



BOSTON'S GROWING ECONOMY

BRA Research Division
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The BRA Research Division strives to understand the current environment of the city to produce quality research and targeted information that will inform and benefit the residents and businesses of Boston. The Division conducts research on Boston’s economy, population, and commercial markets for all departments of the BRA, the City of Boston, and related organizations.

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THE PURPOSE OF THIS DOCUMENT IS TO PROVIDE A FACTUAL BASIS TO UNDERSTAND:

- **Historical economic trends that shaped the present economy**
- **Current economic conditions**
- **Challenges related to the well-being of Boston's population and the health of its economy**
- **How these trends can shape the future**

BOSTON'S GROWING ECONOMY

OUTLINE:

- **What are the Trends?**
 - > A Growing Economy
 - > Strong Core Industries
 - > A Vibrant Labor Market
 - > A Productive Resident Labor Force
 - > A Booming Real Estate Market
- **A Growing Economy**
 - > Real Gross City Product (GCP) Growth
 - > Job Growth
 - > Boston Resident Labor Force
 - > Self-employment
- **Strong Core Industries**
 - > Industrial Specialization
 - > Employment Distribution by Sector
 - > Largest Employers
 - > Innovation
 - > Trade
- **A Vibrant Labor Market (Jobs in Boston)**
 - > Resident and Non-Resident Workers
 - > Commuting Patterns
 - > Industry by Place of Residence
- **A Productive Resident Labor Force**
 - > Labor Force Participation
 - > Unemployment
 - > Educational Attainment
 - > Age Distribution
 - > Wages
- **A Booming Real Estate Market**
 - > New Development
 - > Transportation Infrastructure
 - > Housing
 - > Office
 - > Commercial
 - > Hotel

WHAT ARE THE TRENDS?

(1) A GROWING ECONOMY

- Boston's Gross City Product (GCP), a measure of economic activity, has grown over the past four decades at an average annual rate of 2.7%
- Jobs grew at an average annual rate of 1.4% between 2009 and 2013, exceeding the national rate. By 2013, jobs in Boston had grown to 698,875
- The unemployment rate has fallen from a peak of 8.4% in September of 2009 to 4.2% in May of 2015; this is substantially less than the nation's unemployment rate of 5.5% and the Massachusetts unemployment rate of 5.3%

Source: Bureau of Economic Analysis (BEA); National Bureau of Economic Research (NBER); Massachusetts Executive Office of Labor and Workforce Development (DWD); Bureau of Labor Statistics (BLS), BRA Research Division Analysis

WHAT ARE THE TRENDS?

(2) STRONG CORE INDUSTRIES

- The health care and social assistance industry is the largest and fastest growing employment sector in Boston – providing 18.7% of all jobs in 2013
- Boston's core industries continue to be reflected in the city's largest private employers, which are all in the education, health care, and finance industries
- Boston's exports also continue to reflect its core industries with electronics and pharmaceuticals representing the leading exports by dollar value
- The number of patents issued to Boston residents has grown at an annual rate of 15.4% per year since 2009, to 1,282 patents in 2014
- 2014 marked the 20th consecutive year that Boston received the most funding from the National Institutes of Health (NIH) of any U.S. city

Sources: Bureau of Labor Statistics.; EOWLD; United States Patent Office, National Institutes of Health "NIH Awards by Location and Organization FY2014," BRA Research Division Analysis

WHAT ARE THE TRENDS?

(3) A VIBRANT LABOR MARKET

- Since 1980, Boston's labor productivity growth has outpaced the national average
- By 2013, people working in Boston produced \$157,152 in GDP per worker, 33% higher than the national average of \$118,577
- A steady percentage of Boston workers live in Boston – about 38%. The remaining 62% of jobs in Boston are filled each year by over 400,000 commuters from surrounding communities. The proportion of Boston workers who live in Boston has remained roughly steady since 2000, wavering between 35% and 39%.
- Since 2000, self employment grew from 7.9% of total jobs to 11% in 2013

Sources: Bureau of Economic Analysis (BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD); U.S. Census Bureau, 2013 American Community Survey, BRA Research Division Analysis

WHAT ARE THE TRENDS?

(4) A PRODUCTIVE RESIDENT LABOR FORCE

- In 2013, there were 323,209 workers in the Boston civilian resident labor force, reflecting a 19.2% growth between 2000 and 2013
- Boston's overall labor force participation rate has been growing to a high of 69.1% in 2013. Women's labor force participation has been converging with that of men – rising to 66.2% in 2013
- Boston's resident labor force is highly educated: 46% have a Bachelor's degree or higher, up from 35% in 2000
- A pool of well-educated future workers will drive Boston's knowledge economy for years to come
 - In 2013-2014, almost 150,000 students enrolled in Boston colleges and universities, up significantly from about 118,000 in 2005-2006.
 - From 2010 to 2013, students graduating from any degree program in Boston increased by about 10%, from approximately 50,500 to 55,500.

Sources: Bureau of Economic Analysis (BEA); National Bureau of Economic Research (NBER); U.S. Census Bureau, 2009-2013 American Community Survey, Public Use Microdata Sample (PUMS); National Center For Education Statistics (NCEC), Integrated Postsecondary Education Data System (IPEDS), BRA Research Division Analysis

WHAT ARE THE TRENDS?

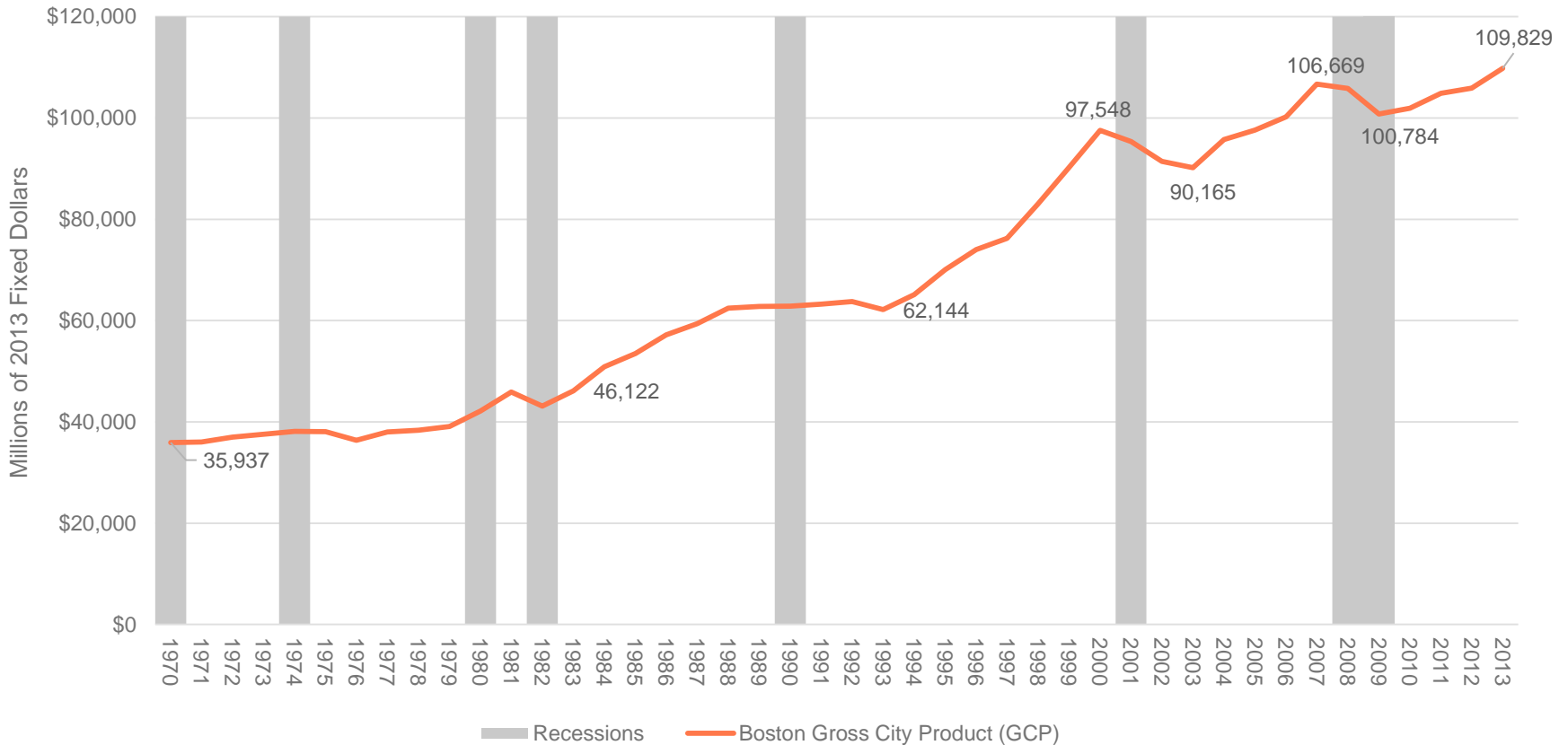
(5) A BOOMING REAL ESTATE MARKET

- Total construction activity in Boston for 2014 is an estimated \$4.71 billion, an increase over the \$3.49 billion for fiscal year 2013
- City building permit revenues for 2014 were \$40.1 million, up from 2013 (\$29.3 million), an increase of 37%
- Boston had 273,113 housing units in 2013. Over 16,000 new residential units were approved by the BRA 2012-2014
- The assessed values of residential and commercial properties have recovered from the recession and continue to grow, providing increasing property tax revenue without increases in tax rates
 - > Growth in assessed values in real terms 2009-2015:
 - Residential - 14%
 - Commercial - 4%

A GROWING ECONOMY

- Gross city product (GCP) is an aggregate measure of all economic activity, synonymous with national gross domestic product (GDP)
- Boston's GCP has grown steadily since 1970 at an average annual rate of 2.7%
- In 2013 Boston's economy contributed 24.6% of the Massachusetts Gross State Product

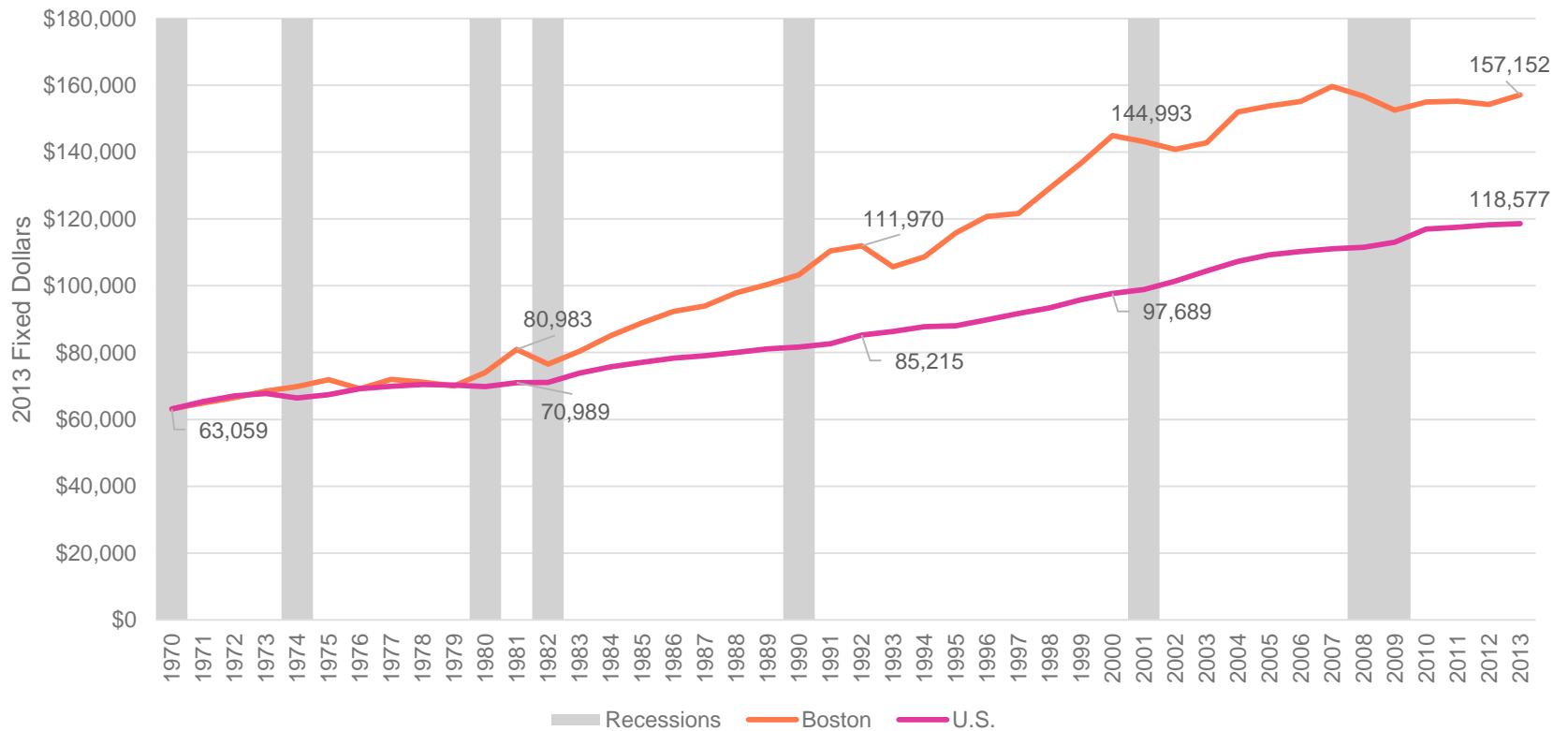
Real Gross City Product (GCP) Growth, 1970-2013



Source: Bureau of Economic Analysis(BEA), National Bureau of Economic Research (NBER), BRA Research Division Analysis

- Boston's output per worker has grown faster than that of the U.S. since 1980. Boston's GCP per worker grew by 10.1% in the last decade
- Boston workers produced on average \$157,152 per year, \$38,575 more than the national average

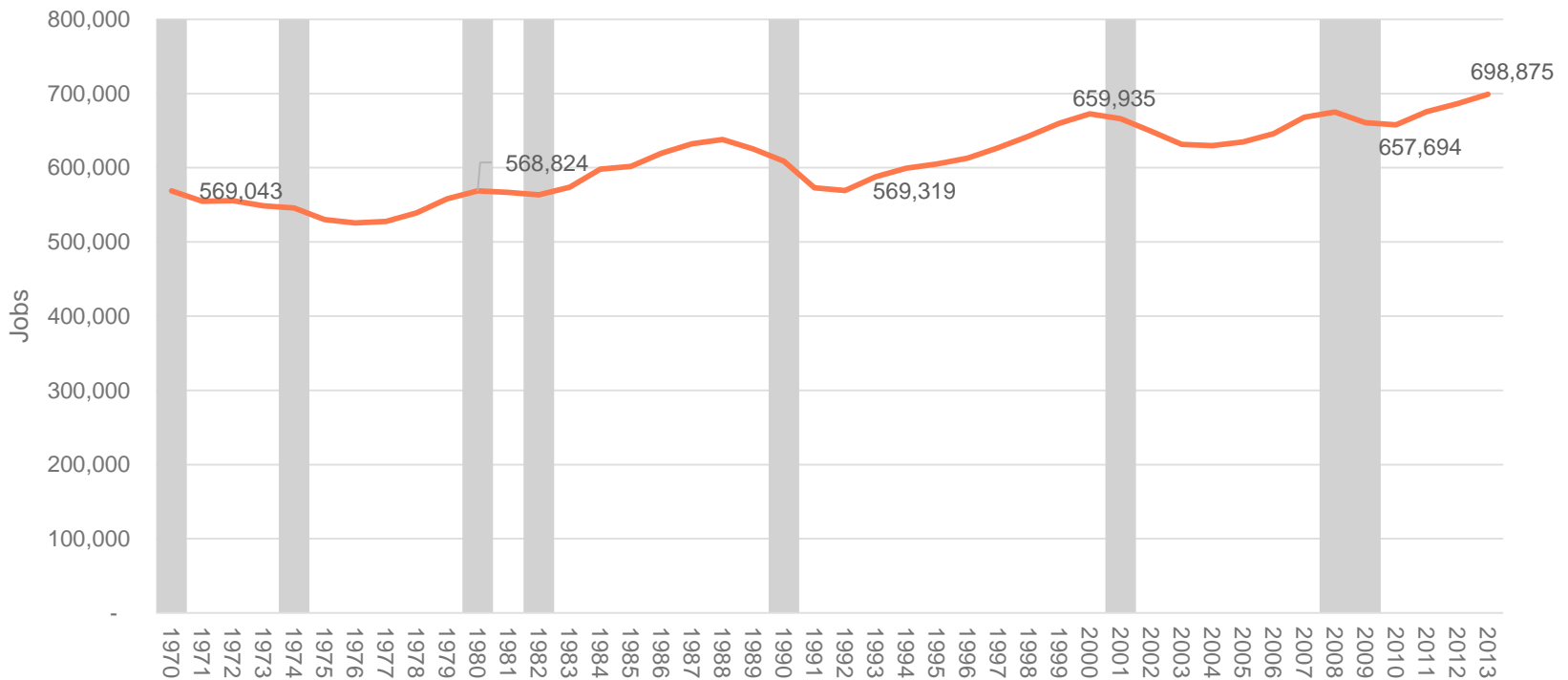
Boston and U.S. Labor Productivity (GDP per Worker), 1970-2013



Source: Bureau of Economic Analysis(BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD), BRA Research Division Analysis

- Boston is the economic hub of the Commonwealth with 698,875 payroll and non-payroll jobs, representing 16.2% of the total statewide jobs
- By 2011 employment was back to 2008 levels and has continued to grow
- From 2003 to 2013, Boston's economy outperformed the U.S. in terms of job growth: Boston's total full- and part-time jobs grew by 10.7% in the 10-year period, compared to 4.3% nationally

