

IMAGINE | BOSTON
2030



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Boston by the Numbers

October 26, 2016

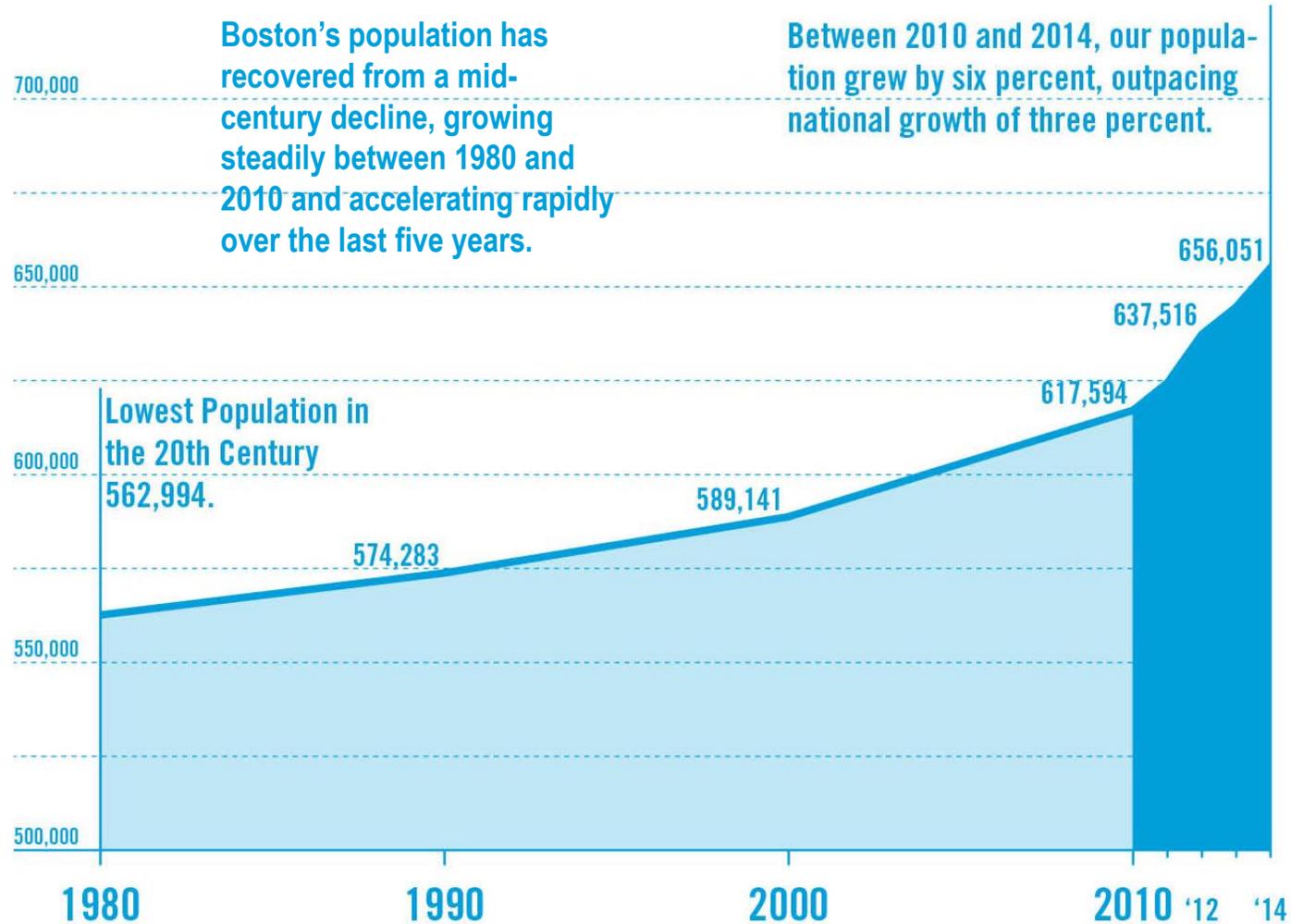
IMAGINE BOSTON 2030



Today, Boston is a thriving, healthy and innovative city. Now is our chance to set the course for the next generation—to grow inclusively and ensure that all Bostonians have access to opportunity.

—Mayor Martin J. Walsh

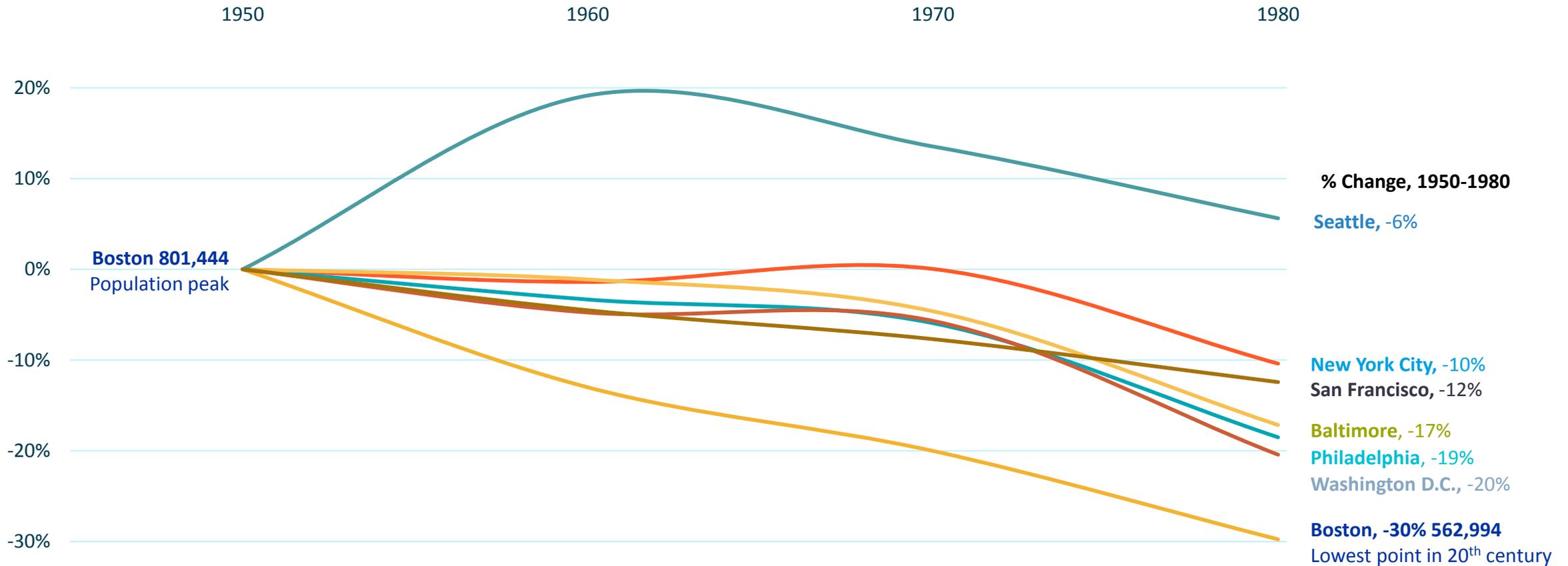
Today, we are here to talk about the opportunity – and the challenges – presented by Boston’s recent growth.



Sources: U.S. Census Bureau Decennial Census; U.S. Census Bureau, 2010 Decennial Census, 2014 1-Year American Community Survey

Boston wasn't always growing. Declining industry, a movement to the suburbs and local race relations led to population loss.

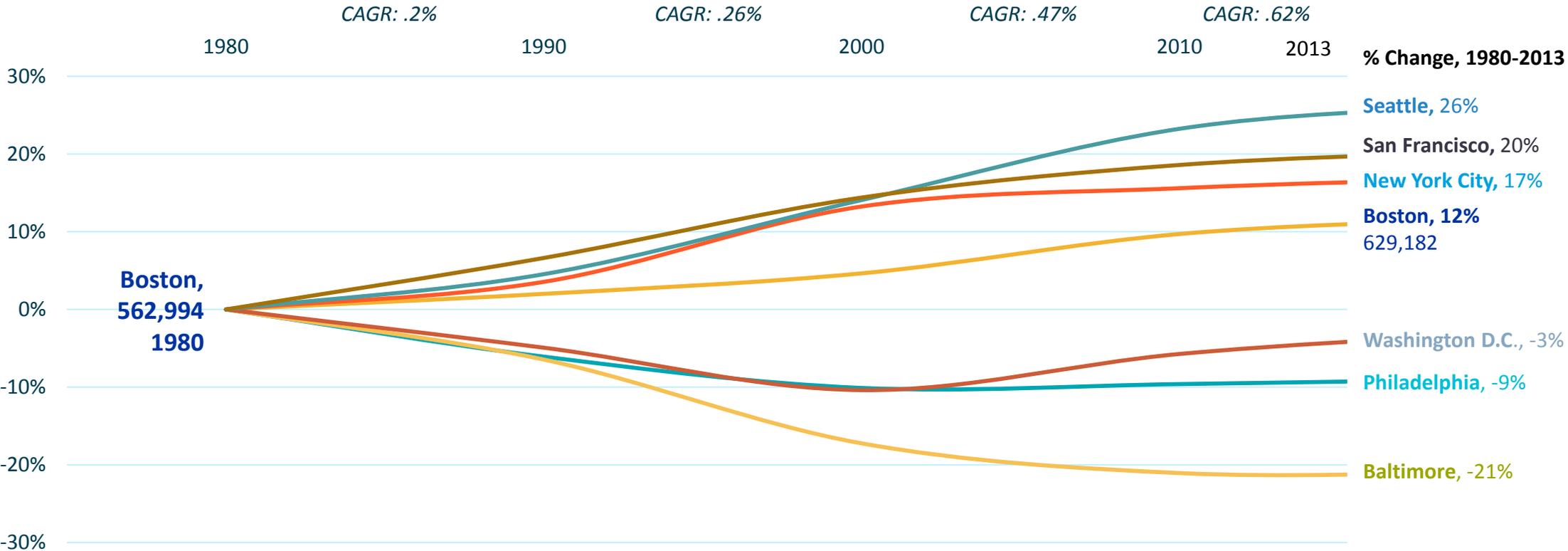
Population change over time benchmarked to 1950



Sources: U.S. Census Bureau, 1900-2010 U.S. Decennial Census, 2013 American Community Survey 1-year estimate; HR&A analysis

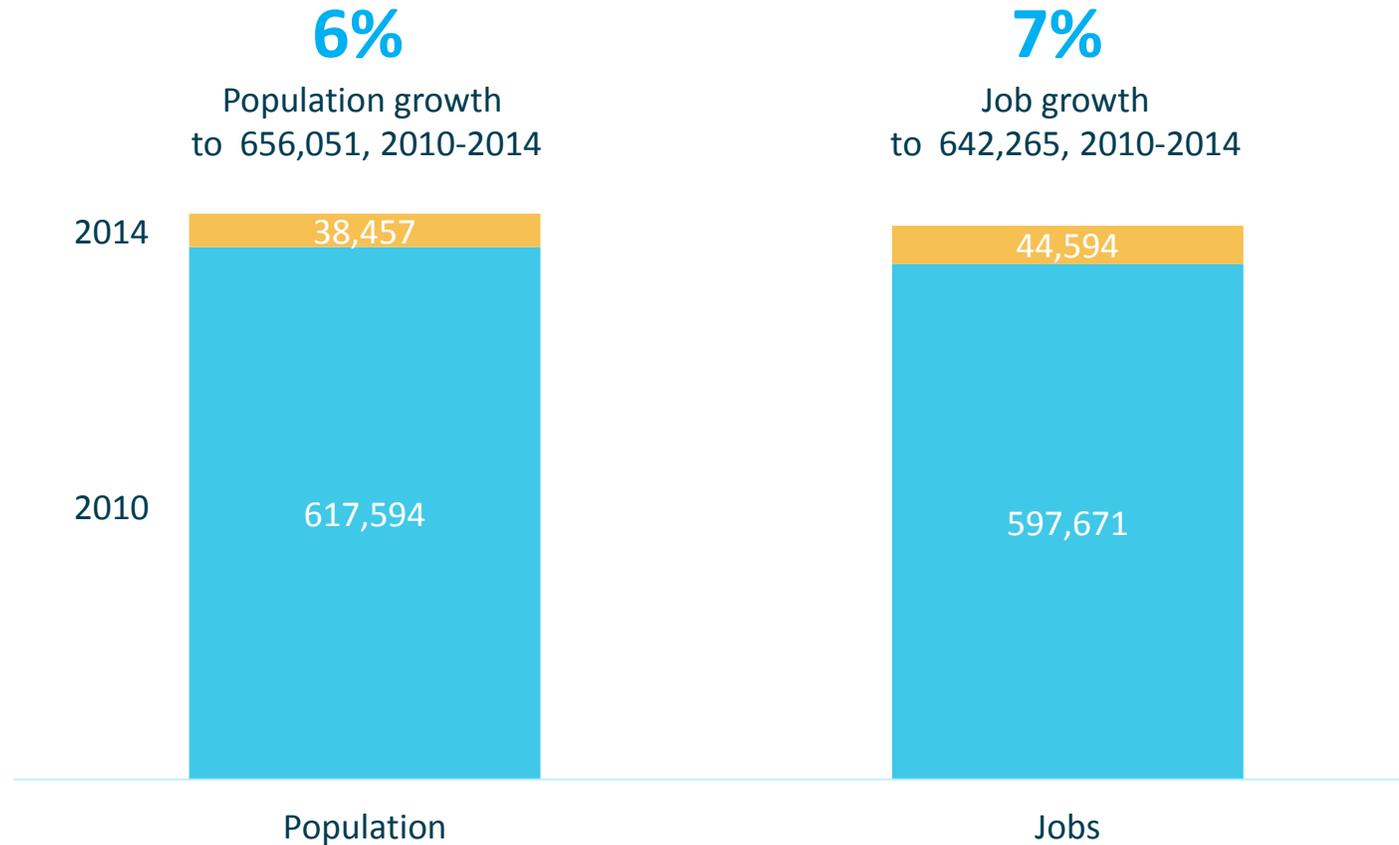
Beginning in the 1980s, Boston began to recover population, entering a league with dynamic, knowledge-driven peer cities.

Population change over time compared to 1980



Sources: U.S. Census Bureau, 1900-2010 U.S. Decennial Census, 2013 American Community Survey 1-year estimate; HR&A analysis

This growth has accelerated over the past five years and is expected to continue, with over 700,000 residents expected by 2030.



Sources: EMSI, U.S. Census Bureau, 2010 Decennial Census, 2011-2014 1-year American Community Surveys, BRA Research Division Analysis



BOSTON'S POPULATION: PAST AND FUTURE

BPDA Research Division

October, 2016



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TRENDS

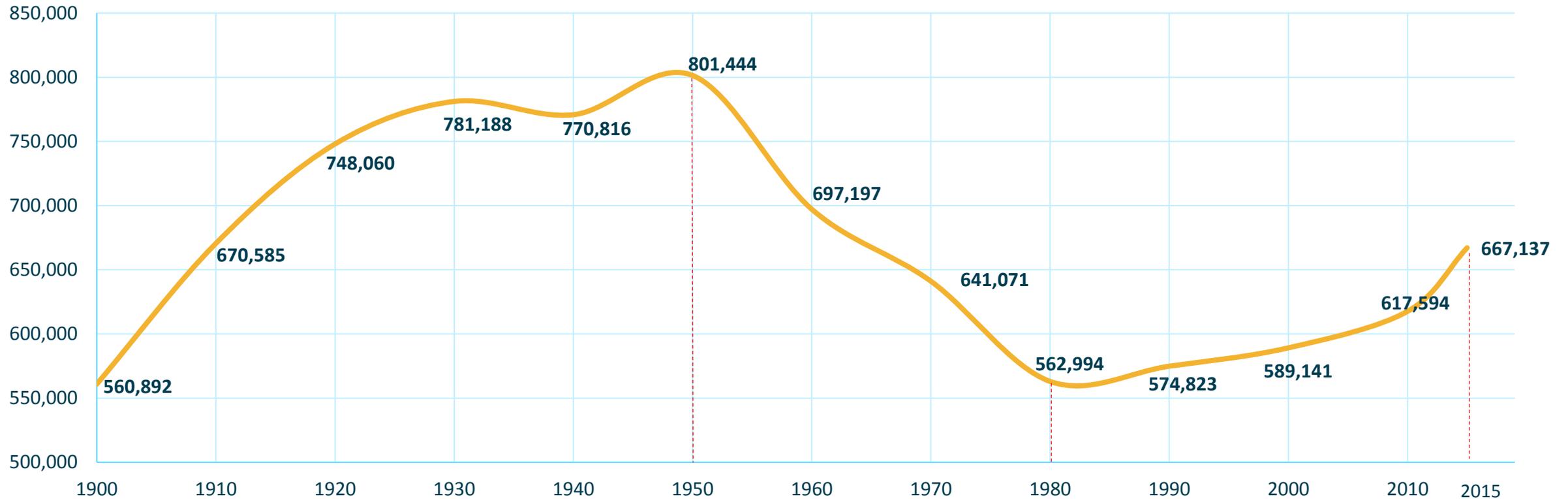
BOSTON'S POPULATION PROJECTIONS, 2010 - 2030



