV. ANN. % INCREASE
1970	4,100	-
1980	5,500	3.4%
1990	3,800	-3.1%

1970-90 % Change: -7%

ROUTE 12-WESTMORELAND TOWN LINE

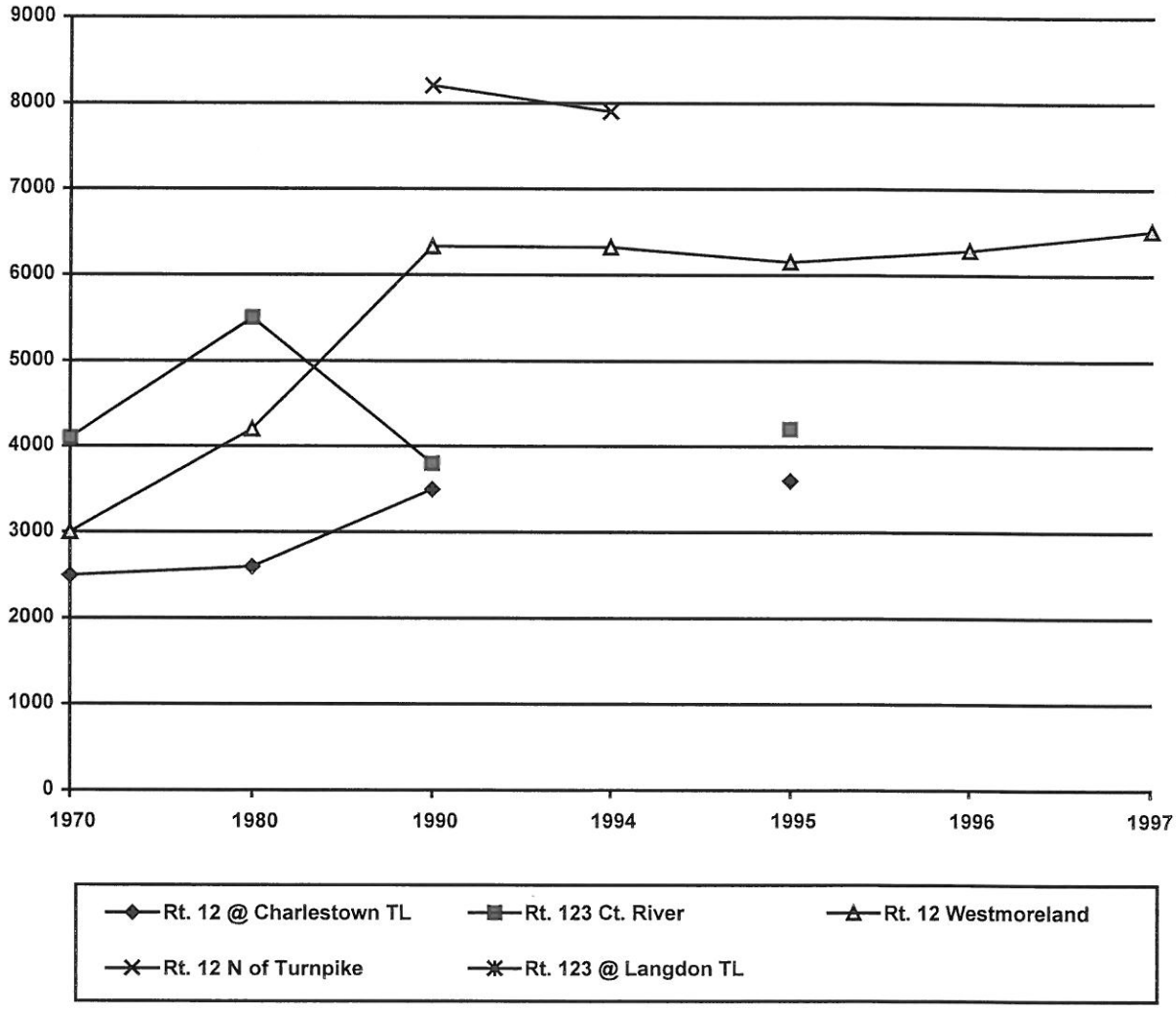
YEAR	AADT	AV. ANN. % INCREASE	YEAR	AADT	AV. ANN. % INCREASE
1970	3,000	-	1993	6,245	-2.7%
1980	4,200	4.0%	1994	6,323	1.2%
1990	6,332	5.1%	1995	6,152	-2.7%
1991	6,147	2.9%	1996	6,287	2.2%
1992	6,418	4.4%	1997	6,517	3.6%

1970 - 97 % Change: 117%

SOURCE: TRAFFIC VOLUME REPORTS, NH DEPARTMENT OF TRANSPORTATION.