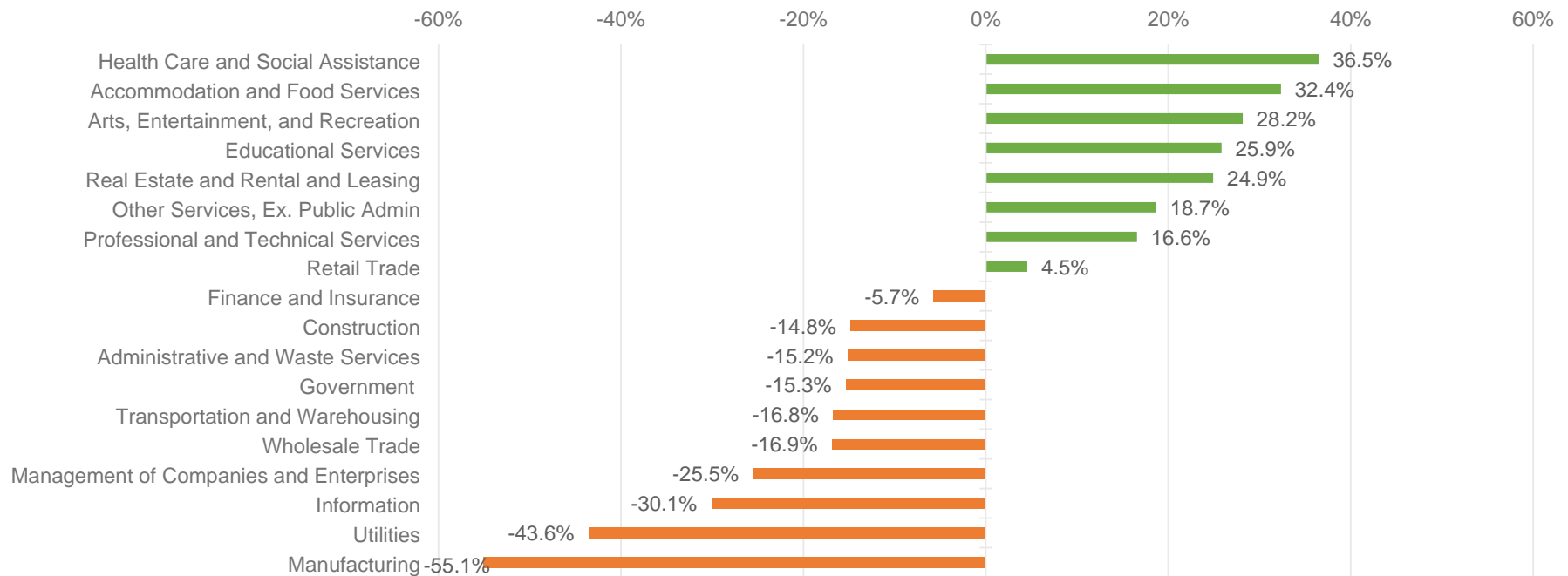
Total Employment Growth - Full-time and Part-time Jobs (1970-2013)



Source: Bureau of Economic Analysis(BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD), National Bureau of Economic Research (NBER), BRA Research Division Analysis

- Health care and social assistance employment grew by 35,034 new jobs between 2001 and 2013, an increase of 36.5%
- The knowledge and service sectors of the economy accounted for almost all job growth in Boston
- As a percentage, manufacturing contracted the most, losing over 55% of its jobs between 2001 and 2013

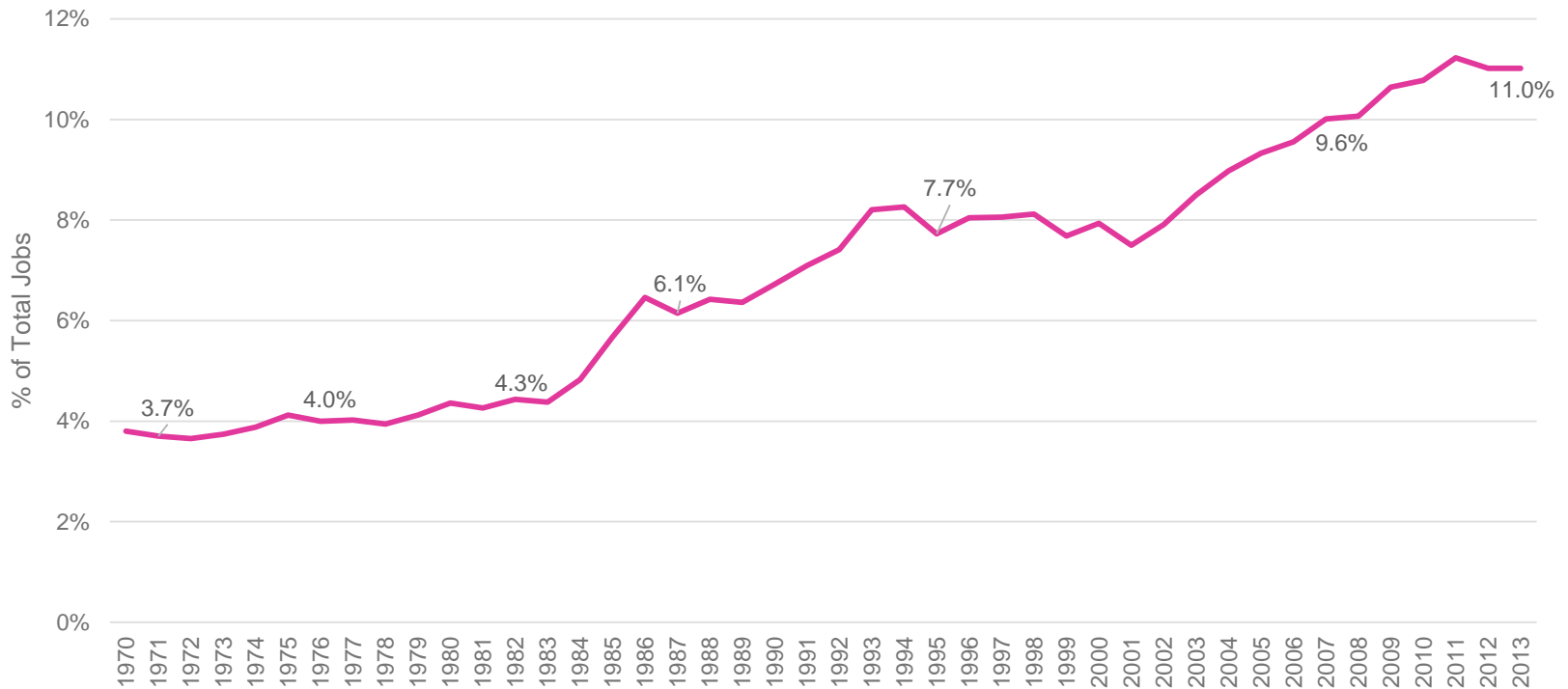
Employment Growth by Industry, 2001-2013



Source: Bureau of Economic Analysis (BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD), BRA Research Division Analysis

- Self-employment has also been a growing trend in Boston over the past few decades
- The number of self-employed jobs increased from less than 4% of all jobs in 1970 to about 11% in 2013
- In 2013, an estimated 77,017 people were self-employed in Boston

Self-Employment as a Percent of Total Employment (1970-2012)



Source: Bureau of Economic Analysis (BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD), BRA Research Division Analysis

STRONG CORE INDUSTRIES

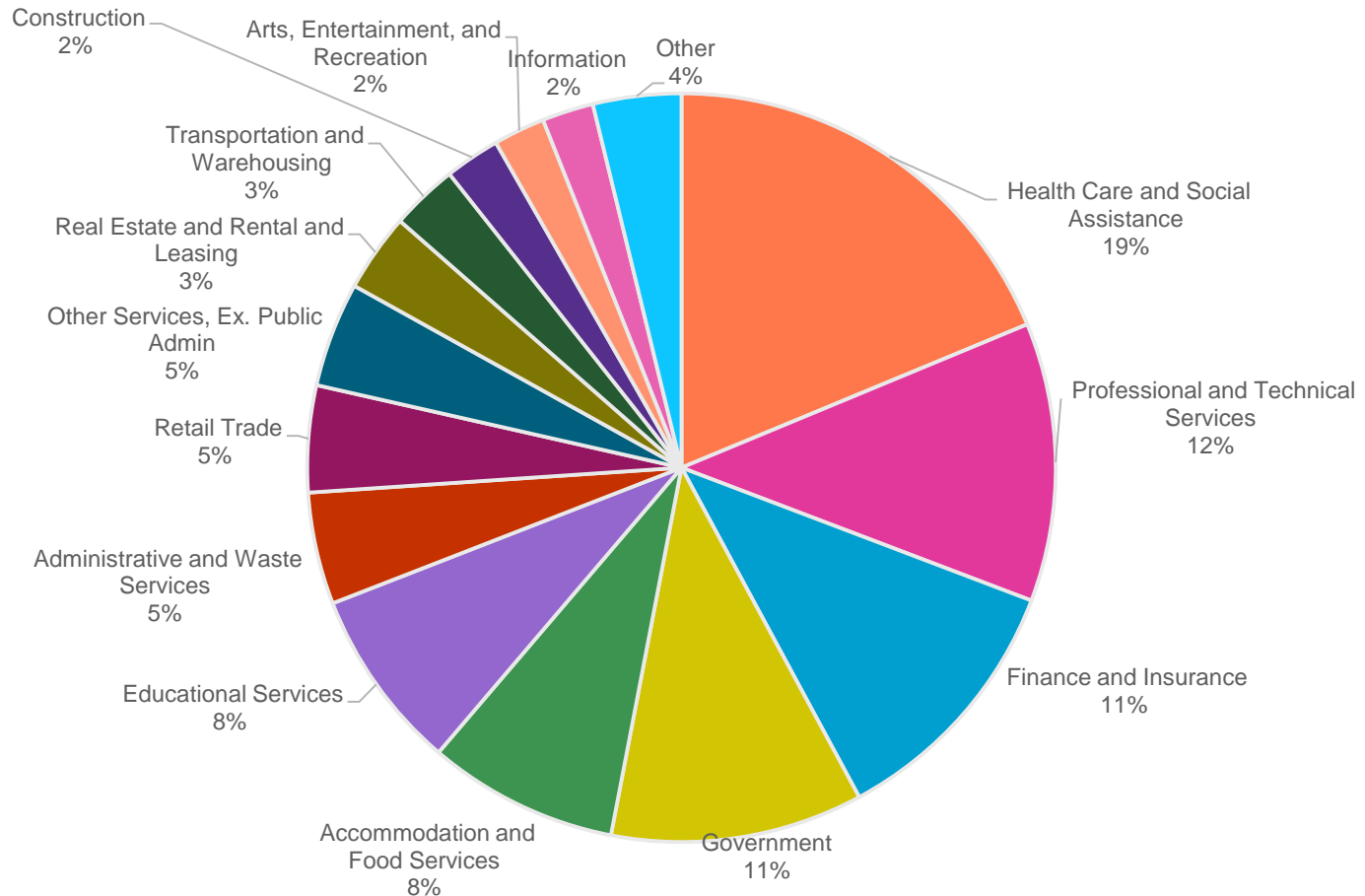
BOSTON-BASED JOBS BY INDUSTRY

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Health Care and Social Assistance	95,970	99,979	101,645	104,073	105,703	108,775	114,595	116,788	118,925	122,601	124,860	127,055	131,004
Professional and Technical Services	72,124	67,357	65,338	66,222	67,888	70,124	72,044	74,164	71,242	71,867	76,503	79,963	84,083
Finance and Insurance	84,148	81,192	75,751	74,383	76,471	78,443	82,204	83,887	82,447	79,647	80,754	79,102	79,316
Government	89,951	85,603	79,444	76,565	76,688	76,836	78,002	79,365	78,405	78,337	77,797	77,563	76,145
Accommodation and Food Services	43,418	42,717	42,529	43,160	44,161	45,478	47,379	49,197	48,152	49,326	53,273	56,407	57,465
Educational Services	43,625	44,547	46,832	47,818	47,016	46,714	48,085	48,038	50,107	52,028	53,197	54,272	54,902
Administrative and Waste Services	39,858	38,130	38,826	40,369	40,668	42,802	45,878	43,516	38,497	33,102	34,231	33,946	33,814
Retail Trade	30,787	30,289	30,834	31,629	31,569	31,468	31,616	31,117	29,837	29,817	30,997	31,381	32,186
Other Services, Ex. Public Admin	26,683	27,441	27,495	27,265	27,877	28,461	29,471	30,277	30,208	29,336	30,007	30,941	31,666
Real Estate and Rental and Leasing	18,896	18,653	18,338	19,456	20,524	20,862	21,215	21,543	21,776	22,311	23,344	23,280	23,608
Transportation and Warehousing	24,389	22,172	21,286	19,770	18,727	18,062	19,428	19,595	18,511	18,500	19,236	20,015	20,298
Construction	19,560	18,639	17,592	16,522	16,699	17,042	17,258	16,644	14,844	13,728	13,997	14,909	16,656
Arts, Entertainment, and Recreation	12,155	12,854	12,801	12,784	12,889	12,970	13,864	14,147	14,076	14,253	14,410	14,799	15,577
Information	22,217	20,735	17,792	16,615	16,239	17,248	16,828	17,090	16,118	15,958	15,310	15,666	15,529
Wholesale Trade	10,910	10,418	9,557	9,456	9,494	9,448	10,179	10,622	9,699	9,264	9,265	8,951	9,066
Manufacturing	18,131	16,219	14,155	13,881	12,260	11,326	10,528	9,753	8,914	8,823	9,282	9,085	8,133
Management of Companies and Enterprises	10,282	9,755	8,896	7,677	7,565	7,495	7,339	6,970	6,483	6,178	6,455	7,287	7,658
Utilities	2,691	2,388	2,184	2,148	2,118	2,079	2,137	2,249	2,293	2,404	2,293	1,486	1,519
Natural Resources and Mining	125	180	175	168	92	100	104	149	174	212	290	315	250
Total Jobs	665,921	649,266	631,471	629,960	634,648	645,732	668,155	675,109	660,710	657,694	675,500	686,422	698,875

Source: Bureau of Economic Analysis(BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD), BRA Research Division Analysis

- The Health Care and Social Assistance industry is the largest, and fastest growing, employment sector in Boston – providing 18.7% of all jobs in 2013
- The Professional and Technical Services industry is the second largest, with 12% of all jobs in 2013

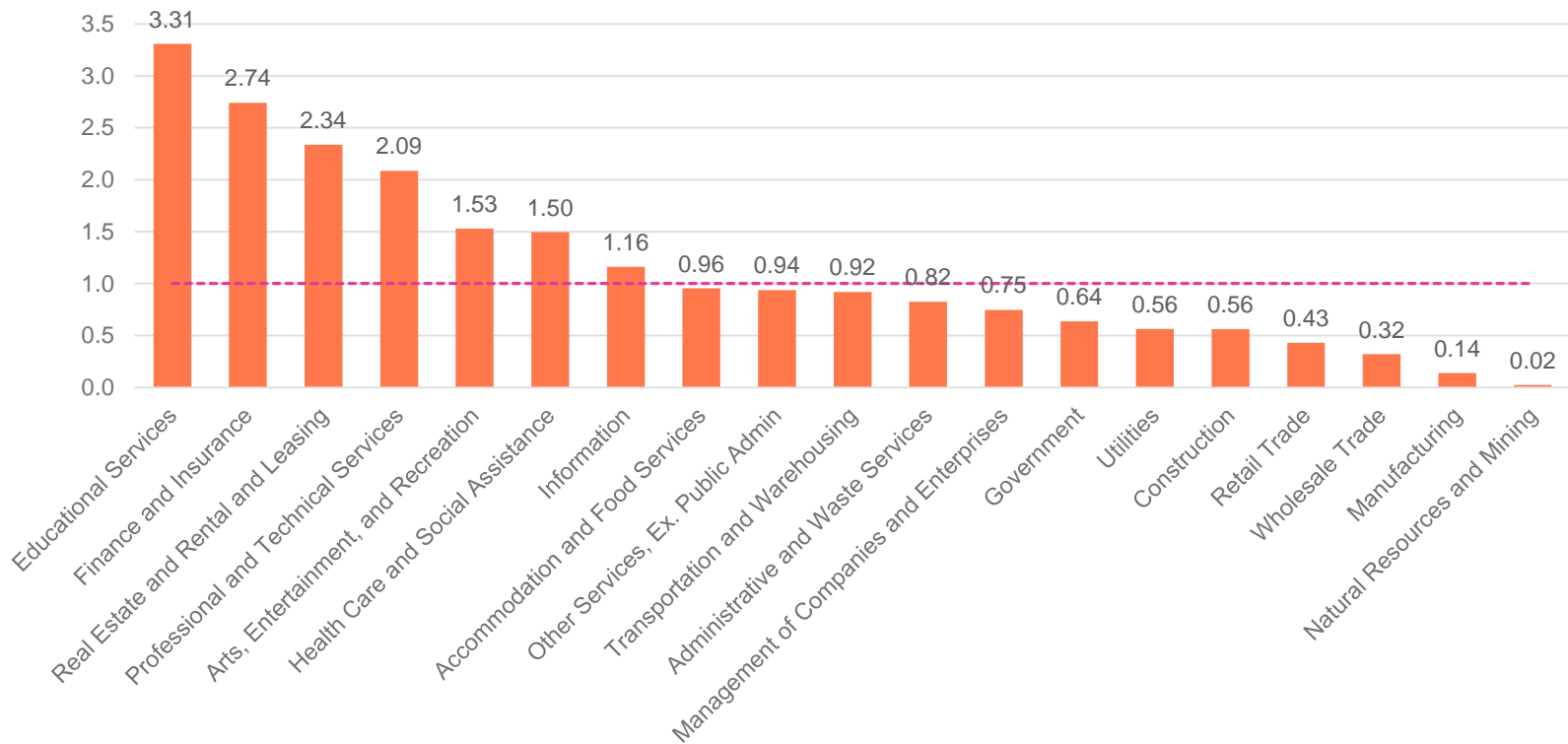
Employment in Boston by Industry, 2013



Source: Bureau of Economic Analysis(BEA); Massachusetts Executive Office of Labor and Workforce Development (DWD); BRA Research Division Analysis
 NOTE: "Other" includes Wholesale Trade, Manufacturing, Management, Utilities, and Forestry, Fishing, and Mining

- “Location Quotient” measures the local concentration of an industry by comparing the percentage of a city’s employment within a particular industry to that industry’s employment nationally. Industries with a concentration less than the national average have a value less than one, whereas local industries that are more concentrated have a value greater than one
- Boston’s economy specializes in knowledge industries with Education; Financial and Professional Services; Arts, Entertainment and Recreation; and Health Care as well as Real Estate comprising a higher share of employment in Boston than in the nation as a whole.

