Chapter 6: Transportation and Circulation

This chapter addresses transportation system in Acton in terms of the facilities available for travel and the way that people and businesses use the transportation system.

It includes:

- Relationship of Transportation to Planning Goals
- Information on:
  - The travel patterns of residents and employees
  - The network of roads, trails, sidewalks, and shared use paths
  - Traffic circulation
  - Public transportation
  - Walking
  - Bicycling
- Opportunities and Challenges Posed by Existing Transportation Conditions

Why the Comprehensive Plan Addresses Transportation and Circulation

Almost everyone needs access to transportation resources on a daily basis. Because those who cannot get around easily are often disconnected from the rest of the community, transportation access and circulation becomes an essential component of community comprehensive planning.

Relationship of Transportation to Planning Goals

Each of the seven planning goals incorporates an aspect of transportation; Goal 3 (Improve Connections) makes the most direct reference to "supporting these connections through physical means including sidewalks, bike paths, trails, and public transportation to connect people and places, and to support independent and safe travel for all." The following describes how each of the seven goals relates to transportation and circulation.

Goal: Preserve and Enhance Town Character

Each transportation project provides the Town with an opportunity to both preserve and enhance town character in terms of construction materials, streetscape amenities, and overall design.

Goal: Ensure Environmental Sustainability

While the automobile will continue as the primary mode of transportation in Acton, alternatives to driving alone offer myriad opportunities to make the Town more sustainable.

Goal: Improve Connections

Transportation is all about connections; in some cases, these connections need to be improved while in other cases, existing facilities and systems need to be preserved.

Goal: Provide More Opportunities for Community Gathering and Recreation

As Actonians consider potential investments in new community facilities, transportation access and convenience are critical elements of location choices.

Goal: Support Inclusion and Diversity

Without good access, it is often impossible for some people to participate in activities outside of their homes. This is particularly important to seniors, persons with disabilities, and young people who are collectively often referred to as the "transportation disadvantaged."

Goal: Maintain And Enhance Town-Owned Assets

Acton is responsible for maintaining most of the roads, sidewalks, and pathways and some of the parking resources in the town. Preserving transportation resources is an essential component of any municipality's public functions.

Goal: Maintain and Improve the Financial Well-Being Of the Town

The transportation system requires considerable ongoing public investment; deferred maintenance of transportation resources can lead to considerable financial strain when costlier replacement projects are eventually needed. New or substantially upgraded transportation facilities are typically expensive; and often create new requirements on the operating budget for maintenance.

Summary of Key Points

Overview

- As the cost of transportation continues to increase (both driving and using public transportation), the cost of commuting will likely be an important factor in residential and employment decision making.
- As with neighboring communities, the 2000 Census showed that nearly 90 percent of workers living in Acton drove or road in a car to work and 4.5 percent used public transportation.
- While car travel and to a lesser extent regional commuter transit will continue to predominate in the Town, participants in the planning process have expressed a desire for other viable alternatives.

Roadways

- Acton's principal roadways were never designed to carry high traffic volumes. Also, because of the historical importance of some roads, maintaining their visual character is an important element in how the community views and considers roadway improvements.
- Many of the intersections along these corridors are uncontrolled, which means that left-turning traffic creates backups; left-turns entering from side streets can also be difficult. This is particularly challenging along Great Road (Route 119) where multiple driveways permit entries and exits that can result in conflicts and potentially in crashes.
- Speeding is a problem on many of the Town's roadways, particularly on road segments between congestion hot spots.

Public Transportation

- The MBTA recently began improvements to the Fitchburg Line, which include extending double tracking from Boston to Ayer to increase train speeds and on-time performance. The project also includes renovating the South Acton Train Station (SATS).

- In March 2010, the MBTA adopted the design alternative proposed by Acton residents. The Acton Historic District Commission has approved the latest design proposal from the MBTA (details here).
- The MBTA is working on improvements to the Littleton/495 commuter rail station. When construction is completed, express service currently available at SATS will be moved to the new station, thereby relieving some parking congestion at SATS.
- Although the MBTA provides commuter rail service to Acton, the town is also part of the Lowell Regional Transit Authority (LRTA) service area for paratransit service to Acton's senior and disabled communities. LRTA does not provide fixed route bus service in Acton.
- In 2009, Acton received $95,188 in federal funding to initiate the MinuteVan shuttle service between the SATS and a 22-space satellite parking lot behind the West Acton Fire Station.
- The MinuteVan shuttle also offers dial-a-ride service outside of the commuter service hours to any destination in Acton and to seven locations in adjacent towns.
- The Acton Council on Aging also provides shuttle service for Acton residents 60 years old and older and for residents with disabilities as space allows.
- Yankee Line, Inc. provides weekday morning and evening charter-bus trips between East Acton, Concord Center, and Copley Square in Boston.

