Draft

Economic Development Technical Paper

Introduction

The focus on economic development issues enables local decision-makers and Chelmsford Town Meeting to determine how they wish to target economic growth in the future so as to balance it against the quality of life issues that attract residents, businesses and visitors to the Town of Chelmsford. Economic growth provides jobs for community residents, generates property taxes that support local public services, creates new contracting opportunities for other businesses and connects the Town of Chelmsford with the national, state and regional economies. The Town can establish its own direction through the targeting of economic growth even though it has limited control over what happens in the Greater Lowell economy. At a time when the nation, state and region are facing the most severe recession since World War II, the Town needs to address how it can retain its existing business community, while attracting other businesses. The Town needs to focus on the many redevelopment opportunities available in the community, as well as the more limited development opportunities. Since the Town's Comprehensive Master Plan was last completed in 1996, there have been significant changes in the overall economy. Do the economic development goals outlined in the 1996 Chelmsford Master Plan still apply? Have these been replaced by the goals in the 2008 Economic Development Plan or should there be new goals established as part of the 2010 Master Plan Update? Should the community work to retain existing businesses and to attract new businesses that reflect the Town's current priorities? Should the Town build upon its economic development efforts during the past two years and actively market the community as a business-friendly community? Finally, does the community see a benefit in working with the private sector to improve the quality of life in Chelmsford?

The Northern Middlesex Council of Governments (NMCOG) completed the *Greater Lowell Comprehensive Economic Development Strategy (CEDS) for 2004*-2008 in 2004 in order to qualify the Greater Lowell region for federal funding from the Economic Development Administration (EDA) of the U.S. Department of Commerce. This initial document provided an overview of the economic conditions and needs of the Greater Lowell region (the City of Lowell and its eight surrounding suburbs – including Chelmsford) and provided updated information from the 2000 U.S. Census, as well as other federal, state, local and private data sources. A Vision Statement, specific Goals and Objectives and a detailed Action Plan were developed as part of the document. The ten goals identified in the document demonstrate that economic development is comprised of many components, including workforce development, transportation systems and technology. This section of the Comprehensive Master Plan has been organized in much the same way and is designed to tie into the broader regional economic development plan. However, the Town of Chelmsford needs to develop consensus on what role it wishes to play in the larger regional economy by determining the specific identity it wishes to develop in order to attract the types of businesses desired by the community. More recently, NMCOG completed its *Annual CEDS for 2008*, which provides an update for the original Five-Year CEDS document.

I. Demographic Characteristics

This section examines demographic changes in the town, including population, household, educational, income, and workforce data, in order to understand how the community has changed since the data used in the 1996 Master Plan Update was published.

A. Population

The U.S. Census released new population estimates for the Greater Lowell region as of July 10, 2008. Based upon these population estimates, the Greater Lowell region experienced a growth rate of 2.1% between the U.S. Census figures (281,225) in April 2000 and the estimated figures (287,132) for July 1, 2007. Compared to the rest of the region, Chelmsford had the smallest growth rate between these years, growing by less than one percent (0.8%). As outlined in Table 1 below, the population growth in Billerica (7.8%), Chelmsford (0.8%), Dracut (3.3%), Dunstable (16.3%), Pepperell (2.4%), Tewksbury (2.6%), Tyngsborough (7.0%) and Westford (5.0%) offset the -1.6% population decrease in the City of Lowell.

Table 1: Greater Lowell Population and Estimates: 2000-2007

Community	4/1/2000	7/1/2002	7/1/2003	7/1/2004	7/1/2005	7/1/2006	7/1/2007
Billerica	38,981	39,415	39,425	39,998	40,069	41,391	42,038
Chelmsford	**33,858**	**33,640**	**33,844**	**33,810**	**33,852**	**33,707**	**34,128**
Dracut	28,562	28,756	28,742	28,716	28,971	29,385	29,498
Dunstable	2,829	2,990	3,051	3,105	3,163	3,222	3,290
Lowell	105,167	104,710	104,213	103,777	103,383	103,229	103,512
Pepperell	11,142	11,386	11,405	11,448	11,439	11,412	11,409
Tewksbury	28,851	29,266	29,200	29,164	29,120	29,418	29,607
Tyngsborough	11,081	11,309	11,302	11,401	11,369	11,542	11,860
Westford	20,754	21,212	21,310	21,501	21,520	21,507	21,790
NMCOG Region	281,225	282,684	282,492	282,920	282,886	284,813	287,132

Source: U. S. Census Population Estimates as of July 10, 2008.

Additionally, the Massachusetts Highway Department (MassHighway) developed population projections for the region until 2030. These population projections were based upon a statewide model that assigns a specific share to each Metropolitan Planning Organization (MPO) region and then to its individual communities. NMCOG offered comments on the draft projections and the final projections were adjusted accordingly. Based upon the population projections established by MassHighway, Chelmsford is expected to increase its population by 3.1% between 2000 and 2010 and by 22.3% between 2000 and 2030. Compared to the rest of the region, as illustrated in Table 2 below, Chelmsford's projected population growth between 2000 and 2030 is the third lowest at 10.8%. Chelmsford's projected growth was behind the majority of communities in the region, which have projected population growth rates ranging from 41.1% in Dracut to 116.3% in Dunstable. This is due to the more mature development of the community, as well as the lower population base figures of the other communities.

Table 2: Greater Lowell Population Projections: 2000-2030

Community	2000	2010	2015	2020	2025	2030	Percent Change, 2000-2030
Billerica	38,981	40,020	40,470	41,090	41,650	42,150	8.1%
Chelmsford	**33,858**	**34,920**	**35,460**	**36,110**	**36,900**	**37,500**	**10.8%**
Dracut	28,562	33,408	34,700	36,900	38,100	40,300	41.1%
Dunstable	2,829	3,780	4,300	4,850	5,490	6,120	116.3%
Lowell	105,167	108,210	109,790	111,200	112,010	113,270	7.7%
Pepperell	11,142	14,150	17,120	18,660	20,300	22,450	101.5%
Tewksbury	28,851	30,915	31,700	32,300	32,500	33,270	15.3%
Tyngsborough	11,142	13,430	14,610	15,400	16,200	17,400	56.2%
Westford	20,754	24,807	26,350	28,490	29,350	31,340	51.0%
Greater Lowell	281,225	304,000	314,500	325,000	332,500	343,800	22.3%

Source: 2000 U.S. Census; projections by MassHighway in consultation with NMCOG

B. Households

As with the population projections completed by the Massachusetts Highway Department, household projections were developed to show the growth of households in the Greater Lowell region. Households are defined by the U.S. Census as being equivalent to "occupied housing units". According to the projections developed by MassHighway, as reflected in Table 3 on the next page, the number of households in Chelmsford is expected to increase by 8.6% between 2000 and 2020 and an additional 3% between 2020 and 2030. Compared to the other eight communities in the NMCOG region, Chelmsford has the second lowest projected growth rate for both decades—only slightly higher than the City of Lowell for both timeframes. This growth in the number of households is consistent with the projected population changes in the town and across the region. The total number of households in the NMCOG region is projected to increase by 28,858 (30%) between 2000 and 2030, with the most significant growth occurring in Dunstable (31.1%) and Pepperell (22.4%), which currently have the fewest households in the region.

Table 3: Households and Household Projections, 2000- 2030

Community	2000	2020	Percent Change, 2000-2020	2030	Percent Change, 2020-2030
Billerica	12,961	14,838	14.5%	15,540	4.7%
Chelmsford	**12,826**	**13,929**	**8.6%**	**14,340**	**3%**
Dracut	10,450	14,265	36.5%	15,640	9.6%
Dunstable	936	1,732	85.0%	2,270	31.1%
Lowell	37,992	41,119	8.2%	41,770	1.6%
Pepperell	3,845	6,807	77.0%	8,330	22.4%
Tewksbury	9,955	11,845	19.0%	12,370	4.4%
Tyngsborough	3,741	5,572	48.9%	6,440	4.4%
Westford	6,836	10,193	49.1%	11,700	14.8%
NMCOG Region	99,542	120,300	20.9%	128,400	6.7%

Source: 2000 U.S. Census; projections by MassHighway in consultation with NMCOG

C. Income

Compared to the other towns in the region, Chelmsford had the third highest median household and median family incomes and the second highest per capita income in 2007. Dunstable and Westford have consistently had higher household and family incomes than Chelmsford, with Westford also surpassing the town in its per capita income.

From 1989 to 2007, the median household (MHI) and family incomes (MFI) in Chelmsford increased by 61.7% and 77%, respectively, while per capita income (PCI) increased by nearly 80%. Compared to other communities in the region, per capita incomes increased at a higher rate between 1989 and 2007 in Dracut (87.5%), Dunstable (89.2%), Pepperell (98%), Tyngsborough (108.5%), and Westford (98%). Median Household incomes grew at a higher rate in Billerica (66.4%), Pepperell (80.9%), Tyngsborough (75.6%), and Westford (86.8%). These statistics are illustrated in Table 4 on the following page.

Table 4: Comparison of Per Capita, Median Household, and Median Family Incomes in the NMCOG Region, 1989-2007

	1989	1999	2007	Percent Change, 1989-2007
Billlerica				
Per Capita Income	$19,395.00	$24,953.00	$31,018.00	59.9%
Median Household Income	$50,210.00	$67,799.00	$83,531.00	66.4%
Median Family Income	$53,302.00	$72,102.00	$89,461.00	67.8%
Chelmsford				
Per Capita Income	**$21,814.00**	**$30,465.00**	**$39,149.00**	**79.5%**
Median Household Income	**$53,971.00**	**$70,207.00**	**$87,252.00**	**61.7%**
Median Family Income	**$59,368.00**	**$82,676.00**	**$105,105.00**	**77%**
Dracut				
Per Capita Income	$16,508.00	$23,750.00	$30,958.00	87.5%
Median Household Income	$45,165.00	$57,676.00	$72,348.00	60.2%
Median Family Income	$48,506.00	$65,633.00	$84,170.00	73.5%
Dunstable				
Per Capita Income	$20,059.00	$30,608.00	$37,943.00*	89.2%
Median Household Income	$62,515.00	$86,633.00	$100,161.00*	60.2%
Median Family Income	$65,720.00	$92,270.00	$111,645.00*	70%
Lowell				
Per Capita Income	$12,701.00	$17,557.00	$21,780.00	71.5%
Median Household Income	$29,351.00	$39,192.00	$47,337.00	61.3%
Median Family Income	$35,138.00	$45,901.00	$53,357.00	51.8%
Pepperell				
Per Capita Income	$17,374.00	$25,722.00	$34,422.00*	98%
Median Household Income	$44,492.00	$65,163.00	$80,490.00*	80.9%
Median Family Income	$49,259.00	$45,901.00	$93,170.00*	89.1%
Tewksbury				
Per Capita Income	$18,224.00	$27,031.00	$32,293.00	77.2%
Median Household Income	$52,572.00	$68,800.00	$85,115.00	61.9%
Median Family Income	$56,786.00	$76,443.00	$93,957.00	65.5%
Tyngsborough				
Per Capita Income	$16,633.00	$27,249.00	$34,681.00*	108.5%
Median Household Income	$48,842.00	$69,818.00	$85,785.00*	75.6%
Median Family Income	$52,358.00	$78,680.00	$101,361.00*	93.5%
Westford				
Per Capita Income	$21,878.00	$37,979.00	$43,304.00	98%
Median Household Income	$60,566.00	$98,272.00	$113,160.00	86.8%
Median Family Income	$63,047.00	$104,029.00	$120,410.00	91%

Data Source: US Census Bureau 1990 and 2000; American Community Survey 2005-2007; Claritis, Inc.
*Note: Claritis, Incorporated developed 2007 estimates for Dunstable, Pepperell, and Tyngsborough

Table 5 illustrates the distribution of incomes for households in 1999 and 2007. This data reveals that in less than a decade, the percentage of households and families earning less than $100,000 per year, except for the $10,000-$14,999 range, *decreased*, while the percentage of households and families earning more than $100,000 per year *increased* across all brackets. For example, households earning between $35,000 and $49,999 in 1999 accounted for approximately 13% of all households; by 2007 they accounted for about 9%. Conversely, households earning $150,000 or more per year jumped from 8% of all households in 1999 to almost 18% in 2007.

Table 5: Income Distribution for Households in Chelmsford, 1999 and 2007

Income Bracket	Number of Households, 1999	Percent of Total Households	Number of Households, 2007	Percent of Total Households	Percent Change, 1999-2007
Less than $10,000	523	4.1%	384	3%	-26.6%
$10,000- $14,999	400	3.1%	405	3.1%	1.3%
$15,000- $24,999	887	6.9%	848	6.6%	-4.4%
$25,000- $34,999	847	6.6%	765	5.9%	-9.7%
$35,000- $49,999	1,693	13.2%	1,210	9.4%	-28.5%
$50,000- $74,999	2,589	20.2%	2,159	16.7%	-16.6%
$75,000- $99,999	2,247	17.5%	1,495	11.6%	-33.5%
$100,000- $149,999	2,555	19.9%	3,357	26%	31.4%
$150,000- $199,999	672	5.2%	1,343	10.4%	99.9%
$200,000 or more	413	3.2%	969	7.5%	134.6%
Median Household Income	$70,207	12,826 total households	$87,252	12,935 total households	24.3%
Median Family Income	$82,676		$105,105		27.1%

Source: US Census Bureau 1999, American Community Survey 2005-2007

The income distribution among families followed similar trends: families with lower incomes declined, except for the $10,000-$14,000 bracket, between 1999 and 2007. For example, those families earning less than $10,000 per year declined by -47.6%, those earning between $15,000 and $24,999 declined by -26.3%, and those earning between $25,000 and $34,999 and $35,000 and $49,000 declined by -34.5% and -46%, respectively. Conversely, families earning between $100,000 and $149,999, $150,000 and $199,999, and more than $200,000 per year increased by 21.5%, 105%, and 141.2%, respectively. Part of these trends can be attributed to the economic inflation that has occurred in the past two decades. Table 6 on the following page compares the income distribution for Chelmsford families in 1999 and 2007.

Table 6: Income Distribution for Families in Chelmsford, 1999 and 2007

Income Bracket	Number of Families, 1999	Percent of Total Families	Number Of Families, 2007	Percent of Total Families	Percent Change, 1999-2007
Less than $10,000	147	1.6%	77	.9%	-47.6%
$10,000- $14,999	80	.9%	101	1.1%	26.3%
$15,000- $24,999	304	3.2%	224	2.5%	-26.3%
$25,000- $34,999	391	4.2%	256	9.8%	-34.5%
$35,000- $49,999	1,164	2.4%	629	6.9%	-46.0%
$50,000- $74,999	2,005	21.4%	1,545	17.1%	-22.9%
$75,000- $99,999	1,910	20.4%	1,178	13%	-38.3%
$100,000- $149,999	2,368	25.3%	2,878	31.8%	21.5%
$150,000- $199,999	616	6.6%	1,263	13.9%	105.0%
$200,000 or more	376	4%	907	10%	141.2%
Median Household Income	$70,207		$87,252		24.3%
Median Family Income	$82,676	9,361 total families	$105,105	9,058 total families	27.1%

Source: US Census Bureau 1999, American Community Survey 2005-2007

II. Characteristics of the Workforce

Over the past twenty years, the workforce in Chelmsford has become more highly educated and is now employed in higher paying, knowledge-based industries. This section examines trends and changes in the types of industries in which the Chelmsford workforce is employed, the wages they are earning, and trends in employment over the past decade. It also examines layoffs in the region which have affected the local workforce.