Industry Concentration -- Location Quotient (2013)



Source: Bureau of Economic Analysis(BEA), Massachusetts Executive Office of Labor and Workforce Development (DWD), BRA Research Division Analysis

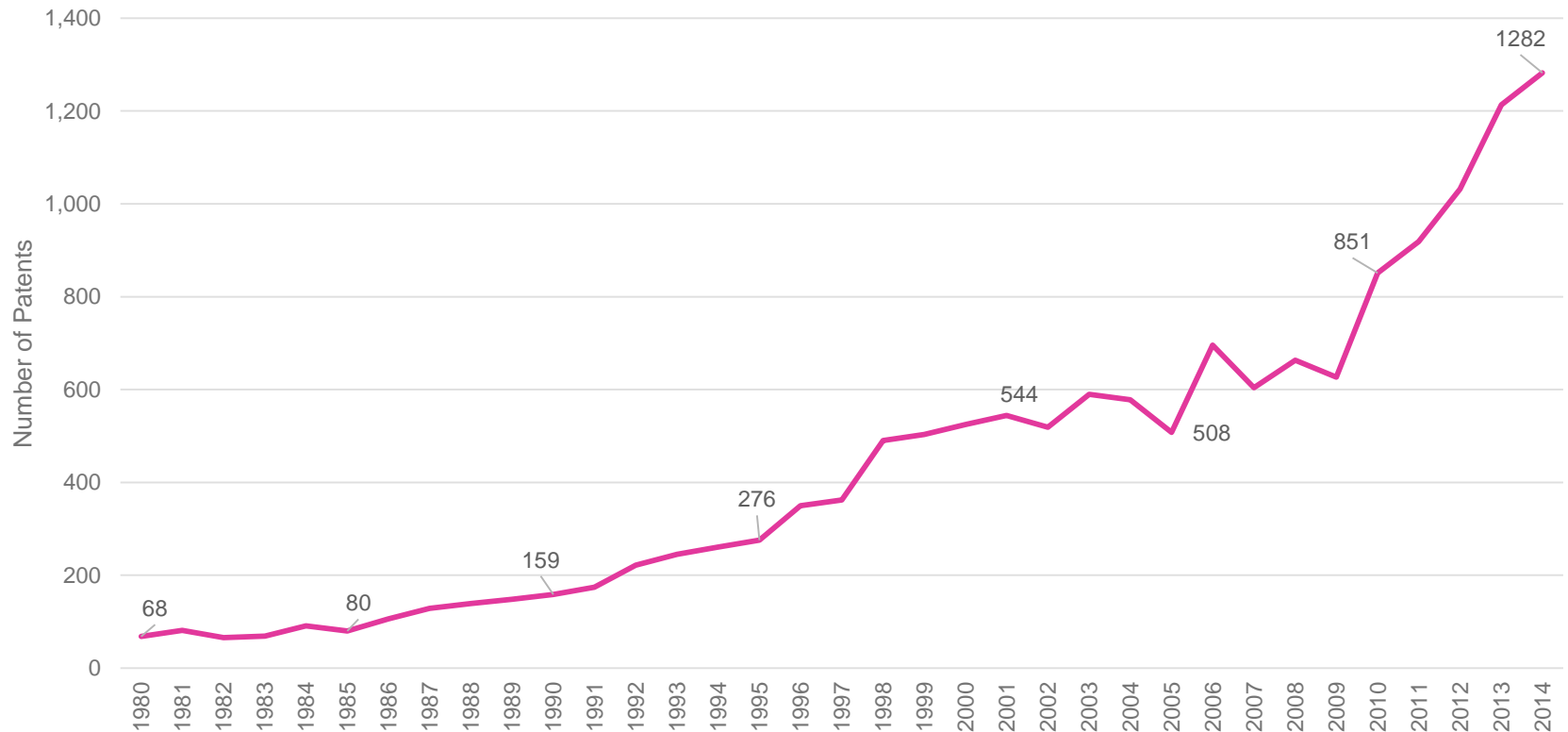
- Boston's core industries are reflected in the city's largest private employers, which are all in the education, health care, and finance industries
- In addition to private workers, there were an estimated 76,150 federal, state and local government workers in the city in 2013

Principal Employers in Boston		
Employer	Employment	Industry
Massachusetts General Hospital	16,999	Health Care
Brigham and Women's Hospital	13,303	Health Care
Boston University	9,854	Education
Children's Hospital	8,866	Health Care
State Street Bank & Trust Company	7,800	Finance
Beth Israel Deaconess Medical Center	6,781	Health Care
Harvard University Graduate Schools	5,677	Education
Northeastern University	5,069	Education
Fidelity Investments	5,000	Finance
Boston Medical Center	4,596	Health Care

Source: Bureau of Economic Analysis; American Hospital Association; National Center for Education Statistics; BRA Research Division Analysis. Estimates reflect most recent available data.

- Boston's strength in knowledge industries is also reflected its capacity to innovate. Between 2003 and 2013, patents issued to Boston residents grew at a rate of 7.5% per year, higher than the U.S. patent growth rate of 4.9%
- Boston and the Boston metropolitan area account for more than a quarter of all the patents issued in Massachusetts in the last decade

Patents Issued to Boston Residents



Source: USPTO Patent Full-Text and Image Database, 1970-2014, BRA Research Division Analysis

- The highest value products exported from the Boston metropolitan area reflect the area’s focus on high-tech and health care industries: electronics, pharmaceuticals, precision instruments, and machinery are leading exports
- The Boston metropolitan area’s leading domestic trading partners are throughout New England, New York, and New Jersey. Los Angeles is the largest domestic trading partner outside the Northeast

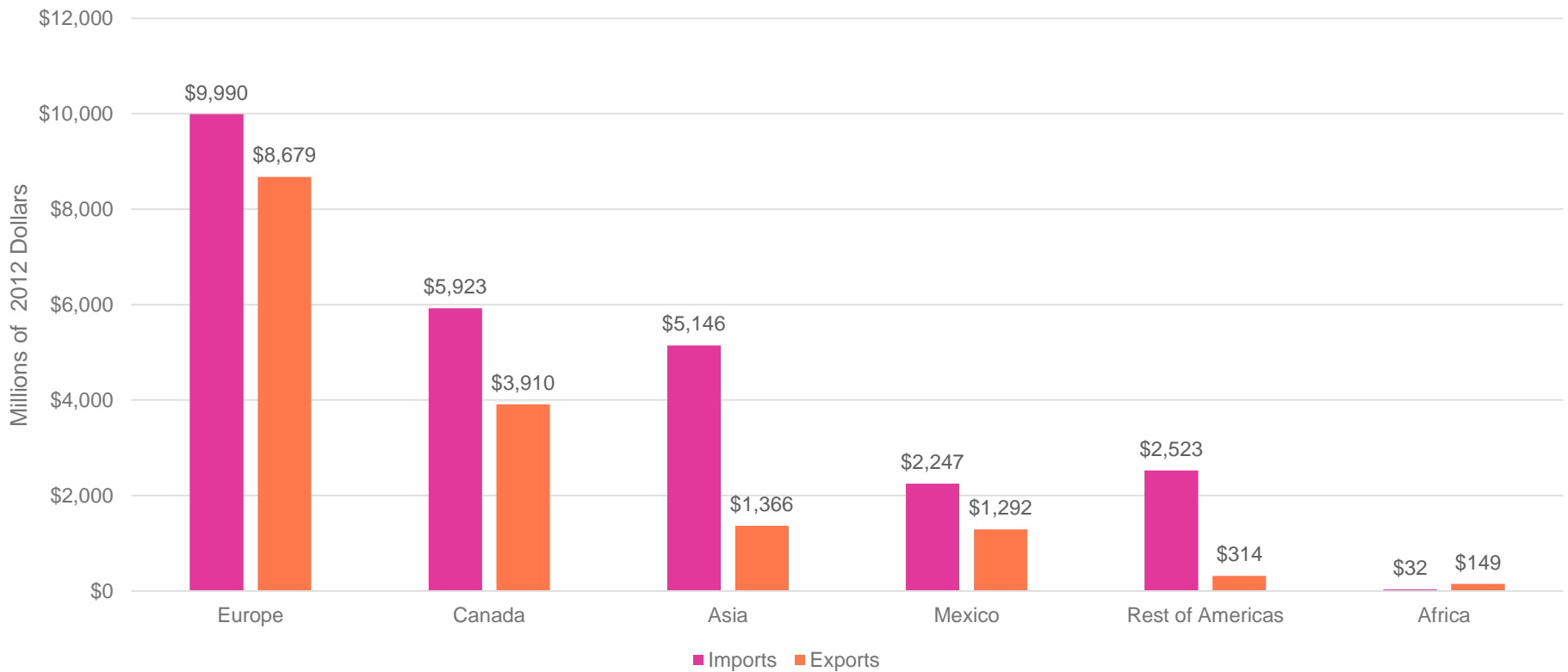
2012 Domestic Trade of Boston Metropolitan Area



Source: “Freight analysis Framework” FHWA; BRA Research Division Analysis

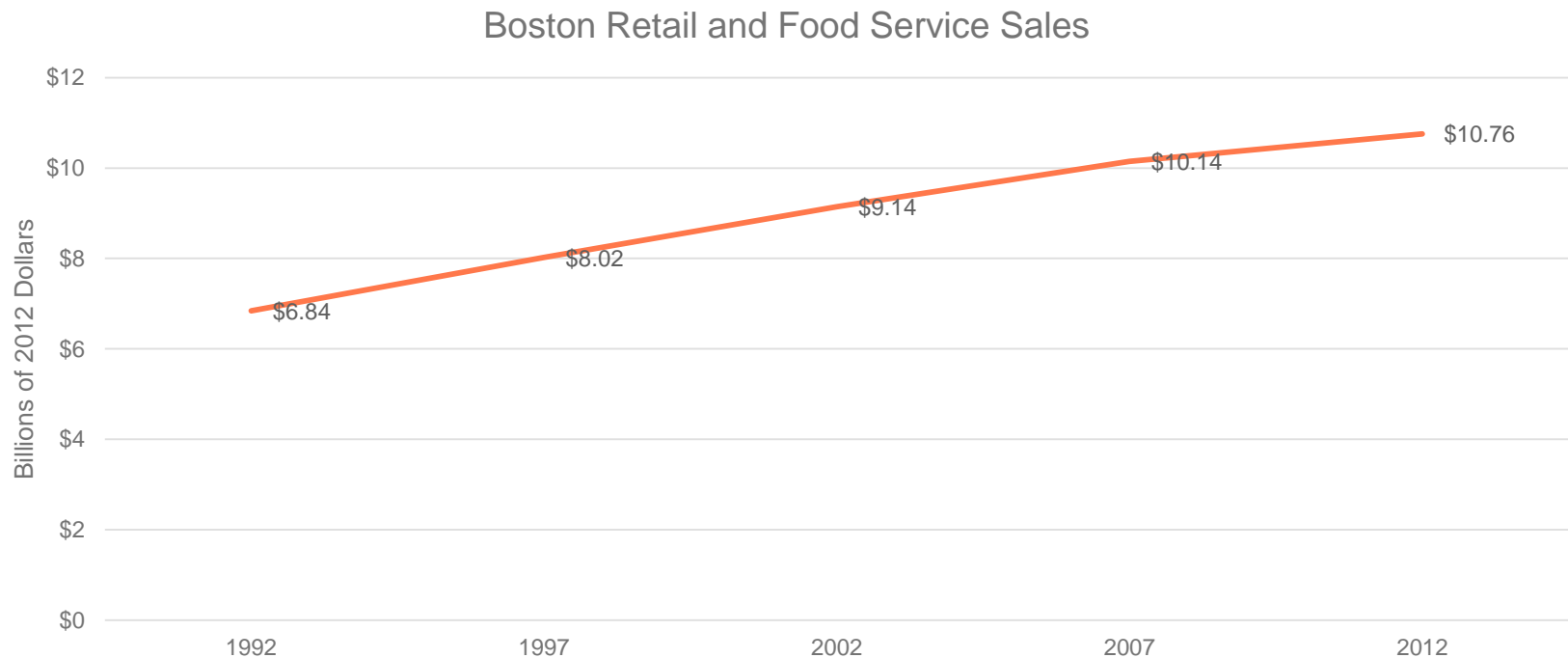
- Total international trade to or from the Boston metropolitan area exceeded \$37.5 billion in 2012
- By dollar value, Europe is the Boston's areas largest international trading partner
- The Boston area's international trade also demonstrates the regional prominence of the high-tech and health care industries: machinery, electronics, precision instruments and pharmaceuticals are top exports by dollar value

2012 International Trade of Boston Metropolitan Area



Source: "Freight analysis Framework" FHWA; BRA Research Division Analysis

- Boston is also home to vibrant retail and food service industries. According to the 2012 Economic Census, about 4,337 retail and food services establishments were located in the city of Boston employing 70,538 people with estimated sales of \$10.76 billion
- Retail and food services sales grew in Boston by 6% 2007-2012 despite the Recession. During this time, retail and food services sales fell by 3.3% in Massachusetts as a whole
- In the first quarter of 2015, Boston has 491,116 square feet of retail space with a vacancy rate of 2.1%

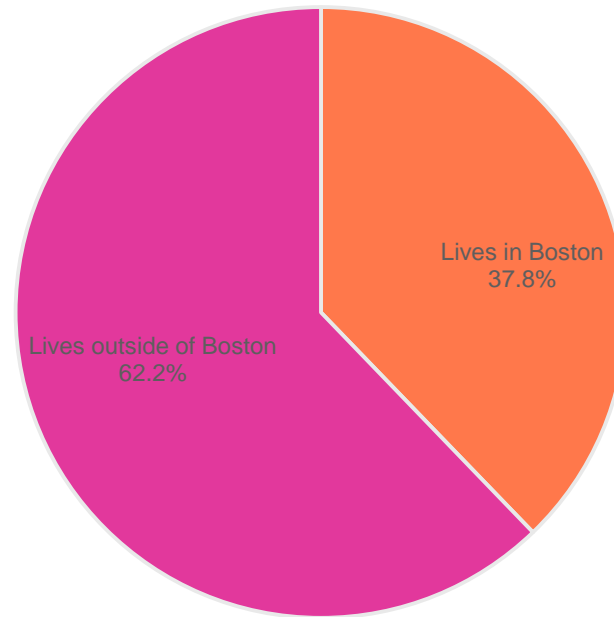


Source: U.S. Census Bureau, 1992-2012 Economic Census; Retail Indicators Branch; Costar, BRA Research Division Analysis

A VIBRANT LABOR MARKET (JOBS IN BOSTON)

- There are 698,875 jobs in Boston: approximately 434,700 jobs (62.2%) are filled by workers who live outside the city and commute. The remaining jobs are filled by Boston residents
- The proportion of Boston workers who live in Boston has remained roughly steady since 1990, at 39.4% in 1990, 35.2% in 2000, and 37.9% in 2010.

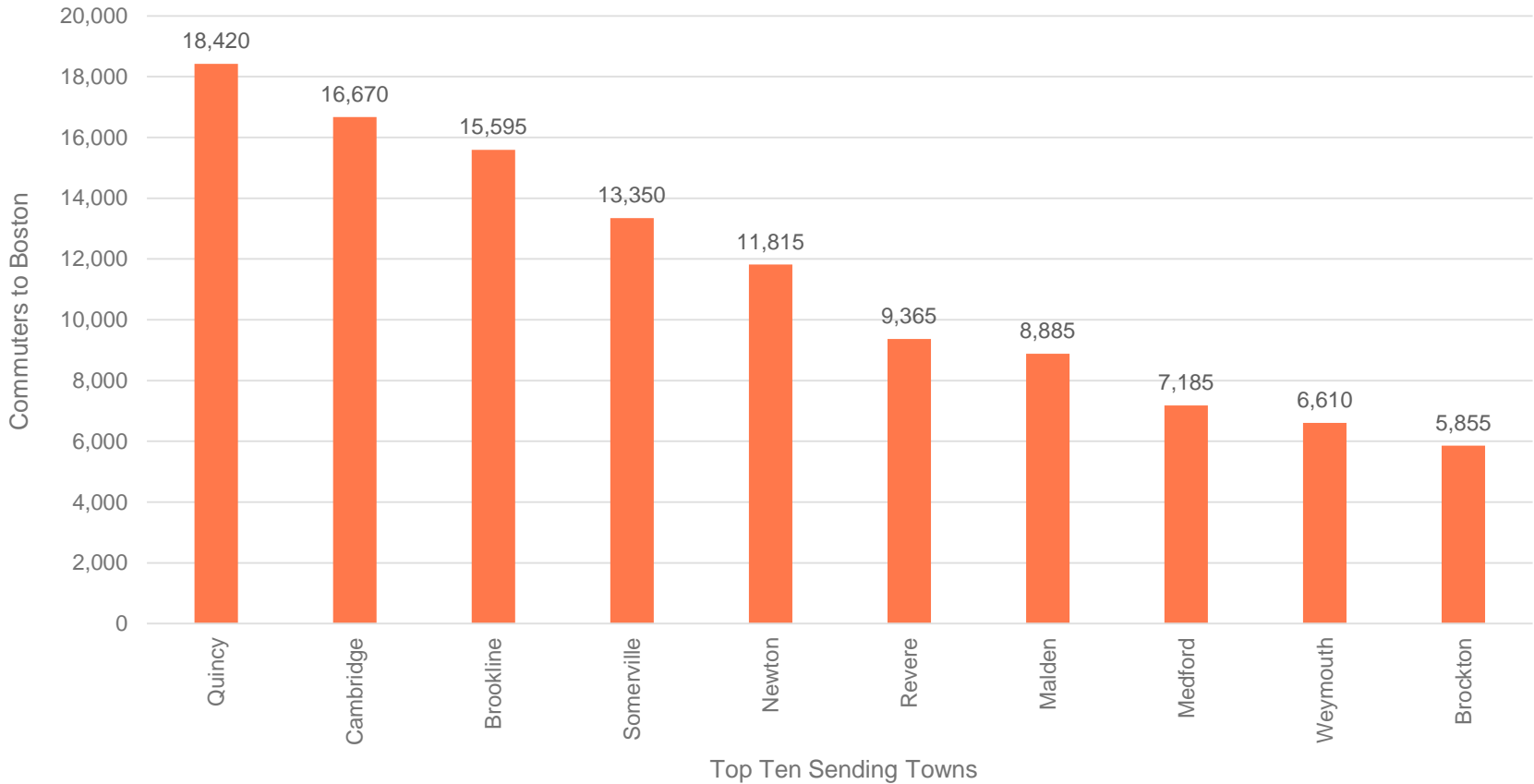
Employed in Boston by Place of Residence - 2013



Source: U.S. Census Bureau, 1990 & 2000 Decennial Census, 2010 & 2013 American Community Survey, Public-use Microdata Sample, BRA Research Division Analysis
* Sample is the non-institutionalized civilian (non-military) population that works in Boston, ages 16 and above.

