UMASS DONAHUE INSTITUTE

The Impact of Local Business on the Cambridge Community and Assessing Economic Competitiveness

For the Cambridge Chamber of Commerce

Prepared by

UMass Donahue Institute
Economic and Public Policy Research

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Summary of Findings

Cambridge, Massachusetts is one of our nation's most dynamic centers of business activity, both on its own and as part of the broader Boston metropolitan area. Home to two of the world's most highly regarded research universities, Harvard and MIT, the city hosts a significant cluster of professional, technical and business services firms; a large and growing cluster of life sciences and bio-tech firms (e.g., Kendall Square and Alewife areas); multiple cultural, entertainment, hospitality and artistic organizations; and a full-range of other industries from health care facilities to restaurants and shopping to non-profits serving local communities and global constituents.

At the initiation of the Cambridge Chamber of Commerce (CCC), the Economic and Public Policy Research (EPPR) group at the UMass Donahue Institute (UMDI) completed an economic and business profile of performance indicators for the city of Cambridge. The goal of this project was to develop data and tools – including an extensive presentation of data to appear online and this report – to help communicate to residents, businesses, institutions and community leaders, the impact of business on the community and the competitiveness of Cambridge as a place for business location and investment.

To structure this project and provide a framework for understanding business impact in Cambridge, EPPR organized economic data into four categories of the Cambridge business community: *1) industry and employment indicators; 2) real estate and property value indicators; 3) socio-economic indicators about Cambridge residents; and 4) business climate indicators.*

Key findings from these four areas include:

Industry and Employment Indicators

- From 2001 to 2013, employment in Cambridge decreased by over 2,000 jobs, a loss of 2 percent while Massachusetts lost 1.0 percent and the U.S. gained 3 percent. At the same time, the number of business establishments in the city increased by 14 percent; over 500 additional establishments were located in the city over the period. Massachusetts establishment counts increased 16 percent and the U.S. increased 15 percent.
- Educational Services and Professional and Technical Services establishments provide more than half of all jobs in the city of Cambridge. This proportion has grown since 2001, mainly due to the impressive growth of employment in Professional and Technical Services establishments. Jobs in Health Care and Social Assistance have also grown significantly since 2001.
- Due to its unique industry and institutional mix, Cambridge's average annual wage is much higher than the U.S. and Massachusetts's. In 2013 Cambridge's average wage was 61 percent higher than the Massachusetts average and 100 percent higher than the U.S. average. Several industries had above average wage gains over the decade (Management of Companies and Enterprises; Educational Services; Wholesale Trade and Professional and Technical Services).
- In a comparison of Cambridge with other U.S. regions with strong technology-and knowledge-based industry sectors, the city performs well. Cambridge ranks number one, two and three respectively

in concentrations of jobs in Professional, Scientific and Technical Services; Information; and Educational Services sectors.

Real Estate and Property Value Indicators

- Residential tax rates in the city of Cambridge are lower than the state median but the commercial, industrial and personal property rates are higher than state medians. All of Cambridge's property tax rates are lower than the median rates used by other Massachusetts communities using a split rate.[1]
- Total assessed values of properties in Cambridge grew almost 100 percent - from $12.7 billion in 2001 to $25.2 billion in 2013. Over the same period, Cambridge's property levy increased from $178 million in 2001 to $317 million in 2013, an increase of 78 percent and almost two and a half times the inflation rate over the period.
- Over the same time period, the city's operating budget grew 59 percent from 2001 to 2012, from $296.5 million to $472.2 million.
- Locally generated tax revenue increased more rapidly than the city's budget as funding to Cambridge from other sources such as charges for services and intergovernmental revenue (e.g., state aid) decreased. This resulted in tax revenue as a percent of the city's total budget increasing from 60% in FY2001 to 72% in FY2013.

Socio-economic Indicators about Cambridge Residents

- Since 2009, the unemployment rate for Cambridge residents has been nearly three percentage points lower than the average rate for Massachusetts residents and approximately four points lower than for the U.S. average. The average unemployment rate was 7.4 for the U.S. and Massachusetts and 4.5 for Cambridge in 2013.
- Cambridge residents are more likely to work within their city than the average resident of Massachusetts. According to the most recent American Community Survey (ACS) data, 46 percent of the workforce in Cambridge also lives in the city. This proportion is one and a half times the Massachusetts state average.
- Since 2000, the population of the city has increased but at a much lower rate than the nation, and at only a slightly higher rate than Massachusetts.
- The population of Cambridge is far more educated than is typical of the population in Massachusetts or in the U.S. as a whole. 45 percent of city residents have graduate/professional degrees - in contrast to 18 percent of residents in the state and approximately 11 percent in the U.S.
- Income levels of residents in the city are higher than those seen elsewhere. The median family income of Cambridge residents (approximately $92,700) is 50 percent higher than the U.S. level ($64,000) and 20 percent higher than the Massachusetts state level of $84,000.
- At the same time the city's 2013 poverty rate was 32.1 percent higher than the state average. Fourteen percent of Cambridge residents live below the poverty level.

[1] Calculated using the Massachusetts communities that reported residential tax rates that were different ("split") from their commercial, industrial and personal property tax rates to the Massachusetts Department of Revenue in FY2013.

- The population of residents living in Cambridge is more racially and ethnically diverse when compared with the population of Massachusetts and Cambridge has a lower proportion of residents who were born in the U.S. along with a higher proportion of residents who have been naturalized.

Business Climate Indicators

- Based on analysis using the Economic Development Self-Assessment Tool (EDSAT), when it comes to important location factors for new businesses, Cambridge has many more strengths than weaknesses.
- Cambridge has a highly skilled workforce. The city has a higher than average percentage of technically skilled, professional, and managerial workers and 74 percent of residents 25 years and older have a bachelor's degree or higher.
- Cambridge has an extensive public transit system which provides access to regional, national and international transit. Seventy-five percent or more of the city's available sites for retail, manufacturing, and general office space are within one quarter mile of light rail or bus access.
- Cambridge has a higher percentage than average of parcels five acres or larger that are available for industrial development or large-scale commercial development.
- The Cambridge business community has unique advantages due to the dense presence of university and research institutions in the city. This factor is important for the types of tech-based businesses that are critical to the Cambridge economy.
- The city provides a unique range of complementary business services that are highly capable of working with technical and scientific firms. The city also has a business incubator for start-up companies. These resources are unique and valuable.
- As an area for improvement, Cambridge's process for permitting and licensing takes much longer than typical. With the exception of the site plan review and the appeals process for new projects, Cambridge's process to review permit applications takes about two to four months longer than the typical comparison community.
- On-site parking for retail sites is limited in the city as only 1-25% of sites have parking, as compared to 75% or more among comparison communities. The cost of hourly, daily, and monthly parking is also higher in Cambridge than among comparison communities

Introduction

This report was prepared by the Economic and Public Policy Research (EPPR) group at the UMass Donahue Institute (UMDI) for the Cambridge Chamber of Commerce (CCC), to communicate to residents, businesses, institutions and community leaders, the impact of business on the community and image of Cambridge as a desirable place for business location and investment. The objective of this study is to define the impacts of businesses (private and non-profit) in Cambridge as related to quantitative metrics such as jobs, establishments, tax revenue, wages, visitors, etc. In addition, we provide an assessment of competitiveness and the business climate in Cambridge to support the Chamber's role in enhancing economic development and advocating for policies and investments to the benefit of the City.

The research team worked closely with the Chamber and its Economic Impact Sub-Committee to refine the study's objectives and vision at the project outset. The study team identified publicly available data to create a series of indicators and metrics to better understand the role of businesses in the local Cambridge economy and community, and provide an assessment of Cambridge as a place for new businesses to locate and invest. To structure this project and provide a framework for understanding the business impact in Cambridge, EPPR used a four-pronged approach to develop a portrait of the Cambridge Business Community: *industry and employment indicators; real estate and property value indicators; socio-economic indicators about Cambridge residents; and business climate indicators.*

In addition to the discussion in this report, the findings of this study have been summarized and highlighted in a PowerPoint presentation and data findings and graphic tools that will be made available online on an ongoing basis through the Cambridge Chamber of Commerce web site.

Industry and Employment Indicators

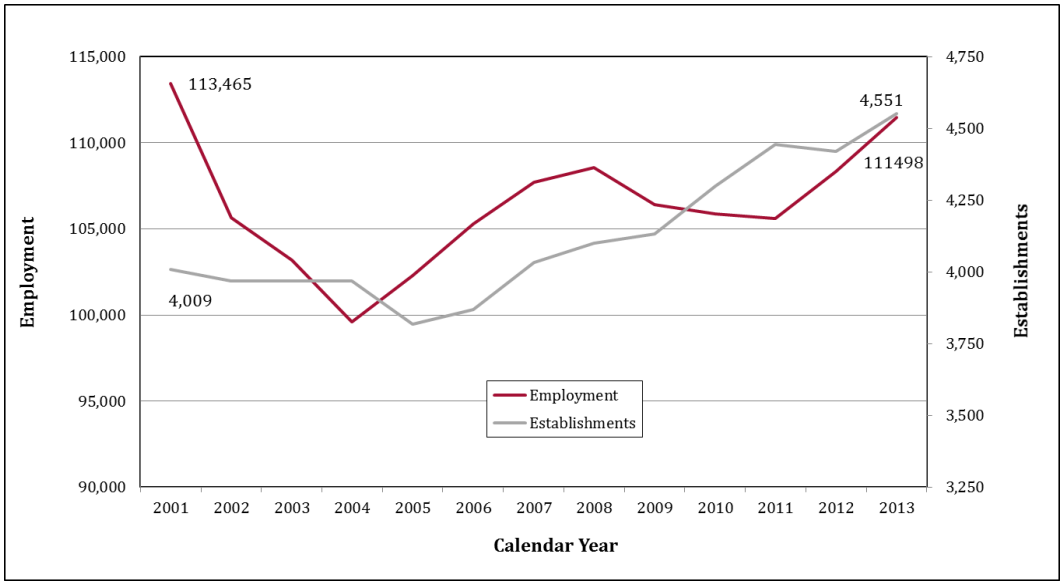
The discussion in this section provides major findings about the industrial and employment base located within the city of Cambridge. Various questions shaped the research in this section of the report including: What industries are in Cambridge and how many workers do they employ? What are the total wages and average weekly wage paid by these industries? How many establishments by industry are there? How does Cambridge's unemployment rate compare to the state? How have these factors changed over time?

Most of the data used in this section of the analysis is available annually from the Massachusetts Division of Labor and Workforce Development.

Establishments and Employment Growth

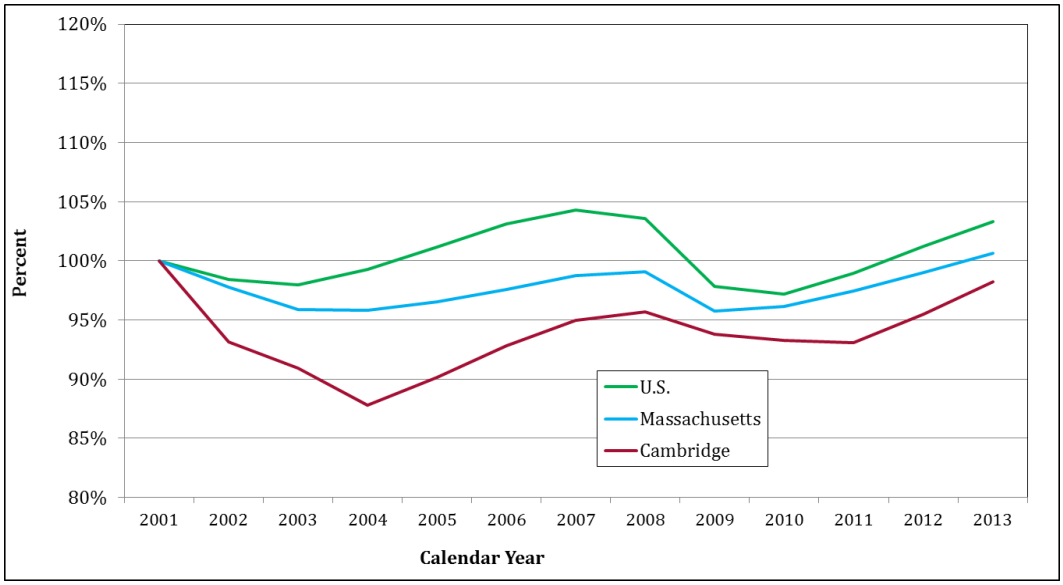
From 2001 to 2013, the number of establishments in Cambridge increased by 14 percent while employment decreased by 2 percent. In terms of absolute numbers over this period, Cambridge lost almost 2,000 jobs but gained over 500 establishments resulting in a smaller number of employees per establishment. The average number of employees per establishment in Cambridge fell from 28 employees per establishment in 2001 to 24 employees in 2013. This reflects similar trends in the U.S and Massachusetts but the average Cambridge establishment consistently employed almost twice as many workers as the U.S. and more than one-and-a-half times as many as the average Massachusetts establishment. These establishment and employment growth patterns reflect a restructuring economy over the period. The city has experienced industrial growth trends seen in the broader U.S. economy, however, the city's unique industry mix made it more vulnerable to employment volatility over the ten year period. Cambridge employment losses were more severe than those seen in the state and nation as a whole and its recovery of jobs over the period was weaker. Cambridge is still 2 percent below its 2001 employment level while Massachusetts is 1 percent above and the U.S. is 3 percent above.

Figure 1. Cambridge Employment and Establishments, 2001-2013



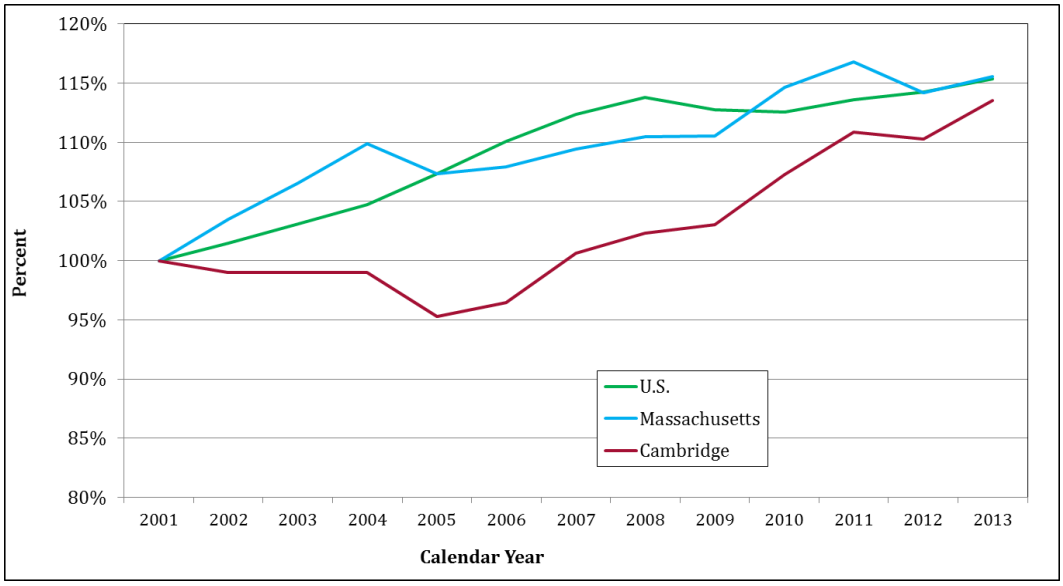
Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Figure 2. Job Growth from Base Year in the U.S., Massachusetts and Cambridge, 2001-2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Figure 3. Growth in Establishments from Base Year, 2001-2013

