

Chapter 7: Facilities and Services

This chapter addresses the services that Acton provides to residents and businesses and the capital facilities such as buildings and infrastructure needed to provide those services. It includes:

- Relationship of Facilities and Services to Planning Goals
- Information on
 - Schools
 - Municipal Buildings
 - Water supply
 - Management of stormwater (rain and snowmelt)
 - Management of wastewater from residential and business sanitary systems
 - Services for seniors
 - Libraries
 - Public Safety
- Opportunities and Challenges posed by the Existing Facilities and Services Conditions

(Open space and recreation are addressed in Chapter 5.)

Why the Comprehensive Plan addresses Facilities and Services

Facilities and services are the core functions of town government. The way they are provided determines what residents and businesses get from the town and, conversely, what taxpayers must pay to provide those services and facilities. Particularly for capital facilities such as schools and other town buildings, the level of investment today affects Acton's ability to provide the services Actonians desire, and today's investments have implications for future budgets.

Relationship to Planning Goals

Facilities and services information is relevant to six of the seven Acton 2020 goals; (the exception is "Improve Connections," which is addressed in Chapter 6, Transportation and Circulation).

Goal: Preserve and Enhance Town Character

Town buildings like Town Hall and Memorial Library help to define Acton Center and have symbolic importance in expressing Acton's character. The quality of school buildings and grounds also communicates an important value for education that is part of the Town's character.

Goal: Ensure Environmental Sustainability

Town buildings use energy to fulfill their functions. The manner in which they are improved to conserve energy (and resulting carbon emissions) and water use is an important part of the Town's overall sustainability, both tangibly and as a civic example.

Goal: Enable Diversity and Inclusion

Facilities and services like the libraries and senior center and the services they provide are important in providing opportunities for people of all ages and backgrounds.

Goal: Provide Places for Gathering

Town buildings are important places for gatherings ranging from small meetings to large festivals and activities that are part of civic life.

Goal: Maintain and Enhance Town Assets

More than any other element, Town Facilities are assets that must be carefully managed, maintained, and preserved. This includes the public assets of the groundwater under our feet that provides most of Acton's drinking water and is a part of the water cycle that includes wastewater disposal.

Goal: Maintain and Improve the Financial Well-being of the Town

The services and facilities the Town provides and invests in are the cost side of the financial equation. Acton's Town Government works through the Town Manager and staff, School Superintendent, Board of Selectmen, Finance Committee, and finally the Town Meeting to set the priorities for spending that reflect the values of Acton's residents. Tradeoffs between competing priorities are always needed. Wastewater management needs can in some areas limit the potential for commercial development that would increase Acton's tax base.

Summary of Key Points

- Acton provides excellent services to its residents and businesses, of which education and public health and safety are major parts with substantial costs.
- Since FY 2004, Acton has had the highest residential tax rate of all towns around it (except Stow in FY2004 and FY2005). However, the tax bill, which is the tax rate times the assessed value, is more significant than the tax rate itself; on this basis Acton is in the middle of this group of towns.
- Acton does not use a separate tax rate for commercial and industrial property.

Schools

- Acton's schools provide high quality education at a lower cost per pupil than most school systems of comparable quality.
- The portion of the municipal budget that goes to education is large in Acton, as is the case in most communities.
- Acton has made substantial investments in two elementary schools, and the ABRSD junior high school and high school; three elementary schools were built in 1965 and 1970. Although ongoing improvements are needed, particularly in the three older schools, the School Department has regularly maintained and improved the school buildings.
- Based on detailed enrollment projections, Acton's schools are currently at peak student population and enrollments are expected to gradually decline, making expanded school facilities unnecessary.
- Many families undoubtedly move to Acton because of its good schools, and while some of them leave the Town when their children have graduated, many others plan to stay; this is not unusual for a town with relatively affordable housing and topnotch schools.

Municipal Buildings

- Along with the school projects described above, several other major facility needs identified in 1991 have been fulfilled.

Facilities and Services

- The Town buildings are generally in good condition. The Municipal Properties Department, which maintains these buildings, has made a series of improvements to make them more energy efficient.
- The primary municipal facilities issues and constraints are the amount of Town Hall office space for town departments, insufficient public meeting space, the amount of space in the Senior Center, and the Fire Department's proposal to build a new facility in North Acton to improve response times.

Water Supply

- Water supply and wastewater management are both partly dependent on Acton's soils, subsurface geology, aquifers and groundwater. These natural resources are as much a part of these systems as the public and private infrastructure that supplies water and treats wastewater.
- The Acton Water District has supplied approximately 600 million gallons per year (MGY), which is equivalent to 1.64 million gallons per day (MGD) over the past six years; the trend is essentially flat because conservation and use of private wells offset increases in demand due to growth.
- Water demand varies seasonally because of outdoor water use in the summer.
- Maximum daily demand is often greater than 2.0 MGD and in the summer months reaches 2.6 MGD, the District's self-imposed limit. As a result, summer watering bans have been instituted.
- The water supply system is composed of groundwater wells, water treatment facilities, storage and pumping facilities, and water mains.
- The water being supplied meets the primary standards promulgated by the U.S. EPA, as the law requires. Secondary standards are currently not required to be met, but should these become enforceable, additional treatment facilities may be needed.
- The wells are surrounded by protection zones. Land uses in the protection zones around the wells are limited through Acton's zoning bylaw to protect the quality and quantity of the groundwater resource.
- The capacity of the water system is limited by the capacity of the individual wells and well-fields, but more importantly, by state regulation. The current withdrawals are well within the permitted amount.
- The Water District has identified the replacement of aging water mains as a priority and has been doing so on an ongoing basis.

Wastewater Management

- Wastewater management involves a combination of private-on site disposal systems as well as the public "centralized" Middle Fort Pond Brook wastewater treatment plant on Adams Street in South Acton.
- There is additional capacity available at the Middle Fort Pond Brook Plant of approximately 50 percent of that which is currently used.
- An additional 10 percent of properties are estimated by the Health Department to be served by clustered on-site septic systems or package treatment plants.
- The remaining 80 percent of properties have on-site systems.
- The majority of these on-site systems are believed to function well. Nonetheless, the proportion of systems that require variances is an indication of the limitations of many Acton's soils for wastewater disposal.

Facilities and Services

- The town's water supply and its wastewater treatment and disposal exist within a complicated system that has multiple interactions between stormwater, surface water bodies (ponds and brooks), and groundwater both within and outside Acton's borders.
- Innovative/Alternative (I/A) systems are now allowed for replacement of conventional systems (sometimes for new construction), which assists in finding solutions for difficult lots.
- The Comprehensive Water Resources Management Plan (CWRMP) concluded that over 90% of the existing on-site wastewater systems can remain as on-site systems for the planning period (which extends to 2024), with approximately 3.5% of these requiring I/A technology.
- In summary, on-site treatment is viable for most, but not all, residential lots in Acton; meeting on-site treatment standards on some lots may involve additional cost, compared to lots that have soils that are considered "good" for on-site disposal.
- The great majority of on-site wastewater systems identified for replacement has been through the mandatory inspection requirement when a house is sold.
- The Phase II CWRMP completed in 2006 identified 15 wastewater planning "Areas of Need" and categorized five of those as high priority needs areas.
- The initial implementation of the CWRMP has focused on evaluating which Areas of Need could feasibly be served by the existing wastewater treatment plant and identified priority areas for sewer extensions. There is additional capacity available at the Middle Fort Pond Brook Plant of approximately 50 percent of that which is currently used.
- The CWRMP identified Wastewater Management Districts (WMD) as the primary or secondary solution to be considered for most of the 15 Needs Areas.

Stormwater Management

- Management of stormwater includes both measures to reduce the rate of flow and to improve quality through settling or other means. Together these measures are known as Best Management Practices (BMPs). The 2003 Acton Stormwater Management Plan (SWMP) contains recommendations for managing stormwater to reduce quality impacts and comply with federal regulations.
- Acton has had bylaws and regulations since the late 1980s that embodied what are now called BMPs, and these regulations have been modified as necessary to comply with Massachusetts Department of Environmental Protection MADEP standards under the permit.
- The Town has implemented all of the measures identified in the SWMP, including outreach, public education, and regular maintenance and cleaning of stormwater structures such as catch basins.

Services for Seniors

- The number of Acton residents 65 years or older is expected to increase over the next two decades. The Acton Council on Aging believes that a larger senior center is needed to serve current and future needs.

Libraries

- Demand for Acton's libraries is steadily increasing and meeting it requires more resources; however, the library buildings are generally adequate for the future.

Public Safety

- The recently constructed Public Safety Building is adequate for the future needs of the Police Department.
- Acton's Fire Department has three fire stations built 40 or more years ago. With the steady growth of the northern part of the town, there is a case to be made for a new fire station in North Acton replacing one of the existing stations.

Town Expenditures

Acton provides excellent services to its residents and businesses, of which education and public health and safety are major parts with substantial costs. In Fiscal Year 2010 (FY 2010), which ended June 30, 2010, the total municipal budget was \$26.14 million and the budget for education (Acton Public Schools and Acton's share of the Acton Boxborough Regional School District) was \$44.83 million (after Chapter 70 state aid of \$10.4 million) for a total of \$70.97 million. This budget does not include the Acton Water Supply District, which is self-financing through metered water sales, or the Middle Fort Pond Brook Wastewater Treatment System, which is financed by the Sewer Enterprise Fund with revenues from user fees.

In principle, there are two kinds of municipal expenditures: operating and capital. Capital expenditures are for the purchase, construction, and improvement of buildings and equipment. Capital expenditures are generally included in a Capital Improvement Plan (CIP) if they are large enough to be considered "major," such a purchase of vehicles, extensive building improvements, new buildings, or property acquisition; smaller items such as routine maintenance are part of the operating budget. Large capital expenditures are generally financed, and the municipal budget includes annual payments of principal and interest. At present, Acton does not have a coordinated, unified CIP, although the School Department and Municipal Properties Department maintain annual CIP's for items such as improvements to building envelopes and heating/ventilation systems.

