CHAPTER 5

TRANSPORTATION

Transportation resources are the highways, roads, railroad tracks, bus routes, bike paths, and sidewalks that exist within a town. Their importance is often overlooked until there is a snowstorm, an accident, a traffic jam or other problem. Transportation resources affect people's daily lives as well as the ways in which their communities grow. When these resources are neglected or modified without consideration of the impacts, the results can have unanticipated consequences ranging from altered traffic patterns, pedestrian traffic problems, and safety issues. Shutesbury's transportation services and infrastructure are important resources for the Town, and deserving of assessment and enhancement.

Shutesbury is comprised of a network of neighborhood roads serving the town center and outlying rural areas within the town and in adjacent communities. A state road (Route 202) extends along the eastern side of Shutesbury through Massachusetts Department of Conservation and Recreation (MDCR) property. It provides access for Shutesbury to Route 2 to the north and Route 9 and the Massachusetts Turnpike to the south. Due to the town's rural nature, cars and pickups are the primary modes of transportation for town residents. According to the 2000 U.S. Census, 89 percent of Shutesbury's working population commute by car, truck or van to their place of work. Service vehicles provide services to town residents. There are an increasing number of large trucks passing through town. These are a diverse set of demands on a small rural road system.

A 1795 court ordered map depicts three roads in Shutesbury. Nineteenth century maps such as Wallings, Beers and the 1883 USGS map include many current public roads and many more roads that were discontinued by an October 30, 1973 Special Town Meeting vote. That vote listed "…roads in their present locations as the only public ways in Shutesbury…" and discontinued "…all other roads in Shutesbury to whatever extent they may now be town public ways…" The map accompanying that vote (Attachment 1 (*see Appendix F*) was created by William Randall, a founding member of the Planning Board and Assessor for thirteen years. In 1979, the town signed a contract with Mr. Randall for him to continue his research and development of maps of Shutesbury. Although the Town does not have an official "Town Map," Mr. Randall's final, April 1999 version (Attachment 2 (*see Appendix F*)), is currently used by various town departments.

The roads of Shutesbury represent an important and integral part of our town's landscape, and the landscape of each home. The primary purpose of Shutesbury's roads is to serve the residents of our rural community. The town works constantly to balance the needs to maintain paved and

gravel roads and the budget realities that a small residential community faces. This report provides an objective and factual presentation of the existing transportation resources, the observed uses and the perceived needs. But it is critically important to recall the preferences of Shutesbury's residents when pondering transportation issues in the town and potential recommendations.

In preparation for developing the town's master plan, a survey was conducted during fall of 2000. Many questions and the resulting responses are important for any decisions regarding transportation. More than 95 percent of Shutesbury residents responding to the town survey said that the rural character of Shutesbury was either very important (77 percent) or important (18.5 percent) to them. Fields, forests and trails were important to 95.8 percent and peace and quiet was important to 97.6 percent of our residents. Residents live in Shutesbury because of the rural character and peace and quiet that the town offers. When asked what defines "rural character," residents identified forests, wildlife, and other natural resources and important characteristics. But many characteristic of transportation were also included. Dirt roads (71.6 percent), large roadside trees (88.2 percent), stonewalls and foundation holes (89.1 percent), narrow windy roads (76.1 percent), and low traffic volume/slow speeds (87.9 percent) were all important to Shutesbury residents in defining rural character.

Residents of Shutesbury are understandably concerned about any and all changes to our roads. Physical changes to the roads could potentially change the rural landscape that is so important to Shutesbury's residents. Are residents supportive of changes in our roads? While 19.7 percent said increased road maintenance was very important and 39.7 percent said it was important, only 25.1 percent responded that more paved roads were either very important or important. Furthermore, only 28.5 percent were willing to have their taxes increase to pay for increased road maintenance and just 12.7 percent would be willing to pay more in taxes for more paved roads.

An alternative position on roads, especially gravel roads, should also be considered. While the statistical data suggest we infer the populace is satisfied with the current mix of gravel and paved roads, our gravel roads pose a host of additional issues. Each spring there is a hue and cry over the dismal state of our gravel-turned-mud roads. They can become impassable with school buses refusing to travel down certain roads. Gravel roads require additional maintenance not needed on paved roads drawing heavily on limited labor and equipment resources. Erosion and run-off from gravel roads can contaminate wetlands and streams. In addition, it is impossible to post gravel roads with speed limits.