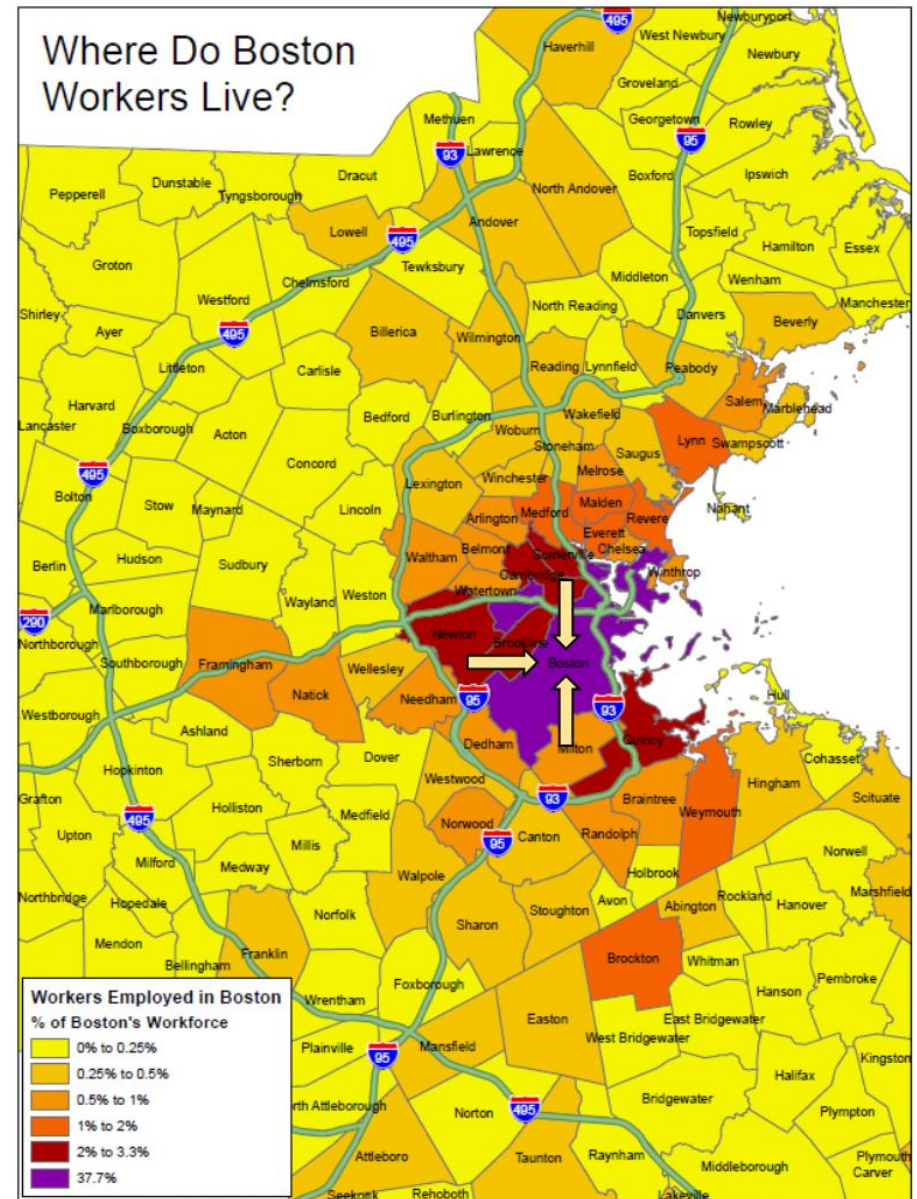
- Most non-Boston resident workers come from surrounding municipalities. Quincy had the highest number of commuters to Boston, followed by Cambridge, Brookline, Somerville, and Newton

Top Ten Towns of Residence for Commuters to Boston (2006-2010)



Source: U.S. Census Bureau, 2006-2010 American Community Survey, Special Tabulation: Census Transportation Planning, BRA Research Division Analysis

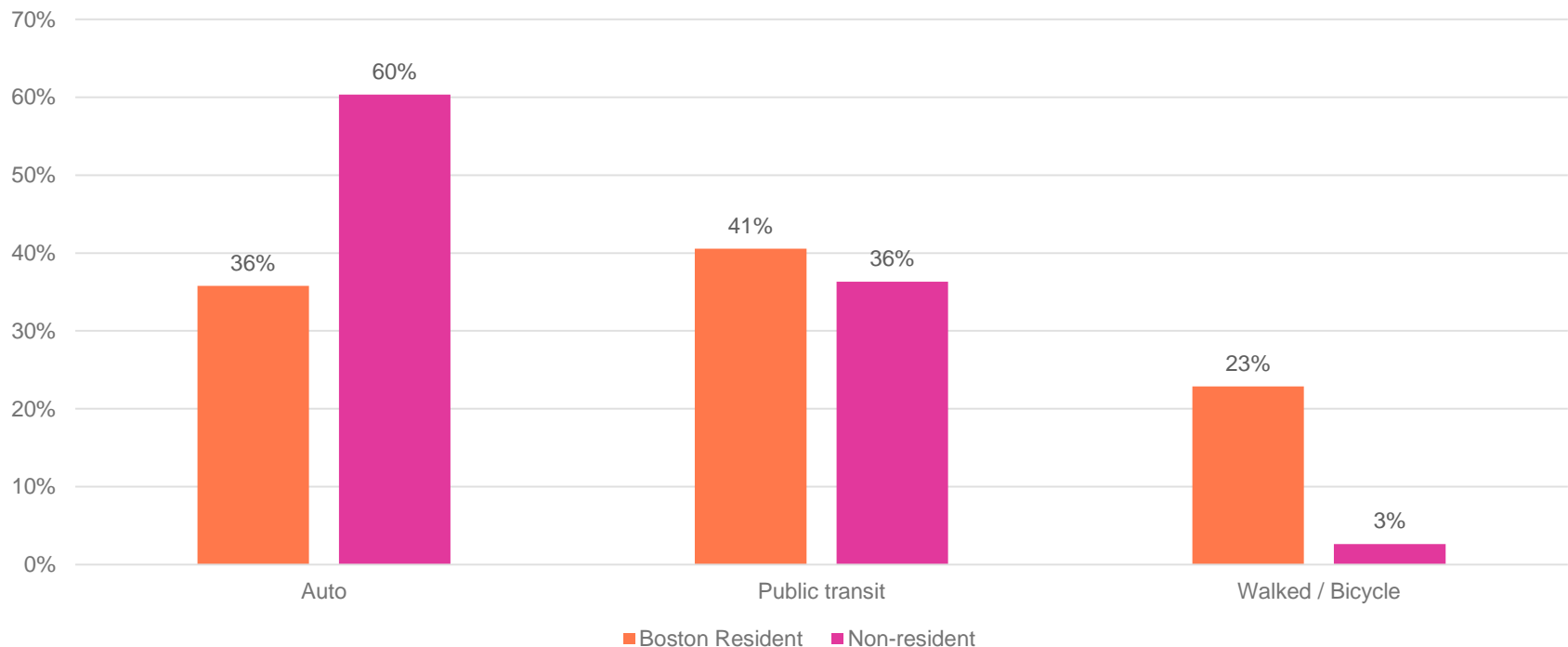
- Workers in Boston come primarily from cities and towns located within the I-95 corridor
- Commuting patterns are also heavily influenced by the locations of other large highways, including I-93 and I-90, and by the location of MBTA lines
- Almost 38% of Boston workers, however, live in the city of Boston



Source: U.S. Census Bureau, 2006-2010 American Community Survey, BRA Research Division Analysis

- Boston's daytime workforce more than doubles due to non-resident commuters traveling into the city
- Of the people who commute into Boston for work, 60% travel in personal vehicles and 36% take public transit. The remaining 3% walk or cycle, and 1% take other modes
- Boston residents who work in Boston are much more likely to walk or bike to work than non-residents

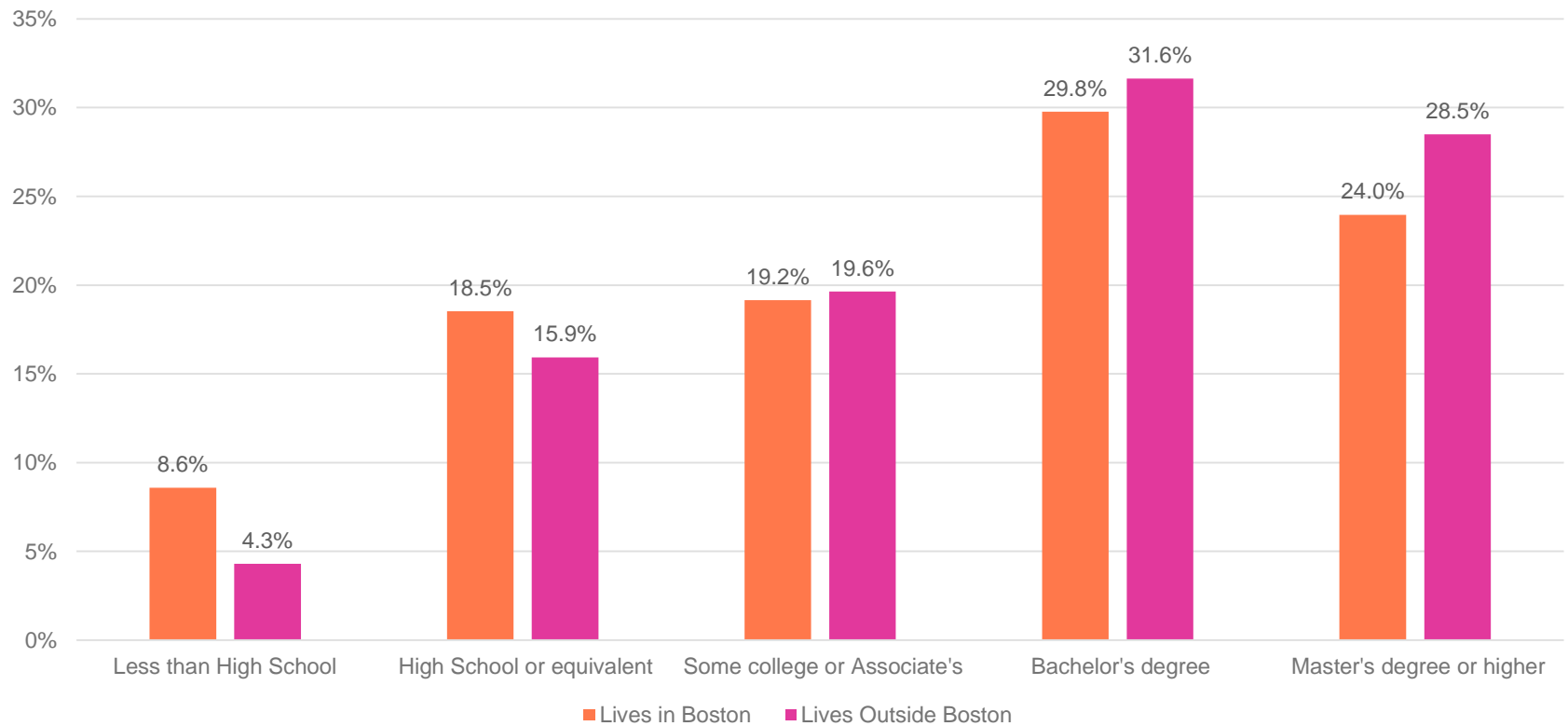
Boston Workforce by Transportation Means 2013



Source: U.S. Census Bureau, 2009-2013 American Community Survey, Public Use Microdata Sample (PUMS), BRA Research Division Analysis

- Boston's workforce is highly educated. Over 50% of people who work in Boston have a Bachelor's degree or higher and almost 25% have an advanced degree
- Those who commute into Boston for work tend to have higher levels of educational attainment than Boston residents who work in Boston

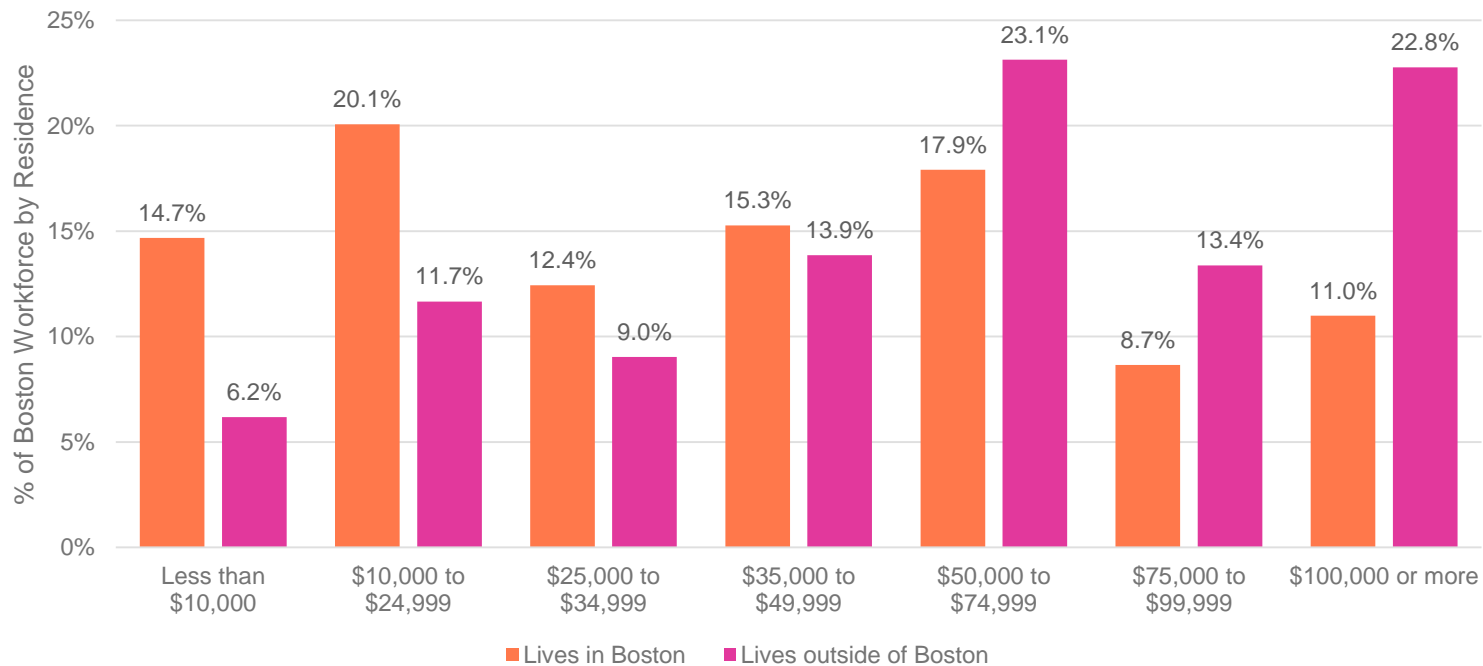
Workers in Boston by Educational Attainment, Age 25+



Source: U.S. Census Bureau, 2009-2013 American Community Survey, Public Use Microdata Sample (PUMS), BRA Research Division Analysis

- Boston residents tend to have lower incomes - 47.2% earn less than \$35,000 while only 26.9% of commuters do
- Non-residents who work in Boston tend to have higher incomes – 59.3% earn over \$50,000 while only 37.6% of resident workers do
- Boston resident workers have lower income partially because they are more likely to work part-time. A majority of workers earning less than \$10,000 only work part time, and non-resident are less likely to commute to Boston for a part-time job

Income of Boston's Workforce by Residency



Source: U.S. Census Bureau, 2013 American Community Survey, BRA Research Division Analysis
 * Sample is the non-institutionalized civilian (non-military) population that works in Boston, ages 16 and above.
 ** Income includes salary, wages, and income earned from self-employment.

- Even within the same industries, workers who live outside of Boston often earn more than Boston resident workers. At the median, non-resident workers earn \$24,000 more per year than resident workers in Finance and Insurance, and \$15,000 more in Information.
- Boston commuters are concentrated in high-paying industries and have a higher median annual wage (\$59,701) than Boston resident workers (\$37,991)

	Live in Boston		Live Outside Boston	
	% of Total Employment	Median Income Among Full-Time, Full-Year Workers	% of Total Employment	Median Income Among Full-Time, Full-Year Workers
TOTAL	100%	\$50,000	100%	\$65,000
Finance and Insurance	8.1%	\$72,000	12.9%	\$94,500
Professional, Scientific and Technical Services	11.1%	\$70,000	12.8%	\$85,000
Information	2.1%	\$60,000	2.6%	\$75,000
Public Administration	5.8%	\$61,000	6.6%	\$70,000
Manufacturing	2.3%	\$40,000	3.2%	\$63,000
Health Care and Social Assistance	19.3%	\$43,000	18.2%	\$61,000
Educational Services	12.2%	\$50,000	9.6%	\$61,000
Construction	3.6%	\$43,700	5.5%	\$60,000
Real Estate and Rental and Leasing	2.4%	\$51,000	2.3%	\$57,000
Transportation and Warehousing	3.2%	\$42,000	5.0%	\$53,000
Wholesale Trade	1.2%	\$50,000	1.8%	\$50,000
Retail Trade	7.6%	\$33,500	4.7%	\$47,000
Arts, Entertainment, and Recreation	2.0%	\$43,000	1.4%	\$45,000
Other Services, except Public Administration	4.8%	\$35,000	3.3%	\$43,700
Administrative Support and Waste Management	4.1%	\$30,600	3.8%	\$40,000
Accommodation and Food Services	9.5%	\$30,000	5.5%	\$32,000
Utilities	0.4%	***	0.6%	***
Natural Resources and Mining	0.1%	***	0.1%	***
Management of Companies and Enterprises	0.1%	***	0.1%	***

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, BRA Research Division Analysis. Income data are omitted for industries employing less than 1% of the total workforce due to sample size.

- Occupations with in/out ratios above 1.0 employ more Boston residents than non-residents for jobs located in Boston
- Occupational differences might partially explain why Boston residents earn less than non-residents within the same industry
- The total in/out ratio is .61 for all Boston jobs.

