CHAPTER _

TRANSPORTATION

Road Inventory

With a total land area of 36.46 square miles, Woodbury's roads total 118.37 miles in length. The state of Connecticut maintains 23.42 miles (20%), and the Town is responsible for 94.95 miles (8.25 miles of these are unimproved). For towns in Connecticut under 12,000 people, only five other towns have more locally maintained road miles than Woodbury has. In FY '08, Woodbury received just $144,949 in Town Aid Grants for maintenance of its local roads. Woodbury has a well-developed street grid that serves all parts of Town and facilitates north-south as well as east-west movements. Table _ displays State-maintained roads:

Table _
State Maintained Roads

Route	Road Miles3	Functional Classification
Route 6	7.77	Minor Arterial
Route 47	4.85	Major Collector
Route 61	1.27	Major Collector
Route 64	2.80	Minor Arterial
Route 67	0.22	Minor Arterial
Route 132	3.14	Major Collector
Route 317	3.37	Major Collector
Total	23.42	

Source: ConnDOT

Scenic View of Rural Landscape

A road's functional classification identifies the character of service it provides and guides traffic and engineering decisions as well as road improvement resources. Minor arterials are highways that serve moderate volumes of traffic, allow access to abutting property, and facilitate the flow of traffic within towns and between neighboring towns. Collectors carry less traffic, allow direct access to abutting property, and provide mobility between neighborhoods. Under the Woodbury Zoning Regulations, Garden Apartment Districts must have access on an arterial street.

In addition to their transportation function, Woodbury's State routes serve as scenic gateways into town for non-residents. Careful management of development along the

Town's borders has helped to preserve views of the Town's farms, fields, and forests, creating a favorable impression for first-time visitors. Many lesser-traveled byways serve low-density areas, and their winding course and pleasing views add immeasurably to the Town's visual character.

Traffic Growth

Table _ displays the change in traffic volumes on state numbered routes from 2000 – 2007 from data supplied by the Connecticut Department of Transportation. The traffic counts represent average daily traffic (ADT), i.e. the number of vehicles recorded on a roadway during a 24-hour period. As the main artery through Woodbury, Route 6 consistently achieved the highest traffic volumes, with the section between Sherman Hill Road (Rt. 64) and Sycamore Road (Rt. 317) reaching 14,200 vehicles per day. Volumes decrease from west to east, falling to 5,500 ADT approaching the Watertown Town Line. The counts show that traffic congestion actually decreased in the Main Street commercial district from 2000 to 2007, dropping 8.4% from Sherman Hill Road to Sycamore Ave. Volumes then increased in the easterly portions of Route 6, perhaps reflecting housing growth that occurred in Watertown and Bethlehem during the period.

Route 64 has the second highest traffic volumes in Woodbury, with 8,800 vehicles from Main Street to Middle Quarter Road. However, volumes decreased by 8.2% to the Middlebury Town Line from 2000 – 2007. Elsewhere, traffic volumes remained stable and below 5,000 ADT, allowing unrestricted travel operations. The greatest gains occurred on Route 67 by the Southbury Town Line (+400 ADT), on Route 61 by the Bethlehem Town Line (+300 ADT), and on Route 317 by Transylvania Rd. (+300 ADT).

In summary, traffic volumes are increasing slowly in Woodbury due to the modest pace of development here and in surrounding towns. Absent development of a significant traffic generator in the vicinity, it appears likely that traffic will continue to grow at a slow pace. Except for the Rt. 6 corridor, traffic should continue to flow freely.

Crash Data

Table _ displays accident data for the period of January 1, 2005 through December 31, 2007 for local and State roads. Over three times as many accidents occurred on State routes, 364, as occurred on local roads, 101. Flanders Road (14), Middle Road Turnpike (13), and Transylvania Road (9) are the local roads that experienced the most crashes.