Residents of Shutesbury prefer a quiet, peaceful rural town with roads that fit that landscape. These roads should nestle nicely in the rural landscape and should not encourage high traffic volume or faster speeds. A majority of Shutesbury residents feel gravel (or dirt) roads are important to our rural landscape and are more supportive of efforts to maintain the existing roads than to improve roads through paving, but we must keep in mind the extra resources required to maintain gravel roads. When reviewing Shutesbury residents' preferences, it is clear why issues

surrounding roads, an integral part of our rural landscape, are so important. It is clear that changes in the local roads will be viewed with concern; concerns for the increased traffic flows that are contrary to residents' preferences, concerns for the increased traffic speeds that are also contrary to residents preferences, concerns about the loss of roadside stonewalls, trees and other historic and scenic amenities that are contrary to residents' preferences.

Goals:

- To maintain the condition of the road system in a manner that is compatible with Shutesbury's rural character.
- To maintain the pedestrian infrastructure.
- To maintain traffic patterns at key locations.
- To expand transportation choices for Shutesbury residents.

Objectives:

- Consider developing rural road design guidelines, where possible, to maintain the rural appearance of Shutesbury's road network.
- Improve access to existing walking/bike/running paths in Shutesbury.
- Address parking and circulation issues around the Town Common.
- Explore the development of local bus service to Amherst, Northampton, and Greenfield. Consider the need for parking, which would be associated with a park and ride facility.
- Make ride-share information more accessible to Shutesbury residents.
- Design and implement pedestrian safety improvements around the Town Common.

Road Infrastructure

Functional Classification

The categorization of roadways by "functional classification" was mandated under the Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), and was completed in 1993 by MassHighway Planning working with the State's thirteen Regional Planning Agencies, including the Franklin Regional Council of Governments (FRCOG). Roads are functionally classified based on the service that they are intended to provide within the road network. According to the American Association of State Highway and

Transportation Officials (AASHTO) definitions, there are eleven road classifications, which can be grouped into the following seven categories:

- Interstate,
- Rural Principal Arterial and Urban Extensions,
- Rural Minor Arterials and Urban Extensions,
- Other Urban Principal Arterials,
- Rural Major Collectors and Urban Minor Arterials,
- Rural Minor Collectors and Urban Collectors, and
- Rural Local and Urban Local.

Roadways in Shutesbury are considered to be rural due to the density of the population. The functional classification has a hierarchy based on the level of service the roadway provides. Route 202 is classified as a Rural Minor Arterial. Lakeview, Locks Pond, the paved part of Wendell, Prescott, the paved part of Cooleyville and Leverett roads are classified as Rural Major Collectors. West Pelham Road is classified as a Rural Minor Collector. All other roads are classified as local roads.

Table 5-1: Road Mileage by Functional Classification and Maintenance Authority.

Maintenance Responsibility	Functional Classification	Number of Miles
Mass Highway	Rural Minor Arterial	3.16 miles
Town of Shutesbury	Rural Major Collector	8.5 miles
Town of Shutesbury	Rural Minor Collector	2.79 miles
Town of Shutesbury	Rural Local	19.86 miles
Private Roads	Unaccepted	6.24 miles
MDC	Unaccepted	4.87 miles

Source: Mass Highway Planning, Year End Massachusetts Road Inventory File, 1999.

Table 5-1 shows the breakdown by functional classification and maintenance authority of the 45.42 miles of roadway in Shutesbury. Unaccepted roadways (11.11 miles) are those roads that are maintained by a private individual or organization. It can be seen from the table that the Town is responsible for the maintenance of 31.15 roadway miles, the majority of which are classified as Rural Local. Roadways with a functional classification of Rural Major Collector or higher are eligible for Federal Aid or Non-Federal Aid through the Transportation Improvement Program (TIP) for reconstruction projects.[1]

[1] 1 AASHTO, *A Policy on Geometric Design of Highways and Street*s, 1994.

Currently the town maintains these roads with three full-time crewmembers and uses part-time help for winter maintenance. The highway crew is also responsible for snow and ice removal for most of the private roads. Through capital planning the town has supported the town highway department by providing equipment and material. Over the last four years the town has purchased a new pickup truck, plow and ten-wheeler at a cost of $134,000. The Town has also provided $120,000 for gravel road upgrades. Although Shutesbury has provided capital funds for these items, decreases in state aid have resulted in three straight years of decreased operational budgets for the highway department. Table 5-2 provides the operating budget lines for the highway department for FY02, 03 and 04:

Table 5-2: Town of Shutesbury Highway Department Funding.