OCCUPATIONS OF BOSTON WORKERS BY RESIDENCE – 2013

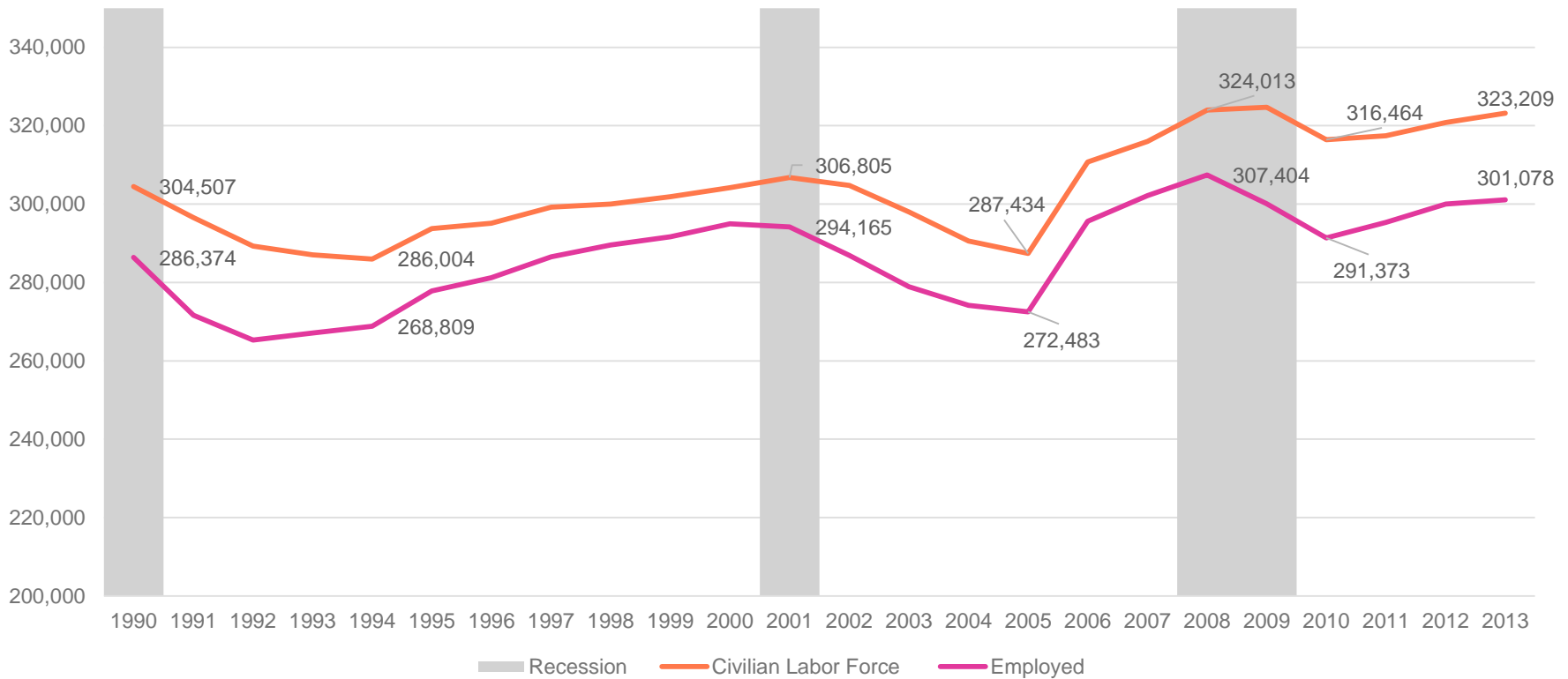
Occupation	Living in Boston	Living outside Boston	In/Out Ratio
Personal Care and Service	9,959	7,104	1.4
Food Preparation and Serving	16,410	12,143	1.35
Healthcare Support	6,201	5,109	1.21
Community and Social Service	5,962	5,820	1.02
Building and Grounds Cleaning and Maintenance	9,436	9,358	1.01
Sales	19,685	24,683	0.8
Education, Training, and Library	14,697	18,453	0.8
Arts, Design, Entertainment, Sports, and Media	6,760	8,523	0.79
Production	4,323	5,778	0.75
Office and Administrative Support	29,389	39,438	0.75
Protective Service	6,439	9,408	0.68
Transportation and Material Moving	8,277	12,728	0.65
Life, Physical, and Social Science	5,898	9,543	0.62
Business and Financial Operations	17,781	33,389	0.53
Legal	5,794	12,910	0.45
Management	22,172	50,564	0.44
Construction and Extraction	6,522	14,887	0.44
Installation, Maintenance, and Repair	2,841	6,941	0.41
Healthcare Practitioners and Technical	12,954	32,223	0.4
Computer and Mathematical	6,459	17,969	0.36
Architecture and Engineering	2,359	6,742	0.35

Source: U.S. Census Bureau, 2009-2013 American Community Survey, Public Use Microdata Sample (PUMS), BRA Research Division Analysis

A PRODUCTIVE RESIDENT LABOR FORCE

- In 2013, there were 323,209 workers in the Boston civilian resident labor force, reflecting a 19.2% growth between 2000 and 2013
- Of Boston residents in the civilian labor force, 301,078 were employed in 2013, most within Boston. The remainder of Boston's almost 700,000 jobs were held by commuters from surrounding communities

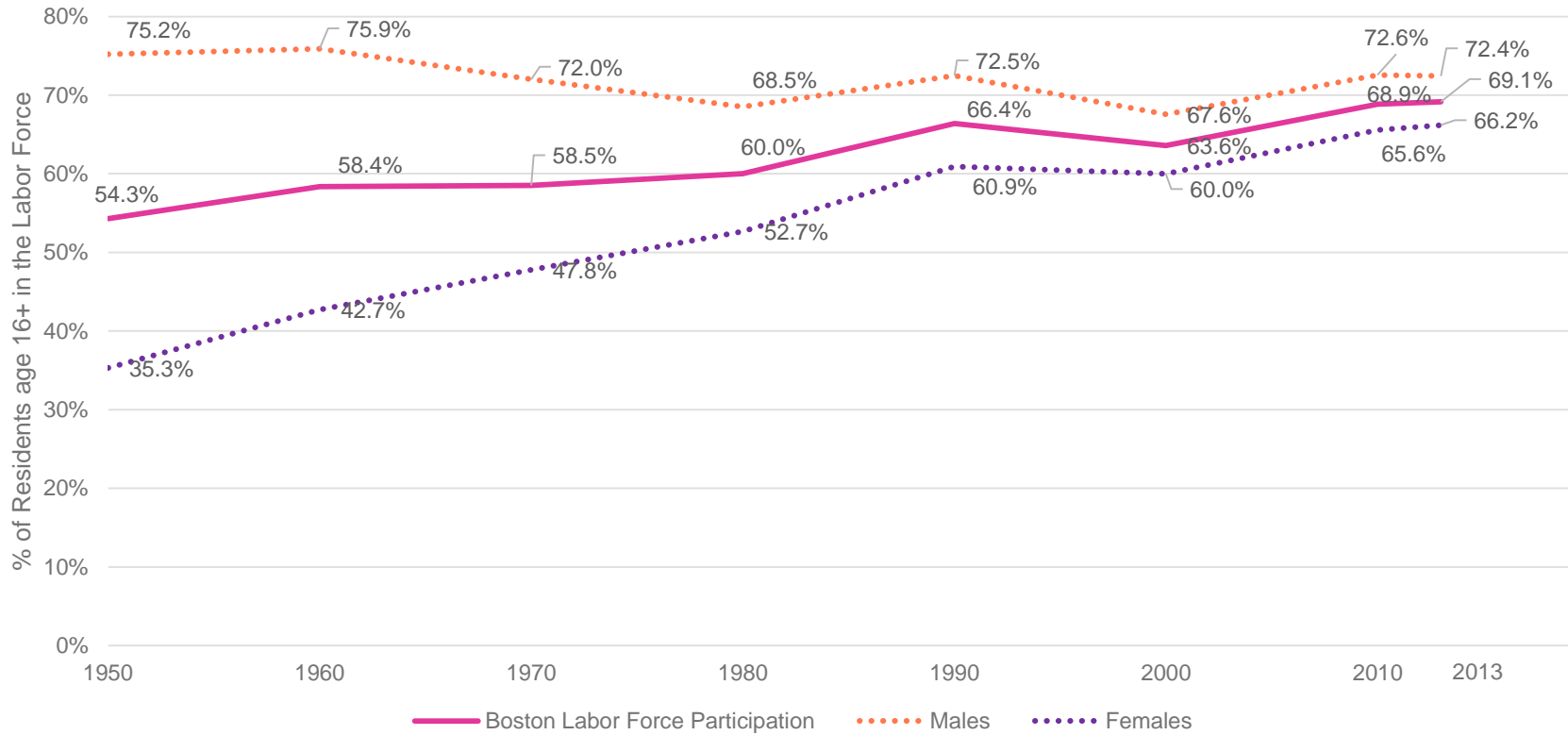
Boston Resident Civilian Labor Force (1990-2013)



Source: Bureau of Labor Statistics (BLS), BRA Research Division Analysis
 According to the U.S. Census Bureau, 2013 American Community Survey, Public Use Microdata Sample (PUMS), 68% of employed Boston residents worked in Boston.

- Together with productivity, labor force participation is an important factor shaping economic growth. Boston's overall labor force participation rate has been growing to a high of 69.1% in 2013
- Women's labor force participation has been converging with that of men – rising to 66.2% in 2013

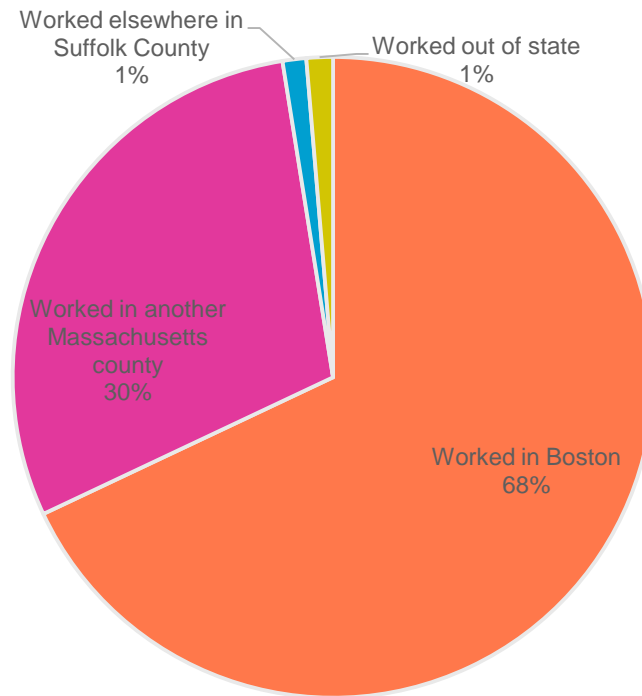
Labor Force Participation - Boston Residents (1950-2013)



Source: U.S. Census Bureau, 1950-2000 Decennial Census, 2006-2010 & 2009-2013 American Community Survey, BRA Research Division Analysis
 Note: 1950 and 1960 numbers are for population age 14 and over. Other years include population age 16+.

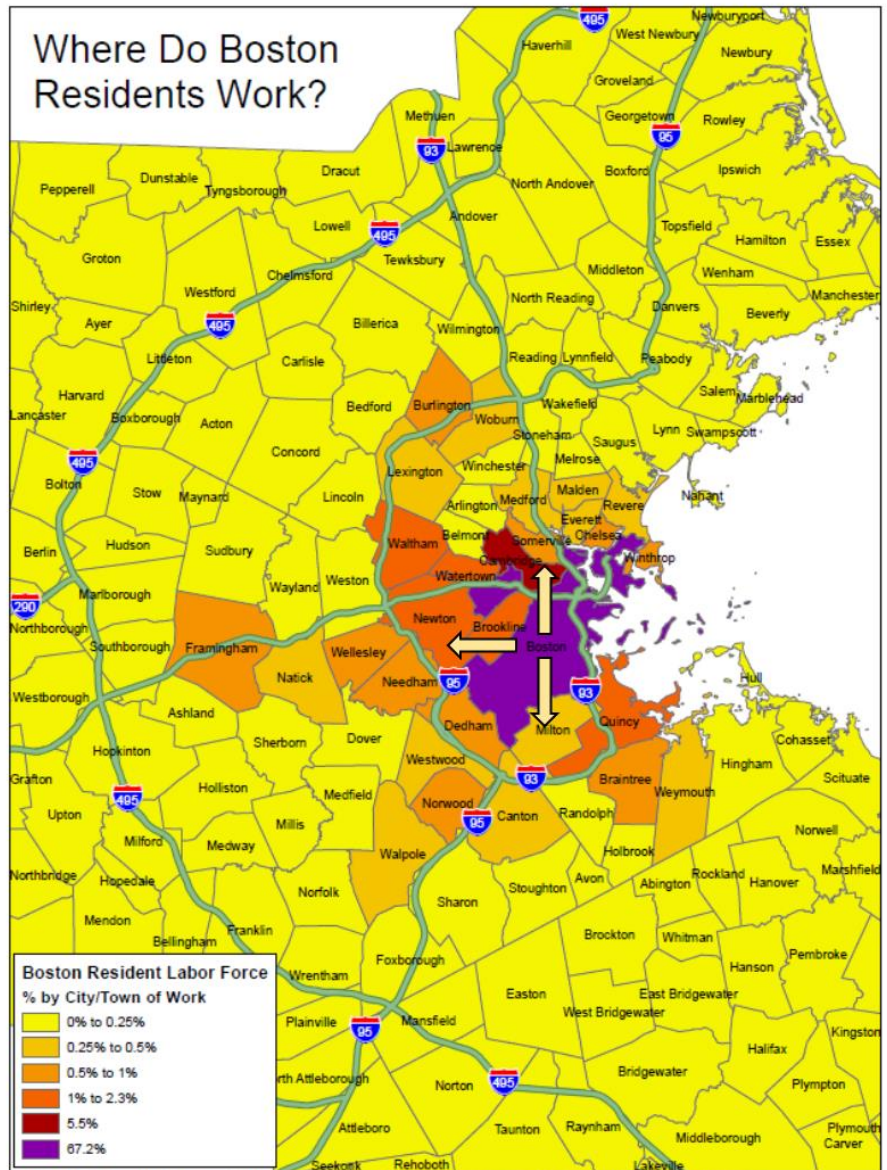
- 68% of Boston's employed residents (219,305 workers) work in Boston and 31% (103,272) work elsewhere in Massachusetts.
- 1% of Boston's resident labor force works outside of Massachusetts

Place of Work for Boston Residents



Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, BRA Research Division Analysis
* Sample is the non-institutionalized civilian (non-military) population of labor force participants who are currently employed, aged 16+

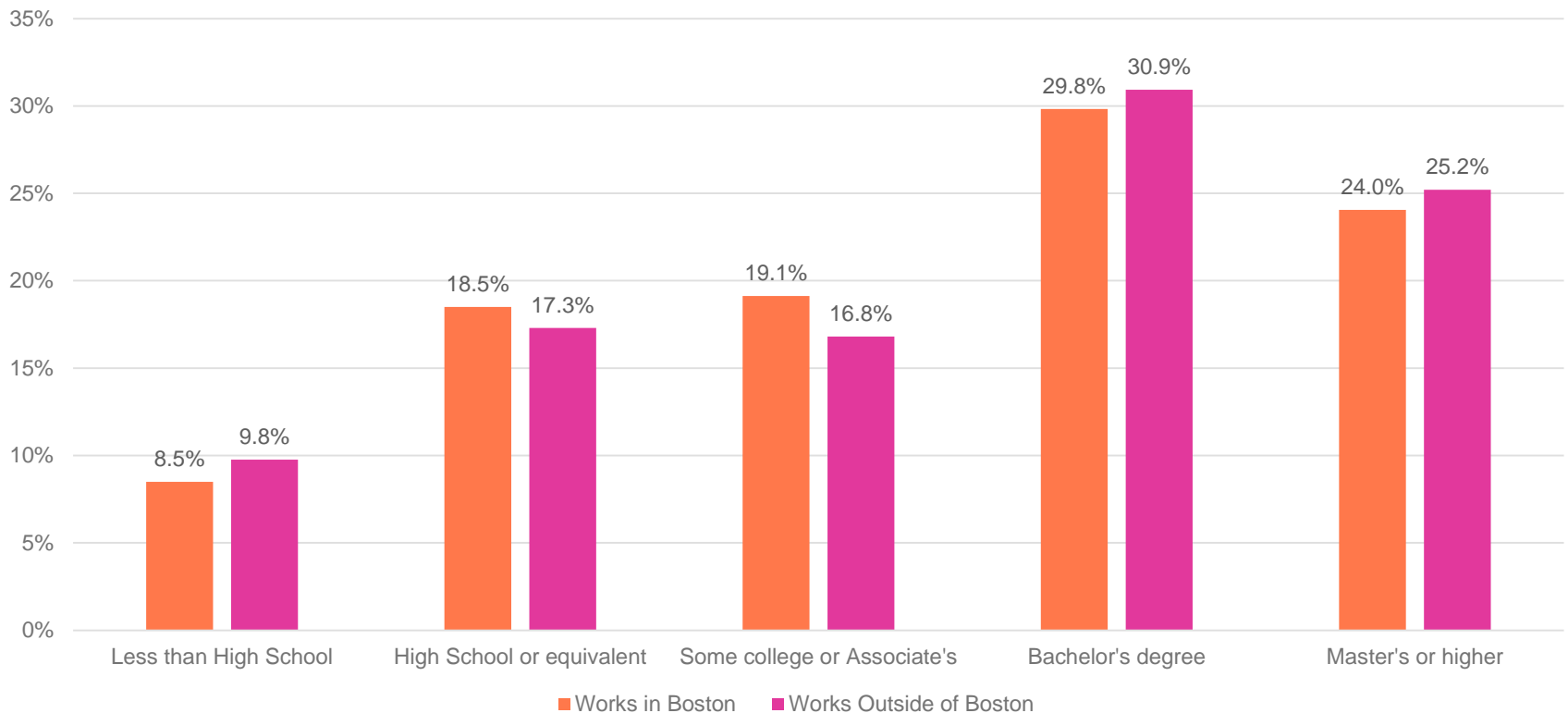
- Among cities other than Boston where Boston residents work, Cambridge employs the most, with 5.5% of the Boston resident labor force
- Boston resident workers who work outside of Boston work in towns along highways and MBTA routes, including Waltham, Newton, Watertown, Brookline and Quincy