Table _

Traffic Counts, 2000 – 2007

Route	To	2000 ADT	2007 ADT	Change	% Change
Route 6	Southbury - Woodbury TL	12,700	13,200	500	3.9%
	Rt. 64 (Sherman Hill Rd.)	12,700	14,200	1,500	11.8%
	Rt. 317 (Sycamore Ave.)	15,500	14,200	-1,300	-8.4%
	Rt. 47 (Washington Rd.)	14,600	14,000	-600	-4.1%
	Middle Road Tpke.	10,400	11,100	700	6.7%
	Flanders Rd.	7,800	7,600	-200	-2.6%
	Old Town Farm Rd.	4,900	5,200	300	6.1%
	Rt. 61 (SB) (Bethlehem Rd.)	3,800	4,200	400	10.5%
	Woodbury - Watertown TL	4,700	5,500	800	17.0%
Route 47	Rt. 132 (Weekeepeemee Rd.)	4,500	4,500	0	0.0%
	Painter Hill Rd.	2,400	2,500	100	4.2%
	Woodbury - Roxbury TL	1,700	1,700	0	0.0%
Route 61	Nonnewaug Rd.	3,400	3,500	100	2.9%
	Woodbury - Bethlehem TL	2,400	2,700	300	12.5%
Route 64	Middle Quarter Rd.	8,200	8,800	600	7.3%
	Woodbury - Middlebury TL	7,300	6,700	-600	-8.2%
Route 67	Woodbury - Southbury TL	3,900	4,300	400	10.3%
Route 132	Weekeepeemee Rd.	1,500	1,200	-300	-20.0%
	Woodbury - Bethlehem TL	900	900	0	0.0%
Route 317	Grassy Hill Rd.	1,700	1,800	100	5.9%
	Railtree Hill Rd.	2,700	2,800	100	3.7%
	Transylvania Rd.	3,500	3,800	300	8.6%
	Hollow Rd. #1	5,600	5,700	100	1.8%
	Rt. 6 (Main St.)	3,000	3,100	100	3.3%

Source: ConnDOT

Route 6/64 Intersection

Among State roads, the greatest number of accidents occurred on Route 6, with 222 during the three-year period. The intersection with Route 64 (Sherman Hill Road) had the single highest frequency during the period with 16 crashes, plus an additional 7 at the Sherman Village Shopping Center entrance. Unfortunately, this intersection was the scene of a fatal crash in 2009 at the entrance to the plaza. Given the high rate of crashes at this location, there appears to be a deficiency in the design of the intersection or the functioning of the traffic signal. The First Selectman, as the Local Traffic Authority (LTA), should request the Department of Transportation to conduct an analysis of the traffic movements to determine if physical improvements to the intersection could lower the crash rate.

Other locations on Route 6 that have high crash occurrences include: Flanders Road (8), the Shell Gas Station (7), and Route 317, Judson Avenue, and Quassuk Road with 6 each. Other state routes with significant traffic volumes also experienced a high number of crashes, including Route 64 (41 crashes), Route 317 (40 crashes), and Route 47 (33 crashes). The Route 317 / Transylvania Road intersection experienced eight crashes during the period.

The most frequent collision type on local roads was striking a fixed object, which occurred in 65 instances or 64% of all accidents. This suggests narrow road widths and the need to minimize obstructions within close distance of travel lanes. On state roads, contributing factors frequently involve commercial driveways where vehicles are waiting to turn into a driveway or have already started to make a turning movement. The most common crash types on State roads include striking a fixed object (36%), rear end (26%), turning movements (13%), and head-on (7%).

Table _ shows the extent of reported injuries. Two other fatalities occurred during the period, one on Route 6 west of Quanopaug Road, and one on Bacon Pond Road. Both accidents appear to be unrelated to the roadway geometry. 38% of the accidents on local roads involved injuries, while 27% of accidents on state roads involved injuries. Slower speeds in the commercial areas on Route 6 may account for the lower rate of injuries on state roads. However, the number of accidents with injuries on state roads increased by 13% from 2005. Only one accident involved a pedestrian on local roads, while two pedestrian accidents occurred on state roads.

