



BOSTON BY THE NUMBERS

Imagine Boston 2030

BPDA Research Division

December 5th, 2016



**boston planning &
development agency**

BOSTON IS . . .

GROWING

DIVERSE

EDUCATED

YOUTHFUL

RESILIENT

BOSTON PLANNING & DEVELOPMENT AGENCY PROJECTIONS: 2010 – 2030



**boston planning &
development agency**

BOSTON IS . . .

GROWING

DIVERSE

EDUCATED

YOUTHFUL

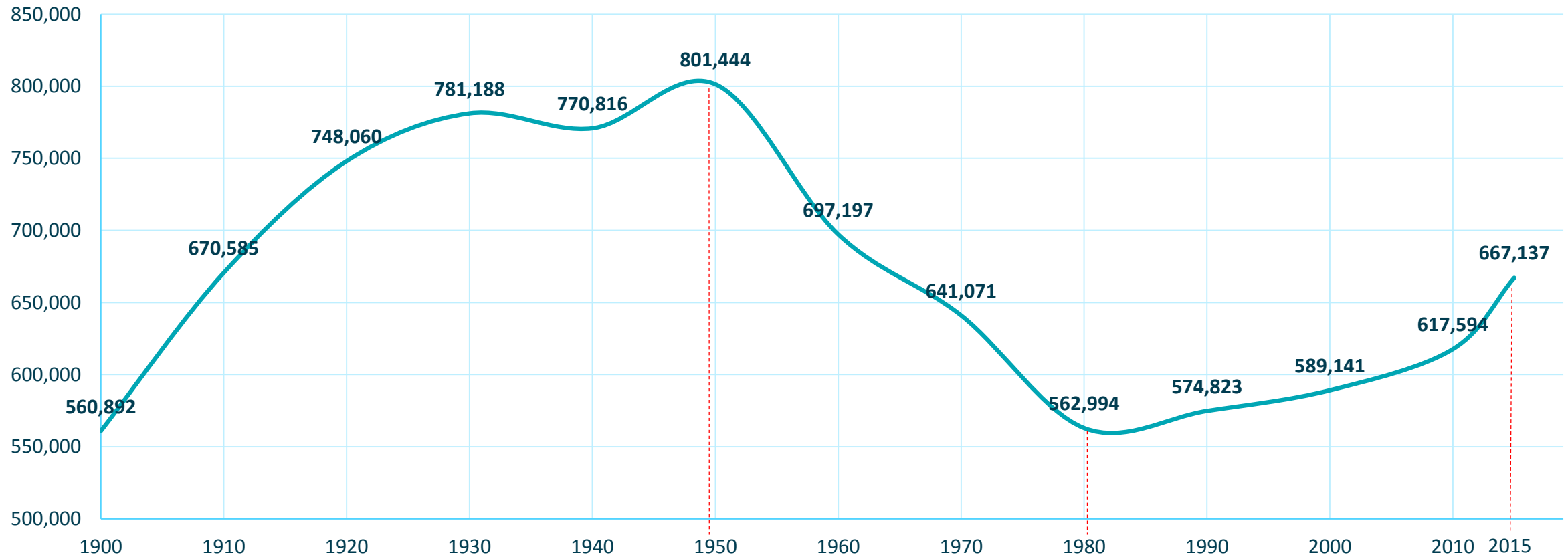
RESILIENT

BOSTON PLANNING & DEVELOPMENT AGENCY PROJECTIONS: 2010 – 2030



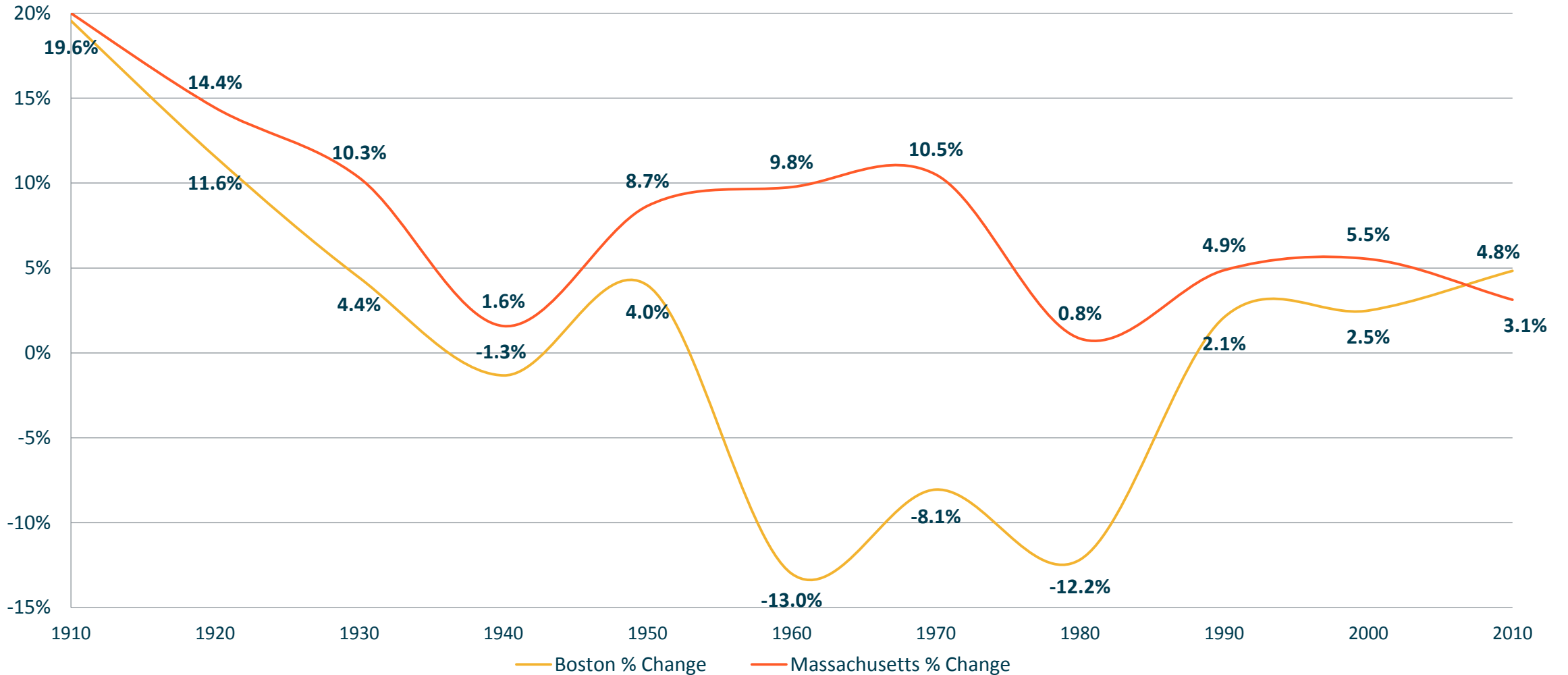
**boston planning &
development agency**