Source: U.S. Census Bureau, 2006-2010 American Community Survey, BRA Research Division Analysis

- Boston residents who work outside of Boston are slightly more likely to hold a Bachelor's degree or higher than Boston residents who work in the city
- Boston residents who work outside of Boston are also slightly more likely to have less than a high school education. The differences between the two groups are relatively small, however

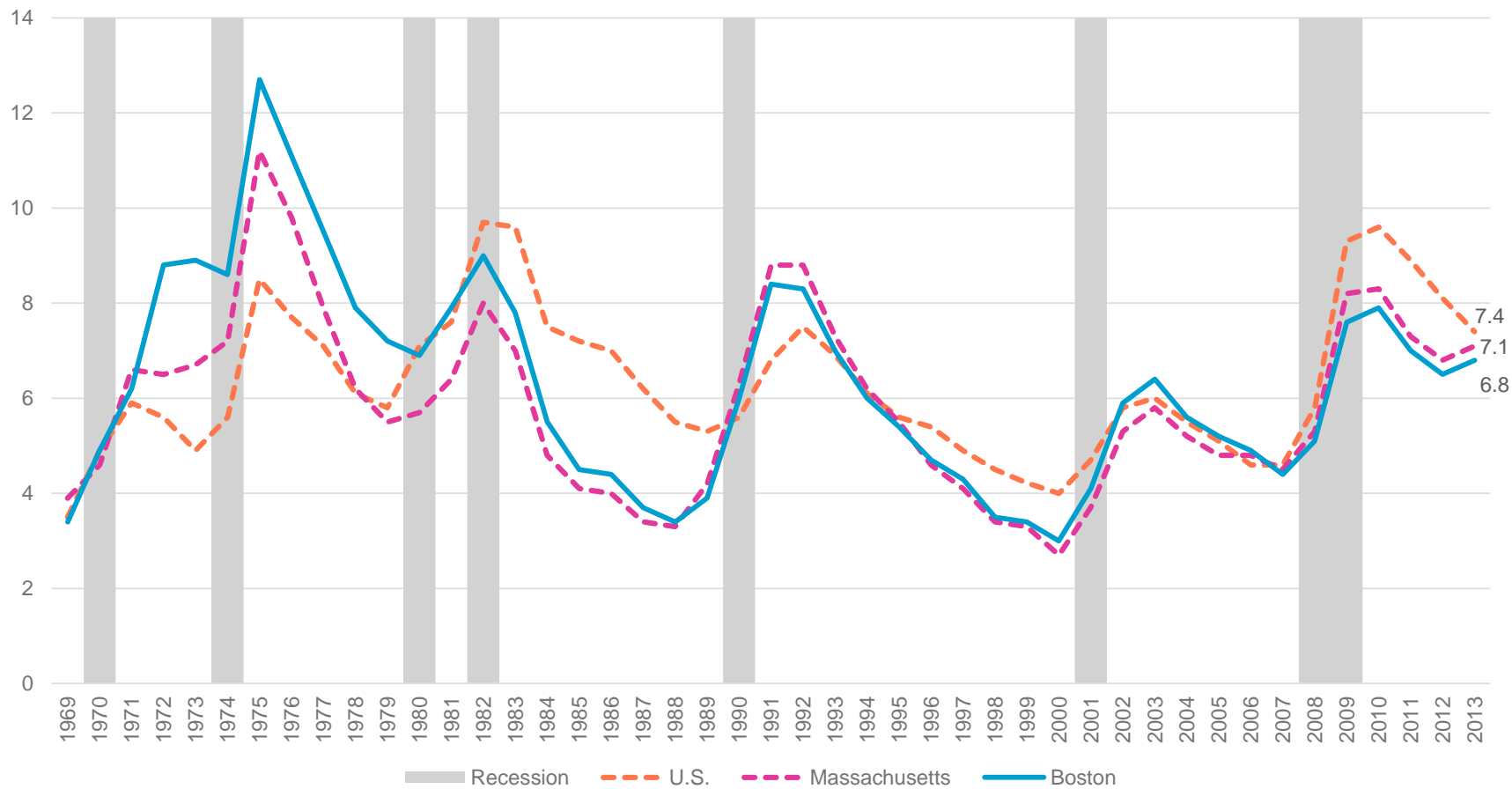
Educational Attainment of the Boston Resident Workforce Age 25+, by Location of Work, 2013



Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, BRA Research Division Analysis

- Recent economic growth pushed the unemployment rate in Boston lower than that of the state and much lower than the national rate
- The average unemployment rate for Boston residents in 2013 was 6.8%, which was lower than both the 7.4% national rate and 7.1% Massachusetts rate

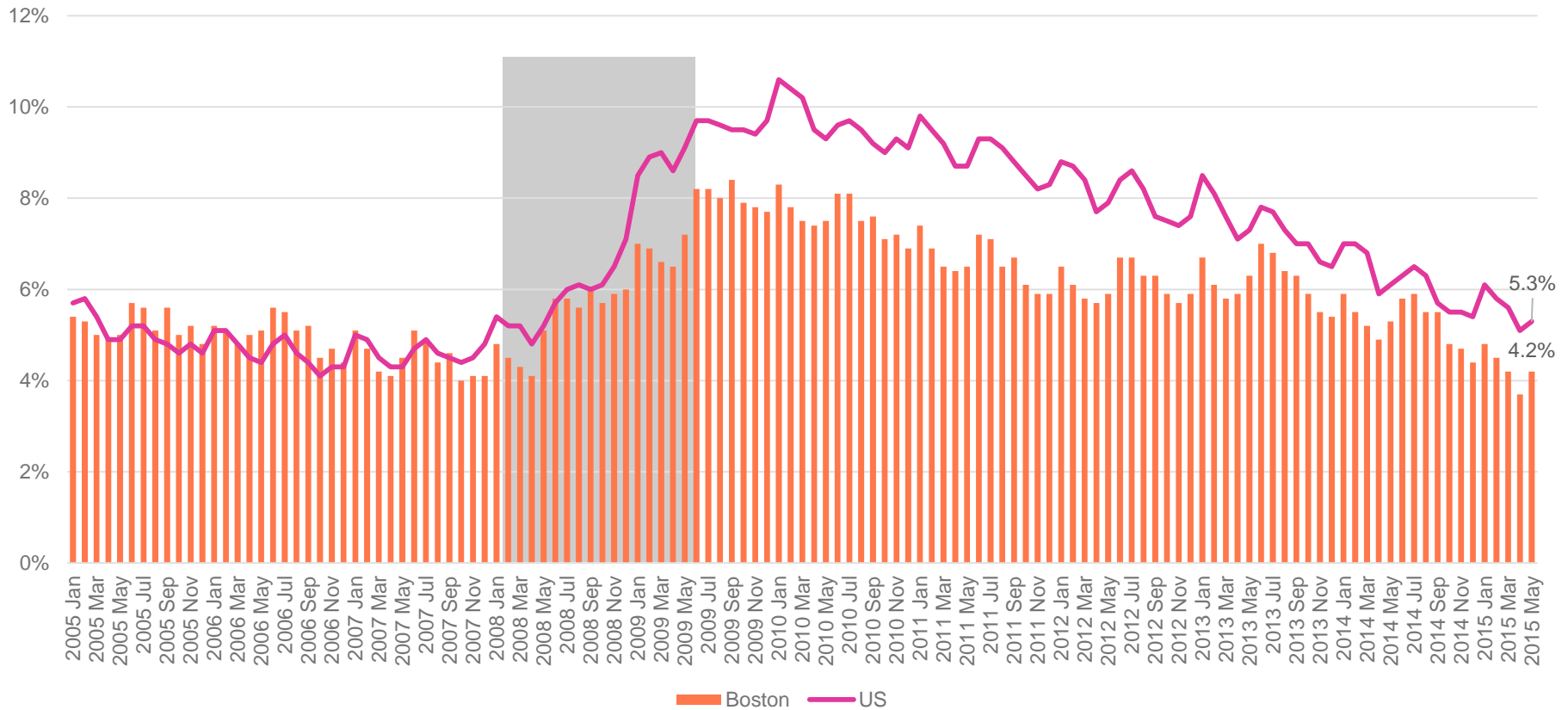
Annual Unemployment Rate, 1969-2013



Source: Bureau of Labor Statistics (BLS), BRA Research Division Analysis

- Boston's unemployment peaked at 8.4% in September 2009, 1.1 percentage points below the national average
- Boston's unemployment rate remained below the national average throughout the recovery from the recession
- As of May 2015, Boston's unemployment rate was 4.2%

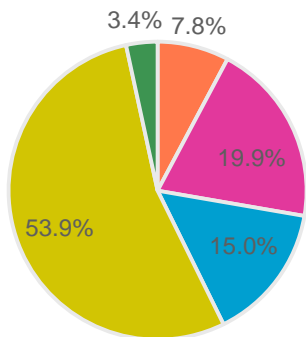
Monthly Unemployment Rates (Seasonally Unadjusted)



Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, 2005-2015, BRA Research Division Analysis

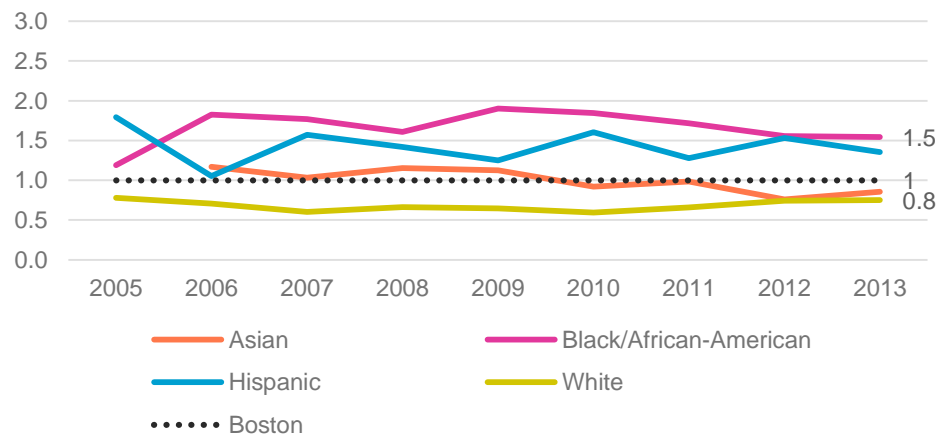
- Boston's resident labor force is about half White, while the labor force that commutes into Boston from other communities is about three quarters White
- Residents who are Black/African-American or Hispanic consistently have higher rates of unemployment than the citywide average (set here at 1.0). A score of 1.8 means that Black/African-American residents experience unemployment rates that are 1.8 times higher than the city average

Racial/Ethnic Composition of Boston's Resident Labor Force



■ Asian ■ Black or African American ■ Hispanic ■ White ■ Other

Unemployment Ratios by Race and Ethnicity - Boston Resident Workforce (2005-2013)



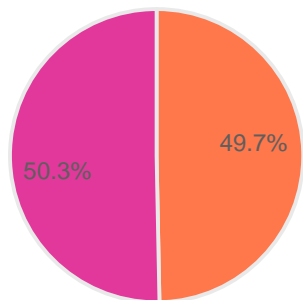
Source: U.S. Census Bureau, 2005-2013 1-year American Community Survey for unemployment

Note: no data is available for Asian unemployment in 2005

U.S. Census Bureau, 2009-2013 American Community Survey, Public Microdata Sample (PUMS) for labor force composition, BRA Research Division Analysis

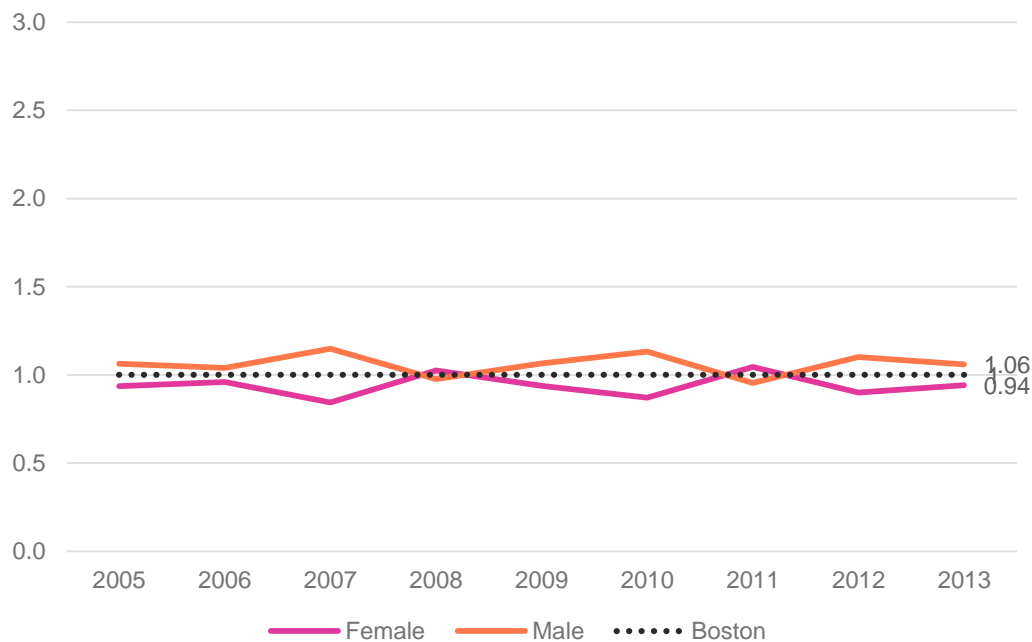
- Boston's resident labor force is about half male and half female.
- Unemployment rates tend to be slightly higher for men

Resident Labor Force Composition by Gender



Male
Female

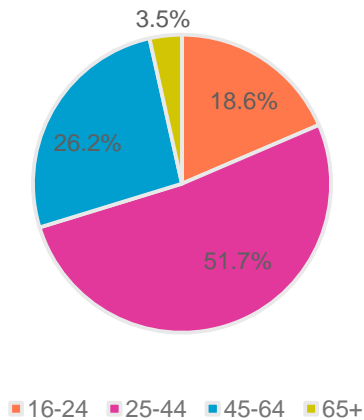
Unemployment Ratios by Gender (2005-2013)



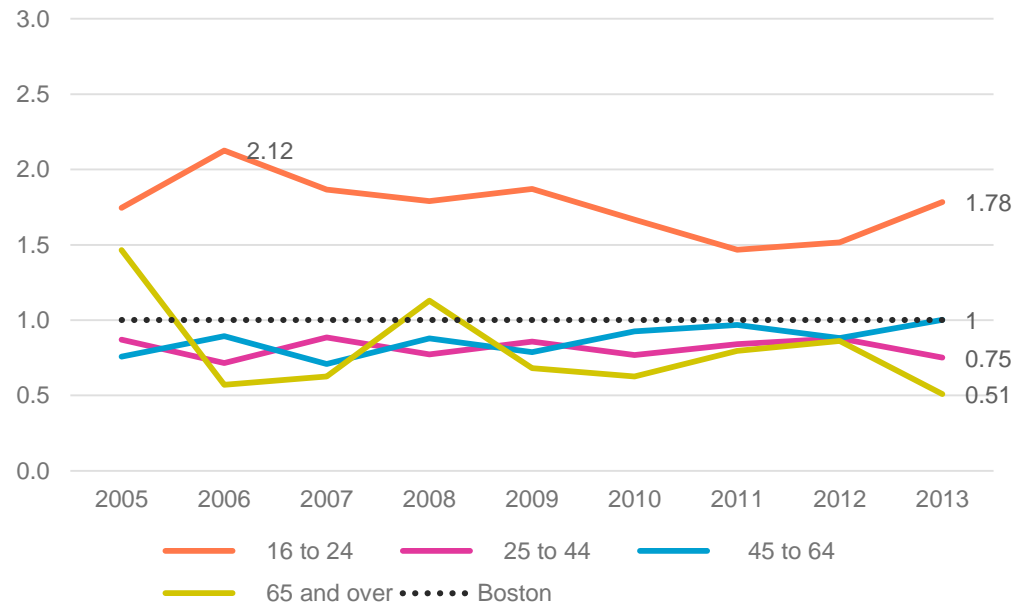
Source: U.S. Census Bureau, 2013 American Community Survey, BRA Research Division Analysis for labor force age distribution; U.S. Census Bureau, 2005-2013 American Community Survey 1-Year Estimates, BRA Research Division Analysis for unemployment

- The majority of the Boston resident labor force is between the ages of 25 and 44.
- 16-24 year olds have the highest rates of unemployment. Their unemployment rate is 1.78 times the citywide average.
- Boston residents over age 65 have the lowest rates of unemployment, perhaps because they are likely to retire and leave the labor force if they become unemployed

Age Distribution of Boston Resident Labor Force - 2013



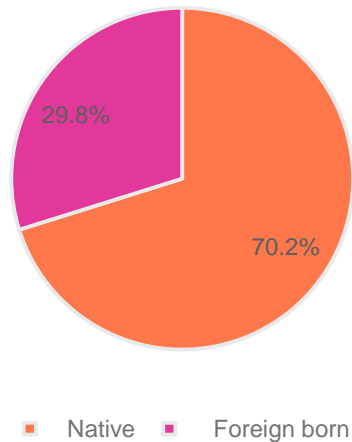
Relative Unemployment by Age (2005-2013)