Pedestrian Facilities

- Acton's sidewalks often exist on only one side of the street. With the notable exception of recent sidewalk projects, most of Acton's sidewalks are narrow. Often, for reasons that include avoiding historic stone walls, large street trees, or property takings, sidewalks sometimes shift from one side of the street to the other.
- Acton Subdivision Rules and Regulations require developers to provide pedestrian improvements as deemed necessary by the Planning Board. They also require local streets to have a sidewalk on at least one side, while collector and arterial streets must have sidewalks on both sides.
- The town's Sidewalk Committee helps set priorities for pedestrian improvements, and Acton has recently completed construction of many sidewalks.
- Since one of the challenges to providing pedestrian facilities is the perception of many residents that they are inconsistent with the town's rural character, it is noteworthy that the Sidewalk Committee has published design guidelines for sidewalks that address this concern.

Bicycle Facilities

- Acton has many two-lane roads that are ideal for recreational cycling during off-peak times. However, these same roads are less than optimal for cycling when vehicular traffic volumes are higher and there are no marked bicycle lanes in the Town.
- At present, there is no bicycle committee or TAC (Transportation Advisory Committee) subcommittee on bicycling.

- Acton is directly involved in two major rail trail projects: The Assabet River Rail Trail (ARRT) Phase 2 is under design, which would provide an important commuter link to SATS, and the Bruce Freeman Rail Trail (BFRT), for which the Town has selected a design firm for final design.
- The Acton Subdivision Rules and Regulations also address bike paths as deemed necessary by the Planning Board.

Travel Patterns of Residents and Employees

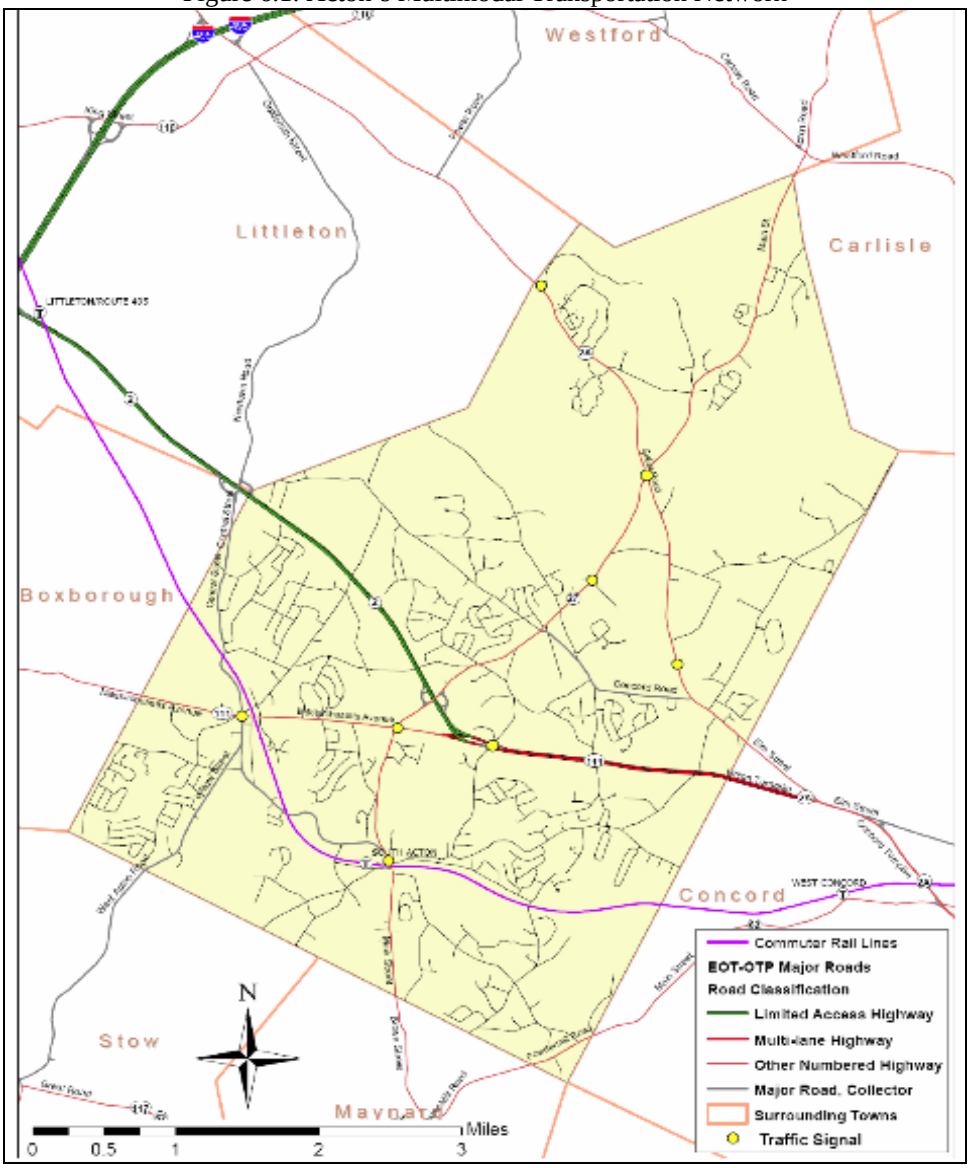
The relationship between residential and employment locations is an essential element in a person's daily life. Almost everyone who works desires a short commute but this is often difficult to achieve for a variety of reasons related to economic and lifestyle choices and options. According to the 2000 U.S. Census, 11,744 people were employed in Acton, of whom 79.5 percent did not live in Acton. Similarly, of the 10,942 Acton residents in the workforce, 77.9 percent worked outside of Acton. The three most common places where Acton residents worked were Boston (9.9 percent), Concord (8.5 percent), and Cambridge (5.6 percent). The appendix provides additional details on how residents of Acton and adjacent communities commuted to work in 2000.