- 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



- 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%)

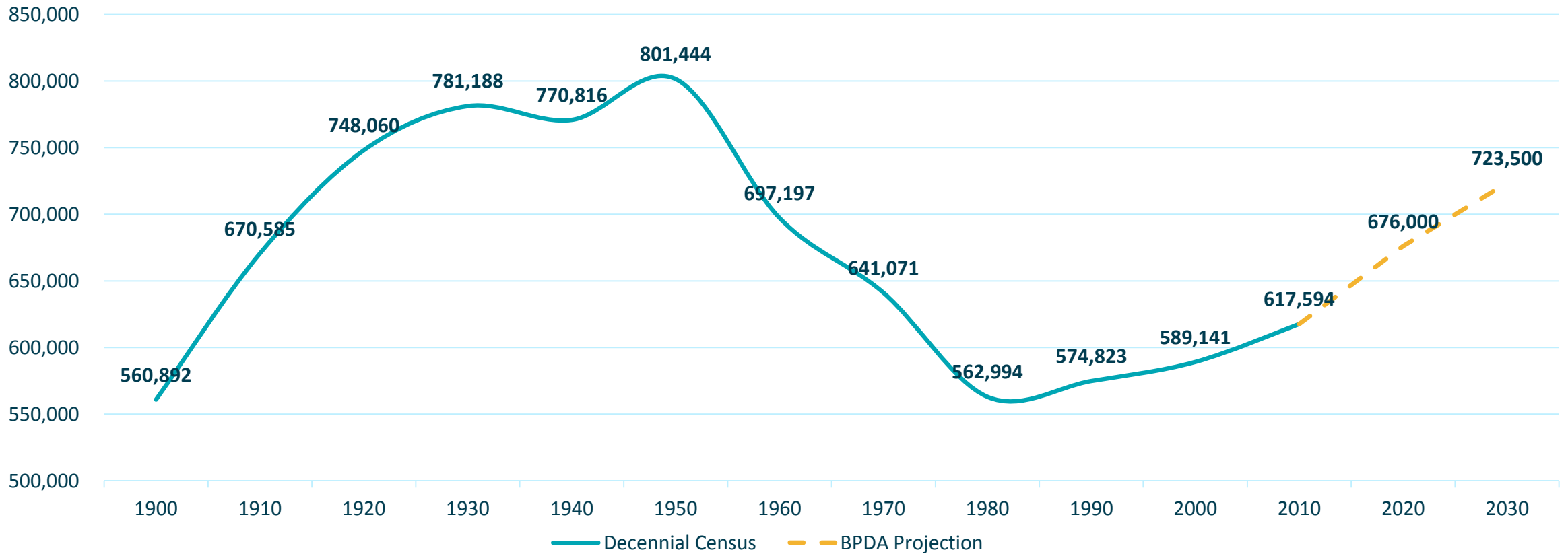
Population Growth for Boston and Massachusetts by Decade (1910 – 2010)



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

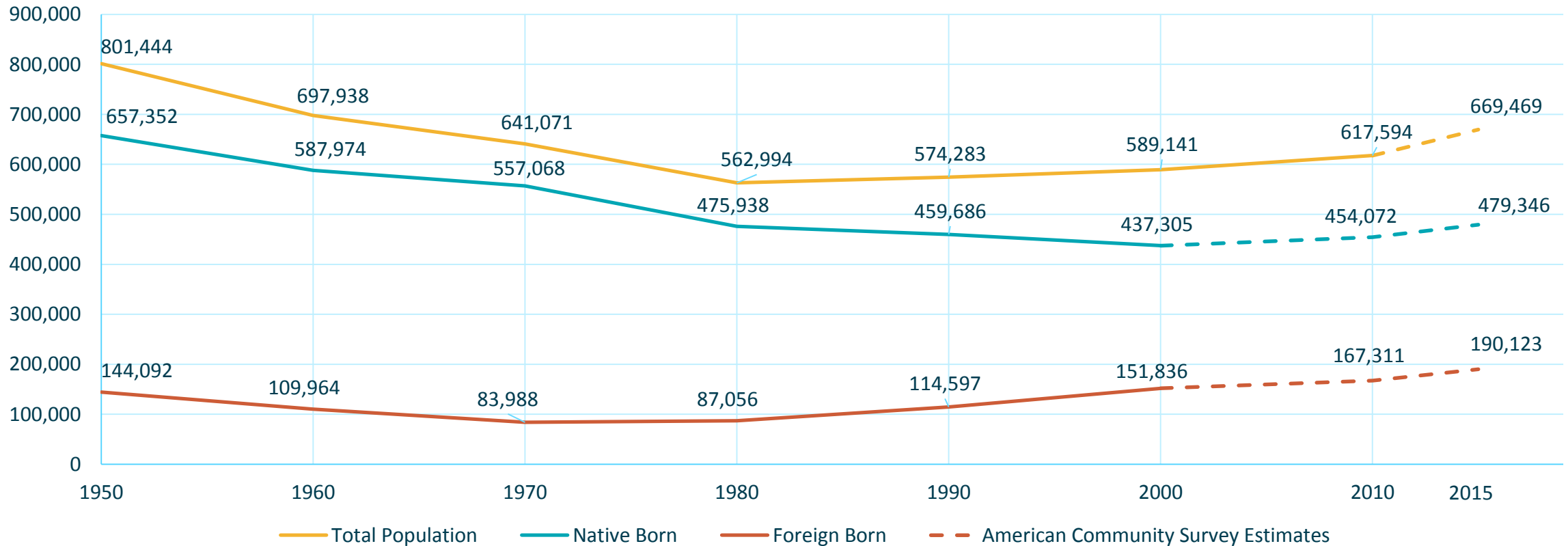
BPDA population projection methodology yields a projected Boston population of 723,500 in 2030

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



- 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.