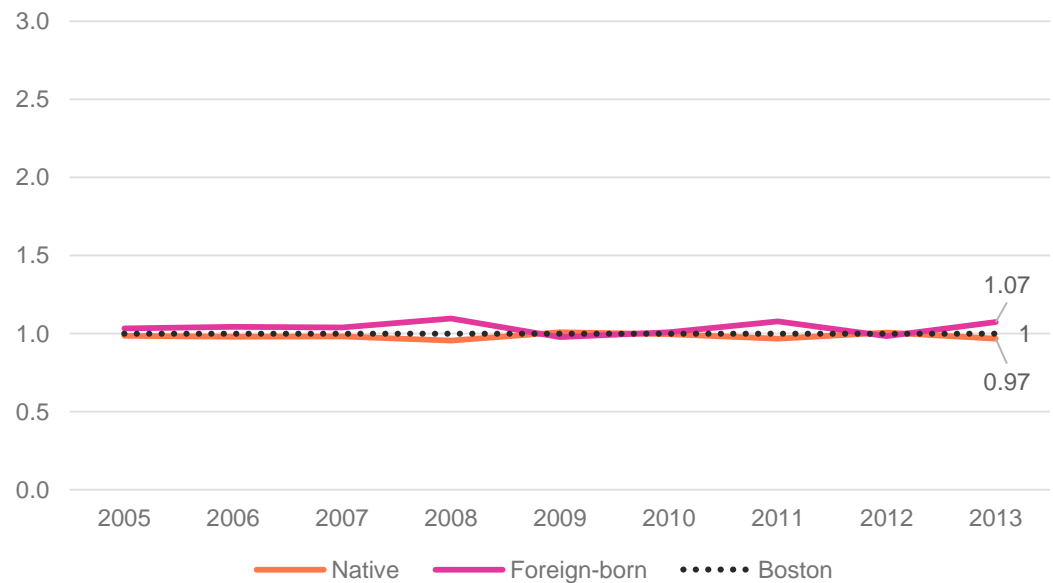
Source: U.S. Census Bureau, 2009-2013 American Community Survey, BRA Research Division Analysis for labor force age distribution; U.S. Census Bureau, 2005-2013 American Community Survey 1-Year Estimates, BRA Research Division Analysis for unemployment by age

- Almost 30% of Boston's civilian resident labor force is foreign born
- Immigrants in Boston are slightly more likely to be unemployed than are the native born. Between 2005 and 2013, foreign born unemployment rates were slightly higher than the city average for all years except 2009 and 2012

Nativity of Boston's Resident Labor Force - 2013



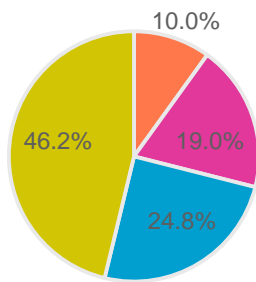
Relative Unemployment by Nativity (2005-2013)



Source: U.S. Census Bureau, 2009-2013 American Community Survey, Public Use Microdata Sample (PUMS), BRA Research Division Analysis for labor force composition; U.S. Census Bureau, 2005-2013 American Community Survey 1-year estimates, Public Use Microdata Sample (PUMS), BRA Research Division Analysis for unemployment

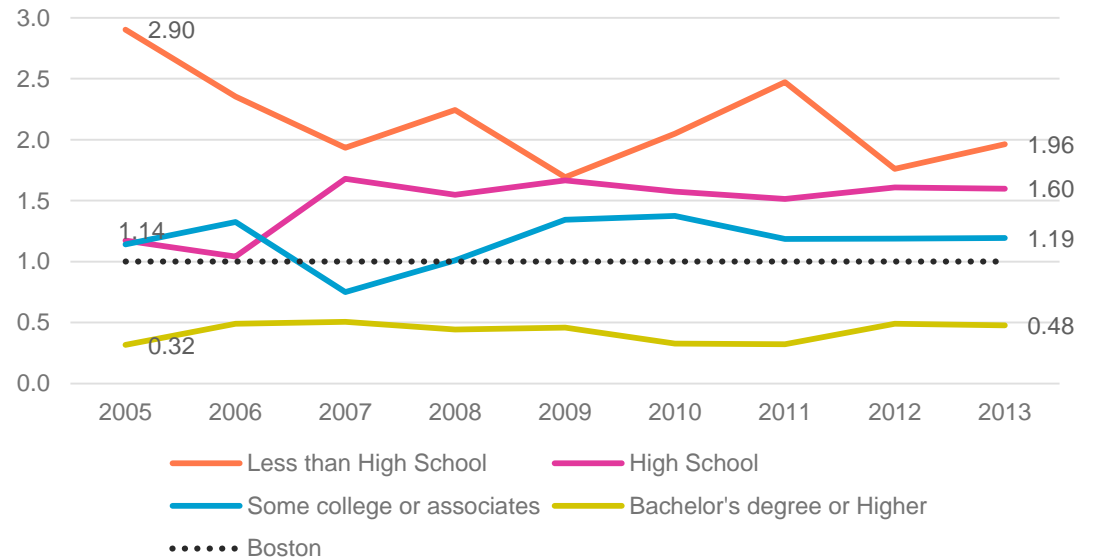
- Almost half of Boston's resident labor force has a Bachelor's degree or higher, and 19% has a graduate degree
- Boston residents with less than a high school education have unemployment rates double the citywide average. By contrast, residents with a Bachelor's degree or higher have unemployment rates that are half of the citywide average

Educational Attainment of Boston's Resident Labor Force - 2013



- less than high school
- high school
- some college/associate's
- bachelor's or higher

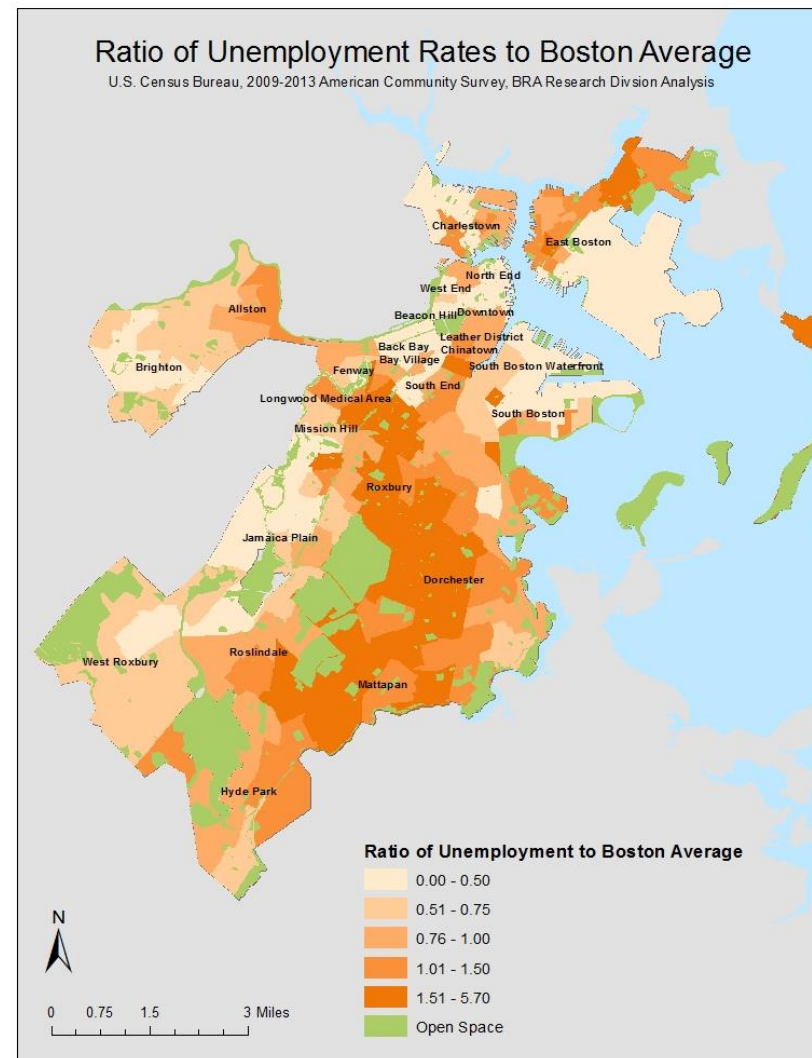
Relative Unemployment by Educational Attainment (2005-2013)



Source: U.S. Census Bureau, 2009-2013 American Community Survey, Public Use Microdata Sample (PUMS), BRA Research Division Analysis for labor force composition; U.S. Census Bureau, 2005-2013 American Community Survey 1-year estimates, Public Use Microdata Sample (PUMS), BRA Research Division Analysis for unemployment

BOSTON RESIDENT LABOR FORCE BY NEIGHBORHOOD - 2013

Neighborhoods	Labor Force	% of Boston's Labor Force	Unemployment Ratio
Mattapan	13,378	3.6%	1.75
Roxbury	22,055	6.0%	1.68
Dorchester	66,477	18.0%	1.49
Longwood	2,515	0.7%	1.40
Hyde Park	19,524	5.3%	1.23
East Boston	26,948	7.3%	1.15
Fenway	17,530	4.7%	1.03
BOSTON	329,713	100.0%	1.00
Roslindale	16,803	4.6%	0.93
Downtown	9,321	2.5%	0.89
Allston	11,789	3.2%	0.87
Mission Hill	9,619	2.6%	0.78
South Boston	21,971	6.0%	0.74
South End	19,788	5.4%	0.73
Charlestown	10,899	3.0%	0.72
Jamaica Plain	24,864	6.7%	0.67
West End	3,309	0.9%	0.65
West Roxbury	17,721	4.8%	0.62
Brighton	27,462	7.4%	0.49
Beacon Hill	6,963	1.9%	0.43
Back Bay	11,378	3.1%	0.41
South Boston Waterfront	2,054	0.6%	0.19
North End	6,742	1.8%	0.17



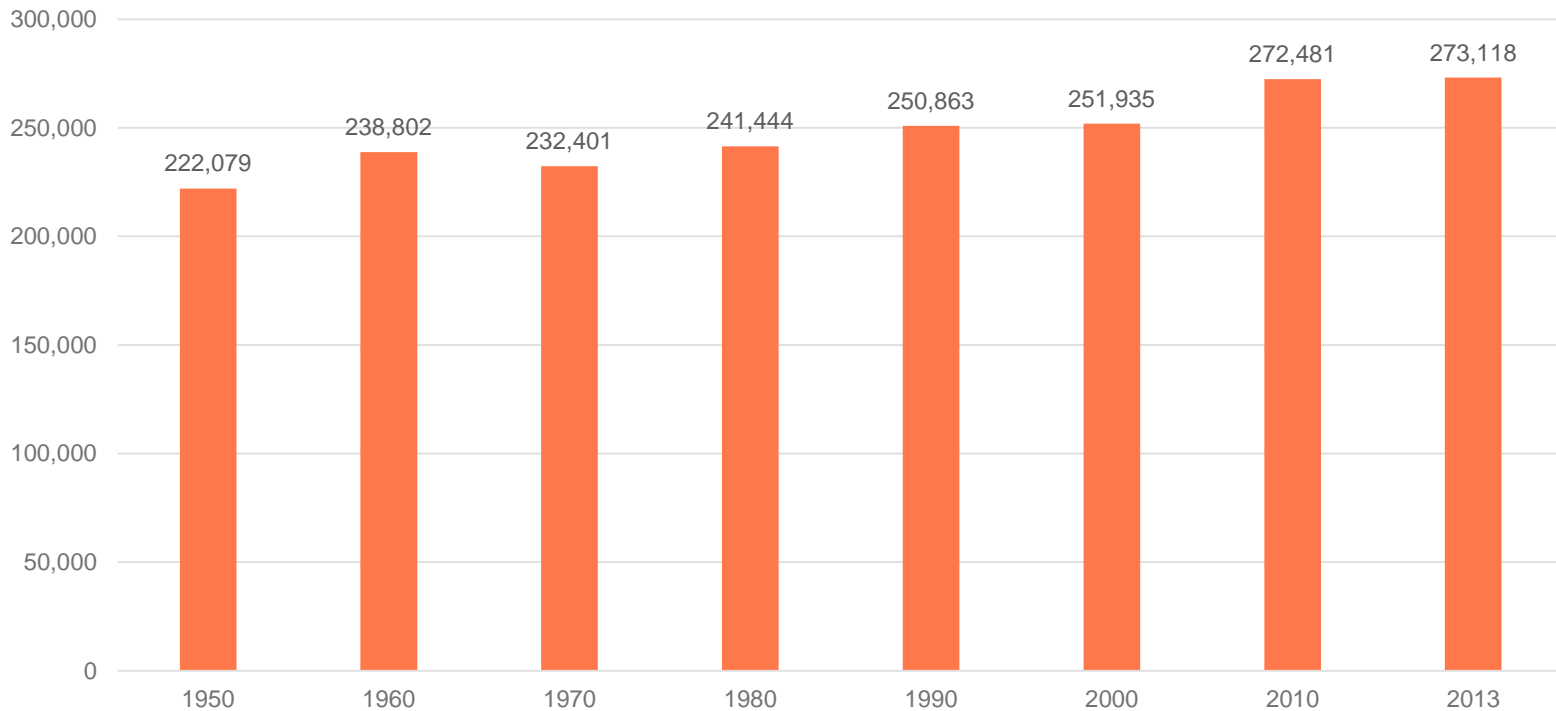
Source: U.S. Census Bureau, 2009-2013 American Community Survey, BRA Research Division Analysis

Note: Unemployment ratio sets Boston's unemployment rate at 1.0 and compares each neighborhoods' unemployment with the citywide rate.

A BOOMING REAL ESTATE MARKET

- As of 2013, there were 273,113 housing units in Boston, up 8.4% since 2000
- Housing unit growth between 2000 and 2010 was the strongest decade since before 1950: Boston added 20,546 new units of housing, for a decade-long growth rate of 8.2%

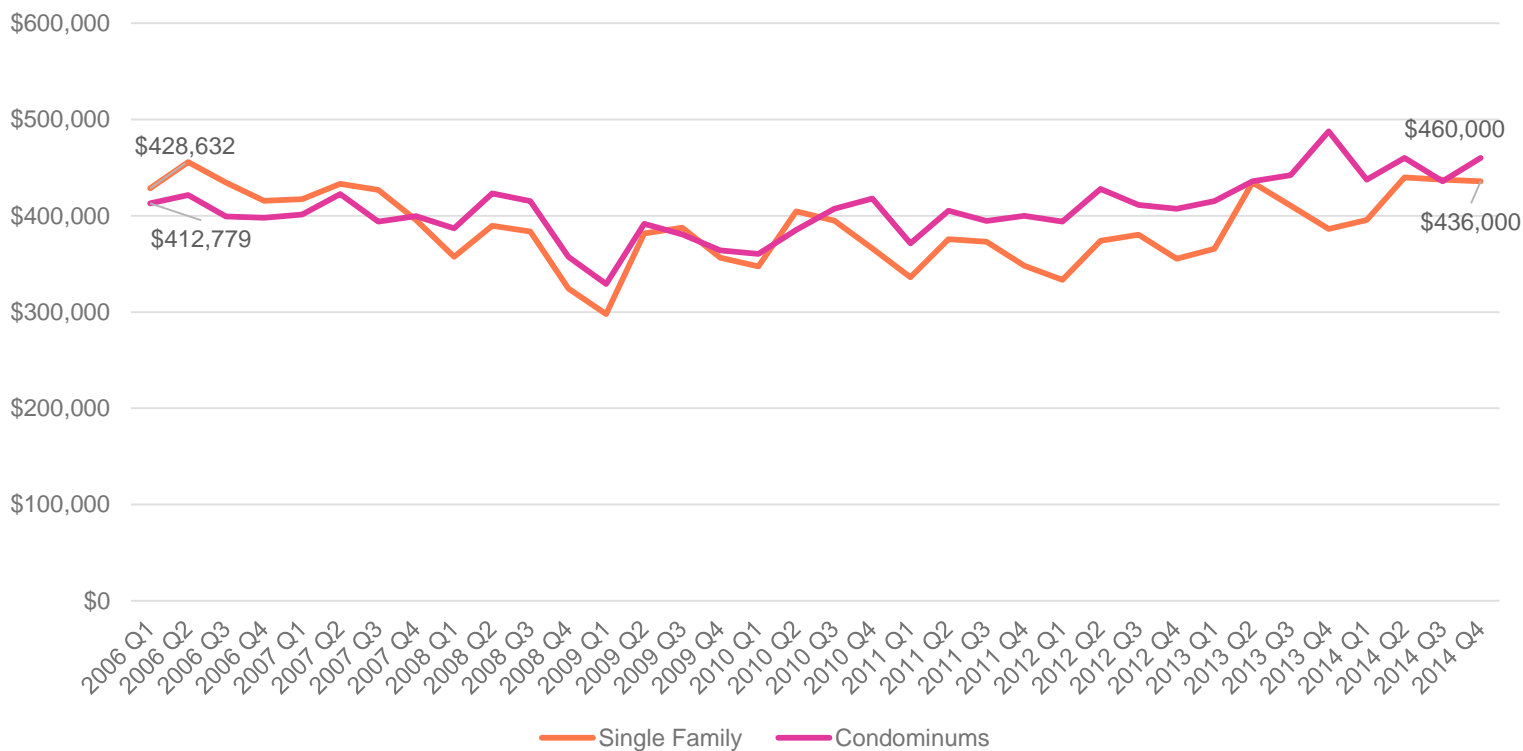
Total Number of Housing Units 1950-2013



Sources: U.S. Census Bureau, 1950 to 2010 Decennial Census; U.S. Census Bureau, 2009-2013 American Community Survey, BRA Research Division Analysis

- Despite the recession, the Boston housing market has remained strong.
- The median sales price for a single-family home in Boston increased from \$428,632 in first quarter 2006 to \$436,000 in fourth quarter of 2014 (2014\$)
- Condominium prices increased even more strongly from \$412,779 in the first quarter 2006 price to \$460,000 in the fourth quarter of 2014 (2014\$)

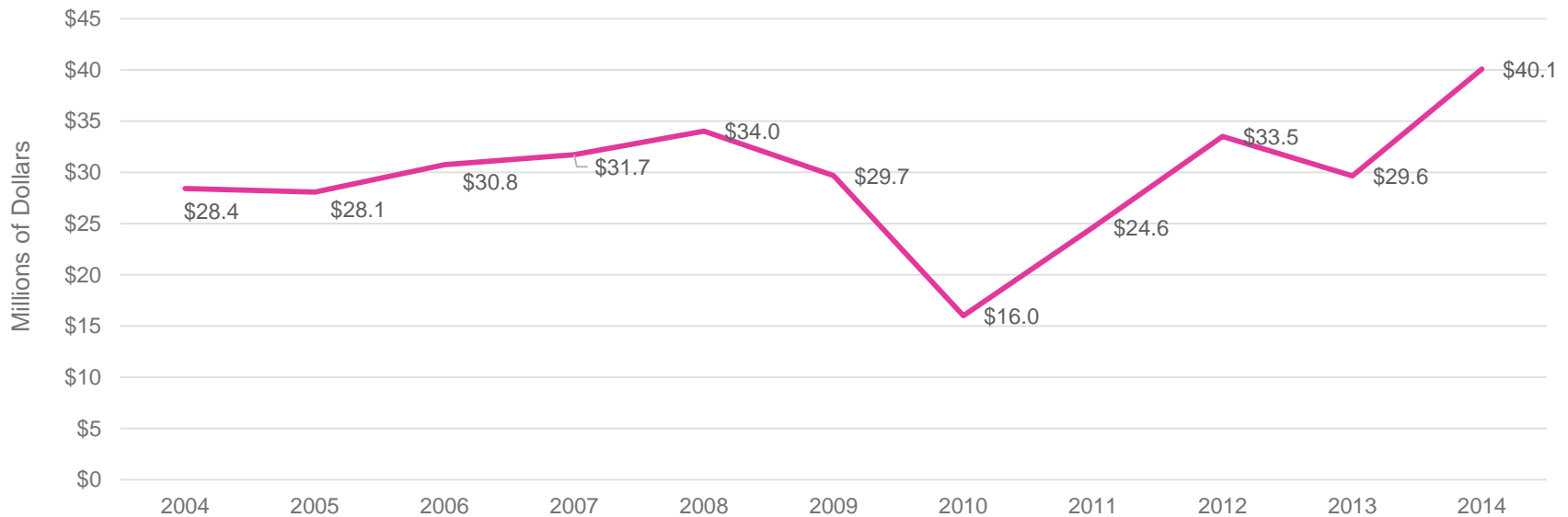
Median Sales Price 2006-2014 in 2014\$



Source: Banker & Tradesman (February 2015), City of Boston Department of Neighborhood Development Analysis and BRA Research Division Analysis