	FY02	FY03	FY04
Highway Department:			
Highway Superintendent	37,584	39,840	40,637
Wages	57,180	61,961	63,101
Fuel	11,000	11,000	11,000
Expenses	2,500	2,250	2,250
Materials	23,000	20,000	20,000
Machinery Maintenance	23,000	20,000	20,000
Tools and Equipment	3,600	3,600	3,600
Uniform Service	1,675	1,675	1,675
Gravel Road Upgrade	40,000	25,872	0
Striping	6,900	8,000	8,400
Subtotal Highway Department	206,439	194,198	170,663
Snow Removal:			
Wages	12,600	12,600	12,600
Materials	40,000	40,000	40,000
Subtotal Snow Removal	52,600	52,600	52,600

Two of the last four years, the Town of Shutesbury received additional funding through the Massachusetts Emergency Management Agency due to severe winter storms. The severity of each winter is reflected in the tons of salt and sand used by the Highway Department. Table 5-3 shows the amounts of salt and sand used in each of the last four winters.

Table 5-3. Town of Shutesbury Annual Salt and Sand Use.		
Year	**Salt in tons**	**Sand in tons**
1999-2000	273.97	2,411
2000-2001	529.59	4,329
2001-2002	418.6	2,283
2002-2003	631.58	4,225

Pavement Management

A pavement management system (PMS) as defined by the American Public Works Association (APWA) is "a systematic method for routinely collecting, storing, and retrieving the kind of decision-making information needed (about pavement) to make maximum use of limited maintenance and construction dollars." Historically, road maintenance funds were channeled to those roads that were perceived by local highway superintendents to be in the worst condition. Various studies have indicated that a pavement maintained in a perpetual "good" to "excellent" condition, requires one-fourth to one-fifth the investment of a pavement that is poorly maintained and rehabilitated only after it reaches a "poor" or "failed" condition. A PMS is designed to provide quantitative information to support repair and budget decisions to maintain roads in a perpetual "good" to "excellent" condition. The PMS is not intended to be a stand-alone management tool. It is intended to be a starting point that takes into consideration other factors such as available budget, localized drainage issues, superintendent priorities, etc. The Town of Shutesbury has a PMS that was developed by the town Roads Advisory Committee in 1995 and updated by the Franklin regional Council of Governments in 2003 (*see Appendix F*). The Shutesbury Roads Advisory Committee works closely with the Highway Superintendent in determining maintenance of both paved and gravel roads. This is used to allocate the limited dollars available for such projects. The Town only receives $70,000 per year in state aid for roads.

Gravel Road Management

Of the 31.15 road miles maintained by the Shutesbury Highway Department, 15.7 miles (just over half) are gravel roads. Although the town spends only about $30,000 per year in materials for these roads, they are very resource-intensive to maintain. As the population of Shutesbury grows, traffic volumes increase adding to the maintenance burden. The town has been grappling with the issue of maintaining the gravel roads versus paving them. Although the rule-of-thumb-threshold for upgrading a gravel road to a surfaced road is 500 cars per day, concerns about development pressures due to converting from gravel to paved, questions of increased traffic

speed, and uncertain impacts on the rural character of the surrounding neighborhoods have made these difficult decisions for the town.

Many Shutesbury residents have made a conscious decision to either avoid or live on a gravel road. Paving a gravel road impacts town character and development. Conversely, tough fiscal times and heavy traffic place undue burdens on the community, especially on Highway Department staff. Roadside erosion from runoff on steep hills is particularly noticeable when traveling over the town's gravel roads after a severe rainstorm. Impacts from weather and traffic clearly show how quickly a gravel road can deteriorate. However, the town has taken many interim measures to extend the life of the town's gravel roads by improving localized drainage problems, upgrading gravel quality, and using localized applications of geo-textile fabrics to strengthen the gravel road base. These measures have served to lengthen the time before a road becomes too costly, either in materials, labor, or equipment, to maintain as gravel. Gravel road issues will need to be addressed using maximum participation from the town in order to balance the many competing demands on town resources and to address concerns about the nature of Shutesbury.