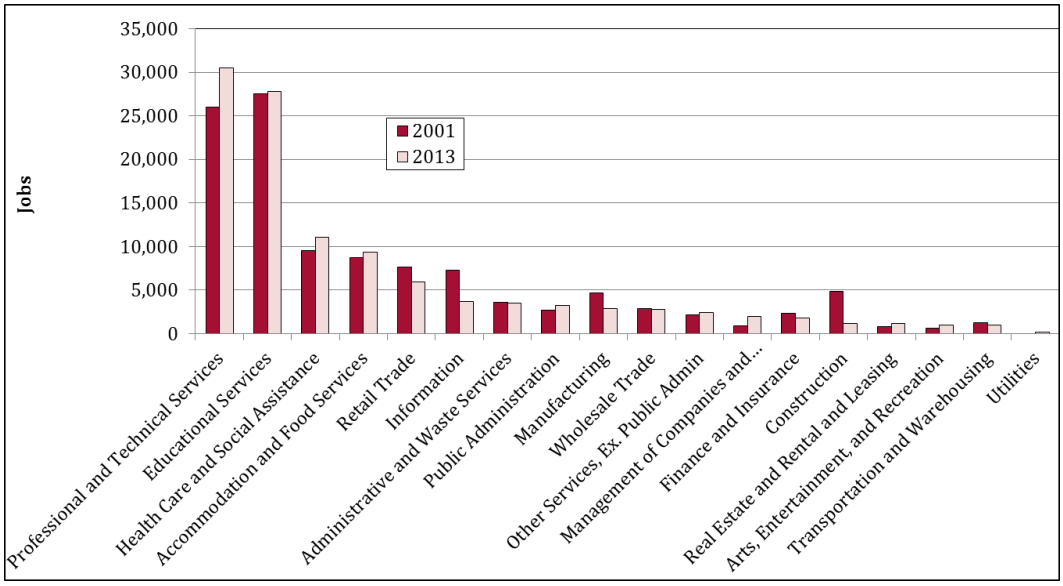


Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Employment by Industry

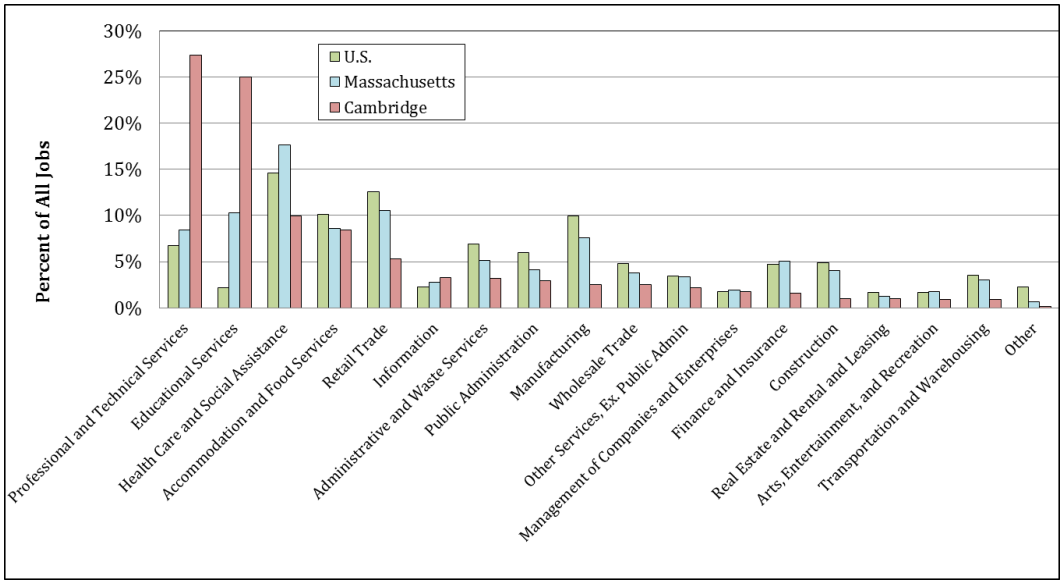
Educational Services and Professional and Technical Services establishments provide more than half of all jobs in the city of Cambridge and this proportion has grown over the past ten years. In 2001, the top ranked industries by employment were Educational Services and Professional and Technical Services and they accounted for 47 percent of total employment. In 2013 they were still the two top ranked industries with 52 percent of total employment but Professional and Technical Services was the top employer. The economy of Massachusetts is a little more diversified. In the Commonwealth, the five top industries, Health Care and Social Assistance (18 percent), Retail Trade (11 percent), Educational Services (10 percent), Accommodation and Food Services (9 percent) and Professional and Technical Services (8 percent) provide approximately half (56 percent) of all jobs in the state.

Figure 4. Cambridge Employment by Industry, 2001 and 2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Figure 5. U.S., Massachusetts and Cambridge Employment by Industry, 2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD); *Other: Agriculture, Forestry, Fishing & Hunting, Mining, Utilities and Unclassified

Table 1. Cambridge Employment by Industry, 2001 and 2013

Cambridge Employment by Industry, 2001 and 2012					
				Change from	
NAICS	Industry	2001	2013	2001-2013	
54	Professional and Technical Services	26,003	30,480	4,477	17.2%
61	Educational Services	27,498	27,843	345	1.3%
62	Health Care and Social Assistance	9,518	11,091	1,573	16.5%
72	Accommodation and Food Services	8,762	9,369	607	6.9%
44-45	Retail Trade	7,600	5,905	-1,695	-22.3%
51	Information	7,242	3,653	-3,589	-49.6%
56	Administrative and Waste Services	3,574	3,528	-46	-1.3%
92	Public Administration	2,659	3,277	618	23.2%
31-33	Manufacturing	4,636	2,850	-1,786	-38.5%
42	Wholesale Trade	2,838	2,795	-43	-1.5%
81	Other Services, Ex. Public Admin	2,173	2,389	216	9.9%
55	Management of Companies and Enterprises	862	1,978	1,116	129.5%
52	Finance and Insurance	2,345	1,799	-546	-23.3%
23	Construction	4,859	1,147	-3,712	-76.4%
53	Real Estate and Rental and Leasing	824	1,138	314	38.1%
71	Arts, Entertainment, and Recreation	598	1,022	424	70.9%
48-49	Transportation and Warehousing	1,248	1,011	-237	-19.0%
22	Utilities	0	168	170	

Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Even the largest employment gains in the city since 2001 – in Professional and Technical Services (4,477), Health Care and Social Assistance (1,573) and Management of Companies and Enterprises (1,116) – were not enough to balance out total job losses in the city. Overall, employment losses in the city were more dramatic than the losses seen in Massachusetts and in the U.S. as a whole, and a full recovery to 2001 levels has not yet been made. Job losses in the city reflect a shrinking construction industry over the ten year period as well as a dramatic shedding of jobs in the information and manufacturing sectors. Retail establishments also lost jobs, likely reflecting lower consumer demand and more challenging conditions for store owners in the city. The largest employment losses in the city were in Construction (-3,712), Information (-3,589), Manufacturing (-1,826) and Retail Trade (-1,695).

Another look at the economic base of the city shows how important high-tech businesses are to the city's economy. In 2013, high-tech firms comprised 22 percent of all establishments in the city, providing 28 percent of all local jobs. Even more significantly, high-tech industries paid 44 percent of all local wages and the average yearly wage in high-tech establishments ($155,115 in 2013) was 56 percent higher than the Cambridge average yearly wage.

Table 2. Cambridge High-Tech[2] Employment and Wages in 2013

NAICS	Description	Establishments	Average Employment	Percent of Cambridge Employment	Total Wages	Average Weekly Wages	Average Yearly Wage
3254	Pharmaceutical & Medicine Manufacturing	7	1517	1.4%	$263,235,097	$3,337	$173,523
334	Computer and Electronic Product Mfg	12	259	0.2%	$23,678,459	$1,758	$91,423
5112	Software Publishers	60	1745	1.6%	$257,547,363	$2,838	$147,592
517	Telecommunications	33	168	0.2%	$14,173,381	$1,622	$84,365
518	ISPs, Search Portals, & Data Processing	17	216	0.2%	$23,112,974	$2,058	$107,005
519	Other Information Services	44	703	0.6%	$186,020,959	$5,089	$264,610
5413	Architectural and Engineering Services	146	2660	2.4%	$276,492,805	$1,999	$103,945
5415	Computer Systems Design and Rel Services	370	6637	6.0%	$893,502,207	$2,589	$134,624
5417	Scientific Research and Development Svc	300	17860	16.0%	$2,989,469,682	$3,219	$167,384
	Total High-Tech	989	31765	28.5%	$4,927,232,927	$2,983	$155,115
	Total, all industries	4551	111498	100.0%	$11,092,950,951	$1,913	$99,490
	High-Tech as a Percent of Cambridge	21.7%	28.5%		44.4%	155.9%	155.9%

Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

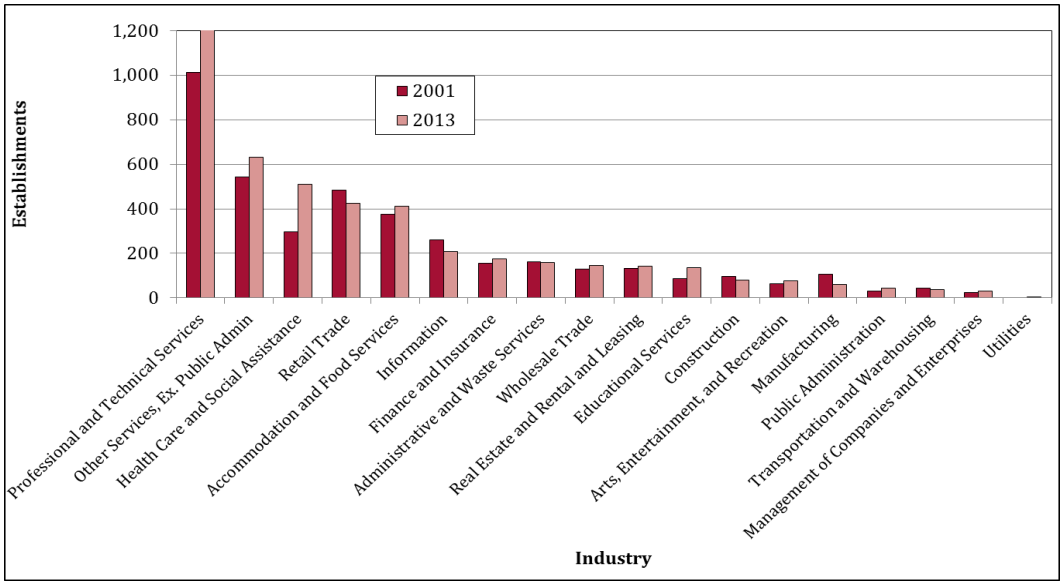
Establishments by Industry

While the city's 2013 employment is still below its 2001 level, the number of business establishments in the city has increased. In Cambridge, the same three industries account for approximately half of all establishments in both 2001 and 2013: Professional and Technical Services (28 percent), Other Services Ex. Public Admin (14 percent), and Retail Trade (9 percent). The strong presence of professional and technical services firms and a significant lack of construction firms are distinguishing features of its industry mix.

Since 2001, the emergence of smaller businesses has also been notable. There are 542 more establishments in 2013 than 2001 and 258 of these are in the Other Services industry, 201 specifically in the Individual and Family Services subsector. Much of this growth may have come from a reclassification of certain industry codes, where these jobs may have been considered to be part of the Other Services industry until this year. Even with the large increase in these establishments they added only 1.4 employees for every new establishment. The other industry with a significant increase in establishments was the Professional and Technical Services sector, which grew by 258 establishments. This sector was already very strong in the city and now comprises 28 percent of all business establishments in the city. The industries with the largest decrease in establishments were Retail trade (-58), Information (-51), and Manufacturing (-45).

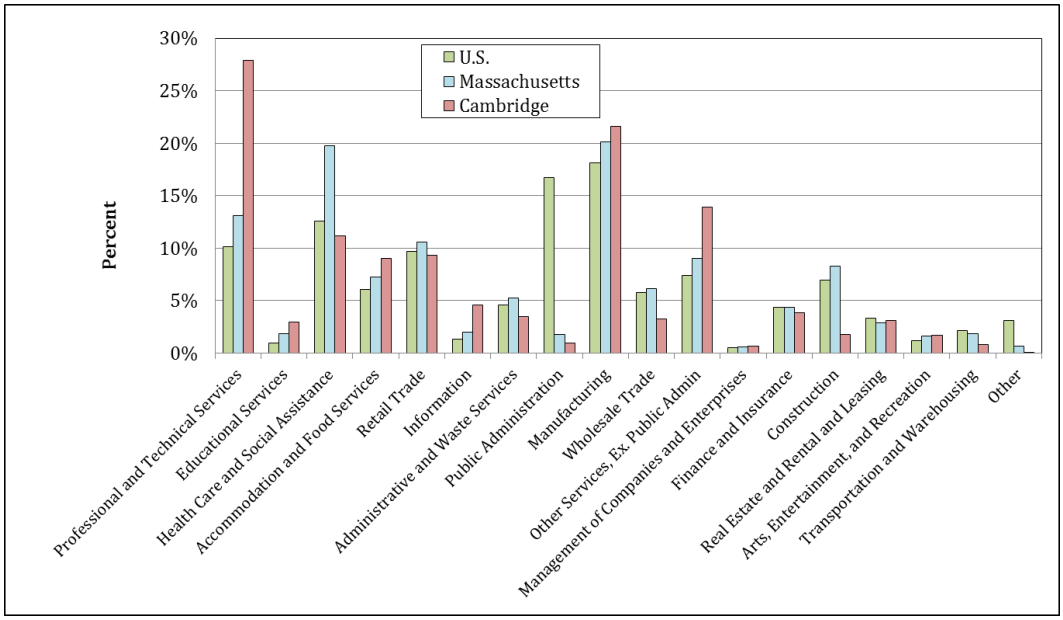
[2] High-tech industry, High-tech Industries in Massachusetts: Employment and Wage Trends during the 2001-2009 Period. *Regional Report*, U.S. Bureau of Labor Statistics, November 2011. http://www.bls.gov/opub/btn/archive/high-tech-industries-in-massachusetts-employment-and-wage-trends-during-the-20012009-period-pdf.pdf

Figure 6. Cambridge Establishments by Industry, 2001 and 2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Figure 7. U.S., Massachusetts and Cambridge Establishments by Industry, 2013



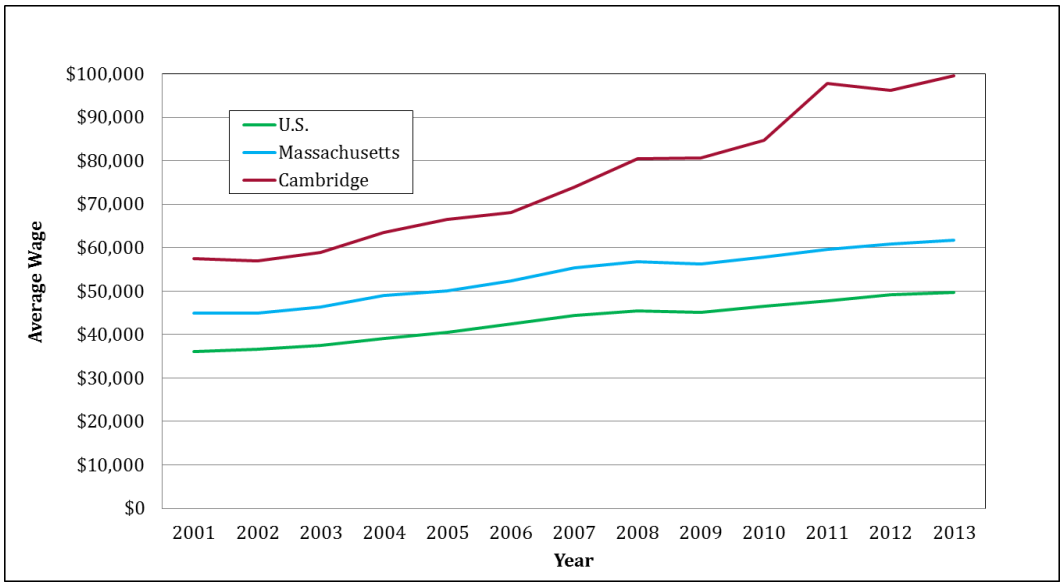
Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Wages

Due to its unique industry and institutional mix, Cambridge's average annual wage has been much higher than the U.S. and Massachusetts's since 2001. In 2013 Cambridge's average wage was 61 percent higher than the Massachusetts average and twice as high as the U.S. average. Over the more-than-ten year period measured, Cambridge wages have increased much faster than the U.S. and Massachusetts averages. Wages in the city increased 73 percent since 2001 – 30 percent after adjusting for inflation. This is a much higher

rate than seen in the Massachusetts and the U.S. as a whole which grew 37 percent (3 percent after inflation).

Figure 8. Average Annual Wages in the U.S., Massachusetts and Cambridge, 2001 to 2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Table 3. Average Annual Wages for the U.S., Massachusetts and Cambridge, 2001 to 2013

Year	U.S.	Massachusetts	Cambridge
2001	$36,157	$44,980	$57,512
2002	$36,539	$44,980	$56,940
2003	$37,508	$46,332	$58,916
2004	$39,134	$48,932	$63,440
2005	$40,505	$50,076	$66,508
2006	$42,414	$52,416	$68,068
2007	$44,362	$55,276	$73,944
2008	$45,371	$56,784	$80,548
2009	$45,155	$56,264	$80,704
2010	$46,455	$57,824	$84,708
2011	$47,815	$59,644	$97,864
2012	$49,200	$60,892	$96,200
2013	$49,701	$61,800	$99,490

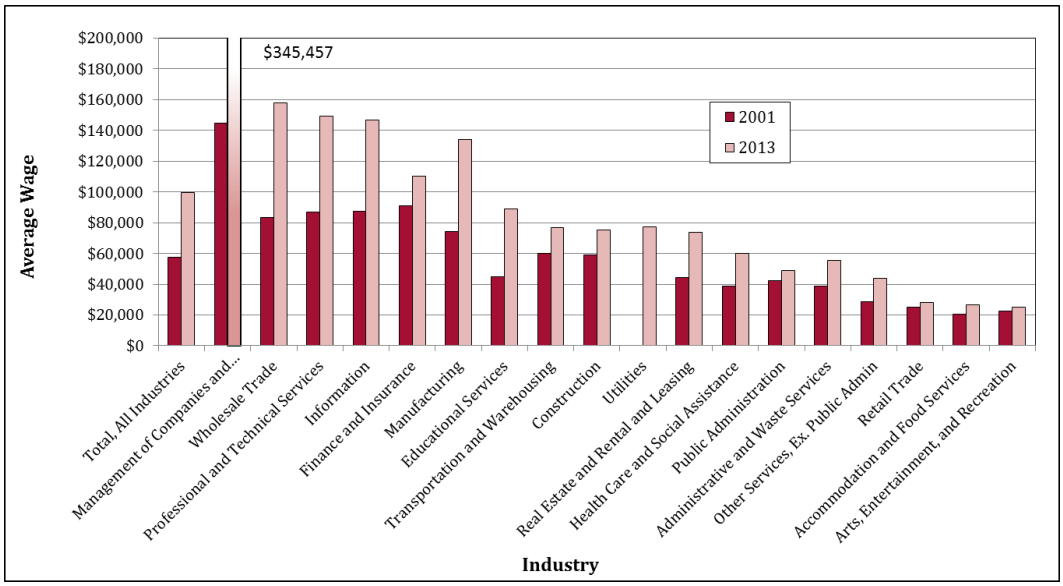
Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Average annual wages increased in every industry between 2001 and 2013. Several industries had above average (greater than 73 percent) gains over the decade. Average annual wages in Management of Companies and Enterprises increased by close to 139 percent. Wages in Educational Services increased 99 percent, while wages in the Wholesale Trade Sector increased by 89 percent. Even while employment fell in the Information sector, annual average wages increased by 68 percent. Average annual wages in the

Retail Trade and Arts, Entertainment, and Recreation industries had the smallest wage increases (12 percent).