The services provided by the town, including carrying out State and Federal mandates, can be broken into categories, such as the following list:

- Education
- Direct services to residents and businesses
- Public health and safety
- Management and improvement of town facilities and other assets
- Administration of the town government

Figure 7.1: FY 2009 Expenditures by Purpose

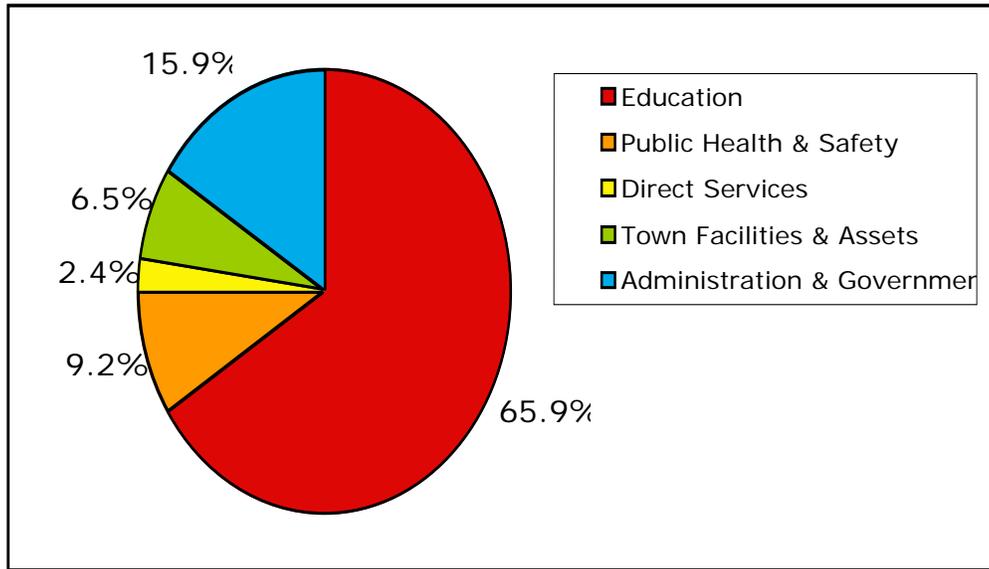


Table 7.1: FY 2009 Actual Expenditures by Purpose

Department	Expenditure	Education	Public Health & Safety	Direct Services	Town Facilities & Assets	Admin & Government
Accountant/Comptroller	\$273,113					0
Assessors	\$217,222				0	0
Building Dept	\$169,741		0			
Celebrations	\$73,384			0		
Civil Defense	\$416		0			
COA/Council on Aging	\$203,020		0	0		
Collector	\$133,545					0
Common Disabilities	\$133		0			
Dispatch	\$390,363		0			
Dog Officer	\$14,524		0			
Elections	\$58,514					0
Engineering	\$252,624			0	0	
Finance Committee	\$268					0
Finance Director	\$8,849,093					0
Fire	\$2,819,743		0			
Health	\$137,746		0			0
Highway	\$2,245,740				0	
Historical Commission	\$0				0	
Human Resources	\$178,472					0
Information Technology	\$874,466			0		0
Memorial Library	\$1,017,270			0		
Moderator	\$40					0
Municipal Properties	\$1,411,606				0	
Natural Resources	\$646,248				0	
Planning	\$185,726		0		0	
Police	\$2,924,375		0			
Town Clerk	\$147,751					0
Town Manager	\$1,223,331					0
Veterans Services	\$52,712		0	0		
West Acton Library	\$42,085			0		
Zoning/ Board of Appeals	\$37					0
Schools	\$47,345,823	0				
% of Total	100.0%	65.9%	9.2%	2.4%	6.5%	15.9%

Source: 2009 Acton Town report

Figure 7.1 and Table 7.1 show a rough estimate of how the FY 2009 Expenditures divide into these categories.

Data is available from the Mass. Department of Revenue only back to 2003. By town and fiscal year the following are tax rates for the last eight years. Please note the table is in two parts. The first part is for residential tax rates. The second part is for commercial and industrial tax rates for those four towns that have a split rate (e.g., commercial and industrial property is taxed at higher rates than residential property).

Table 7.2 compares tax rates in Acton and surrounding communities.

Table 7.2: Property Tax Rates

Tax Rates for Residential Property									
Town	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005	FY 2004	FY 2003
Acton	\$ 18.08	\$ 17.12	\$ 16.53	\$ 15.39	\$ 14.62	\$ 14.58	\$ 13.81	\$ 14.03	\$ 13.55
Boxborough	\$ 17.38	\$ 16.53	\$ 14.84	\$ 14.14	\$ 13.87	\$ 13.24	\$ 13.10	\$ 13.32	\$ 12.78
Carlisle	\$ 16.13	\$ 14.62	\$ 14.04	\$ 12.68	\$ 11.96	\$ 12.99	\$ 12.62	\$ 12.47	\$ 15.05
Concord	\$ 13.19	\$ 13.09	\$ 11.90	\$ 10.72	\$ 10.56	\$ 10.23	\$ 9.80	\$ 10.59	\$ 9.64
Littleton	\$ 15.33	\$ 14.63	\$ 13.85	\$ 12.62	\$ 12.11	\$ 12.17	\$ 11.35	\$ 11.32	\$ 11.15
Maynard	\$ 17.50	\$ 16.14	\$ 14.51	\$ 13.33	\$ 12.76	\$ 12.91	\$ 13.16	\$ 12.97	\$ 17.46
Stow	\$ 17.05	\$ 16.58	\$ 15.28	\$ 14.73	\$ 13.82	\$ 14.04	\$ 14.36	\$ 14.64	\$ 14.48
Sudbury	\$ 17.03	\$ 16.08	\$ 15.29	\$ 14.27	\$ 13.12	\$ 13.55	\$ 13.46	\$ 13.46	\$ 16.78
Westford	\$ 15.23	\$ 14.63	\$ 13.97	\$ 13.40	\$ 13.10	\$ 12.92	\$ 13.68	\$ 14.00	\$ 14.51
Property Tax Rates for Commercial and Industrial Uses (for Towns with a Split Tax Rate)									
	FY 2011	FY 2010	FY 2009	FY 2008	FY 2007	FY 2006	FY 2005	FY 2004	FY 2003
Littleton	\$ 24.40	\$ 23.11	\$ 22.76	\$ 20.57	\$ 20.11	\$ 19.02	\$ 17.98	\$ 18.16	\$ 10.36
Maynard	\$ 26.91	\$ 25.71	\$ 23.63	\$ 22.76	\$ 21.78	\$ 24.86	\$ 23.70	\$ 23.39	\$ 28.95
Sudbury	\$ 22.27	\$ 20.13	\$ 19.30	\$ 18.47	\$ 20.29	\$ 21.71	\$ 20.53	\$ 20.81	\$ 22.26
Westford	\$ 15.50	\$ 14.82	\$ 14.15	\$ 13.58	\$ 13.27	\$ 13.10	\$ 13.68	\$ 14.18	\$ 14.66

Source: Massachusetts Department of Revenue

From FY 2004 to the present, Acton has had the highest residential tax rate of all towns around it, except for Stow which had a higher rate from 2003 to 2005. Concord has consistently had the lowest residential property tax rate, in part because of the relatively high value of its taxable property.

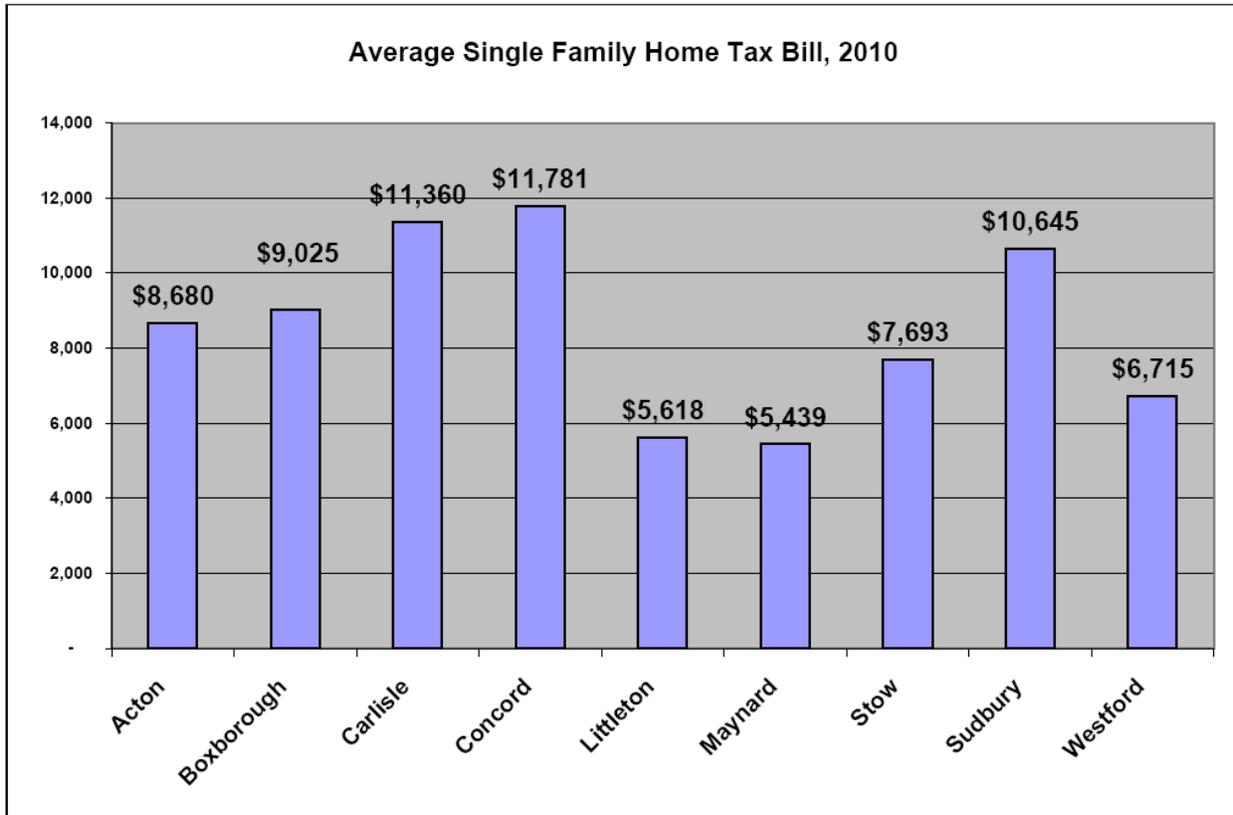
Acton does not use a separate tax rate for commercial and industrial property, as Littleton, Maynard, Sudbury, and Westford do to shift some of the tax burden to non-residential uses.

Acton's property tax rate increased 28.9 percent from FY2004 to FY2011. This percentage increase is in the middle (median) of the increases for the nine towns, although it is slightly higher than the average increase for these towns, 26.2 percent.

However, the tax bill, which is the tax rate times the assessed value, is more significant than the tax rate itself. Figure 7.2 shows the average tax bill for Acton and its neighboring towns; on this basis it is in the middle (median) of this group of towns.

Figure 7.2 shows that despite a high tax rate, Acton is in the middle of this group of town in terms of the tax bill that homeowners pay.