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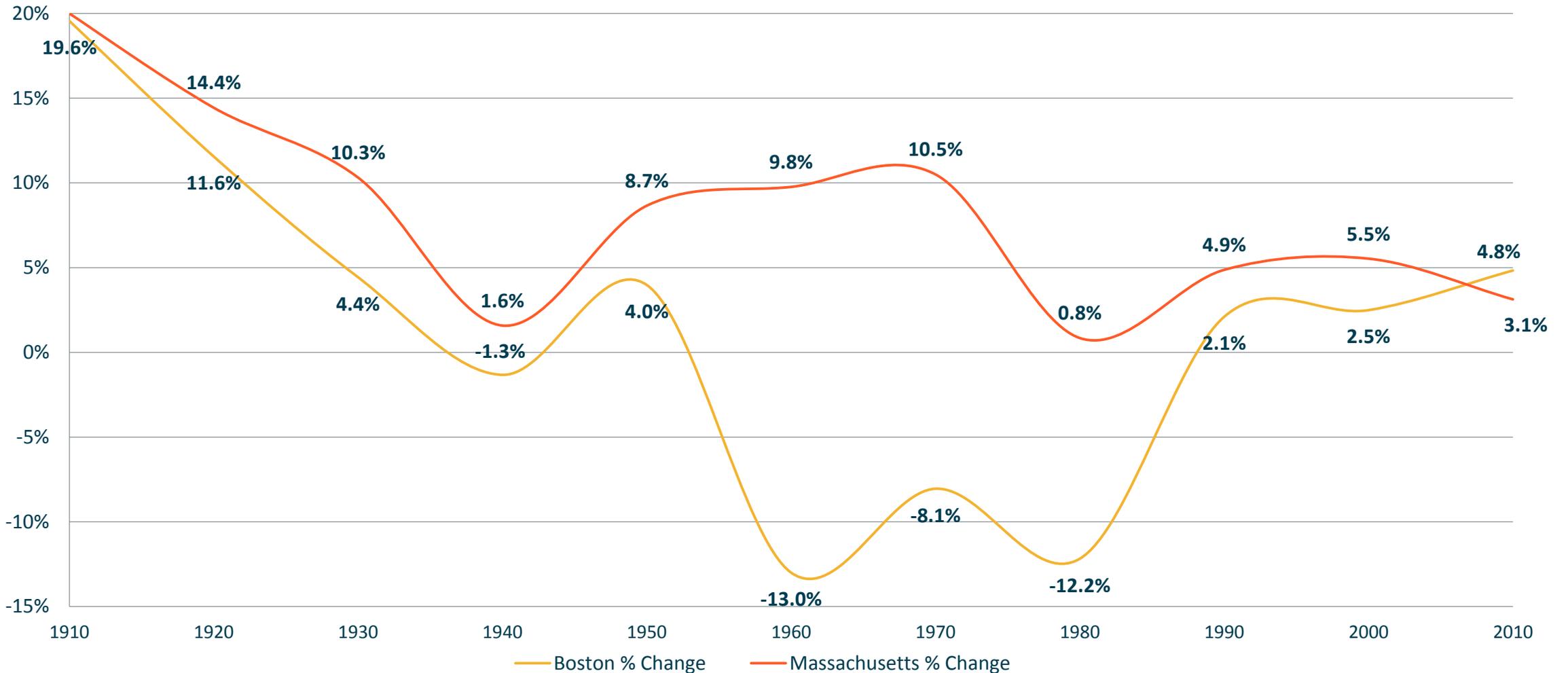
- Boston's population reached its peak in 1950, with just over 800,000 residents
- Like many major U.S. cities, Boston experienced significant decline in the post-World War II era. By 1980, Boston's population fell to under 563,000 residents
- Since 1980, Boston's population grew by 18%, with the 2010 Census marking the first time since 1970 that Boston's population exceeded 600,000 people

Boston's Population (1900-2015)



- The population growth between 2000 and 2010 (4.8%) marks the first time in the last one hundred years that the population of Boston grew faster than that of the state (3.1%)

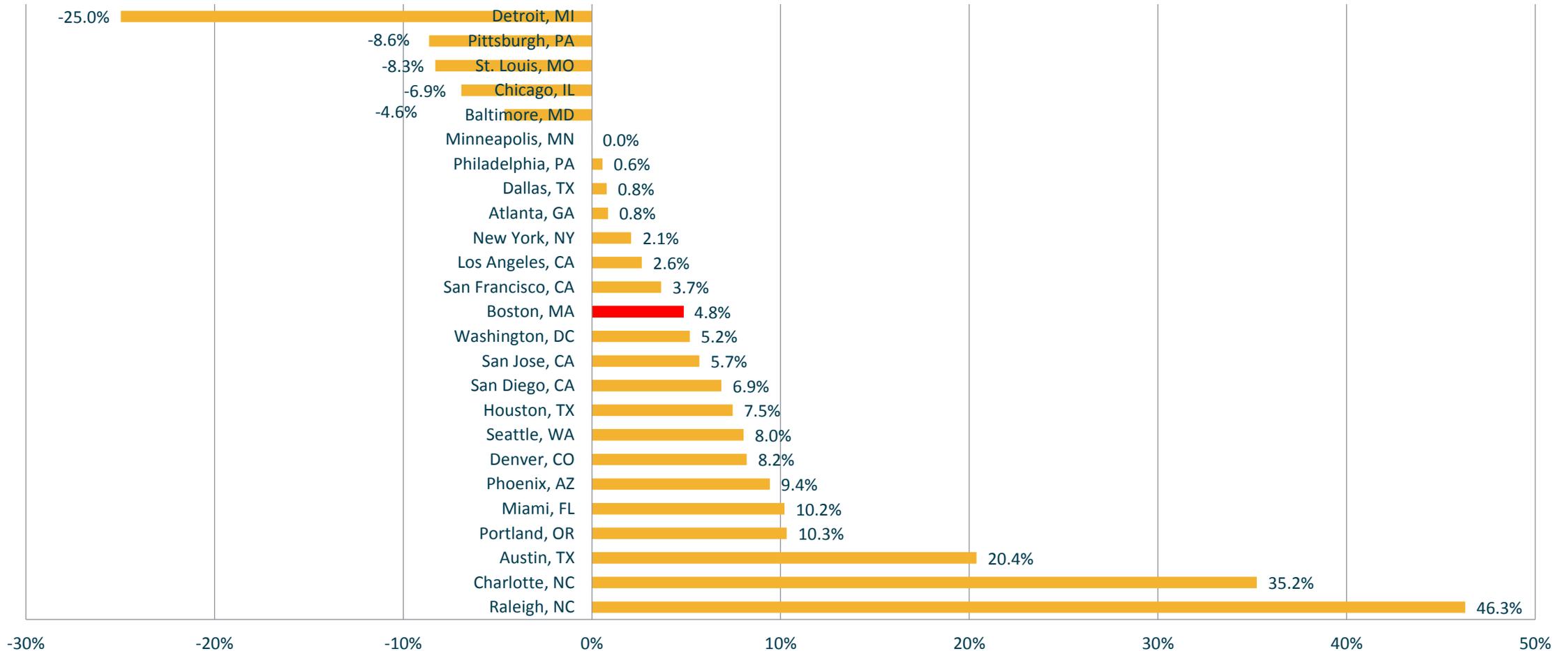
Population Growth for Boston and Massachusetts by Decade (1910 – 2010)



Source: U.S. Census Bureau, 1910-2010 U.S. Decennial Census, BPDA Research Division Analysis

- Boston's population growth between 2000 and 2010 compares favorably to most Northern cities. Other cities on this list – including Charlotte, Raleigh and Austin – benefit from their states' liberal land annexation laws, which allow them to expand their populations by annexing adjacent land

Population Growth with Comparison Cities (2000 - 2010)

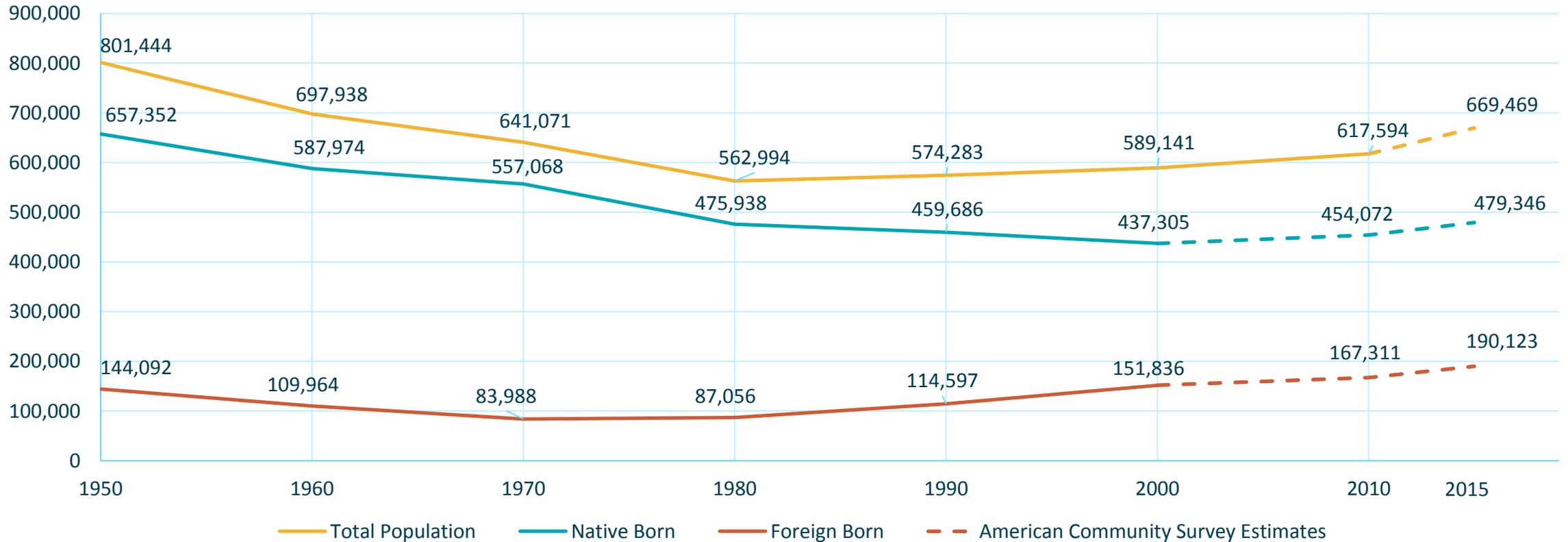


This report's consistent set of 25 comparison cities: the principal cities of the nation's largest metropolitan areas, plus 3 cities whose highly educated metro area populations make them good comparisons for Boston. These include Raleigh, Austin and San Jose.

Source: U.S. Census Bureau, 2000 and 2010 U.S. Decennial Census, BPDA Research Division Analysis

- Since 1970, the foreign-born population has increased significantly, driving Boston's population growth
- From 1980 to 2000, all of Boston's population growth was due to growth in the foreign-born population
- Since 2000, both the foreign-born and native-born populations have been growing

Native and Foreign-born Components of Boston's Population (1950-2015)

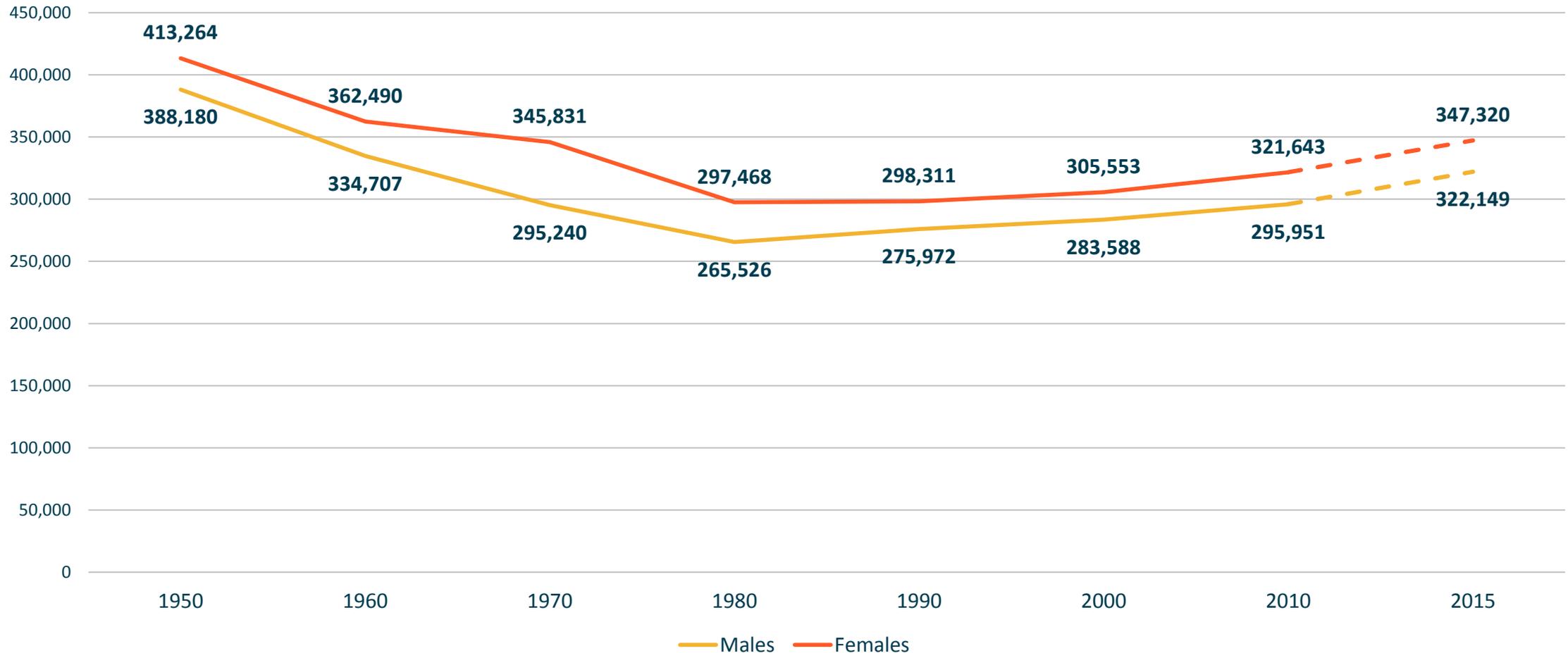


Source: U.S. Census Bureau, 1950-2010 Decennial Census, 2006-2010 & 2015 American Community Survey, BPDA Research Division Analysis

Note: Nativity components for 2010 come from the ACS and the Total comes from the Decennial Census so the components do not sum to the total shown.

- In 2010, Boston's population was 52% female, a higher proportion than the US and Massachusetts (50.8% and 51.6% respectively)
- Between 2000 and 2010, the female population in Boston grew by 5.3%, while the male population grew slightly more slowly at 4.4%

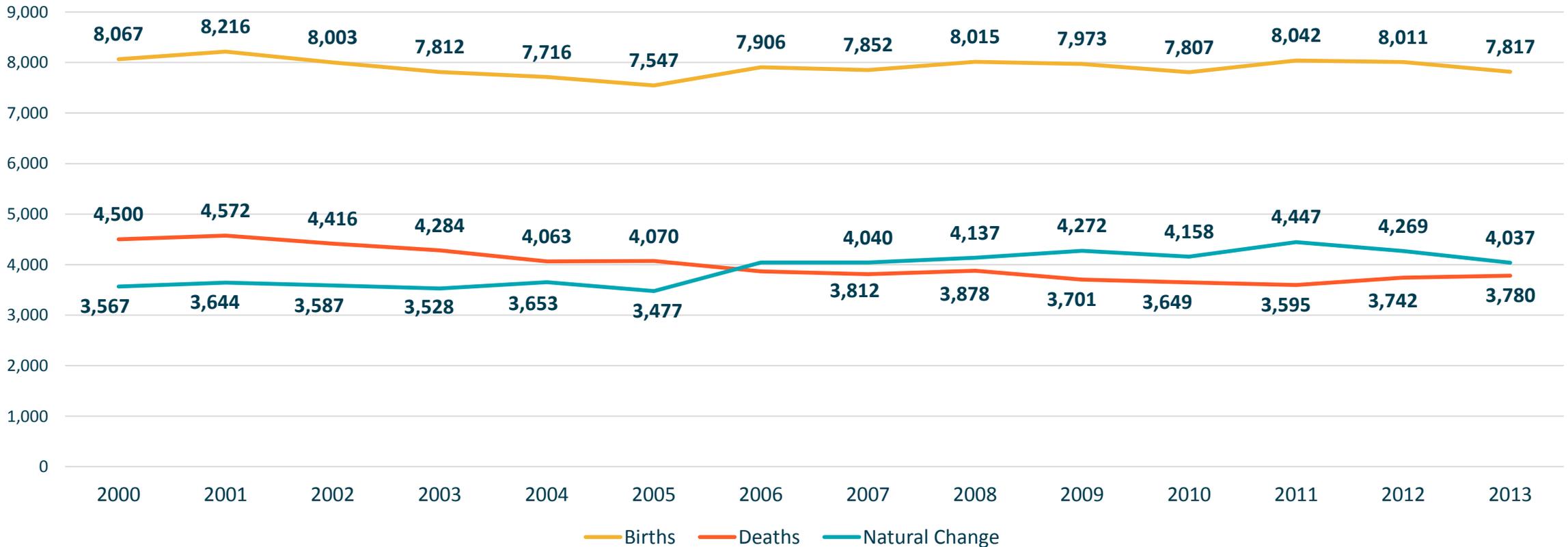
Gender Component of Boston's Population (1950-2015)



Source: U.S. Census Bureau, 1950-2010 U.S. Decennial Census, 2015 1-Year American Community Survey, BPDA Research Division Analysis

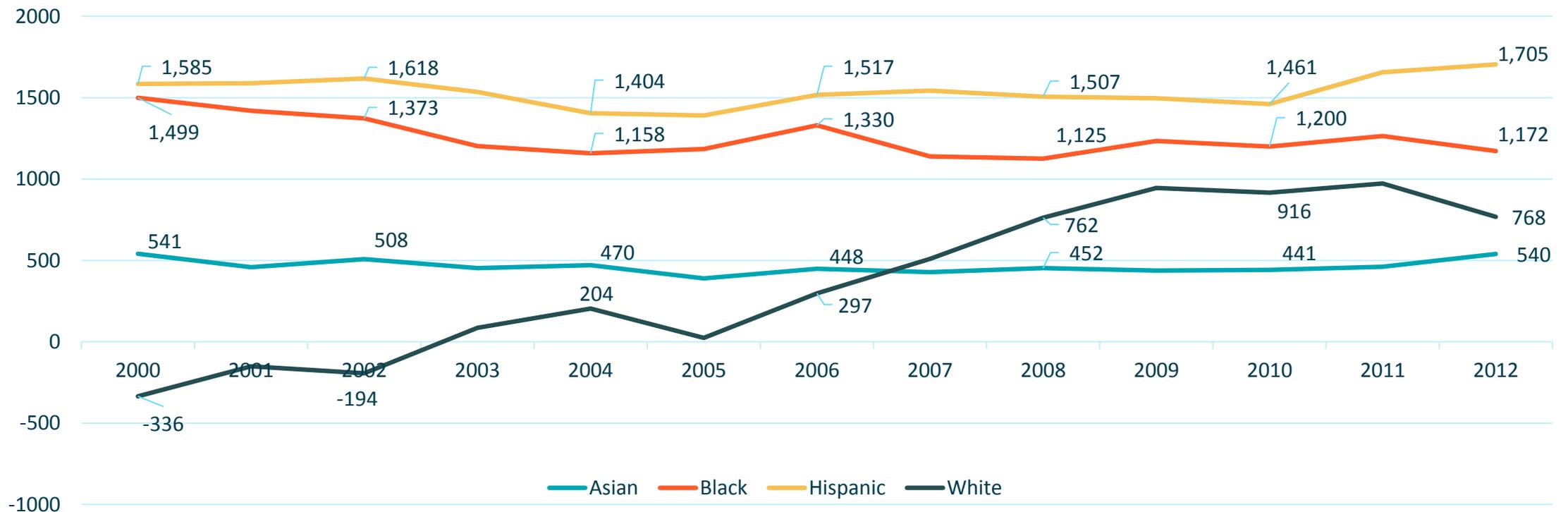
- Demographic growth is based on (a) natural growth -- births minus deaths -- and (b) net migration
- Natural growth in 2012 was 4,274 persons. The decline in deaths over the decade contributed to an increase in natural growth
- Immigration also drives Boston's population growth in part because of the high number of births to immigrants - 40% of Boston births are to foreign-born mothers

Boston Resident Births and Deaths (2000-2013)