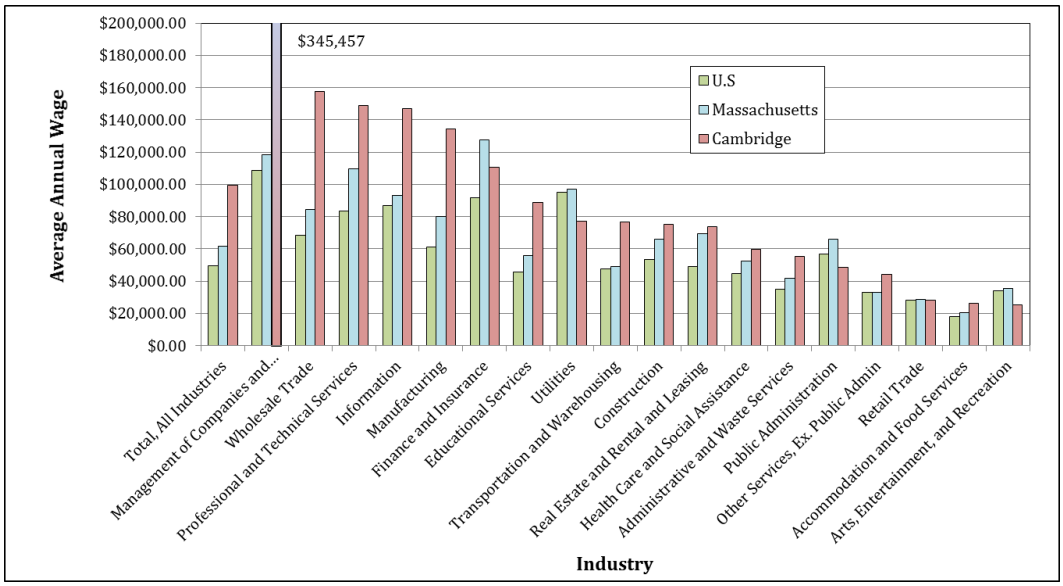
In 2013, Cambridge's average wage by industry was higher than in the U.S. in all industry sectors with the exception of wages in Utilities and Arts, Entertainment, and Recreation. Wages in the following sectors in Cambridge are notably higher than in the U.S. or in Massachusetts as a whole: Management of Companies and Enterprises industry, Wholesale Trade, Professional and Technical Services, Information, Manufacturing, Educational Services, Transportation and Warehousing, and Other Services.

Figure 9. Cambridge Average Annual Wages by Industry, 2001 and 2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Figure 10. Average Annual Wages by Industry for the U.S., Massachusetts and Cambridge in 2013



Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Table 4. Cambridge's Average Annual Wages by Industry, 2001 and 2013, Sorted by the Highest in 2013

NAICS	Industry	2001	2013	Percent change from 2001-2013
10	**Total, All Industries**	**$57,528**	**$99,490**	**73%**
55	Management of Companies and Enterprises	$144,501	$345,457	139%
42	Wholesale Trade	$83,553	$157,657	89%
54	Professional and Technical Services	$87,014	$149,117	71%
51	Information	$87,231	$146,868	68%
52	Finance and Insurance	$90,986	$110,399	21%
31-33	Manufacturing	$74,252	$134,304	81%
61	Educational Services	$44,812	$88,998	99%
48-49	Transportation and Warehousing	$59,994	$76,655	28%
23	Construction	$59,106	$75,028	27%
22	Utilities	$0[3]	$77,276	
53	Real Estate and Rental and Leasing	$44,450	$73,536	65%
62	Health Care and Social Assistance	$38,905	$59,945	54%
92	Public Administration	$42,534	$48,780	15%
56	Administrative and Waste Services	$38,748	$55,422	43%
81	Other Services, Ex. Public Admin	$28,489	$43,991	54%
44-45	Retail Trade	$25,048	$28,089	12%
72	Accommodation and Food Services	$20,574	$26,422	28%
71	Arts, Entertainment, and Recreation	$22,560	$25,175	12%

Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

[3] The Utilities industry code represents utilities firms in the private sector. In 2001, Cambridge had its own municipal utility system, while in 2013, those services were provided by a regional utility company.

Cambridge Compared to Cities in the U.S. with Similar Education Services and Technical Industry Employment

The Greater Boston metropolitan area is frequently named by independent analysts as home to the leading life sciences cluster in the United States. In its 2012 Life Sciences Cluster Report, commercial real estate services firm Jones Lang LaSalle credited the Boston area as an "elite provider" of efficiency, collaboration, and intellectual prowess, "fueled by top-notch universities, innovation centers, research hospitals, venture capital firms, and, most importantly, a strong labor force." On its life sciences scorecard, Jones Lang LaSalle ranked Greater Boston first of 21 United States life sciences clusters in NIH funding, second in venture capital funding, and second in concentration of life sciences establishments and employment, earning it the top overall ranking among metropolitan areas. In a 2011 article, Genetic Engineering and Biotechnology News (GEN) listed California and Massachusetts as the top two biotechnology clusters in the United States, matching Boston and Cambridge up against a combined cluster of San Diego and the San Francisco Bay Area. A 2012 follow-up GEN article tracking new biotech clusters noted that emerging American biopharma cluster activity "has been overshadowed by the ongoing consolidation by big pharma and big biotech within the top two clusters," referring specifically to the San Francisco Bay Area and Cambridge. Alexandria Real Estate Equities, a real estate investment trust focusing on the life sciences industry, referred to the Greater Boston area as "the center of life science research and development in the eastern United States."

Recognizing the important role of life sciences firms within the Cambridge economy was paramount to selecting cities with which Cambridge could be most aptly compared. After calculating location quotients of all two-digit NAICS industries, EPPR generated correlation coefficients assessing similarities between Cambridge and 26 other cities across industry employment, population, income, educational attainment, and unemployment rates. From the resulting data emerged eight locations appearing most similar to Cambridge across metrics – Palo Alto, Berkeley, and San Diego, California; Austin, Texas; Ann Arbor, Michigan; New Haven, Connecticut; Durham and Chapel Hill, North Carolina; and Arlington, Virginia. Each of these locations was chosen for its similarity to Cambridge across multiple categories, including the presence of a robust life sciences cluster.

Among the selected cities, Palo Alto showed the strongest correlation with Cambridge across all two-digit NAICS industries, suggesting strong similarities between the two cities in their workforce makeup. And while its correlation with Cambridge is not as strong, Arlington matches closely with Cambridge among the information, educational services, and professional, scientific, and technical services industries – all fields in which Cambridge exhibits location quotients significantly above one. In addition to similarities across NAICS industries, Palo Alto, Arlington, and Cambridge hold similar levels of educational attainment among their workforces and unemployment rates well below the national mean. Austin and San Diego, though with populations far greater than that of Cambridge, each possess substantial job clusters in professional, scientific, and technical services. Berkeley, like Palo Alto, contributes significantly to the Bay Area life sciences cluster, and along with Ann Arbor closely matches Cambridge's profile in population and educational attainment. Durham and Chapel Hill – combined in the EPPR analysis for geographic proximity and shared characteristics – correlates closely with Cambridge across all two-digit NAICS codes. Rounding out the EPPR assessment, New Haven presents an example of a New England city with strong similarities to Cambridge across two-digit NAICS codes, particularly within its highly concentrated educational cluster.

Table 5. Demographic Characteristics of Selected Cities

Location	Population[4]	Median Household Income[5]	Bachelor's Degree or Higher[6]	Graduate Degree or Higher[3]	Unemployment Rate[7]
Cambridge, MA	106,471	69,017	74.0%	43.6%	3.8%
Palo Alto, CA	66,363	122,532	80.0%	53.5%	3.4%
Austin, TX	842,592	51,596	44.5%	16.8%	4.8%
Ann Arbor, MI	116,121	53,377	70.7%	40.4%	5.4%
San Diego, CA	1,338,348	63,739	41.1%	16.2%	7.0%
New Haven, CT	130,741	39,094	29.7%	15.7%	11.3%
Durham + Chapel Hill, NC	297,782	49,556[8]	49.9%	25.7%	5.9%
Berkeley, CA	115,403	60,908	69.5%	38.4%	6.7%
Arlington, VA	207,627	99,651	70.4%	36.5%	3.1%

Sources: U.S. Census Bureau 2010 Census of Population, Population Estimates Program, and American Community Survey; U.S. Bureau of Labor Statistics

Table 6. Economic Characteristics of Selected Cities

	NAICS 2-Digit Industries[9]					
	Information		Professional, Scientific, and Technical Services		Educational Services	
Location	Jobs	LQ	Jobs	LQ	Jobs	LQ
Cambridge, MA	3,853	1.48	28,475	3.80	26,997	10.86
Palo Alto, CA	6,819	3.01	17,444	2.68	17,444	8.08
Austin, TX	18,360	1.22	56,031	1.30	119,764	8.37
Ann Arbor, MI	1,865	0.66	9,558	1.18	41,363	15.38
San Diego, CA	20,856	1.18	98,143	1.93	76,040	4.50
New Haven, CT	2,675	1.31	3,707	0.63	26,923	13.84
Durham + Chapel Hill, NC	3,113	0.66	14,984	1.11	35,050	7.85
Berkeley, CA	1,614	1.32	8,581	2.45	3,763	3.23
Arlington, VA	4,965	1.43	38,959	3.92	11,830	3.58

Source: U.S. Census Bureau, Center for Economic Studies

[4] 2012 estimates provided by the U.S. Census Bureau Population Estimates Program. 2010 Census of Population data used for Arlington, as the Population Estimates Program does not make annual population estimates available for Arlington CDP.
[5] American Community Survey 5-year estimates, 2007-2011.
[6] American Community Survey 1-year estimates, 2011. Calculated for persons aged 25 and over.
[7] U.S. Bureau of Labor Statistics figures for April 2013; retrieved July 10, 2013.
[8] Median household income for the Durham and Chapel Hill combined area generated using a weighted mean of median household income for both cities, weighted by population.
[9] 2011 annual data. Location quotients derived for each city using United States totals as the base category.

Real Estate and Property Value Indicators

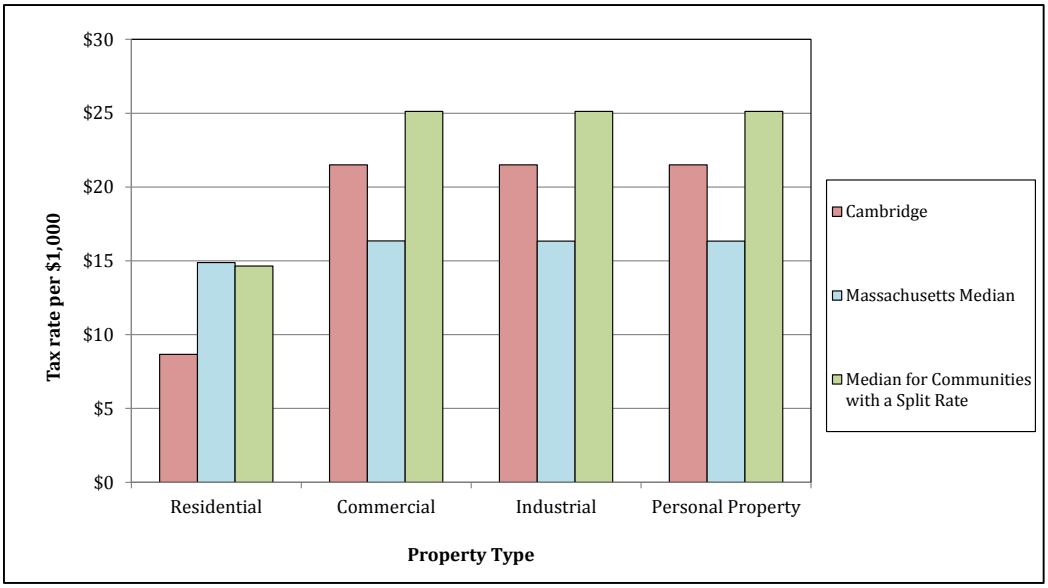
The discussion in this section provides information about the real estate base of the city of Cambridge. Various questions shaped the research in this section of the report including: What are the assessed values of properties in Cambridge? What is the breakdown by residential, commercial and industrial owners? What portions of Cambridge's taxes are paid by these owners? How have these data changed over time? What is the current market and availability of real estate in Cambridge?

We used several data sets to obtain answers to these questions. Building on the data already provided by the Chamber and the City of Cambridge's tax assessor's office, the Massachusetts Department of Revenue's Division of Local Services maintains an extensive database of local property tax assessment data. We also used the customized real estate data provider CB Richard Ellis, to develop profiles of commercial real estate conditions.

Tax Rates and Property Assessments by Type

Residential tax rates in the city of Cambridge are lower than the state median. They are also lower than the median rates used by other Massachusetts communities that use a split rate. Cambridge tax rates are much lower for residential properties than for other types of properties in the city: in FY13, Cambridge's commercial, industrial and personal property tax rates were 2.5 times higher than its residential rate. In other Massachusetts communities with split rates, residents pay a somewhat higher residential rate compared to their commercial, industrial and personal property tax rates. In FY13, median commercial, industrial and personal property tax rates in these other communities were 1.7 times higher than their residential rate.

Figure 11. Comparing Cambridge Tax Rates by Property Class to the Median Rates for Massachusetts and Massachusetts Communities with a Split Rate



Source: Massachusetts Department of Revenue, Division of Local Services

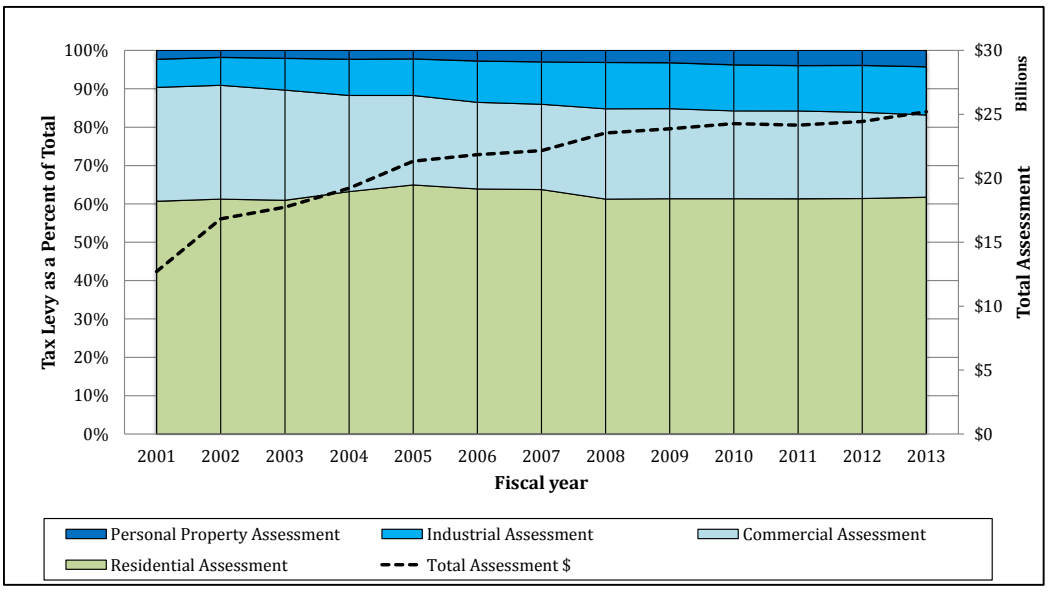
Total assessed values of properties in Cambridge grew 99 percent - from $12.7 billion in 2001 to $25.2 billion in 2013. Residential property assessments grew 102 percent, Commercial assessments grew 43 percent, Industrial assessments grew 241 percent and Personal Property assessments grew 265 percent. There was positive growth in every year but 2011. Residential properties are the most significant type of property when it comes to assessed values in Cambridge. Between 2001 and 2013, the residential assessment averaged 62 percent of the total assessed value of all properties in the city, while commercial, industrial and personal property averaged 24 percent, 10 percent and 3 percent respectively. Cambridge commercial property was the only class whose proportion of the total assessed value decreased since 2001. In 2013, the value of Cambridge's commercial assessment was 21 percent of the total which was 8 percent less than the commercial assessment in 2001.