It will be important to compare the 2000 data with the forthcoming 2010 census data when it becomes available to see how these patterns may have changed. The cost of fuel is likely to continue to increase and public transportation fares are also likely to grow faster than wages. Increases in the cost of commuting will thus likely be an important factor in residential and employment decisionmaking.

Transportation System Overview

Route 2, the main east-west highway traversing northern Massachusetts dominates Acton's transportation network. Just east of Acton, Route 2 changes from a limited-access highway to a severely congested roadway between Concord and Route 128. The bottleneck begins at the Concord Rotary, which is discussed further below. In the other direction, Interstate 495 is just over two miles from Acton's western boundary, which affords excellent regional highway access.

Figure 6.1: Acton's Multimodal Transportation Network



The Fitchburg commuter rail line runs through Acton with a stop at the South Acton Train Station (SATS). This station is very popular for commuters in the region, and its parking is oversubscribed. Other public transportation resources include a commercial express bus service to Boston. Acton's Council on Aging (COA) provides senior transportation service within the Town and to destinations in Concord and Maynard, and the Lowell Regional Transit Authority (LRTA) provides limited service to seniors and persons with disabilities.

While Acton has approximately 119 miles of roads, there are approximately 48 miles of sidewalks, which translates to approximately 40 percent coverage. The majority of these sidewalks are in the Town's villages and some are along well-traveled roadways such as Massachusetts Avenue and Main Street. Acton has an active sidewalk committee that is focusing resources on increasing the sidewalk network and improving deficient facilities.

Acton is unique in its position of having two important rail trail projects in development. The Assabet River Rail Trail will be extended northward into Acton from Maynard while the Bruce Freeman Rail Trail will be extended southward from Westford. While these important shared use path projects are highly anticipated, the roadway network in Acton is also important to bicycle transportation both today and into the future, particularly for non-recreational cycling.

As with neighboring communities, the 2000 Census showed that nearly 90 percent of Acton residents drove or road in a car to work and 4.5 percent used public transportation. While car travel and to a lesser extent regional commuter transit will continue to predominate in the Town, participants in the planning process have expressed a desire for other viable alternatives. As described previously, 37 percent of the ideas in the transportation –related goals and policies document relate to bicycle, sidewalk, and trail facilities and 14 percent relate to transit.

Roadways

With the exception of Route 2, Acton's street network features two-lane roadways, a number of which have served as principal roadways since Acton was founded. As such, these principal roadways were never designed to carry high traffic volumes. Also, because of their historical significance, maintaining their visual character is important to Acton residents. These principal roadways connect Acton's villages, and they experience congestion during peak-periods and on Saturdays. Many of the intersections along these corridors are uncontrolled, which means that left-turning traffic creates backups; left-turns entering from side streets can also be difficult. This is particularly challenging along Great Road (Route 119) where multiple driveways permit entries and exits that can result in conflicts and potentially in crashes. The East Acton Village Transportation Study discusses these issues in more detail (see appendix.)

According to Acton's planning and engineering staff, Transportation Advisory Committee (TAC) members, and outreach event participants, speeding is a problem on many of the Town's roadways, particularly on road segments between congestion hot spots.

In addition to traffic issues on various principal roadways, congestion from the Concord Rotary presents particular problems resulting from motorists looking to bypass congestion and using streets like Hosmer Street.

The appendix provides a detailed discussion of the roadway network in Acton, including functional classification of roads, traffic speeds and volumes, and crash data.

Public Transportation

In recent years, as an outgrowth of a United Way forum on local transportation issues, Acton's TAC has been focusing its energies on improving public transportation services, particularly related to the commuter rail service and parking at South Acton Train Station (SATS).

Commuter Rail

The MBTA Fitchburg Line provides commuter rail service to SATS. Seventeen trains operate each way between Boston and Fitchburg – including one express rush hour train each way between SATS and Porter Square in Cambridge, where commuters can transfer to the MBTA's Red Line for rapid transit. According to the MBTA, nearly 900 passengers board at SATS each weekday.

According to the Fitchburg Line Analysis Report, the MBTA recently began improvements to the Fitchburg Line, which include extending double tracking from Boston to Ayer to increase train speeds and on-time performance while reducing operations and maintenance costs. The project also includes renovating SATS to improve compliance with the Americans with Disabilities Act (ADA). In April 2009 the MBTA's design contractor, HNTB, presented conceptual designs, which included a single center platform with a 600' ADA-compliant ramp and station access from just one side of the tracks. A citizens group petitioned the MBTA to provide side platforms, to accommodate station access from both sides, to install two smaller ramps, and to add an elevator. In March 2010, the MBTA adopted the design alternative proposed by Acton residents. The Acton Historic District Commission has approved the latest design proposal from the MBTA (details here).