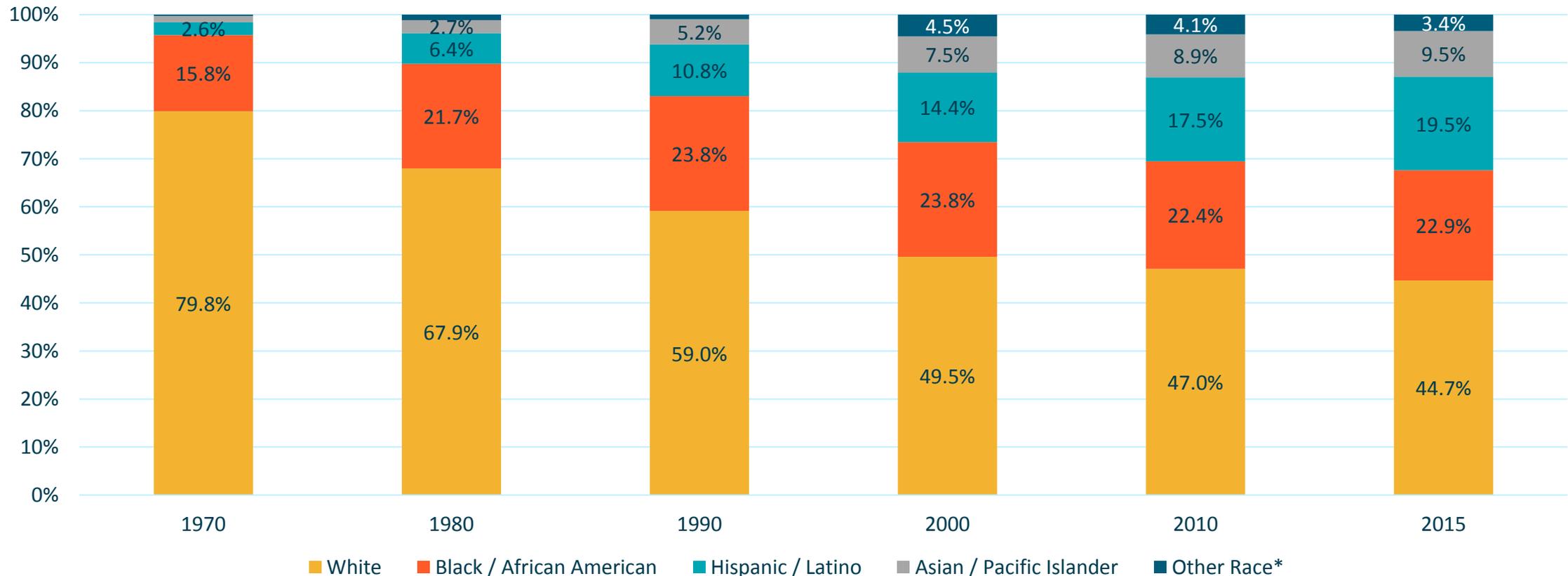
- The natural population growth of the White population went from negative in 2000 to positive in 2003 and continued to grow through 2012
- The natural population growth of the Black/African American population remained positive but decreased due to a lower number of births
- The natural population growth of the Latino population remained high, at 1,705 in 2012
- Asian natural growth remained steady over the periods 2000-2012

Boston Natural Population Growth by Race and Ethnicity (2000-2012)



- Boston's White population decreased from 80% of the population in 1970 to 47% in 2010
- The share of the Hispanic/Latino population increased from 3% in 1970 to 18% of Boston's population in 2010
- The African American population shifted from 16% of the population in 1970 to 22% of the population in 2010
- Hispanic and Asian immigration contribute heavily to Boston's growing diversity

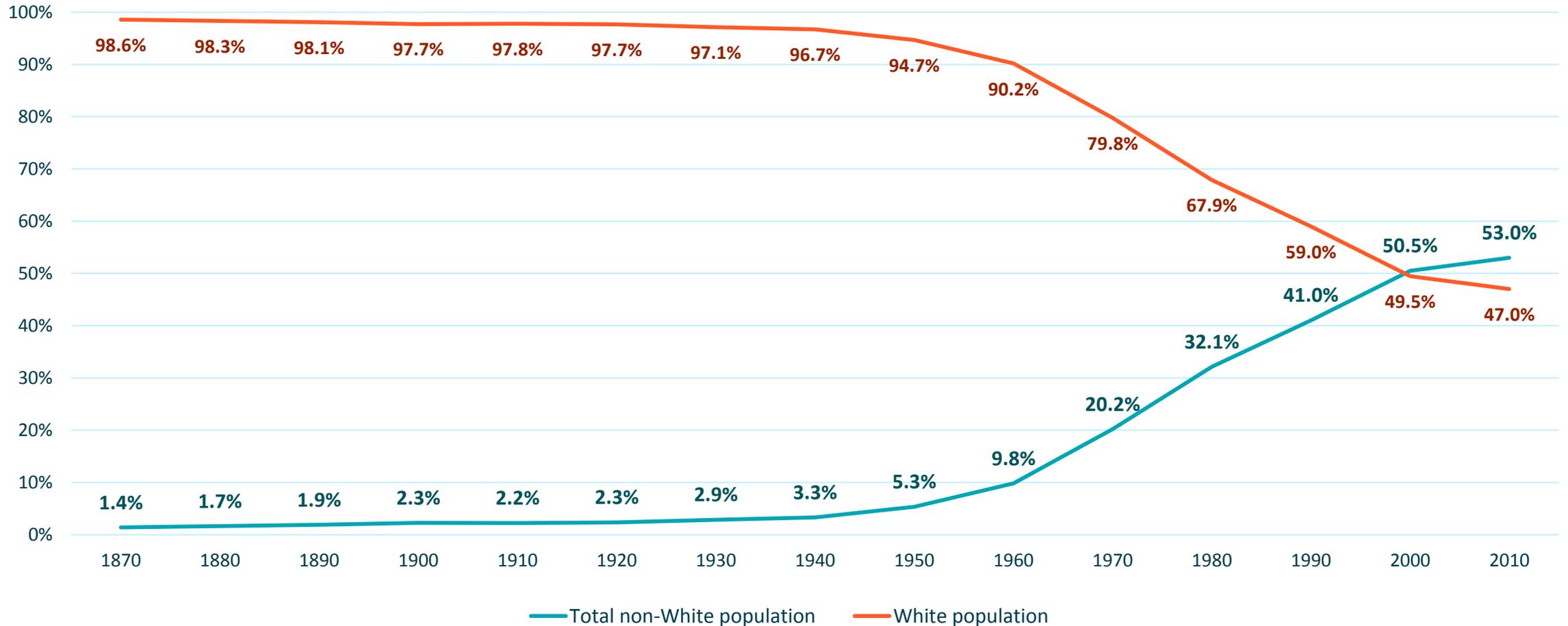
Boston's Diverse Population 1970-2015



Note: 2000 was the first year the Census compiled data on individuals who identified themselves as multiracial. Those who indicated "two or more races" are included in "Other" in 2000 and 2010 in this chart.
 Source: U.S. Census Bureau, 1970-2010 U.S. Decennial Census, 2015 American Community Survey, BPDA Research Division Analysis

- Since 2000, Boston has become a “majority-minority” city. The non-white population is over 50% partly due to the growth of the foreign-born population from Latin America, the Caribbean, and Asia
- This trend continued in 2010 with the minority population making up 53% of Boston’s population or about 328,231 residents

Boston's Minority Population 1870-2010



Source: U.S. Census Bureau, 1870-2010 U.S. Decennial Census, BPDA Research Division Analysis

- The Racial Diversity Index calculates the likelihood that two people randomly chosen from a geographic area are from a different racial or ethnic group
- The Diversity Index shows that Boston and most of its neighborhoods, though not all of its neighborhoods, were more diverse in 2010 than in 2000
- The Racial Diversity Index for the city as a whole increased from .64 to .66 between 2000 and 2010

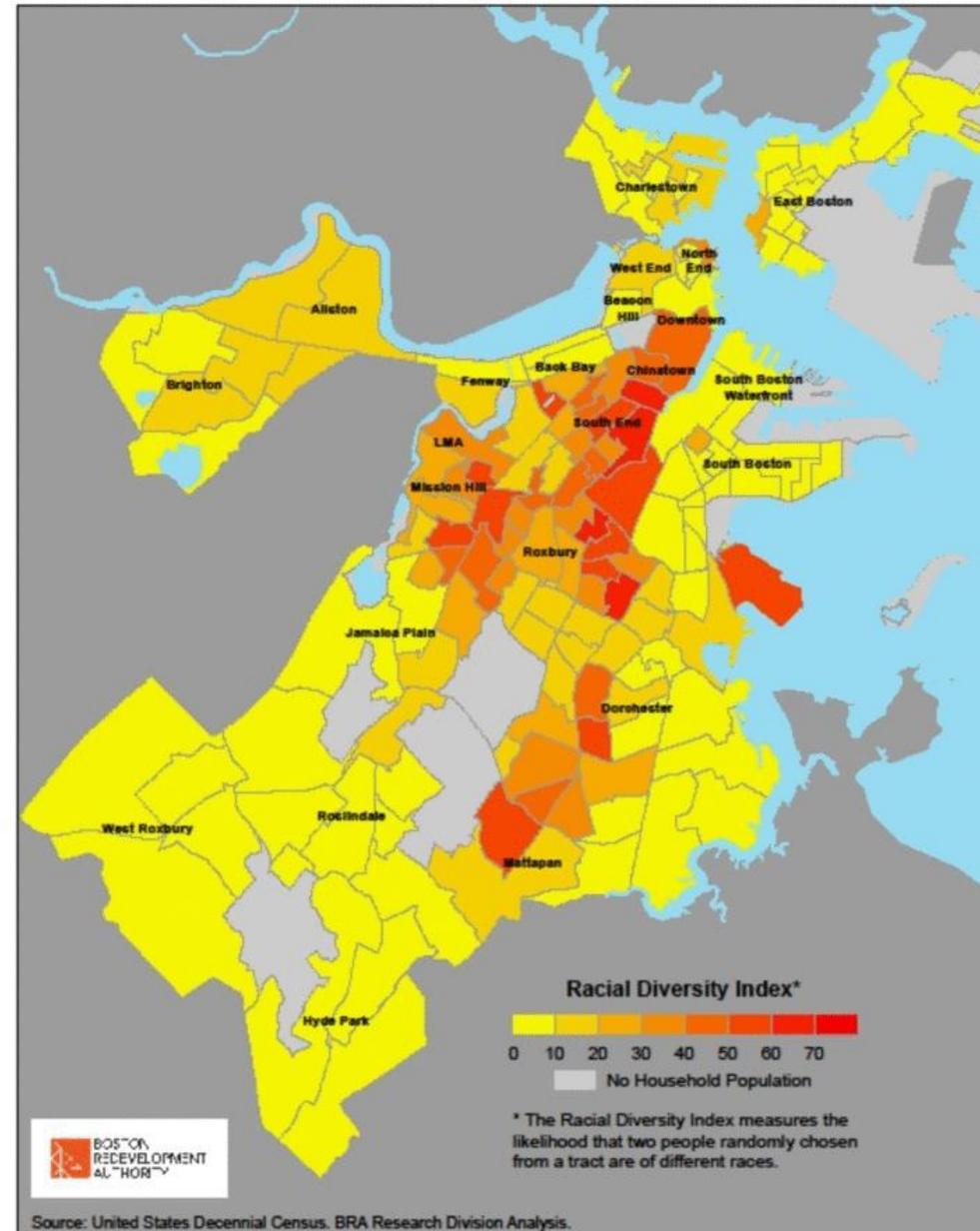
Neighborhood Diversity Index (2000 - 2010)



RACIAL DIVERSITY

- Racial diversity by census tract increased dramatically in most of Boston from 1970 to 2010
- In the maps, yellow represents census tracts with low racial diversity index scores, while red represents census tracts with high racial diversity

Racial Diversity by Census Tract, 1970



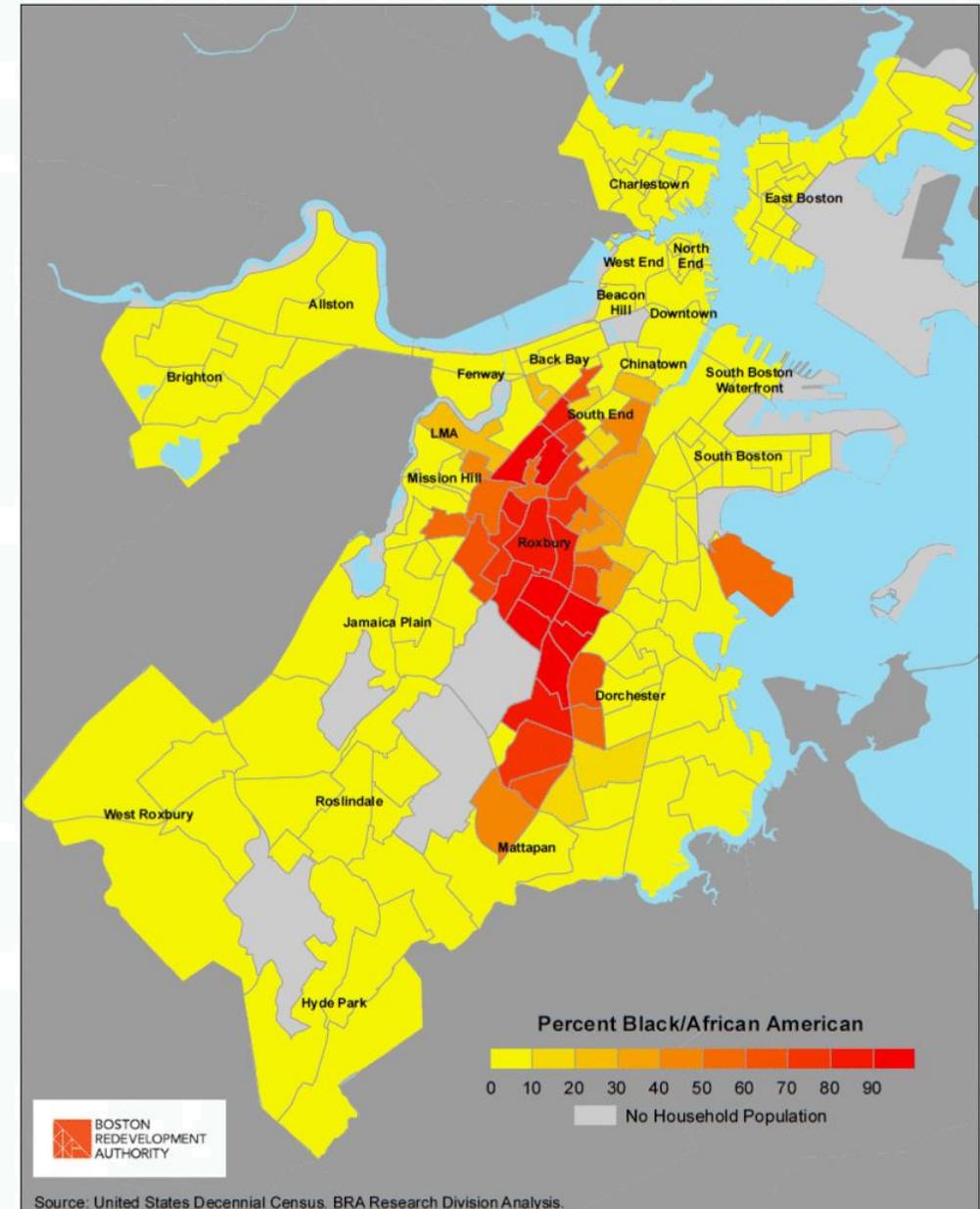
Source: U.S. Census Bureau, 1970 - 2010 U.S. Decennial Census, BPDA Research Division Analysis

BLACK/AFRICAN AMERICAN POPULATION

- In 1970, the Black/African American population was largely concentrated in the neighborhoods of Roxbury and parts of Dorchester and Mattapan (tracts colored red in the maps at right)
- In 2010 that concentration was still evident, although the Black/African American population had increased throughout Dorchester, Mattapan, and Hyde Park

Source: U.S. Census Bureau, 1970 - 2010 U.S. Decennial Census, BPDA Research Division Analysis

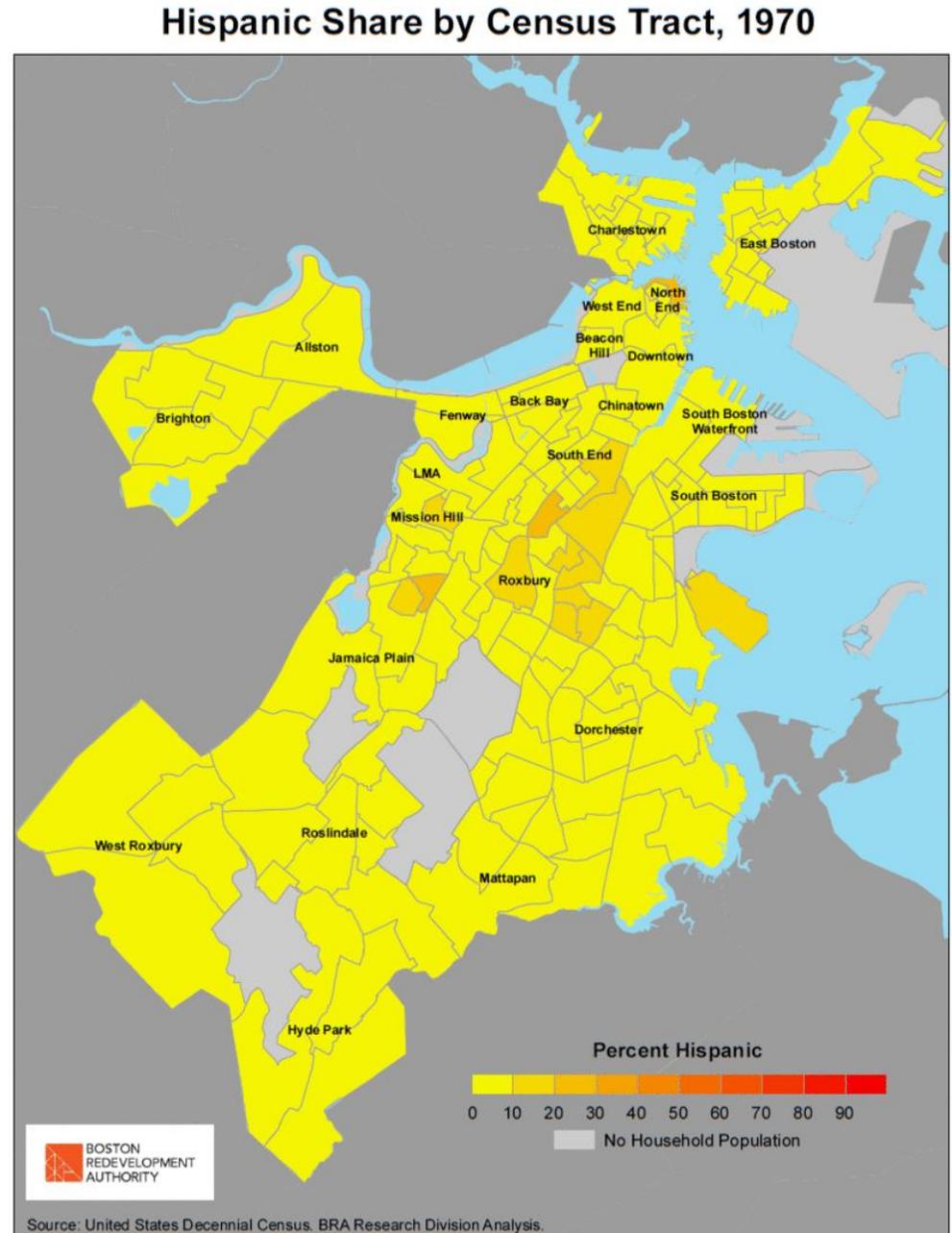
Black/African American Share by Census Tract, 1970