Figure 7.2: Average Single Family Home Tax Bill for Acton and Neighboring Towns, FY2010.



Source: Massachusetts Department of Revenue

Schools

Acton's schools provide high quality education at a lower cost per pupil than most school systems of comparable quality, but like other quality systems Acton's schools account for the large majority of the town budget.

The Acton Public Schools (APS) are responsible for education from pre-Kindergarten through Grade 6. The Acton Boxborough Regional School District (ABRSD) is responsible for Grades 9-12; expenses are allocated to the towns in proportion to enrollments, of which Acton currently comprises 79.3%. Administration and facilities for both APS and ABRSD are provided by the School Department in Acton.

For the academic year 2010-2011, the enrollments and budget are shown in Table 7.3. A substantial part of the school expenses are paid by Chapter 70 funds and other state programs including the school construction assistance program.

Table 7.3 is a summary of the school facilities, enrollments, and school budgets.

Table 7.3: Acton Enrollments and Budgeted Expenditures, 2010-2011 School Year

		Students on Oct 1, 2010			2010-2011 Budgeted Expenditures* (\$million)
	Grades	Acton Students	School Choice and Faculty Children	Total Students	
Acton Public Schools					
	K-6	2,535	28	2,563	\$ 25.9
Acton Boxborough Regional School District					
	7-8	796	14	810	
	9-12	1,543	30	1,573	
Subtotal ABRSD		2,339	44	2,383	\$ 30.2
Total		4,874	72	4,946	\$ 56.1
Estimated State Aid					\$ 11.2
Cost to Town					\$ 44.8

* Budget for ABRSD shows Acton share only (79.3% of total)

Source: Acton School Department

Enrollment Projections prepared in December 2009 are shown in Figure 7.3.

Source: Acton Public Schools and ABRSD forecasts for 2010-2011 school year and beyond.

The portion of the municipal budget that goes to education is large in Acton, as is the case in most communities. Table 7.4 shows the education portion of the municipal budget funded by property taxes for Acton and the neighboring towns.

Table 7.4 compares school expenditures as a share of total town budget for Acton and four nearby towns with good schools.

Table 7.4: FY 2009 Expenditures

Town	Total	Education	% of Total
Acton	\$71,898,131	\$47,354,823	65.9%
Boxborough	\$18,716,683	\$11,305,043	60.4%
Concord	\$72,168,677	\$44,855,013	62.2%
Sudbury	\$89,903,334	\$63,231,792	70.3%
Westford	\$95,899,795	\$55,424,474	57.8%

Source: Massachusetts Department of Education

APS and ABRSD are excellent schools as indicated by reputation and the opinions of residents as well as consistently high MCAS scores, graduation rate, and college acceptances. Yet, as shown in Table 7.5, Acton spends less per pupil than most of the other surrounding towns with good schools. The quality of education offered in Acton unquestionably depends on the efforts of teachers, administrators, and parents, but it is also affected by class size and the quality and capacity of the school facilities.

Table 7.5 compares cost per pupil in Acton and other towns with good schools. Table 7.6 compares school expenditures and tax bases to support them. Both tables show that relative to both personal resources and town tax base, Acton schools achieve excellent results for lower cost than comparable school systems.

Table 7.5: Cost per Pupil in Acton and Other Towns

Town/School District	FY 2009	FY 2008	FY 2007
Acton	\$11,011	\$10,283	\$10,086
Acton-Boxborough	\$12,733	\$12,228	\$11,582
Boxborough	\$12,927	\$11,627	\$11,687
Carlisle	\$14,619	\$13,477	\$13,122
Concord-Carlisle	\$18,328	\$17,486	\$16,331
Concord	\$16,342	\$15,926	\$15,514
Littleton	\$11,231	\$11,357	\$10,358
Maynard	\$13,478	\$12,230	\$12,004
Stow (Nashoba)	\$12,398	\$12,071	\$11,410
Sudbury	\$11,248	\$11,158	\$10,395
Lincoln-Sudbury	\$15,775	\$15,549	\$14,534
Westford	\$10,151	\$9,796	\$9,298
Nine-Town Average	\$13,353	\$12,766	\$12,193
State-Wide Average	\$13,006	\$12,448	\$11,858

Source: Massachusetts Department of Education

Additionally, the following table compares the Acton-Boxborough School District with similar districts, based on community income and property valuation. Both tables show that the Acton

elementary schools and the junior and senior high schools compare well in per-pupil expenditures. Acton has been consistently the second lowest in cost per pupil when compared to surrounding towns and to regional school districts with similar household incomes and property valuations. As shown in Tables 7.5 and 7.6, only Westford is lower in the surrounding towns, and Masconomet (Topsfield, Middleton and Boxford) is lower in comparable regional districts.

Table 7.6: Community Income and Property Value by School District¹

District Name	Equalized Property Valuation (EQV) per Capita 2006	District Hi-Low Rank in EQV	Median Household Income 1999	District Hi-Low Rank in Income	Rank in Average Wealth	Total Full-Time Equivalent Pupils	Total Expenditures FY 2009	Expenditures per Pupil FY 2009
Acton-Boxborough	\$195,562	87	\$90,767	23	55	3039	\$38,691,546	\$12,733
Concord-Carlisle	\$319,339	31	\$105,212	11	21	1272	\$23,321,570	\$18,328
Dover-Sherborn	\$369,219	21	\$132,199	3	12	1133	\$17,891,877	\$15,787
Lincoln-Sudbury	\$251,199	52	\$112,477	9	31	1638	\$25,841,729	\$15,775
Masconomet	\$212,808	72	\$98,353	14	43	2192	\$26,263,741	\$11,979
Northborough Southborough	\$197,143	84	\$88,485	26	55	1414	\$18,942,975	\$13,396

Source: Massachusetts Department of Education

Acton has made substantial investments in two elementary schools, and the ABRSD junior high school and high school; three elementary schools were built in 1965 and 1970. Although ongoing improvements are needed, particularly in the three older schools, the School Department has regularly maintained and improved the school buildings.

¹ Equalized valuation per capita is the total assessed value in the towns that make up the district, divided by their total population; “equalized” refers to an adjustment that is made by the Massachusetts Department of Revenue to reflect assessing practices that differ slightly from town to town; in general, equalized valuations are slightly higher than actual valuations. Hi-Low Rank is where the towns in the district rank in relation to all towns in Massachusetts, with the highest value ranking 1st. Average wealth is the estimated amount of all assets that town residents possess. Full-time equivalent pupils adjusts the student population for part-time students such as half-day kindergarteners.

Acton's school facilities are shown in Table 7.7. This table gives an at-a-glance look at the inventory of buildings in use and when they were built or last expanded.

Table 7.7: Acton Schools Facilities

Building	Gross Square Feet	Built	Students	
			2010-11	2001-02
Acton Boxboro High School (ABRSD)	390,000	1964, expanded 2004		
RJ Grey Jr. High (ABRSD)	144,280	1955, expanded 2001		
Total, Grades 7-12 (incl. Boxboro)	534,280		3,017	2,428
Parker Damon Building (McCarthy Towne School and Merriam School)	139,639	2001		
Luther Conant School	55,017	1970		
Douglas School	47,100	1965		
Gates School	53,933	1970		
Total, Grades K-6	295,689		2,642	2,511
Merriam Administration Building	37,123	1959		
Totals	867,092		5,659	4,939

Source: Acton School Department

The 1991 Comprehensive Plan listed several major school facilities needs, including improvement of the McCarthy-Town and Merriam elementary schools; these were replaced by the Parker Damon building, with McCarthy-Town remaining as a large vacant building² and Merriam's building converted to the Administration Building, which also houses school programs. The R.J. Gray Junior High Schools was expanded and renovated, and the High School was expanded.

Ongoing improvements will be necessary for the Conant, Douglas, and Gates elementary schools, but the School Department believes that the necessary quality improvements to these schools and their grounds can continue to be done incrementally as they have in recent years, e.g., recent roofing replacement at Douglas and planned envelope repairs at Conant. With very few exceptions, the school buildings are free of asbestos and compliant with environmental regulations and the Americans with Disabilities Act; the exceptions are older floor tiles in some buildings and the need for some programmatic adaptations to insure accessibility.

Will the current schools have capacity for future enrollments?

The biggest question for Acton, as in other towns, is whether the school facilities have adequate capacity for expected enrollments. Based on detailed enrollment projections, Acton's schools are currently at peak student population and enrollments are expected to gradually decline,

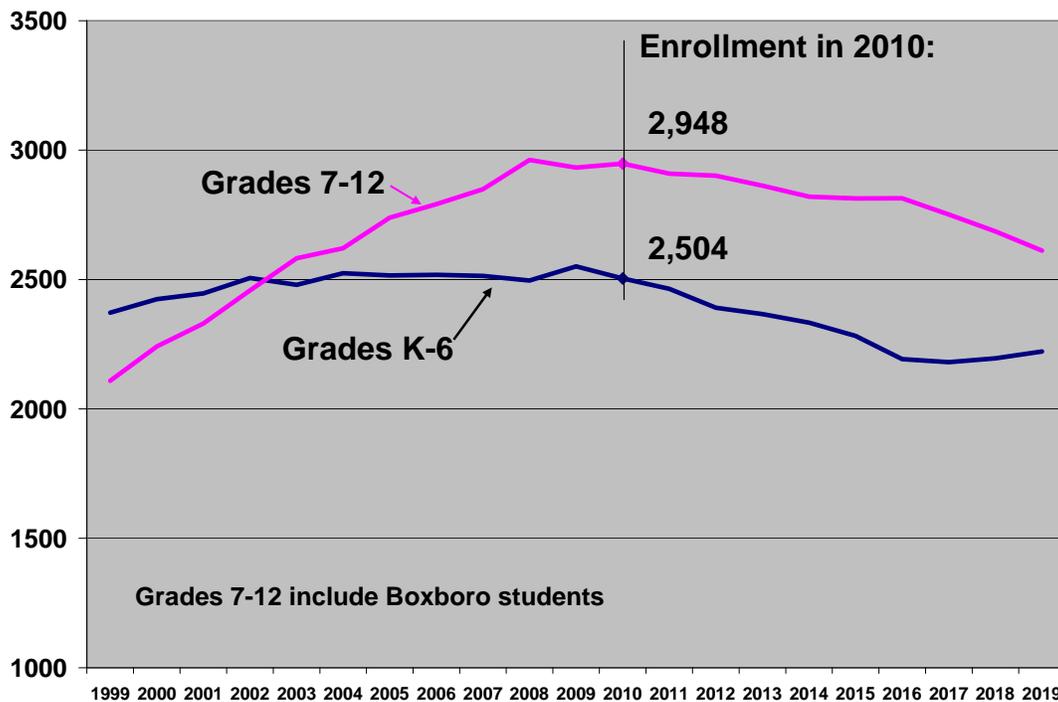
² The original core of McCarthy Towne is the old Acton High School building. It is presently being converted to affordable housing.

making expanded school facilities unnecessary. This is consistent with the population projections discussed in Chapter 2.