The locations that experience the greatest amount of traffic in Walpole are on Route 12; there are four locations at which counts of 7-8,000 vehicles per day have been taken: (1) north of Turnpike Road; (2) south of the junction with Rte. 123; (3) south of Westminster Street; and (4) south of Vilas Bridge. The Arch Street Bridge location has hovered around 6,000, but as Table #2 indicates, the other traffic counts in Town are much less than these along Route 12. The graph below illustrates several of these traffic counts over a period of years.

GRAPH #1:
AVERAGE ANNUAL DAILY TRAFFIC COUNTS 1970-1997



VI. Commuting Patterns

The 1990 Census has information on the commuting patterns of the labor force - how many people drive into Walpole to work and where they come from, and how many Walpole residents drive out to work and where they go. This information is helpful to town planners as they look at the existing road network and make decisions about potential traffic volumes and direction of traffic.

TABLE #3:
COMMUTING STATISTICS OF THE LABOR FORCE

Population 1990 Census	Estimate Residents Working	Commuting to Another Town	
		Number	Percent
3,210	1,546	940	60.8%

Working in Town		Nonresidents Commuting into Town to Work	
Number	Percent	Number	Percent
606	39.2%	864	58.8%

SOURCES: US CENSUS, 1990; NH DEPARTMENT OF EMPLOYMENT SECURITY, 1994

Approximately 61% of the Walpole labor force commutes to another place to work. And, of the 606 people who work in Walpole, less than half (39%) live in town, while the remaining 59 percent drive into town from someplace else. Table #4 following illustrates the directions of travel for these workers.

TABLE #4:
COMMUTING PATTERNS INTO AND OUT OF WALPOLE

Commuting Out:	940	Commuting In:	864
To:		From:	
Keene	352	Charlestown	186
Swanzey	57	Alstead	52
Alstead	29	Keene	48
Langdon	29	Langdon	45
Westmoreland	29	Acworth	31
Lebanon	22	Claremont	28
Charlestown	17	Westmoreland	18
Rockingham, VT	70	Surry	12
Westminster, VT	20	Rockingham, VT	224
Springfield, VT	11	Westminster, VT	81
Other Vermont	209	Brattleboro, VT	23
Boston, MA	172	Springfield, VT	19
Other	40	Other Vermont	29

SOURCES: US CENSUS, 1990; NH DEPARTMENT OF EMPLOYMENT SECURITY, 1994

Looking at these origins and destinations, it seems reasonable to assume that most of the trips involve Routes 12 and 123. Obviously, residents will be driving on Town roads, but the large majority of the traffic will merge onto either one (or both) of the state routes in Walpole.

VII. Motor Vehicle Registrations

The residents of Walpole rely mainly on private vehicles to meet the majority of their transportation needs due to the fact that the Town does not have any public or private transit systems in operation. This dependence is reflected in increasing numbers of automobile registrations. Information available from the Motor Vehicle Division of the New Hampshire Department of Safety indicates that Walpole has approximately 3,000 passenger cars and trucks registered; the numbers provided by the Division include all registrations in town - motorized as well as non-motorized, so the actual true count for passenger vehicles is not available.

TABLE #5:
MOTOR VEHICLE REGISTRATIONS, 1991 - 1997

YEAR	REGISTRATIONS	YEAR	REGISTRATIONS
1991	3,103	1995	3,590
1992	3,411	1996	3,633
1993	3,440	1997	3,575
1994	3,482		

SOURCE: NEW HAMPSHIRE DEPARTMENT OF SAFETY

To determine the average number of vehicles per household in Walpole, the current registration figure must be divided into the current OSP total household estimate for Walpole of 1,538. This calculation yields a figure of 2.32 vehicles per household, which is very consistent with a 1994 figure of 2.2 for the entire Southwest Region, based on a survey conducted by the University of New Hampshire Survey Center (Southwest Region Transportation Study, Institute for Policy and Social Science Research; Hood House - Durham, NH; April 27, 1994).