BOSTON IS . . .

GROWING

DIVERSE

EDUCATED

YOUTHFUL

RESILIENT

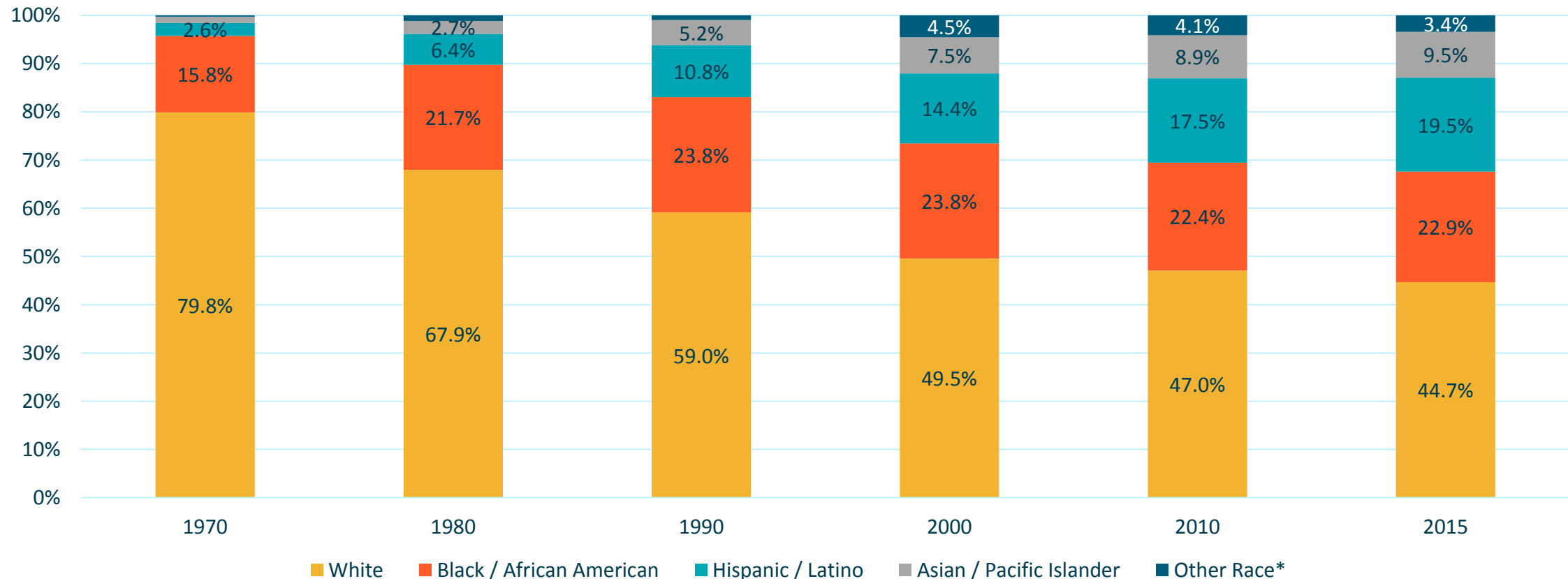
BOSTON PLANNING & DEVELOPMENT AGENCY PROJECTIONS: 2010 – 2030



**boston planning &
development agency**

- 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

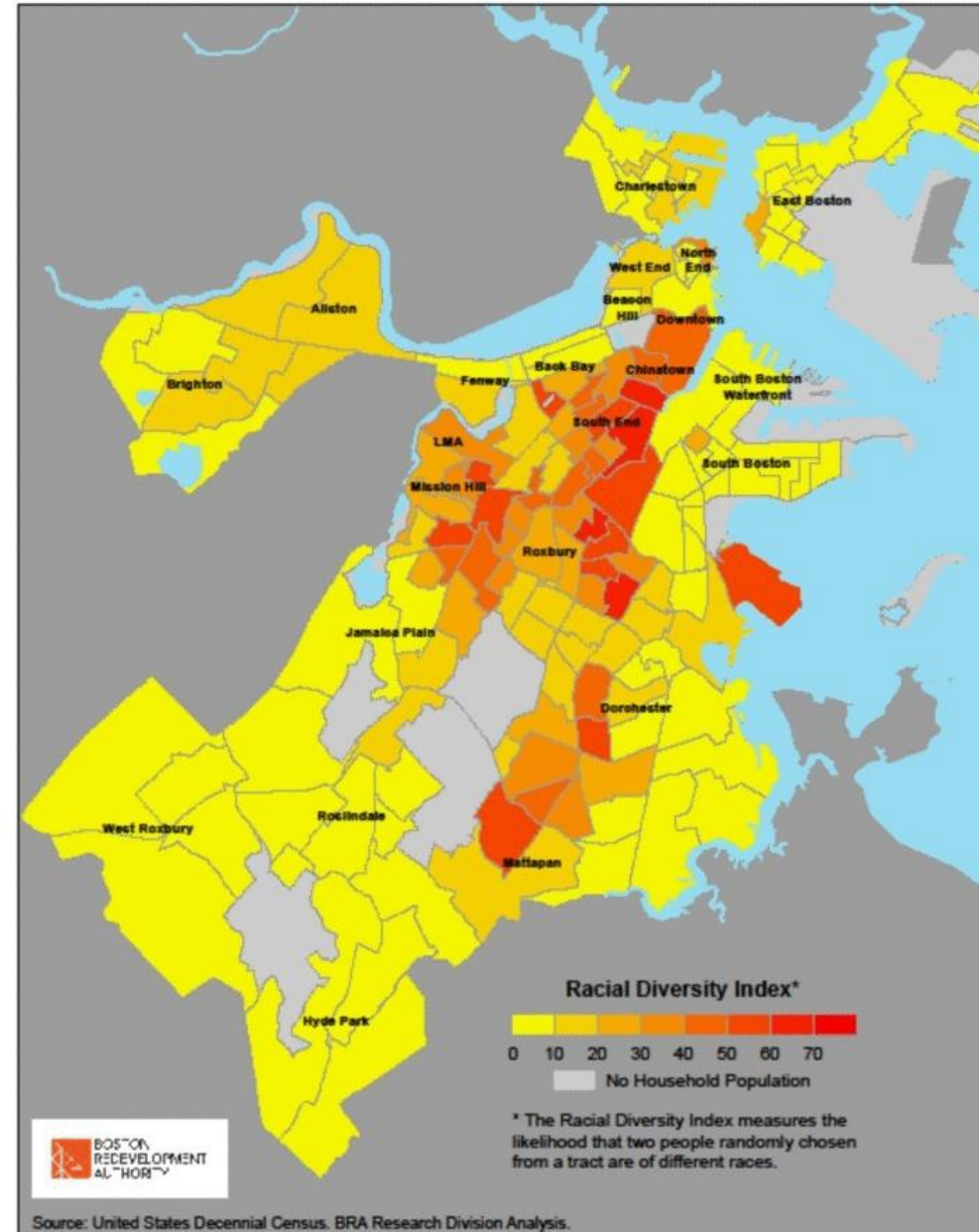


Note: 2000 was the first year the Census compiled data on individuals who identified themselves as multiracial. Those who indicated "two or more races" are included in "Other" in 2000 and 2010 in this chart.
 Source: U.S. Census Bureau, 1970-2010 U.S. Decennial Census, 2015 American Community Survey,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

RACIAL DIVERSITY

- The Racial Diversity Index calculates the likelihood that two people randomly chosen from a geographic area are from a different racial or ethnic group
- 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