Table _
Crash Data, Woodbury, CT

Three-Year Period from 1/1/05 – 12/31/07

Street Location	Total	Most Frequent Occurrence	Total
Local Roads	**101**		
Flanders Rd.	14	Between Plumb Rock Rd. and Elephant Rock Rd.	3
Middle Road Turnpike	13	Between Ash Swamp Rd. & White Deer Rocks Rd.	5
Transylvania Rd	9	Between Hesseky Meadow Rd. and the Town Line	7
Minortown Rd.	5		
School St.	5	At intersection with Washington Ave.	5
Bacon Pond Rd	4	Between Joshua Hill Rd., Park Rd., and Sanford Rd.	3
State Roads	**364**		
Route 6 (from west to east)	**222**	Route 64 (Also see below.)	16
		Flanders Rd.	8
		Sherman Village Shopping Center	7
		Between 50′ and 250′ West of Route 64	7
		Shell Station	7
		Middle Road Turnpike	7
		Route 317 (Also see below.)	6
		Judson Ave.	6
		Quassapaug Rd. # 1	6
		West Junction of South Pomperaug Ave.	5
		Between 30′ and 125′ West of Rt. 317	5
		LaBonne's Market	5
		Minortown Road Connector	5
Route 47	33	Rt. 6	5
Route 61	17	Rt. 6	4
Route 64	41	Tuttle Rd.	5
Route 132	11		
Route 317	40	Transylvania Rd.	8
		Near Railtree Hill Rd.	4
Grand Total	**465**		
Three Year Average	**155**		

Source: ConnDOT, Bureau of Policy and Planning

Table _
Injury Severity

Injury Type	State Roads	Local Roads	Total
Fatal Injury	1	1	2
Incapacitating Injury	2	2	4
Non-Incapacitating Injury	34	18	52
Possible Injury	61	17	78
Property Damage Only	266	63	329
Total	364	101	465

The causes of accidents are many. While narrow roads and horizontal curvature are often significant factors in rural areas, weather and surface conditions often play a contributing role, especially where excessive driver speeds are unwise under abnormal conditions. The DPW attempts to correct drainage problems, which can cause icy road surfaces during the winter, and to remove obstacles from roadsides that appear to be obvious hazards. Poor sightlines are difficult to correct absent a roadway re-alignment. Since residents prefer to maintain rural character and retain the scenic appearance of local roads, drivers must obey posted speed limits and avoid distractions while negotiating narrow roads. The DPW and Police should investigate the principal causes of accidents at high crash locations under the Town's jurisdiction and work with landowners for changes on private property to improve sight distances. In addition, the DPW can work with state highway officials to investigate potential drainage and alignment changes on state routes to reduce accident frequencies.

Road Discontinuances

Numerous unimproved ways exist in Woodbury whose status as town roads is unclear since the general public no longer uses these roads for travel. As public ways, the Town is responsible for their maintenance to insure safe access for the abutting property owners. Town roads provide the legal frontage for development of individual lots, and they provide access to larger tracts for new subdivisions. Because of their generally poor condition, as development increases along the roads, the Town may be required at some considerable expense to improve the roads to provide access by owners and by Town public safety equipment. Town Meeting may discontinue a road in order to provide assurance that the Town will not have to spend public funds to improve or maintain the road for little public benefit. Discontinuance also reduces the Town's liability for accidents.

Under state law, the standard for discontinuance that applies is if the road is "not of common convenience and necessity". Discontinuance of a Town road extinguishes the public's right to travel on the road. However, the owners of property along a discontinued way may continue to use the road to access their property. Since Woodbury's Zoning Regulations require frontage or access on a public way, what was once a legal building lot will lose that status when Town Meeting discontinues the road. Discontinuance does not prevent owners from subdividing their property, but it does shift the burden of improving the road from the Town to the applicants. Table _ contains a list of roads in Woodbury that the Planning Commission has voted to recommend discontinuance.