Table 7. Cambridge's Property Assessments, in $ Millions, by Property Type from 2001-2013

Year	Residential	Commercial	Industrial	Personal Property	Total
2001	$7,709	$3,772	$929	$293	$12,703
2002	$10,317	$4,994	$1,221	$305	$16,837
2003	$10,820	$5,098	$1,465	$368	$17,751
2004	$12,157	$4,818	$1,808	$444	$19,227
2005	$13,871	$4,980	$2,030	$467	$21,348
2006	$13,962	$4,930	$2,350	$605	$21,847
2007	$14,135	$4,929	$2,443	$659	$22,167
2008	$14,427	$5,541	$2,836	$736	$23,541
2009	$14,651	$5,606	$2,851	$768	$23,876
2010	$14,894	$5,560	$2,906	$911	$24,272
2011	$14,824	$5,529	$2,850	$960	$24,162
2012	$15,018	$5,492	$2,985	$951	$24,447
2013	$15,567	$5,406	$3,171	$1,070	$25,214

Source: Massachusetts Department of Revenue, Division of Local Services

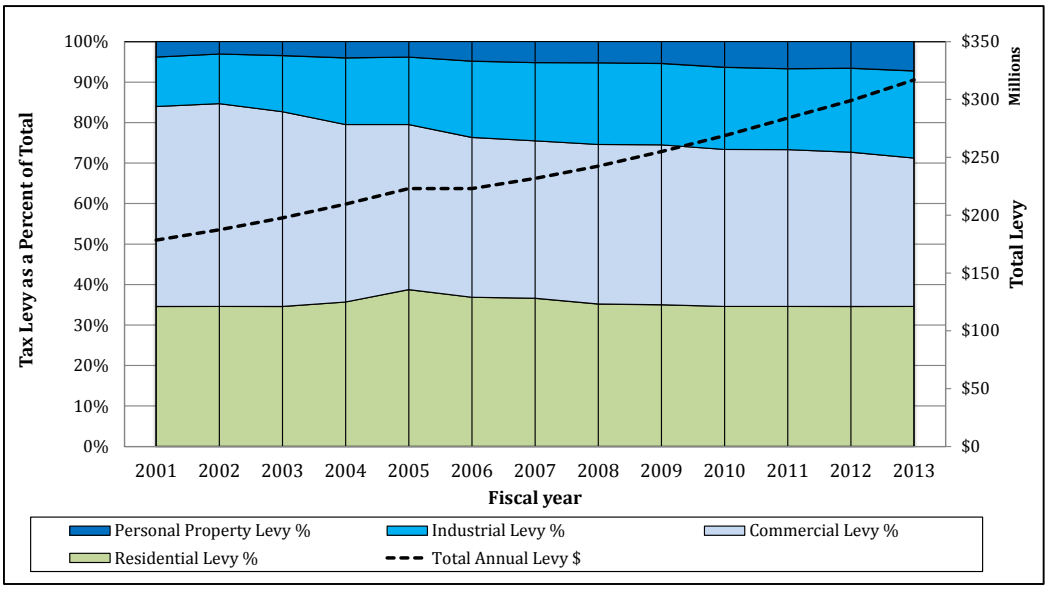
Figure 12. Cambridge's Property Tax Assessment by Percent of Type and Total Assessment, 2001-2013



Source: Massachusetts Department of Revenue, Division of Local Services

Cambridge's total property levy has increased $139 million from $178 million in 2001 to $317 million in 2013. This represents an increase of 78 percent or almost two and a half times the inflation rate over the period. The residential levy increased 78 percent, the commercial levy increased 32 percent, the industrial levy increased 214 percent, and the personal property levy increased 236 percent from 2001 to 2013. The percent of tax levy from commercial, residential, industrial, and personal property taxes is 37 percent, 35 percent, 22 percent and 7 percent respectively.

Figure 13. Cambridge's Property Levies, in $Millions, by Property Type and Total Levy, 2001-2013



Source: Massachusetts Department of Revenue, Division of Local Services

Table 8. Cambridge's Property Levies, in $ Millions, by Property Type from 2001-2013

Year	Residential	Commercial	Industrial	Personal Property	Total Annual
2001	$62	$88	$22	$7	$178
2002	$65	$94	$23	$6	$187
2003	$68	$95	$27	$7	$198
2004	$75	$92	$34	$8	$210
2005	$86	$91	$37	$9	$223
2006	$82	$88	$42	$11	$223
2007	$85	$90	$45	$12	$232
2008	$85	$96	$49	$13	$242
2009	$89	$101	$51	$14	$255
2010	$93	$104	$54	$17	$269
2011	$98	$110	$57	$19	$284
2012	$103	$114	$62	$20	$299
2013	$110	$116	$68	$23	$317

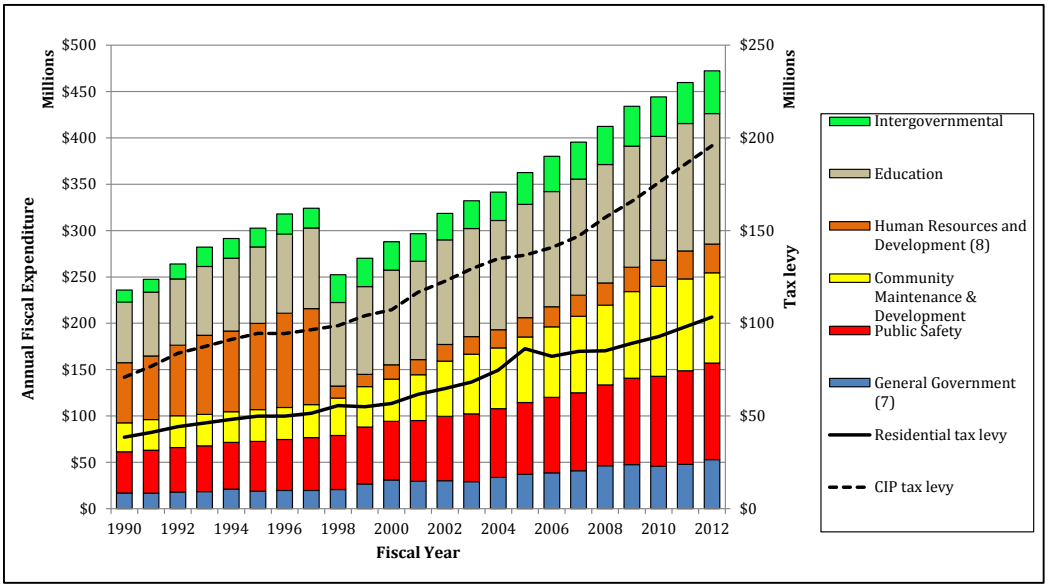
Source: Massachusetts Department of Revenue, Division of Local Services

City of Cambridge Budget Expenditures and Revenues

The Cambridge operating budget has grown 59 percent from 2001 to 2012, from $296.5 million to $472.2 million. Spending on Community Maintenance & Development increased at the highest rate – 97 percent from 2001 to 2012 – from $49.3 million to $97.4 million. While spending on Education is the most significant type of spending in the city, this budget category increased at the slowest rate – 33 percent – from $106 million to $140.7 million. The disruption seen in the budget was due to the Cambridge Hospital, including the Neville Manor Nursing Home and Health Department, becoming an independent authority in FY97. The net impact was a reduction of $72,770,620 in the total FY97 Budget.

In FY1990, taxes provided 48% of funding for Cambridge's operating budget. In FY2014 taxes will provide 72%. The portion of the budget funded by charges for services fell from 27% in 1990 to 14% in 2014 and intergovernmental revenue fell from 20% to 8%. All other funding sources have remained relatively constant.

Figure 14. Comparison of Cambridge's Operating Budget by Program with Tax Levies by Class, 1990-2012



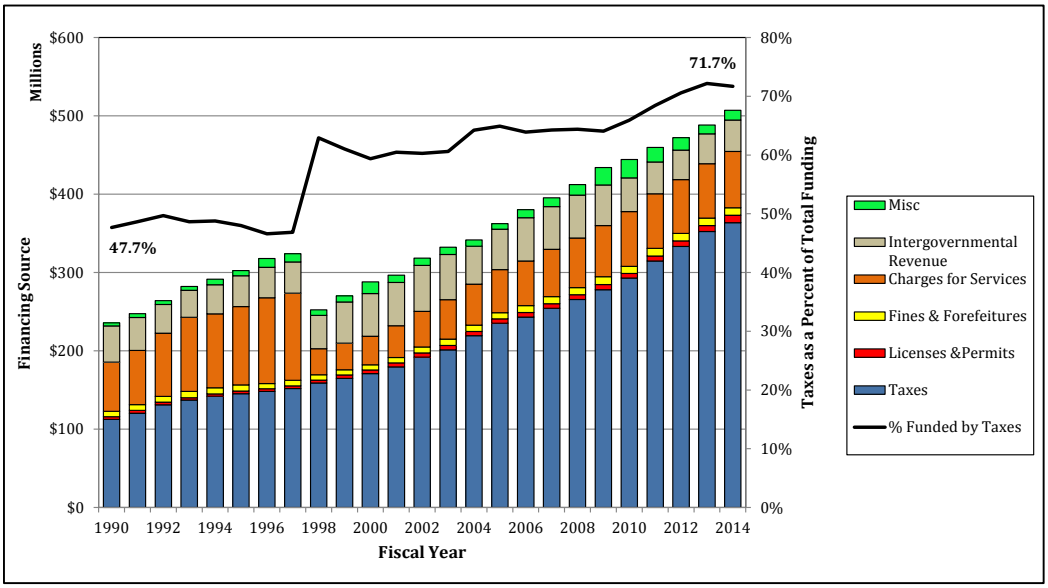
Source: Massachusetts Department of Revenue, Division of Local Services; City of Cambridge[10] [11]

Note: CIP is Commercial, Industrial and Personal Property

[10] The General Government Functional Group Includes the Employee Benefits Department, which includes budgets for health insurance, pension, salary adjustment and other costs not contained in individual departmental budgets.

[11] The Cambridge Hospital, including the Neville Manor Nursing Home and Health Department was a City Department until it became an independent authority in FY97. During FY97, $80,096,445 for the Cambridge Hospital and $11,268,360 for the Neville Manor was rescinded from the FY97 Budget. This total amount was offset with an appropriation of $9,996,185 for hospital employee benefits and $8,598,000 for a service contract with the newly created Health Commission. The net impact was a reduction of $72,770,620 in the total FY97 Budget.

Figure 15. Comparison of Cambridge's Operating Budget by Financing Source, 1990-2014

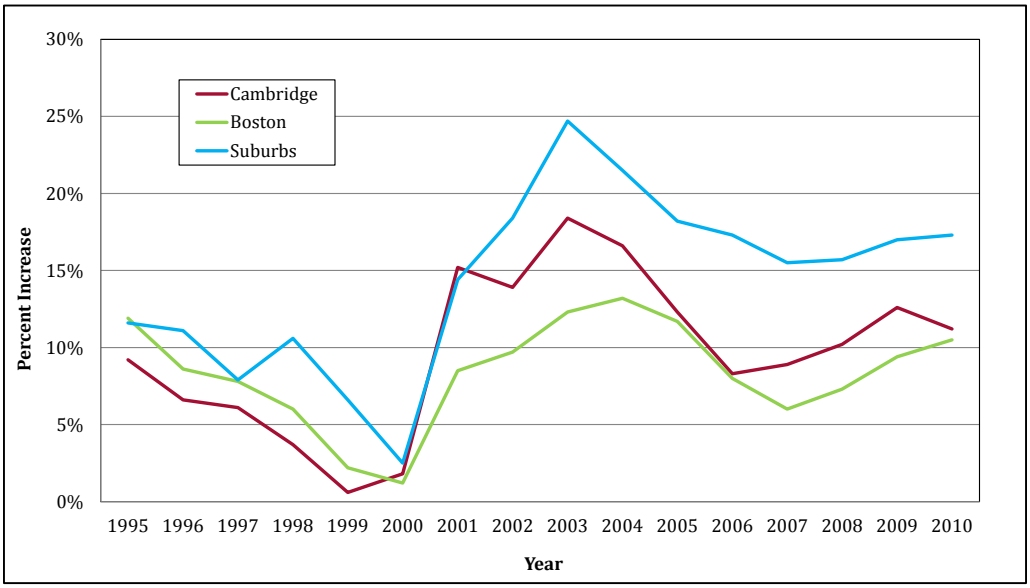


Source: Massachusetts Department of Revenue, Division of Local Services; City of Cambridge

Office and Research Space - Rents and Vacancy Rates

Before the dot com bust of 1999-2001, vacancy rates for Cambridge office and research and development space were consistently lower than the rate for the same types of properties in Boston and the rate in the Suburban Boston. But since then, Boston has had a more desirable market and its vacancy rate has been lower than the vacancy rate in Cambridge. Since 2000, however, the office and R&D space vacancy rate in Cambridge has been notably lower than the office and R&D space vacancy rate in the Boston suburbs.

Figure 16. Office and Research and Development Space Vacancy Rate by Calendar Year, 1995-2010



Source: 2011 Cambridge, Massachusetts Socioeconomic & Demographic Profile, Cambridge Community Development Department

Note: These rates are for office and R&D space only; industrial and retail spaces are not included. The vacancy rates do not include space currently occupied but available for lease, nor does it include any sublease space. The vacancy rate does not include space available in the future, such as space now under construction.

The commercial real estate services firm C.B. Richard Ellis divides the Cambridge real estate market into three sub-regions: West Cambridge, Mid-Cambridge and East Cambridge. According to C.B. Richard Ellis, an expanding economy and growing tenant base are contributing to an improving real estate market in the region in the first half of 2013. Mid-size deals have been the driving force over this time for the Cambridge office market and vacancy rates are falling. [12] Data provided by the firm show the largest amounts of office and lab space square footage are located in East Cambridge, followed by lower amounts of space in West Cambridge and in Mid-Cambridge. The market for office space is very tight in Mid-Cambridge (where vacancy rates are only 1.8 percent), while the rates in the other two sub-regions are about the same (between 6.7 and 6.9 percent). Vacancy rates for lab space is tightest in West Cambridge (with a vacancy rate of 3.8 percent), while lab space in Mid-Cambridge is much more available (with a 34.9 percent vacancy rate).

[12] C.B. Richard Ellis Global Research and Consulting. Greater Boston Market MarketView, Q2 2013. Report found at: http://cbreemail.com/cv/65d1fa4008911e9cc31832d9a53e79c2c24e37ec

Figure 17. Map of Cambridge Real Estate Submarkets

Source: CB Richard Ellis Group

Table 9. Office and Lab Space Market Data for Cambridge

Submarket	Space	Market Size (Square Feet)	Vacancy (%)	Average Asking Rents ($ PSF)
East	Office	7,279,683	6.7%	$48.97
	Lab	8,303,656	6.9%	$52.36
Mid	Office	1,870,936	1.8%	$35.43
	Lab	364,587	34.9%	$52.25
West	Office	1,923,576	6.9%	$33.11
	Lab	817,480	3.8%	$51.92
Cambridge Overall	Office	11,074,195	5.9%	$42.77
	Lab	9,485,723	7.7%	$51.92

Source: CB Richard Ellis Group

A comparison of the office space market in Cambridge with the office space market in Boston and Suburban Boston, shows that Cambridge has a significantly smaller office space market size than Boston and Suburban Boston. Perhaps due to this smaller inventory, the vacancy rate for office space in Cambridge is somewhat lower than the vacancy rate found in Boston and significantly lower than the vacancy rate in Suburban Boston. Average asking rents (per square foot) for office space are slightly higher in Boston ($44.40 per square foot in Boston versus $42.77 in Cambridge) and average asking rents for office space in Suburban Boston are significantly lower ($19.64 per square foot) than per square foot asking rents in Cambridge. According to C.B. Richard Ellis, the market across Greater Boston is positioned for continued strength in the second half of 2013.[13]

Table 10. Office and Lab Space Market Data for the Suburban Boston Area

Market	Market Size (Square Feet)	Vacancy (%)	Average Asking Rents ($ PSF)
Cambridge	11,074,195	5.9%	$42.77
Boston	73,682,035	8.1%	$44.40
Suburban Boston	111,485,745	15.7%	$19.64

Source: CB Richard Ellis Group

[13] Ibid.

Socio-economic Indicators for Cambridge Residents

The discussion in this section provides socio-economic information about the residents and workers who live and find employment in the city of Cambridge. Various questions shaped the research in this section of the study including: Who lives in Cambridge? What is their age profile? What race and ethnicity are they? What is their educational background? Were they born here? What do we know about their income and commuting methods? These questions were answered with data from the U.S. Census Bureau's American Community Survey.