Walpole's town roads and state highways are thus the major element of the transportation system. It appears that town residents will continually face the need for better and safer roads to satisfy their transportation requirements. The condition and safety of these roads will be the next component of this transportation element.

VIII. Existing Road Conditions

The first step towards building a better and safer road system is to identify hazardous locations and determine which roads are deficient. A distinction must be made between; (1) locations which are hazardous based upon accident experiences, and; (2) locations and elements that are potentially hazardous due to design or physical features. Road deficiencies include such problems as:

- narrow travelways
- narrow bridges
- guardrail deficiencies
- sharp curves
- rough pavement
- fixed objects near pavement edge
- inadequate shoulders
- steep grades
- inadequate sight distance
- poor drainage
- steep roadside slopes
- dangerous intersections

A. DOT Standards

In March of 1986, the NHDOT published "Minimum Geometric and Structural Guides for Local Roads and Streets" (See illustration and standards in the Appendix). The state specifications cited in this guide recommend a minimum pavement width of 18 feet for roads with an ADT of 0-50 trips per day. As the ADT total for a particular road increases, so does the minimum width recommended by the state. A 20 foot width is recommended for roads with 50-750 trips per day, a 22 foot width is recommended for road with an ADT count of 750-1500 per day, and 24 feet is the recommended width for roads that have 1500 trips or more per day. Based upon this state criteria, the minimum standard width for Class V roads in Walpole is 18 feet because although many Class V roads in Walpole probably support more than 50 trips per day, there is no ADT traffic data available for the roads and thus the minimum standards are applied. Class V roads are considered adequate for development, but are often not as wide as the 18 ft. minimum state standard. Class V roads below this 18 ft. wide standard are considered sub-standard by the state.

B. Road Surface Management System

Technology available to road agents to help in evaluating local roads. It is called the Road Surface Management System (RSMS), and it was created by the Technology Transfer Center of the University of New Hampshire. The system provides a means to visually inventory and evaluate a number of various road surface problems such as surface cracking, inadequate drainage, etc., and then factors in costs of repairs and approximated traffic volumes for each road. The results of the visual inventory, cost and traffic factors are then tabulated through the use of the RSMS computer program in order to create a priority list of road improvements. The priority list is finalized based on three weighting factors, which are all given equal weight:

traffic volumes; road surface roughness; and general road conditions. The roads in Walpole were inventoried using this system in 1997/98.

Roads that are identified by the RSMS should not necessarily be thought of as a preliminary list of town roads that are to be widened in the near future. A number of these roads give character to Walpole's rural landscape and typifies traditional development patterns. Consequently, even though many of these roads are shown to be of deficient width relative to the DOT standards, there is no apparent reason to widen the more scenic and less traveled roads.

Other problems can affect road safety besides narrow travelways. Table #6 following lists the locations on all roads in Walpole thought to be in need of repair due to hazardous or obsolete conditions. This table lists the deficiencies in no particular order with the priority for their repair detailed in the Road and Highway Improvement Program. These locations are also detailed on Map #3.

TABLE #6:
ROAD SYSTEM DEFICIENCIES

ROAD	DEFICIENCY
1. Route 123/Route 12	Dangerous Intersection
2. Route 123	Deteriorated Road Surface
3. South Street/Prospect Hill	Dangerous Intersection
4. Cheshire Turnpike (Drewsville Rd. to March Hill)	Deteriorated Road Surface
5. Watkins Hill Road	Deteriorated Road Surface
6. Wentworth Road	Deteriorated Road Surface/ Narrow Road Width
7. March Hill/Pinnacle View	Dangerous Intersection
8. North Main St./North Rd.	Dangerous Intersection
9. Ramsey Hill/March Hill Rd.	Insufficient Sight Distance
10. Prospect Hill Road	Steep Slope

SOURCES: WALPOLE PLANNING BOARD; WALPOLE TOWN ROAD AGENT

The most dangerous intersection in Walpole is the intersection of Route 12 and Route 123 with the intersection being the site of numerous accidents. The main problem occurs when southbound traffic on Route 12 attempts to turn left onto Route 123. Without a turning lane on Route 12 accidents can sometimes occur with southbound traffic running into the back of the turning vehicles.