The School Department prepares annual enrollment projections using a widely accepted methodology that considers town growth, local births, and the movement of the cohorts of students that are currently enrolled as they advance through the grades from K to 12.

Figure 7.3 shows historical and projected enrollments for APS and ABRSD.

Figure 7.3: School Enrollment Projections



Source: Acton School Department

Based on these projections, the school populations are essentially at their peak and are expected gradually to decline in coming years, making it unnecessary to increase school capacity to maintain class sizes. These enrollment projections appear to be reliable, based on the expected demographic changes described in Chapter 2: despite continued increases in the number of households in Acton, the age profile of the population is expected to shift to older age groups, and the number of school age children is expected to decline over the next two decades.

Are the enrollment projections correct? Two issues need to be considered: a recent increase in the number of Kindergarten enrollments beyond what was projected, and potential changes in Acton’s housing policies that could be recommended by the Comprehensive Community Plan, which could either encourage or discourage more families with school-age children to move to Acton. The results of the 2010 U.S. Census will help to inform this question, but will not be available until 2012. The School Committee is closely watching enrollments and examining projection methodologies and assumptions.

Many families undoubtedly move to Acton because of its good schools, and while some of them leave the town when their children have graduated, many others plan to stay; this is not unusual for a town with relatively affordable housing and topnotch schools.

Closely related to the issue of school capacity and school costs is the belief expressed by many people that Acton is a relatively affordable place to live relative to the high quality of its schools, and that many families with school-age children move to Acton and then leave for locations with lower property taxes when their children graduate. No doubt many families do this, but it is difficult without the 2010 Census results to say exactly how many. Cross-tabulation of results from the Phase 1 telephone survey compared what people with children in the home said about their plans: the average for people who responded was 1.9 children.

These results of the survey are shown in Table 7.8.

Table 7.8: Predicted Length of Stay in Acton

Predicted Length of Stay	# of Respondents	% of Respondents (incl. "don't know")	% of Respondents (excl. "don't know")
1-5 years	17	11%	15%
6-10 years	31	20%	27%
11+ years	66	43%	58%
don't know	40	26%	--
Total	154	100%	100%

Source: Acton 2020 Phase 1 telephone survey

The phone survey was a carefully selected 5% random sample with 366 usable responses, 154 (42%) of these respondents had school-age children (under the age of 18). This agrees very well with the 2000 Census figure of 43%.

Although a substantial proportion said they planned to move in 1 to 5 years or in 6 to 10 years, a majority said they planned to stay for 11 years or longer (58 percent when the “don’t know” responses are set aside). As discussed in Chapter 2, there is some evidence from the 2000 Census that a higher proportion of Acton residents lived in a different house five years previous (42 percent versus 31 to 37 percent in the neighboring towns other than Boxborough).

Some observations:

- People in many places move after their children have graduated from high school.
- Although the tax rate in Acton is relatively high compared to neighboring towns and Massachusetts as a whole, the tax burden is lower than that of several neighboring towns because of the good housing value, one of the reasons people are thought to move to Acton. This is illustrated by Figure 7.2, showing the average single family home tax bill.
- Growth and housing turnover will be relatively slow for several years, based on population projections and a slow housing market.
- Year-to-year changes are small enough that even unexpected growth can be accommodated without major capital expenses.

Municipal Services and Facilities

Town Buildings

Along with the school projects described above, several other major facility needs identified in 1991 have been fulfilled: major expansion and complete renovation of the Memorial Library, the new Public Safety Building³, and the Senior Center⁴. In addition, the Town Hall was expanded and renovated in 1988.

Table 7.9 summarizes the buildings owned by the town. These buildings total approximately one-fifth of the size of the APS and ABRSD schools.

Table 7.9: Acton’s Town-Owned Buildings (Excluding Schools)

Building	Gross Square Feet
Town Hall (expanded 1988)	24,144
Memorial Library (expanded 1998)	48,259
Public Safety Facility (built 2005)	26,033
Public Works	19,200
3 Fire Stations (built 1951, 1958, 1961)	15,688
Senior Center (built 1995)	6,704
Citizen’s Library	2,008
3 other occupied buildings	10,516
5 vacant buildings	32,793
Total: 17 buildings	185,345

Source: Acton Municipal Properties Department

Notes: “Other occupied” includes Civil Defense, Kennedy Service Building, and the former residence next to Town Hall now occupied by the Municipal Facilities Department. The vacant buildings are the Vaillancourt and Morrison houses, Windsor Building, building at 6 Piper Lane, all 2,900-3,400 square feet, plus the former Towne School.

Except for the vacant buildings and other small buildings, the town buildings are generally in good condition. The Municipal Facilities Department, which maintains these buildings, has made a series of improvements to make them more energy efficient, and there are CIPs for the next five years calling for improvements ranging from \$2 million to \$9 million per year.

The primary municipal facilities issues and constraints (other than Open Space and Recreation facilities, which are discussed in Chapter 5), are the amount of Town Hall office space for town departments, insufficient public meeting space, the amount of space in the Senior Center, and the Fire Department’s proposal to build a new facility in North Acton to improve response times.

³ The new Public Safety Building does not include a fire station; only the police station, the fire department administration, and the joint dispatch center. It does not include a fire station as originally envisioned and proposed; see the section on Fire Department facilities.

⁴ It appears that in recent years the programs for seniors and acceptance of senior services have outgrown the Senior Center capacity; see the section on services for seniors.

Proposals to build an additional Senior Center and a fire station in North Acton have been publicly discussed for several years. They are discussed below under Services to Seniors and Public Safety. More recently, discussion of public meeting space needs has also begun.

Water Supply and Management of Wastewater and Stormwater

One of the purposes of a Comprehensive Plan is to help the town deal with risk: what is prudent given the costs that are inherent in reducing risk. As described in this section, protection of the quality of the groundwater resource that supplies most of Acton with drinking water is an important issue that is mentioned in each of the sections below. People differ in their opinions about the severity of risks to the groundwater resource and how much should be done to manage these risks, as eliminating them altogether would be very costly. As part of the inventory phase of work for the Acton 2020 Plan, this chapter aims to identify these issues but not to attempt to prescribe what the Town's response should be. That is the task of the following phases of work in which options for action will be identified and debated so that choices can be made that balance cost and risk.

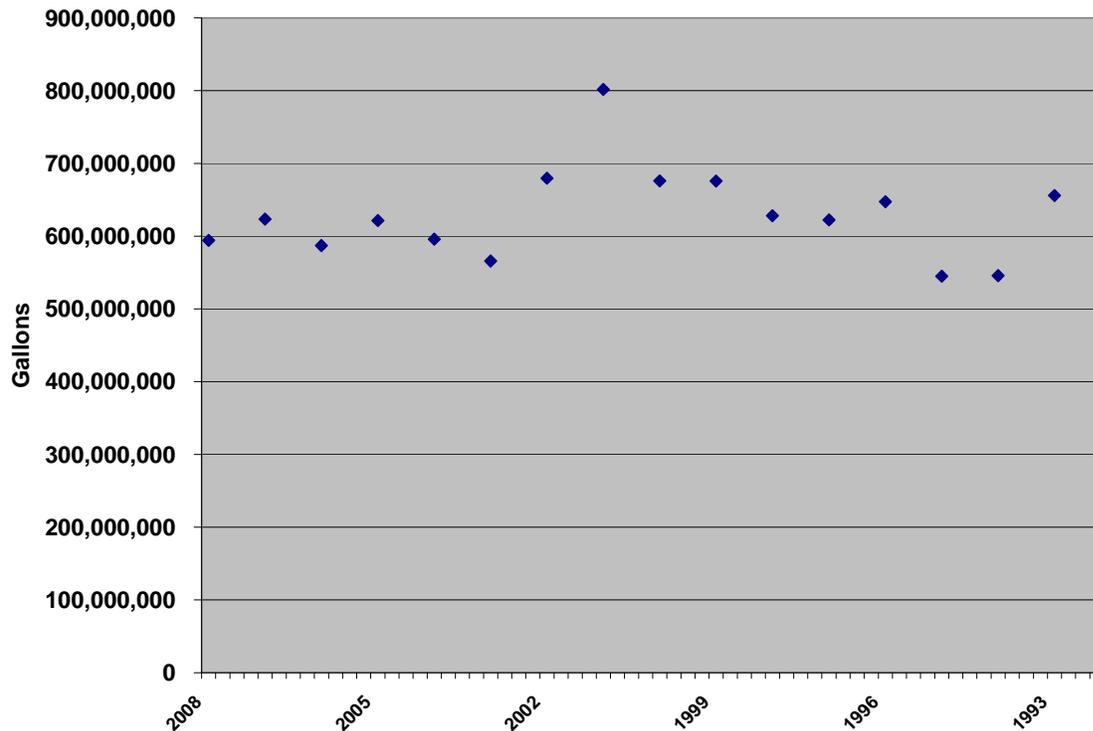
Water Supply

Water supply and wastewater management are both dependent on Acton's soils, subsurface geology, aquifers and groundwater. These natural resources are as much a part of these systems as the public and private infrastructure that supplies water and treats wastewater. Water supply for consumption and fire protection is mostly provided by the Acton Water Supply District (AWD), which is self-financed through its revenues for water delivery, both for operating and capital expenses. The District staff estimates that it serves all but approximately 500 residences, which instead are served by on-site wells⁵ (approximately 6 percent of the town's residential units) and approximately 150 residences and business' connected to the Concord Water Department (approximately 2 percent).

Water demand varies seasonally because of outdoor water use in the summer. It also varies from year to year as more residences and non-residential uses are developed and as water conservation efforts, which the District promotes through its programs, are implemented. The net effect of the conservation programs over the past ten years and the increase in users over the past 15 years have resulted in essentially a net zero trend (i.e., no change) in water supplied by the District as shown in Figure 7.4.

⁵ Private on-site wells have a combination of no treatment to extensive individual treatment, which has not been inventoried. On-site well owners are required by the Board of health to test their wells on a regular basis. But, test records are not collected and the testing requirement is not enforced, so the quality of individual well supplies is assumed to be good but this has not been confirmed quantitatively. A substantial percentage of on-site bedrock wells have been installed for residential irrigation, in response to watering bans imposed by the Acton Water District. The Water resources Advisory Committee estimates that more than 20 percent of on-site wells serve this purpose as opposed to residential potable water supply.