Residents and non-residents alike complain that there is too little parking at SATS. While renovations there will not expand parking capacity, the MBTA is working on improvements to the Littleton/495 commuter rail station that includes construction of a parking garage to attract and accommodate drivers from the nearby interstate highway. When construction is completed in Littleton, express service currently available at SATS will be extended to the new station, thereby relieving some parking congestion at SATS attributable to the express train. Town staff expects that investments in shuttle service and the planned Assabet River Rail Trail from Maynard to SATS will further relieve parking constraints.

Bus and Paratransit

The Town of Acton is a member of the Lowell Regional Transit Authority (LRTA). While the LRTA does not provide fixed-route bus service in Acton, it provides paratransit service to Acton's senior and disabled communities. The Road Runner is a curb-to-curb service available to residents within the LRTA service area who are 60 years old or older or who are disabled. The service operates Monday–Friday 8:30 a.m.–2:30 p.m. There is no weekend service.

Shuttle

Because the parking facilities at SATS are routinely oversubscribed, the TAC applied for grant funding to provide a shuttle service (MinuteVan) from West Acton to SATS and to operate a dial-a-ride (DAR) service. In 2009, Acton received $95,188 in federal funding to initiate a shuttle service between the station and a 22-space satellite parking lot behind the West Acton Fire Station with half of the spaces available to residents and half to non-residents. The funding is through the Federal Congestion Mitigation Air Quality (CMAQ) program with diminishing contributions for each of three years; a replacement-funding source will be needed to make up the loss of these program funds.

The MinuteVan operates 6:45–9:25 a.m. for inbound commuters and 5:10–7:30 p.m. for outbound commuters. Acton residents may pay $250 for an annual park-and-ride membership, while non-residents must pay $500. Acton residents may pay $200 for the shuttle service alone (i.e., without parking), and anyone may pay $10 for a book of ten ride tickets.

In addition to commuter service, the shuttle offers dial-a-ride service outside of the commuter service hours to any destination in Acton and to the following locations:

- Food Pantry, Boxborough
- Emerson Hospital, Concord

- Concord Hillside Medical Offices, Concord
- Cooperative Elder Services Inc., Concord
- West Concord Center
- Nashoba Skating Rink, Boxborough
- Maynard Center

The dial-a-ride service is available to Acton residents 12 years old and older. It operates Monday–Friday 8–11 a.m. and 3:15–8:15 p.m. There is no weekend service. Each ride with this shuttle service costs $2 within Acton and $4 to or from locations outside Acton.

Acton Council on Aging also provides shuttle service for Acton residents 60 years old and older and for disabled residents as space allows. An in-town trip costs $1, while an out-of-town trip to Maynard Center or Emerson Hospital in Concord costs $1.50. The service operates Monday–Friday 8 a.m.–4:15 p.m. It does not operate on weekends.

Private Carrier

Yankee Line, Inc. provides weekday morning and evening bus trips between East Acton, Concord Center, and Copley Square in Boston. The morning bus leaves East Acton from Colonial Spirits at 7 a.m. and arrives in Boston at 7:50 a.m., while the evening bus departs Boston at 5:05 p.m. at Copley Square and arrives in East Acton at 5:50 p.m. The one-way ticket costs $8, or passengers may buy a book of 10 tickets for $65.

Pedestrian Facilities

According to the town's Engineering Department, Acton has 47.7 miles of bituminous, concrete, and gravel sidewalks. Sidewalks extend along 40 percent of the town's roads. Acton's sidewalks often exist on only one side of the street. With the notable exception of recent sidewalk projects detailed below, most of Acton's sidewalks are narrow (typically 3-5 feet) and often exist on only one side of the street. Often, for reasons that include avoiding historic stone walls, large street trees, or property takings, sidewalks sometimes shift from one side of the street to the other.

Section 8.1.4 of the Acton Subdivision Rules and Regulations requires developers to provide pedestrian ways for adequate circulation between schools, playgrounds, parks, shops, open spaces, and other community facilities and between existing or proposed neighborhoods as deemed necessary by the Planning Board. Section 9.6 requires local streets to have a sidewalk on at least one side, while collector and arterial streets must have sidewalks on both sides. In addition, the Town requires sidewalks on any existing public street upon which the subdivision has frontage. Sidewalks must be five feet wide and constructed in accordance with the standards of the Massachusetts Architectural Access Board, with several sections of the state's "Standard Specifications for Highways and Bridges," and with the typical structural cross-section provided in the subdivision regulations. Furthermore, the Planning Board may reduce the width of streets at pedestrian crossings or require raised crossings to accommodate walking. While these rules have resulted in the addition of significant sidewalk pieces in certain locations during the last 20 years, many of the town's existing roads and streets require a significant public investment to link these pieces and add additional sidewalks.

