TRAFFIC AND TRANSPORTATION ANALYSIS

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TRAFFIC AND TRANSPORTATION

I. INTRODUCTION

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

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

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

II. ROAD CLASSIFICATIONS

A. STATE CLASSIFICATIONS

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

- Class I: Trunk Line Highways. These belong to the primary state highway system, and the state assumes full control and responsibility for construction and maintenance.

- Class II: State Aid Highways. These belong to the secondary state highway system. The NH DOT assumes full control and responsibility for construction and maintenance.

- Class III: Recreational Roads. These consist of all roads leading to and within state reservations designated by the NH Legislature. The NH DOT assumes full control and responsibility for construction and maintenance.

- Class III-a: Boating Access Roads. These consist of roads that lead to public waters from any existing highway. The NH DOT assumes full control and responsibility for these roads.

- Class IV: Town and City Streets. These consist of all sections of road that fall within urban compact areas of towns and cities with populations greater than 7,500. The municipality assumes full control and responsibility for construction and maintenance.

- Class V: Rural Highways. These consist of all other maintained roads that are not in the state system. They are town-owned and maintained.

- Class VI: Unmaintained Highways. These are all other existing public roads that are not maintained by the town and have not been for at least five years. The road may be closed subject to gates and bars, but it continues as a public roadway.[5]

Of these seven state road classifications, Greenfield roads fall into three as follows: Route 31(Sawmill Road), Forest Road and Route 136 are Class II state highways; all other roads in town are Class V and Class VI town roads. These are illustrated on the accompanying map, and the number of miles comprised by each classification is described in Table #1 following.

TABLE #1:
ROAD MILEAGE BY STATE CLASSIFICATION

Class:	Mileage:
Class II	14
Class V:	
Paved	13
Unpaved	27
Class VI	7
Total Mileage	**61**

SOURCES: NH DOT; GREENFIELD HIGHWAY DEPARTMENT

B. FUNCTIONAL CLASSIFICATION

A functional classification system identifies roads by the type of service provided and by the role of each highway within the state system, based on standards developed by the US DOT. The purpose of utilizing such a system is to correlate the land planning and traffic

[5] The Class VI designation is frequently applied to roads that have been abandoned or discontinued, which often leads to confusion as to the ownership of the road. If a vote was taken at Town Meeting to formally discontinue a road (or "throw it up"), that road is not longer public – it then belongs to the abutting landowners. If it is closed subject to gates and bars, it means that the landowner may enclose premises (historically this was done to contain cattle), but may not lock out the public, who still has the right to pass.

planning functions of the Master Plan. Recognition of the principal function that any road is intended to serve can reduce potential conflicts between land use activities and traffic movements. For rural areas such as Greenfield, the following categories are identified by the US DOT:

- **Other Principal Arterial/Controlled Access**.

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

  Within Greenfield there are no Other Principal Arterials. Within the Southwest Region Routes 9, 12 south of Keene and 101 are Other Principal Arterials.

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

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

  Within Greenfield there are no Major or Minor Arterials. Within the Southwest Region Routes 202, 10 south of Keene, and 12 north of Keene are Minor Arterials.

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

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

  Within Greenfield Route 31 (Sawmill Road), Forest Road, and Route 136 are classified as Major Collectors. There are no Minor Collectors in Greenfield.

- **The Local Street System.**

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

C. SCENIC ROADS

In addition to the state and federal classifications, RSA 231:157 allows towns, by a vote at Town Meeting, to designate any road other than a Class I or II highway as a Scenic Road. The effect of this designation is that, except in emergency situations, there shall be no tree cutting or alteration of stone walls within the right-of-way without approval of the

Planning Board, after a duly-noticed public hearing. The law does not affect the rights of individual property owners; nor does it affect land uses as permitted by local zoning. The statute also authorizes towns to adopt provisions dealing with Scenic Roads that are different from, or in addition to, those that are spelled out in the law. When this law was enacted in 1972, Greenfield residents voted to classify all town roads, or sections thereof, that were unpaved at the time as scenic; they are as follows:

1. Swamp Road from Route 136 to Old Bennington Road.
2. Cavender Road from Route 136 to the Old Bennington Road.
3. Colonial Drive from Riverbend Road to the end.
4. Riverbend Road from Cavender Road to the end.
5. Old Bennington Road from Forest Road to the Bennington Town Line.
6. Old County Road from Old Bennington Road to Forest Road.
7. Muzzy Hill Road from Old County Road to the end.
8. Sunset Lake Road from Crotched Mountain Road to the end.
9. Pine Ridge Road from Route 136 to the end.
10. S. Francestown Road from Route 136 to Dodge Road.
11. Dodge Road from S. Francestown Road to East Road.
12. Blanchard Hill Road from New Boston Road to the end.
13. Thomas Road from pavement change to the end.
14. Coach Road from Thomas Road to the end.
15. Old Lyndeborough Road from New Boston Road to the end.
16. Holden Road from Old Lyndeborough Road to Forest Road.
17. Miner Road from New Boston Road to Forest Road.
18. Woodland Hill Road from Miner Road to the end.
19. Etna Drive from Miner Road to Fletcher Farm Road.
20. Fletcher Farm Road from the end to Miner Road.
21. School House Road from Gulf Road to the end.
22. Gulf Road from Russell Station Road to the end of the Class V section.
23. Lake View Circle from Zephyr Lake Road to Zephyr Lake Road.
24. Slip Road from Gulf Road to pavement change.
25. Cornwell Road from Slip Road to Gulf Road.
26. Gulf Road from Peterborough Town Line to Slip Road.

The total mileage of these sections of road amounts to 19.55 miles, of the approximately 40 miles of town-owned roads.

III. TRAFFIC PATTERNS

A. TRAFFIC COUNTS

Information on traffic volume is collected by the NH DOT through the placement of traffic counting devices at various locations around the state. Some of these are permanently installed under the roadway and provide figures based on a full year count, while others are set out on a rotating basis for varying lengths of time – generally during the months of May to October for a seven-day period. Permanent counters are used only on state roads, while the temporary counters will be used on both state and local roads.

Table #2 following presents averaged annual daily traffic (AADT) counts for six counters – three of them in Greenfield, and three on the border with neighboring towns (see *Town of Greenfield, NH Traffic Counter Locations* map on the following page). The data are not consistent for each counter, so it is not possible to compare all counters over the same time period; however, more counts have been taken at the three Greenfield locations than on the town lines.

The location that shows the greatest amount of traffic in 1999 – the most recent year for which counts are available - is #185053, which is on Route 136 in the center of Town, just west of the intersection with Route 31. This counter has consistently registered the highest AADT's since 1989. It is important to bear in mind that these are not permanent counters, therefore any unique event during the week the counter is set out could cause the kind of reading that appears inconsistent.

TABLE #2:
AVERAGED ANNUAL DAILY TRAFFIC COUNTS, 1981 - 1999

Year	185051 Greenfield, NH 136 @ Peterborough TL	185053 Greenfield, Forest Rd. West of NH 31	185050 Greenfield, NH 31 @ Bennington TL	201052 Hancock, Forest Rd. @ Greenfield TL	159050 Francestown, NH 136 @ Greenfield TL	201056 Hancock, Cavender Rd. @ Greenfield TL
1981	1700		800	600		
1982						
1983	1600			500		
1984						
1985	1400		1000	600		
1986						
1987	1500		1100	700		
1988			1100			
1989	1900	2200	1200	800		
1990	2000	2700		700		
1991	2000		1300	700		
1992			1300			

1993		2100	1200	730		30
1994					1400	
1995	2100	3400	1300	850	1200	
1996		3200				
1997	2200		1400		1300	
1998	1900		1300	770	1100	
1999	2200	3400	1500	910		

SOURCES: NH DOT; SOUTHWEST REGION PLANNING COMMISSION

B. TRAFFIC GENERATORS

Most of Greenfield's traffic is residential, since that is the primary land use in town. There is of course some amount of truck/ commercial traffic that services the businesses, as well as travel through Greenfield to and from neighboring towns; Route 31, in fact, carries a significant amount of through truck traffic.

Aside from the residential and local business traffic, Greenfield has several large traffic generators, the single largest being Crotched Mountain Rehabilitation Center, in the northern part of town. The Center employs nearly 600 people working three shifts, and houses over 90 patients; in addition, there are 24 day students and an out-patient clinic. The access to the Center is off of Route 31, but traffic to and from the facility travels over all three Class II highways (Routes 31& 136, and Forest Road).