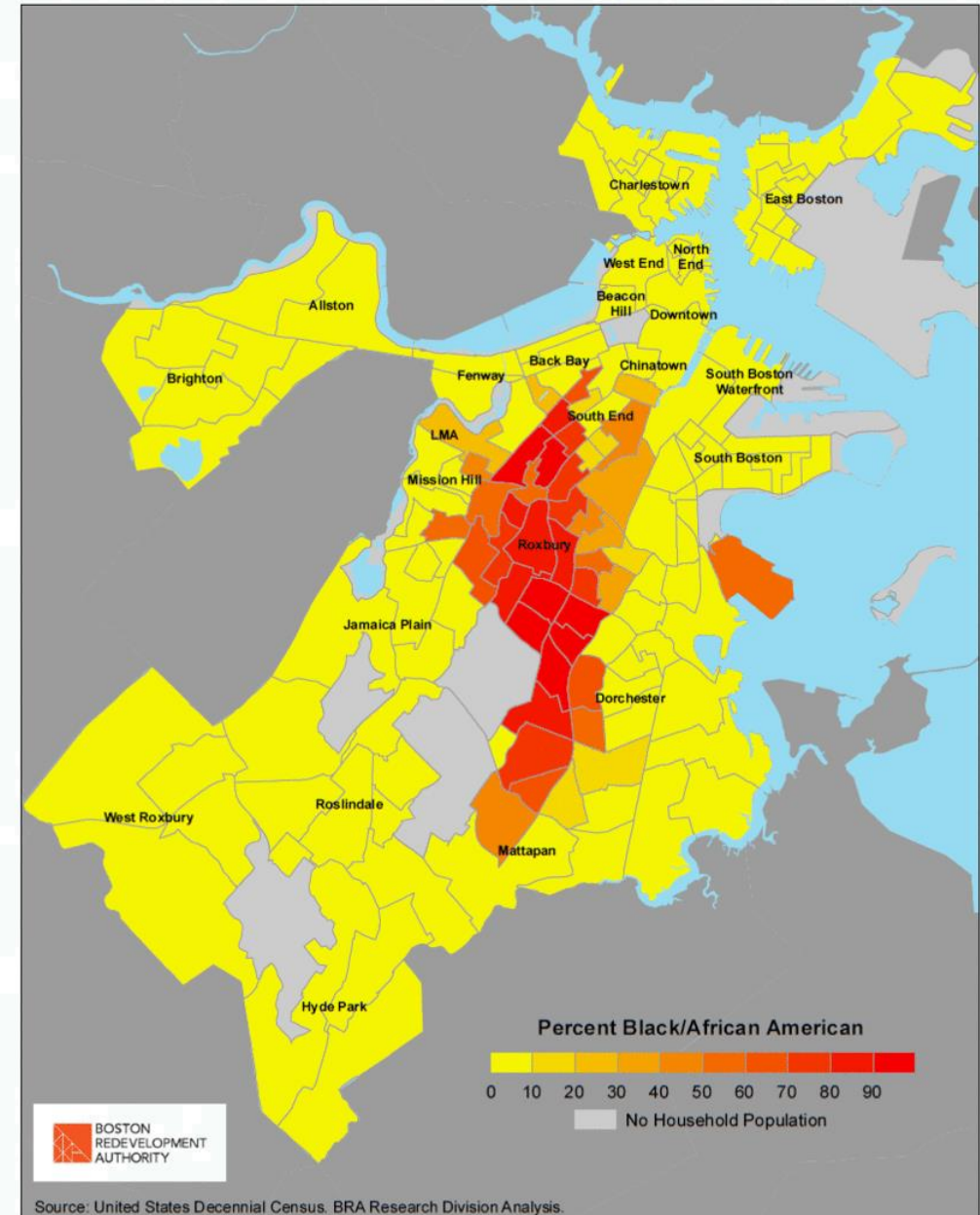


BLACK/AFRICAN AMERICAN POPULATION

- 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

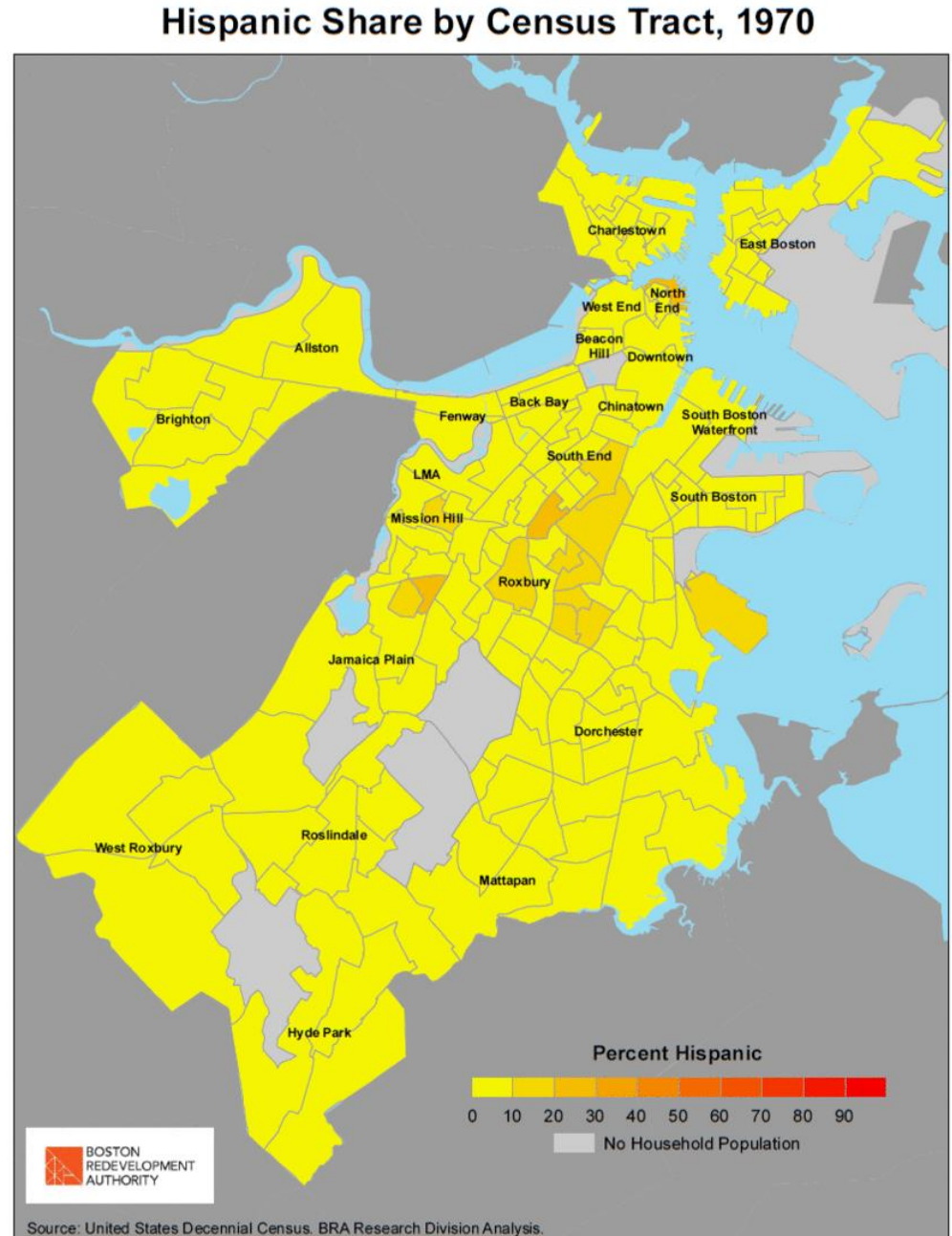
Black/African American Share by Census Tract, 1970