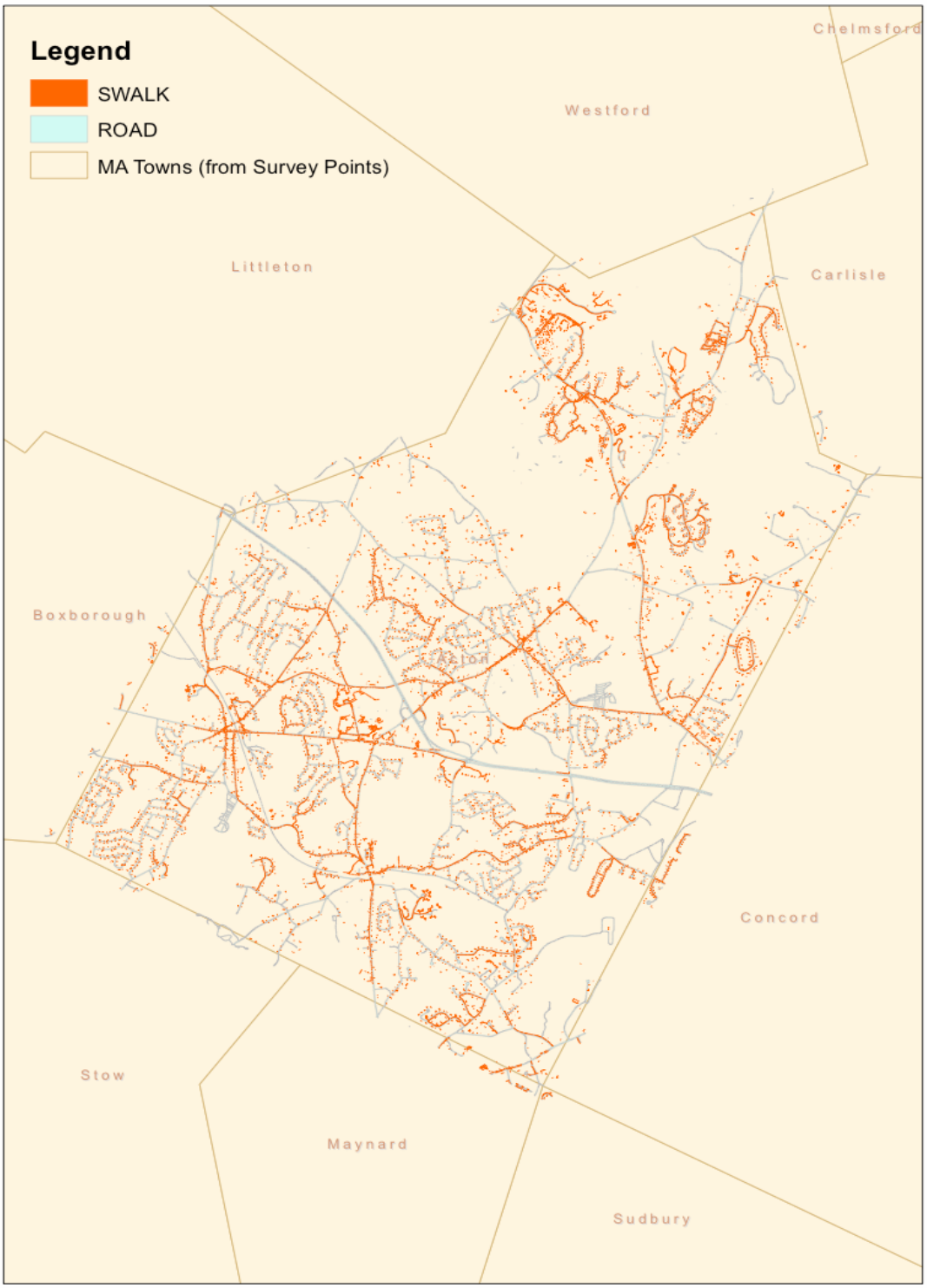
The town's Sidewalk Committee helps set priorities for pedestrian improvements, and Acton has recently completed construction of many sidewalks: on Prospect Street between Central Street

and Main Street, on Central Street from Windsor Avenue to Summer Street, on Main Street from Post Office Square to Great Road, and on High Street from Audubon Hill to 46 High Street. In the coming year, Acton plans to construct sidewalks on Summer Street between Central Street and Willow Street, on Summer Street at the gap near Ethan Allen Dr., on Great Road between Davis Road and the Woodvale Condominiums, on Martin Street from Central Street to the railroad tracks, and on High Street from Conant Street to Parker Street.

In addition, the Acton Planning Board asks developers contribute to a sidewalk fund in lieu of (or in addition to) paying for sidewalks in new subdivisions. That way, the Town has a source of funds for building sidewalks.

Since one of the challenges to providing pedestrian facilities is the perception of many residents that they are inconsistent with the town's rural character, it is noteworthy that the Sidewalk Committee has published design guidelines for sidewalks that address this concern.

Figure 6.2: Acton Sidewalk Locations



Bicycle Facilities

Acton has many two-lane roads that are ideal for recreational cycling during off-peak times. These same roads are less than optimal for cycling when vehicular traffic volumes are higher and there are no marked bicycle lanes in the Town. While there are bicycle lockers at SATS and limited bicycle parking elsewhere, the TAC has been investigating the MAPC bicycle rack program and is identifying suitable locations for their installation in coordination with retail businesses. There are bike racks at the town hall / library complex, but none at the public safety building. At present, there is no bicycle committee or TAC subcommittee on bicycling.

Acton is directly involved in the two rail trail projects described in the transportation overview. Assabet River Rail Trail (ARRT) Phase 2 would extend northeasterly from Stow, through Maynard Center to SATS, which would provide an important commuter link to the station. In addition the trail would serve Clocktower Place, an office park in Maynard. AART is a top priority for Acton. The project is in final design, with construction expected to begin before federal fiscal year 2015. Funding for the final design comes from a Federal transportation earmark for the ARRT that the Town obtained with the help of former Congressman Meehan and Senators Kennedy and Kerry.