Approximately the first 5000 feet on Route 123 from the Route 12 intersection proceeding north presents other deficiencies. Beyond the deteriorated road surface of the highway the greatest problem arises in the stretch of S curves just to the north of Walpole Valley Road. This location has been the scene of two fatal accidents in recent years.

Another dangerous area is located at the intersection of Prospect Hill Road, Wentworth Road and South Street. While there have not been many accidents at this location in the past, the intersection remains potentially hazardous. The greatest problem concerns traffic proceeding down Prospect Hill into the town center. With a yield sign instead of a stop sign at the bottom of the hill there is always a chance of a collision when traffic is operating too fast coming down the hill.

The remainder of road deficiencies on Walpole's town roads consist of deteriorated stretches of road and dangerous intersections. Also included as a deficiency is the lack of sight distance onto March Hill Road from Ramsey Hill Road and the steep slope of Prospect Hill Road.

Finally, a section approximately 6 tenths of a mile long of Route 12 just to the north of Route 123 is slated to be reconstructed by NHDOT in the Summer of 1999. With a state sufficiency rating of 26 based upon a scale of 1 to 100 this stretch is by far in the worst shape of any state highway within Walpole.

C. Bridges

The Town of Walpole has a number of bridges throughout the local road system, both on town-maintained and state-maintained roads. There are twelve state maintained bridges in town in addition to twelve town-maintained bridges, and two railroad bridges, for a total of twenty-six.

Ten of these bridges have been determined to be either structurally deficient or functionally obsolete by the NHDOT. To be functionally obsolete, as defined by the DOT, is to be carrying more traffic than the bridge was originally designed to do; and bridges that are structurally deficient have weaknesses or problems with components of the structure itself that are in need of repair and/or replacement.

The bridges identified in Table #7 are listed in the NHDOT Mini bridge list as being either functionally obsolete or structurally deficient. The improvement schedule for town-maintained bridges is presented in the Highway improvement program.

TABLE #7:
STRUCTURALLY DEFICIENT / FUNCTIONALLY OBSOLETE BRIDGES

-ROAD-	-WATER BODY-		-YR.- -BUILT-	-LOAD- -RESTRICTION-
Bridge Street	Connecticut River	SD	1930	106-Ton Limit
NH 123	Cold River	FO	1919	C2*
NH 12	Cold River	SD	1960	--
Turnpike Street	Mad Brook	FO	1990	--
Old Keene Road	Great Brook	SD	1927	E2*
Hill Road	Great Brook	SD	1960	E2*
Wentworth Road	Houghton Brook	SD	1955	--
South River Road	Houghton Brook	SD	1980	E2*
Bypassed Historic	Houghton Brook	SD	1927	Bridge Closed
Bypassed Historic	Aldrich Brook	SD	1927	Bridge Closed

* Restrictions for Certified Vehicles

SOURCE: NHDOT MINI BRIDGE LIST, 1997

IX. Alternative Modes of Transportation

The focus of the analysis so far has been on vehicular, private transportation. Non-motorized transportation, such as pedestrian and bicycle traffic, is limited in this area, outside of the City of Keene. Most roads were designed and built with little or no consideration for anything but vehicles. Some progress has been made in recognizing that pedestrian and bicycle paths need to be accommodated in our transportation planning. The area has seen an increase in recent years in both pedestrian and bicycle traffic, and with it a better understanding of the dangers of mixing these uses with vehicular traffic - for all parties involved. These issues can be partly addressed at the local level by designing new roads with attention to alternative modes of traffic. With existing roads the problems are more difficult, since the Road Agent is dealing with a circumscribed width in most cases; warning signs and speed limits are two methods that can help ameliorate the conflicts.