Table _
Roads Proposed for Discontinuance

Road or Road Segment	Approx. Distance
1. The portion of Woodland Lane extending from the improved portion of Woodland Lane easterly to Goodhill Road.	1500′
2. The portion of Rucuum Road (a.k.a Rucuum Rd. #2) extending westerly from the improved portion of Rucuum Road to Good Hill Road.	3200′
3. The portion of Gray Fox trail extending from the intersection of Meadow Crest Drive westerly to Quanopaug Trail.	2000′
4. The central portion of Kimberly Lane from the improved portion off of Middle Road Turnpike to the improved portion off Fox Road.	3000′
5. The portion of Town Line Road extending from the improved portion of Town Line Road to the Woodbury/Watertown town line.	3000′
6. The portion of Great Hollow Road extending from the improved portion of Great Hollow Road to the Woodbury/Southbury town line.	4500′
7. The portion of Pond Valley Road extending from the paved portion of Pond Valley road westerly to its intersection with Kimberly Lane.	300′
8. The portion of Pomperaug Road extending from its intersection with Great Hollow Road to its intersection with the paved portion of Pomperaug Rd.	1500′
9. The portion of Hard Hill Road between the paved portion of Hard Hill Rd. (a.k.a. Hard Hill Rd. North) off of Minortown Road and the paved portion of Hard Hill Rd. (a.k.a. Hard Hill Rd. South) off of Middle Road Turnpike.	500′
10. The portion of Trolley Bed Road extending southerly from Old Sherman Hill Rd.	
11. The portion of Saw Pit Hill road extending north-westerly from the paved portion of Saw Pit Hill Road to Railtree Hill Road.	1400′
12. The portion of Stone Pit Road extending northerly from the paved portion of Stone Pit Road to Hoop Pole Hill Road.	6500′
13. The unnamed road extending westerly from Upper Grassy Hill Road north of the intersection of Upper Grassy Hill Road and Woodland Lane to the Roxbury TL.	400′
14. The unnamed road extending easterly from Bethlehem Road (Rt. 61) 1,000′ south of the intersection of Rt. 61 and Old Town Farm Rd., currently used as private access.	
15. The unnamed road extending northwesterly from Church Hill Rd. east of Orchard Ave.	
16. The portion of Hoop Pole Hill road extending westerly from the intersection with Hazel Plain Road to the Roxbury Town Line.	1500′
17. The unnamed spur road extending westerly from Cross Brook Road.	
18. The portion of Hurd's Hill Rd. extending 500 feet from the intersection with High Point Rd. to the Southbury town line (may be known as High Point Drive).	650′
19. The unnamed road extending northerly from High Point Road.	
Total: Approximately 5.7 miles	

State and Regional Transportation Plans

Woodbury lies on the periphery of the State's transportation network. The Town has no projects on the Statewide Transportation Improvement Program (STIP), the document that lists all projects proposed for funding with federal transportation dollars in next four years. Woodbury has no freight or passenger railroads, and no interstate highways pass through Town. The Department of Transportation (ConnDOT) lists no major highway projects on the boards in Woodbury.

The Council of Governments of the Central Naugatuck Valley (COGCNV) adopted its "Long Range Transportation Plan" in 2007. The Plan contains a detailed strategy for improving the Region's highway, transit, and rail systems through 2035. The Regional Plan identifies a series of highway priorities for the Region, but none are in Woodbury, nor does the Town have any specific intersections designated as "high hazard accident locations" when compared across the Region.

Woodbury has no projects listed on the regional Transportation Improvement Program (TIP), where decisions are made for allocating federal-aid funds for highway, transit, and inter-modal improvements. Because of Woodbury's low density and rural character, it does not fare well in regional competition for limited federal-aid dollars.

The Long-Range Plan indicates that there are currently no serious traffic congestion hot spots in Woodbury. However, based on a statewide travel demand model, the COGCNV traffic forecast reveals that the commercial section of Main Street between Routes 64 and 317 will experience congestion by the year 2025. Congested highway segments are those where the traffic volumes in peak hours exceed the capacity of the road, expressed as a volume to capacity ratio (v/c) greater than 1.0. In neighboring Southbury, Route 6 from the Woodbury Town Line to the Center of Southbury is also likely to experience congestion problems.

Bridges

ConnDOT conducts inspections of bridges over 20 feet in length every two years in order to evaluate the safety and structural stability of the bridge. In the 2008 survey, Woodbury had two functionally obsolete over-20' bridges: one on Minortown Road passing over the Nonnewaug River, and the other on Hazel Plain Road crossing Sprain Brook. There are no structurally deficient over-20' bridges in Woodbury. (A "functionally obsolete" bridge is one that does not meet currently accepted design standards; it may have a serious condition in its deck geometry, under-clearances, or approach roadway alignment. A bridge is "structurally deficient" if the physical condition is poor for any of the major structural components: deck, superstructure, substructure, culverts, or retaining wall. A rating of poor requires major rehabilitation to prevent further deterioration.) Deficient bridges over 20' are eligible for federal funding.