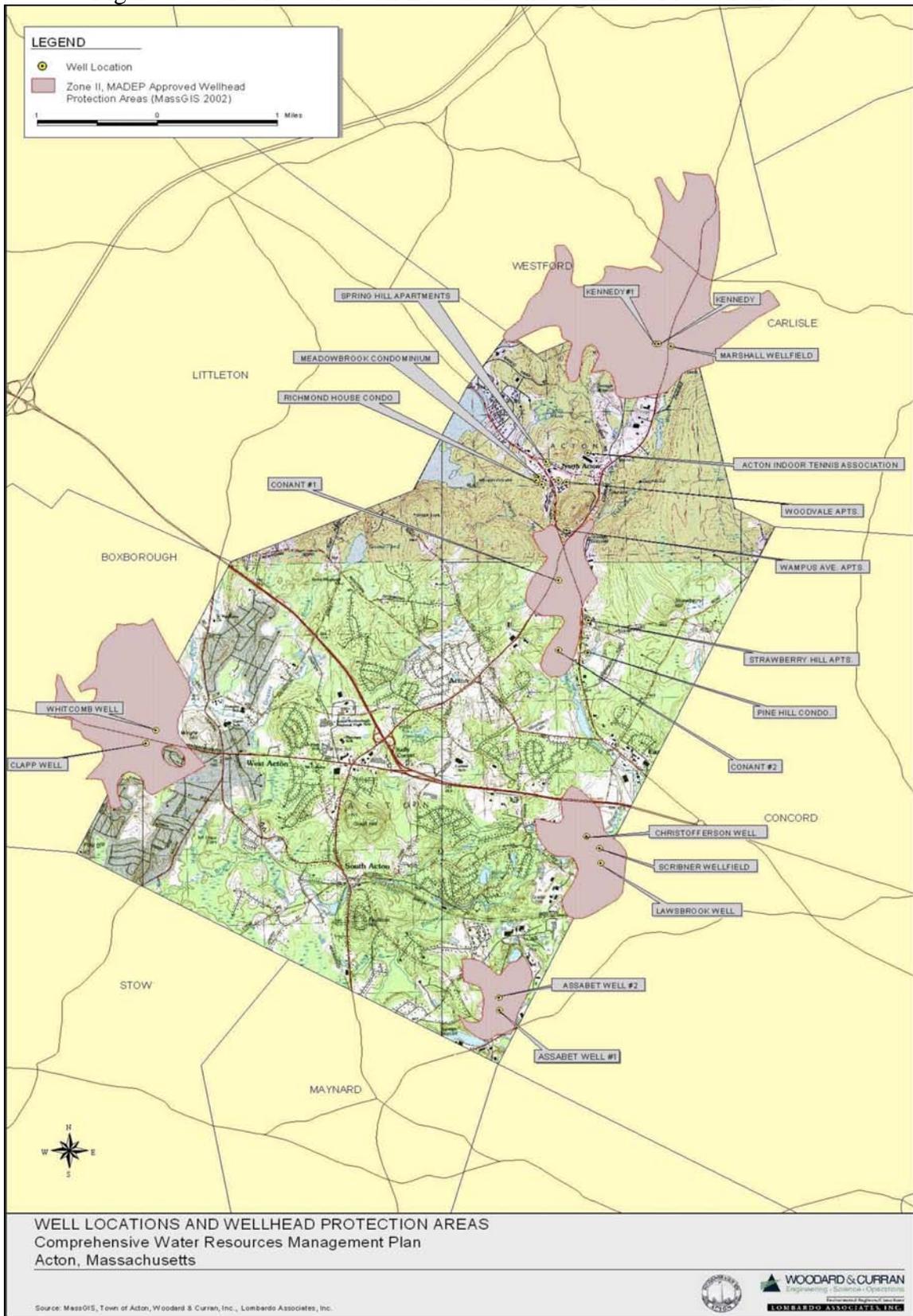
Figure 7.4: Water Supplied by the Acton Water District 1993 – 2009 (gallons)



Source: Acton water District

The water supply system is composed of groundwater wells, water treatment facilities, storage tanks, and water mains. The wells are located in several different locations as shown in Figure 7.5. There are 22 AWD wells located in several locations throughout Acton; some of the locations have clusters of wells. These wells enter the water distribution system at six points after treatment. The Water District regularly tests the water for contaminants as defined by the U.S. Safe Drinking Act, and it has consistently found that the water being supplied meets the primary standards promulgated by the U.S. EPA, as the law requires. Secondary standards are currently not required to be met, but should these become enforceable, additional treatment facilities may be needed for manganese and iron removal. Treatment is generally limited to aeration and adjustment of acidity to reduce contaminants leaching into the water from the plumbing it passes through. However, a treatment plant using membrane filtration was recently constructed to remove organic color, iron, and manganese. Although nitrate concentrations are well below EPA standards, their presence in some of the tested water at the Christofferson and Lawsbrook wells raises the concern that nitrates are entering the groundwater from residential and commercial on-site septic systems and/or fertilizer runoff from abutting turf areas and agricultural fields.

Figure 7.5: Groundwater Well Locations and Wellhead Protection Areas



The wells are surrounded by protection zones defined by Massachusetts Department of Environmental Protection (MADEP) that limit development near public wells based on soil and groundwater characteristics⁶. Zone 1 areas immediately surround the wells and are intended to protect against direct sources of pollution; most of these Zone 1 areas are owned by the Water District. A Zone 2 is a wider area within which groundwater should be protected but the effects of contamination on the water being withdrawn would not be immediate. There are five Zone 2 areas, as shown in the figure. A Zone 3 extends even farther from the well and encompasses the surface drainage area contributing to a Zone 2. Land uses in these protection zones are limited through Acton's zoning bylaw to protect the quality and quantity of the groundwater resource. Additional protection is provided by the zoning bylaws of Concord and Sudbury for Zone 2 areas that extend into those communities. The AWD recommended that efforts to have Boxborough, Carlisle, and Westford protect Acton Zone 2 areas should continue.

It should be noted that Acton's Zones 1, 2 & 3 are not the same as MADEP's Zone's 1, 2 & 3; in particular for Zone 1 Acton uses hydrogeological data to estimate the area from which groundwater will travel to a pumping well within a one year time period, based on average recharge conditions and anticipated pumping, rather than relying on the MADEP fixed value of 400 feet, which is not specific to local conditions.

One of the challenges that Acton faces is protection of water quality in its groundwater resource. The Assabet wells 1 and 2 were offline between 1978 and 1982 due to contamination by W.R. Grace but have been in production since that time with no problems in meeting the EPA Drinking Water standards. Through the early 1980's, various other wells were shutdown due to contamination issues. Advances in treatment (such as using aeration to remove volatile organic contaminants) have allowed those sources to be safely used again. The Assabet well 3 was not a public supply well when contamination from the W.R. Grace site was detected. It was transferred to the AWD in 1987 as part of the legal settlement between the AWD and W.R. Grace. Significant capital improvements will be required to make this source operational and meet existing drinking water standards.

Two of the current producing wells have Zone 1 areas that are bisected by heavily traveled roads, including commercial traffic. The AWD issues sodium advisories on an annual basis when finished water is above the State Health Advisory limit of 20 milligrams per liter. The Christofferson well has been classified by the Mass DEP as Groundwater Under the Direct Influence (GWUDI) of surface water, requiring advanced treatment technologies that meet the Surface Water Treatment Rule (SWTR)..

The capacity of the water system is limited by the capacity of the individual wells and well-fields but more importantly by state regulation. MADEP regulates municipal water supply facilities and other large water users such as industry and golf courses through the Water Management Act (WMA) registration and permitting process. This is to protect the amount of groundwater and surface water within the State's river basins; maintaining stream flow is a major purpose of this regulation⁷. The WMA also serves to protect current and future water needs by allocating

⁶ MADEP defines Zone I as the protective radius required around a public water supply well or wellfield. Zone II is defined as that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at approved yield, with no recharge from precipitation).

⁷ The MADEP fact sheet states that the purpose of the Massachusetts Water Management Act (MGL 21e) "is to ensure adequate water supplies for current and future water needs. The Water Management Act (WMA) consists of

volumes of water to specific purposes. The authorized withdrawals in Acton consist of a large “registered” withdrawal (based on historic use at the time the regulations were put in place), plus a smaller increment of “permitted” withdrawal. The current permit, which is scheduled to be renewed in August 2011, authorizes a total annual withdrawal of 708.1 million gallons per year (MGY). (This authorized annual volume is equivalent to an average of 1.94 million gallons per day (MGD)). The MADEP permit also limits the maximum daily withdrawal rate for four of the well fields. The Water District uses an engineering definition of the peak pumping rate that can be sustained without drawing down the groundwater immediately surrounding the wells; it backs off from this “safe yield” to provide a margin of safety; this maximum withdrawal rate is 2.6 MGD; this is a limit to peak, not average, withdrawal.

The District has supplied approximately 600 MGY (equivalent to 1.64 MGD) over the past six years; the trend is essentially flat because conservation and use of private wells offset increases in demand due to growth. Thus, Acton is within the DEP-authorized annual withdrawal rate, and has “headroom” that should be adequate for many years at the rate projected in Chapter 2. However, further growth in Acton could increase yearly demand.

Maximum daily demand is often greater than 2.0 MGD and in the summer months reaches 2.6 MGD, the District’s self-imposed limit. As a result, summer watering bans have been instituted. An additional well, “Assabet 3” has been permitted and could be developed to further diversify withdrawal points, a key management tool to meet seasonal demands. As permitted, this well would not necessarily increase the overall authorized maximum annual withdrawal permitted by MADEP.

It should also be noted that due to the restrictions on outside water use, the number of private irrigation wells increases annually. (It should be noted that some communities in MA are regulating private irrigation well use when public water suppliers have restrictions. This is a concept being discussed as a statewide policy to manage water resources.) The Board of Health requires that these wells draw from bedrock resources to limit conflict with the Water District’s use of the shallow aquifer and that they meet all of the local potable drinking water standards.

The Water District has identified replacement of aging water mains as a priority and has been doing so on an ongoing basis.

Wastewater Management

Wastewater management involves a combination of private-on site disposal systems as well as the public “centralized” Middle Fort Pond Brook wastewater treatment plant on Adams Street in South Acton. The plant discharges to open sand beds near the Assabet River. The beds are also largely within the Zone 2 of the Assabet well fields. The public system serves only approximately 10 percent of the town’s properties⁸ through sewers which currently extend through South Acton and Kelley’s Corner. The system also serves the schools on Charter Road and all businesses in South Acton village and the Kelley’s Corner area. This system began operation in February of 2002 and was financed almost entirely by betterments – charges to the

a few key components, including a registration program and a permit program. Large water users had the ability to register their existing water withdrawals based on their water use between 1981-1985. The registration program established the renewable right of previously existing water withdrawals over 100,000 gallons per day (gpd) on average, per river basin, between the years of 1981-1985. DEP issued registration statements to document these registrations. The last day to register was January 4, 1988.”