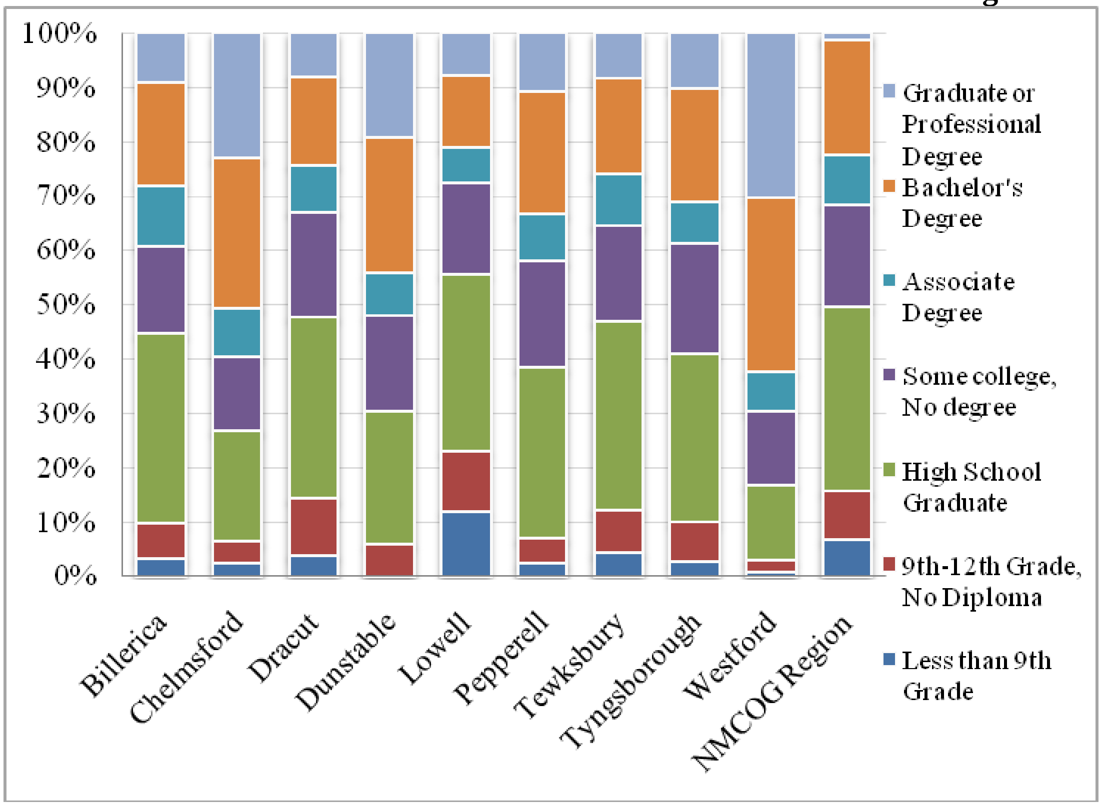
A. Educational Attainment

Between 1989 and 2007, residents who had completed at least some college (including those who went on to earn degrees) increased from 64.1% to 73.4%. During the same time, individuals who earned advanced graduate or professional degrees grew from 14.6% to 23.2%. In essence, the changes in the types of positions workers are employed in—which is to say, higher skilled, more training intensive, and better paying jobs-- is consistent with the changes in both educational attainment and the distribution of incomes among residents that was addressed in the preceding paragraphs.

Figure 1 on the next page illustrates the levels of educational attainment for the nine NMCOG communities in 2007. According to data collected through the 2005-2007 American Community Survey, the town of Chelmsford had the second highest percentage of individuals over the age of 25 who had earned a graduate or professional degree (23.2%), trailing only Westford, where

30.2% of adults had earned an advanced degree. Additionally, Chelmsford had the third-lowest percentage of adult residents who had not earned a high school diploma (6.3%), after Dunstable (5.8%) and Westford (2.8%).

Figure 1: Educational Attainment for Communities within the NMCOG Region in 2007



Source: American Community Survey, 2005-2007; Claritis, Inc.

B. Employment Sectors for Chelmsford Residents

Chelmsford residents work in virtually every industry, from skilled labor fields such as biotechnology, manufacturing and construction, to food services and retail, business, law, and public administration. For the past decade, workers employed in the education, health care, and social services fields have made up the largest portion of working Chelmsford residents. However it is worth noting that these industries saw a 15.6% decline between 2000 and 2007. The number of residents employed in manufacturing also declined, although in 2007 it was still the third largest sector for Chelmsford residents. Those employed in professional, scientific, managerial, and administrative positions, an area which saw a 10.7% increase during the same time period. These figures are represented in Table 7 on the next page.

Table 7: Primary Occupations by Industry for Chelmsford Residents in 2000 and 2007

Industry	2000	2007
Agriculture, Forestry, Fishing and Hunting, and Mining	39	71
Construction	904	1,169
Manufacturing	3,549	2,776
Wholesale Trade	523	529
Retail Trade	1,802	1,650
Transportation, Warehousing, and Utilities	546	514
Information	990	861
Finance, Insurance, and Real Estate (Including leasing)	994	995
Professional, Scientific, Management, and Administrative and Waste Services	2,531	2,802
Educational Services, Health Care, and Social Assistance	4,272	3,603
Arts, Entertainment, Recreation, Accomodation, and Food services	917	794
Other services, except Public Administration	510	497
Public Administration	590	387

Source: US Census Bureau 1999 and American Community Survey 2005-2007

C. Commuting Patterns

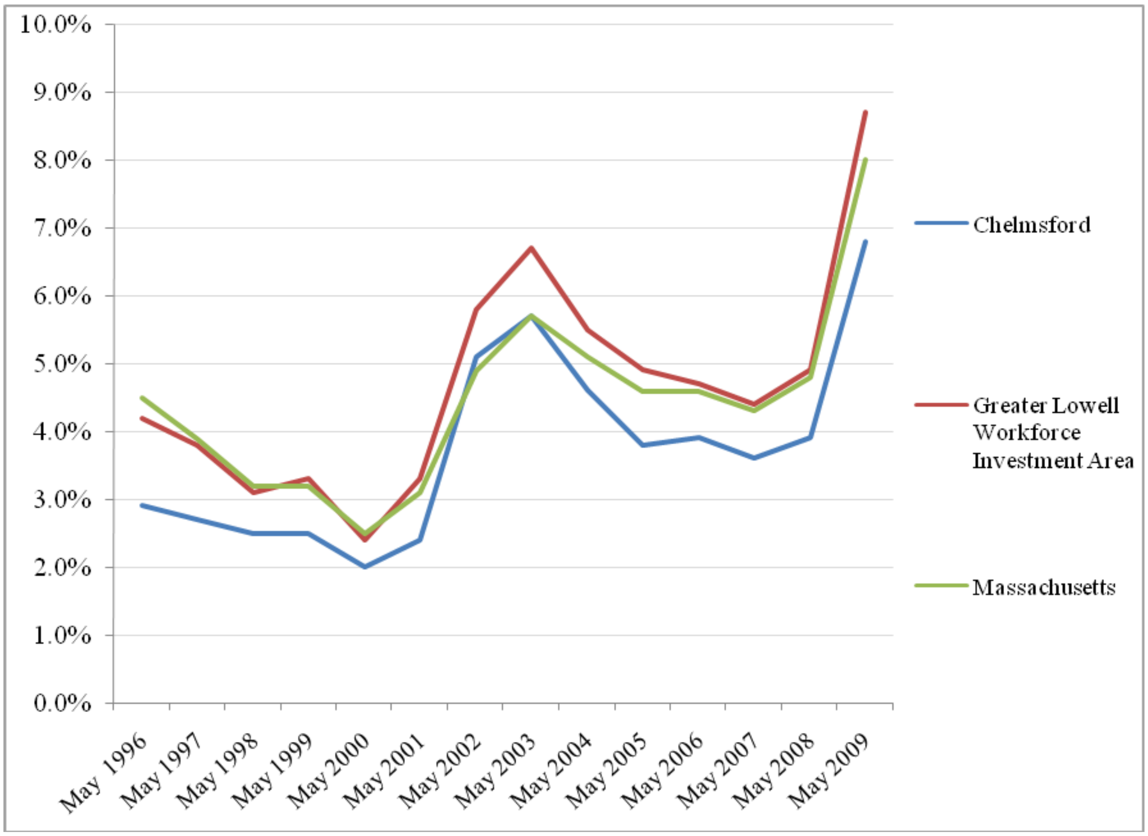
Two indicators that point to where residents in Chelmsford work is commuters' means of transportation and their travel times to work. In 2007, the vast majority of Chelmsford residents ages 16 and older commuted to work by car, either alone or, less frequently, in carpools. Among those residents driving to work, 78.2% worked in Middlesex County, another 16.3% worked in a different county in Massachusetts, and 5.5% worked in a different state. For public transit commuters, 52% worked in the same County, while 48% worked in a different county in Massachusetts. For all residents, regardless of mode of transportation, approximately 39% had a commute time of less than twenty minutes; another 41.4% had commutes between twenty and forty five minutes, and 19.7% commuted for longer than forty five minutes. During the public visioning sessions, residents and local business owners repeatedly articulated their desire to have a commuter rail stop sited in Vinal Square. This idea will also be explored in the transportation chapter of this updated master plan. What is notable about *this* commuting analysis is that the vast majority of people living in Chelmsford appear to be working locally, and as such, contributing to and boosting the local and regional economies.

D. Employment Levels and Unemployment

Since the publication of the town's Master Plan in 1996, employment opportunities for the Chelmsford workforce have generally remained strong, with very high levels of employment and relatively low unemployment rates. Employment levels consistently increased between 1996 and 1999 but then declined sharply during the economic recession in the early 2000's. The highest levels of employment for the town were in 1999. Prior to the current economic recession, the lowest levels of employment in the town occurred between January 2002 and January 2004. The present economic recession has had a more serious impact on the local labor force than any other economic downturn in the past two decades: between January and May 2009, employment levels have consistently dropped, with the employed and unemployed workforce averaging 17,573 and 1,263, respectively.

Unemployment rates for the same time periods are represented in Figure 2 on below and are consistent with the employment levels discussed above. Examining these rates over time reveals that employment levels were extremely high during the second half of the 1990's, with unemployment rates averaging less than 3%. In the early 2000's, unemployment levels increased, in part due to the layoffs in the information technology and computer manufacturing fields, but then dropped again during the middle of the decade. During the most recent economic recession, unemployment in Chelmsford has more than doubled, rising from 3.3% in May 2008 to 6.8% in May 2009.

Figure 5: Unadjusted Unemployment Rates in Chelmsford and Massachusetts, 1996-2009



Source: Executive Office of Labor and Workforce Development LURR Reports

Given that the majority of the Chelmsford residents work in the region, we can expect that this increase in unemployment is partially due to layoffs occurring across the region. Since January 2008, 1,261 workers in the NMCOG region have been impacted by plant layoffs, 425 of which have been with Chelmsford businesses. Nevertheless, it's important to note that Chelmsford's unemployment rates have remained consistently lower than both the regional and state-wide rates. Table 8 on the following page shows the layoffs by community in the region for the past two years.

Table 8: Layoffs in the NMCOG Region, 2007- 2009

Community	Company	Effective Date	Employees Affected
Billerica	Schott Solar, Inc.*	6/27/2007	200
	Jabil Circuit	3/28/2008	30
	GSI Lumonics Trust, Inc.	4/28/2008	8
	Nutcracker Brands	5/1/2008	90
	Tel Epion, Inc.	4/18/2009	18
	Jabil Circuit	10/31/2008	70
	Jabil Circuit	11/25/2008	20
	Jabil Circuit	In Progress	315
Chelmsford	Mercury Computer Systems	6/28/2007	65
	Daily Racing Form	5/17/2008	7
	Fidelity National Information	5/22/2008	30
	Kronos Inc.	9/30/2008	87
	Potpourri Group, Inc.	12/24/2008	60
	Brooks Automation, Inc.	3/1/2009	190
	Brooks Automation, Inc.	In Progress	51
Lowell	Joan Fabrics	4/27/2007	90
	M/A COM, Inc.	9/30/2007	30
	Adden Furniture	2/19/2008	70
	Microsemi Microwave Products	4/11/2008	8
	Adden Furniture	6/1/2008	13
	Adden Furniture	9/3/2008	15
	Cass Information Services	In Progress	50
Tewksbury	DJ Reardon Company	7/14/2008	56
	Avid Technology, Inc.	12/23/2008	73
Tyngsborough	Joan Fabrics	6/11/2007	25
Westford	Alcatel Lucent	11/30/2007	3

Source: Massachusetts Rapid Response Team

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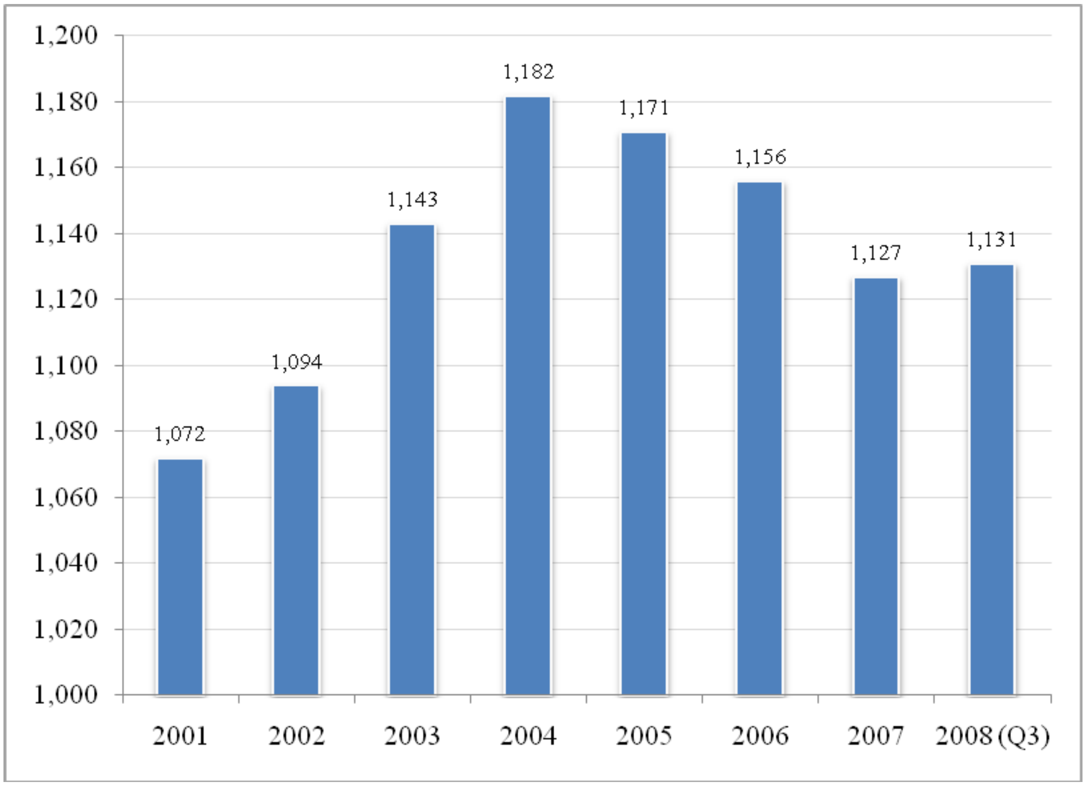
III. Existing Economic and Business Conditions in Chelmsford

This section examines the existing economic and business conditions in town over the past seven years. We begin by analyzing business patterns, including changes in the number of establishments, average monthly employment, and wages. An examination of changes in the industry composition in town is then offered, followed by a discussion of local major employers and some of the characteristics of Chelmsford businesses.

A. Business Patterns in Chelmsford

Trends in the Chelmsford workforce are mirrored by the business patterns of establishments operating in town over the past decade. Figure 6 below illustrates changes in the total number of establishments between 2001 and the third quarter of 2008, while Figure 7 and Figure 8 on the next two pages represent the Average Monthly Employment and Average Weekly Wages for all industries during the same time. As previously discussed, the layoffs in the early 2000's can be seen in the drops in average monthly employment and average weekly wages between 2001 and 2003, although notably, the total number of establishments during those years consistently grew.

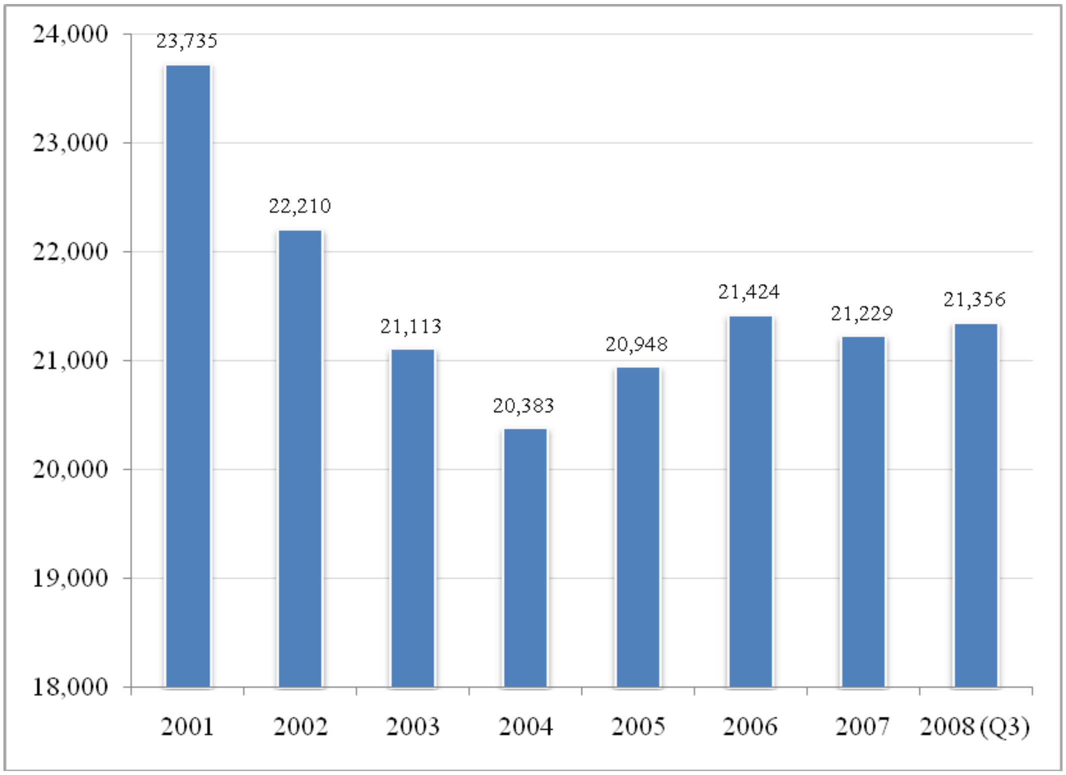
Figure 6: Total Number of Establishments in Chelmsford, 2001-2008 (Q3)



Source: Executive Office of Labor and Workforce Development ES-202 Reports

This trend may indicate a decrease in employment levels at large corporations and growth in the number of small businesses operating in town. Also, although the total number of establishments in town declined every year between 2004 and 2007, there were still 59 more businesses in 2008 than in 2000.