Bridges

Bridges are critical components of roadway networks and predominantly come under the domain of MassHighway. Bridges are regularly inspected and rated according to standards established by the American Association of Highway and Transportation Officials (AASHTO). Bridges are determined to be "structurally deficient" if they fall below specific thresholds. Bridges are determined to be "functionally obsolete" when they are inadequate to fulfill the desired function. The Pratt Corner Road bridge was replaced by a box culvert in 2000 using state funds. The only other bridge in Shutesbury is co-owned with New Salem and is on the gravel portion of Cooleyville Road. This bridge is weight-limited and in need of repair.

Traffic Counts

The FRCOG and MassHighway have been collecting traffic volume data at various locations in the Town of Shutesbury since 1991. Each traffic count consists of data collected during a period of at least two consecutive weekdays. These traffic counts are then used to estimate an Average Weekday Traffic (AWT) volume. To reflect seasonal differences in traffic volumes, MassHighway produces seasonal adjustment factors based on data from the more than 200 statewide locations with permanent counters that collect traffic data every day of the year. The seasonal adjustment factors are then applied to the AWT volume estimates to produce Average Annual Daily Traffic (AADT) volume estimates for data collection sites. For example, August is a high travel month so seasonal adjustment factors for August would decrease an AADT volume estimate based on data collected in August. On the other hand, March is a low

travel month, so the seasonal adjustment factor would increase an AADT volume estimate based on March data. The AADT volumes are rounded to the nearest 100 for counts more than 1,000, and to the nearest 10 for counts less than 1,000.

Table 5-4 lists the Shutesbury locations where traffic count data has been collected since 1991 (these locations are also shown on the Transportation Map). It can be seen from Table 5-4 that there has been consistent growth on Lakeview Road. This may be caused by two factors: more people are using Lakeview Road as a collector from Wendell; and the Lake Wyola state park was open during the last count. There are no other consistent patterns of growth at the traffic count locations in Shutesbury, and no one location has seen a dramatic increase or decrease in its traffic levels. For some of these locations, conclusions can be drawn as to why the AADT has increased or decreased. For example, the Leverett Road traffic count site 0.3 miles from Pratt Corner Road had the same traffic volume of 2000 for 2000 and 2003, but the 2003 AADT is higher because the seasonal adjustment was different due to the date of counts.

Table 5-4: Shutesbury Average Annual Daily Traffic (AADT) Count Data 1991-2002.

Road	Location	1991	1993	1995	1996	1999	2000	2001	2002	2003
Baker Road	Between West Pelham & Pelham Hill Roads	200								
Cushman Road	200 ft. west of Cross Road								170	150
Cushman Road	Amherst town line								230	220
Lakeview Road	Between Locks Pond & Farrar	740			810		920			
Leverett Road	0.3 miles east of Pratt Corner	1380		1620		1680	1620			2000
Leverett Road	Between Pelham Hill and Wendell						1750			2000
Locks Pond Road	0.25 miles north of Old Orchard				570		620			
Montague Road	North of Leverett Road							450		370
Montague Road	South of Leverett Town Line	560	170		150			170	200	190
Pelham Hill Road	South of Baker	340			310		300		280	
Pelham Hill Road	North of Baker					340				
Pelham Hill Road	South of Leverett Road								400	
Prescott Road	West of Route 202			800			810			940
School House Rd	South of Baker	120								
Wendell Road	Wendell town line		800		670	740			730	
Wendell Road	North of Leverett Road	600		810		910	890			
West Pelham Rd	200 feet south of Leverett Road				840		810			
West Pelham Rd	0.75 miles south of Leverett Road	660			520		630			
West Pelham Rd	Pelham town line									760

Based on the above discussion, it is clear that caution must be used when trying to determine traffic growth rates on individual roadways. However, from the locations where there is a reasonable level of confidence in the accuracy of the AADT, it can be concluded that the major

roadways in Shutesbury have seen minimal growth in traffic volumes from 1991 to 2002. This reflects a pattern that has been seen across most of the region.

Accident Analysis

Individual traffic accidents are unpredictable. However, road conditions may be factors that determine whether accident probabilities will be high or low. Road conditions that increase the chances, or probabilities, of accidents are often correctable. The vast majority of traffic accidents are the result of driver error, but often driver error is magnified by poor roadway or intersection design, or by inadequate traffic control measures. When crashes occur in high numbers at a particular location, there is probably a common reason for the accidents that is related to the design and/or signage of the road at that spot.