⁸ Not including vacant properties

owners of property with frontage along the sewer lines – of \$12,311 per single family home. Treatment plant operation is budgeted through an Enterprise Fund, and financed with revenues from user fees.

There is additional capacity available at the Middle Fort Pond Brook Plant of approximately 50 percent of that which is currently used; this unused capacity has yet to be allocated.

An additional 10 percent of properties are estimated by the Health Department to be served by clustered on-site septic systems or package treatment plants that are owned by homeowner associations or building managers and regulated by the Board of Health and MADEP. The remaining 80 percent of properties have on-site systems that are largely septic tanks and leach field (“Title 5” systems, named for the state regulation that they must comply with) as well as some single-family Innovative/Advanced (I/A) treatment systems.

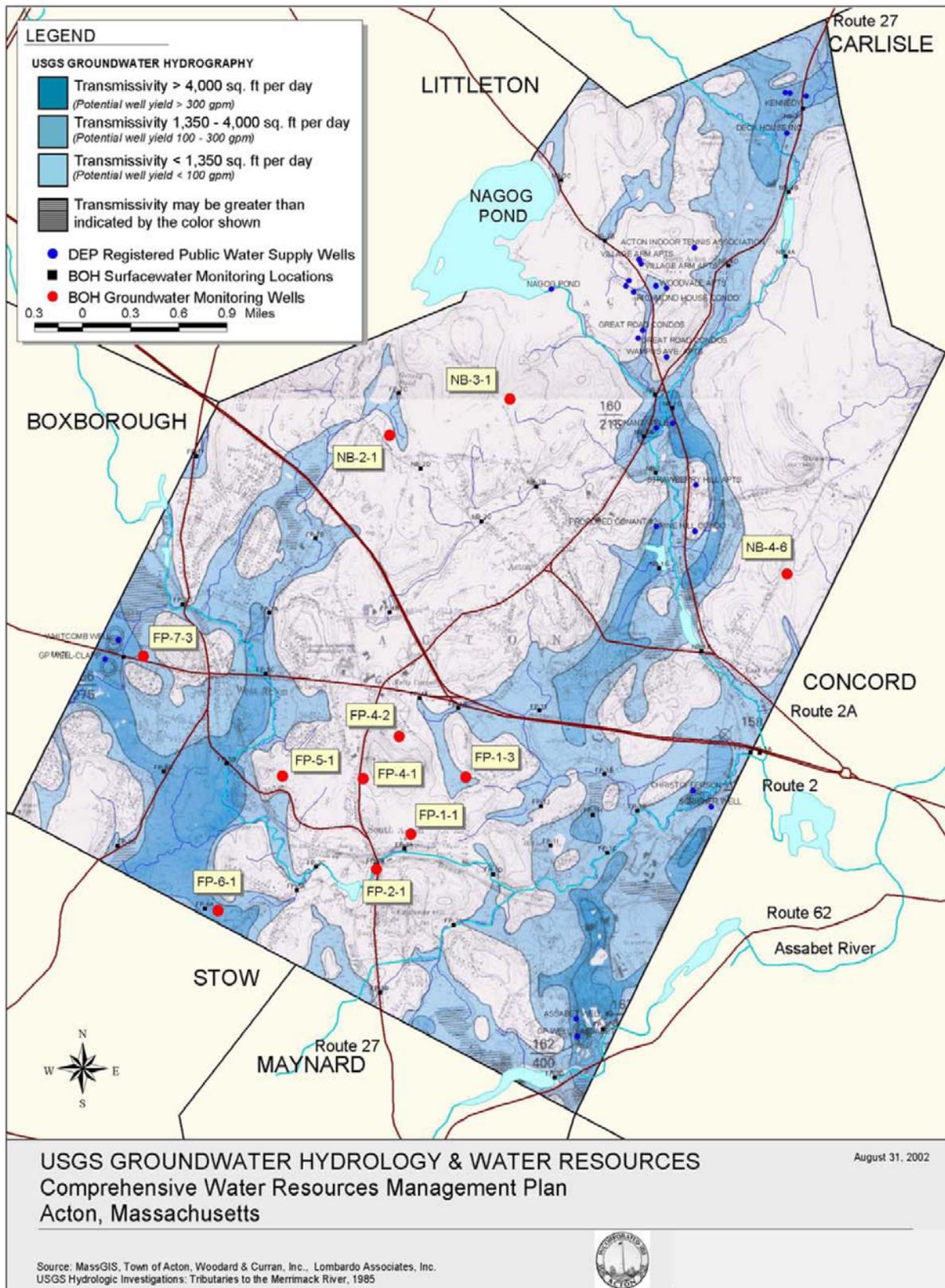
The majority of these on-site systems are believed to function well. Current town by-laws require that each individual Title 5 system be pumped at least every two years. Between 1995 and 2010, 1072 Title 5 systems have been replaced; 27 percent of these properties have required variances from the Title 5 standards and 34 percent have required variances from Board of Health Article 11 standards. Variances are only granted when it is demonstrated that the functioning of the system will not be impaired; for example, additional soil may be brought to the site to increase the vertical distance to groundwater. Nonetheless, the proportion of systems that require variances is in indication of the limitations of many Acton’s soils for wastewater disposal as described in Chapter 3, Natural Resources.

The town’s water supply and its wastewater treatment and disposal exist within a complicated system that has multiple interactions between stormwater, surface water bodies (ponds and brooks), and groundwater (surficial deposits and bedrock) both within and outside Acton’s borders. The Acton Water District’s public water supply wells draw solely from aquifers whose strata are able to transmit ground water fast enough to be practical for a municipal-scale well – in Acton this is the shallow aquifer. The groundwater that the wells draw upon is recharged mainly by natural rain, snowmelt and to some extent wastewater discharges, primarily in areas of soil with a high level of transmissivity. Figure 7.6 shows the location of these aquifers. Consequently, all potential sources of contaminants that fall within the Zone 1 and Zone 2 protection areas need to be carefully monitored and managed.

Available treatment technologies and the significance of soil types in ensuring removal of contaminants from on-site systems are all discussed in detail in the Phase One and Phase Two Comprehensive Water Resource Management Plan (CWRMP).

Adjacent communities also draw from surface water bodies (Concord), surficial groundwater deposits (Boxborough and Concord), or bedrock groundwater (Maynard), which reside, or potentially (with respect to bedrock sources) reside within Acton’s borders. In the same way some stormwater and wastewater discharged within those adjacent communities contributes to the recharging of Acton’s groundwater resources.

Figure 7.6: Groundwater Hydrology and Water Resources



Traditional Title 5 systems provide treatment of wastewater in the septic tank before it is discharged as “leachate” by the leaching field. In addition, much of the treatment is provided by the soils underlying the leachfield in which natural beneficial bacteria digest remaining contaminants and filter out pathogens.

Soils are rated by the U.S. Natural Resource Conservation Service (NRCS) according to their capability to process the wastewater that is discharged by on-site Title 5 systems. Two kinds of soil limitations exist: if the soils have poor permeability, it is physically difficult to transmit the wastewater down and away from the leachfield, and wastewater may break out on the ground surface; accordingly, Title 5 systems are located in soils that have sufficient percolation rates as determined by a “perc” test witnessed by the Health Department.

The other type of limitation is found in soils that have too high a permeability or “fast” percolation rate. In these soils, wastewater passes through the soils too fast for the soil bacteria to fully treat the wastewater, so additional depth to groundwater is required through “mounding” to provide the necessary soil filtration.

A large proportion of Acton’s soils are classified by NRCS as having “severe” limitation for on-site disposal. As part of its Phase I Comprehensive Water Resources Management Plan (CWRMP), completed in 2004, the town produced estimated design parameters for all parcels in the town. With this plan the Board of Health (BOH) witnessed percolation rates for 1,851 parcels. This information was then correlated with the NRCS soils map. To a lesser extent groundwater elevations from 165 lots were also correlated with the NCRS data. Correlation of the BOH design data with the NCRS soil classifications significantly improved upon the design parameter estimates published by NCRS.

Design parameters are critical in implementing an effective on-site disposal system program. Conventional septic tank-leaching area designs were the only option available until Title 5 was amended in 1995. However, Innovative/Alternative (I/A) systems are now allowed for replacement of conventional systems (sometimes for new construction), which assists in finding solutions for difficult lots. These more advanced on-site treatment systems release more fully treated water and therefore are a viable option. They are more economical when utilized by a larger number of dwelling units, but single-unit systems are available.

The Phase I CWRMP conducted an exhaustive study of all design parameters to identify parcels requiring off-site solutions over the long term. The parcels identified fell under the following conditions:

1. Parcels currently exhibiting septic problems and requiring immediate solutions
2. Parcels that will require off-site solutions due to:
 - a. Wetlands
 - b. Floodplains
 - c. Inadequate space
3. Parcels that can rely on replacing systems on site but require:
 - a. Large mounds (over 3 ¼’ feet tall)
 - b. Small mounds (under 1 ¾’ feet tall)
 - c. Use of I/A technology

The CWRMP concluded that over 90% of the existing on-site wastewater systems can remain as on-site systems for the planning period (which extends to 2024), with approximately 3.5% of these requiring I/A technology. Parcels identified as requiring offsite solutions to wastewater disposal problems are dispersed throughout the community. Attempting to service only the dispersed parcels with off-site solutions would be technically impractical and cost prohibitive.

In summary, on-site treatment is viable for most, but not all, residential lots in Acton; meeting on-site treatment standards on some lots may involve additional cost, compared to lots that have soils that are considered “good” for on-site disposal.

The life expectancy of an on-site wastewater system in the optimum can be 40 to 50 years. Obtaining that optimum can be impacted by the following:

- Septic tank pumping frequency
- How the Septic System is used (including the amount of water discharged to the system and the presence of chemicals that can impede the biological breakdown of solids.
- Soil conditions and depth to groundwater
- Proper design and installation
- Local environmental conditions

An additional dimension of on-site wastewater management is inspection. The Acton Health Department inspects Title 5 systems, but only when a permitted expansion or replacement of a system takes place. Since changes in Title 5 15 years ago, the great majority of on-site wastewater systems identified for replacement has been through the mandatory inspection requirement when a house is sold. (Inspection of the system is required when a property is sold; this is done by licensed inspectors who file their reports with the Health Department.) Since this requirement was put in place, little to no change has been observed between the numbers of houses selling and the failure rate of their on-site wastewater systems. From these results we can infer that homes that are not being sold must also have a similar percentage of on-site wastewater systems that are in failure, but are not being replaced.