HISPANIC POPULATION

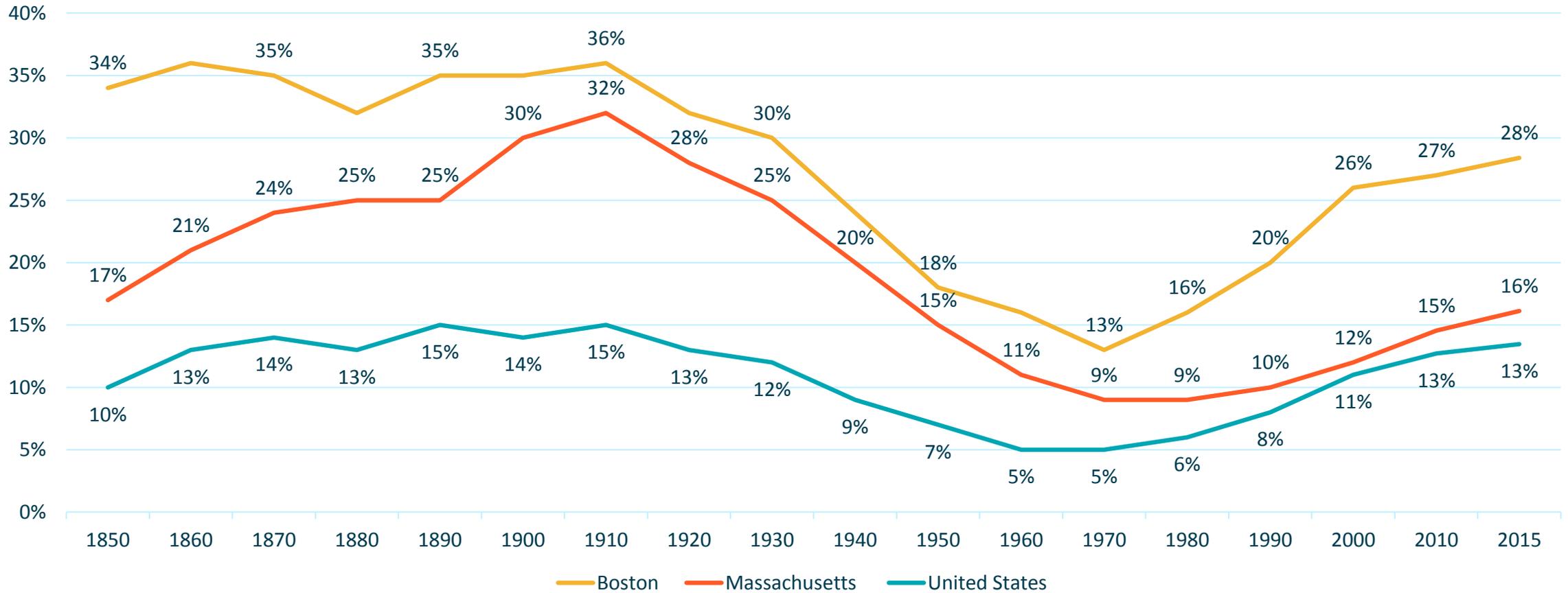
- The Hispanic population has grown significantly since 1970 with large communities forming in East Boston and Jamaica Plain (colored red in maps at right)

Source: U.S. Census Bureau, 1970-2010 U.S. Decennial Census, BPDA Research Division Analysis



- Restrictive immigration policies 1925-1970 reduced the foreign born population and limited Boston's population growth
- Since 1970, Boston foreign-born share has increased from 13% to 28%

Proportion of Population that is Foreign-Born (1850-2015)

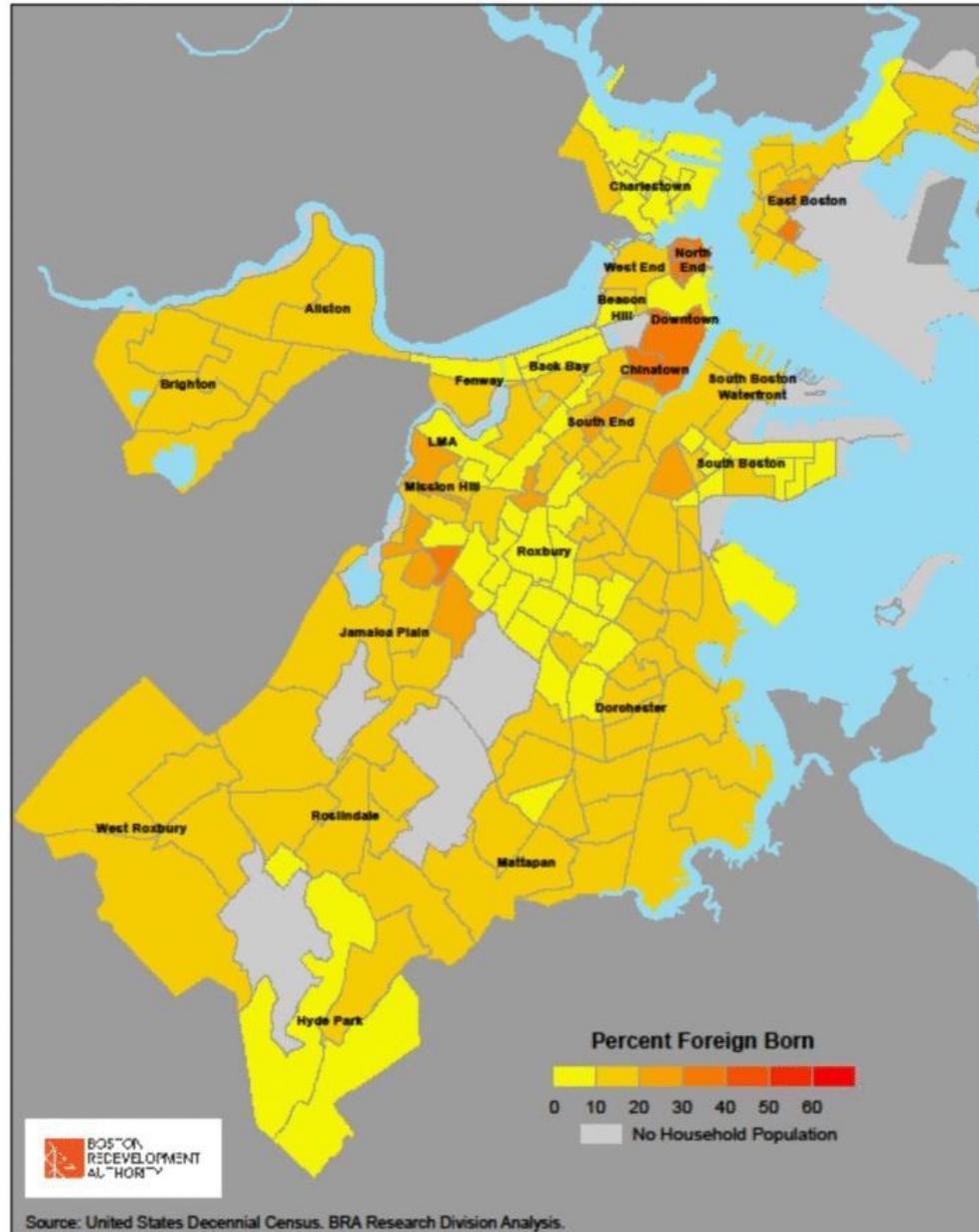


Source: U.S. Census Bureau, 1850-2010 Decennial Census, 2015 American Community Survey, BPDA Research Division Analysis

FOREIGN BORN POPULATION

- The percentage of the population that is foreign-born has increased in most census tracts in Boston since 1970
- In the maps at right, yellow census tracts have a foreign-born population of less than 10%
- In the red census tracts, foreign-born residents make up more than 60% of the population

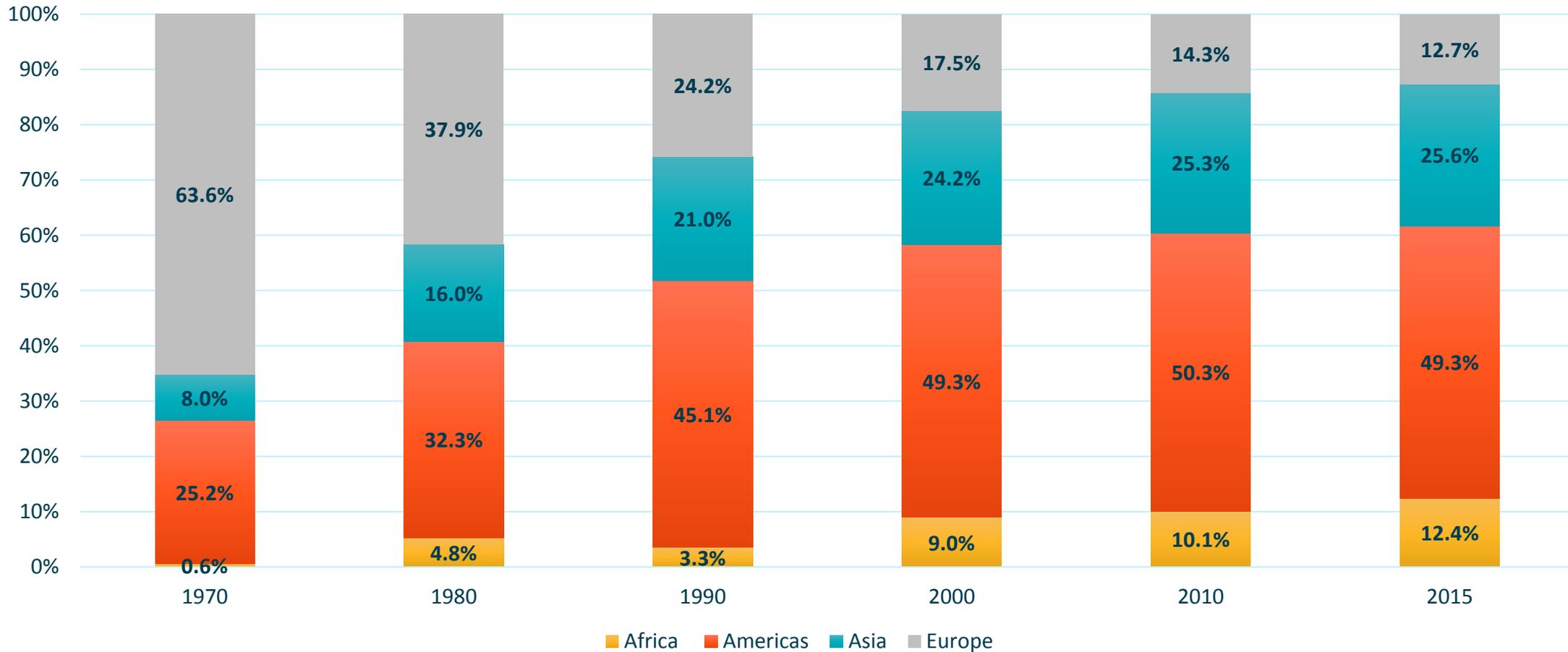
Foreign Born Population Share by Census Tract, 1970



Source: U.S. Census Bureau, 1970-2010 U.S. Decennial Census, BPDA Research Division Analysis

- In 1970, a majority of Boston's immigrants had come from Europe
- Since then, increasing shares of immigrants have come from the Americas, Asia, and Africa

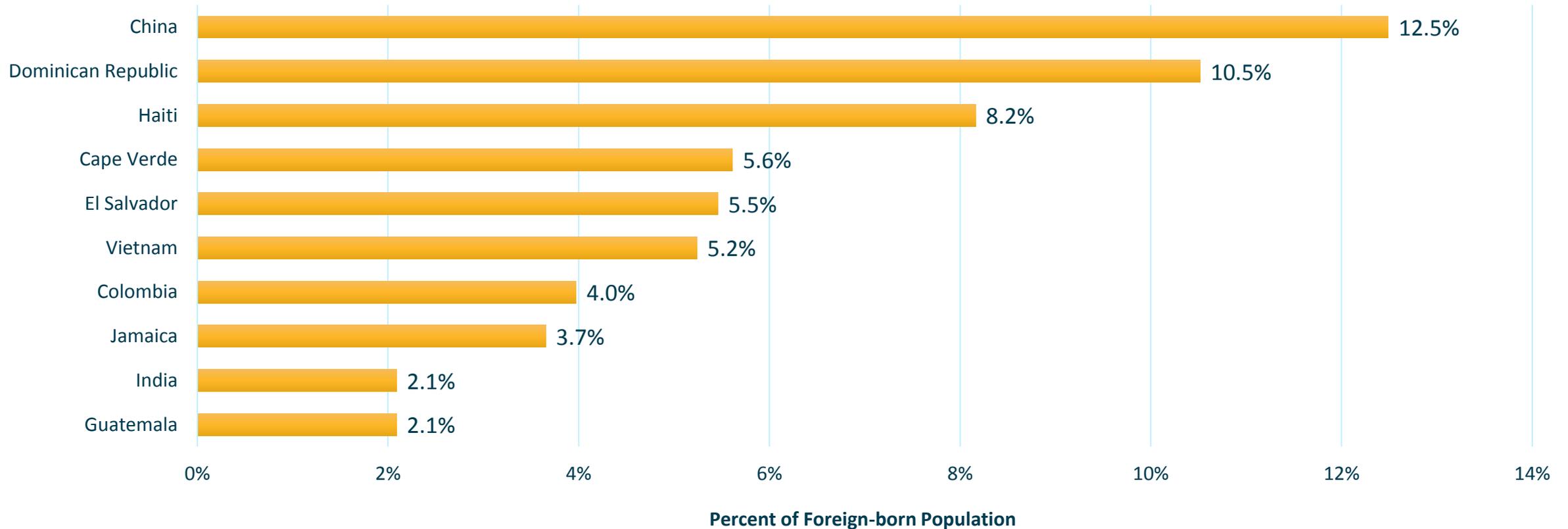
Region of Origin of Boston's Immigrants



Source: U.S. Census Bureau, 1970-2010 Decennial Census, 2015 1-year American Community Survey, BPDA Research Division Analysis

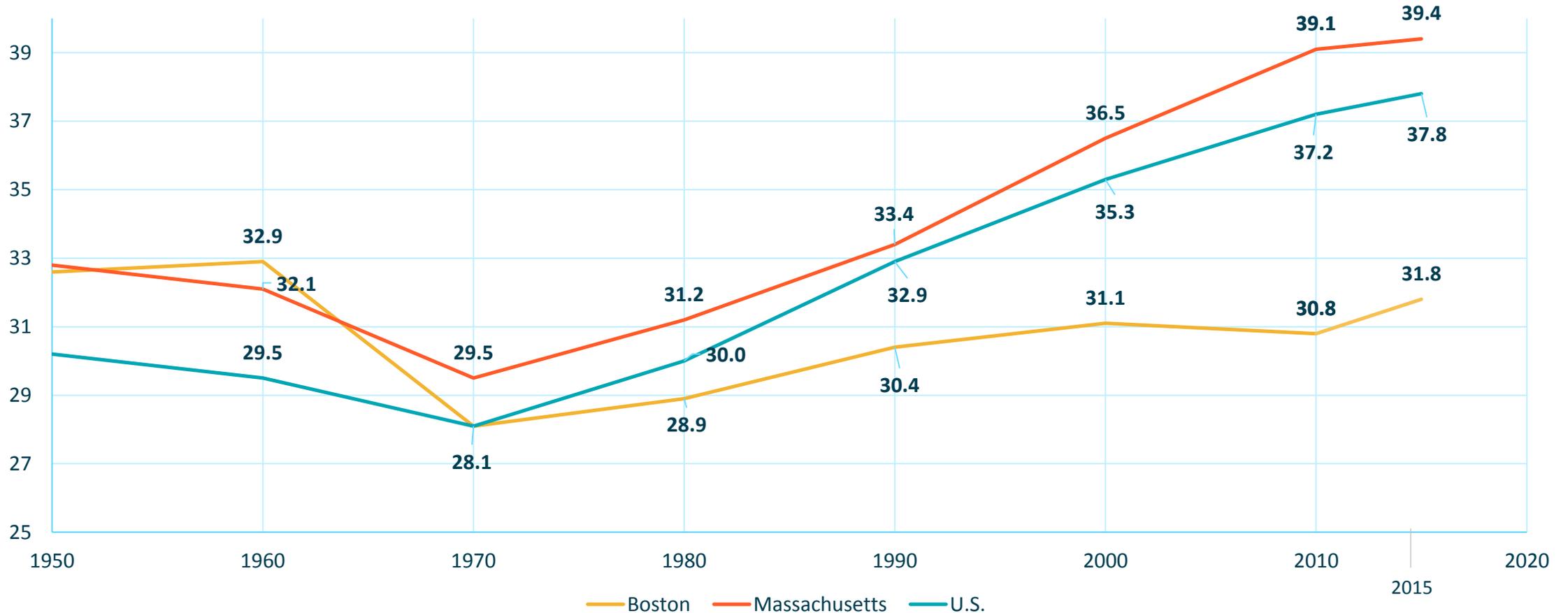
- Boston's foreign-born population comes from more than 100 countries. The largest foreign born populations in Boston are Chinese, Dominican, and Haitian

Top Ten Countries of Origin for Boston's Foreign Born - 2015



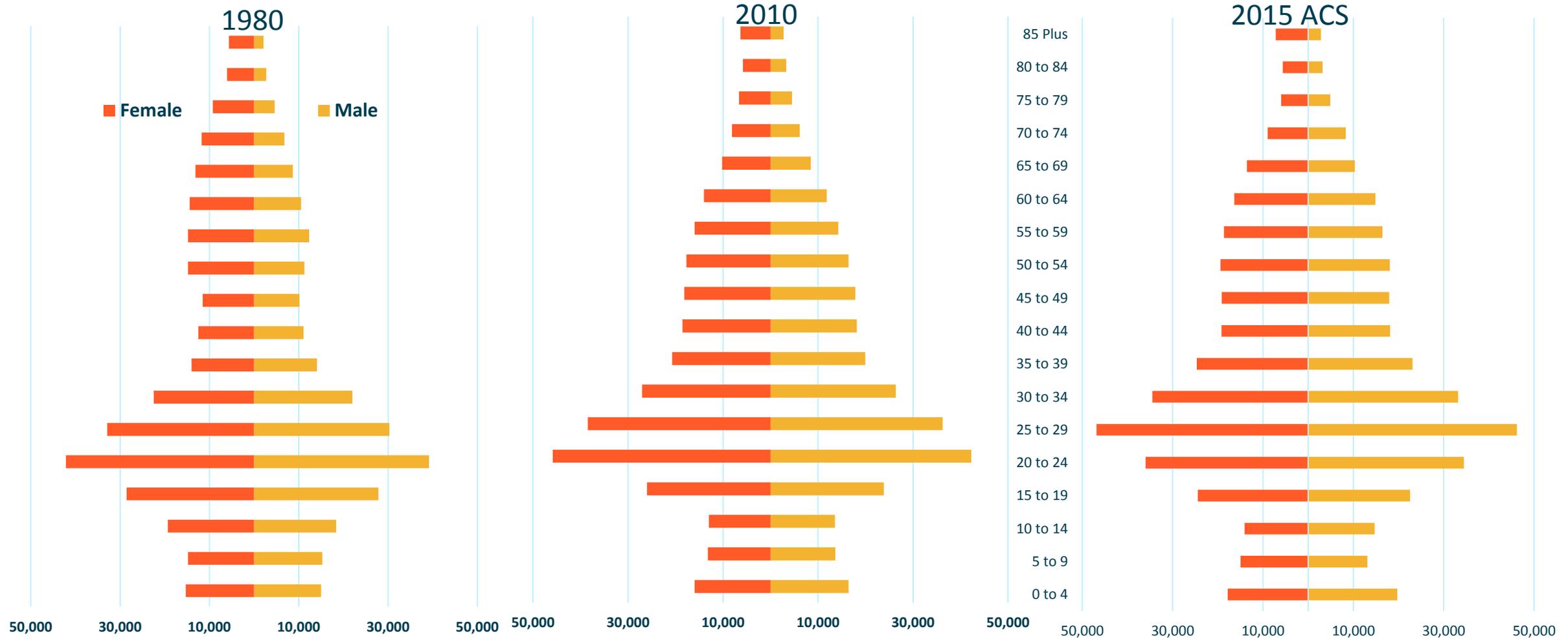
- The median age in Massachusetts and the U.S. has risen significantly since 1970
- While the median age in Boston has also risen, the large young adult population keeps Boston's median age below that of Massachusetts or the U.S.