All traffic accidents resulting in over $1,000 of property damage or resulting in personal injury or death must be reported to the local or State police and the Massachusetts Registry of Motor Vehicles (RMV) within five days of the accident. The RMV records each of these accidents in a statewide database, which the FRCOG uses to conduct preliminary analysis of accident trends in Franklin County. In 2000, the FRCOG completed a study to identify the thirty most hazardous intersections in Franklin County based on RMV data from 1995 through 1997. No intersections in Shutesbury appeared on this top-thirty list. For the Shutesbury Master Plan, a review was conducted of RMV-recorded accidents in Shutesbury from 1999 through 2001, the three most recent years of available data.

In the three-year period of 1999 through 2001, fifty-three accidents were reported for Shutesbury; however six were on roads not in Shutesbury leaving a total of forty-seven. The following is a breakdown of those accidents:

- Just over 36 percent (17) of these accidents resulted in injury to at least one of the parties involved.
- 68 percent (32) of the accidents occurred under dry (clear or cloudy) weather conditions, 4 percent (2 accidents) occurred in wet (rain) conditions, and just under 17 percent (8 accidents) occurred in icy (snow or sleet) conditions.
- The majority (35 accidents) occurred between 7 AM and 7 PM, the peak travel period of the day.
- 17 percent (8 accidents) occurred during the fall foliage months of September, October and November.
- 34 percent (16) accidents occurred on gravel roads with 50 percent (8) of those occurring on Pratt Corner (the longest gravel road in Shutesbury).
- 26 percent (12 accidents) occurred at various locations along the 3.2 miles of Prescott/Cooleyville/Leverett roads, which extends from Route 202 to the Leverett town line.

A summary of the Shutesbury accident data by location is provided in Attachment 3 (*see Appendix F*). Based on these data there are no sections of road that seem to be more dangerous than others. Leverett Road and Pratt Corner Road need further review.

Prescott/Cooleyville/Leverett Safety Improvement Study Background

The segment of east/west roadway consisting of Leverett, Cooleyville, and Prescott Roads (the LCP), which runs through the Shutesbury Town Center, is the town's main roadway in those directions. Many homes are located along the LCP near Shutesbury Center, some very close to its travel lanes. Residents use the LCP locally and to access Route 202 to the east and the Amherst area to the west.

The LCP also serves non-local traffic connecting between Route 202 and the Amherst/University of Massachusetts areas. Although this use to some extent is unavoidable, large volumes of such traffic are to be discouraged through the heart of the town. Use of the LCP as a through-route necessitates a steep drop or climb to/from Route 202 and negotiation of the almost-as-steep, narrow, curving section of roadway at the Leverett town line known as the "S-curves." Given these two intractable obstacles to safe travel, particularly in winter, the LCP should not be considered by the town, the Franklin Region Council of Governments, or the State for any official recognition or improvement as an inter-town connector between Route 202 and the Amherst area.

The Town is in the process of applying for funds to reconstruct the LCP and its drainage infrastructure through the State's new Footprint Roads Pilot Program. After many years of controversy over the design of a reconstructed LCP, Town Meeting finally approved this program because it promises to confine the work largely to within the road's existing horizontal and vertical alignments.

Roadway Level of Service (LOS) Analysis

Level of Service

Traffic volumes provide an indication of the actual number of vehicles using a certain section of roadway. The Highway Capacity Manual 2000 provides a methodology for estimating mobility provided to motorists by a roadway under actual traffic conditions. This methodology provides two types of Level of Service (LOS) analysis; Class I and Class II, depending on the type and function of roadway being analyzed. Class I designation applies to "arterial" roadways, roads that primarily accommodate long distance trips and where drivers have an expectation to travel at relatively high speeds (such as Route 202). The methodology compares a set of ideal roadway

geometrics (such as lane and shoulder widths, amount of available passing and mix of vehicle types) to the actual conditions and peak-hour traffic volumes measured along a roadway segment. The LOS for Class I roadways is assigned based on the estimated average speed and the percent of time spent following another vehicle. Class II analysis applies to lower classified roadways, that serve relatively short trips, the beginning and ending portions of longer trips, or trips for which sightseeing plays a significant role. This methodology compares peak-hour traffic volumes to the passing opportunities, and LOS is assigned based on the calculated percent of time spent following another vehicle.