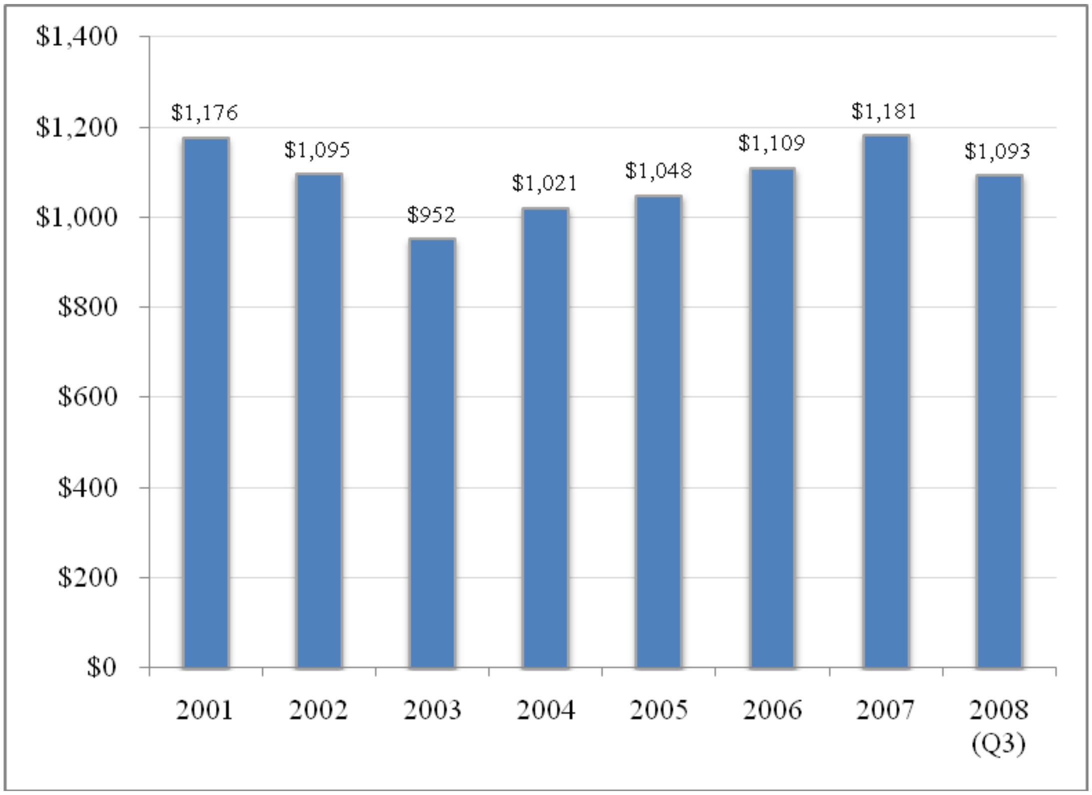
Figure 7: Average Monthly Employment for Chelmsford Establishments, 2001-2008



Source: Executive Office of Labor and Workforce Development ES 202 Reports

Between 2004 and 2007, average weekly wages increased modestly, even though they were only slightly higher than in 2000 ($1,181 and $1,176, respectively). It took a few years to recover from their 2003 low of $952. By the third quarter of 2008, average weekly wages had dropped down to $1,093. These changes are reflected in Figure 8 on the following page.

Figure 8: Average Weekly Wages for Chelmsford Workers, 2001- 2008



Source: Executive Office of Labor and Workforce Development ES-202 Reports

B. Industry Composition

The composition of industries in Chelmsford is diverse, ranging from high tech research and development firms to social services; restaurants to boutiques to utilities contractors. Fewer people from town are employed in manufacturing now than twenty years ago. Employment in the construction, finance, and information technology areas have increased. The same is true for composition of industries operating in Chelmsford, as reflected in Table 9 on the following page.

In terms of the goods-producing domain, manufacturing, both durable and nondurable goods production, declined by one-third (-33.3%). Construction establishments, however, increased by 27.7%, from 101 establishments in 2001 to 129 in 2008. Many of the service- providing industries, such as educational services (11.8%), financial and insurance businesses (14.3%), health care services (18.9%), and accommodation and food services (19%) increased substantially between 2001 and 2008. Service industries experiencing decline during this time frame included wholesale trade establishments, which declined by nearly a quarter (-24.2%) between 2001 and 2008, as well as Real Estate and Leasing (-4.9%), Arts, Entertainment, and Recreation (-14.3%), and Professional and Technical Services (-10.2%). These trends are consistent with larger issues related to the emergence of a service-oriented economy in the 21st century, a trend which has been impacting the region, state, and nation as a whole for the past twenty years.

In addition to the state figures for local industry composition, a data collection firm called ReferenceUSA compiles detailed information about local businesses. This firm breaks down businesses in an area by primary industry code, similar to the state. In the Appendix to this working paper, a series of graphs depict the mix of Chelmsford businesses by general category as well as by industry. The categories include personal services, financial services, wholesale merchants, home-related services and contractors, civil, social and educational services, health services, manufacturing and construction, and retail establishments. ReferenceUSA's database reveals a number of interesting points about local business in Chelmsford, including:

- Within the "personal services" category, there are thirty barber shops/beauty salons, forty-four full service restaurants, and eleven auto repair shops, in addition to services such as caterers, gas stations, laundry and dry cleaning services, and travel agencies.

- There are fourteen commercial banks, ten certified public accountants, fourteen insurance agencies, sixteen investment advice firms, and eleven process and logistics consultant firms.

- There is a diverse range of wholesale merchant establishments in Chelmsford, ranging from industrial machines to petroleum. There are five medical equipment wholesalers and eleven plumbing equipment wholesale merchants in Chelmsford.

- There are seventeen electrical, nine finish carpentry, twenty-three Plumbing and HVAC, and twenty-six single family general contractors in Chelmsford.

- In terms of civic, social, and educational services, there are a range of organizations and firms, including fourteen child care centers, nineteen religious organizations, and seven fine arts schools.

- There are thirty one dentist offices, fifty-six physicians,and six specialty therapists in Chelmsford.

- Manufacturing and construction is a powerful industry in Chelmsford. There are ten commercial building construction, fifteen engineering services, and ten telecommunications services in town.

- Retail establishments provide a range of products to local and regional customers. There are eight clothing and accessory stores, eleven gift shops, seven garden supply and nurseries, and seventeen retail computer and software stores in Chelmsford.

Table 9: Changes in Local Industry Composition, 2001 (Q3) -2008 (Q3)

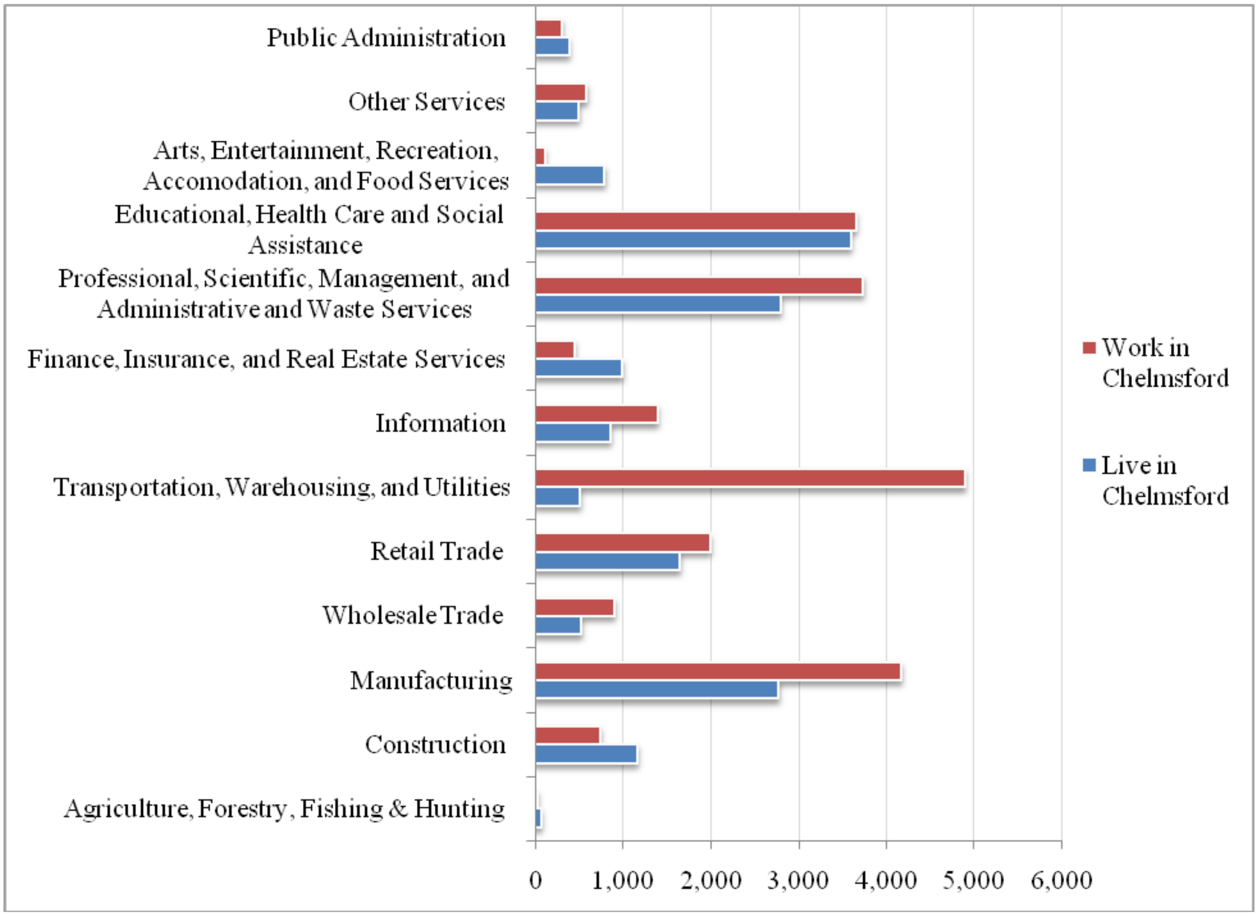
Number of Establishments	2001 (Q3)	2008 (Q3)	Percent Change, 2001 - 2008
Total, All Industries	1,070	1,131	5.7%
Goods-Producing Domain	202	201	-.5%
Agriculture, Forestry, Fishing & Hunting	4	4	0%
Construction	101	129	27.7%
Durable Goods Manufacturing	72	48	-33.3%
Non-Durable Goods Manufacturing	22	18	-33.3%
Service-Providing Domain	868	930	7.1%
Utilities	3	4	33.3%
Wholesale Trade	99	75	-24.2%
Retail Trade	109	107	-1.8%
Information	26	26	0%
Finance and Insurance	42	48	14.3%
Real Estate and Rental and Leasing	41	39	-4.9%
Professional and Technical Services	167	150	-10.2%
Administrative and Waste Services	67	68	1.5%
Educational Services	17	19	11.8%
Health Care and Social Assistance	106	126	18.9%
Arts, Entertainment, and Recreation	14	12	-14.3%
Accommodation and Food Services	63	75	19%
Other Services	87	134	54%
Public Administration	N/A	25	

Source: Executive Office of Labor and Workforce Development ES-202 Reports

In 2008, Chelmsford's Community Development Department produced a series of documents, including an *Economic Development Profile* for the town. One graph compared the industries in which Chelmsford residents are employed to the composition of industries that are operating in Town. Using 2007 data, NMCOG updated this analysis, which is illustrated in Figure 9 on the following page.

Figure 9 reveals that there are far more people working in Chelmsford who are employed in transportation, warehousing, and utilities than there are Chelmsford residents working in these fields. The same is true for information services, retail, and manufacturing, though to a lesser extent than transportation, warehousing, and utilities.

Figure 9: Employment Within Chelmsford vs. Employment of Chelmsford Residents in 2007



Source: American Community Survey 2005-2007,
Executive Office of Labor and Workforce Development ES-202 Reports

C. Major Employers in Chelmsford

Chelmsford is home to a number of major regional employers, including United Postal Service (UPS), Harvard Vanguard, and others. Table 10 on the next page offers a breakdown of the eight largest employers operating in town in both 1994 and 2008. Since 1994, United Postal Service has been the largest employer in Chelmsford, employing 1,550 workers in 2008 (down slightly from 1,600 in 1994). Consumer products manufacturer, Comet Products, has also consistently been included in the list of major employers in town. This table reveals that for the past 15 years, high tech computer manufacturing and service providers have been leaders in town in terms of providing jobs to the local and regional workforce.

Table 10: Major Employers in Chelmsford, 1994 and 2008

1994			2008		
Company	**Employees**	**Industry**	**Company**	**Employees**	**Industry**
United Postal Service	1,600	Local & Long distance freight and delivery	United Postal Service	1,550	Local & Long distance freight and delivery
Town of Chelmsford	878	Local government	Kronos, Inc.	1,251	Computer Hardware and Software
Hewlett Packard	550	Computer hardware	Comcast	714	Telecommunications
Sun Microsystems	350	Computer software and hardware	Natures Jewelry/ Potporri Group, Inc.	500	Catalog Sales
Harvard Community Health Plan	320	Medical practice	Mercury Computer Systems, Inc.	500	Electronic Computers Manufacturing
Comet Products, Inc.	275	Consumer Products	Harvard Vanguard Medical Association	397	Medical Practice
Optronics, Inc.	215	Computer hardware and software	WNA/ Comet Products	335	Consumer Products
Mercury Computer	165	Computer hardware manufacturing	Cintas, The Uniform People	300	Uniform Supply Service

Source: Town of Chelmsford Community Development Department Economic Development Profile

*Kronos, Incorporated laid off 87 employees in September 2008

D. Wages

Although the number of manufacturing businesses in Chelmsford has declined over the years, manufacturing continues to be the leading source for wages among industries operating in the town. Table 11 on the next page reflects the total wages earned for all industries operating in Chelmsford between 2001 and 2007. Although wages from manufacturing dropped approximately 39% between 2001 and 2007, the total wages received through manufacturing jobs located in Chelmsford in 2007 was $354,444,524, approximately 55% more than the second highest wage generating industry (professional and technical services with wages totaling $227,590,557). Other industries that have consistently provided significant wages are wholesale trade, information services, and health care/social assistance.

Table 11: Total Wages Paid to Employees within Specific Industries

	2001	2007
Total, All Industries	$1,452,008,798	$1,303,886,693
Goods-Producing Domain	$636,424,445	$425,932,789
Agriculture, Forestry, Fishing & Hunting	$635,219	$1,157,559
Construction	$22,200,451	$37,173,713
Durable Goods Manufacturing	$583,805,136	$354,444,524
Non-Durable Goods Manufacturing	$23,339,490	$33,156,994
Service-Providing Domain	$815,584,352	$877,953,904
Utilities	$1,122,046	$2,205,746
Wholesale Trade	$64,503,742	$85,729,114
Retail Trade	$31,993,645	$59,121,525
Information	$92,812,508	$108,608,880
Finance and Insurance	$17,402,473	$14,997,403
Real Estate and Rental and Leasing	$5,934,255	$6,833,985
Professional and Technical Services	$346,626,617	$227,590,557
Administrative and Waste Services	$35,727,946	$71,156,379
Educational Services	$43,575,425	$59,089,810
Health Care and Social Assistance	$55,148,433	$86,337,529
Arts, Entertainment, and Recreation	$1,675,587	$1,665,593
Accommodation and Food Services	$19,828,794	$17,074,587
Other Services	$10,742,593	$18,893,184

Source: Executive Office of Labor and Workforce Development ES 202 Reports

E. Local Business Characteristics

The data collection firm ReferenceUSA[1], which compiles detailed information about local businesses across the United States reported that as of May 2009 there were 1,359 businesses operating in Chelmsford. This number is 228 higher than the data provided by the Executive Office of Labor and Workforce Development *ES-202 Reports*. This difference may be partially attributed to new businesses that have opened up since the state compiled their third quarter 2008 data. Additionally, ReferenceUSA's databases include municipal departments, state organizations, and individuals who may work independently for a larger company.