The Town has selected a design firm for the final design of Phases 2A and 2C of the Bruce Freeman Rail Trail (BFRT). Massachusetts is funding the final design work. Phase 2A of the trail would continue southerly from the completed Phase 1 in Westford, through Carlisle into North and East Acton and then to Route 2 west of the Concord Rotary; Phase 2C would extend the project in Concord from the south side of Route 2 through West Concord to the Concord/Sudbury border, from which point the trail would eventually continue to Framingham. Phase 2B, which would cross Route 2, was recently separated from planning for the Concord Rotary project; The State has committed to funding and contracting for the 25 percent design of Phase 2B independent of the Rotary project; however, the cost of a grade-separated crossing of the highway will be substantial. In December 2010, the Boards of Selectmen of Acton and Concord both expressed a preference for the lower-cost bridge option for the BFRT over Route 2.

Section 8.1.4 of the Acton Subdivision Rules and Regulations also addresses bike paths to provide adequate circulation between schools, playgrounds, parks, shops, open spaces, and other community facilities and between existing or proposed neighborhoods as deemed necessary by the Planning Board. Sections 9.6.5 through 9.6.7 state that bicycle paths may be required to improve circulation and connections with existing, proposed, or potential streets and ways, and that paths must be a minimum of ten feet wide. Furthermore, the planning board may reduce the width of streets at crossings or require raised crossings to accommodate bicycling. However, the Planning Board has not found opportunities to implement any of these provisions in new developments.

Overall Summary

Acton's transportation system is primarily a network of roadways, most of which were not designed for today's traffic volumes. At the same time, many Acton residents are interested in better public transportation, pedestrian, and bicycle facilities. Efforts by Acton's TAC and its Sidewalk Committee, and interested citizens have resulted in a new shuttle service to the South Acton Train Station, a better station design, and new, well-designed sidewalks and sidewalk

design guidelines. Two major shared use paths, the Assabet River Rail Trail, and Bruce Freeman Rail Trail are moving closer to construction. However, Acton does not have a bicycle committee, and in general, the Town lacks staff dedicated to encouraging public transportation use and bicycle improvements other than the rail trails.

Opportunities and Challenges Posed by Existing Transportation Conditions

- Some improvements in conditions on Acton's roadway network are possible, but the areas in which Acton can improve transportation most appear to be in public transportation, walking, and bicycling. These improvements would ultimately help to reduce traffic (as would housing and economic development choices that would reduce commuting and would make walking, biking, and use of public transportation more feasible for many people by reducing the distance one needs to travel to shopping, work, and other destinations).
- As the cost of transportation continues to increase because of the increasing fuel prices and public transportation fares, the expense of commuting will likely be an increasingly important factor in residential and employment decision making.
- Federal and state funding for the MinuteVan is expected to decline in future years, and Acton will need to decide how and whether to continue funding these services.
- The addition of the MinuteVan Dial-a-Ride (DAR) service has shown that a more locally tailored service is popular. Discussions with adjacent towns and Montachusett Area Transit Authority (MART) are underway regarding MART provided contracted transportation services, which could be more locally tailored than the service currently provided by LRTA.
- The market for the MinuteVan service exists, but to maximize use, the current pricing options for parking and using the shuttle should be evaluated (annual subscription, ten-ride passes, and pay-by-the-day hangtags), and options such as schedule improvements and route extensions should be explored.
- Although controlling traffic speeds, particularly in residential areas through design ("traffic calming") and enforcement, and managing traffic entering principal roads are both challenges, these initiatives may be worthwhile in terms of improvements in safety and livability.
- Sidewalk maintenance, particularly in winter months, is an ongoing challenge, owing to its cost.
- Pathway linkages can be explored, particularly where connections can be made between adjacent parcels and from residential areas to commercial areas.
- With two shared use paths in development and bicycle parking program expansion, there is an opportunity for the Town to form a bicycle committee, either independently or as part of the TAC.

In conclusion, some improvements in conditions on Acton's roadway network are possible, but the areas in which the Acton 2020 plan can improve transportation most appear to be in public transportation, walking, and bicycling.

Transportation Appendix

Census Journey-to-Work Data

The U.S. Census notes residents' employment addresses and employees' residential addresses in its decennial survey. This information is commonly known as Journey-to-Work data.

According to the 2000 U.S. Census, 22.1 percent of Acton's 10,942 employed residents also work in Acton. Other popular job locations for Acton residents include neighboring Concord (8.5 percent), and regional economic centers in Cambridge (5.6 percent) and Boston (9.9 percent).

The following details other popular employment destinations, with neighboring towns italicized.