Median Age in Boston/MA/US (1950-2015)



Source: U.S. Census Bureau, 1950-2010 Decennial Census, 2015 American Community Survey, BPDA Research Division Analysis

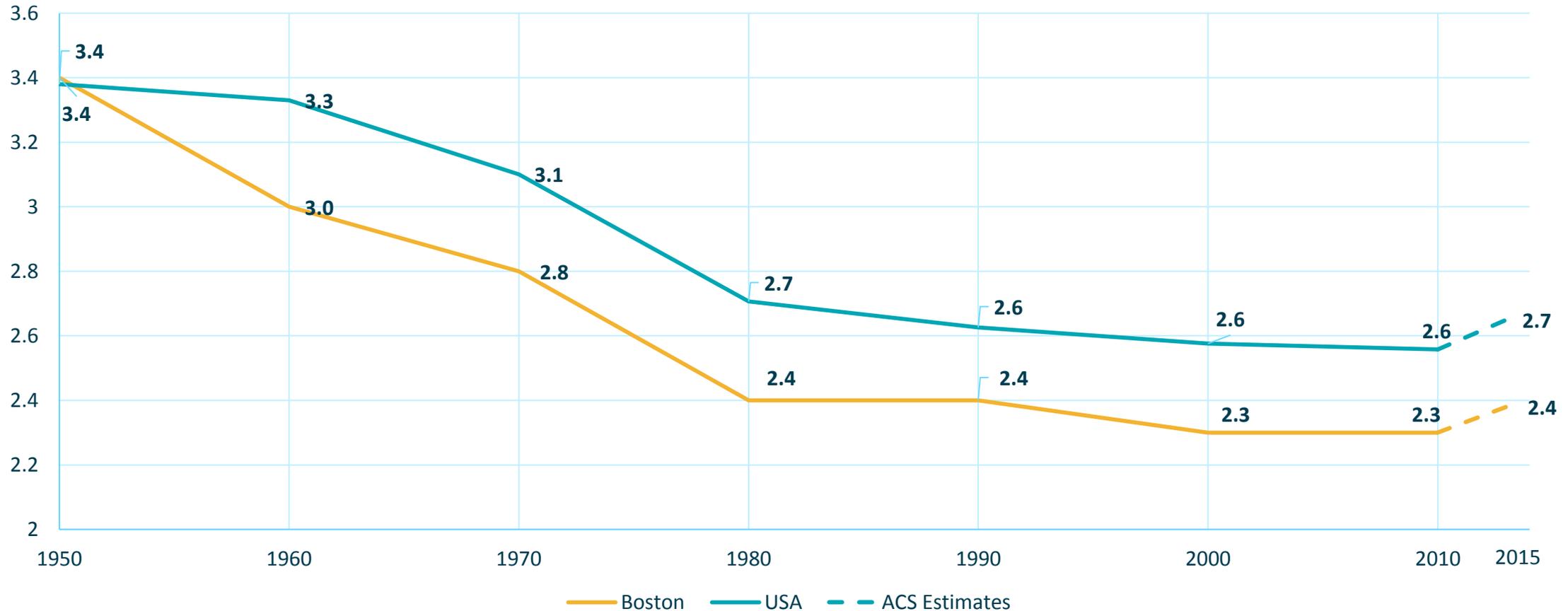
- Boston has a large young adult population, as shown in the population pyramids below.



Source: U.S. Census Bureau, 1980, 2010 Decennial Census, 2015 1-year American Community Survey, BPDA Research Division Analysis

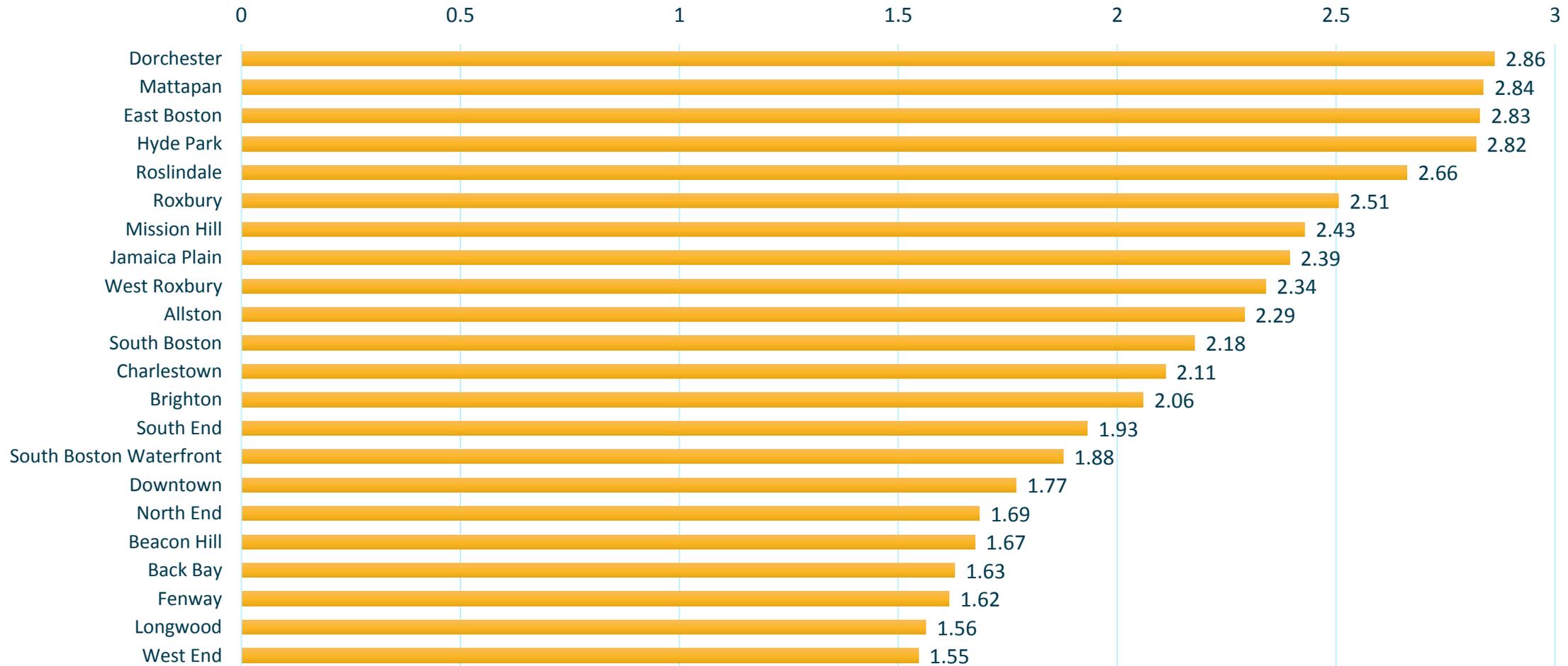
- Households are made up of one or more persons (unrelated individuals or families) sharing a housing unit
- Boston's average household size fell significantly from 3.4 in 1950 to 2.4 in 1980 and remained steady through 2010
- Since 1950, Boston's average household size has been lower than that of the U.S.

Average Household Size (1950-2015)



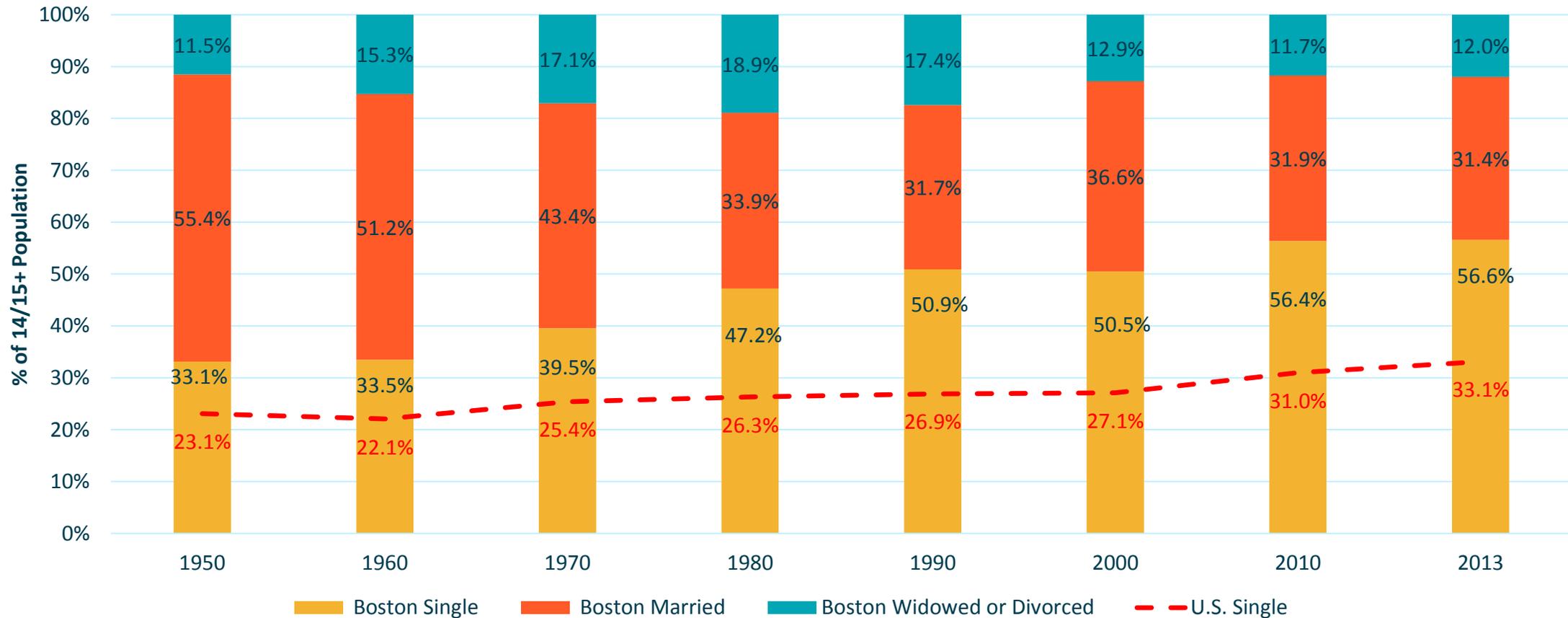
- Boston's neighborhoods vary by average household size. In 2013, Dorchester, Mattapan, East Boston and Hyde Park had the highest average household sizes, while Back Bay, Fenway, Longwood and the West End had the lowest

Average Household Size by Neighborhood (2013)



- The share of Boston's population that is single, never-married, has been rising from 33.1% in 1950 to 56.4% in 2010 – considerably higher than the national share
- The percentage of Boston's population that is married has been falling proportionately, from 55.4% in 1950 to 31.9% in 2010

Marital Status of Boston's Population (1950-2013)

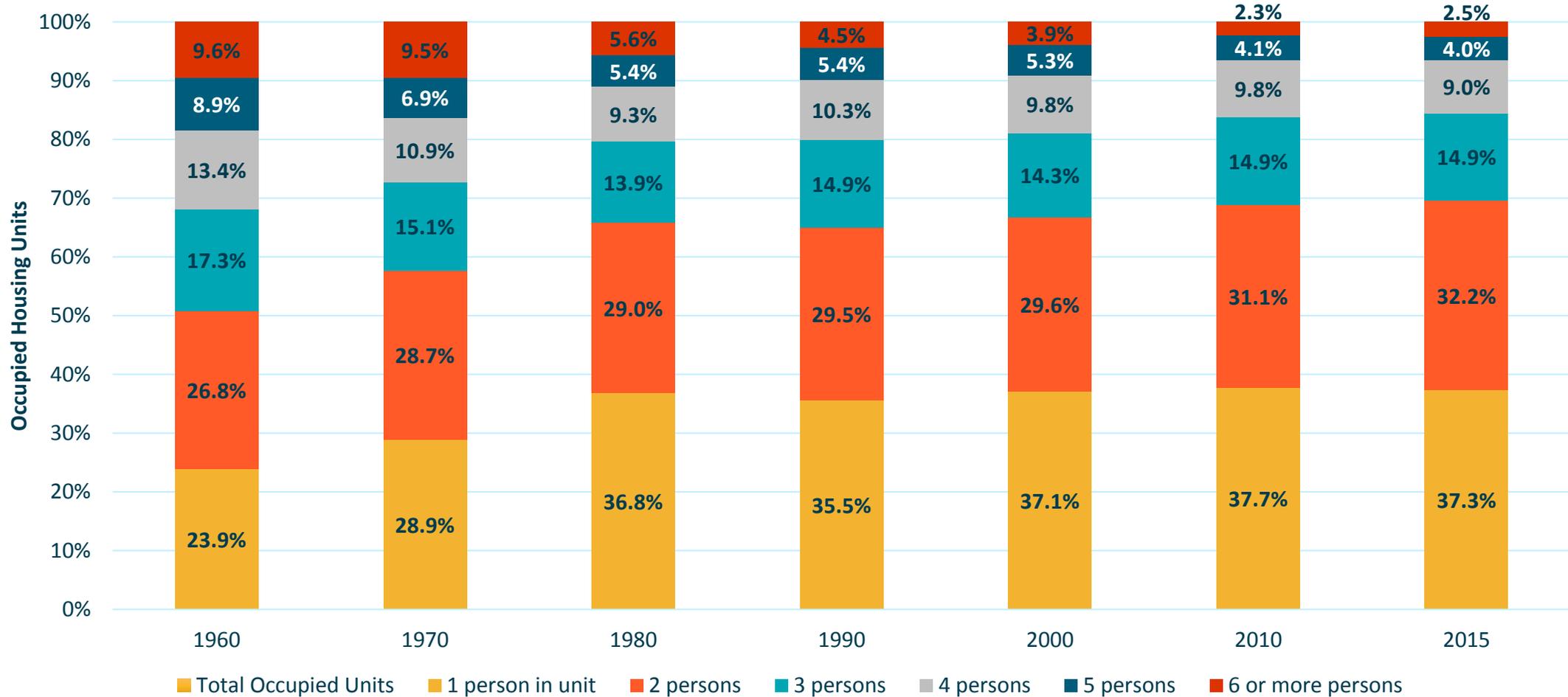


Note: Age 14+ for 1950-1970; Age 15+ for 1980-2010. Separated is included in married for 1950, 2000, & 2010.

Source: U.S. Census Bureau, U.S. Decennial Census 1950-2000, 2006-2010 American Community Survey, 2009-2013 American Community Survey, BPDA Research Division Analysis.