Greenfield is also home to a State Park, with 253 sites, and Brantwood Summer Camp. The locations of these facilities are identified on the *Town of Greenfield, NH Community Facilities* map found in Chapter Three – Community Facilities. In addition to these existing camps, a proposal is before the Planning Board for a camp and conference center (Barbara C. Harris Camp & Conference Center), which would accommodate 144 children and 55 staff persons, with a possibility of expanding to 240 children and 90 staff persons. The proposal also includes a Conference Center, which presumably would accommodate visitors year-round.

Another, yet somewhat smaller traffic generator is the newly constructed elderly housing complex on Forest Road, which has 24 apartments for approximately 40 persons, some, but not all of whom have vehicles.

C. COMMUTING PATTERNS

The US Census collects information on commuting patterns of the labor force – that is, where people go to work from their town, and where people come from to work in a particular town. According to these 1990 Census figures, Greenfield has an estimated 677 workers; of these, 521 (77%) commute out of town to work. The number of all people who work in Greenfield, regardless of residence, is estimated to be 580; of these, 424 (73.1%) commute into Greenfield from somewhere else. Detailed 2000 Census data on commuting patterns will not be available until the summer of 2003. The table following illustrates where Greenfield residents go to work, and where nonresidents working in Greenfield come from.

TABLE #3:
COMMUTING PATTERNS

COMMUTING OUT TO:	#	COMMUTING IN FROM:	#
Peterborough	155	Antrim	59
Milford	56	Peterborough	55
Nashua	49	Jaffrey	54
Amherst	23	Hillsborough	21
Merrimack	21	Manchester	21
Wilton	18	Keene	17
Jaffrey	15	Amherst	16
Manchester	14	Bennington	16
Massachusetts	25	Massachusetts	6
Other	10		

SOURCE: US CENSUS, 1990

As these figures in Table #3 illustrate, the largest percentage of Greenfield's workers go to Peterborough – nearly 30% of all commuters, whereas those who commute in are more evenly divided between towns – Antrim, Peterborough and Jaffrey send almost equal numbers of workers. Without more detail, it would appear that Route 136 carries the greatest amount of commuter traffic each day - both in and out of town. Reference to the traffic count data seems to support this assumption – with the one-time dramatic jump in 1999 for the ADT on Route 31 at the Bennington Town Line.

IV. ROAD NETWORK

A. SURFACE WIDTHS & CONDITIONS

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

The NH DOT has developed standards for road construction, published in April of 1995 and titled "Minimum Geometric & Structural Guides for Local Roads and Streets". The specifications recommended for minimum width and materials are based on average daily traffic – in other words, the more traffic a road carries, the wider the traveled way and shoulders, the deeper the base and top coat, etc.

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

small towns will approve an 18-foot width for a Class V town road carrying more than 50 vehicle trips per day.

Road widths in Greenfield vary from 10 feet or less for certain Class V and Class VI roads to 25 feet. All of the state roads are between 16 and 25 feet wide, with Forest Road being the widest. The Class V roads fall into the 11-15 and 16-20-foot widths; only the Class VI (unmaintained) roads are less than 11 feet wide.

B. BRIDGES

Bridges present an ongoing maintenance and repair concern for all towns, oftentimes accounting for a large portion of local highway budgets. Bridges also present the potential for a number of safety hazards in instances where they are severely deteriorated or are significantly narrower than the road they serve. Bridges are rated by the DOT, using a system based on federal standards for type of construction, widths, surface conditions, ability to handle traffic volumes, etc. Greenfield has only two bridges, the locations of which are identified on the *Town of Greenfield, NH Transportation Infrastructure Functional Classification* map. The status of these bridges is presented below in Table #4.

TABLE #4:
STATUS OF BRIDGES

Bridge ID Number	#151/089	#167/151
Location	School House Road over School Brook	Dodge Street over Handy Brook
Last Inspection Date	August 1996	August 1996
Federal Sufficiency Rating[1]	64.6	68.5
Owner	Town	Town
AADT/Year	230/1987	60/1987
Type of Bridge	Metal Pipe	Metal Pipe
Width	14 feet	17 feet
Length	14 feet	11 feet
Functional Class	Rural Local	Rural Local
Weight Restrictions	E2[2]	E2[2]
Year Built (or rebuilt)	1988	1986

[1] The functional sufficiency ratings noted in the table are based on certain criteria that have to do with traffic capacity and safety of the bridge approach, and with the integrity of the structural components and the bridge surface. Using a maximum sufficiency rating of 100 points, the DOT has determined that a rating of less than 60 points is indicative of a disproportionate share of deficiencies, and a rating of less than 40 points indicates a bridge in very poor or severely deteriorated condition.