Types of Employment

The majority of Cambridge residents work for private companies – 57 percent of the population work as private company employees – but this is a lower proportion of private company employees than seen in Massachusetts as a whole (where 66 percent of workers are in this category) and in the U.S. (69 percent of workers). In contrast, Cambridge has a much larger share of private, non-profit workers than the share seen in other regions. In 2013, 29 percent of workers in Cambridge were employed as private not-for-profit workers in contrast to 13 percent of all workers in Massachusetts and 8 percent of workers in the U.S. Self-employed workers and federal government workers are relatively rare in Cambridge when compared to other regions.

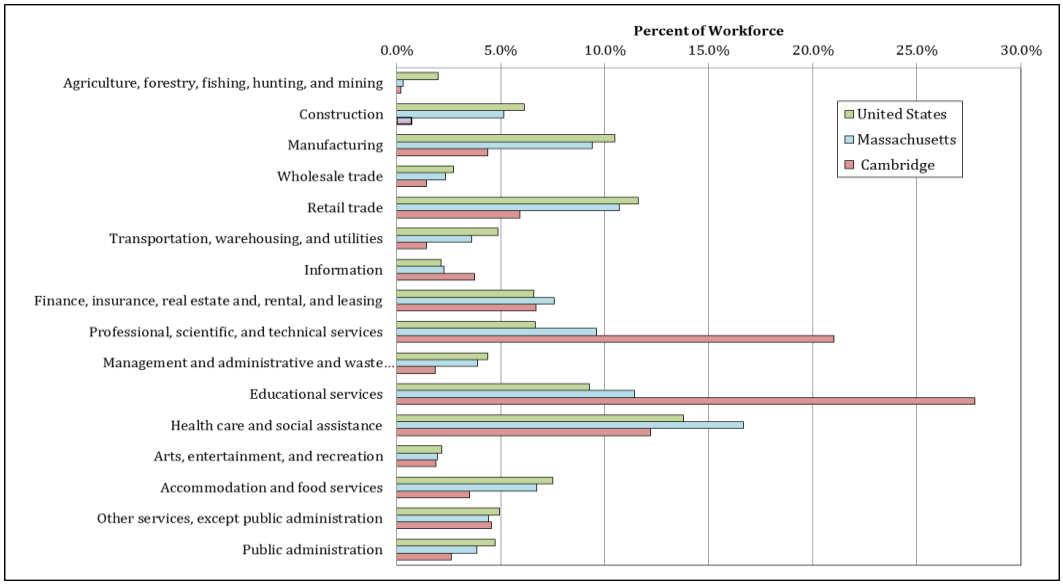
Figure 18. Percent of Resident Workers by Class of Worker for the U.S., Massachusetts and Cambridge, 2013

Source: U.S. Census Bureau, American Community Survey

Resident workers in Cambridge are disproportionately employed in two industry sectors: nearly 28 percent of workers in the city are employed in the Educational Services sector and 21 percent of workers are employed in the Professional, Scientific and Technical Services sector compared to much lower rates for Massachusetts and the U.S. as a whole. An additional 12 percent of workers in the city are employed in Health Care, and Social Assistance, a slightly lower proportion of workers than in Massachusetts as a whole. Cambridge workers are also slightly more likely to be employed in the Information sector. Workers in

traditionally blue collar industries (for example in Construction; Manufacturing; Wholesale Trade; and Waste Management Services) and in lower paying industry sectors like Retail Trade and Accommodation and Food services are relatively less likely to live in the city than in Massachusetts or the U.S. as a whole.

Figure 19. Resident Employment by Industry in the U.S., Massachusetts and Cambridge, 2013



Source: U.S. Census Bureau, American Community Survey

Table 11. Resident Employment by Industry in the U.S., Massachusetts and Cambridge, 2013

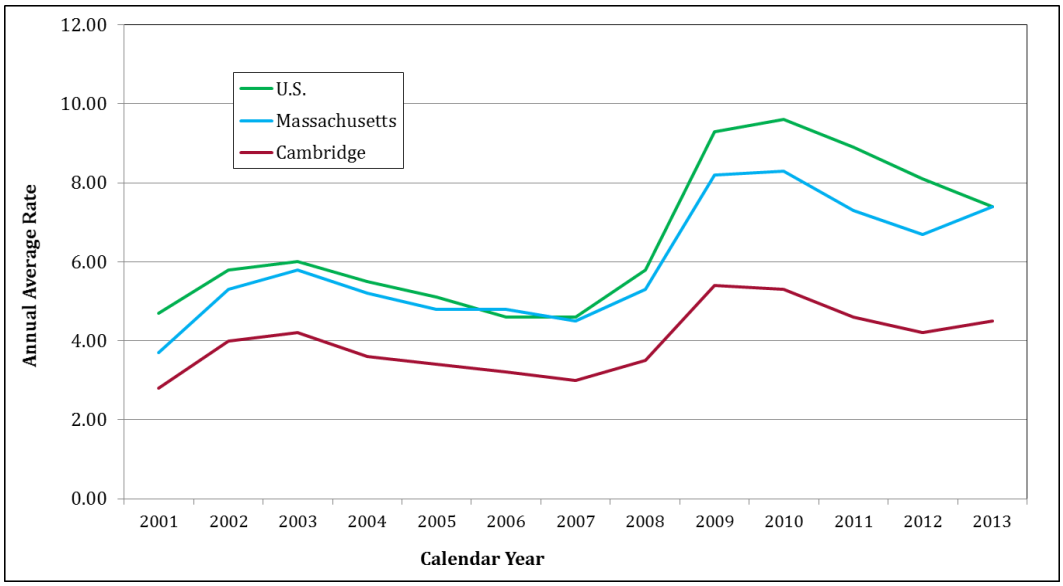
Industry	United States	Massachusetts	Cambridge
Agriculture, forestry, fishing, hunting, and mining	2.0%	0.3%	0.2%
Construction	6.2%	5.2%	0.7%
Manufacturing	10.5%	9.4%	4.4%
Wholesale trade	2.7%	2.4%	1.4%
Retail trade	11.6%	10.7%	5.9%
Transportation, warehousing, and utilities	4.9%	3.6%	1.4%
Information	2.1%	2.3%	3.8%
Finance, insurance, real estate and, rental, and leasing	6.6%	7.6%	6.7%
Professional, scientific, and technical services	6.7%	9.6%	21.0%
Management and administrative and waste management services	4.4%	3.9%	1.9%
Educational services	9.3%	11.5%	27.8%
Health care and social assistance	13.8%	16.7%	12.2%
Arts, entertainment, and recreation	2.2%	2.0%	1.9%
Accommodation and food services	7.5%	6.7%	3.5%
Other services, except public administration	5.0%	4.4%	4.6%
Public administration	4.7%	3.9%	2.6%

Source: U.S. Census Bureau, American Community Survey

Unemployment

Residents of the city of Cambridge are employed at a relatively high rate. The unemployment rate for residents of Cambridge in 2013 was 4.5 percent. As a population, residents of Cambridge don't appear to have suffered the same difficulties with respect to unemployment as residents in other places. Since 2009, the unemployment rate for Cambridge residents has been nearly three percentage points lower than the rates for Massachusetts residents as a whole and close to four percentage points lower than for the U.S. as a whole.

Figure 20. Unemployment Rates for Residents of the U.S., Massachusetts and Cambridge, 2001 to 2013

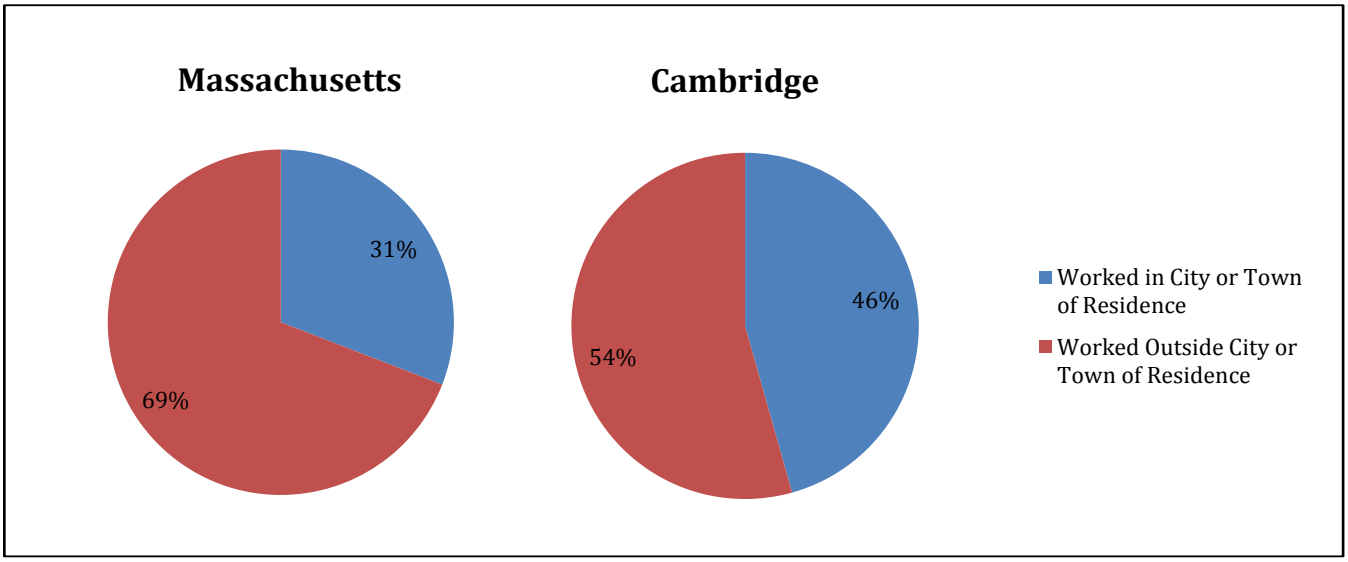


Source: U.S. BLS, Massachusetts Executive Office of Labor and Workforce Development (EOLWD)

Residents Working in the City

Cambridge residents are more likely to work within their city than the average resident of Massachusetts. According to the most recent American Community Survey (ACS) data, 46 percent of the Cambridge workforce lives in the city. This proportion is one and a half times the Massachusetts state average rate of 31 percent.

Figure 21. Percent of Workers 16 Years and Over by Place of Work, 2013

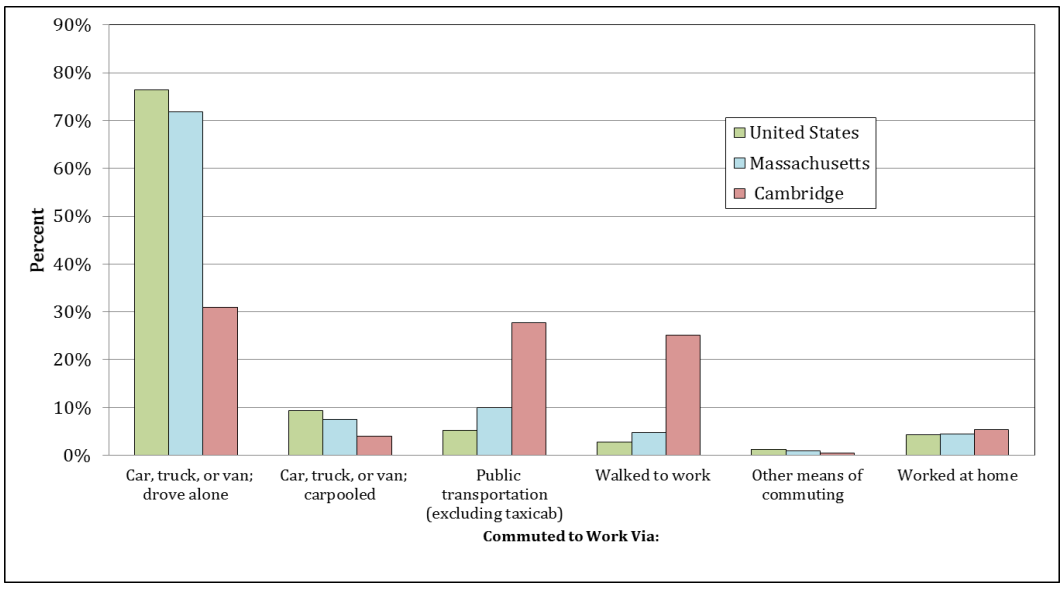


Source: U.S. Census Bureau, American Community Survey

Commuter Travel Modes

City residents' choices of transportation mode are unusual when compared to commuting decisions generally seen in the U.S. and in Massachusetts. Cambridge residents are far less likely to drive alone to work, and far more likely to commute by walking, using public transportation, or bicycling. Furthermore, a higher proportion of Cambridge residents work from home (5.4 percent work from home versus 4.4 percent in Massachusetts and the U.S. as a whole).

Figure 22. Means of Transportation to Work for Residents in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

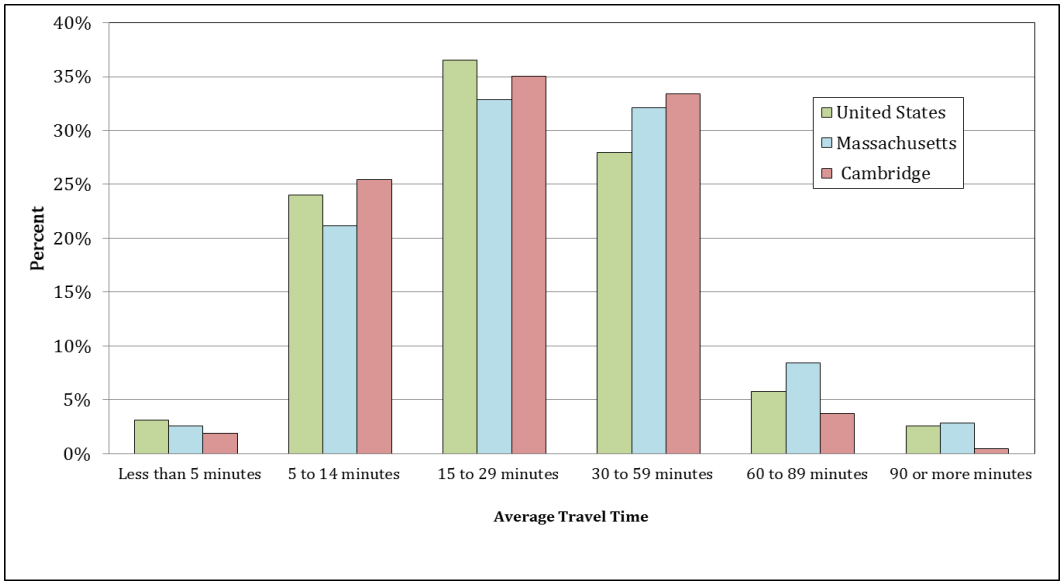
Table 12. Percent of Residents Who Commuted to Work and their Means of Transportation for the U.S., Massachusetts and Cambridge in 2013

	United States	Massachusetts	Cambridge
Workers 16+ who commute to work	95.6%	95.6%	94.6%
Car, truck, or van; drove alone	76.4%	71.8%	30.9%
Car, truck, or van; carpooled	9.4%	7.4%	4.0%
Public transportation (excluding taxicab)	5.2%	9.9%	27.7%
Walked to work	2.8%	4.8%	25.1%
Other means of commuting	1.3%	0.9%	0.5%
Worked at home	4.4%	4.4%	5.4%

Source: U.S. Census Bureau, American Community Survey

Cambridge's average travel time to work, 23.5 minutes, was 9 percent less than the U.S. and 18 percent less than the Massachusetts average in 2013. Travel time to work for Cambridge residents is most likely to take between 15 to 29 minutes (35 percent of Cambridge residents are in this category); between 30 and 59 minutes (33.4 percent of residents); and between 5 to 14 minutes (25.4 percent of residents). Proportions in these categories are slightly higher than the proportions that are seen in Massachusetts as a whole. Slightly more residents in Massachusetts than in Cambridge (8.5 percent in Massachusetts versus 3.7 percent in Cambridge) have a commute that is between 60 and 89 minutes.