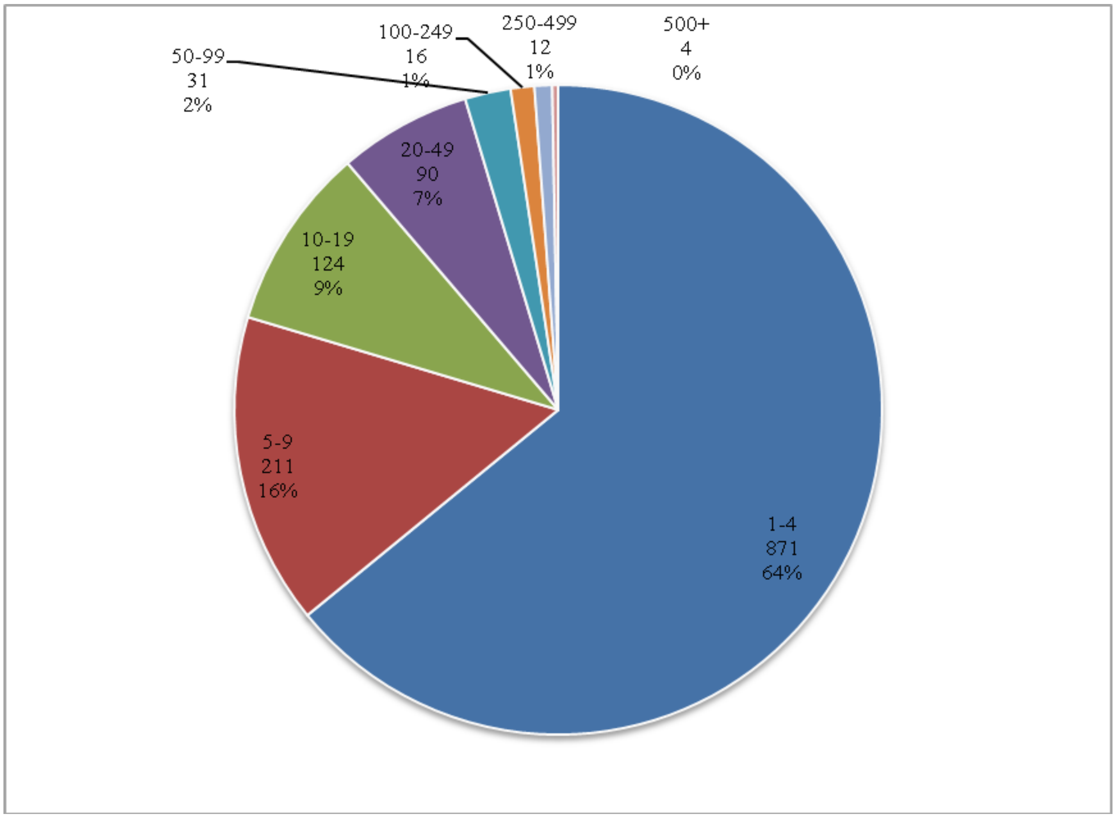
1. Number of Employees

According to this database, 89% of businesses operating in Chelmsford have less than twenty employees, with 64% of all businesses employing between one and four workers (Figure 10). The town does have its fair share of larger businesses, however, hosting approximately 18% of

[1] For more information about ReferenceUSA's data collection method, visit: http://referenceusa.com/Static/DataQuality

all the businesses in the NMCOG region that employ 100 or more workers. Approximately 85% (1,164) are independently owned, single location businesses; another 13% (178) are branches, and headquarters and subsidiaries each make up 1% (10), respectively.

Figure 10: Number of Employees for All Chelmsford Businesses

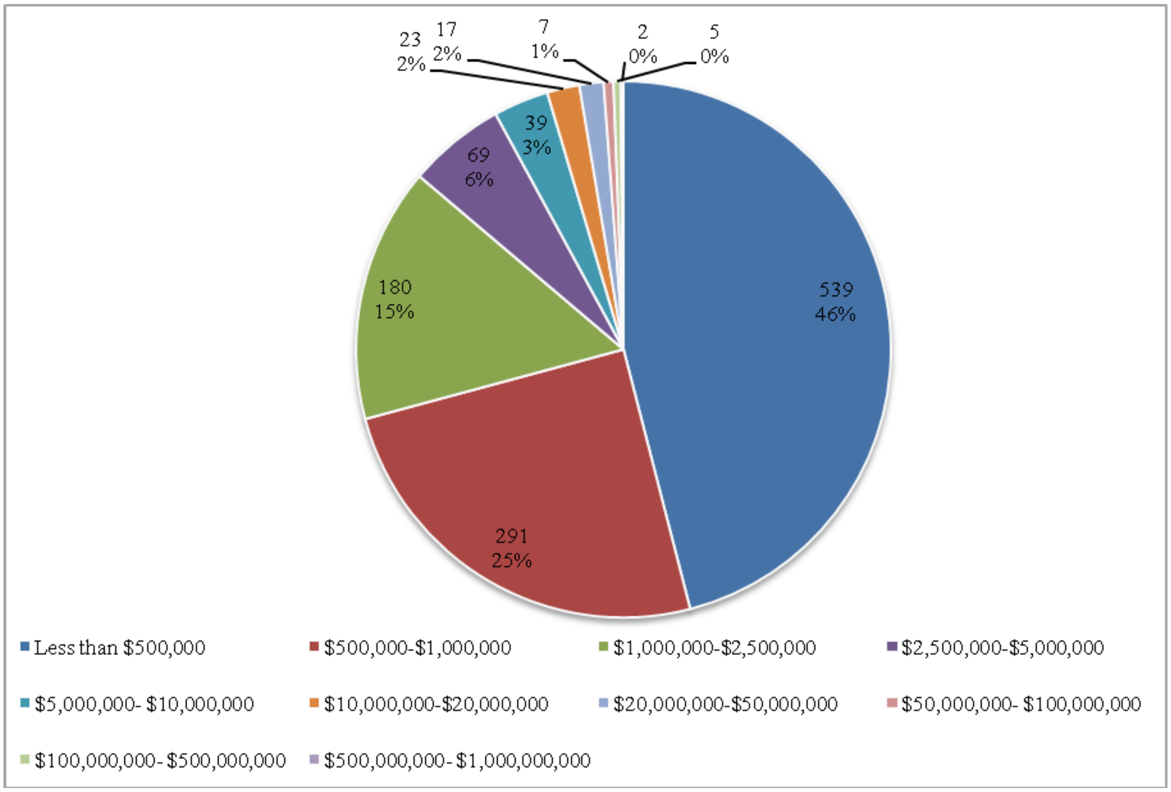


Source: ReferenceUSA (May 2009)

2. Sales Volumes

Another important business indicator is the sales volumes for establishments operating in town. According to ReferenceUSA, slightly fewer than half of local businesses gross less than $500,000 per year in sales; another quarter gross between $500,000 and $1 million. Very few exceed sales of $10,000,000, however there are a handful of businesses grossing upwards of one billion dollars annually, as illustrated in Figure 11 on the next page.

Figure 11: Sales Volumes for All Chelmsford Businesses



Source: ReferenceUSA (May 2009)

F. Municipal Taxation and Spending

Compared to communities in the region, Chelmsford has the third highest percentage of commercial and industrially-zoned land of the nine communities in the NMCOG region, after Billerica and Lowell. Additionally, the town has a single-rate tax policy, which many companies consider to be an advantage to locating in the town (CCD Business Survey, *Chelmsford Economic Development Guide*). In Fiscal Year 2009, Chelmsford had the fourth lowest commercial and industrial taxation rates in the region, making the town an attractive location for businesses and industries looking to locate in the Greater Lowell area. These tax rates are illustrated in Table 12 on the following page.

Table 12: Chelmsford's Tax Rates Compared to Communities in the NMCOG Region, Fiscal Year 2009

Community	Residential	Open Space	Commercial	Industrial	Personal Property
Billerica	$11.55	-	$26.22	$26.22	$26.22
Chelmsford	**$14.07**	**-**	**$14.07**	**$14.07**	**$14.07**
Dracut	$10.00	-	$10.86	$10.86	$10.86
Dunstable	$10.86	-	$12.97	$12.97	$12.97
Lowell	$12.97	-	$23.76	$23.76	$23.76
Pepperell	$11.68	-	$10.87	$10.87	$10.87
Tewksbury	$10.87	$11.35	$19.77	$19.77	$19.77
Tyngsborough	$11.35	-	$12.55	$12.55	$12.55
Westford	$13.97	-	$14.15	$14.15	$13.97

Source: Massachusetts Department of Revenue Division of Local Services

According to the Massachusetts Department of Revenue's Division of Local Services, $71,349,239 in property taxes were levied on property owners during fiscal year 2009. Approximately 80.5% of these taxes were obtained through residential properties, which had a total assessed value of about $4.1 million. Commercial and industrial properties each yielded slightly less than $6 million each, as illustrated in Table 13. According to the town's FY 2009 assessor's database, just over 2,317 acres of land were exempt from paying property taxes, being either publicly owned or owned by a nonprofit.

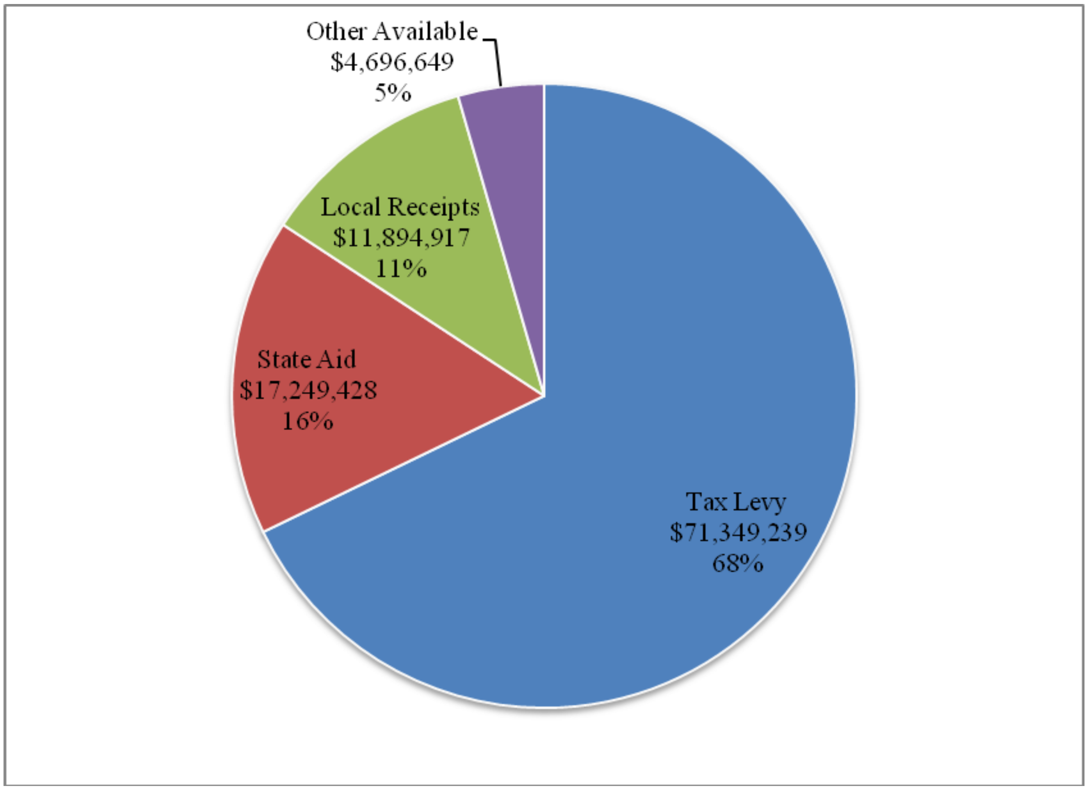
Table 13: Fiscal Year 2009 Tax Classification

Tax Classification	Assessed Values	Tax Levy	Tax Rate
Residential	$4,082,445,805	$57,440,012	14.07%
Open Space	$0	$0	0
Commercial	$424,149,480	$5,967,783	14.07%
Industrial	$408,552,600	$5,748,335	14.07%
Personal Property	$155,871,260	$2,193,109	14.07%
Total	**$5,071,019,145**	**$71,349,239**	

Source: Massachusetts Department of Revenue Division of Local Services Community Profile 2009

Like every other municipality in the Commonwealth that depends on state and federal monies to fund local initiatives, Chelmsford has been affected and will continue to feel constraints to their annual operating budgets due to the economic recession afflicting the United States. Figure 12, however, illustrates the breakdown of municipal revenue sources for fiscal year 2009. More than two-thirds of the town's budget came from taxes levied, while 16% came from state sources and 11% from local receipts.

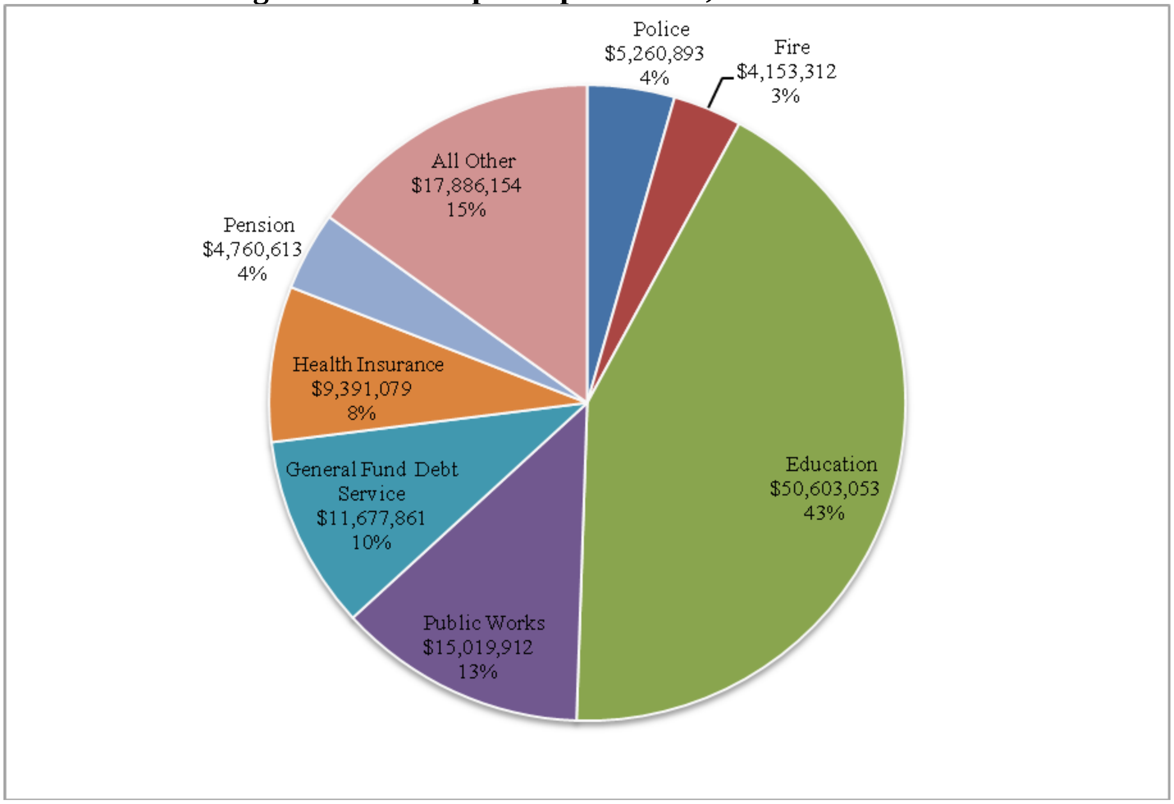
Figure 12: Municipal Revenue Sources, Fiscal Year 2009



Source: Massachusetts Department of Revenue Division of Local Services Community Profile 2009

Local programs such as education and public works projects, which in fiscal year 2008 made up 43% and 13% of total municipal expenditures in FY 2008, are reflected in Figure 13 on the next page.

Figure 13: Municipal Expenditures, Fiscal Year 2008



Source: Massachusetts Department of Revenue Division of Local Services Community Profile 2009

III. Community Assets and Liabilities

In assessing the economic development potential of a community, it is important to determine what the assets and liabilities of a community are through the perspective of the business community. The Northern Middlesex Council of Governments (NMCOG) worked with the Master Plan Committee to schedule a Visioning Session specifically for the business community as part of this outreach process. Through the combined efforts of the Master Plan Committee, NMCOG, the Chelmsford Business Association (CBA) and the Greater Lowell Chamber of Commerce, members of the business community were contacted. The Chelmsford Business Vision Quest 2020 was held on May 6, 2009 at the Chelmsford Police Station and was well attended. The event was also covered by the local cable channel so that other business representatives could submit their comments directly to the Master Plan Committee or the Community Development Department.