There are six LOS definitions, assigned letters A through F, where A represents the best operating conditions and F the worst. In general, it is desirable to maintain traffic conditions at a LOS D or better. All roadways in Shutesbury, with the possible exception of Route 202 come under the Class II definition. As part of the Footprint Road Program Application for the Leverett/Cooleyville/Prescott Roads reconstruction, an LOS analysis was conducted. Leverett Road was assigned a LOS B rating and Cooleyville/Prescott Roads assigned a LOS A rating.

Alternative Transportation Facilities

Pedestrian Facilities

The rural and small town nature of Shutesbury makes providing a comprehensive pedestrian network difficult. Shutesbury currently has only one sidewalk, which is located along the elementary school driveway stretching from the school to West Pelham Road (approximately 400 feet). In many locations the rural roads are narrow. Near Shutesbury center the narrow roads are coupled with houses being built very close to the road. In some circumstances structures are either in or very near the road right of way. The Town of Shutesbury does not have a commercial store or shopping center. There are some heavy pedestrian traffic areas in the town center, however the roads do have wider gravel shoulders to allow for pedestrian traffic near the post office and town hall.

Transit Service

While Shutesbury is in Franklin County, most of its citizens work in the Amherst area. A recent study was completed to determine if transit service into Shutesbury from Amherst was affordable. A survey was sent to all residents in the Town as a part of the newsletter in the fall of 2001. The survey showed that some people were interested in limited use of service to Amherst, but only sixteen respondents said that they would use it five or more times per week. Given such limited demand, the town could not justify the costs of the service at this time.

The G-Link, operated by the Franklin Regional Transit Authority (FRTA) and the Montachusett Regional Transit Authority (MART) traverses Route 2 between Greenfield and Athol. This service links with routes to Gardner and Winchendon, and onto Boston via bus or commuter rail from Fitchburg. This service is seldom used because of the half-hour drive to access it. There is also direct bus service from Amherst to Boston. The Vermonter, an Amtrak passenger service, which runs from Vermont to Washington D.C., also stops in Amherst. The bus and rail passenger service from Amherst seems to be the most convenient for people living in Shutesbury.

Bikeway Facilities

Shutesbury presently accommodates bicyclists nicely. The roads are very scenic and have light levels of motor vehicle traffic. A feature of many Shutesbury Roads noted by everyone who has ever bicycled here is the topography. On Leverett/Cooleyville/Prescott Roads the elevation rises approximately 500 feet in the mile between Route 202 and Shutesbury Center, then drops again heading west toward the Leverett town line. Although this steep terrain makes the road unattractive for novice, casual, or inexperienced bicyclists, it provides a challenge to more experienced riders. Other paved and gravel roads in Shutesbury are scenic and less steep making them conducive to more casual riding. The greatest concern for most bicyclists and pedestrians is traffic speed. There are some trails that provide bicycling opportunities scattered throughout the town. Although it is not in Shutesbury, the Franklin County Bikeway provides bicycling opportunities for many Franklin County residents. The bikeway, still under construction, utilizes shared roadways and provides a link to the Northfield Mountain Recreation Center. A grant application to investigate the feasibility of formally extending the bikeway into Shutesbury through signage was not funded.

Recommendations

- Investigate and implement ways to improve pedestrian safety crossing Cooleyville, Leverett and the south side of Wendell roads. Investigate measures or devices to slow vehicle speeds through Town center and along the Prescott/Cooleyville/Leverett roads.
- Investigate using the existing paved and gravel roads as a link for pedestrian and bicycle traffic between Shutesbury Town Center and the Franklin County Bikeway.
- Investigate ways to connect trails that have hiking and bicycling opportunities.
- Maintain a PMS program to help maintain paved roads.
- Develop a Gravel Road Maintenance System.

- Continue support for the G-Link transit service and continue to investigate expanding service to Shutesbury.

- Continue to monitor the shared bridge and seek funding to maintain it. Explore an appropriate means of repair or replacement.

- Encourage the adoption of best management practices in all town departments, especially for the use of road sand and salt by the Highway Department.

- Identify the level of road maintenance sought by Shutesbury residents and ensure that any roadway upgrades balance safety considerations with neighboring rural character and town-wide network needs.
- Identify and address the long-term needs of the Highway Department including facilities, equipment and space.

- Identify and implement means to encourage drivers to obey the speed limits posted along all Shutesbury roads.

- Address the issue of paved versus gravel from all aspects including cost analysis, labor, quality of life, town character and traffic load through a means that provides maximum participation of the citizens of Shutesbury. Investigate new methods of gravel road maintenance to determine if there are any better methods.