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)

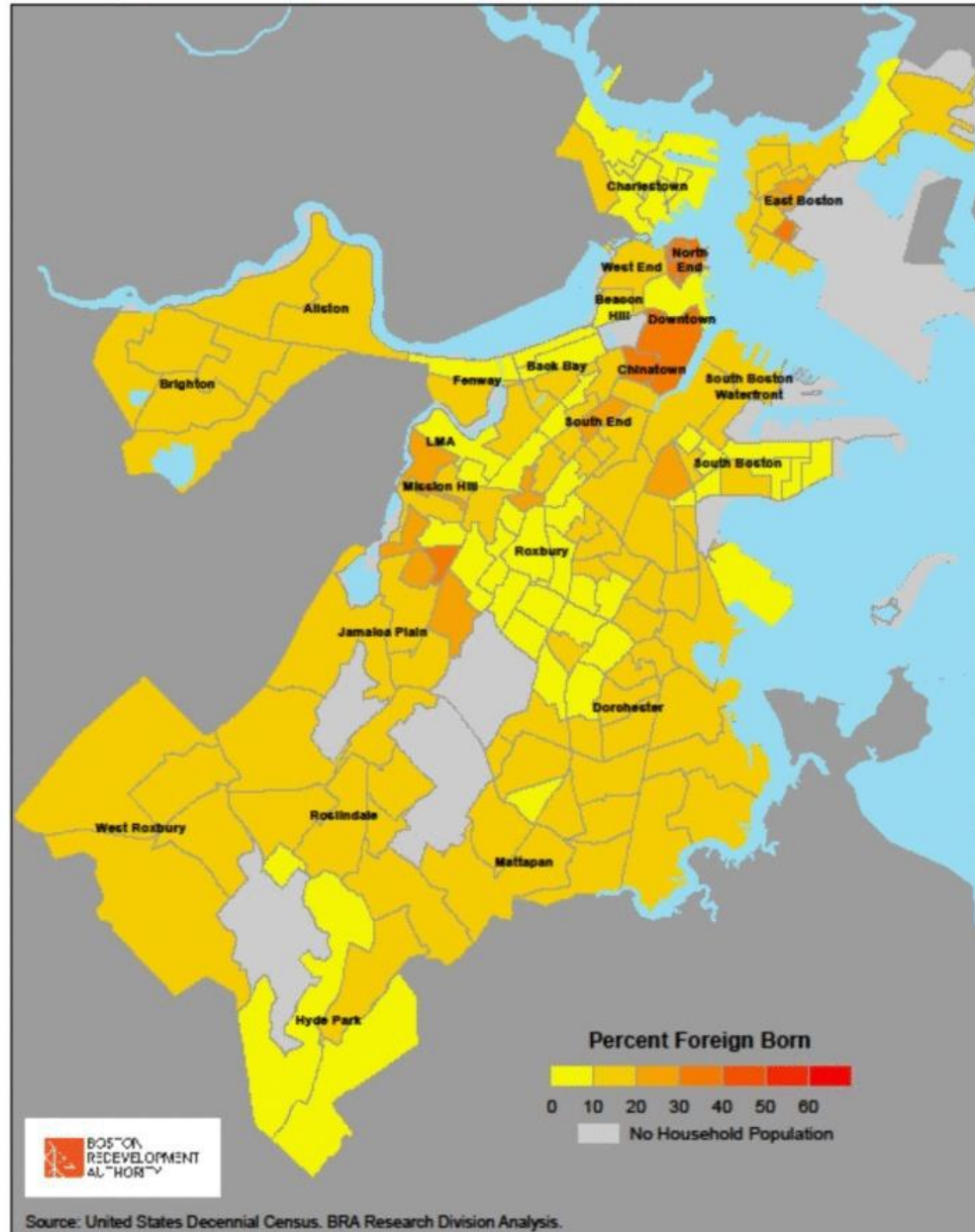
Source: U.S. Census Bureau, 1970-2010 U.S. Decennial Census, BPDA Research Division Analysis