[2] Weight restrictions for certified vehicles. The NH DOT has taken the position that the towns are responsible for evaluating their own bridges, and until all bridges are evaluated, recommend that they are posted "E –2".

SOURCE: NH DOT BRIDGE DESIGN, BRIDGE SUMMARY 2000

C. ACCIDENT LOCATIONS

The NH DOT collects data on accidents locations throughout the state. The most recent years for which this information is available for the Town of Greenfield is 1997 and 1998, in which two accidents each year were reported. The two accidents in 1998 occurred on Swamp road and Zephyr Lake Road and in both cases a tree was struck. None of the four incidents resulted in a fatality.

Discussion with the Greenfield Police Chief indicates that most of the accidents are the result of speed. There does not appear to be any particular pattern to accidents, nor are any roads necessarily more susceptible to accidents than others, with the slight exception of Miner Farm Road, which has a section with several "S" curves. The accident rate in Greenfield has actually declined, due to strict local enforcement. The Police Department has a part-time squad whose primary function is traffic patrol.

D. PROBLEM AREAS

In general, the roads in Greenfield appear to be in pretty good shape. Information provided by the Road Agent indicates that the Wapack Trailhead on Mountain Road can be problematic, due to the many parked vehicles of the hikers, which leaves no room for the town trucks to turn around.

Another area to be considered is Cavender Road, an unpaved town road, which now carries all the traffic from a 27-lot subdivision on the Hancock town line that once had access to Route 202 through Hancock. The bridge, however, is now closed and the only route available is Cavender Road. The Town of Greenfield would like to see the bridge repaired and reopened, but this could not happen without the cooperation of the Town of Hancock, since the boundary between the two towns lies in the Contoocook River.

Specific problems have to do with the needed replacement of 83 culverts throughout the town that are deficient for a variety of reasons. The Town is in the process of applying for the necessary wetland permits to begin this work, which should take two to three years.

V. PUBLIC/ALTERNATIVE TRANSPORTATION MODES

A. PUBLIC TRANSPORTATION

Public transportation plays a very small role in the overall service network. There are presently no bus routes that serve Greenfield. Community transportation for special needs populations is available from a number of social service organizations on an as-needed basis; some of these services are also open to the general public. For a complete description of the available services, please refer to the *Southwest Region Transportation Plan – 2001 Update.*

B. BICYCLE/PEDESTRIAN TRAVEL

The focus of this analysis has been on vehicular, private transportation. Alternative travel is limited in this region, although it has certainly seen resurgence over the last several

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

Route 31 from the Village south and Forest Road from the Village west is designated as a state bicycle route. Roads designated as state routes can receive funding for pedestrian improvements if there is a reconstruction. All roads in the system are considered to be the best available roads for bicycling to major destinations. All share the road with motorized vehicles. Shoulders vary from wide to none.

C. RAIL/TRIALS

The Hillsboro Branch of the Wilton-Bennington state-owned railroad line traverses Greenfield southeast to northwest. This is an inactive rail freight line, but the tracks are still in place. There are no plans for conversion of this line to a recreational trail.

The closest rail/trail for Greenfield residents is an abandoned railroad line located just to the east of Antrim, easily accessible from Route 202 in Bennington. The line runs adjacent to the Contoocook River through Deering, to the paper mill in Bennington. For at least five years, this railroad bed has been actively maintained as a multi-use recreational trail. The NH Department of Resources and Economic Development is responsible for overseeing the trail management; however, the local snowmobile club and Conservation Commission of Deering have been taking care of regular maintenance.

The accompanying map illustrates the rail/trail system in Greenfield. The railroad bed is clearly indicated with the still-present tracks, making it of course not usable for alternative transportation purposes. There are only a few public trails: one in the area of Russell Station; one that runs from downtown east to the State Park; two that run almost parallel to one another from the Francestown Road north almost to Sunset Lake Road; and one that begins near Sunset Lake Road and ends in Francestown.