The State does not conduct inspections of municipal bridges with a span less than 20 feet on a regular basis; the last statewide effort occurred in 1991. At that time, Woodbury had four functionally obsolete under-20' bridges: two on Mill Road, one on Middle Quarter Road crossing South Brook (also structurally deficient), and one on Trolley Bed Road. Maintenance of these bridges is the Town's responsibility. Since the inspection data is now 18 years old, the Town should have an engineer inspect all of its under-20' bridges. ConnDOT recommends routine inspections every 2 years and detailed inspections every 10 years. A structurally deficient bridge may not carry full legal loads, and if left unchecked,

will continue to decay until it is unsafe for any load. Since these structures may present traffic hazards or contribute to flooding, the Town should program to repair or replace its deficient bridges based upon the engineer's recommendations. Under-20' bridges may qualify for the State's Local Bridge Program.

Sidewalks and Pedestrian Use

Woodbury's Shade Tree and Sidewalk Committee has established a working procedure for identifying sidewalk needs and seeking funding through the Town's capital planning process. The DPW constructs the projects once funding is available. Health benefits arise from greater walking activity, and increased obesity is a national concern that has implications on the cost of health care. Greater use of sidewalks can eliminate automobile trips for short errands, helping to reduce air emissions and improve traffic flow.

Installing missing sections of sidewalk along Route 6, and extending new sidewalks to high use destinations in the area are current priorities of the Committee. In 2009, Woodbury extended the sidewalk to Hollow Park, and next plans to continue the sidewalk system to Webb's Pond. Barrier-free sidewalks in the Route 6 Corridor are important components of Woodbury's tourism agenda. Visitors will enjoy walking to the Town's impressive historic attractions as well as patronize the numerous antique shops in the area.

Crosswalks are also an important piece of the puzzle. With a steady flow of traffic on weekends, it can be difficult to cross the highway to visit an attraction on the other side. With few traffic signals, there are limited opportunities for actuated pedestrian signals to provide safe passage. Painted crosswalks and signage encouraging motorists to stop for pedestrians in crosswalks can make it seem, and actually be, safer for pedestrians. To further accent the perception of safety, Woodbury may consider bump-outs in high pedestrian locations to narrow the distance for travel lanes. Such features also tend to encourage slower vehicle speeds and provide visual cues to drivers of the potential for pedestrians to step off the curb.

While Woodbury is in the process of extending its sidewalks, it should insure that existing sidewalks are equipped with curb ramps that comply with construction standards for wheelchair accessibility.

A second priority for construction should be providing sidewalks near public schools. A safe and connected sidewalk network can encourage more students to walk or bicycle to school. With few sidewalks near Mitchell School, parents may be reluctant to have their children walk along road shoulders when encountering heavy traffic. Connecticut participates in the Safe Routes to School (SR2S) movement and advocates for improvements to sidewalks and trail systems to insure children can make it to school safely. Grant rounds provide funding to install sidewalks to encourage more students to walk to school.

Route 6 Corridor

Route 6 provides automobile access to the Town's principal commercial areas and public and religious institutions, and it carries workers to and from their jobs in the morning and evening commuting periods. As the principal traffic artery of Woodbury, businesses and residents depend upon its proper functioning to move traffic smoothly and to accommodate local shopping trips. It is also the location of the highest number of accidents and presents safety hazards in high volume areas. The Long Range Transportation Plan indicates that

Route 6 will experience congestion by the year 2025 (i.e. the v/c ratio will exceed 1.0). Two historic districts also lie along this route, and offer pleasing views of traditional New England architecture and a rural landscape. Route 6 is one of the defining elements of the Town's image that residents cherish and will resist change that may alter its contribution to the Town's quality of life.

Woodbury should undertake a corridor planning study of Route 6, perhaps with neighboring Southbury and Watertown. Such a study would identify deficient levels of service at key intersections in the morning and evening weekday and weekend peak hour periods. The study should examine future growth potential in the Town and the generation of additional traffic by new commercial development along the highway. The study would involve a more detailed projection of future traffic growth and its likely impact on the capacity of the highway. As a two-lane road, back-ups often arise at street intersections where vehicles wait to make a left turn in the face of heavy opposing traffic. The study should examine the potential for separate left-turn lanes to allow thru-traffic to proceed unimpeded. At high-volume intersections, the study could determine if new signals are warranted and offer preliminary designs of these or other solutions.