FOREIGN BORN POPULATION

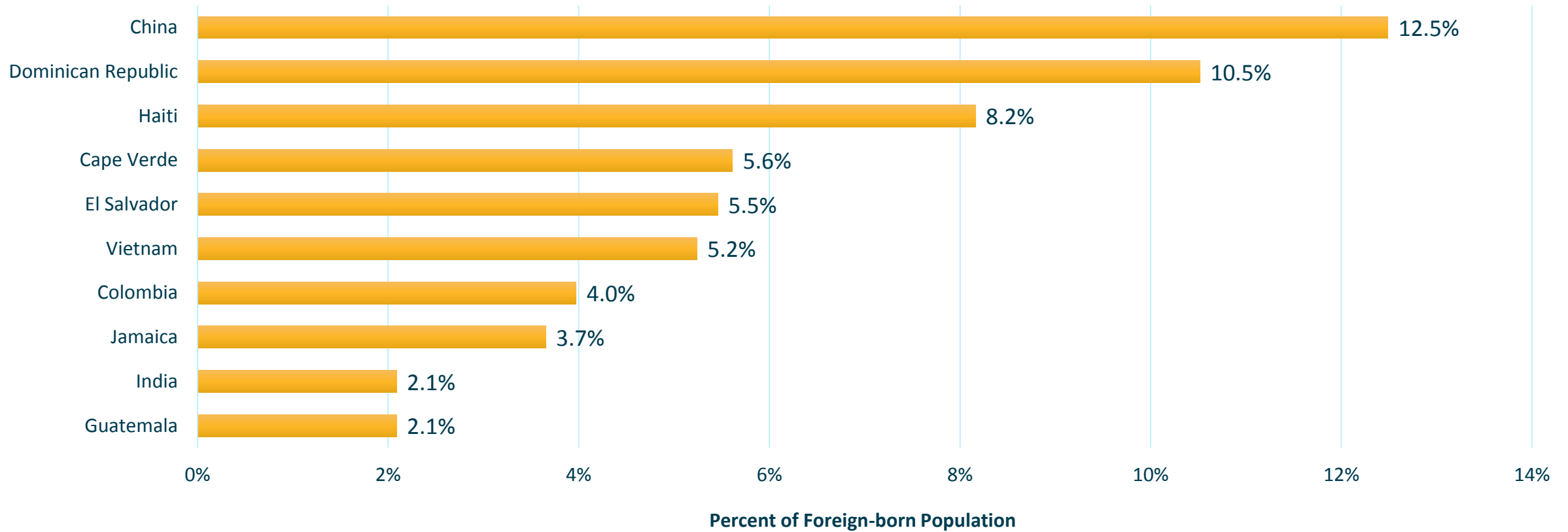
- The percentage of the population that is foreign-born has increased in most census tracts in Boston since 1970
- In the maps at right, yellow census tracts have a foreign-born population of less than 10%
- In the red census tracts, foreign-born residents make up more than 60% of the population

Foreign Born Population Share by Census Tract, 1970



- 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



BOSTON IS . . .