D. SIDEWALKS

Pedestrian mobility in the Village area has been a difficult issue, due to the lack of adequate walking paths, and the fact that the Village is at the confluence of three state highways. A plan is underway at this time that will provide for new sidewalks along Route 31 from the north side of Route 136 which will connect the Village with the new elderly housing complex, the new Greenfield Elementary School, Oak Park, and the State Park. This project has come about as a result of a PlanNH Charette that was held in Town in November of 1997. The planning exercise identified the need to formalize pedestrian and motor vehicle access within the Village and create a walkable distance to these locally-important locations. This project is currently in the design stage, with actual construction scheduled for Spring/Summer 2003.

VI. ROAD IMPROVEMENT PROGRAM

A. STATE PROJECTS

As part of the PlanNH Charette project mentioned above that will provide sidewalks in the Village; Sawmill Road, Slips Road, and Forest Road will also be reconstructed to correct a severe crown of the highway cross section, erratic elevation, broken pavement edges, and eroded gravel shoulders. This reconstruction will include renovation of the old closed drainage system. In addition to the road work, the project also includes the development of a formalized parking system on Main Street, clearly designated pedestrian access with granite curbing, and delineated crosswalks.

Another project that has been on the State Transportation Improvement Plan for many years is the relocation and upgrading of the railroad crossing on Route 136. Presumably the project has never been completed because the railroad ceased operating.

B. LOCAL PROJECTS

The Highway Department has begun a program of improving all town roads at the rate of 6/10 of a mile every two years. The process, known as "reclamation" involves digging up the old pavement, recycling it and laying down the reconstituted pavement, which is much more expensive (approximately $50,000 per mile) and time-consuming than simply paving over old pavement.

VII. TECHNIQUES FOR ADDRESSING TRANSPORTATION ISSUES

A. PLANNING STRATEGIES

❑ FOCUS DEVELOPMENT IN THE VILLAGE.

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

❑ IDENTIFY APPROPRIATE LAND USES.

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

❑ PLAN FOR PEDESTRIAN AND BICYCLE CONNECTIONS.

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

❑ DEVELOP AND ADOPT A ROAD POLICY.

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

❑ CAPITAL IMPROVEMENTS PROGRAM.

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

❑ SWRPC TRANSPORTATION ADVISORY COMMITTEE

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

B. REGULATORY STRATEGIES

❑ ROAD STANDARDS

Included in the Subdivision Regulations administered by the Planning Board are standards for road construction. These essentially mirror the DOT standards discussed above, which address such things as width of the traveled way, width of shoulders, type of materials to be used and depth of each level. The Board also has the option, through a waiver procedure, of accepting plans for new roads with modified standards: for example, approving a graveled road rather than a paved road for developments of low traffic impact.

❑ DRIVEWAY STANDARDS

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

- reduce the number of curb cuts along a road;
- separate curb cuts and intersections;
- align driveways either opposite one another or offset them by at least 125 feet for safe sight distance;
- relate driveway design such as width, length and curb radii, to travel speed and traffic volumes;

- require shared access and parking where appropriate; and
- prohibit parking that requires backing out onto the road.

❑ **DEVELOPMENT OF BACKLOTS**

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

❑ **SCENIC ROADS**

Greenfield already has town roads designated as Scenic. This designation, in and of itself, does not affect land use or traffic along the road, but it could serve as the basis for developing a Scenic Road Corridor, in which land use and traffic would be reviewed in concert with the objectives of the designation.

❑ **ACCESS MANAGEMENT TECHNIQUES**

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

C. SUBDIVISION AND SITE PLAN CONSIDERATIONS

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

■ **VIEWING THE WHOLE PARCEL**

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

■ **LOT LAYOUT**

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

■ **PARKING LOT LOCATION AND DESIGN**

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

✓ locating the building(s) close to the road and putting the parking on the side or in the rear of the parcel;

- ✓ requiring shared parking, when feasible;
- ✓ planning for future shared parking by designating reserved areas on the plan;
- ✓ prohibiting parking and loading that requires backing out onto the street; and
- ✓ the use of vegetative buffers between parking lots and roads.

■ **DRIVEWAY LOCATION AND DESIGN**

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