System failure can be a problem where soil permeability is low if the homeowner does not take necessary steps to remedy the situation. It can also be a problem for the quality of the groundwater being used for public water supply if permeability is high and the soils transmit only partially treated wastewater to the groundwater; this is why depth to groundwater is a key parameter in septic system design. Testing by the Water District has found some nitrates in the water supplied by the Christofferson and Lawsbrook wells. Nitrates pose a health risk, although the detected concentrations are within the EPA Safe Drinking Water limit. As noted above in the water supply section, it is not clear whether the nitrates are due runoff from farm fields or residential lawns, which may include fertilizer and/or animal waste, or incompletely treated leachate from a nearby residential or commercial septic system failure or to a combination of these causes.

The Phase II CWRMP completed in 2006 identified 15 wastewater planning “Areas of Need” and categorized five of those as high priority needs areas. One of those, (Powdermill Plaza) has already been addressed. The CWRMP suggested several alternative management and treatment strategies to achieve appropriate wastewater management for each of those needs areas.

The CWRMP developed recommended options for the Areas of Need including a combination of the following:

- Continued reliance on on-site wastewater systems (do nothing) under the existing management framework for the majority of Acton
- Continued reliance on on-site wastewater systems but with a town-driven management system that includes expanded monitoring and stricter treatment standards – this includes shared systems
- Cluster collection and treatment systems, which can include private entities and private/public solutions
- Expansion of the Middle Fort Pond Brook sewer system with treatment and disposal at the Adams Street treatment facility to address high priority areas and optimize the operation of the system
- Use of existing in-town private treatment facilities
- Continued monitoring of new technologies and opportunities over the course of the 20-year planning period for new solutions

The initial implementation of the CWRMP has focused on evaluating which Areas of Need could feasibly be served by the existing wastewater treatment plant and identified priority areas for sewer extensions. The areas currently considered top candidates for sewers are the Spencer/Tuttle/Flint Road neighborhood and West Acton Village east of the railroad tracks. However, the betterment cost to property owners for this sewer extension is estimated at approximately \$24,000 including the on-site cost to connect to the system. There has been public discussion of the CWRP recommendations, but no consensus on how to implement them has been reached.

The CWRMP identified Wastewater Management Districts (WMD) as the primary or secondary solution to be considered for most of the 15 Needs Areas. As an alternative to sewer extension, which is not feasible for the northern half of Acton, WMDs can be an effective solution. Within these districts there would be performance standards for on-site systems and mandatory inspections at identified intervals. Where performance standards are not met, the property owner could be required to do more frequent pumping of the septic tank or to replace, modify, or enhance the non-performing system as necessary to meet the performance standard.

Stormwater Management

Stormwater is the runoff from precipitation that is not absorbed by pervious ground surfaces and not otherwise recharged into the ground with infiltration devices. The water that is absorbed or infiltrated helps to recharge the groundwater aquifer. Rain and snowmelt that runs off from impervious surfaces such as building roofs, paved areas, etc., makes its way to surface water, primarily brooks and rivers. If not managed, this water can carry sediment and contaminants such as lawn chemicals, oil, and salt, and thus increase turbidity and add to contaminant loadings in the streams. If not managed properly, contaminated runoff compromises water quality in the streams and often creates peaks in the streamflow that can cause erosion and scouring of natural channels. The destination for Acton's stormwater is the Assabet River which flows into the Concord River.

Management of stormwater includes both measures to reduce the rate of flow and to improve quality through settling or other means. Together these measures are known as Best Management Practices (BMPs). The 2003 Acton Stormwater Management Plan (SWMP) contains recommendations for managing stormwater to reduce quality impacts and for complying with federal regulations.

The National Pollution Discharge Elimination System (NPDES) is a federal program administered by the US Environmental Protection Agency (EPA). Phase II of the program applies to communities such as Acton; it requires permits for Municipal Separate Storm Sewer Systems (MS4). Acton's MS4 is completely separate from the town's sanitary sewer system. Stormwater is conveyed to outfalls at 18 locations in the town.

The permitting process is managed by MADEP under its Final NPDES General Permit, which sets standards for six Minimum Control Measures (MCM) that must be implemented by the town. As listed in the SWMP, they are:

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post- Construction Runoff Control
6. Pollution Prevention/Good Housekeeping

A key step in the process was Acton's July 2003 submission to MADEP of a Notice of Intent with a schedule for implementing BMPs to manage stormwater impacts. In particular, the BMPs for Post-construction runoff control (MCM #5) address the design of stormwater facilities in new residential and commercial development, including subdivisions, and includes the use of retention basins and other devices in the stormwater collection and conveyance system to control the rate of runoff in storm events of various intensities, and to achieve removal by settling of 80 percent of total suspended solids (such as soil particles) before the stormwater reaches a surface water body. Acton has had bylaws and regulations since the late 1980s that embodied what are now called BMPs, and these regulations have been modified as necessary to comply with MADEP standards under the permit.

Since 1982, the Board of Health has been monitoring for fecal coliforms, which can be transported by stormwater, and taking measures to eliminate illicit discharges of sanitary wastewater to the stormwater system as required in MCM #3. And, the Town has implemented all of the other MCMs, including outreach, public education, and regular maintenance and cleaning of stormwater structures such as catch basins.

The Board of Health has also implemented measures to reduce phosphorus from non-point sources such as surface runoff to compensate for phosphorus entering the Assabet River from the Middle Fort Pond Brook wastewater treatment plant. These measures include the construction of a wetland at NARA to remove phosphorus, solids, and nitrogen from runoff.

The Acton Water District noted that statewide stormwater policies are complicating drinking water protection initiatives by encouraging groundwater recharge of stormwater. Care must be taken not to contaminate wells in an effort to protect streams. The AWD hopes stormwater

improvements made by the Town will be recognized by MADEP as a credit toward increasing permitted withdrawal limits.

Services for Seniors

As discussed in Chapter 2, the number of Acton residents 65 years or older is expected to increase over the next two decades. The Acton Council on Aging (COA) believes that a larger senior center is needed to serve current and future needs.

The COA serves this age group with food programs, transportation, and the gathering place for social activity that is provided by the Senior Center on Audubon Lane. This includes organized bridge (card game) groups, art lessons in several media, craft groups (knitting, crocheting, quilting), movie showings, cultural discussions, and almost-monthly field trips. The COA also provides health and wellness programs, which include cardio-flex and tai chi classes.

According to the COA director, 7,400 meals were served at the Senior Center in FY2010 and an additional 4,500 meals were delivered to seniors' homes. The shuttle van that is leased from LRTA but operated and dispatched by the Council provided 4,500 rides in FY2010 to destinations throughout Acton as well as to destinations in Maynard and Concord.

These services, and the opportunity to socialize at the Senior Center, are particularly important to the older half of the age group, people aged 75 and older. The Director estimates this group to comprise approximately 40 percent of COA's clients.

The current Senior Center was built in 1995. It totals approximately 6,700 square feet and has 45 parking spaces. The Director feels that this facility is constrained by its parking, size, layout, and kitchen. From their offices, staff cannot monitor people coming and going, and in the two meeting areas. The kitchen is not adequate to provide meals, which are purchased from a vendor. There is inadequate storage, and the configuration of the meeting/dining room and the multipurpose room is less than ideal.

The COA commissioned a concept for a new 25,000 square foot Senior Center in 2008. It would replace the current facility at a cost in the range of \$7-8 million. Three potential sites were identified in North Acton. No action has been taken on this proposal to date. During Phase 1 of Acton 2020 there was substantial support for a new Senior Center, with many people expressing support for a combined Senior and Community Center serving all ages.

Libraries

Demand for Acton's libraries is steadily increasing and meeting it requires more resources; however the library buildings are generally adequate for the future.

Acton's Memorial Library's (AML) circulation increased from approximately 366,000 in FY2002 to nearly 672,000 in FY2010, a 66% increase. The library is increasing its use of technology and provides materials in ten languages. 14,696 Acton residents have library registrations. Approximately 600 meetings are held in the library each year. The library was renovated and substantially expanded in 1998.

During Phase 1, the head librarian identified challenges including

- Need for more staff due to growing usage
- Need to communicate rapidly changing technologies to users and staff
- Language issues as library users become more diverse

AML's circulation per full-time equivalent library staff is 11th in the state and almost twice the state average. AML supports residents from other cultures through foreign language collections, citizenship preparation materials, support for literacy in English (in terms of both collections and space for tutoring, literacy training, and conversation groups). The library also provides reference desk services and the transcribing and mounting on the web of historical documents such as Civil War era letters.

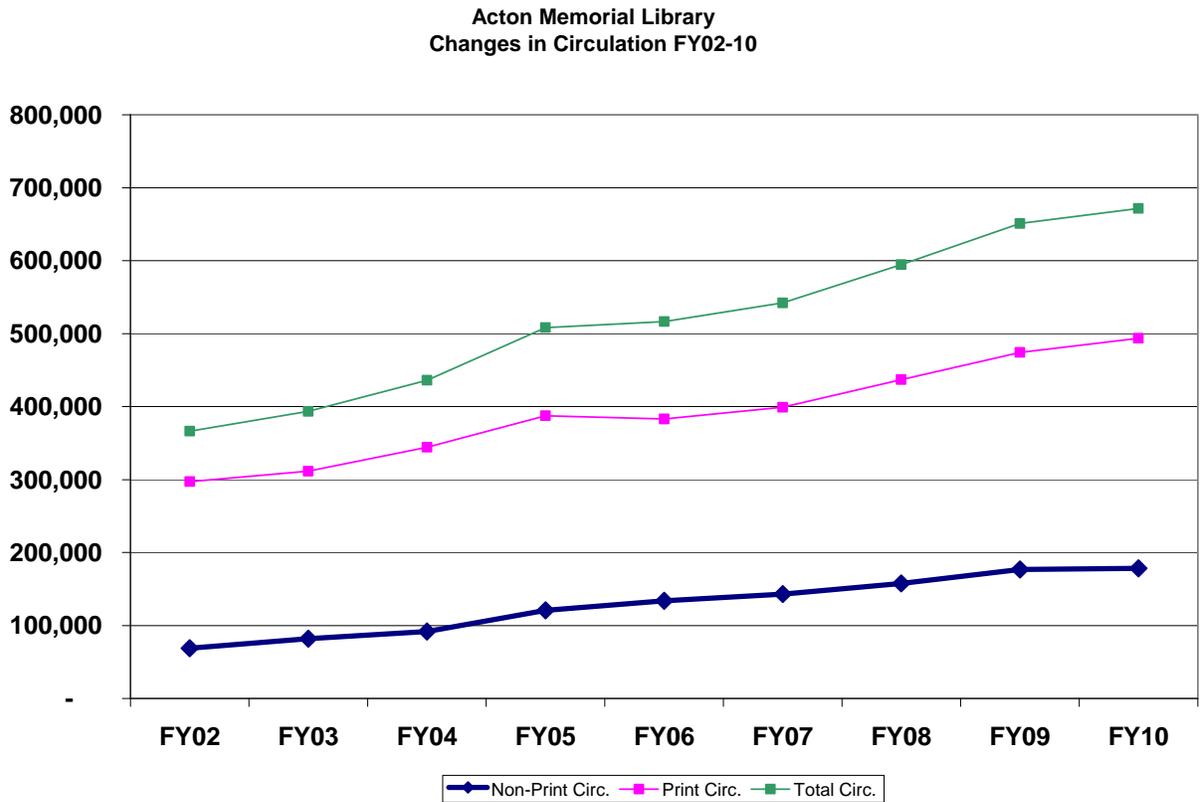
Programming is a substantial part of today's town libraries. The Library Director reported that AML's ability to do more programming is constrained by the size of the current staff, and budget constraints have limited staff size for several years. She also stated that despite the substantial enlargement of the library in 1998, AML's collection of materials is limited by the available space and the demand for meeting rooms exceeds their availability.