GROWING

DIVERSE

EDUCATED

YOUTHFUL

RESILIENT

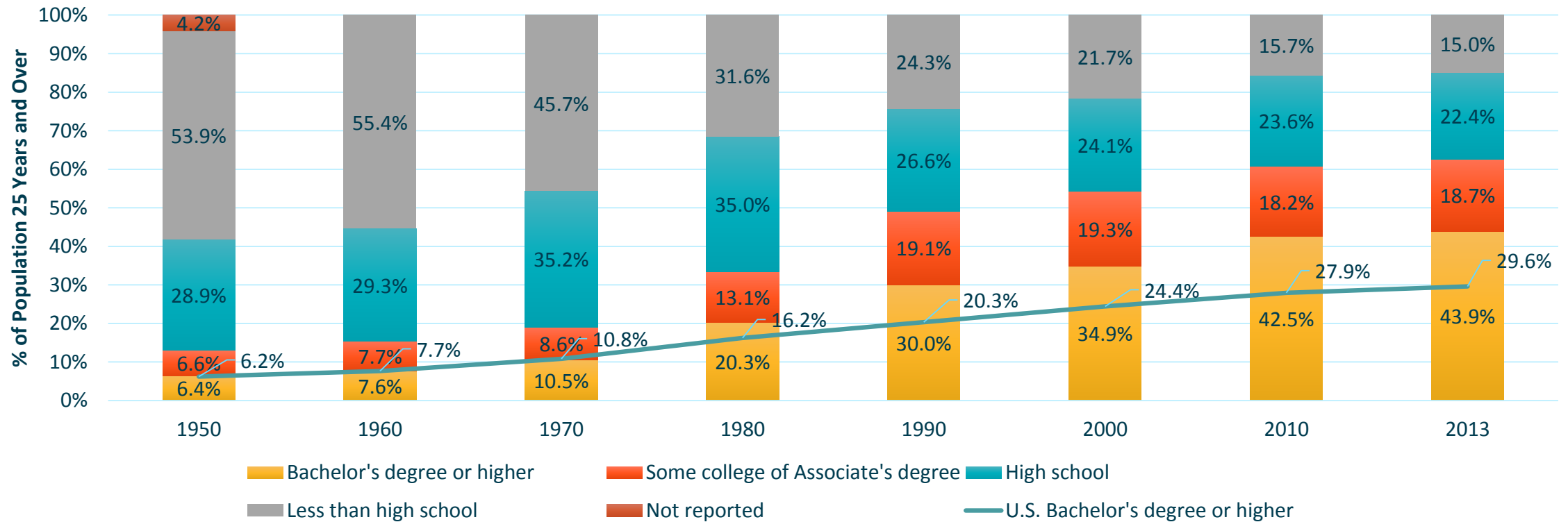
BOSTON PLANNING & DEVELOPMENT AGENCY PROJECTIONS: 2010 – 2030



**boston planning &
development agency**

- The proportion of Bostonians with a bachelor's degree or higher rose every decade from 6.4% in 1950 to 42.5% in 2010 (43.9% in 2013 according to ACS data)
- The percentage of Bostonians with a high school diploma or some college has remained relatively stable since 1970 at around 40-45% of the population
- The percentage without a high school education fell from 53.9% in 1950 to 15.7% in 2010

Educational Attainment of Boston vs U.S. (1950-2013)



Source: U.S. Census Bureau, 1950 – 2010 U.S. Decennial Census, 2013 1-Year American Community Survey, BPDA Research Division Analysis