A. Public Transportation

Public transportation plays a very small role in the overall service network. There is no bus service to Walpole at this time. Vermont Transit operates a bus service between Vermont and Massachusetts, stopping in Brattleboro, Vermont and Keene, New Hampshire. Train service is very limited, with one Amtrak trip per day leaving from Brattleboro, Vermont.

Public transportation for special needs populations is available from a number of social service organizations on an as-need basis; some of these are also open to the general public. The City of Keene operates a public bus service within the City boundaries; the service is federally subsidized and targets the elderly population with a route that stops at the elderly housing complexes in the City, medical offices, and shopping facilities.

Public air transportation in the region is available only at the City of Keene's Dillant-Hopkins Airport. *Colgan Air* operates a daily shuttle to New Jersey and Boston, with a opportunity to connect with Continental Airlines. However, this arranagement between the airline and the City of Keene will not be renewed. That will leave the airport in use by private aircraft, for the most part. An expanded airport in Manchester, New Hampshire, about 55 miles from Keene, offers a wide range of air travel service to destinations around the country.

B. Rails-to-Trails

Opportunities for travel without an automobile are limited in this region. Bicycling, however, has experienced a resurgence over the last several years, both as a means of transportation and as a source of recreation. This shift is due, in part, to a statewide program called "Rails to Trails" that allows towns to develop recreational trails on abandoned railroad beds.

In the Southwest Region, there are three primary railroad routes that are being utilized as recreational trails at this time; the uses include snowmobiling and cross-country skiing in the winter, as well as hiking and bicycling and horseback riding in the other months. These trails are also providing some people with an alternative to commuting by car. These routes are described below:

- ASHEULOT BRANCH: 21 miles through Hinsdale, Winchester, Swanzey and Keene. Purchased by DOT in 1995 and managed by DRED. Local Rails-to-Trails group is active in planning and surveying for recreational use.

- FORT HILL BRANCH: 8.9 miles within Hinsdale. Potential to connect to the Asheulot Branch.

- CHESHIRE BRANCH: 42 miles from Fitzwilliam through Troy, Marlborough, Swanzey, Keene, Surry, Westmoreland, ending in Walpole. A multi-use recreational trail has been developed, and since 1995, volunteer efforts have resulted in the construction of bridges and upgrading the trailbed. The trail is managed by the Trails Bureau of the NH Department of Resources and Economic Development, which has appointed the Friends of Pisgah as the regional coordinator for planning and management. **[NOTE: There is some dispute at this time as to the actual ownership of the rail bed. The trail is still being used while the case is with the court.]**

X. Issues and Concerns

- **Class VI Roads**. The issues around Class VI roads have to do with pressure to upgrade them to Class V, and whether or not to grant building permits for existing lots that only have frontage on a Class VI road.

- **Underpass in North Walpole**. Railroad has not maintained the underpasses. Areas are derelict and pose threats to safety, as well as diminish visual quality of area. Pedestrian at-grade crossing will not be considered by the railroad or the insurance carriers.

- **Riverbank erosion along Route 12**. Erosion control mats have been placed on the state section. State position regarding erosion on private land is that it is a private matter.

- **Division of North Walpole** by Route 12 and the railroad tracks; these present physical and psychological barriers.

- **Traffic conflicts at the Shopping Center** intersection on Route 12. Speed limit has been lowered to 35 mph. Police presence along that section should continue, and a cruiser should be parked alongside the road at various times for traffic calming effect.

- **Development on inadequate roads**: Hays Road, Maple Grove Road, Old Drewsville Road are examples of town roads that are seeing increasing development, while the roads do not meet the minimum width and construction standards for roads carrying an increased level of traffic.

- **Route 12 Bypass**. How has the bypass of the Village affected the town?

XI. Transportation Improvement Proram

A highway improvement program should be based upon a set of general goals and objectives to properly evaluate all elements affecting the transportation system. A specific highway improvement program which evaluates new road projects, reviews road improvements, and schedules these projects over a period of several years is an essential part of a sound transportation plan. Beyond just scheduling these projects, a transportation plan should try to make evaluations as to their direct or indirect influence on the town road system and also the impact on the related land use plan.