Figure 23. Travel Time to Work Residents in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

Table 13. Travel Time to Work Residents in the U.S., Massachusetts and Cambridge in 2013

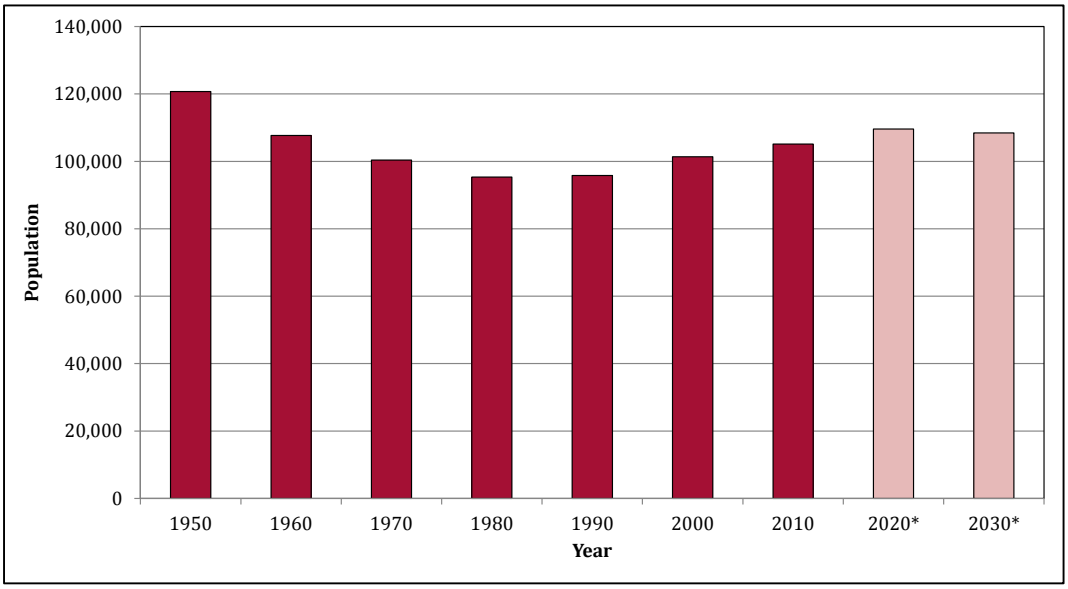
	United States	Massachusetts	Cambridge
Less than 5 minutes	3.1%	2.6%	1.9%
5 to 14 minutes	24.0%	21.1%	25.4%
15 to 29 minutes	36.6%	32.9%	35.0%
30 to 59 minutes	28.0%	32.1%	33.4%
60 to 89 minutes	5.8%	8.5%	3.7%
90 or more minutes	2.6%	2.8%	0.5%
Average travel time to work	25.8	28.6	23.5

Source: U.S. Census Bureau, American Community Survey

Population

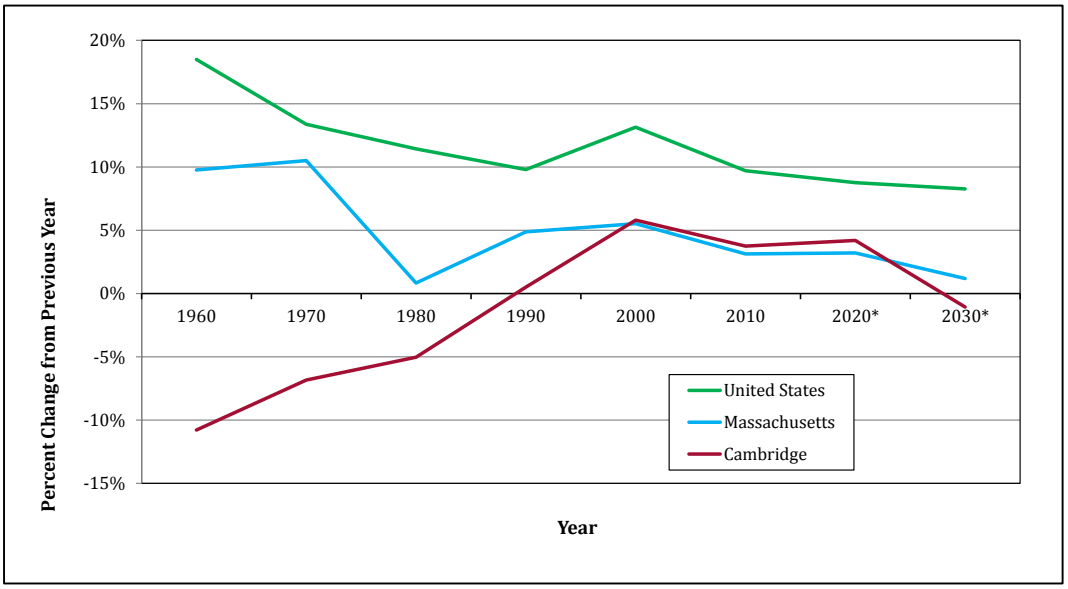
Since 1950 Cambridge has consistently lagged the rate of population growth in the nation and it significantly lagged the rate of population growth in Massachusetts until 1990. The highest population level in the city was measured in 1950 and in that year the population level was more than 120,000. After that, the population fell steadily until 1980 at which time the population was measured at a little more than 95,000. Since 1980, however, the U.S. Census Decennial population series and latest annual estimates have shown growth. The population of Cambridge grew slightly between 1980 and 1990 but it grew at a faster rate after that to a current level of approximately 106,500. Since 2000, the city has grown slightly faster than the state. Cambridge is projected to grow 4.2 percent, about half as fast as the U.S. but faster than Massachusetts 3.2 percent, between 2010 and 2020 but experience a small loss, 1.1 percent, between 2020 and 2030. The U.S. will continue to grow by more than 8 percent while Massachusetts growth will slow to just over 1 percent during the same period.

Figure 24. Cambridge's Decennial Population (1950-2010) and Population Projections (2020-2030)



Source: U.S. Census Bureau, *UMass Donahue Institute, Economic and Public Policy Population Program

Figure 25. Historical and Projected Population Growth from 1950-2030 for the U.S., Massachusetts and Cambridge



Source: U.S. Census Bureau, *UMass Donahue Institute, Economic and Public Policy Population Program

Table 14. Decennial and Annual Population Estimates for the U.S., Massachusetts and Cambridge

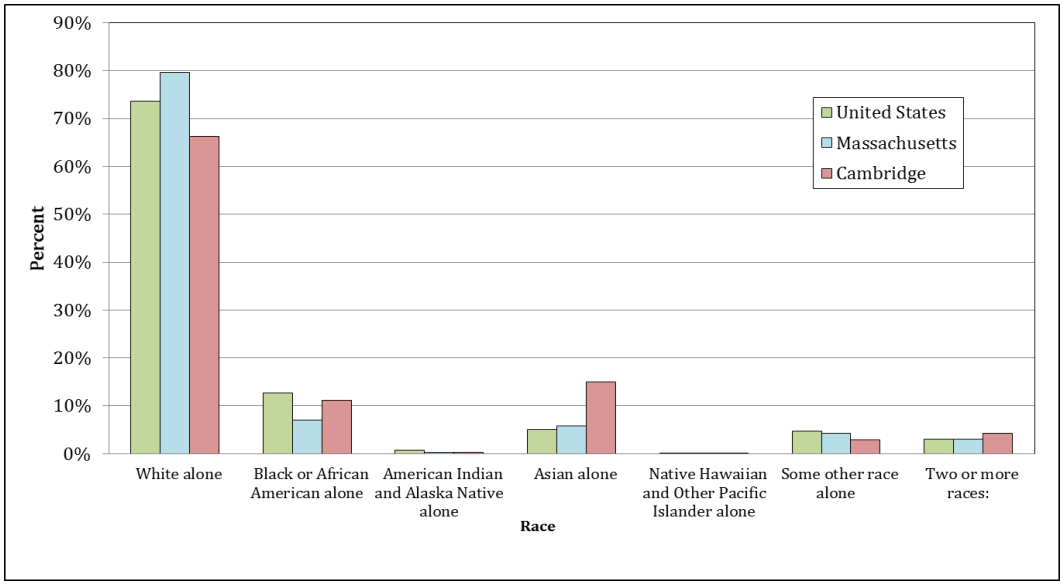
	Decennial Census							Donahue PEP Projections*	
	1950	1960	1970	1980	1990	2000	2010	2020	2030
United States	151,325,798	179,323,175	203,302,031	226,542,199	248,718,302	281,421,906	308,745,538	335,804,546	363,584,435
Massachusetts	4,690,514	5,148,578	5,689,377	5,737,037	6,016,425	6,349,113	6,547,629	6,757,574	6,838,254
Cambridge	120,740	107,716	100,361	95,322	95,802	101,355	105,162	109,578	108,419

Source: U.S. Census Bureau, *UMass Donahue Institute, Economic and Public Policy Population Program

Race and Ethnicity

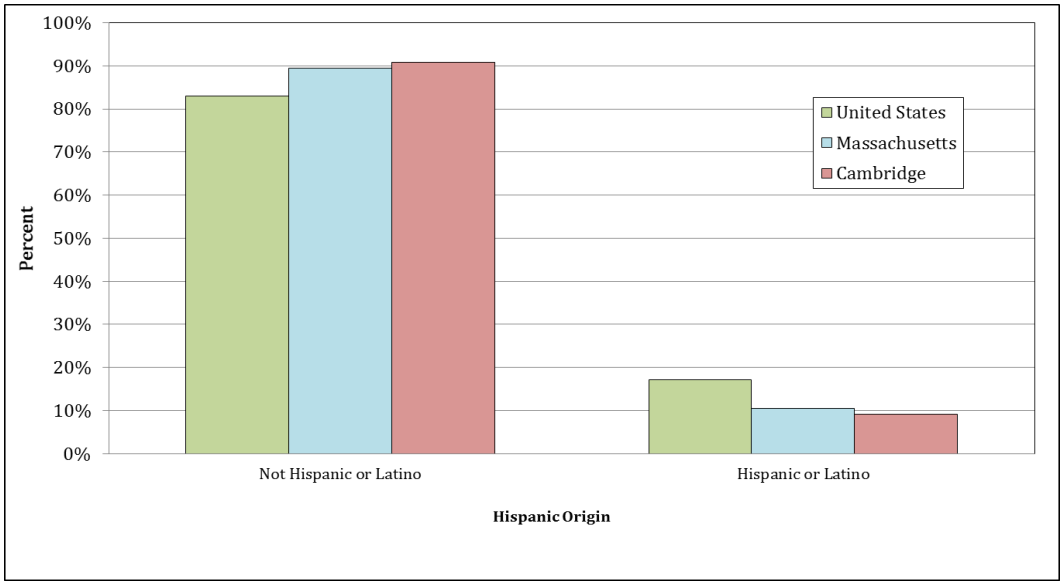
In terms of racial background, the population of residents living in Cambridge is relatively diverse when compared with the population of Massachusetts. When compared with the state as a whole, Cambridge has a lower proportion of white residents (66.3 percent versus 79.6 percent) along with a higher proportion of black residents (11.1 percent versus 7.1 percent), a higher proportion of Asian residents (15 percent versus 5.8 percent), and a higher proportion of those who identify as being of two or more races (4.3 percent versus 3 percent).

Figure 26. Race of Residents in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

Figure 27. Hispanic Origin of Residents in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

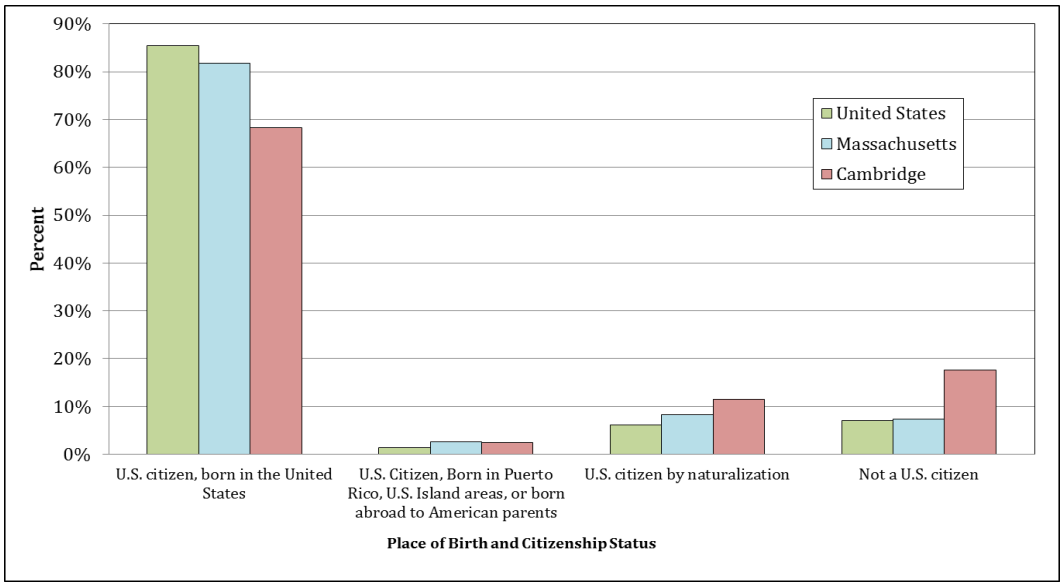
Table 15. Race and Ethnicity of Residents in the U.S., Massachusetts and Cambridge in 2013

	United States	Massachusetts	Cambridge
White alone	73.7%	79.6%	66.3%
Black or African American alone	12.6%	7.1%	11.1%
American Indian and Alaska Native alone	0.8%	0.2%	0.3%
Asian alone	5.1%	5.8%	15.0%
Native Hawaiian and Other Pacific Islander alone	0.2%	0.0%	0.1%
Some other race alone	4.7%	4.3%	2.9%
Two or more races:	3.0%	3.0%	4.3%
Not Hispanic or Latino	82.9%	89.5%	90.8%
Hispanic or Latino	17.1%	10.5%	9.2%

Source: U.S. Census Bureau, American Community Survey

In terms of resident nativity, the population of Cambridge is relatively diverse when compared with the populations of Massachusetts and the U.S. as a whole. When compared with Massachusetts, Cambridge has a lower proportion of residents who were born in the U.S. (68.3 percent versus 81.8 percent in Massachusetts and 85.5 percent in the U.S.), along with a higher proportion of residents who have been naturalized (11.5 percent in Cambridge versus 8.2 percent in Massachusetts and 6.1 percent in the U.S.), and more than twice the rate of residents who are not U.S. citizens (17.7 percent) when compared to Massachusetts and to the U.S. generally (approximately 7 percent for both areas).

Figure 28. Place of Birth and Citizenship Status for Residents in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

Table 16. Place of Birth and Citizenship Status for Residents (Percent) in the U.S., Massachusetts and Cambridge in 2013

	United States	Massachusetts	Cambridge
U.S. citizen, born in the United States	85.5%	81.8%	68.3%
U.S. Citizen, Born in Puerto Rico, U.S. Island areas, or born abroad to American parents	1.4%	2.6%	2.5%
U.S. citizen by naturalization	6.1%	8.2%	11.5%
Not a U.S. citizen	7.0%	7.4%	17.7%

Source: U.S. Census Bureau, American Community Survey

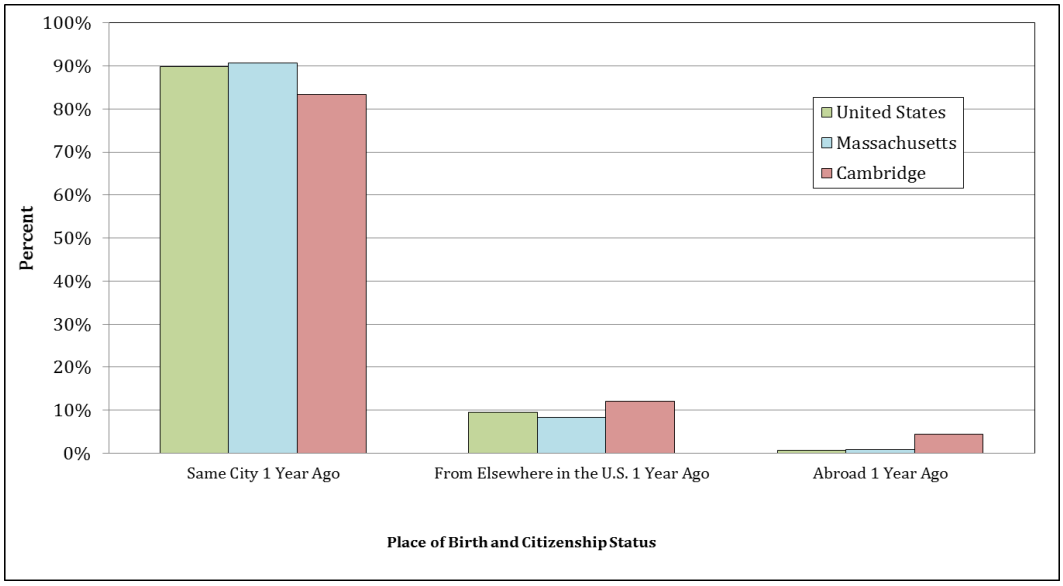
The Cambridge population was twice as mobile in 2013 as the U.S. and Massachusetts average. Cambridge city residents are more likely than the population in other areas to have recently lived elsewhere or abroad rather than in the city. The latest survey data on geographic mobility show that only 83.4 percent of Cambridge residents lived in the city in the previous year with the remainder having lived elsewhere in the U.S. or abroad. This is in contrast to the roughly 90 percent of the U.S. and Massachusetts populations having lived in the same city as the year previous.