- More people are living alone, and the average household size declined between 1960 and 1980
- Only 30.4% of households have more than 2 people in 2015, down from 49.2% in 1960

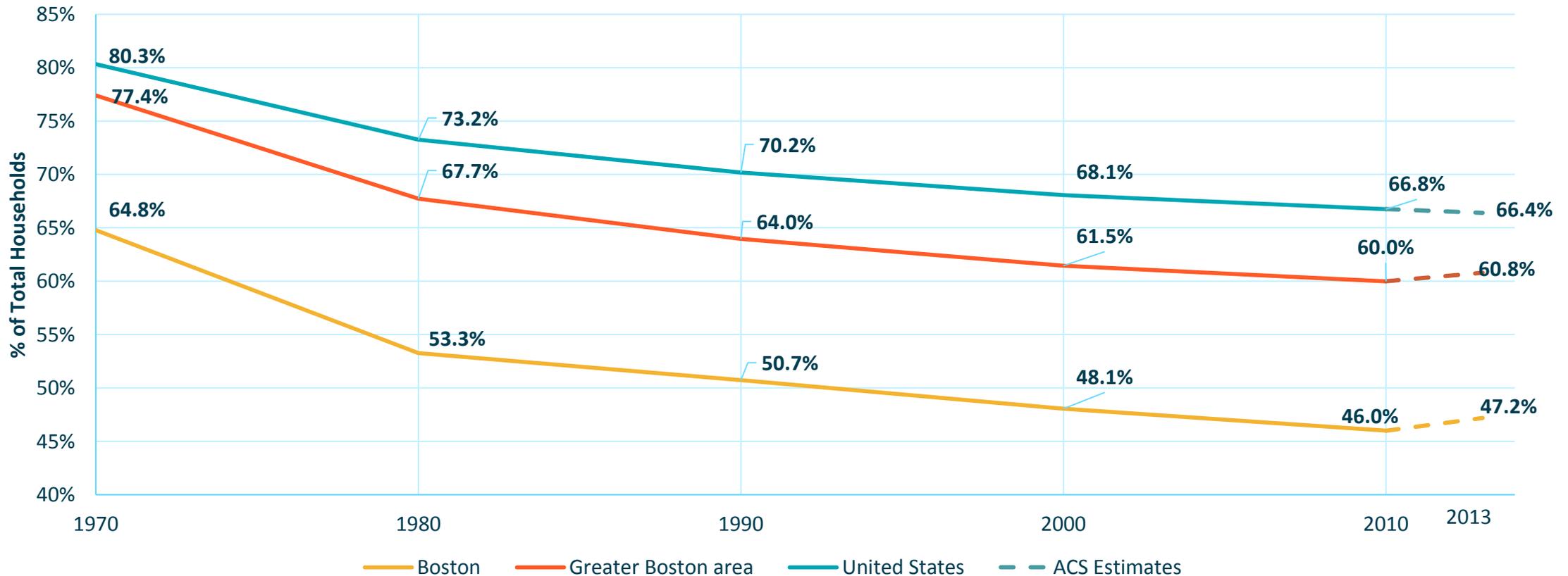
Boston Households by Number of People (1960-2015)



Note: The slides on household and family composition begin in the year of first available data.
 Source: U.S. Census Bureau, 1960-2010 U.S. Decennial Census; 2015 American Community Survey, BPDA Research Division Analysis

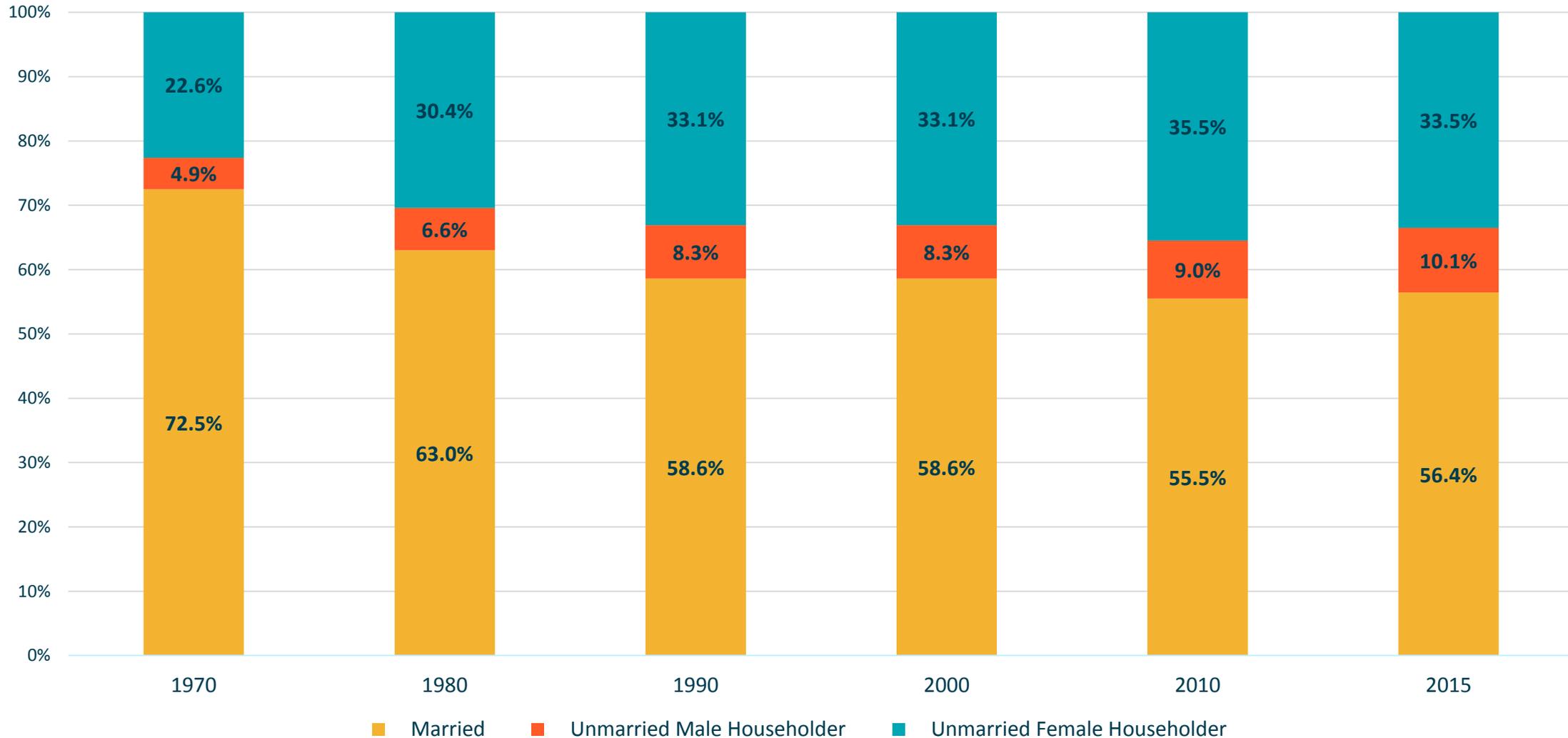
- A family or family household consists of a householder living with one or more other people related to the householder by birth, marriage, or adoption
- The percentage of Boston households that are families has been consistently lower than the national average
- This trend corresponds with the falling percentage of Boston residents who are married, and the falling share of children as a percentage of the population

Family Households (1970-2013)



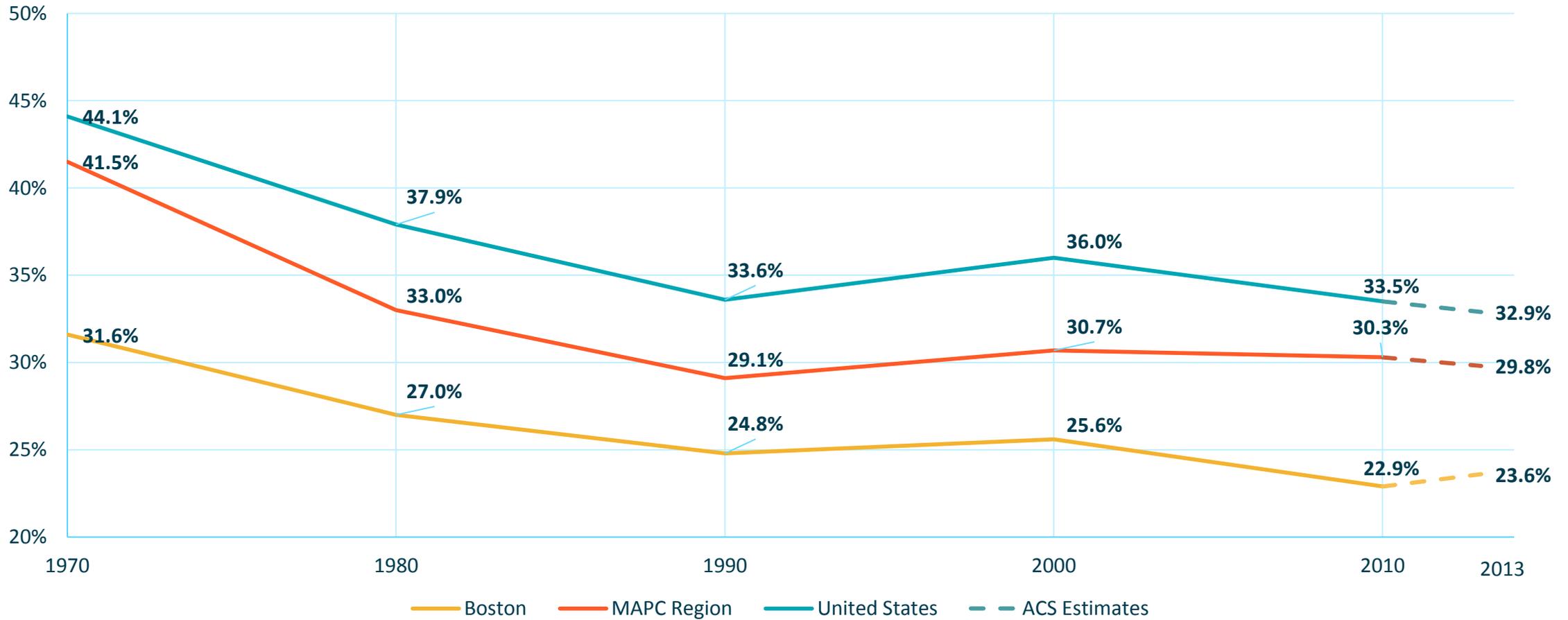
- The percentage of family households that were headed by a married couple fell from 1970 to 1990. Since 1990, a little over half of family households have included a married couple

Family Households by Family Type (1970-2015)



- The percentage of Boston households that include at least one person under age 18 has been falling and remains below national and regional levels

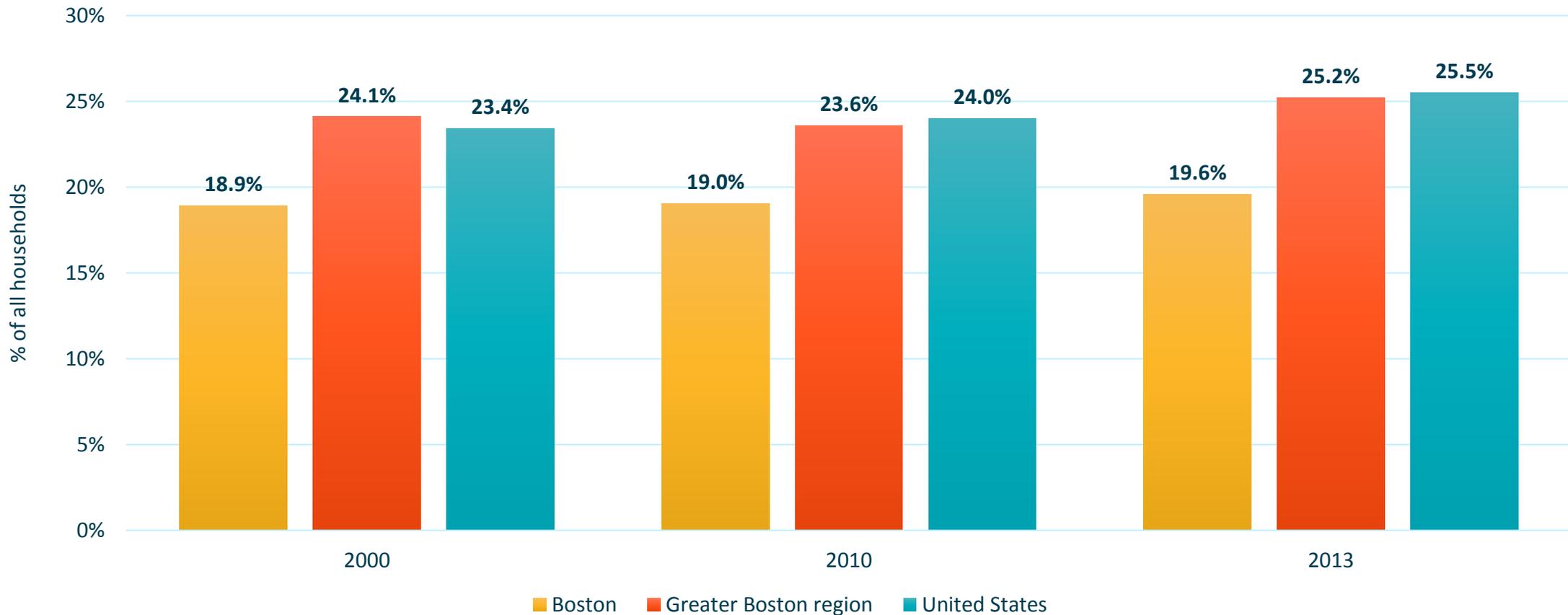
Households with Children under 18 (1970-2013)



Source: U.S. Census Bureau, 1970-2010 U.S. Decennial Census, 2009-2013 American Community Survey, BPDA Research Division Analysis

- Boston has a smaller percentage of households with a person over age 65 than either the Greater Boston region or the nation
- In 2013, 38.8% of Boston residents 65 and over lived in a single-person household
- 52.7% of Boston seniors lived in family households in 2013 and 8.0% of them lived with a son or daughter

Households with person over age 65



2030

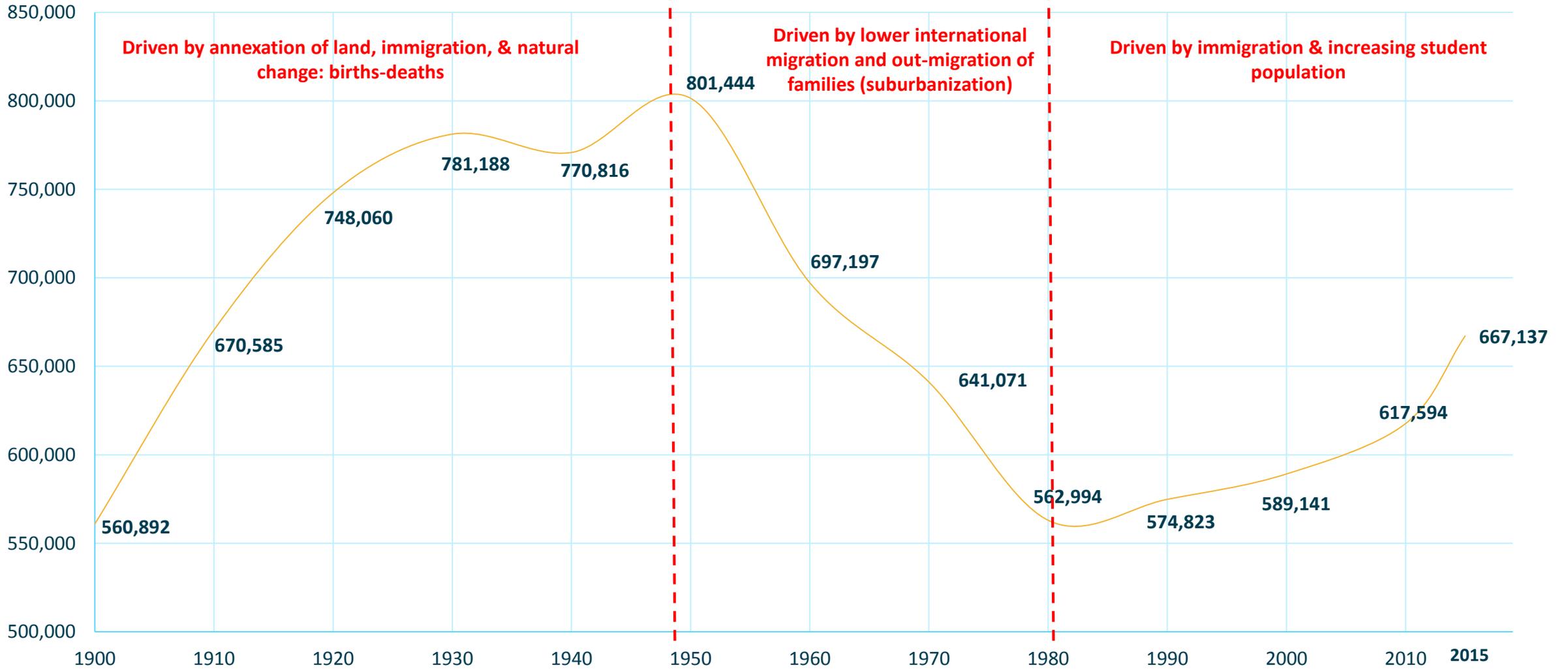
PROJECTIONS

BOSTON'S POPULATION PROJECTIONS: 2010 – 2030



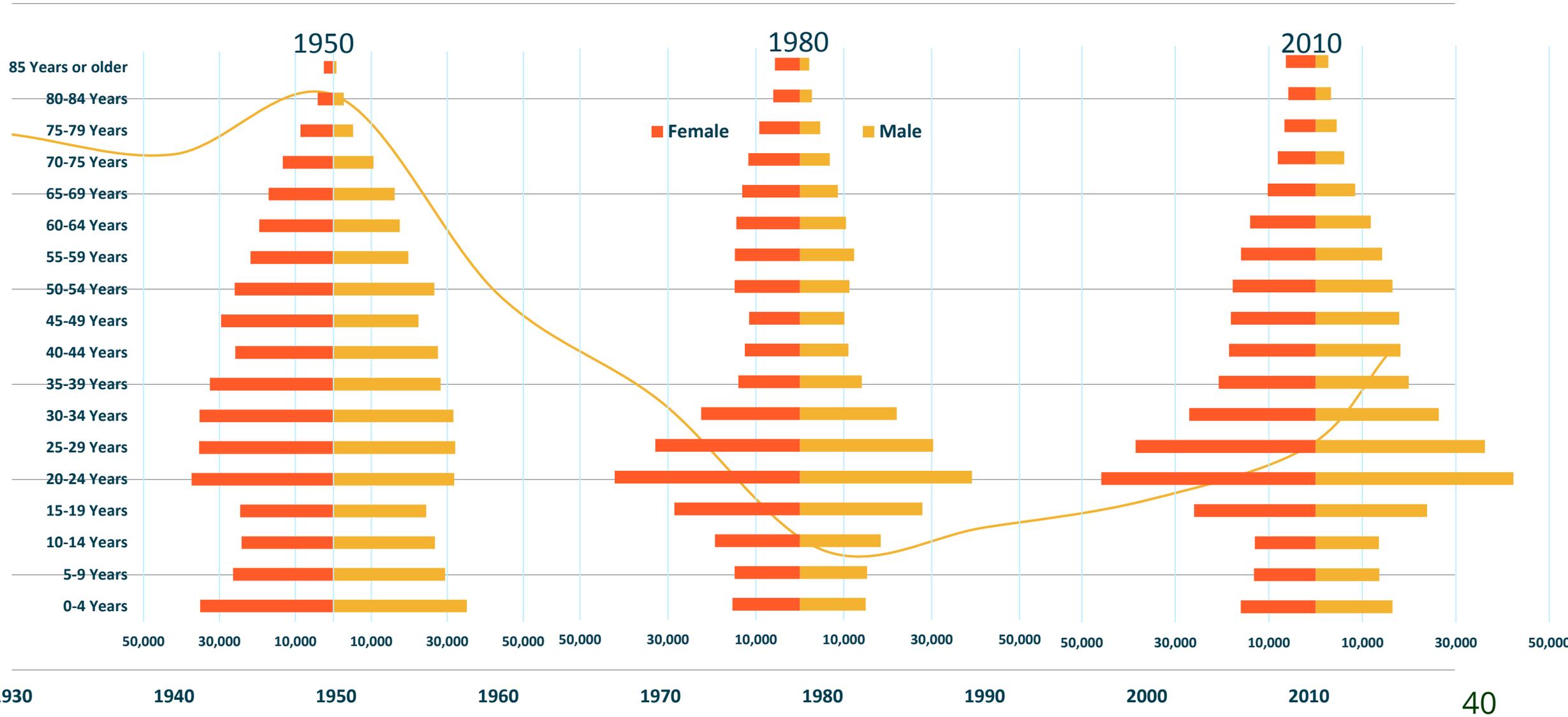
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Boston's Population (1900-2015)