Deciding where the emphasis of road repair/reconstruction and bridge repairs should take place is an integral part of the highway improvement program. While it seems logical to place emphasis strictly on what road or bridge is in the worst state of disrepair, this is only completely true for bridges. When deciding on priorities for road repairs, other factors should be considered in addition to condition. These factors include amount of traffic using the road, the amount of development in the immediate area, the potential for development, and classification of the road (arterial, collector, local). The process of deciding where and when roads will be repaired should entail input from the Board of Selectmen, the Planning Board, the Town Road Agent, and any interested citizens because of the great impact road improvements make on future land use.

The Master Plan encourages the Walpole Road Agent, in cooperation with the Selectmen, to develop a Five-Year Road Plan for the Town roads. The state DOT maintains a separate schedule for improvements and construction on the state roads in Town.

A. State Improvements

1. NH Rte. 123 - Bridge over Cold River **IN PROGRESS**
2. Rte. 12 - Conduct engineering slope stability Evaluation along the Connecticut River.
3. NH Rte. 12 - Bridge Rehabilitation over Cold River
4. Bridge Street - Bridge Rehabilitation over Connecticut River

B. Local Improvements

At this time, there are only two improvements projects for town roads scheduled; these are: (1) to straighten the intersection at Thompson Road and Maple Grove Road; and (2) to pave Wentworth Road south, Graves Road and Cold River Road.

C. Connecticut River Scenic Byway Improvements

There has been recent discussion between the towns of Walpole and Rockingham to implement some of the goals of the Scenic Byway study. One of the major recommendations was to identify and enhance so-called Gateway communities to the Byway. In the Southwest Region, the communities of Walpole and Rockingham have been identified as "sister towns" that can take advantage of facilities and features on both sides of the river to enhance the goals of the Scenic Byway Program. A grant proposal is being prepared as of this writing to be submitted to the Federal Department of Transportation. The specific project is as follows:

> To purchase the historic building in Bellows Falls that is located on the country's first navigable canal (1802) and develop it into a Waypoint Interpretive Center. The building overlooks Bellows Falls Village, and is located across from an active train station. The Waypoint Interpretive Center will house exhibits, restroom facilities and provide information that will direct tourists to sites and activities within the region on both sides of the river. Improvement of the public boat launch in North Walpole is included in the grant proposal.

XII. Strategies for Transportation Planning

An important element in transportation planning is the connection between land use and highway systems. Roads provide access to land, which facilitates development of the land; the developed land, in turn, generates traffic. There are a number of strategies available to the Planning Board and the Town to address transportation issues, both locally and regionally. Following are several approaches intended to guide in overall transportation planning.

A. Planning Strategies

- **Focus Development in Village Areas**

  Provide for mixed uses and higher densities than in the outlying areas of Town. This approach can alleviate heavy traffic - residential and/or commercial - on roads that may not be suitable for such traffic, by encouraging pedestrian and bicycle traffic.

- **Set Development Boundaries Along a Corridor**

  The purposes of this approach are: (1) to ensure that any adjacent sensitive natural resources along the corridor would not be threatened by development; and (2) to identify areas along the highway that can serve as "centers" for commercial development, with access provided off of an interior road, rather than from the highway.

- **Identify Appropriate Land Uses**

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

- **Plan for Pedestrian and Bicycle Connections**

  On town roads, people can generally walk or bike without too much trouble. Route 12, however, is a different matter. While the road has wide enough shoulders to accommodate both pedestrians and bicycles, the volume and speed of traffic is such that it can be quite uncomfortable at certain times of the day. The Town should make sure that these non-motorized interests are always represented when the DOT is considering plans involving Route 12.

❑ **Develop and Adopt a Road Policy**

The Planning Board, in conjunction with the Selectmen, can develop a road policy to guide development in town based on the status of existing roads and 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 substandard Class V or a Class VI road.

❑ **Develop and Maintain a Capital Improvements Program**

Under RSA 674: 5, the Planning Board is authorized to develop a program that sets forth the planned capital expenditures over a six-year period. In conjunction with a Road Policy, the CIP can set the schedule as well as the degree and type of road improvements to be anticipated.

B. Regulatory Strategies

❑ **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; a local driveway regulation, however, can cover all aspects of driveway construction for the entire length of the driveway, not just the access off of the road. Driveway standards can facilitate safe and efficient transportation corridor management.