The Citizens Library in West Acton Village is independent from the much larger Memorial Library; it provides an important community resource for the village.

Both libraries encourage an early love of literature and reading by holding frequent story times, "pajama parties" for children, and other activities.

Figure 7.7 shows that the number of items circulated has increased 66 percent since 2002. Figure 7.8 shows that nearly two public meetings per day take place at the library.

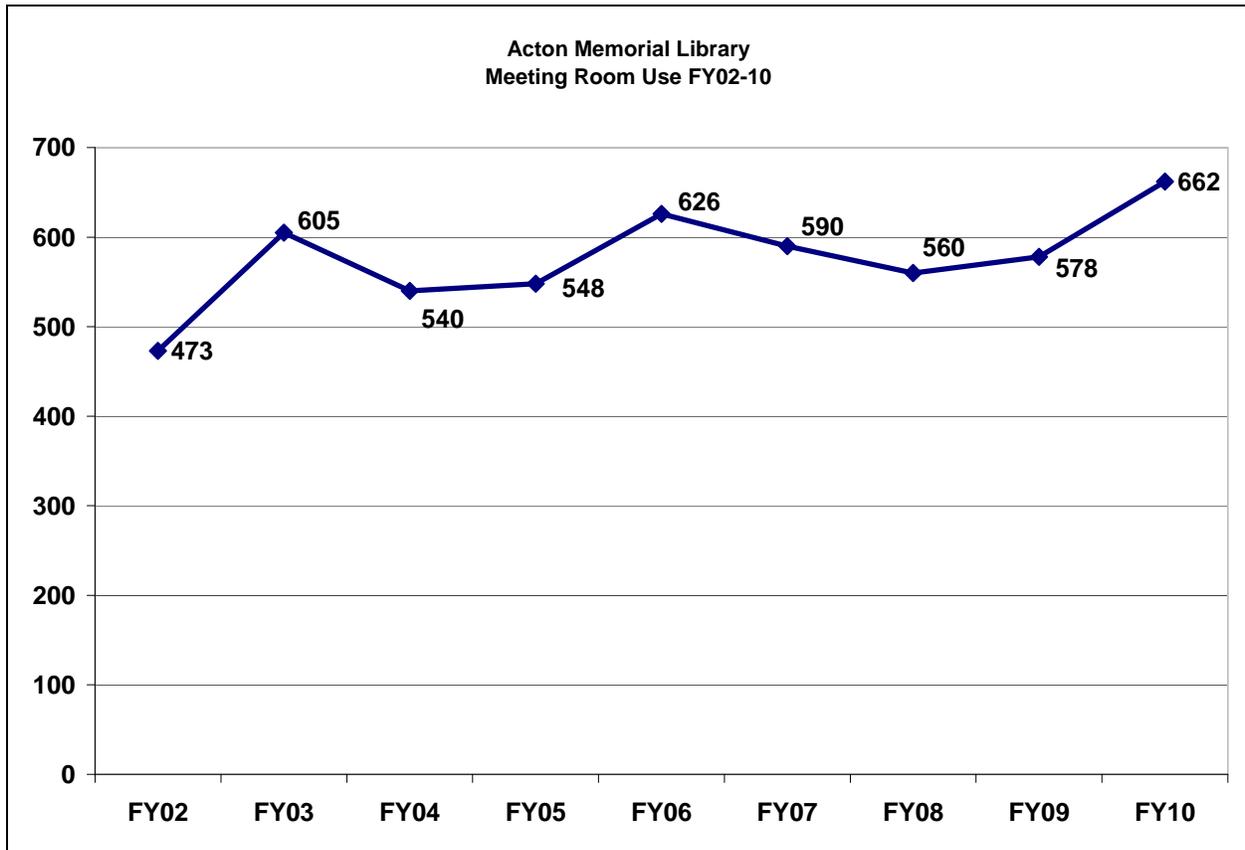
Figure 7.7: Circulation Trends at the Acton Memorial Library



Source: Acton Memorial Library

Note: From FY2004-FY2007, the library hours were reduced on Thursday and Saturday, which affected circulation.

Figure 7.8: Use of Meeting Rooms at the Acton Memorial Library



Source: Acton Memorial Library

Note: From FY2004-FY2007, the library hours were reduced on Thursday and Saturday, which affected meeting room use.

Public Safety

The recently constructed Public Safety Building is adequate for the future needs of the Police Department. The Public Safety Building was built in 2005. It contains the Police Department, dispatch functions, and administrative space for the Fire Department. It should satisfy these functions for the foreseeable future, so Police services are not addressed here.⁹ In contrast, the Fire Department has a number of facility needs.

Fire Department

Acton's Fire Department has three fire stations built 40 to 60 years ago; with the steady growth of the northern part of the town, there is a case to be made for a new fire station in North Acton replacing one of the existing stations.

The Fire Department has three fire/EMT stations: Acton Center (1951), West Acton (1958), and South Acton (1961). While still functional, the stations have not been renovated since they were

⁹ However, the Acton Police Chief regularly points out that Acton's Police Department is understaffed compared to other communities and national standards for officers to population ratios.

constructed except for replacement of overhead doors and heating improvements in the two older stations. There are deficiencies in heating and air conditioning, fire protection systems, space for paperwork, bunkrooms for fire fighters, and storage for equipment. There is no dedicated space for decontamination of fire fighters and their gear. Only the South Acton station is able to accommodate the department's aerial ladder truck.

While most of these issues can be addressed incrementally through on-going capital improvements of moderate size, studies conducted for the department indicate the need for better coverage in the northern portion of the town.

Response time is critical in responding to both fires and medical emergencies. The Fire Chief stated that response time from Acton Center to the northernmost part of town is estimated at more than 9 minutes, substantially higher than the national standard of 5 minutes, and an additional 3 to 4 minutes is needed to bring the aerial ladder truck from South Acton. With much new recent development in North Acton that is still ongoing, the seriousness of the gap in coverage is increasing.

An architectural concept was developed for a new fire station in North Acton, and Town Meeting authorized funding for the preliminary design of the facility, but this has not proceeded because of budget issues. The department's current thinking is that staff and equipment would be moved from the Acton Center station to the new station, and the vacated station could be used to stage construction of improvements at the West Acton and South Acton stations. Ultimately, the north, west, and south Acton stations would serve the town with essentially the current level of staff and equipment, and the Acton Center station could be converted to other municipal uses. The cost of the new facility was estimated at \$5-7 million. Some of the cost was to be provided by the developers of the Avalon residential development out of proceeds from condo sales, which have not occurred to date.

The Fire Chief stated that response time would be improved to North Acton, which has grown faster than the rest of the town over the past decade, and to much of the Great Road, which is the location of many fire department calls. Response times to the area surrounding Acton Center would be longer but still acceptable. However, this was a major issue among homeowners at the time the new facility was proposed.

As noted above under Municipal Facilities, the Town Hall office space occupied by many departments is tight, and if the Acton Center fire station is ultimately replaced by a new facility in north Acton, it could be converted to office space for these departments.

Overall Summary

Acton provides a high quality set of services and facilities in return for the taxes paid by property owners. The Town's facilities are generally in very good condition and are for the most part adequate in size to serve the needs foreseen over the 20-year horizon of this comprehensive plan; the possible exceptions are the proposals to build a larger Senior Center and a new fire station. While not perfect, the Town's water supply meets enforceable standards and is adequate in capacity to serve all but summer outdoor watering needs. Stormwater is well-managed in accordance with federal and state regulations. The Comprehensive Water Resources Management Plan identified 15 Areas of Need, 14 of which need appropriate action to manage wastewater in a manner that preserves the quality the groundwater that supplies most of the Town's drinking water.

Opportunities and Challenges Posed by Existing Facilities and Services Conditions

- As in all towns concerned with high quality schools and other public services, there is an on-going tradeoff between what the town provides and the cost to taxpayers.
- Acton has a generally very good inventory of schools and other town buildings that are adequate in capacity for future needs, but ongoing improvements are needed, particularly in the older buildings.
- The identified needs for new buildings are for a larger Senior Center and for a new Fire Station to replace one of the existing stations for better response time and up-to-date facilities.
- The water supply system is expected to be adequate in quantity for future needs, but ongoing improvements in the distribution system are needed, and ongoing efforts are needed to preserve quality.
- Water quality is an issue both in terms of land uses in the areas surrounding the groundwater wells and protection of the larger groundwater aquifer that supplies them but receives 90 percent of the town's sanitary wastewater.
- Because of the limitation of much of Acton's soils, better management of on-site wastewater disposal and/or some extension of the Fort Pond Brook wastewater treatment plant may be needed in identified Areas of Need.
- Acton's growing population of seniors would be better served by a new senior center large enough to serve current and future demand.
- Fire Department response times would be improved by replacing the Acton Center fire station with a new facility in North Acton.
- Acton's libraries are key resources for cultural information and as public gathering places; while adequate in size, they will continue to need more resources to serve demand.

In conclusion, Acton is fortunate to have excellent schools, very good facilities, and high quality services. Prudent budgeting to resolve competing priorities and maintain financial well-being is a continuous process that is well served by Town Government but requires the ongoing effort of officials and citizens. Continuing effort is needed to manage risk to the Town's water supply and surface water quality.