Table 17. Percent of Residents of the U.S., Massachusetts and Cambridge Who Lived in the Same City the Previous Year

	United States	Massachusetts	Cambridge
Same City 1 Year Ago	89.8%	90.7%	83.4%
From Elsewhere in the U.S. 1 Year Ago	9.6%	8.4%	12.1%
Abroad 1 Year Ago	0.6%	0.9%	4.5%

Source: U.S. Census Bureau, American Community Survey

Figure 29. Percent of Residents of the U.S., Massachusetts and Cambridge Who Lived in the Same City the Previous Year

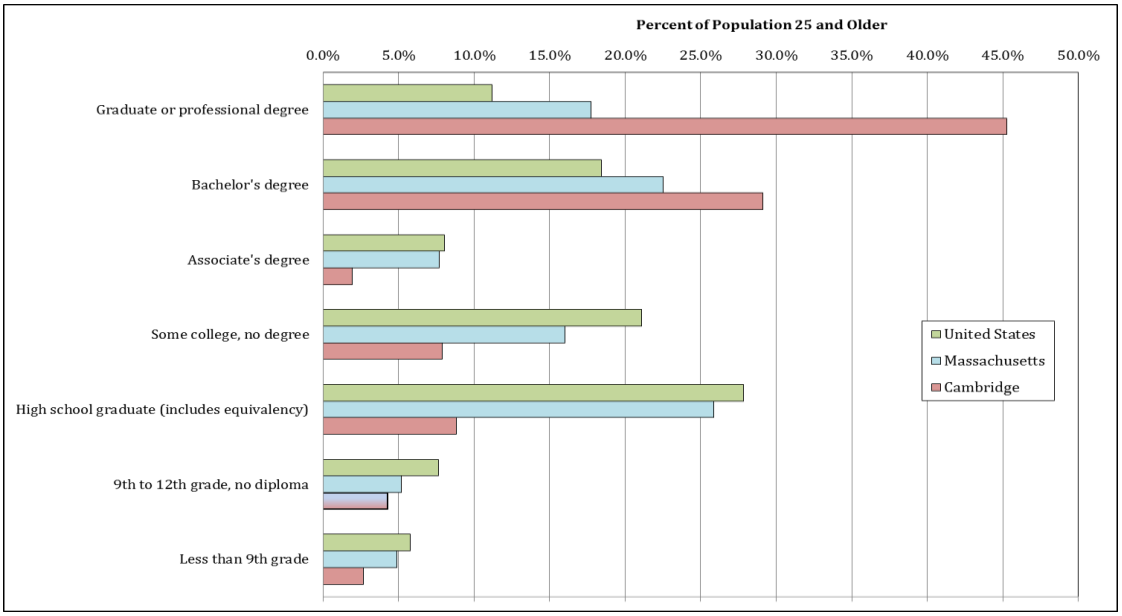


Source: U.S. Census Bureau, American Community Survey

Educational Attainment

The population of Cambridge is far more educated than is typical of the population in Massachusetts or in the U.S. as a whole. The city has a much higher proportion of residents who have obtained graduate or professional degrees – 45.2 percent of city residents have graduate/professional degrees – in contrast to 17.8 percent of residents in the state and approximately 11.2 percent in the U.S. The proportion of the resident population in Cambridge with Bachelor's degrees is also higher in the city when compared to the general population of Massachusetts and of the U.S. In total, 74.4 percent of Cambridge residents have obtained higher education degrees (B.A.'s and above) versus 40.3 percent in the state as a whole and 29.6 percent of the U.S. resident population. Only 6.9 percent of adult Cambridge residents have less than a high school diploma while 10.1 percent of Massachusetts and 13.4 percent of adult U.S. residents had less.

Figure 30. Educational Attainment for Residents 25 years and Older in 2013



Source: U.S. Census Bureau, American Community Survey

Table 18. Educational Attainment for Residents 25 years and Older in 2013

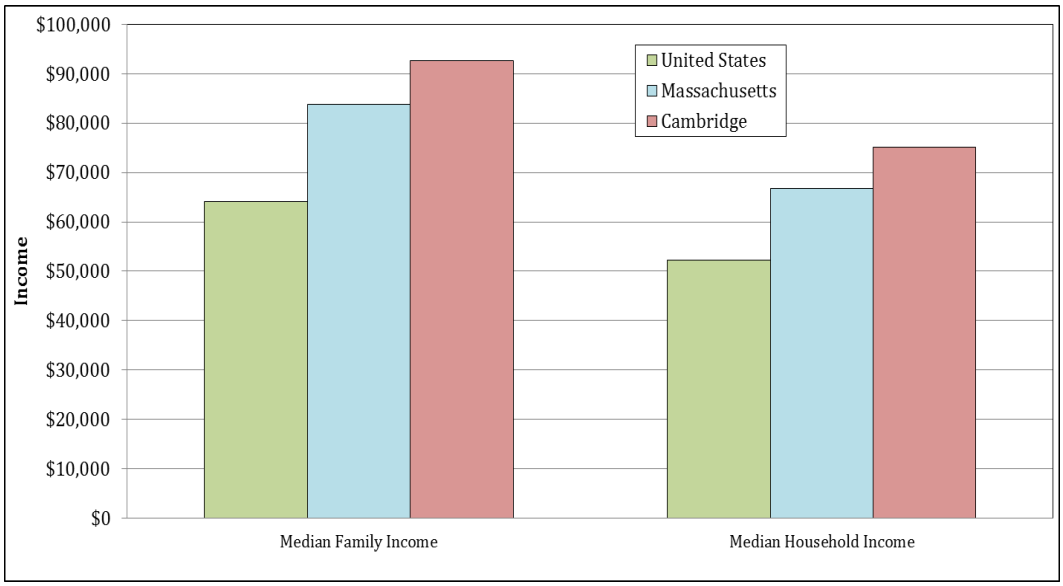
	U.S.	Massachusetts	Cambridge
Less than 9th grade	5.8%	4.9%	2.7%
9th to 12th grade, no diploma	7.6%	5.2%	4.3%
High school graduate (includes equivalency)	27.8%	25.9%	8.9%
Some college, no degree	21.1%	16.0%	7.9%
Associate's degree	8.1%	7.7%	1.9%
Bachelor's degree	18.4%	22.5%	29.1%
Graduate or professional degree	11.2%	17.8%	45.2%

Source: U.S. Census Bureau, American Community Survey

Income and Poverty

Possibly as a result of its highly educated population, the income levels of residents in the city are higher than those seen in other regions. Most significantly, the median family income of Cambridge residents ($92,675) is 45 percent higher than the U.S. level ($64,030) and 11 percent higher than the Massachusetts state level of $83,813. The median household income of Cambridge residents is also higher than in other regions. Residents of the city have a median household income of approximately $75,137, compared with $66,768 in Massachusetts and $52,250 in the U.S. as a whole.

Figure 31. Median Family and Household for the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

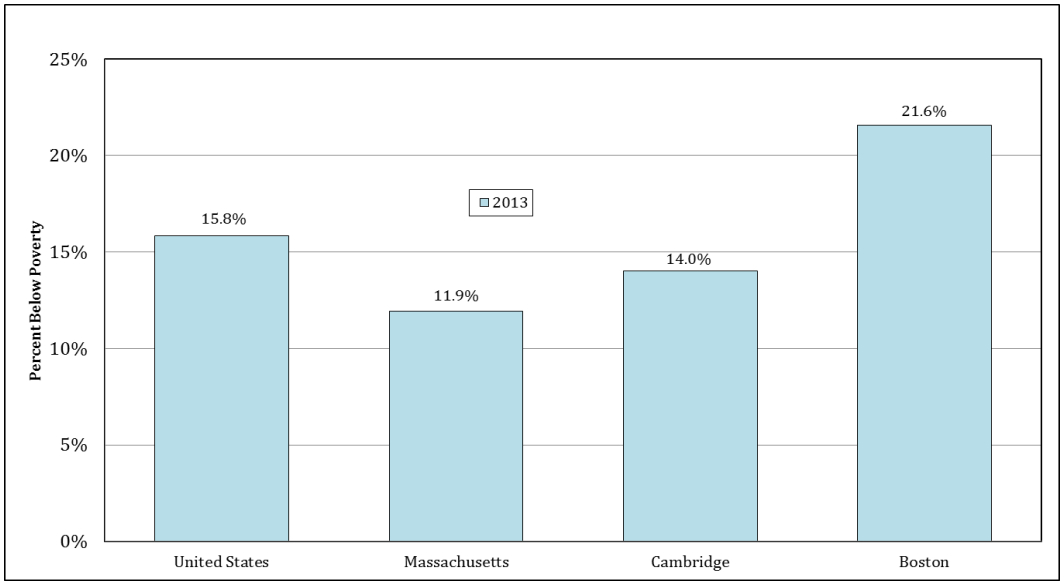
Table 19. Median Family and Household Income for the U.S., Massachusetts and Cambridge in 2013

	United States	Massachusetts	Cambridge
Median Family Income	$64,030	$83,813	$92,675
Median Household Income	$52,250	$66,768	$75,137

Source: U.S. Census Bureau, American Community Survey

While the 2013 poverty rate in Cambridge is 1.8 percent lower than the U.S. rate and 7.6 percent lower than the poverty rate for the city of Boston, the city's poverty rate is 2.1 percent higher than the state average.

Figure 32. Poverty Rates in the U.S., Massachusetts and Cambridge in 2013

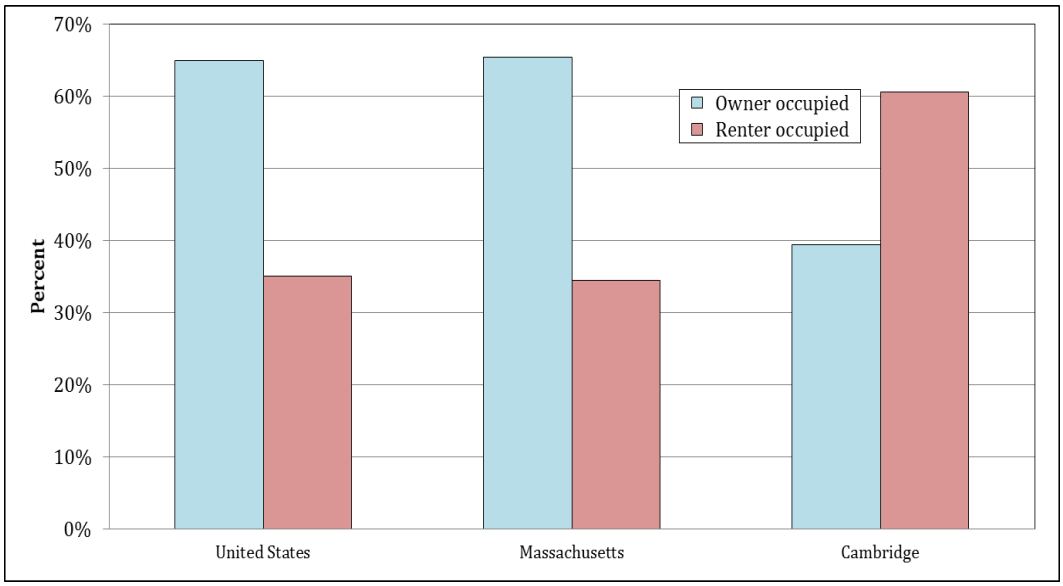


Source: U.S. Census Bureau, American Community Survey

Housing

Reflecting the unique importance of educational institutions and their students in the city, over three fifths of all housing units in Cambridge are renter occupied. This housing unit by tenure ratio is the inverse of patterns in the U.S. and Massachusetts where nearly two-thirds of housing units are owner occupied.

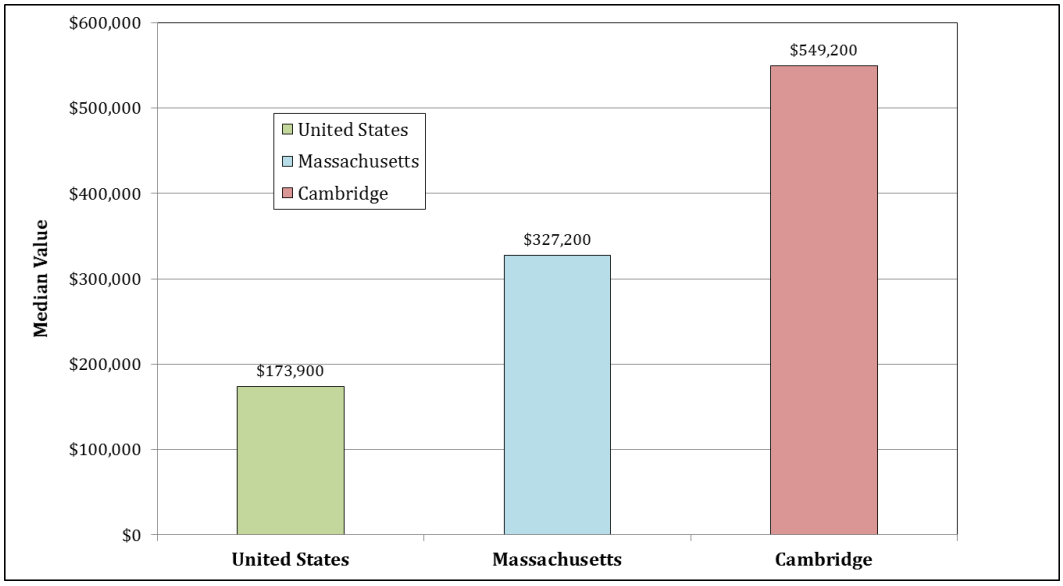
Figure 33. Percent of Occupied Housing Units by Tenure in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

Owner-occupied housing in Cambridge has a median value that is more than three times higher than the median value of owner-occupied housing in the U.S. and more than one and a half times higher than the median values of owner occupied housing in Massachusetts.

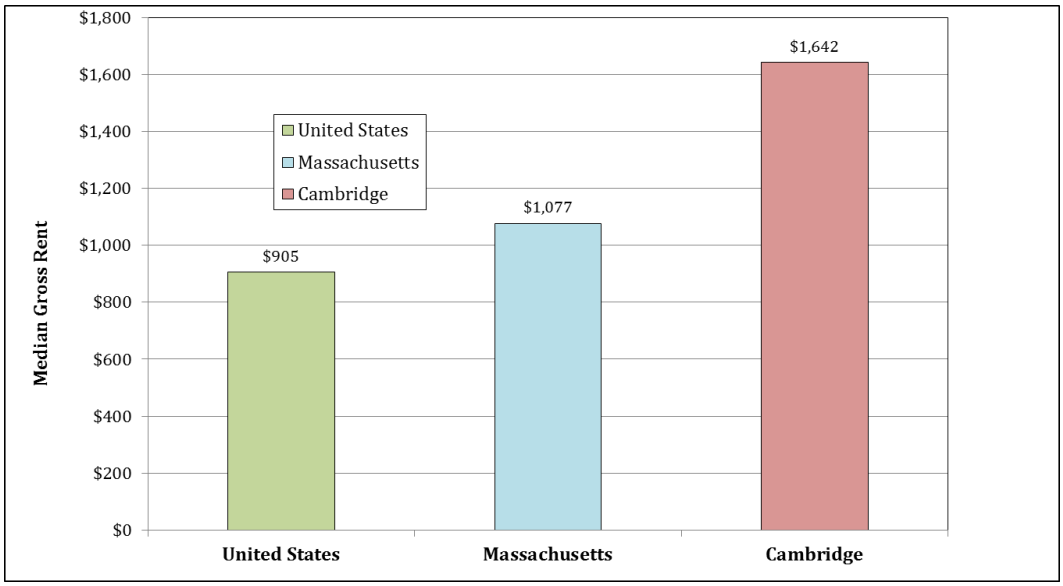
Figure 34. Median Value of Owner-Occupied Housing in the U.S., Massachusetts and Cambridge, 2013



Source: U.S. Census Bureau, American Community Survey

Given the relatively higher value of owner-occupied housing it is not surprising that, Cambridge rents are 1.8 times the median rent in the U.S. and 1.5 times the median rent for MA as a whole.

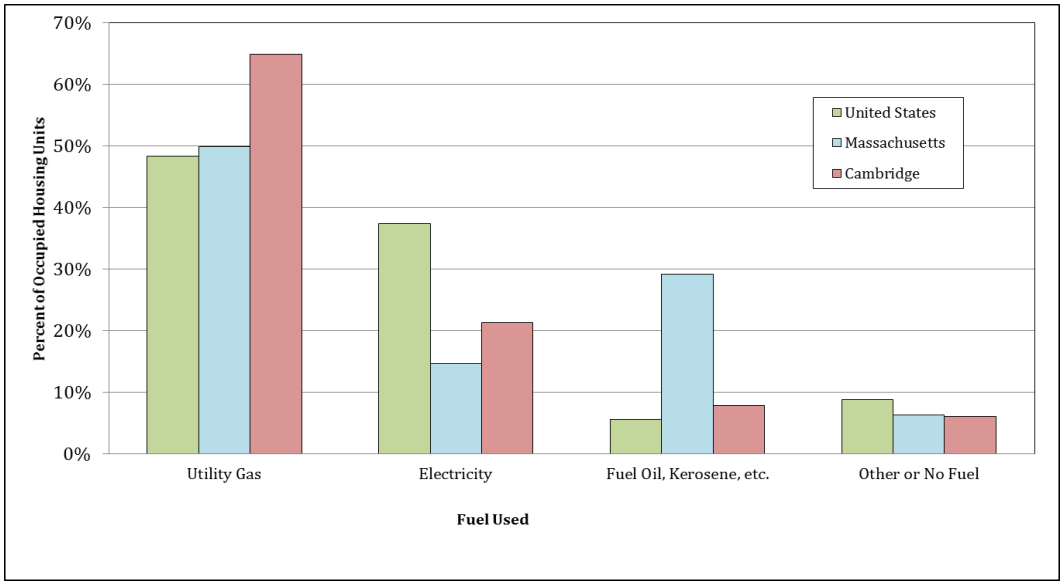
Figure 35. Median Gross Rent in the U.S., Massachusetts and Cambridge, 2013



Source: U.S. Census Bureau, American Community Survey

Home heating fuel choice patterns in Cambridge are unique in that 65 percent of occupied housing units in the city use gas as a heating fuel. The rates for the U.S. and Massachusetts are much lower at approximately 48 percent and 50 percent respectively. Cambridge occupied housing units are also more likely to use electricity as a heating fuel choice (21 percent) versus only 15 percent in Massachusetts as a whole. The use of fuel oil in Cambridge is much lower than in Massachusetts as a whole (8 percent in Cambridge versus 29 percent in the state).