The Chelmsford Business Forum was structured to provide an overview of the Chelmsford Comprehensive Master Plan Update process, describe the components of this plan and demonstrate how the economic development section ties in with NMCOG's regional economic development planning process under the Comprehensive Economic Development Strategy (CEDS) established by the Economic Development Administration (EDA) of the U.S. Department of Commerce. The SWOT (Strengths, Weaknesses, Opportunities and Threats)

Analysis conducted by NMCOG enabled the representatives of the business community to express their ideas, concerns, suggestions and recommendations within a structured framework. The strengths and weaknesses outlined below summarize the assets and liabilities of the community.

In response to the following question: "What are the strengths and weaknesses of doing business in Chelmsford ?", the business participants initially focused upon the town's strengths related to its location, workforce, infrastructure and working relationship with the town. The major strengths identified were as follows:

Strengths

- Proximity to 1-495 and Route 3 and availability of sewer
- Chelmsford Business Association
- Location in region and state
- Professional planning staff at town hall
- Improved communication between the Town and business community
- Variety/depth/types of businesses: diversity of industry types
- Educated labor force
- Responsive Building Department for permitting and approvals
- Proximity to UMass Lowell
- Single tax rate
- History of high quality of life/livability
- Representative Town Meeting form of government
- Number of state representatives
- Access to commuter rail service

When focusing upon the weaknesses within the community, the participants identified permitting issues before the Planning Board and Zoning Board of Appeals, transportation issues (public transit, parking, traffic, etc.), redevelopment issues, enforcement standards, taxes (vis-à-vis New Hampshire) and housing as the principal weaknesses. The major weaknesses were identified as follows:

Weaknesses

- Lack of predictability/uniformity from Planning Board
- Excessive parking requirements for businesses over 10,000 square feet
- Use variances, shifted from ZBA to Town Meeting, can take one year
- Being represented by four state representatives
- Length of permitting approval process and timing of board/commission meetings
- Lack of enforcement of sign bylaw
- Ad hoc signs on utility poles are not removed in a timely manner
- Existing buildings may not meet current needs of businesses; mismatch between what is available for redevelopment and market demand
- Lack of definition of "center of excellence"; strength and character of the community is not well-defined
- Lack of public transit service to the commuter rail station
- Lack of parking in the Town Center

- Lack of an overlay district along Route 110 and Town Center to support redevelopment; need to address what is allowed by special permit vs. variance
- Need to create overlay district with design standards similar to what is in place in Wilmington
- Lack of undeveloped land zoned for industrial use
- Mixed use is not allowed in Town Center
- Need infill housing
- Lack of foot traffic in business areas
- Disadvantage from a tax perspective due to proximity to New Hampshire
- Town does not hold itself to the same standards as the business community

The business participants were then asked: What opportunities should Chelmsford take advantage of to stabilize and expand its business community? The business community identified many opportunities for the Town of Chelmsford, including funding, internet/WiFi services, the commuter rail station in Vinal Square, redevelopment of various properties in the Center Village and Vinal Square, one-stop permitting opportunities, landscape improvements and networking opportunities through the Chelmsford Business Association and the Greater Lowell Chamber of Commerce. The major opportunities were identified as follows:

Opportunities

- UMass Lowell spinoffs and incubator model could be tapped for redeveloping existing buildings
- Verizon FIOS service
- Free WiFi in Town Center
- UMass Lowell Center for Sustainability could assist with efforts to redevelop North Chelmsford
- Grant money under the Green Communities Act
- Grants/monies available through the American Recovery and Reinvestment Act (aka the Stimulus Bill)
- Grant person at Town Hall to identify the various funding sources available
- Commuter rail station in North Chelmsford/opportunity for redevelopment of Vinal Square
- Better pedestrian accommodations in Vinal Square
- Apply Village Center concept to additional areas of town
- Engage interns from colleges and universities with training in planning and public administration
- Redevelop mills in North Chelmsford and redevelop portions of the Town Center
- Redevelop UMass Lowell West Campus
- Sites selected for redevelopment need additional trees and landscape improvements
- Additional landscaping and plantings are needed in the Town Center
- Need to define uses for vacant properties and buildings
- A market study should be considered as part of the Master Plan
- Availability of data lacking, particularly information regarding home occupations/selfemployed
- Permitting requirements for home businesses should be clarified
- Need one-stop shopping for permitting

- Town-owned property on Wilson Street should be redeveloped under a land lease agreement
- Create a small business center
- Businesses should better utilize networking opportunities through the Chelmsford Business Association and the Greater Lowell Chamber of Commerce

The business participants were then asked: What future threats do you see to the business community in Chelmsford? The major threats identified by the business community were local and state taxes, the cost of health insurance, traffic congestion, limitations on the use of land, limited funding and the lack of definition by the town as to the types of industries it wants to attract. Here's a complete list of the threats that were identified:

Threats

- Traffic congestion in the town center
- Local property taxes
- Limitations of uses of land, unreasonable landscaping requirements, and limits on density of development
- Chelmsford does not receive its fair share of local, particularly monies received through the state school aid funding formula (Chapter 70)
- Having four state representatives
- State taxes
- Cost of health insurance (for the Town); municipalities should have the same rights as the State to insure their employees through GIC
- Lack of definition of industries desired by the town contributes to conflicts in permitting and zoning
- Health insurance costs for businesses due to a lack of state regulation of the insurance industry in terms of allowed rate increases; perhaps businesses can be allowed to join the GIC

Finally, the business participants were asked: What can the Master Plan do to address your concerns? The two major suggestions were as follows:

- Create stability by focusing on what exists presently, preventing additional urbanization, density and traffic
- Promote partnerships with the State, such as providing additional tax incentives for job creation and seeking state funding to grow local businesses

IV. Infrastructure Analysis

This section examines the existing sewer, water supply, and utilities infrastructure in town. By understanding present capacity, we can begin to assess what additional infrastructure improvements will be necessary to accommodate economic development in the future.

A. Sewer Capacity and Wastewater Management

The provision of adequate sewer infrastructure greatly enhances the economic development potential of a town. Beginning in 1984, the town embarked on an $800 million dollar initiative to provide public sewers for residences and businesses. Between 1986 and 2005, 22 bonds worth a total of $108,900,000 were issued to cover the cost of design and construction for 36 sewer construction contracts (Phase 1A [Contract 85-1] through Phase 4E[Contract 02-1]). In November 2007, the first ten bonds, totaling approximately $36,667,000, had been retired, with the remaining twelve bonds (totaling $72,150,000) set to retire between 2008 and 2025.

Additionally, in 2003 a special town meeting authorized an expenditure of $5M from the town's betterment account to fund Contract 02-2. One year later, another special town meeting authorized a $16.5M expenditure to fund four additional contracts (Phase 4F and 4G). At the April 2007 town meeting, a $0.50 user charge rate increase was approved in order to fund an $11M deficit in the 2004 betterment authorization. As of September 2008, approximately 93% of the town's sewer program had been completed, through the construction of 170 miles of sewer infrastructure which serves approximately 11,200 properties across town.

Efforts have been focused primarily on residential areas in town, although the ultimate goal is to provide infrastructure to all sections of town, especially given the importance of sewer to businesses development. As of March 2008, approximately 20 additional miles of sewer line, fronting 865 improved properties, remained to be installed. The areas remaining to be sewered include the Park Road/Cambridge Street and Moore Street/ Ledge Road areas. The estimated price tag for the remaining portion is estimated at $12.5 million, to be funded through a combination of betterments and a sewer user surcharge.
In its March 2008 Sewer Project Update presentation, the town reported that the average residential home produces approximately 65,000 gallons of wastewater per year. In Fiscal Year 2008, the residential sewer rate in town was $3.20/ 1,000 gallons, amounting to an average annual bill of $208. Compared to the rest of the region, Chelmsford's sewerage costs fell in the middle, with some communities, such as Billerica and Lowell, instituting lower rates ($2.46/ 1,000 gallons for both municipalities), and others instituting higher rates (Tewksbury charges $9.35/1,000 gallons while Dracut has a flat fee of $300 per annum for sewer services). The update called for another raise in the rate for Fiscal Year 2009 in order to help cover capital expenses. The proposed increase was $.77, or $3.97/1,000 gallons. This hike would increase the average annual bill to $258 for an average single family home.

Sewerage effluent is pumped and treated at the Greater Lowell Wastewater Utility-- a facility that treats waste from Lowell, Tewksbury, Dracut, and Tyngsborough, and Chelmsford. This partnership between the town and the City of Lowell was enacted through a 30-year contract which began in 1986 and is slated to expire in 2016. The 2008 *Economic Development Plan* for Chelmsford assessed usage rates in order to determine the existing and future capacity of this system. According to the plan, the Town of Chelmsford has purchased 3,010,000 gallons per day of average daily flow sewer capacity from the Greater Lowell Wastewater Utility. The Town has, in turn, sold 350,000 gallons of that capacity to the Town of Tyngsborough. This leaves Chelmsford with a remaining capacity of approximately 2,660,000 gallons per day. The current flow sent to the Greater Lowell plant is approximately 2,450,000 gallons per day (50,000 comes from Tyngsborough). Average and total sewer flow data for 2006 through 2008 is represented in Table 14, while Table 15 provides data about the plant's capacity relative to the town's usage.

Table 14: Sewer Flow in Chelmsford, 2006-2008

Year	Plant: Inf Flow (MG)		Plant: Eff Flow		Daily Plant Inf Flow		Daily Plant Eff Flow	
	Average	Total	Average	Total	Average	Total	Average	Total
2006	N/A	N/A	1,021.00	12,250.63	N/A	N/A	33.59	403.1
2007	N/A	N/A	951.00	11,415.20	N/A	N/A	31.25	374.98
2008	1,154.75	13,857.01	1,067.22	12,806.66	38.05	456.66	35.17	421.98

Source: Greater Lowell Regional Water Utility

Table 15: Town and Plant Flow, 2006-2008

Year	Town Flow		Daily Town Flow	Town Allotment	Percent of Town Allotment	Percent of Plant Flow
	Average	Total	Average	Total	Average	Average
2006	73.1	877.25	2.4 million	3.01 million	79.88%	7.38%
2007	68.66	823.89	2.3 million	3.01 million	74.99%	7.40%
2008	75.82	909.78	2.5 million	3.01 million	82.97%	7.24%

Source: Greater Lowell Regional Water Utility

With approximately 1,000 homes left to connect to the system, the 2008 plan determined that Chelmsford is running out of capacity. Presently, the town is in the process of assessing different strategies for increasing wastewater treatment capacity, including partnering with Billerica, which also has a facility, or creating a sewer "bank," which involves implementing a variety of water conservation measures with the ultimate goal of reducing demand for the resource. The town will also attempt to work with the Greater Lowell Regional Water utility to determine what other options are available.

B. Public Water Supplies

Approximately 95% of the town is serviced by public water systems through one of three water districts – Chelmsford Water District; North Chelmsford Water District and the East Chelmsford Water District. This section examines the specific characteristics of these three supplies, including usage and capacity issues, fee structures, and environmental profiles.

1. Chelmsford Water District

A. User Demand and District Capacity

The Chelmsford Water District pumps water from 15 wells, with a combined yield of 5,800 gallons per minute. The District serves approximately 7,900 customers. The Chelmsford Water District also sells 26.7 million gallons of water to the East Chelmsford Water District.

The most significant constraint on resources that was identified by representatives of the Chelmsford Water District is the potential passing of House Bill 834 ("The Sustainable Water

Resources Act"). This bill, which is intended to promote the sustainable consumption of water resources and protect aquatic ecosystems[2], is seen as a major threat to water district capacity, as its passage will mandate new water withdrawl standards and effectively put a moratorium on new connections within the districts.

Spoke with Tom Melanson on 7/20. He provided me info about this legislation and will also email me some per capita consumption data once approved by his Superintendent.

B. Water District Fee Structures

Table 16 illustrates water usage rates in 2009 for Chelmsford Water District customers. The District charges a minimum fee of $33.60 per quarter for up to 7,000 gallons of usage, and charges rates per 1,000 gallons thereafter. Usage between 7,001 and 25,000 gallons is charged at the rate of $4.80 per1,000 gallons; 25,001 to 50,000 gallons is charged at the rate of $5.75 per 1,000 gallons, and anything more than 50,000 gallons is charged at the rate of $7.25 per 1,000 gallons.

Table 16: Water Usage Rates in the Chelmsford Water District, 2009

Level	Usage	Rate
Minimum Charge	0-7,000 gallons	$33.60
Step 1	7,001 – 25,000 gallons	$4.80 per 1,000 gallons
Step 2	25,001 – 50,000 gallons	$5.75 per 1,000 gallons
Step 3	More than 50,000 gallons	$7.25 per 1,000 gallons

Source: Chelmsford Water District 2009

New service connection rates for Chelmsford Water District customers are determined by the size of the pipe being connected to the water supply. One and a half-inch pipes are connected for a $2,500 fee, which also applies to multiple dwellings also, as reflected in Table 17 below. Two, four, and six-inch pipes are connected to the water supply at fees of $3,500, $7,500, and $10,000, respectively.

Table 17: New Service Connection Rates, 2009

Pipe Size	Fee
Up to 1.5"	$2,500
Multiple Dwellings	$2,500per unit
2"	$3,500
4"	$7,500
6"	$10,000

Source: Chelmsford Water District, 2009

Debt bond fees are charged by the district on a quarterly basis, and are determined by pipe size. These rates are represented in Table 18 on the next page, and range from $33 per quarter for 0.75" pipes to $300 per quarter for 6" pipes.

[2] For full text of the proposed legislation, visit: http://massriversalliance.org/SustainableWaterResources.pdf

Table 18: Debt Bond Fee in 2009

Pipe Size	Per Quarter
.75"	$33
1"	$62
1.5"	$82
2"	$104
3"	$150
4"	$200
6"	$300

Source: Chelmsford Water District, 2009
Note: Multiple Dwelling Services $33/ unit

One of the services provided by the water districts in Chelmsford is a fire protection demand analysis. The fee for this service is determined by the size of the building being constructed, and ranges from $650 for a building under 20,000 square feet to $3,900 for a building larger than 100,000 square feet. The fee structure for fire protection demand analyses for new constructions is illustrated in Table 19.

Table 19: Fire Protection Demand Charges for New Constructions, 2009

Building Size	Fee
Up to 19,999 sq ft	$650
20,000 to 39,999 sq ft	$1,300
40,000 to 59,999 sq ft	$1,950
60,000 to 79,999 sq ft	$2,600
80,000 to 99,999 sq ft	$3,250
More than 100,000 sq ft	$3,900

Source: Chelmsford Water District, 2009

Another fire protection-related service provided by the water districts in town is an annual fire protection sprinkler system service. These charges are listed in Table 20 on the next page. The fees for this service are also determined by the size of the building, and range from $130 for buildings smaller than 10,000 square feet to $1,560 for buildings larger than 200,000 square feet.

Table 20: Annual Fire Protection Sprinkler System Fees, 2009

Area of Building	Chelmsford Water District
Up to 9,999 sq ft	$130
10,000 to 19,999 sq ft	$195
20,000 to 29,999 sq ft	$260
30,000 to 39,999 sq ft	$325
40,000 to 49,000 sq ft	$390
50,000 to 59,999 sq ft	$455
60,000 to 69,999 sq ft	$520
70,000 to 79,999 sq ft	$585
80,000 to 89,999 q ft	$650
90,000 to 99,999 sq ft	$715
100,000 to 149,999 sq ft	$1,040
150,000 to 199,999 sq ft	$1,332
More than 200,000 sq ft	$1,560

Source: Chelmsford Water District, 2009

C. Environmental Quality of the District

All fifteen of the wells in this district are located in two separate Zone II water supply protection areas, and each also has a 400-foot Zone I radius. Because of a lack of subsurface hydrogeologic barriers (i.e. clay) which helps prevent contaminant migration, the fifteen wells are considered to be located in an aquifer with a *high* vulnerability of contamination. Presently, two of the wells—both located on Canal Street—are reserved for emergency purposes only; however, it is expected that both will soon be returned to regular productive use.

According to the District's 2004 *Source Water Assessment and Protection Report*, numerous potentially contaminating land uses are located within the Zone II water supply protection boundaries. These include agricultural activities-- such as fertilizer storage facilities and commercial nurseries; commercial uses, including, but not limited to, a body shop, several gas stations, bus and truck terminals, dry cleaners, and a rail yard; industrial uses, including an asphalt plant, chemical manufacturer and storage center, and an electroplater; and a variety of residential and miscellaneous environmental threats. There are more than 35 underground storage tanks located within the protection boundaries, and five Tier-Classified 21-E (brownfield) sites, including the Silicon Transistor Corporation site, which is classified as a Tier 1A site.[3] The Silicon Transistor Corporation site is located less than 1,000 yards from two separate Chelmsford Water District wells. The road network that traverses these two districts also poses a threat, as roadsides are often where hazardous materials are dumped illegally, and stormwater runoff contains a number of pollutants.