Table 6.A1: Employer Locations of Acton Residents, 1 percent or greater

City/Town Workplace	Number	Percent
Maynard	*107*	*1.0%*
Natick	109	1.0%
Sudbury	*119*	*1.1%*
Newton	128	1.2%
Chelmsford	132	1.2%
Framingham	144	1.3%
Boxborough	*151*	*1.4%*
Billerica	164	1.5%
Woburn	168	1.5%
Andover	173	1.6%
Littleton	*181*	*1.7%*
Lowell	186	1.7%
Westford	*245*	*2.2%*
Marlborough	277	2.5%
Bedford	282	2.6%
Burlington	383	3.5%
Waltham	385	3.5%
Lexington	391	3.6%
Cambridge	613	5.6%
Concord	*930*	*8.5%*
Boston	1,080	9.9%
Acton	**2,418**	**22.1%**

The 2000 U.S. Census also details the residences of those who work in Acton. Of 11,744 Acton-based jobs, 20.5 percent of employees also live in Acton, while at least 1.6 percent of them live in each of Acton's six below listed neighboring municipalities.

The following lists those towns whose residents account for at least 1.0 percent of Acton's workforce, with neighboring towns italicized.

Table 6.A2: Residential Locations of Acton Workers, 1 percent or greater

City/Town Residence	Number	Percent
Malden	117	1.0%
Dracut	125	1.1%
Shirley	133	1.1%
Ayer	144	1.2%
Nashua	151	1.3%
Fitchburg	153	1.3%
Harvard	159	1.4%
Townsend	165	1.4%
Waltham	179	1.5%
Groton	182	1.5%
Framingham	193	1.6%
Stow	*193*	*1.6%*
Pepperell	198	1.7%
Concord	*209*	*1.8%*
Marlborough	212	1.8%
Billerica	222	1.9%
Boston	236	2.0%
Boxborough	*251*	*2.1%*
Littleton	*295*	*2.5%*
Westford	*330*	*2.8%*
Lowell	338	2.9%
Leominster	345	2.9%
Chelmsford	357	3.0%
Maynard	*371*	*3.2%*
Acton	**2418**	**20.5%**

The following table summarizes how residents of Acton and adjacent communities commuted to work in 2000.

Table 6.A3: Commuting Modes in Acton and Surrounding Towns

Town/Census District	Mode of Commuting					
	Drive Alone	Car Pool	Public Transit	Walk	Work at Home	Other
Acton	80.8	7.4	4.5	1.2	5.6	0.4
Boxborough	84.6	5.9	2.4	1.1	5.9	0.0
Carlisle	77.1	4.3	2.8	1.7	13.9	0.2
Concord	76.8	5.2	5.2	2.8	9.1	0.9
West Concord	84.3	3.4	5.7	1.2	4.7	0.6
Littleton	85.5	4.5	3.0	1.1	5.2	0.7
Littleton Common	86.2	3.9	2.9	1.1	6.0	0.0
Maynard	82.6	8.6	2.6	2.3	3.3	0.6
Stow	84.2	4.6	3.5	1.2	5.8	0.7
Sudbury	84.8	3.8	3.1	1.7	5.9	0.7
Westford	88.0	5.3	1.2	0.6	4.8	0.1

Source: 2000 Census Journey-to-Work Data

Roadways

Acton has approximately 119 miles of roads over 20 square miles. All of the numbered routes except Route 27 (Main Street) are under the jurisdiction of the Massachusetts Department of Transportation (MassDOT). These include Route 2, most of Route 111 (Massachusetts Avenue), and Route 119/2A (Great Road). Routes 27, 119/2A, and Route 111 serve as Acton's major arterials, most of them intersecting to resemble a triangle overlaying the eastern part of town and serving as main streets for the town's distinct villages and commercial areas. Local streets lead from these major arterials and serve residential neighborhoods and recreational venues. Many soft-surface trails serve pedestrians within town open space.

Traffic Speed and Volume

The Massachusetts Department of Transportation (MassDOT) Highway Division publicizes traffic volume data on a selection of roads in Acton from 1998–2007. As one may expect, traffic volume has steadily increased on Route 2, where the speed limit ranges from 55 mph west of Piper Road/Taylor Road to 45 mph east of Piper Road/Taylor Road. However, for reasons that are not clear, traffic volumes on Routes 2A/111, where the speed limit is 40 mph, and Route 27, where the speed limit is for the most part 35-40 mph, have decreased, according to this data. The following summarizes the available traffic volume data for Acton's state highways as well as local roads.

Table 6.A4: Traffic Volumes on State Highways and Local Streets in Acton, 1998-2007

Street	**Intersection**	**1998**	**1999**	**2000**	**2001**	**2002**
2 (Union Tpk.)	W of 27	36,145	36,544	37,736	38,060	38,331
2/111 (Mass Ave.)	E of Windsor				20,200	
2A/119 (Great Road)	E of 27					
2A/119 (Great Road)	Littleton T/L	18,100			17,500	
2A/119 (Great Road)	N of Pope					
2A/119 (Great Road)	S of Esterbrook					
27 (Main Street)	N of 2					
27 (Main Street)	N of 2A	11,300			10,200	
27 (Main Street)	S of Beverly					
27 (Main Street)	S of High					
27 (Main Street)	S of 2/111					
27 (Main Street)	S of 2A					
Arlington	E of Central				6,200	
Central	S of Elm				7,200	
Concord	W of 2A/119					
Martin	S of Central				3,600	
Parker	S of River				2,900	
School	W of Parker		3,300			3,000
Street	**Intersection**	**2003**	**2004**	**2005**	**2006**	**2007**
2 (Union Tpk.)	W of 27	38,094	39,693			
2/111 (Mass Ave.)	E of Windsor					
2A/119 (Great Road)	E of 27				16,600	
2A/119 (Great Road)	Littleton t/l		15,500			15,200
2A/119 (Great Road)	N of Pope				19,000	
2A/119 (Great Road)	S of Esterbrook				18,200	
27 (Main Street)	N of 2		16,600			
27 (Main Street)	N of 2A		10,400			10,000
27 (Main Street)	S of Beverly		15,700			
27 (Main Street)	S of High		12,300			
27 (Main Street)	S of 2/111		18,700			
27 (Main Street)	S of 2A		11,400			
Arlington	E of Central					
Central	S of Elm					
Concord	W of 2A/119				5,500	
Martin	S of Central					
Parker	S of River					
School	W of Parker			4,000		