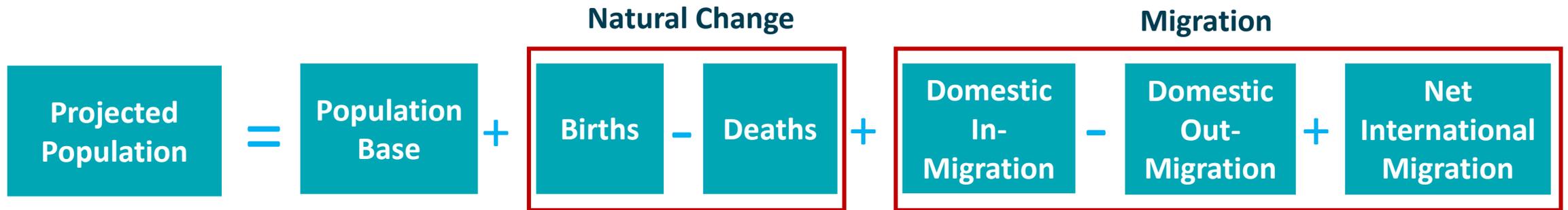
Source: U.S. Census Bureau, 1900-2010 Decennial Census, 2015 Census Population Estimate, BPDA Research Division Analysis

Boston's Population by Age and Sex



Source: U.S. Census Bureau, 1900-2010 Decennial Census, 2015 Census Population Estimate, BPDA Research Division Analysis

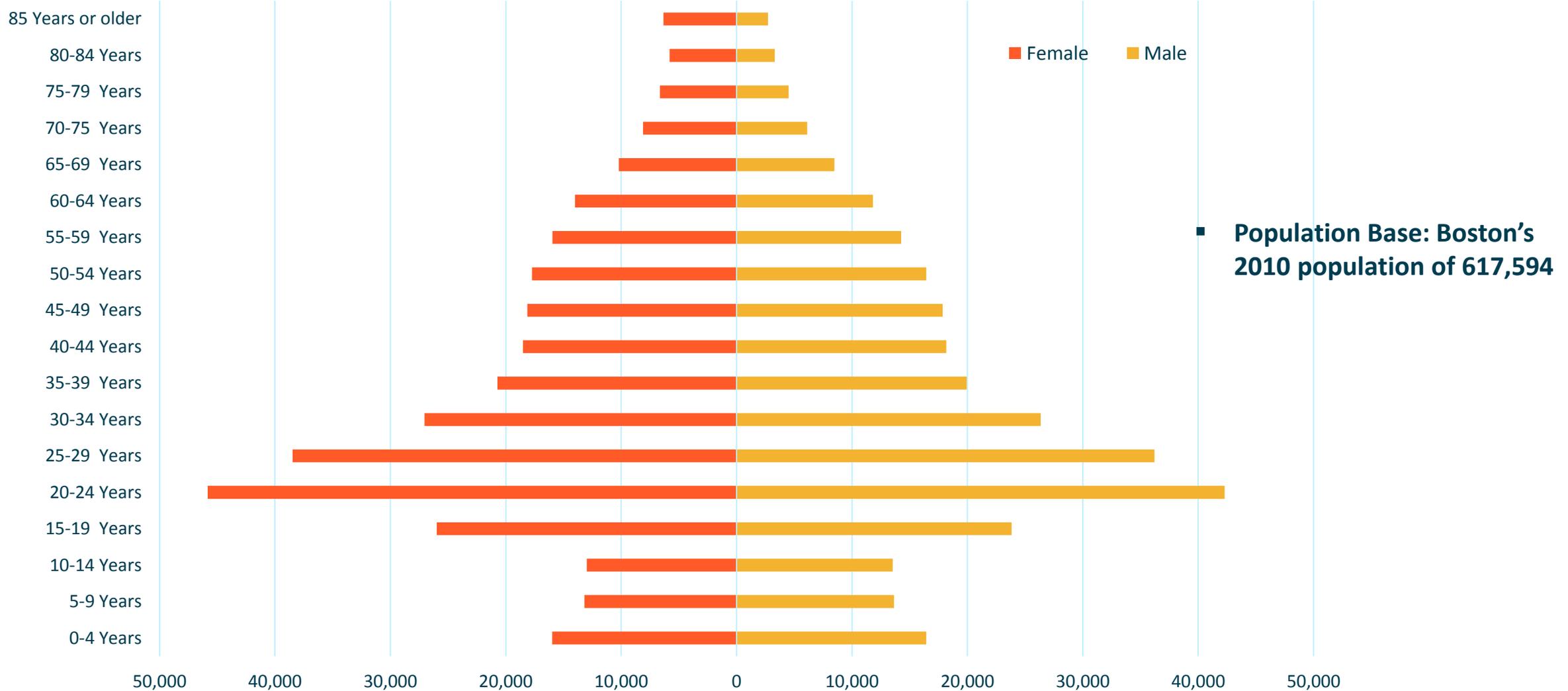
COMPONENTS OF POPULATION CHANGE



POPULATION BASE



Boston -2010 Decennial Census



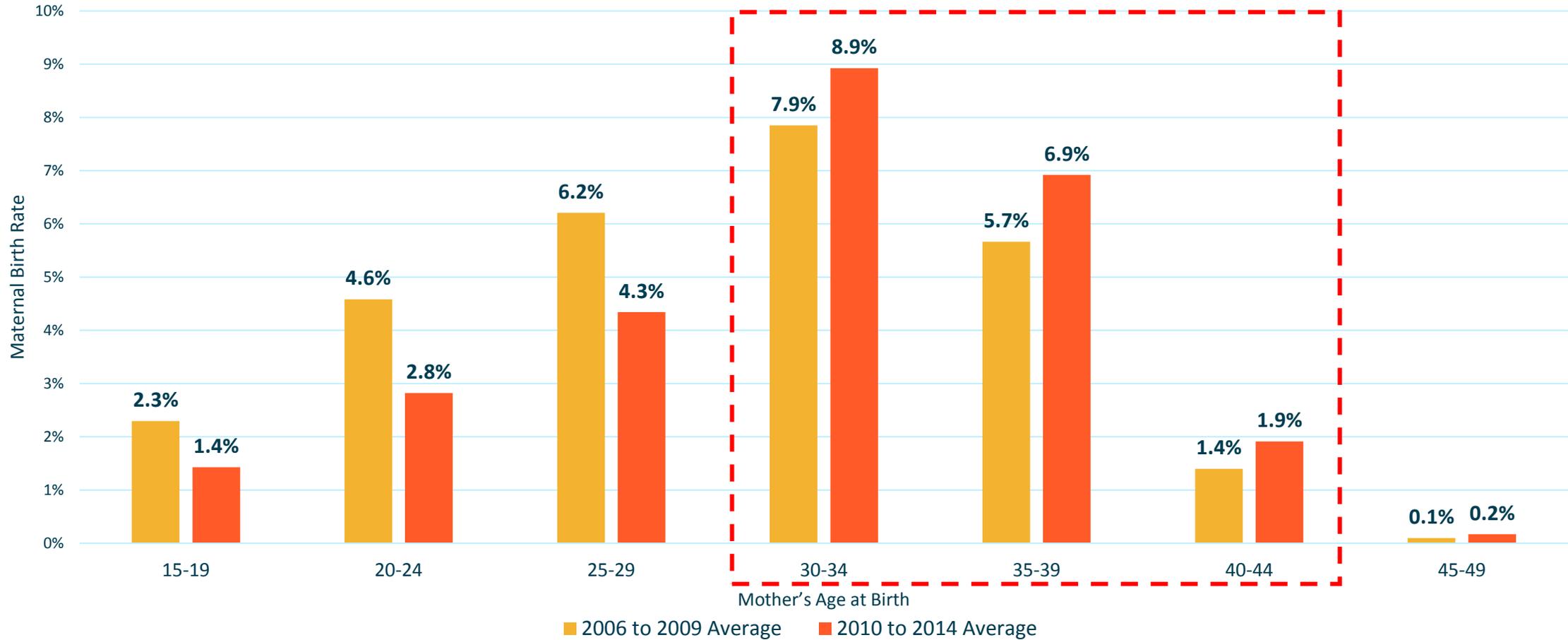
Source: U.S. Census Bureau, 2010 Decennial Census, BPDA Research Division Analysis

BIRTHS



- Boston has averaged 7,900 births a year since 2000
- Overall fertility has declined slightly and shifted to older mothers

Boston's Age-Specific Annual Birth Rates

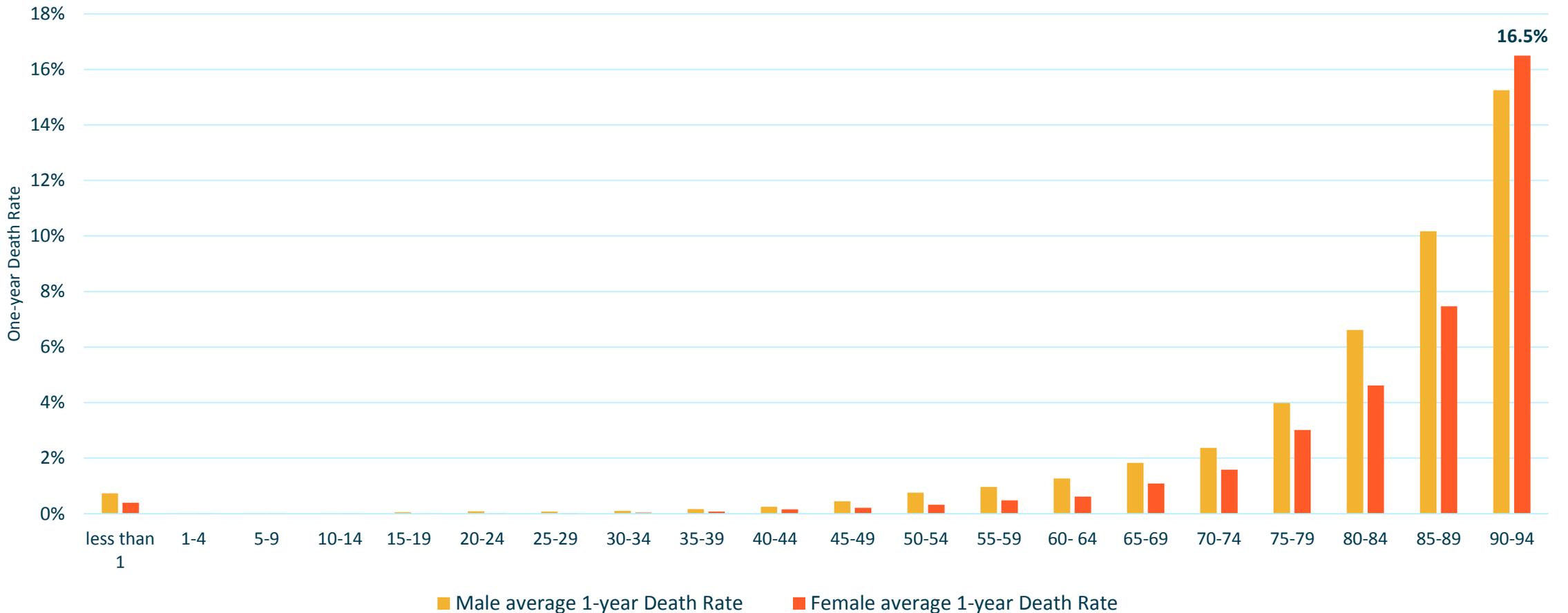


DEATHS



- Boston deaths have been declining from an average of 4,496 a year from 2000 to 2002 to an average of 3,692 a year from 2010 to 2013

Boston Gender Specific One-Year Death Rates by Age, 2010-2013

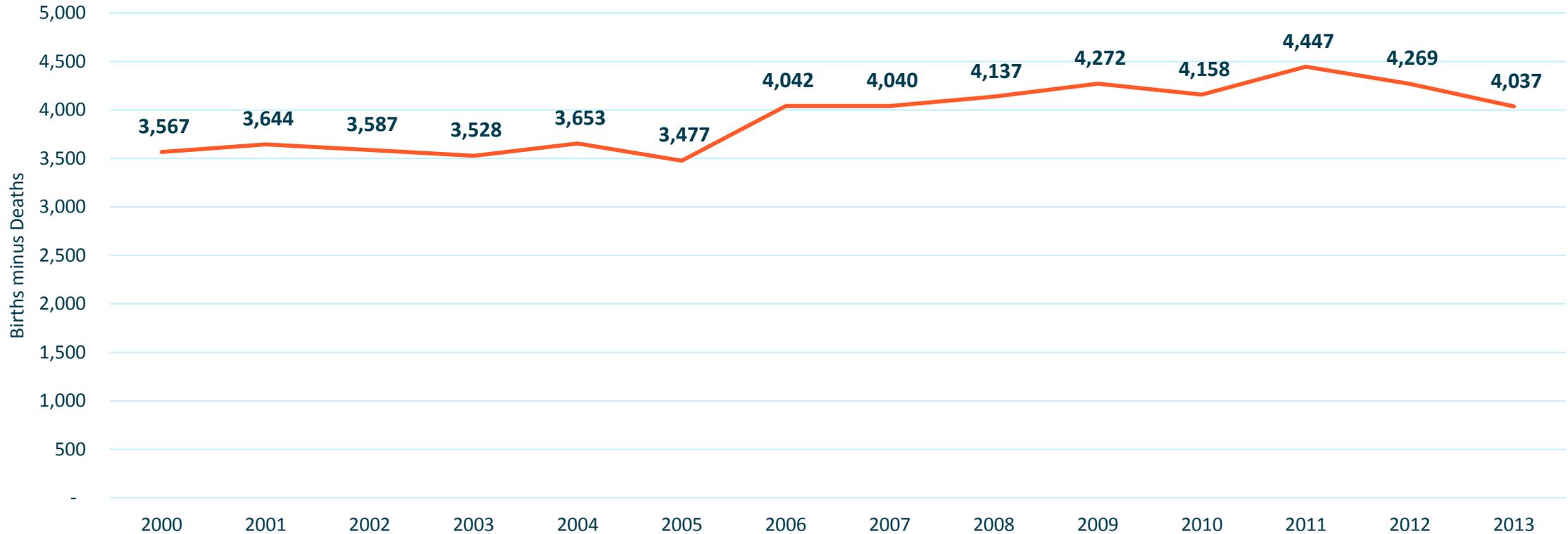


NATURAL CHANGE IN POPULATION

$$\text{Projected Population} = \text{Population Base} + \text{Births} - \text{Deaths} + \text{Domestic In-Migration} - \text{Domestic Out-Migration} + \text{Net International Migration}$$

- Births outnumber deaths in Boston by about 3,500 to 4,000 a year
- In the absence of migration, Boston’s population would have grown by this amount through natural change

Natural Change in Boston's Population, 2000-2013



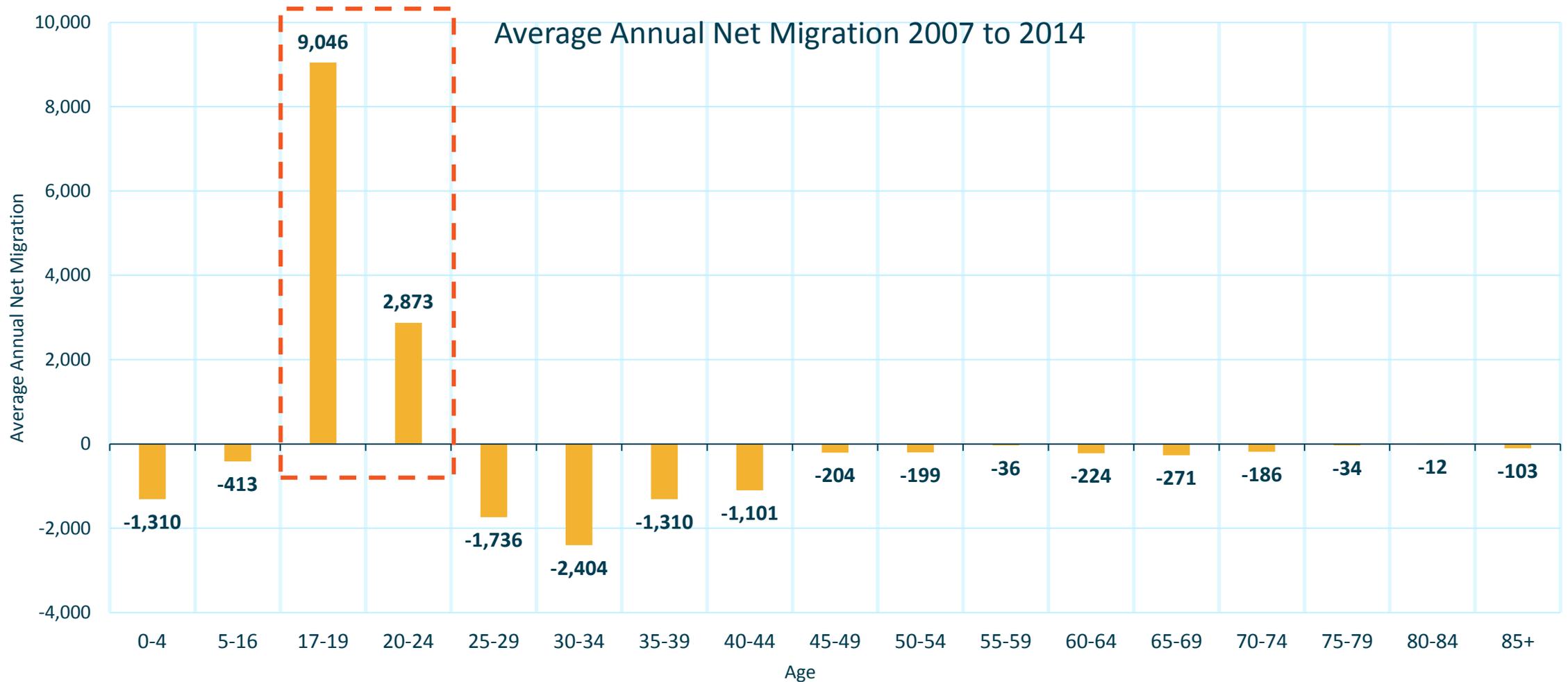
$$\text{Projected Population} = \text{Population Base} + \text{Births} - \text{Deaths} + \text{Domestic In-Migration} - \text{Domestic Out-Migration} + \text{Net International Migration}$$

- The BPDA migration methodology measures three types of migration
- **Domestic in-migration:** people who move to Boston from elsewhere in the United States
 - Domestic in-migration rate is the percentage of the U.S. population outside of Boston that moves to Boston
- **Domestic out-migration:** people who move from Boston to elsewhere in the United States
 - Domestic out-migration rate is the percentage of the Boston population that moves elsewhere in the United States
- **Net international migration:** net movement of people to Boston from other countries and from Boston to other countries
 - Net international migration rate is the net percentage of Boston residents who moved internationally