❑ **Road Impact Fees**

Under RSA 674:21, the Planning Board is authorized to assess a fee on new development, including road construction. The amount of the fee must be proportional to the needs created by the new development.

❑ **Scenic Roads**

Towns may designate any town road as a Scenic Road. The benefit of a Scenic Road designation is in the heightened awareness around the cutting of trees and removal and/or damage to stone walls. A town may adopt specific regulations pertaining to Scenic Roads above and beyond the regulations contained in the state statutes.

❑ Development of Backlots

Backlot development is a zoning technique that allows the subdivision and/or development of lots that do not meet the frontage requirement for the district. The regulation could require shared access, thus reducing the number of curb cuts on a road, and the Planning Board could also set standards for the construction and layout of the driveway that serves the backlot. Another benefit to this approach is that agricultural land can be preserved by setting aside fields along the roadway.

C. *Subdivision and Site Plan Considerations*

❑ 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 road rather than the main frontage road.

❑ 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, or planning for future shared parking; prohibiting parking and loading that requires backing out onto the street; the use of vegetative buffers between parking lots and roads.

❑ Driveway Location and Design

A number of driveway issues have already been raised in the discussion about driveway standards. Consideration of location and the design of driveways are important for the development of a safe and efficient transportation network, especially in a town like Walpole that has as much steep land as it does. Issues such as safe sight distance, visibility on sharp corners, water run-off from the driveway, all become even more critical when land is steep.

XIII. Implications for Future Land Use and Development

The condition of the road network has many implications for growth and land use within Walpole. When Class V roads, whether paved or gravel, lack the physical and functional capacity to serve new or continuing development, this has a direct effect on future growth. The inadequacy of such roads presents certain safety problems as well as physical and functional deficiencies. However, the elimination of these deficiencies could conflict with the Town's desire to maintain its present rural New England character.

Consequently, the desire to preserve the rural character through the maintenance of scenic roadways should be carefully balanced against the need for certain safety improvements and needed widening and/or reconstruction projects. It is felt that the charm and character of these rural, unpaved roads can be maintained and necessary improvements made through the application of careful and sensitive design and implementation measures that are based on contemporary engineering and landscaping techniques.

Growth has a great impact on the highway system and the area in general. This impact mandates that a road improvement program be based on thoughtful, carefully studied analysis and an open process inclusive of all interests. The potential impact of such a program on future land use in Walpole make it imperative that these transportation considerations be included in the comprehensive land use planning for the entire town.

GOALS AND OBJECTIVES

GOALS:

1. To provide for the safe and convenient circulation and movement of goods and people within the Town of Walpole and to points beyond using all practical methods.

2. Provide for adequate streets and street systems in all future residential, commercial and industrial subdivisions.

3. Coordinate and integrate the transportation systems of the Town of Walpole with that of the Region.

SPECIFIC OBJECTIVES:

1. Provide for pedestrian walkways wherever warranted by traffic and other development, in particular in North Walpole at the railroad crossing.

2. Ensure, through site plan review, that adequate off-street parking is provided for in all future developments.

3. Adopt driveway standards that regulate the placement and construction of all driveways in Walpole.

4. Review the road standards contained in the Subdivision Regulations to ensure that they reflect current technology relative to construction methods.

5. Encourage the Selectmen to officially support the designation of Route 12 as a Scenic Byway, and to continue to participate in current and future implementation plans for the enhancement of the Connecticut River Scenic Byway.

6. Encourage the Planning Board to be sensitive to commercial development along Route 12.

7. Encourage the Planning Board to develop a rolling 5-year plan for road improvements.

8. In order to encourage pedestrian and bicycle traffic in the Village, the Town should ensure that sidewalks are maintained in good repair, that landscaping does not obstruct or inhibit such use, and that there are adequate benches and bicycle racks in the Village for use by the non-motorized traffic.

9. Encourage the Planning Board to work together with the Selectmen and the Road Agent to develop a Road Policy that would guide development in town based on the physical and functional capability of town roads.

10. Support the continued participation by the town on the Transportation Advisory Committee of the Southwest Region Planning Commission.