Given the susceptibility of the water supply protection areas in Chelmsford, the Massachusetts Department of Environment (DEP) has offered a number of planning strategies which could be

[3] Tier IA sites pose the highest level of risk, with a release receiving a total score equal to or greater than 550. These sites/releases require a permit and the person undertaking response actions must do so under direct MassDEP supervision.

employed to help mitigate the risk of groundwater contamination in town. In terms of transportation corridor issues, the state recommended partnering with neighboring water districts to submit formal requests to the Massachusetts Highway Department and the town of Chelmsford to have areas of the roadways designated as “Low Salt Areas”. A second strategy articulated was to design stormwater drainage systems along the main corridors, particularly Route 3. Similar to the road network strategies, the state recommended that a best management practices plan be instituted for the rail right-of-ways to address herbicide and pesticides overuse and help mitigate the negative impacts of cargo spills and leaks on the tracks.

In terms of the threat of environmental contamination from businesses operating in the water supply protection areas, Massachusetts DEP recommends that the water district work with local business owners to train them in the proper use, disposal, and emergency response to hazardous materials that they handle in their daily operations. Ultimately, a Best Management Practices and Inspection program would be devised to ensure that businesses are properly handling, storing, and disposing of hazardous chemicals and pollutants.

2. East Chelmsford Water District

A. User Demand and District Capacity

The East Chelmsford Water District owns two wells located on Canal Street with a combined yield of 700 gallons per minute. The District serves approximately 700 customers, including 324 residences and 70 businesses. East Chelmsford is fairly built out, and at this point no capacity constraints are being experienced by the District. There are two residential properties located at 243 and 62 River Neck Road which could potentially be developed and impact the capacity of the District. There are also two commercial properties, located on Route 129 and Mill Road, which could be developed. The owners of these properties purchased them more than ten years ago, but have not developed them due to the state of the economy. The District expects that once the real estate development rebounds, these properties will be developed and the District will experience an increased demand for services.

B. Water District Fee Structures

Waiting on this data as of 7/20/09.

C. Environmental Quality of the District

Like the two other districts operating in town, the East Chelmsford Water District’s wells are considered to be at high risk for contamination, especially from roadway stormwater runoff and from local businesses using hazardous materials in their operations. The recommendations for mitigating these risks are identical to those described with the other two districts: improving stormwater runoff through roadside capture basins and other low-impact design (LID) techniques, formally requesting that some roads be designated for “Low Salt Use,” and partnering with business owners to train them in the proper use, handling, and disposal of chemicals.

3. North Chelmsford Water District

A. Use Demand and District Capacity

The North Chelmsford Water District owns four wells within the Bomil Wellfield off Richardson Road, with a combined yield of approximately 1,450 gallons per minute. The District serves approximately 2,400 customers. In June 2009, the district received the regulatory approval to move forward with constructing a new, 13,000 ft^2, $7.8 million dollar treatment plant intended to improve the quality of drinking water for North Chelmsford residents and reduce the district's dependence on the City of Lowell for drinking water.
Waiting on additional information about demand and capacity. Emailed list of questions to Superintendent Bruce Harper on 7/21, per his request. Will update this information ASAP.

B. Water District Fee Structures

Residential properties are allowed 15,000 gallons every six months. Meters are read and customers billed for their usage biannually. The minimum charge for 15,000 gallons is $65, and an additional $3.50 per 1,000 gallons is charged in excess of 15,000 gallons. Commercial and industrial properties, on the other hand, have a 20,000 gallon minimum usage per quarter at a rate of $65.00 per quarter. Excess usage is billed at the rate of $3.50 per 1,000 gallons in excess of the minimum 20,000 gallon allowance. Buildings containing more than one unit are billed at $65.00 per unit, per quarter, and allowed 20,000 gallons per unit or actual water usage, whichever is greater.

The North Chelmsford Water District charges a domestic demand charge for customers based on their water pipe charge. These rates are depicted below in Table 21, and range from $3,000 for a three-quarter inch pipe to $6,000 for a six inch pipe. Multiple dwellings on a site, whether residential or commercial, are charged a $3,000 hook-up fee.

Table 21: Demand Charge by Water Pipe Size, 2009

Pipe Size	Domestic Demand Charge
0.75"	$3,000
1"	$3,000
1.5"	$4,000
2"	$4,000
4"	$4,000
6"	$4,000
Multi-dwellings (Residential or Commercial, per unit)	$3,000

Source: North Chelmsford Water District 2009

Unlike the Chelmsford Water District, which charges the same bond debt fee for residential and commercial customers, the North Chelmsford Water District has configured rates for residential, commercial, and hotel customers. Like the other two districts, these fees are determined by pipe size. For residential customers, fees range from $60 biannually for 5/8' or ¾"-inch pipes to $175 for 4" pipes. Commercial and hotel rates range from $50 to $175 per quarter. These rates are illustrated in Table 22 on the next page.

Table 22: Bond Debt Fees for Residential, Commercial, and Hotel Properties, 2009

Pipe Size	Residential	Commercial	Hotel
5/8" or 3/4"	$60	$50	$50
1"	$75	$75	$75
1.5"	$100	$100	$100
2"	$125	$175	$175
3"	$150	$175	$175
4"	$175	$175	$175

Source: North Chelmsford Water District 2009

The North Chelmsford District provides a Sprinkler Demand service for new constructions similar to the other two districts. The fee for this service is determined by the size of the new construction, and ranges from $3,000for a building smaller than 20,000 square feet to $8,000 for a building larger than 100,000.00 square feet. These rates are listed in Table 23 below.

Table 23: Sprinkler Demand Charges, 2009

Building Size	Fee
Up to 19,999 sq ft	$3,000
20,000 to 39,999 sq ft	$4,000
40,000 to 59,999 sq ft	$5,000
60,000 to 79,999 sq ft	$6,000
80,000 to 99,999 sq ft	$7,000
More than 100,000 sq ft	$8,000

Source: North Chelmsford Water District, 2009

The North Chelmsford Water District also offers an Annual Fire Protection Sprinkler System service to its customers, whose fee is based on building size. Fees range from $200 annually for buildings with an area smaller than 10,000 square feet to $1,500 annually for buildings larger than 200,000 square feet. Table 24 summarizes the 2009 fee structure for this service.

Table 24: Annual Fire Protection Sprinkler System Fees, 2009

Area of Building	Fee
Up to 9,999 sq ft	$200
10,000 to 19,999 sq ft	$220
20,000 to 29,999 sq ft	$240
30,000 to 39,999 sq ft	$300
40,000 to 49,000 sq ft	$360
50,000 to 59,999 sq ft	$420
60,000 to 69,999 sq ft	$480
70,000 to 79,999 sq ft	$540
80,000 to 89,999 q ft	$600
90,000 to 99,999 sq ft	$660
100,000 to 149,999 sq ft	$960
150,000 to 199,999 sq ft	$1,230.00
More than 200,000 sq ft	$1,500.00

Source: North Chelmsford Water District, 2009

In addition to a land use-based bond debt fee (residential, commercial, or hotel), the North Chelmsford Water District charges a sprinkler bond debt fee, based on the area of a building. These fees are billed quarterly and range from $50 per quarter for buildings smaller than 10,000 square feet to $1,250per quarter for buildings larger than 250,000 square feet. The fee structure for this service is provided in Table 25.

Table 25: Sprinkler Bond Debt Fees, 2009

Area of Building	Fee
Up to 9,999 sq ft	$50.00
10,000 to 19,999 sq ft	$100.00
20,000 to 29,999 sq ft	$150.00
30,000 to 39,999 sq ft	$200.00
40,000 to 49,000 sq ft	$250.00
50,000 to 59,999 sq ft	$300.00
60,000 to 69,999 sq ft	$350.00
70,000 to 79,999 sq ft	$400.00
80,000 to 89,999 q ft	$450.00
90,000 to 99,999 sq ft	$500.00
100,000 to 149,999 sq ft	$750.00
150,000 to 199,999 sq ft	$1,000.00
200,000 t0 249,999 sq ft	$1,125.00
More than 250,000 sq ft	$1,250.00

Source: North Chelmsford Water District, 2009

C. Environmental Quality of the District

Similar to the wells operated by the Chelmsford Water District, the North Chelmsford Water District water supply is designated at high risk for contamination because of a lack of hydrogeologic barriers and because of the mix of commercial, industrial, residential, and transportation uses within the Zone II protection area. Many of the key issues and planning strategies identified in the Chelmsford Water District's *Source Water Assessment and Protection Plan* are applicable for the North Chelmsford Water District, especially in terms of transportation corridors, rail rights-of-way, and local business owners. However, the North Chelmsford report incorporates an action plan for mitigating pollution and runoff caused by improper road salt storage facilities, one of which is located in the wellhead protection areas for the district.

C. Utilities and Telecommunications

Chelmsford is well serviced in terms of utilities and telecommunications. Gas and electricity are provided by National Grid, while Comcast provides cable and cable internet services to residents and business owners in town. Table 26 depicts the pricing scheme for energy delivery services. These service rates are for small commercial and industrial customers with average usage less than 10,000 kWh per month or 200 kW of demand.

Table 26: National Grid Rates for Delivery Service

Customer Charge	$16.56/month
Distribution Demand Charge	$6.41/kW
Distribution Energy Charge	0.089¢/kWh
Transmission Charge	1.408¢/kWh
Transition Demand Charge	$0.11/kW
Transition Energy Charge	0.123¢/kWh
Demand Side Management Charge	0.250¢/kWh
Renewables Charge	0.050¢/kWh

Source: National Grid Rates and Pricing

For large commercial and industrial customers with demand greater than 200 kW, energy services are charged on the basis of time-of use. The fee structure for time-of-use service is illustrated in Table 27. Fees differ depending on whether energy is consumed during peak or non-peak times. Between January 1st and March 7th, peak hours run from 8:00AM to 9:00PM, while from March 8th to April 4th, peak hours are from 9:00AM to 10:00PM. Beginning April 5th and ending October 24th, peak hours return to 8:00AM to 9:00PM. For one week (October 25th to the 31st) peak hours are set back to 7:00AM to 8:00PM, and between November 1st and December 31st they return to 8:00AM to 9:00PM.

Table 27: Time-of-Use Fee Structure

Customer Charge	$73.16/month
Distribution Demand Charge	$3.92/kW
Distribution Energy Charge	
Peak Hours	1.229¢/kWh
Off-Peak Hours	(0.045)¢/kWh
Transmission Charge	1.192¢/kWh
Transition Demand Charge	$0.19/kW
Transition Energy Charge	0.061¢/kWh
Demand Side Management Charge	0.250¢/kWh
Renewables Charge	0.050¢/kWh

Source: National Grid Rates and Pricing

V. Commercial and Industrial Activity

This section examines commercial and industrial permit trends in order to gauge the level of economic development activity in Chelmsford. Following the permit analysis, a summary of some of the economic development incentives that the town promotes are offered.

A. Commercial Building Permits Issued

The commercial and industrial activity in a town can be partially measured by the number of building permits issued over time. Between 2004 and 2006, six commercial (valued at $2,635,000) and zero industrial permits were issued in Chelmsford, compared to the one hundred forty-five residential permits (valued at $27,851,745) for the same time period. Compared to the other communities in the region, Chelmsford issued fewer permits than Billerica, Dracut, Lowell, Tewskbury, and Westford. These figures are listed on the next page in Table 28 below.

During the *Master Plan Update* public input sessions, residents articulated a desire to boost the amount of commercial and industrial activity in Chelmsford in order to alleviate some of the tax burden on homeowners. The town is also committed to promoting commercial and industrial development in order to bolster the local tax base and help remedy the deficits in their operating budgets. A number of strategies have been implemented to help promote commercial and industrial development and expansion in town.

Table 28: Commercial and Industrial Permits Issued in the NMCOG Region, 2004-2006

Community	Year	Commercial		Industrial	
		Permits	Valuation	Permits	Valuation
Billerica					
	2004	4	$968,760	11	$1,391,900
	2005	2	$1,810,000	0	$0
	2006	2	$90,000	0	$0
	Totals	8	$2,868,760	11	$1,391,900
Chelmsford					
	2004	1	$1,441,000	0	$0
	2005	5	$1,194,000	0	$0
	2006	0	$0	0	$0
	Totals	6	$2,635,000	0	$0
Dracut					
	2004	2	$675,000	0	$0
	2005	2	$675,000	0	$0
	2006	4	$144,000	0	$0
	Totals	8	$1,494,000	0	$0

Table 28 (cont'd): Commercial and Industrial Permits Issued in the NMCOG Region, 2004-2006

Dunstable					
	2004	0	$0	0	$0
	2005	0	$0	0	$0
	2006	0	$0	0	$0
Lowell					
	2004	162	$35,783,802	0	$0
	2005	170	$20,524,426	0	$0
	2006	157	$25,410,874	0	$0
	Totals	489	$81,719,102	0	$0
Pepperell					
	2004	0	$0	0	$0
	2005	1	$1,000,000	1	$500,000
	2006	2	$486,000	0	$0
	Totals	3	$1,486,000	1	$500,000
Tewksbury					
	2004	2	$1,142,160	0	$0
	2005	5	$1,726,300	0	$0
	2006	9	$9,561,135	0	$0
	Totals	16	$12,429,595	0	$0

Tyngsborough					
	2004	3	$1,970,800	1	$565,000
	2005	2	$2,152,444	0	$0
	2006	2	$3,000,000	0	$0
	Totals	7	$7,123,244	1	$565,000
Westford					
	2004	**0**	**$0**	**0**	**$0**
	2005	1	$1,330,000	0	$0
	2006	9	$6,592,037	0	$0
	Totals	10	$7,922,037	0	$0
NMCOG Region					
	2004	174	$41,981,522	12	$1,956,900
	2005	188	$30,412,170	1	$500,000
	2006	185	$45,284,046	0	$0
	Totals	547	$117,677,738	13	$2,456,900

Source: City and Town Building Departments

B. Development Incentives and Expedited Permitting Tax Incentives

The town of Chelmsford is an active participant in the Commonwealth's *Economic Development Incentive Program* (EDIP), which is a three-way partnership between the Commonwealth of Massachusetts, a municipality located within an Economic Target Area (ETA), and a growing company. The process for this incentive program is as follows: first, a company and the respective municipality agree to a tax exemption schedule on future real property taxes. The company then obtains state approval for a 5% investment tax credit. This credit takes the form of a state income tax reduction. Thirdly, the company commits to a job growth and private investment schedule. These incentive programs typically continue for five to twenty years. The EDIP program offers several advantages to growing companies, including reducing the financial burden required to grow a company and providing a flexible framework which can accommodate variable tax exemption structures and agreement durations. The companies that presently are involved with the EDIP program are Arbor Networks (6 Omni Way), Circles (300 Apollo Drive) and Hittite Microwave (20 Alpha Road). A map illustrating the Economic Target Area (ETA) boundaries is included at the end of this chapter.

C. Business Licensing and Permitting Assistance

The town's Community Development Department is eager to work with businesses and assist them in the development review process, including helping companies identify appropriate zoning and development permits, filing fees, and anticipated time frames for each permit. The department also serves as the key point of contact for the Town's land development Boards and Commissions and technical review meetings.

VI. Balance Between Economic Growth and Quality of Life

The Master Plan Committee and NMCOG worked together to focus upon a draft Vision Statement and individual goal statements for each technical area. Based upon the input provided through the SWOT sessions held with the public, the business community and the Master Plan Committee itself, a draft Vision Statement and individual goal statements were established prior to the hosting of the Public Forum sessions. These Public Forums began with the Land Use/Economic Development/Housing Public Forum held at the Chelmsford Senior Center on June 3, 2009, where the public was invited to offer their opinions on the respective topics. Local cable television recorded the proceedings and viewers were encouraged to submit their recommendations and comments.

At the outset of the Public Forum, the draft Vision statement and goal statements for Land Use/Zoning, Economic Development and Housing were presented and the participants were asked for feedback throughout the process. As a result of the input from the Master Plan Committee, the business community and the public, the Economic Development goal statement was established as follows:

Establish an active economic development program to retain and attract "growth" businesses, which create well-paying jobs for Chelmsford residents and enhance the town's tax base, in a manner that balances job creation with the quality of life.