NET MIGRATION

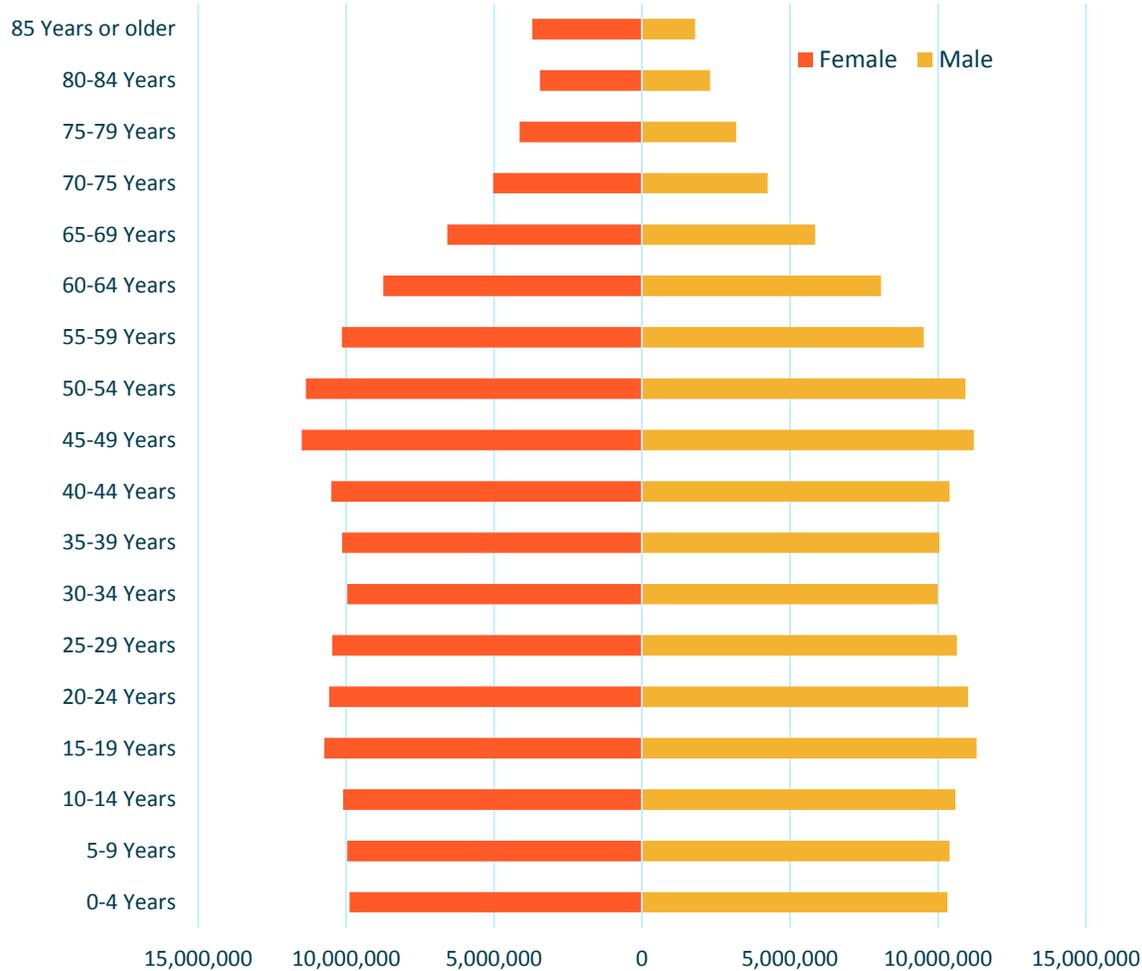
$$\text{Projected Population} = \text{Population Base} + \text{Births} - \text{Deaths} + \text{Domestic In-Migration} - \text{Domestic Out-Migration} + \text{Net International Migration}$$

- From 2007 to 2014, Boston had a net gain on average of 2,376 people per year due to migration. This positive net migration is due to the large influx of 17 to 24 year olds

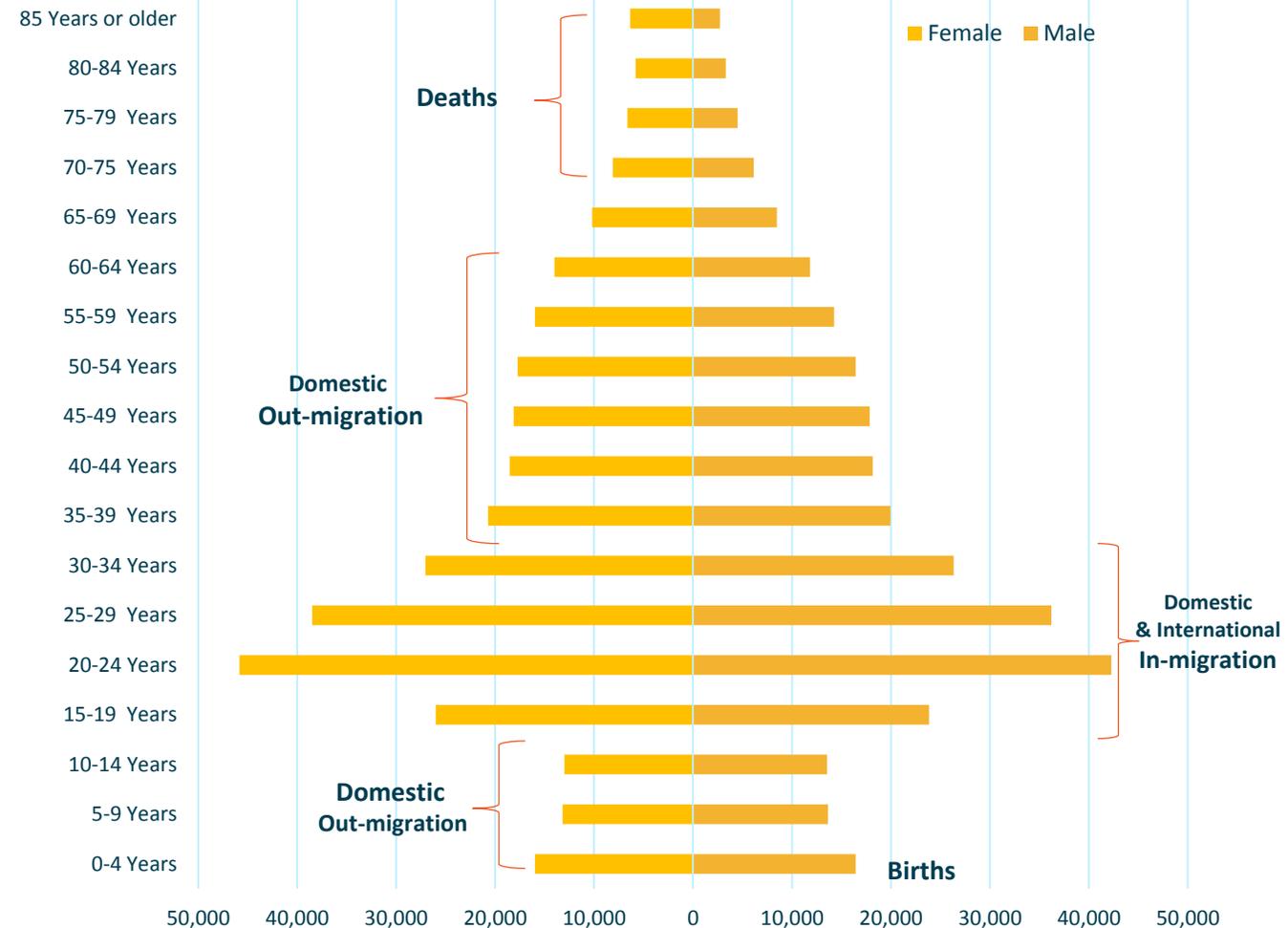


- Natural change explains the U.S. population pyramid well: births replenish the 0-4 cohort and deaths gradually diminish the older cohorts
- However, migration is a more important factor in Boston's population, creating a bulge in the young adult years and making projections much more difficult

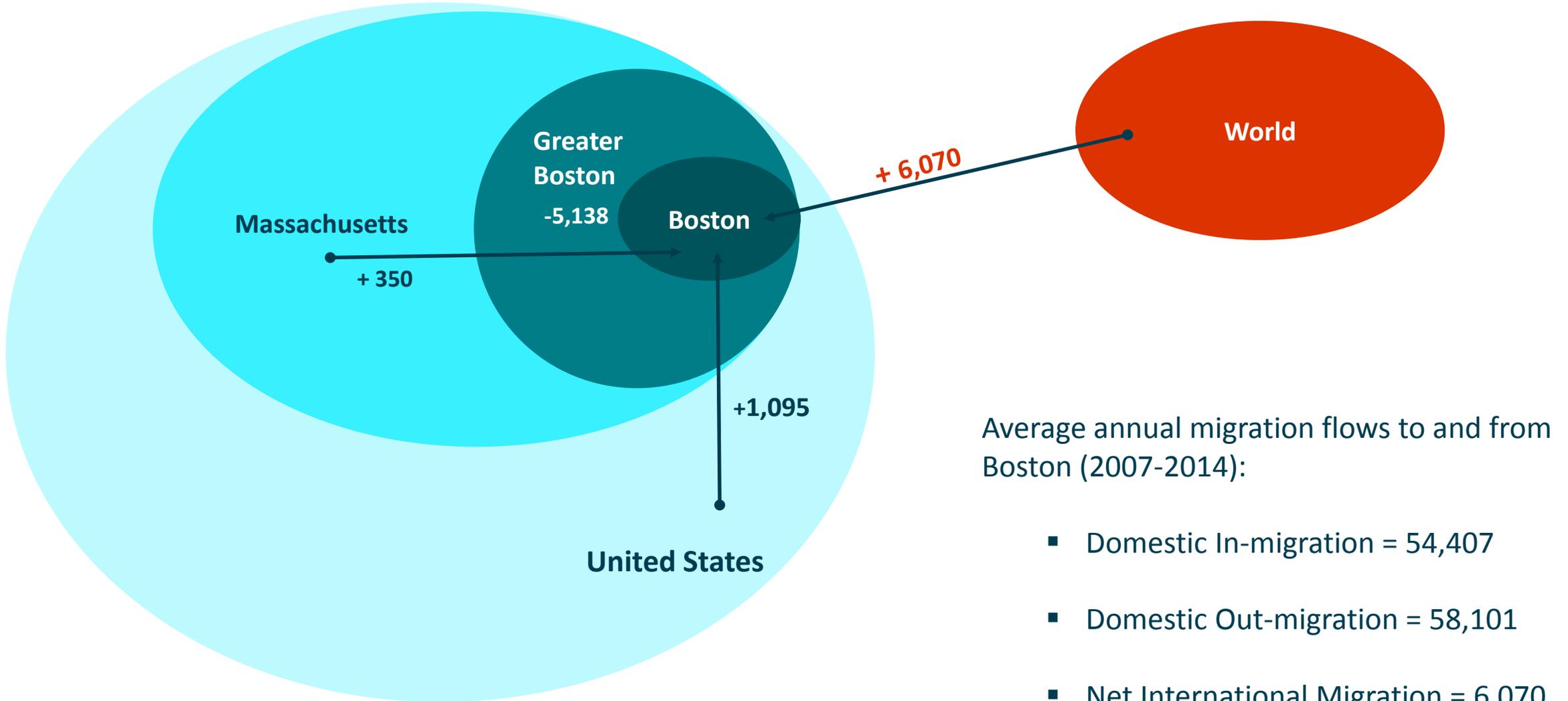
United States - 2010 Decennial Census



Boston - 2010 Decennial Census

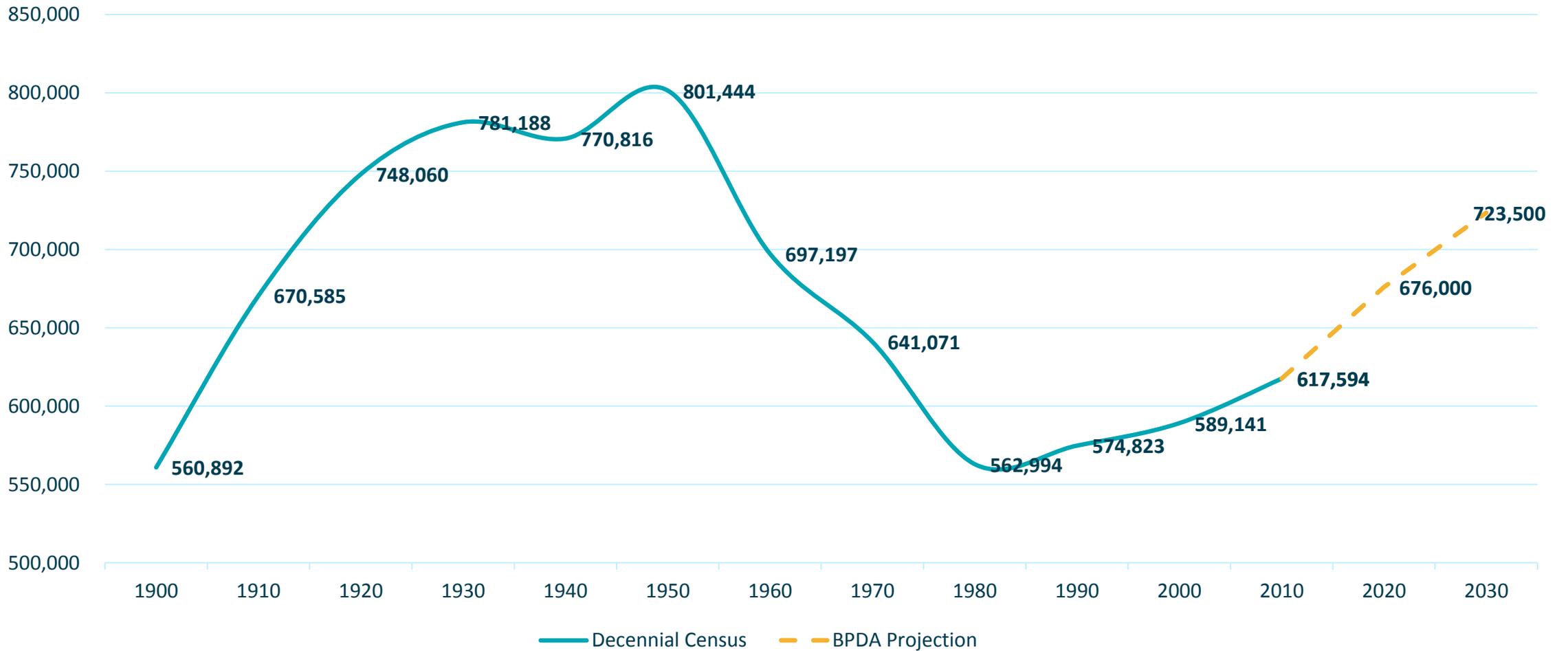


MIGRATION FLOWS



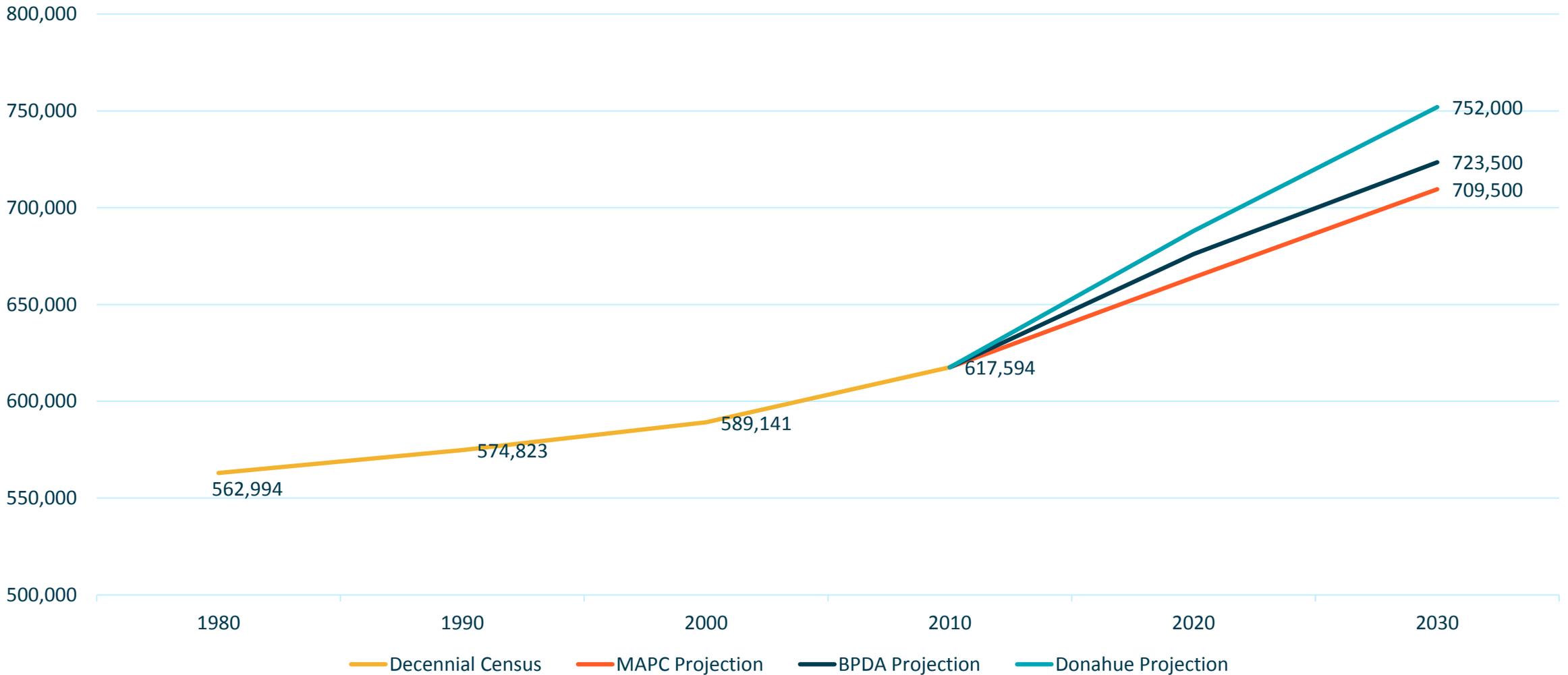
BPDA population projection methodology yields a projected Boston population of 723,500 in 2030

$$\text{Projected Population} = \text{Population Base} + \text{Births} - \text{Deaths} + \text{Domestic In-Migration} - \text{Domestic Out-Migration} + \text{Net International Migration}$$



Source: U.S. Census Bureau, 1900-2010 Decennial Census, 2010-2030 Population Projections, BPDA Research Division Analysis

COMPARISON TO OTHER POPULATION PROJECTIONS



Source: Reardon, Tim & Hari, Meghna, "Metro Boston 2030 Population and Housing Demand Projections," MAPC, 2014.
Renski, Henry & Strate, Susan "Long-Term Population Projections for Massachusetts Regions and Municipalities," UMDI, 2014.
BPDA Research Division Analysis

BPDA PROJECTIONS ARE BASED ON MOST UP-TO-DATE DATA:

- 2010 Census from U.S. Census Bureau (Population Base)
- 2010-2014 birth and death data from Massachusetts Department of Public Health (Natural Change)
- 2007-2014 migration data from U.S. Census Bureau, American Community Surveys (Migration)

THE PROJECTIONS DATABASE AND MODEL CAN BE UPDATED
AS NEW DATA BECOME AVAILABLE