Crash Data

No location in Acton ranked among Massachusetts' Top 200 Crash Locations between 2006 and 2008, the most recent years for which data is available. However, there were 1,048 crashes in that three-year span, most of them in predictable locations with heavy traffic volumes: interchanges on Route 2; state numbered highway intersections; and arterials and collectors. The number of crashes each year has consistently decreased: 393 crashes in 2006, 340 crashes in 2007, and 315 crashes in 2008. This decrease is likely a result of lower traffic volumes.

East Acton Village Transportation Study

In 2002, VHB studied Great Road (Route 2A/119), the transportation spine of East Acton Village, to promote a sense of community through improving safety, improving bike access, and improving vehicular circulation in the study area. The study followed a similar format to that of the 2001 Main Street study.

High-volume, often-congested traffic characterizes this commercial corridor. Replete with curb cuts and un-signalized left-turns to commercial uses and side streets, the study measured peak-hour level of service (LOS)[1] between LOS C (acceptable) and LOS E (somewhat congested). Where they exist, sidewalks are partially poor condition, and there are no crosswalks. Bicyclists may ride in the road's five-foot shoulders, but the vehicle speeds and congestion of traffic deters bicyclists.

The town and the East Acton Village Planning Committee developed two zoning scenarios with slight or significant modifications to the existing conditions. Scenario 1 assumes build-out of current zoning, yielding more than 125,000 square feet of additional floor area. Scenario 2 assumes commercial build-out at 140 percent of the existing floor-area ratio allowance, yielding more than 741,000 square feet of additional floor area. Based on either scenario, the corridor would continue to operate at or over its peak-hour capacity.

The study proposes several alternatives in the short-, medium-, and long-terms, including:

- Traffic improvements
    - Consolidating curb cuts at Keefe Road to reduce traffic conflict (short-term).
        - Follow-up: The Town has not to date made efforts to consolidate curb cuts.
    - Constructing left-turn lanes on Great Road onto Concord Road, and vice versa, to improve traffic movement (medium-term).
        - Follow-up: Great Road does not have a left-turn lane at Concord Road, and there are no plans to construct one; however, there is sufficient width on Concord Road to queue for a left-turn onto Great Road, albeit in an un-striped lane.
    - Discontinuing through traffic on Wetherbee Street to Route 2 to reduce poor traffic circulation and to encourage bike-friendly uses near the Bruce Freeman Rail Trail (BFRT) (long-term).

[1] Level of service is a traffic engineering concept that rates traffic flow from "A" (high-speed free-flowing) to "F" (congested, involving stop-and-go traffic and waiting for more than one signal cycle at traffic lights). LOS C and D are generally considered acceptable for areas like East Acton.

        - Follow-up: The Town has not addressed this recommendation.
    - Extending Bayberry Street to Concord Road and discontinue Pope Road from Bayberry Street to Great Road to improve circulation at Concord Road/Great Road (long-term).
        - Follow-up: Recent private land development has obviated this alignment.
    - Creating a median on Great Road between Keefe Road and Concord Road to reduce traffic conflicts and to improve pedestrian safety (long-term).
        - The Town has not addressed this recommendation.
- Pedestrian improvements
    - Calming traffic on Pope Road, including gateway effects, to improve pedestrian movement (short-term).
        - Follow-up: The Town has not addressed this recommendation.
    - Constructing continuous sidewalks on northern (short-term) and on southern (medium-term) sides of Great Road to accommodate pedestrians, and upgrading sidewalks throughout town to ADA standards to accommodate the disabled (short-term).
        - Follow-up: The Town has not addressed this recommendation
    - Constructing crosswalks across Wetherbee Street, Pope Road, and Concord Road, and crosswalks across Great Road at Concord Road and Wetherbee Street to improve pedestrian safety (medium-term).
        - Follow-up: None of these crosswalks along Great Road are painted, and MassDOT has expressed concerns in the past few years about constructing crosswalks across Great Road.[2]
- Bicycling improvements
    - Discontinuing through traffic on Wetherbee Street to reduce poor traffic circulation and to encourage bike-friendly uses near BFRT (long-term).
        - Follow-up: The Town has not addressed this recommendation.

In addition to these recommendations and actions, nearby Brookside Shops has installed a traffic signal on Great Road, and the Town's Transportation Advisory Committee has discussed partnerships with area businesses to install more bike racks outside their stores.

[2] Great Road is a State highway owned and controlled by MassDOT.