This statement incorporated the suggestions made by the business community regarding opportunities and threats and reflected the need to achieve a balance between economic development and the quality of life in the community. The participants at the Public Forum then offered their recommendations for the Economic Development portion of the Master Plan as follows:

- Town should promote commercial development, but in line with character of town.
- Would like to see more industrial and commercial growth.
- Lack of industrial land, industry is critical to increasing tax base.
- Limited sewer capacity limits growth especially residential development and hinders the town's ability to attract businesses. This should be addressed.
- Responsible commercial and residential development, fair and equitable.
- Policies should promote redevelopment and rehabilitation.
    - Wilson Street – Fire Dept site?
    - Rte 3 and I-495 down to Chelmsford Center has many vacancies and commercial development opportunities.
    - Ball fields – relocate to develop 100 year leases for properties.
- Do not develop ball fields.
- Vinal Square has many prime redevelopment districts.
- Inadequate space for children to play.
- Address traffic congestion.
- Reoccupation of vacant buildings on Route 129 should be addressed.
- Redevelop mills and row houses in North Chelmsford.
- Revise zoning regulations if businesses agree to be an anchor tenant.
- Need to analyze demographics to better understand local and regional market.
- Distribution companies should be encouraged to take advantage of location at the junction of Route 3 and I-495.
- Actively engage landlords and property owners rather than through generic mailings.
- PILOT program for nonprofit organizations in town.
- Town needs a grant specialist for economic development initiatives – no money for that position at this time.
- Mixed-use zoning on Route 129 should be allowed to improve traffic in the town center.
- Warehouse space on Brick Kiln Road could be used for distribution business (Best Buy)
- Don't turn Rte 129 into Rte 110.
- Why not preserve ball fields as open space?
- Concentrate on occupancy, not new development, especially on Route 129.
- Promote new technologies and revamp town partnerships; boost economic development commitment.
- Encourage more family-friendly businesses and entertainment, e.g. birthday party center, bowling, etc.
- Work with property owners to support start-up companies through incubator space.

- Need to brand Chelmsford.
- Rte 129 corridor:
    - Good access and hotel, but a disjointed area
    - Find a high tech anchor business for that area in hopes that it will attract other high tech businesses.
    - Need to attract green technology companies.
    - Green Community: try to site solar facilities on building rooftops to help with the Governor's plan and promote Chelmsford as a renewable community.
    - Increase height limits allowed.
- Eliminate mixed-use restriction on Rte 129. Need services for employees in that area.
    - New strip mall on the other side of Rte 3 in Billerica provides services for Chelmsford businesses. Need to rectify the disjointed look of the corridor.

VII. Economic Development Opportunities in Chelmsford

In late 2008, the town's Department of Community Development published an *Economic Development Plan*, which among other things, identified seven areas of town where future development and economic revitalization efforts should be targeted. These areas are Center Village, the Route 129 Technology Corridor, Drum Hill/ Technology Drive, Vinal Square/ North Chelmsford Mill District, the Route 3/ Route 40 Interchange, Route 110/ Littleton Road, and the Route 110/Route 3 Shopping District. The following section summarizes the economic development visions for these areas that were articulated in the town's plan. Number labels included on the flyover images correspond to the numbers attributed to specific sites discussed in the text of this section.

Center Village

Center Village is the historic downtown area of Chelmsford, containing a mix of residential and commercial land uses in addition to churches, open space, and the town's civic institutions (Figure 14). The CVS site (1) and Papa Gino's site (2) are both considered to be underutilized. A number of historic properties, such as the Old Town Hall (3) on North Street and the Odd Fellow's Building (4) in Central Square, are located in Center Village and have been identified as key opportunities to promote economic development while preserving the historic integrity of the downtown.

Figure 14: Center Village *Source: Pictometry International (2008)*

There are also a number of underutilized and vacant properties in Center Village, such as a 217,800 square foot former lumberyard (5) and an 8.45-acre Stop and Shop site (the store announced plans to relocate elsewhere in town). For both of these properties, the 2008 *Economic Development Plan* suggested the development of additional housing as a way to increase foot traffic in the downtown. The Stop and Shop site has also been identified as a potential candidate for a MGL 40-R mixed use development, which would include multifamily housing and office and retail space.

Additionally, the *Economic Development Plan* recommended that the town determine the long term future uses of the properties that it owns in Center Village and reutilize a number of commercial properties along Chelmsford Street (1 and 2). By addressing these objectives, the town hopes to transform the area into a "lively, mixed-use village district with strong retail, commercial uses, and housing" (Chelmsford Economic Development Plan, 46).

Route 129 Technology Corridor

The technology corridor located along Route 129 is Chelmsford's largest commercial and industrial business district, with thirteen of the town's top fifteen employers located there. Past infrastructure improvements to the area have benefitted existing businesses; however, the economic recession impacting the region is reflected in the estimated 600,000 square feet of vacant space along the corridor (Chelmsford Economic Development Plan, 47). Additionally, there are many first generation, single story buildings located in the area, as shown in Figure 15.

Rather than completely redevelop these vacant properties, the town has chosen a strategy of using Tax Increment Financing (TIF) to attract new businesses to the empty spaces. Additional plans for the corridor include adding some amenities such as restaurants and personal services within a walkable distance to the technology park, clarifying the town's zoning bylaw with respect to biotechnology and research and development firms so as to promote the park as a welcoming place for these types of industries, and upgrading the first generation buildings, which now serve as affordable space for small and start up businesses. In the long term, as vacant properties fill up, there are two sites (a 10-acre undeveloped site and a 5-acre former mulch processing facility) identified for possible new office or commercial construction. Ultimately, the town hopes to promote the Route 129 Technology Corridor as one of the

Figure 15: Route 129 Technology Corridor
Source: Pictometry International (2008)

"premiere corporate destinations in the Merrimack Valley" (Chelmsford Economic Development Plan, 49).

Drum Hill/ Technology Drive

The Drum Hill Technology Park was originally conceived as the future home for high tech businesses in Chelmsford. However, the development of the area has mirrored the ups and downs of the regional real estate market and has ultimately taken on a much more diverse character which includes office buildings, research and development firms, a medical center, and specialized senior housing. In part because of road and infrastructure improvements which have attracted developers to the area, this district is quickly approaching maximum build-out (the town identified one 3.9 acre undeveloped parcel in the area).

There are a handful of significant redevelopment opportunities, however, including two small underutilized parcels Jean Avenue and Wesley Street (1 and 2), the environmental remediation and redevelopment of the 30-acre Glenview Sand and Gravel site (3), and a 30-acre site owned by UMass Lowell which is currently being leased as a live-in correctional facility for adolescent girls. The town envisions this area as "an attractive and convenient shopping and business location…[where] the development of large sites on the periphery of the district serve to strengthen the community tax base and create new centers of activity" (Chelmsford Economic Development Plan, 52). Two of the key steps toward achieving this vision are completing infrastructure projects, particularly road and traffic improvements, as well as developing design guidelines to promote a consistent aesthetic to the area. NMCOG worked with the town of Chelmsford and the business community in this area to make additional recommendations for Drum hill. These recommendations should be implemented as part of the Master Plan.

Figure 16: Drum Hill/ Technology Drive

Source: Pictometry International (2008)

Vinal Square/ North Chelmsford Mill District

The Vinal Square/ Mill District area of North Chelmsford contains a number of significant economic development opportunities, including the revitalization of the former Southwell Combing Company mill (1) ,the North Chelmsford Town Hall (2), and the historic mills located at 51 and 61 Middlesex Street (3 &4) and 70 Princeton Street (5). The town is currently working with a consultant to develop a Mill Revitalization Overlay District for the purpose of rehabilitating and reutilizing Chelmsford's historic mill buildings into additional commercial and industrial space, as well as multifamily housing.

Figure 17: Vinal Square/ North Chelmsford Mill District

Source: Pictometry International (2008)

Many residents and business owners have also advocated for the construction of a commuter rail stop in this district, should the proposed extension of the Lowell MBTA line into New Hampshire be implemented. Adding a stop would bolster perceptions that the district is an ideal location for commuters to live, and improve the area as a candidate for transit-oriented development funding. This new and lively mixed use center, while honoring the industrial history of the town, would become a model for compact, mixed use development in the future.

Route 3/ Route 40 Interchange

This area is primarily composed of undeveloped, industrially zoned land. Many of the parcels are large and have tremendous economic development potential. For instance, a 66.37-acre town-owned parcel located on Oak Hill Road has the potential to be developed into affordable housing, as articulated by the 2008 *Economic Development Plan.* A 22.76-acre undeveloped parcel that was historically part of the Fletcher Granite Company's quarry holdings is another parcel with excellent development potential (Figure 18).

Figure 18: Route 3/ Route 40 Interchange

Source: Pictometry International (2008)

The primary constraints to promoting economic development in this district is a lack of infrastructure (i.e. sewer and roads), legal frontage and land assembly issues. As these infrastructure improvements are made over time, the Route 3/Route 40 Interchange will be transformed from a largely undeveloped area into a host for "major new commercial and mixed use development…[helping to] minimize traffic congestion and maximize growth in the community's commercial tax base" (59).

Route 110/ Littleton Road

Littleton Road is a main commercial artery in town, hosting a variety of uses ranging from light industrial businesses to automobile repair; convenience retail to an asphalt plant. It is an area that has seen multiple 40-B affordable housing development proposals, and there is a large manufactured housing (mobile home) park across the street from the main commercial district.

Many of the properties in this area have fallen into disrepair and/or underutilization. There are a handful of larger parcels, for example a 15-acre parcel on Littleton Road that is currently underutilized (1) and an 11-acre parcel on Hunt Road, both of which would be ideal mixed use development sites. The town expects that in the future, many of the smaller underutilized parcels will feel pressure to be assembled into larger sites (2-6). Future growth in the area could include commercial and light industrial uses as well as services for residents living in the manufactured housing park and new multifamily housing (Figure 19).

Figure 19: Littleton Road/ Route 110 Corridor

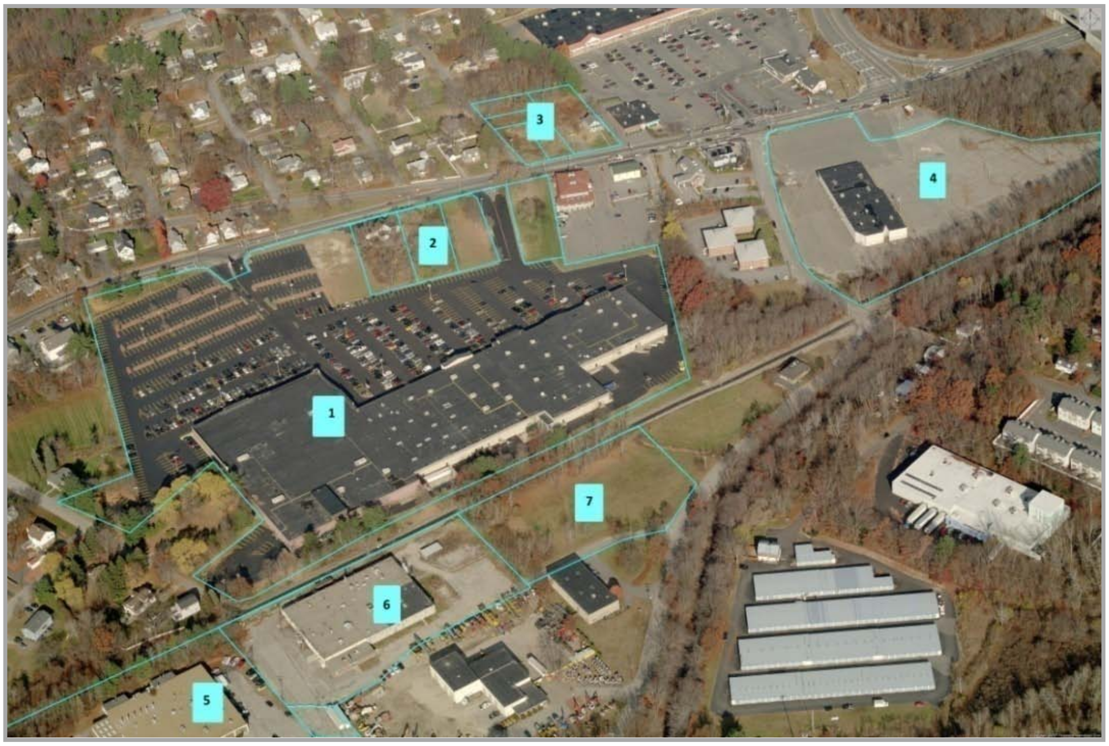
Source: Pictometry International (2008)

Route 110/ Route 3 Shopping District

There are many opportunities for economic revitalization and redevelopment within the Route 110/ Route 3 shopping district, as illustrated in Figure 20 on the next page. Infill development on the underutilized parking lot of the Chelmsford mall (1) was one strategy articulated in the 2008 *Economic Development Plan.* Vacant properties such as the four commercially zoned parcels abutting the mall (2), the single-family zoned properties located at 280-284 Chelmsford Street (3), and the former Stop and Shop (4) are prime candidates for redevelopment. There is superb access to infrastructure, legal frontage, and proximity to thriving residential neighborhoods.

Furthermore, a town-owned brownfield property (the former site of the Silicon Transistor Corporation) holds great potential, which will be realized once an environmental strategy has been developed and implemented for the site (5-7). The property located at 25-29 Katrina Road has been designated as a priority development site (PDS) by the Interagency Permitting Board under Chapter 43D. Town officials envision this area becoming a “premiere local retail district” which it is free from environmental contamination and serves to buffer residences from future development.

Figure 20: Route 110/ Route 3 Shopping District



Source: Pictometry International (2008)

Discussion Questions:

- What should the town do to retain and attract businesses? What specific types of businesses should be targeted? Have these businesses already located in town? How can these initiatives support the growth in tax revenues to finance public safety and public education?

- How has the current economy impacted business in town? Which businesses and industries have been closing or laying off workers? Which businesses have left town and why do you think they've moved away? What can the Town do to address some of these issues?

- Does the retail and commercial mix in the town and region address your needs? What types of additional businesses and industries would you like to see in town to address your needs? Where should these businesses be located? Could town-owned land along Chelmsford Street be re-utilized for economic development purposes?

- Chelmsford's 2008 Economic Development Plan identified Center Village, the Route 129 Technology Corridor, Drum Hill Technology Drive, the Vinal Square/ North Chelmsford Mill District, the Routes 3/40 Interchange and Route 110 as the principal commercial and industrial development areas. Are there additional economic development opportunities within these areas and what types of uses should be added to the existing mix? What specific sites should be prioritized for redevelopment? Where are they?

- Where are the vacant or underutilized retail, commercial, office, or industrial properties? How should the town work with the owners to fill these spaces?

- How seriously has the current recession impacted the work force in town? Which workforce development programs would help the underemployed or unemployed secure a new job? Which programs should be targeted to youth or older workers?

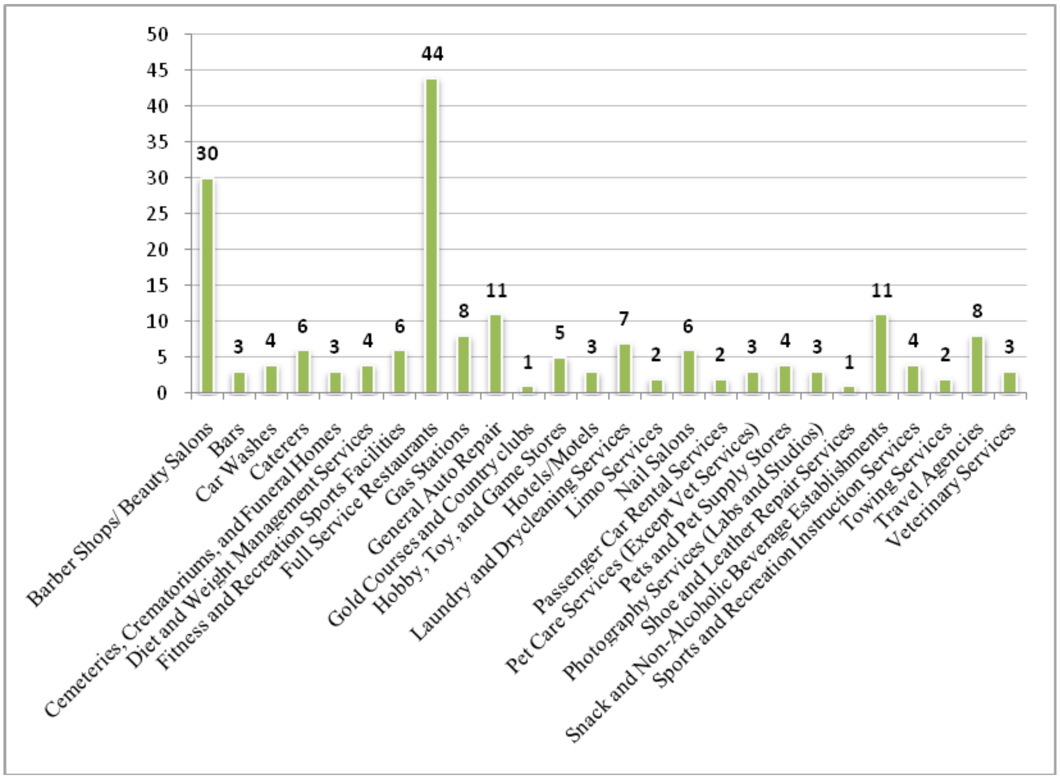
- What infrastructure issues (sewer, water, roads, public transit, parking, telecommunications, etc.) need to be addressed in order to support continued economic growth?

- How do the "green initiatives" fit within the town's economic development program and what needs to be done to support these initiatives?