- Construction activity bottomed out in 2010 following the recession, but by 2012 permit activity returned to pre-recession levels, and between 2013 and 2014, construction activity spiked with an annual growth of 35%
- For 2014 there were:
 - > 3.0 million square feet of new non-residential space under construction
 - > 1.6 million square feet of non-residential undergoing alterations or conversions
 - > 3.9 million square feet of new residential construction; and
 - > 8.7 million square feet of space approved by the BRA Board

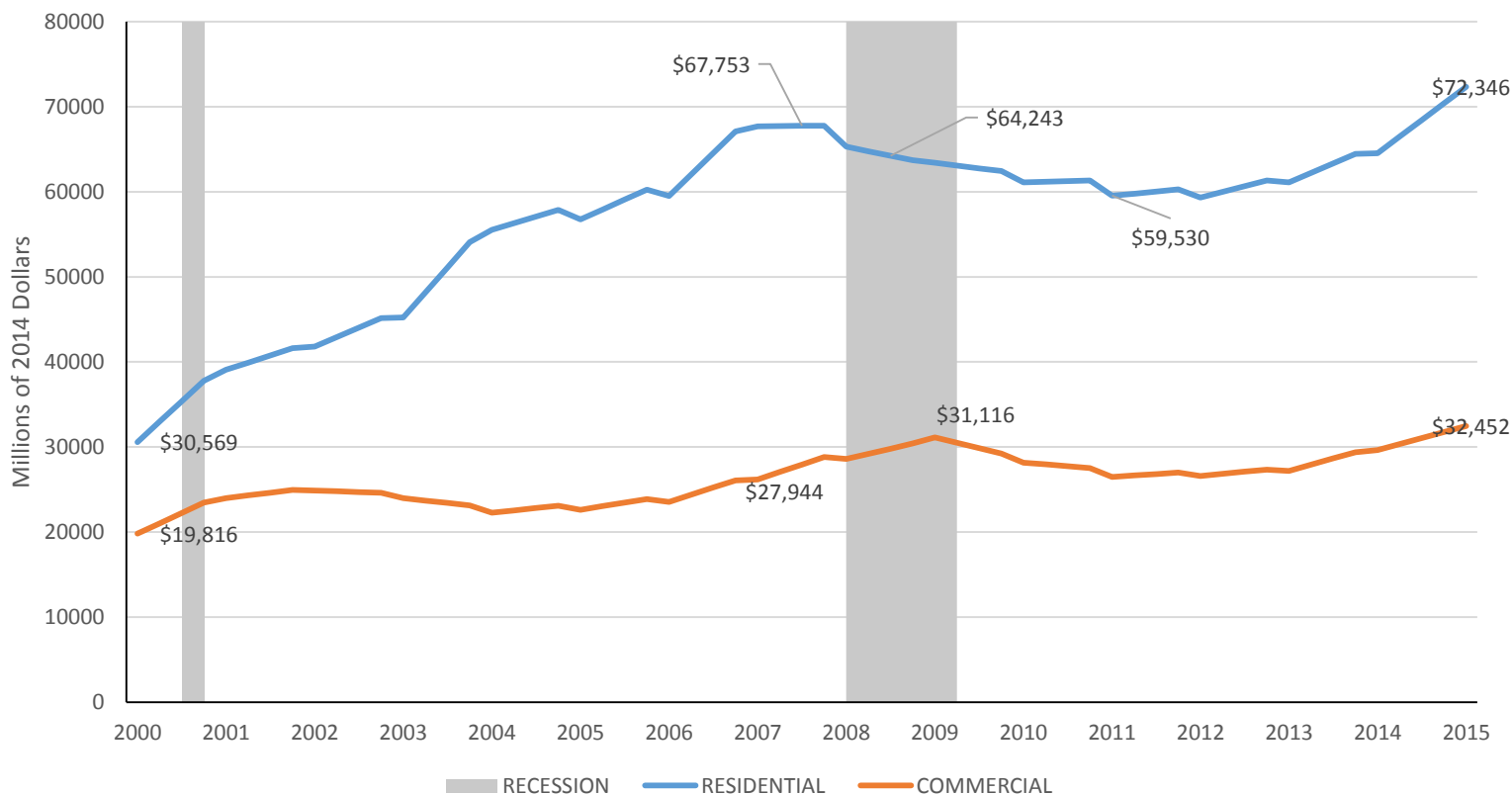
Building Permit Revenue in Millions of 2014 Dollars (2004-2014)



Source: City of Boston, Auditing Department and City of Boston Annual Reports 2004 to 2014. DND Analysis of Consolidated City of Boston Permit Data (DND, ISD, and BRA) and Boston Redevelopment Authority's Research Division

- Adjusted for inflation, assessed values of both residential and commercial properties have increased and now exceed their pre-recession highs
- The assessed value of residential properties has grown faster than that of commercial properties since 2001
- The total assessed value of residential properties was 123% higher than the total assessed value of commercial properties in 2015

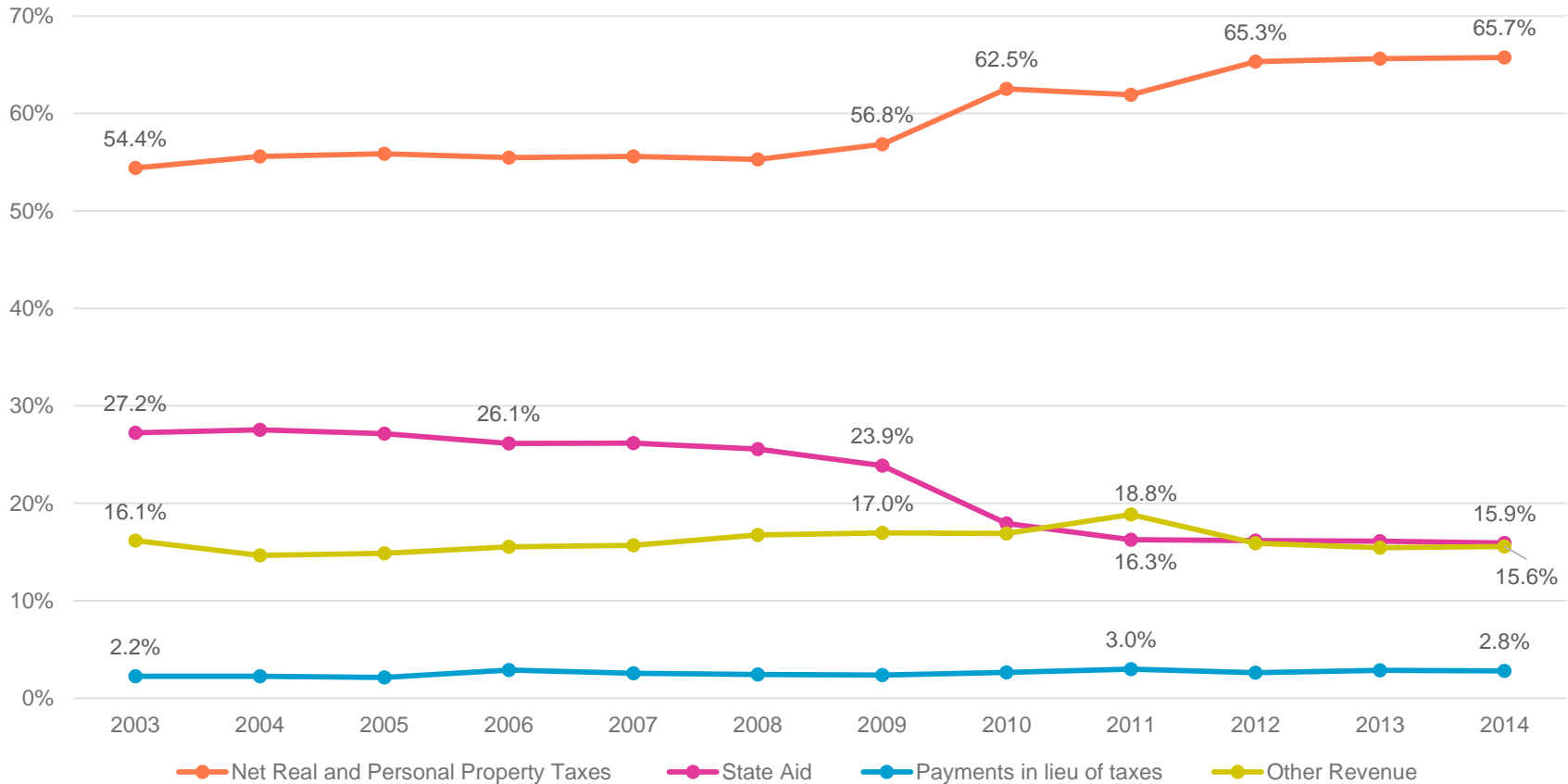
Total Assessed Value for Properties in Boston



Source: City of Boston Assessing Department, Property Tax Facts & Figures FY 2002-2015, BRA Research Division Analysis

- Since 2009, Boston has become increasingly reliant on property taxes for city revenue, as the share of inter-governmental transfers from Massachusetts has declined.
- In FY2014, participating hospitals and universities which are exempt from property taxes voluntarily contributed \$73.8 million in Payment in Lieu Of Taxes (PILOT).

City of Boston Revenue, 2003-2014

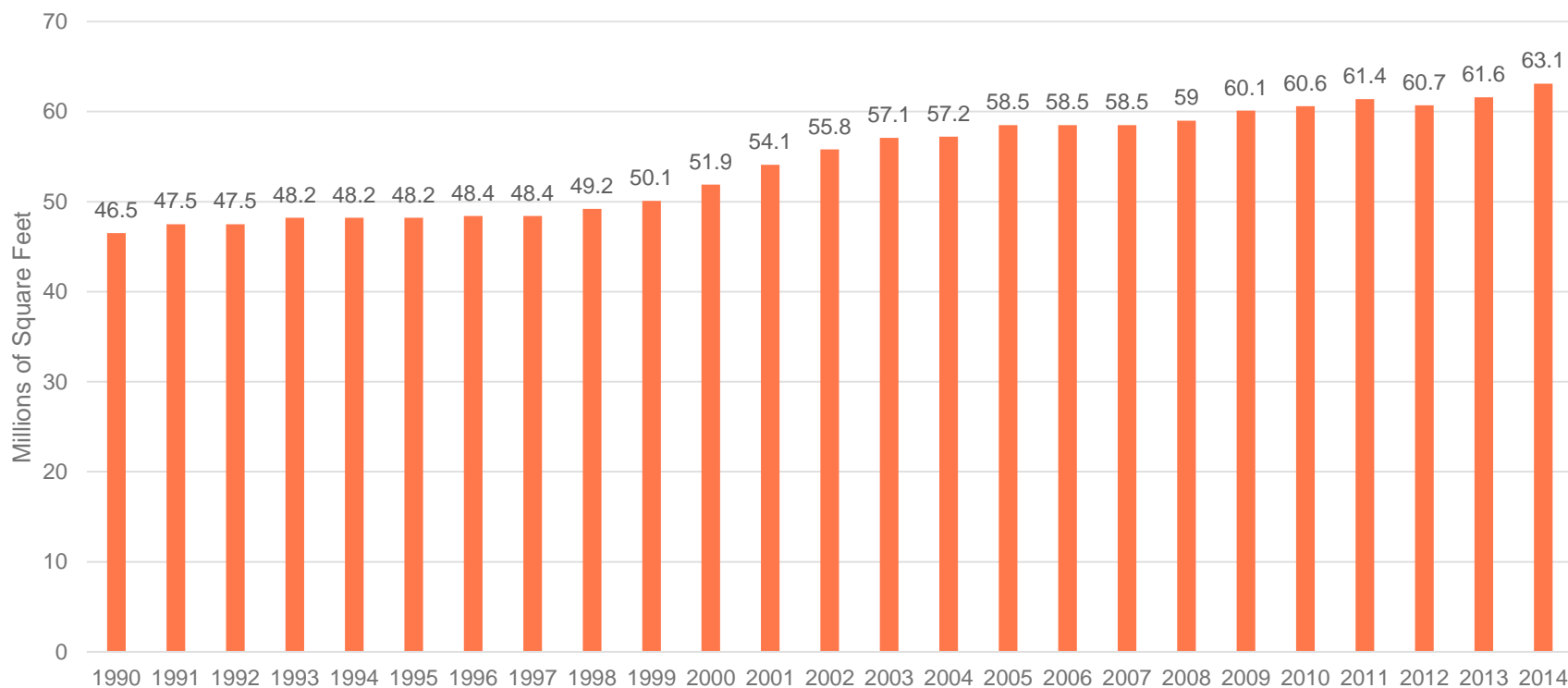


Source: City of Boston Comprehensive Annual Financial Reports, 2003-2014, BRA Research Division Analysis

Note: Other income includes excises, fines, licenses, permits, and investment income

- Boston has approximately 63.1 million square feet of office space with an average vacancy of 10.9%, and 6.3 million square feet available as of fourth quarter 2014 representing a net growth since the end of the recession of 1.0% per year
- The average asking rent for office space citywide for 2014 was \$51.97 per square foot
- The annual absorption for the year 2014 was 1.77 million square feet, most of which was located in the South Boston Waterfront, Financial District, and South Station areas*

Office Space in Millions of Square Feet (1990-2014)

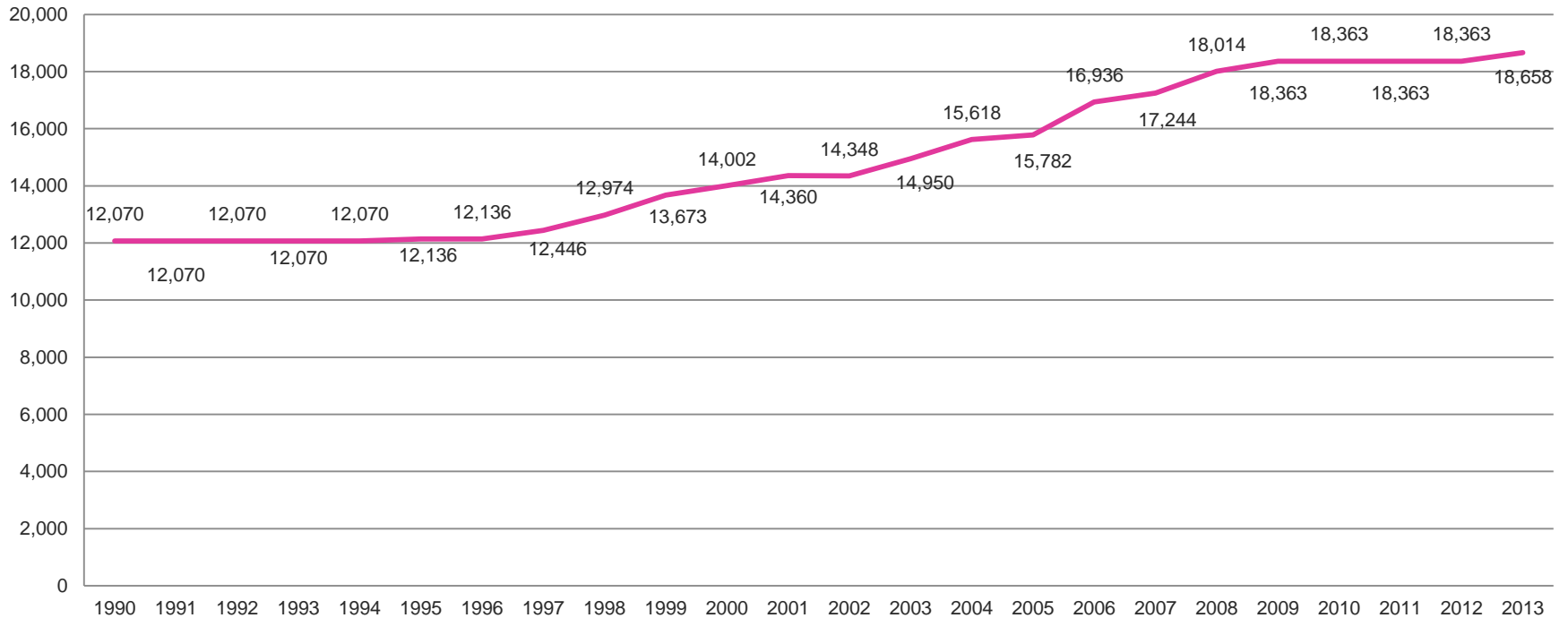


Source: Colliers International, Market Snapshot 1990-2014 Q4 Statistics.

*Please note Colliers and other real estate data providers use different neighborhood definitions than the BRA.

- From 1990 to 2013, Boston added 6,588 new hotel rooms across the city
- From 1990 to 2013, the average daily rate for a hotel room in Boston rose from \$215 to \$240, in 2014 dollars, for a 5.8% increase
- The occupancy rates dipped four percentage points between 2008 and 2009 to 70.5% due to the recession, but soon recovered reaching 81.8% in 2014, the highest rate since before 1990

Total Hotel Rooms (1990 - 2013)



Source: Pinnacle Advisory Group, BRA Research Department estimate of room supply at the end of each calendar year.