As increased traffic on Main Street causes greater delays for motorists, drivers knowledgeable of the local street system will seek alternate routes along parallel roads to skirt the congested areas. Strategic investments at major intersections with Main Street can sustain a free flow of traffic in the Corridor with only modest delays and congestion. Main Street improvements should receive priority to lessen the impact on residential neighborhoods from motorists seeking cut-through routes. Officials should monitor this trend and follow good maintenance practices on the side roads to insure safe passage and minimize traffic impacts in residential areas.

The high crash frequencies here seem related to the numerous driveway openings where left-turning vehicles are often unable to make the maneuver in or out of commercial shopping plazas. The Corridor Study should include an in-depth evaluation of these commercial drives in order to identify possible causes and solutions. With landowner cooperation, it may be possible to close unnecessary curb cuts, consolidate curb cuts with adjoining landowners, or re-configure the openings to include divided openings to channel traffic in and out of a development safely.

The Route 6 study should also include design of elements to enhance the experience of visitors and improve the appearance for residents. For example, overhead utility lines have a negative visual effect on the otherwise scenic appearance of the corridor. Removing overhead wires is a long-term strategy that will have direct benefits for reducing storm-related outages and improving visual appearance. Traffic calming measures such as bump-outs, textured crosswalks at intersections, and street trees help to slow down traffic and demonstrate a concern for pedestrian safety. Other pedestrian friendly amenities could include new street benches, period light fixtures, informational kiosks, consistent directional signage, and access to public rest rooms.

Transit

Woodbury falls outside of the Greater Waterbury Transit Service District and has no fixed route bus service or para-transit service. Given Woodbury's low residential density, it is unlikely that the Town will ever receive fixed-route service due to the extreme cost of

operating such a system. Woodbury is eligible to apply for operational funds for elderly and disabled service as well as capital funds for purchase of equipment. A community must provide a local match (usually 20%), but cannot be assured of continuation of operating funds given recent cuts by state and federal transit agencies. COGCNV coordinates the application process for the region.

Transportation Goals

1. Maintain and improve Woodbury's road network to allow the greatest efficiency of automobile travel throughout the Town while achieving the highest levels of safety for the public.
2. Conduct detailed analyzes of high accident locations and seek state and local funds to remove safety hazards to reduce accident rates in Woodbury.
3. Improve pedestrian conditions along the Main Street commercial corridor to encourage greater walking and reduce reliance on automobile use.

Recommendations

1. Conduct a Transportation Corridor Study of Main Street that examines the potential for future traffic growth and recommends actions to improve traffic flow, enhance pedestrian safety, and retain the rural appearance of the roadway.
2. Enlist ConnDOT to perform an in-depth analysis of the Route 6 / Route 64 intersection to determine corrective actions and prevent severe accidents.
3. Make selective improvements at bottleneck intersections, but avoid major road reconstruction that would alter the character of Main Street.
4. Study removal of overhead utility lines in the commercial areas and historic districts of Main Street.
5. When acting on new development proposals seek to connect parking lots of adjacent properties and work with ConnDOT to consolidate curb cuts where feasible to reduce conflict points on Main Street.
6. Implement access management controls in land use regulations to include specific standards for access design in commercial development.
7. Discontinue Town roads no longer in use by the public.
8. Examine locations of high accident locations to identify possible causes and remedies that can occur within the right-of-way. Work with property owners, if necessary, to remove obstructions or alter alignments to improve sight distances.
9. Hire an engineer to conduct inspections of all Town bridges with particular attention to those that are structurally deficient or functionally obsolete. Apply for state funds to repair those that pose serious safety risks.
10. Review signal timing to improve intersection efficiency and minimize automobile idling.
11. Create a pedestrian-friendly environment by improving crosswalks at major intersections, providing amenities such as benches and kiosks at key locations, planting gardens and ornamental trees, and providing tourist conveniences.

12. Continue construction of the sidewalk network along Main Street and adjacent streets, and develop new sidewalks near schools to encourage greater walking to school by Woodbury's youth.
13. Install curb ramps at intersections to make sidewalks usable by the disabled.
14. Manage development along roads that serve as Gateways into Woodbury to preserve scenic views and the appearance of unspoiled open space.