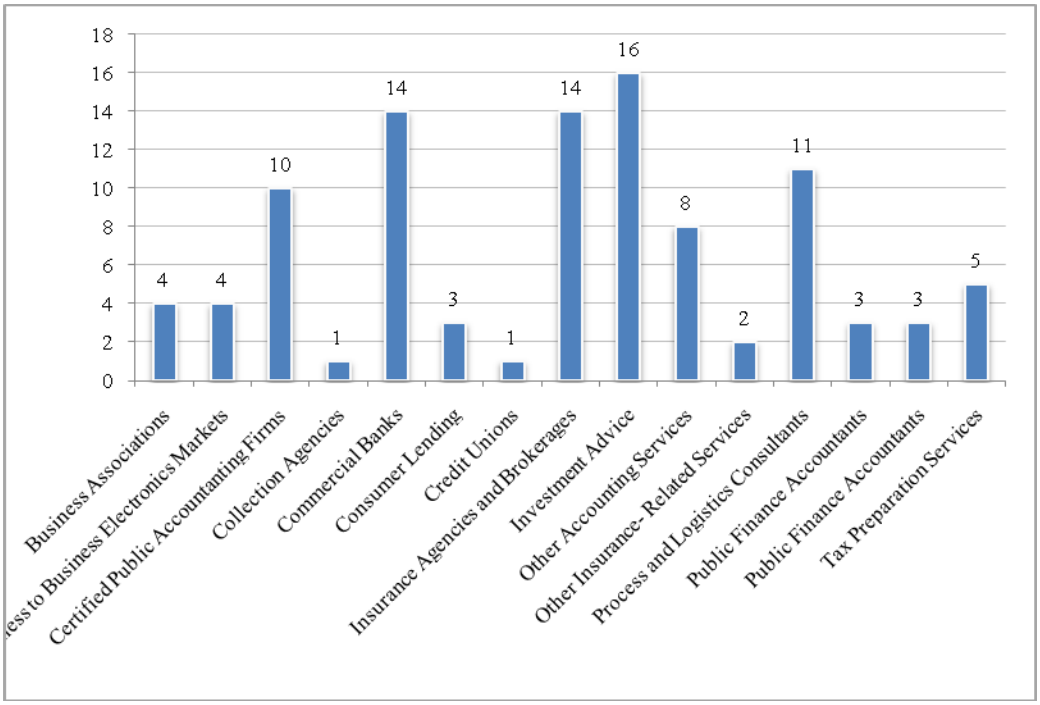
- How can economic growth be managed so that it maintains the quality of life in town?

Appendix: Chelmsford Businesses by General Categories
Source: ReferenceUSA (Current as of June 1, 2009)

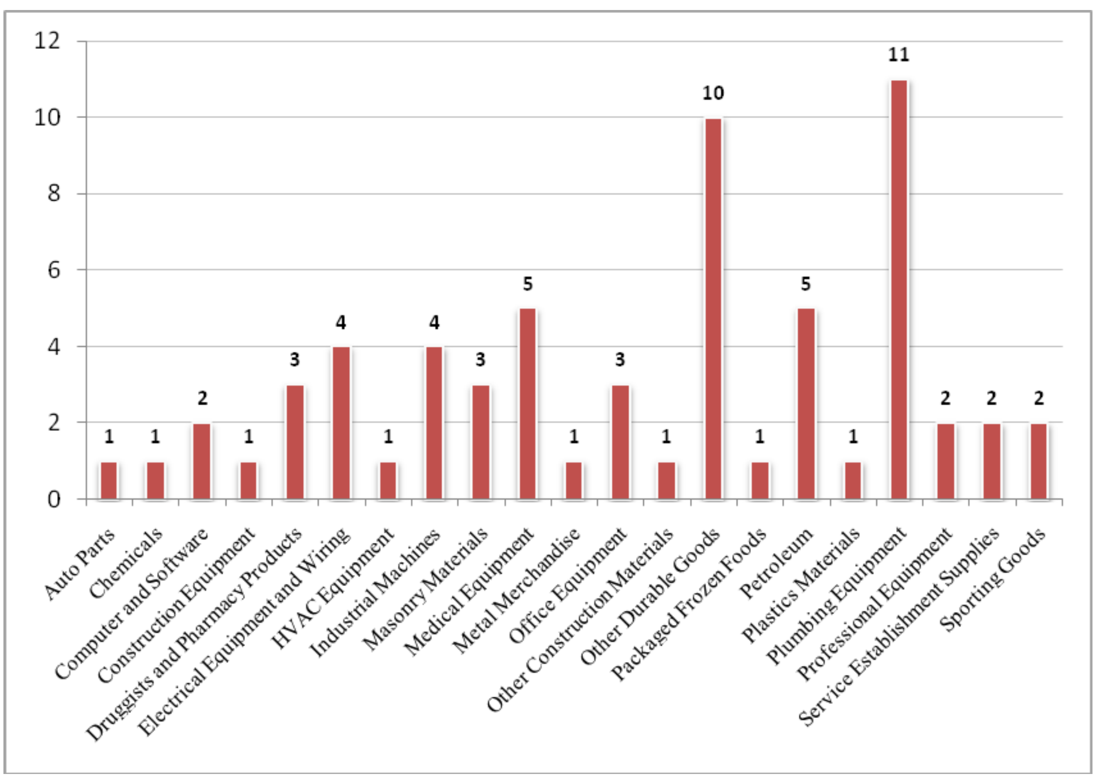
Personal Services



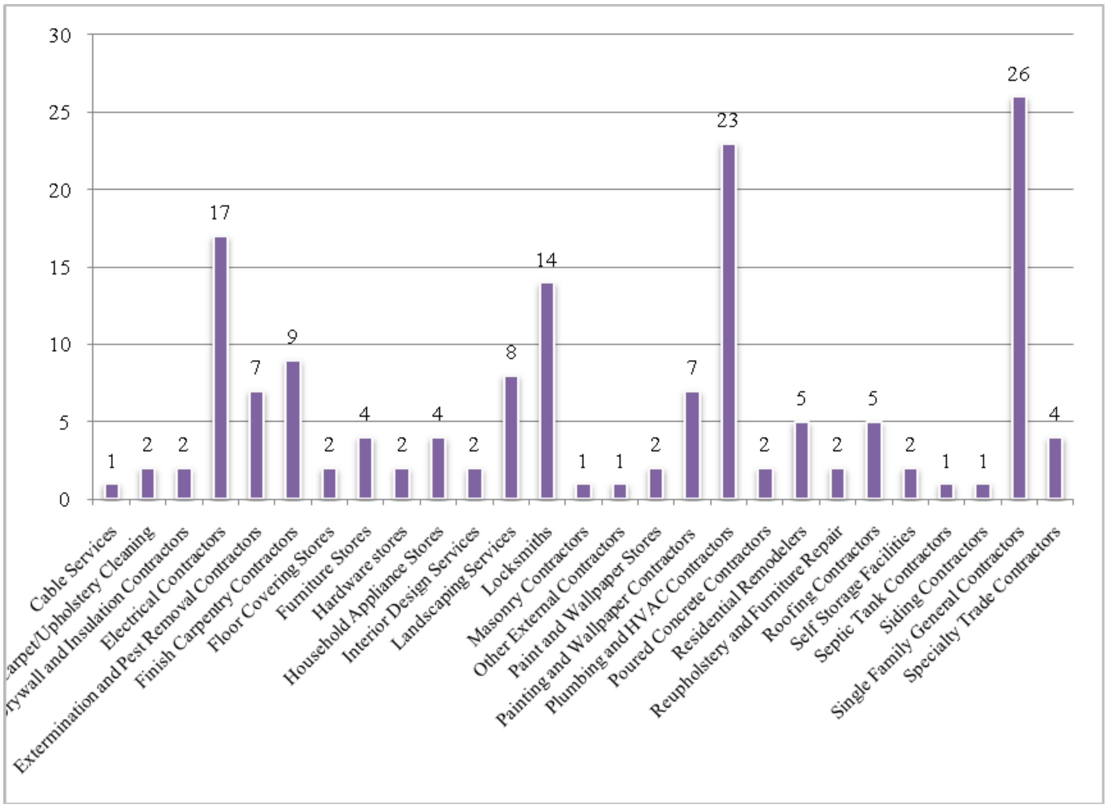
Financial Services



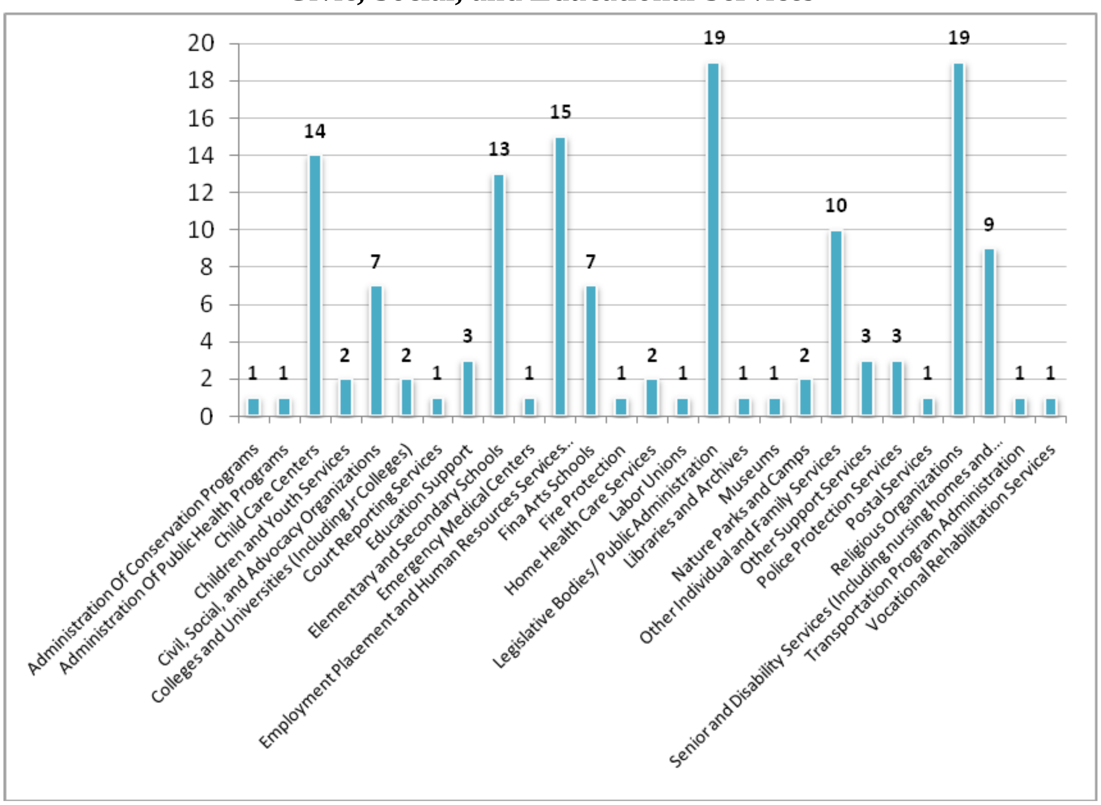
Wholesale Merchants



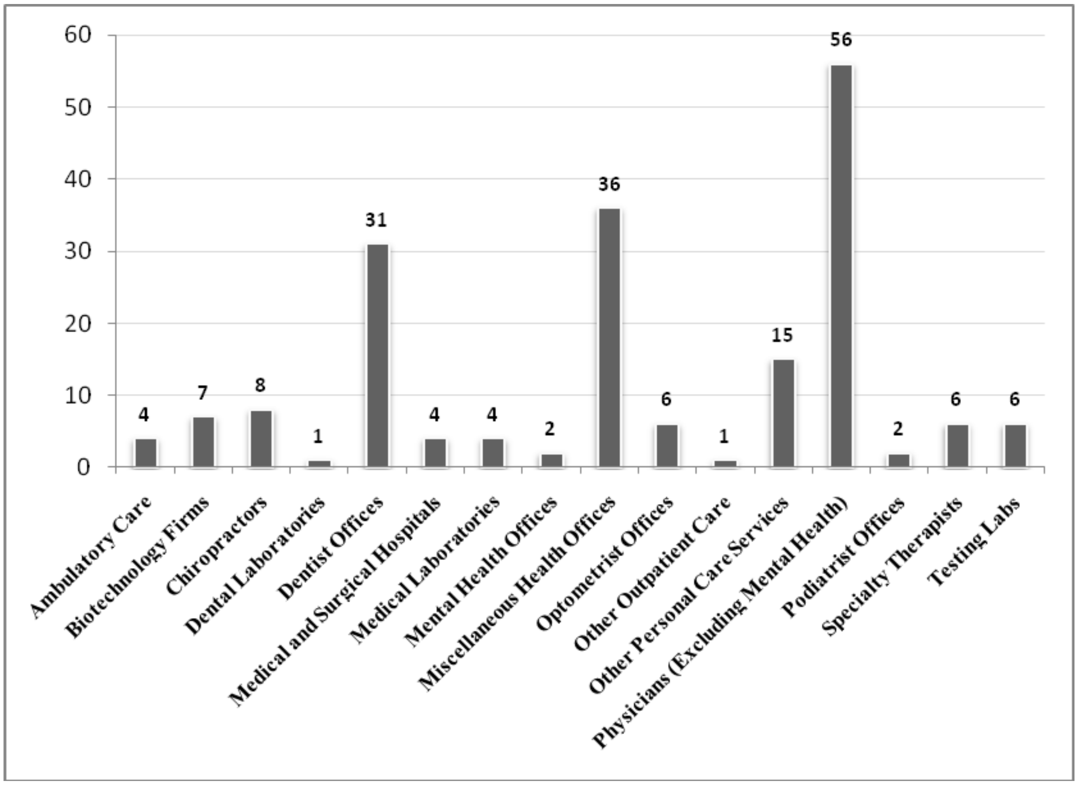
Home Related Services and Contractors



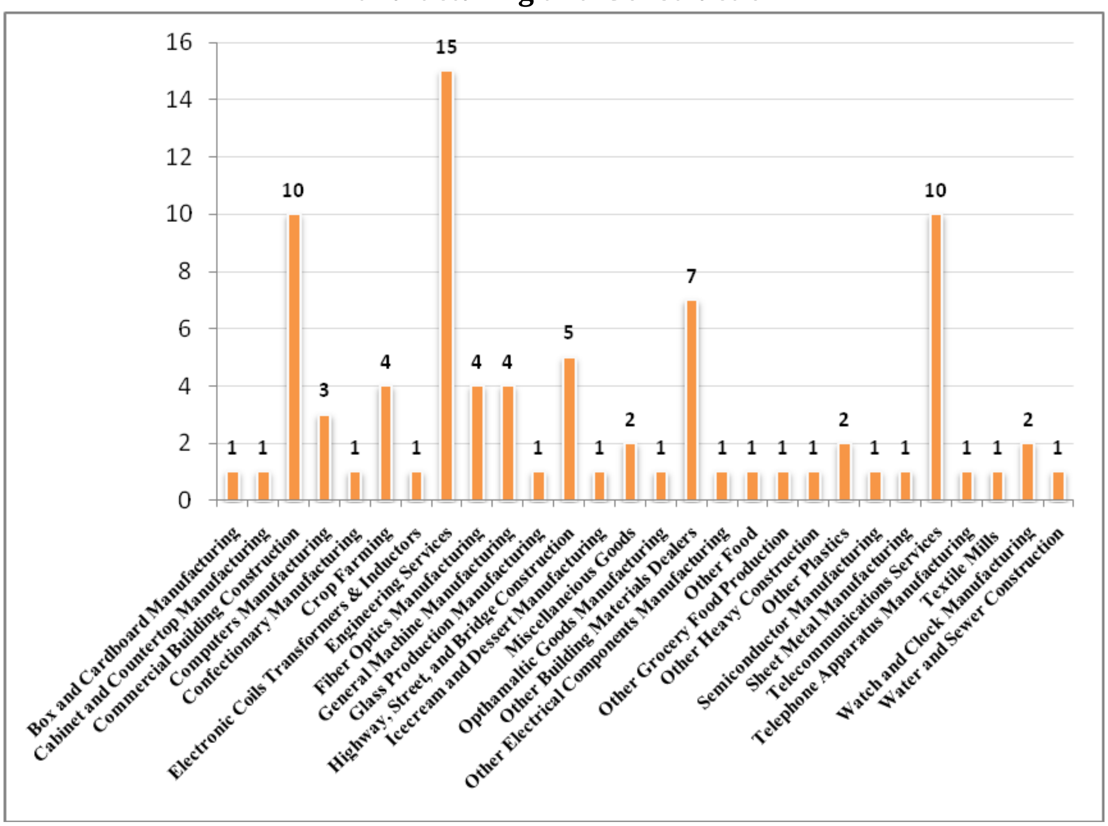
Civic, Social, and Educational Services



Health Services



Manufacturing and Construction



Retail Establishments