Figure 36. House Heating Fuel Used by Residents in the U.S., Massachusetts and Cambridge in 2013



Source: U.S. Census Bureau, American Community Survey

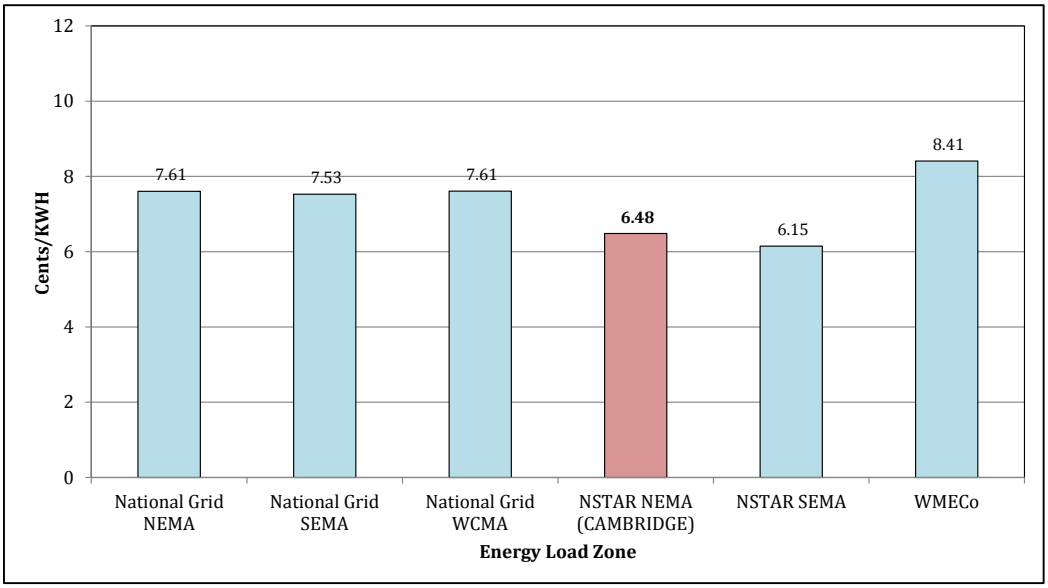
Business Climate Indicators

The discussion in this section provides as assessment of factors impacting the business climate in the city of Cambridge. A number of questions shaped the research in this section of the study including: What are the factors affecting Cambridge's local investment? What are the strengths, weaknesses, opportunities and threats within the economy of the city? What are the strengths that help retain and attract businesses? What are the city's challenges and obstacles to growing the business community? What about access to customers/markets, cost and availability of land and utilities, municipal process and permitting, quality of life, business incentives, taxes, and access to information? These are important questions that businesses need to answer before they relocate.

Utility rates

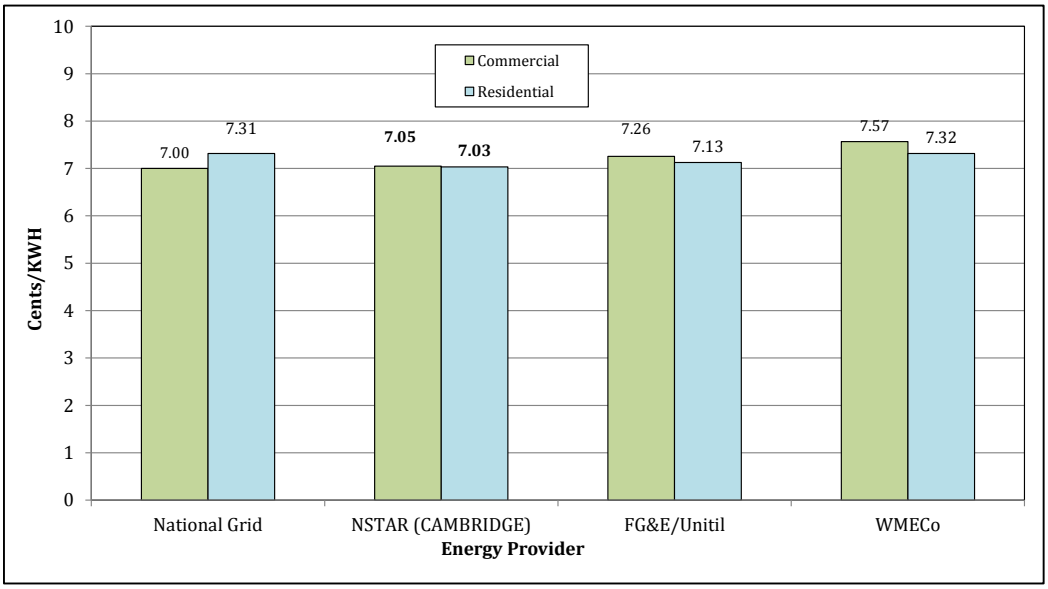
Cambridge's current commercial, industrial and residential wholesale electricity rates are competitively priced in the region.

Figure 37. Cambridge 2013 Industrial Electric Generation Rates Compared to Other Areas in Massachusetts



Source: The Massachusetts Executive Office of Energy and Environmental Affairs

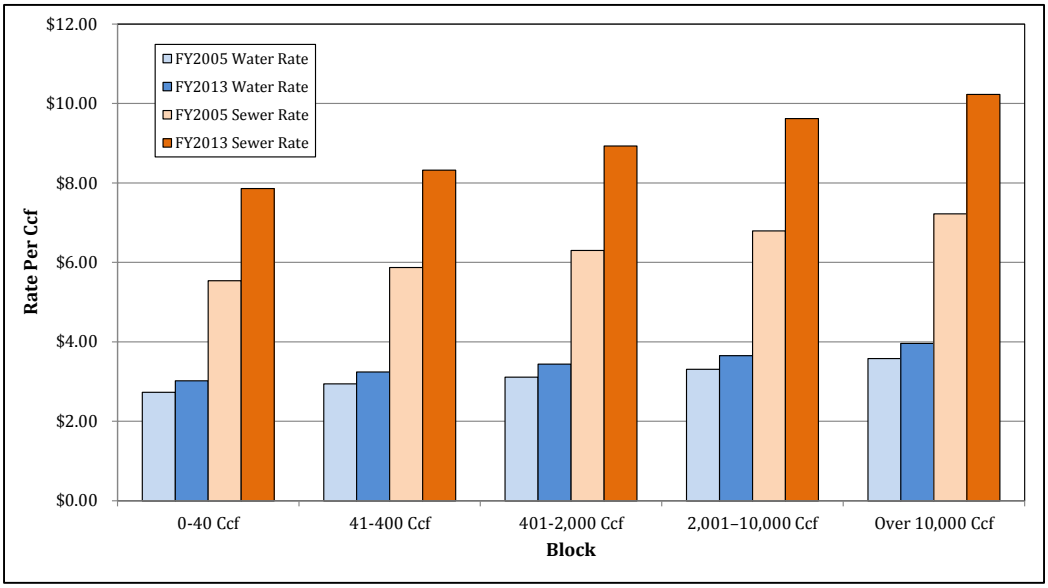
Figure 38. Cambridge 2013 Residential and Commercial Electric Generation Rates Compared to Other Areas in Massachusetts



Source: The Massachusetts Executive Office of Energy and Environmental Affairs

Cambridge uses increasing block rates for its water and sewer billing. Increasing block rates or tiered pricing reduces water and sewer use by increasing the per-unit charges for water as the amount used increases. The first block is charged at one rate, the next block is charged at a higher rate, and so forth. Water rates in the city have increased a little over ten percent since FY2005, at about half the U.S. rate of inflation of twenty percent. Sewer rates increased forty-two percent over the same period, at twice the rate of inflation.

Figure 39. Cambridge Water and Sewer Rates, FY2005 to FY2013



Source: City of Cambridge

Note: Ccf or 100 Cubic Feet, is the unit the city uses to measure water consumption. One Ccf is approximately 750 gallons

Economic Development Self-Assessment Tool (EDSAT)

To analyze business climate indicators, the research team enabled the Chamber and City to utilize a unique assessment method: the Economic Development Self-Assessment Tool (EDSAT).[14] The tool provides a proven framework to assess the business climate of cities and towns and allows Cambridge to be compared to 51 other communities in Massachusetts that have already used EDSAT (the CGM).[15] In this baseline analysis, the assessment provides a valuable benchmark of Cambridge's current development climate. The EDSAT provides information for public officials to help them assess their jurisdiction's strengths and weaknesses for sustaining and expanding economic growth. Through the EDSAT, public officials can gain an integrated view of how various municipal departments, local businesses, and other stakeholders affect economic development and their roles in creating a business friendly environment.

The section that follows contains an overview of key findings from the EDSAT analysis, based on the responses provided by Cambridge to the questions in the survey. A comprehensive report – *Economic Development Self-Assessment Tool: Results for the City of Cambridge, MA* – which contains a detailed assessment of the responses has been provided separately to the city.

Summary of Relative Strengths and Weaknesses

The EDSAT report is organized by a community's economic development strengths and weaknesses and further by the relative importance of these strengths and weaknesses as location factors for new businesses. Cambridge has many more strengths than weaknesses. Cambridge's strengths, organized by theme include:

Labor. An available labor force that is adequately trained is a very important factor to businesses as they consider private investment in local jurisdictions. Having a technically trained workforce, whose skills align with the industries a municipality wants to attract, is a valuable selling point. Cambridge excels in this area in the following ways:

> *Workforce composition:* Cambridge has a highly skilled workforce. The city has a higher than average percentage of technically skilled, professional, and managerial workers. Less than one quarter of the workforce is considered unskilled.
>
> *Highly educated labor force:* The labor force in Cambridge is highly educated. Eighty-five percent of residents available for work (age 25 and older) have at least a high school degree and 74 percent of residents 25 years and older have a bachelor's degree or higher.
>
> *Availability of workforce training:* Cambridge has many workforce training resources available to its residents. The city works with regional and state employment departments, area high schools, regional vocational technical high schools, community colleges, and human service career centers. The city supports public-private partnerships for workforce training and has an adult education program.

[14] Developed by the Dukakis Center at Northeastern University. For more information on the tool use the following link: <http://www.northeastern.edu/dukakiscenter/resources/economic-development-self-assessment-tool/>

[15] Typically, EDSAT is commissioned by city/town planning or development officials. For this project, obtaining the cooperation and participation of Cambridge city officials (e.g., Cambridge Economic Development Division) helped to facilitate the EDSAT process. The CGM is the Comparison Group Municipalities. http://www.northeastern.edu/dukakiscenter/resources/economic-development-self-assessment-tool/

Access to Customers/Markets. Public transportation is considered an important factor when it comes to location decisions.

Public transit: Cambridge has an extensive public transit system which provides access to regional, national and international transit. Seventy-five percent or more of the city's available sites for retail, manufacturing, and general office space are within one quarter mile of light rail or bus access. A commuter rail is located within the city, with extensive links to allow commuting and access for business purposes.

Availability of Land. Location experts consider the quality of available space and amount of available land for development important factors.

Land (space): Cambridge has a higher percentage than average of parcels five acres or larger that are available for industrial development or large-scale commercial development. This could be an asset for the light industrial sector the city has identified as a targeted sector.

Concentration of Business (Agglomeration). Cambridge has been uniquely successful in its ability to attract and strengthen several important sectors. Agglomeration refers to the number of complementary and supplemental services and related firms, including academic institutions that are available within a jurisdiction to support new or existing companies. A concentration of similar or supporting companies helps create a critical mass of businesses within an industry, making it easier for that industry to thrive in the local community or regionally. The level of agglomeration within a jurisdiction can be enhanced by the intensity of its plans to attract companies, coordination of marketing plans with regional or state efforts, cross marketing among organizations, and follow up with existing and potential businesses.

Critical Mass Firms: The city has identified several sectors it targets for attraction: Alternative energy, Travel and tourism, Information technology, Life sciences/Biotechnology, and Light industrial manufacturing. The city identifies its industrial attraction policy as "vigorous," which is more intensive than the typical comparison community.

Complementary/Supplemental Business Services: Business services in Cambridge are "highly capable" of working with technical and scientific firms. The city also has a business incubator for start-up companies. These resources are not usually available among comparison cities.

Proximity to Universities and Research: The Cambridge business community has unique advantages due to the dense presence of university and research institutions in the city. This factor is important for the types of tech-based businesses that are critical to the Cambridge economy (including scientific research and development, computer systems design / software; computer and electronics manufacturing/development, and architecture and engineering firms). It benefits these firms to have access to large pools of highly trained technical workers who have been educated in research university programs. It is also a benefit for these firms to be in close proximity to faculty and other resources found in University-based technical research programs.

Cross Marketing: Cambridge is effectively using its resources when it comes to marketing itself and attracting new business. The city enlists the help of existing firms to attract new firms, which is unusual among comparison cities. The city engages local and regional business organizations, regional planning and development organizations, and state agencies to market the city.

While the city excels in many respects when it comes to features important for business attraction, Cambridge's important weaknesses occur in the following areas:

Municipal Process. According to location experts, a municipality needs to have a transparent and efficient permitting process to minimize time and costs for new businesses to open their doors. Among the factors examined in this theme, the timeliness of approvals is a very important factor, according to location experts. Cambridge does not offer a competitively streamlined process in this area.

> *Lack of timeliness in permitting and licensing:* Cambridge's process for permitting and licensing takes much longer than is typical. With the exception of the site plan review and the appeals process for new projects, Cambridge's process to review permit applications takes about eight to 20 weeks longer than the typical comparison community. This translates into two to five additional months. An additional potential negative for Cambridge is its local business licensing process which takes up to four weeks longer than other communities that have participated in the EDSAT survey. This delay added to the longer permitting process represents a disadvantage.
>
> Since timeliness of approvals is a potential deal breaker, Cambridge would benefit from streamlining its review processes by identifying and eliminating bottlenecks in the process and moving towards combining presentations to committees and boards or a single presentation format to all permitting authorities.

Access to Customers and Markets. In order to minimize transportation costs and time to market, businesses want adequate highway access and they factor in congestion and the availability of parking within a jurisdiction in location decisions. The availability of parking for retail operations in Cambridge appears to be inadequate.

> *Parking:* On-site parking for retail sites is limited in the city as only 1-25% of sites have parking, as compared to 75% or more among comparison communities. The cost of hourly, daily, and monthly parking is also higher in Cambridge than among comparison communities. The limited parking at retail sites and higher cost of parking in the city is off-set by an exceptionally good public transit system.

Cost of Land. When it comes to costs associated with the physical plant and location of a business, firms consider two factors Very Important: infrastructure and rent. Rents are important because they contribute to overall operating expenses. Cambridge is at a clear disadvantage when it comes to offering competitively priced space for retail and office operations. Rents for manufacturing space are also comparatively high.

> *Rents:* Retail, manufacturing, and office space rents are very high in Cambridge relative to the typical comparison community. Retail rents are 2.5 times as high in both the central business district and the highway business districts. The cost of manufacturing space is about 1.7 times as high. Class A office space is about 2.8 times as high in the central business district and about the same in the highway district. Rent for the remaining Class B and C office space ranges from 2 times to 2.8 times as high.

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Economic and Public Policy Research at the University of Massachusetts Donahue Institute

The UMass Donahue Institute (UMDI) is the public service outreach and economic development unit of the University of Massachusetts President's Office. Established in 1971, the UMDI coordinates multi-campus initiatives that link UMass, other public and private higher education, and other external resources with the needs of government agencies, corporations, and nonprofit organizations. UMDI provides significant economic and public policy analysis, organizational development, training, education, financial management education, research, and evaluation to federal and state agencies, nonprofits, industry associations, and corporations. UMDI draws on its unique position within higher education to serve as a bridge between theory, innovation, and real-world applications.

The Economic and Public Policy Research (EPPR) group is a leading provider of applied research, helping clients make more informed decisions about strategic economic and public policy issues. EPPR produces in-depth economic impact and industry studies that help clients build credibility, gain visibility, educate constituents, plan economic development initiatives, and prioritize investments. EPPR is known for providing unbiased economic analysis on state-level economic policy issues in Massachusetts and beyond, and has completed a number of economic studies on manufacturing, IT, defense industries, telecommunications, health care, and transportation. EPPR also features two experienced transportation economists with expertise working on economic impacts, benefit-cost analysis and industry profiles across all modes. Their trademark publication is called *Mass*Benchmarks, an economic journal that presents timely information concerning the performance of and prospects for the Massachusetts economy, including economic analyses of key industries that make up the economic base of the state.

For more information, visit www.donahue.umassp.edu and www.massbenchmarks.org.