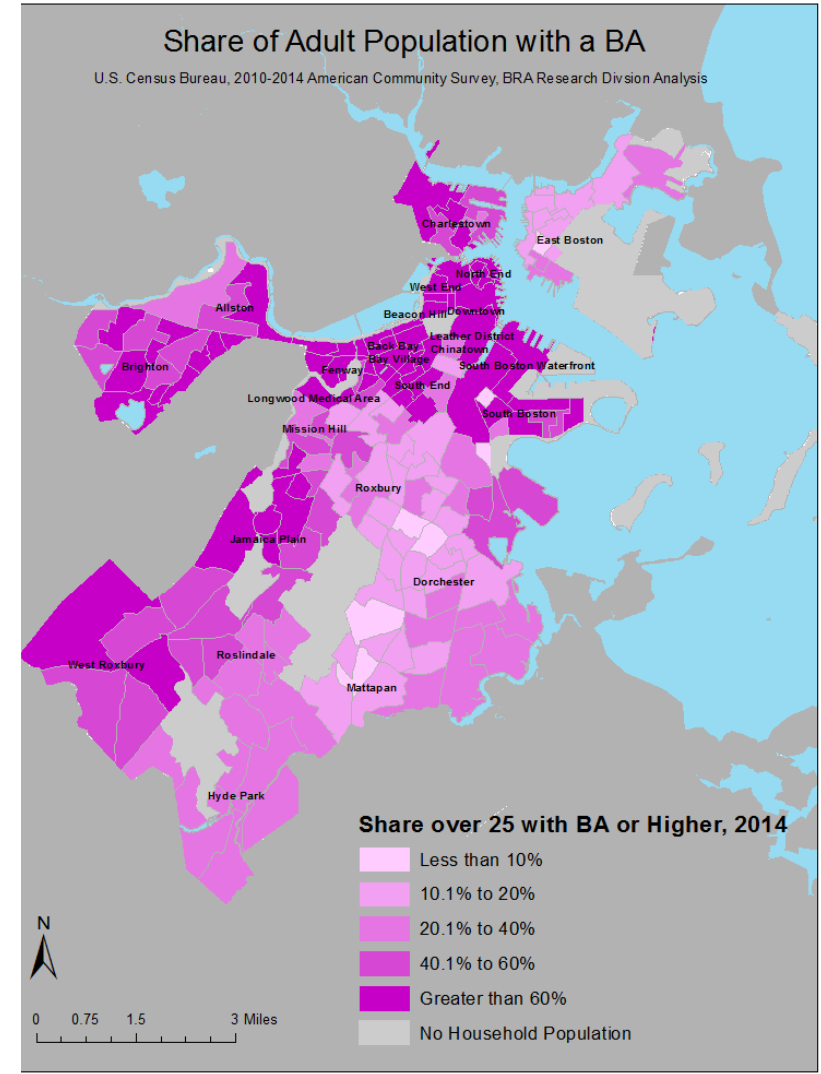
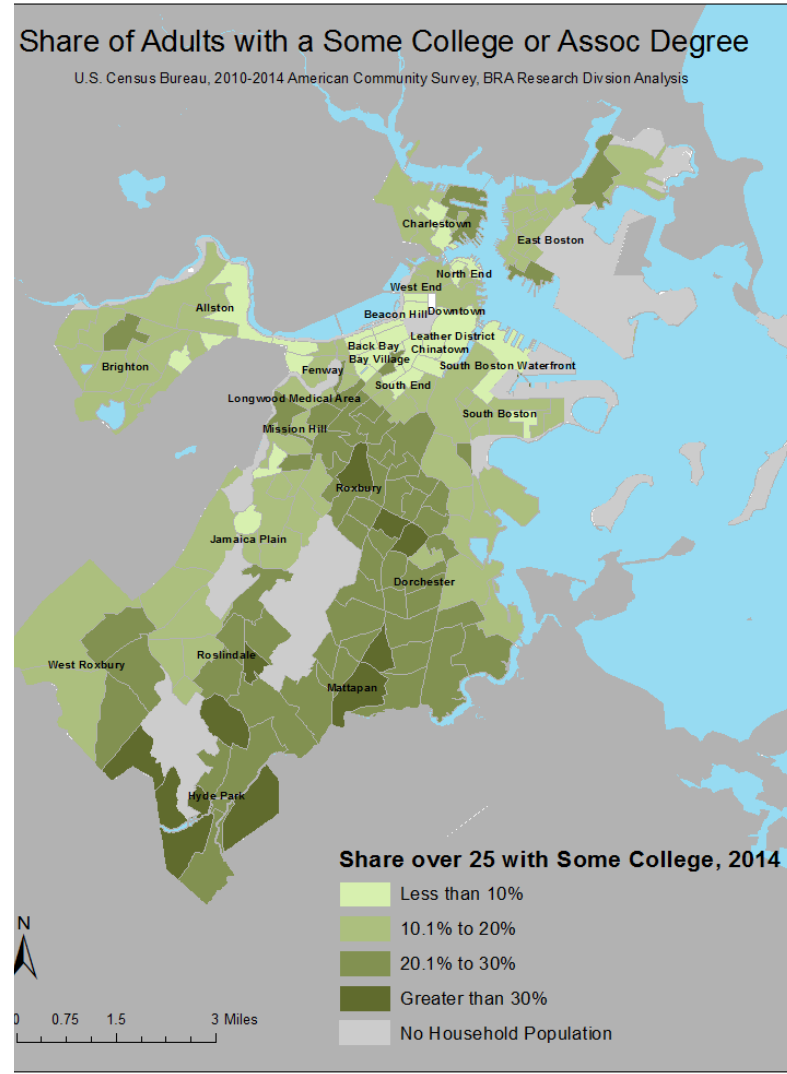
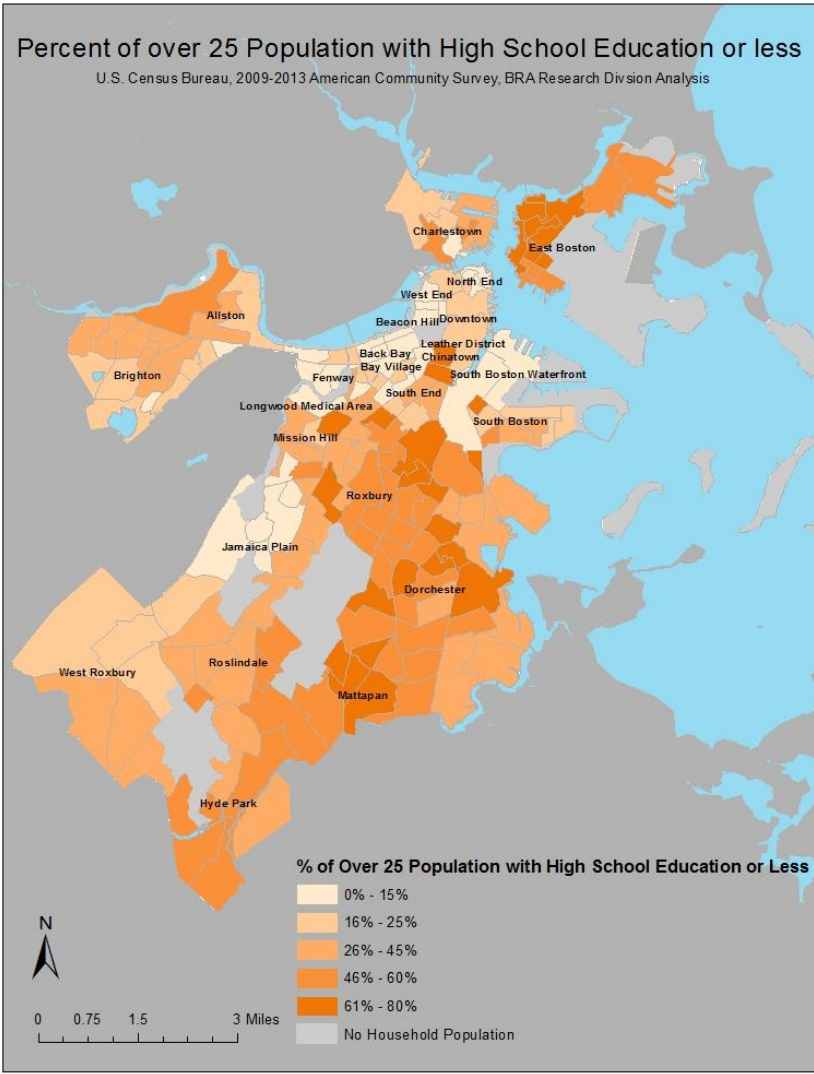
- Boston’s population is more educated than the national average, with 43.9% of residents holding a Bachelor’s degree or higher, compared to just 28.8% nationwide
- Boston is the 8th most educated city among a list of comparable cities. The Greater Boston area ranks even higher, at 4th among major metropolitan areas, in BA share

Educational Attainment for Comparison Cities

City	Percent with at Least a BA,		Percent with at Least a BA,	
	City	City Rank	Metro Area	Metro Area Rank
Seattle, WA	57.4%	1	38.0%	9
Washington, DC	52.4%	3	47.9%	1
San Francisco, CA	52.4%	2	44.5%	3
Raleigh, NC	47.5%	4	42.2%	5
Atlanta, GA	46.8%	5	34.9%	12
Minneapolis, MN	45.7%	6	38.4%	8
Austin, TX	45.6%	7	40.6%	6
Boston, MA	43.9%	8	43.4%	4
Portland, OR	43.8%	9	34.5%	15
Denver, CO	42.9%	10	39.2%	7
San Diego, CA	41.7%	11	34.6%	14
Charlotte, NC	39.8%	12	30.6%	20
San Jose, CA	37.4%	13	45.7%	2
Pittsburgh, PA	35.5%	14	29.9%	21
New York, NY	34.5%	15	36.5%	10
Chicago, IL	34.2%	16	34.6%	13
Los Angeles, CA	31.1%	17	31.4%	18
St. Louis, MO	29.6%	18	30.9%	19
Dallas, TX	29.4%	19	31.7%	17
Houston, TX	29.2%	20	29.4%	22
Baltimore, MD	26.8%	21	36.0%	11
Phoenix, AZ	26.3%	22	28.7%	24
Philadelphia, PA	23.9%	23	33.6%	16
Miami, FL	23.1%	24	28.9%	23
Detroit, MI	12.7%	25	28.1%	25

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

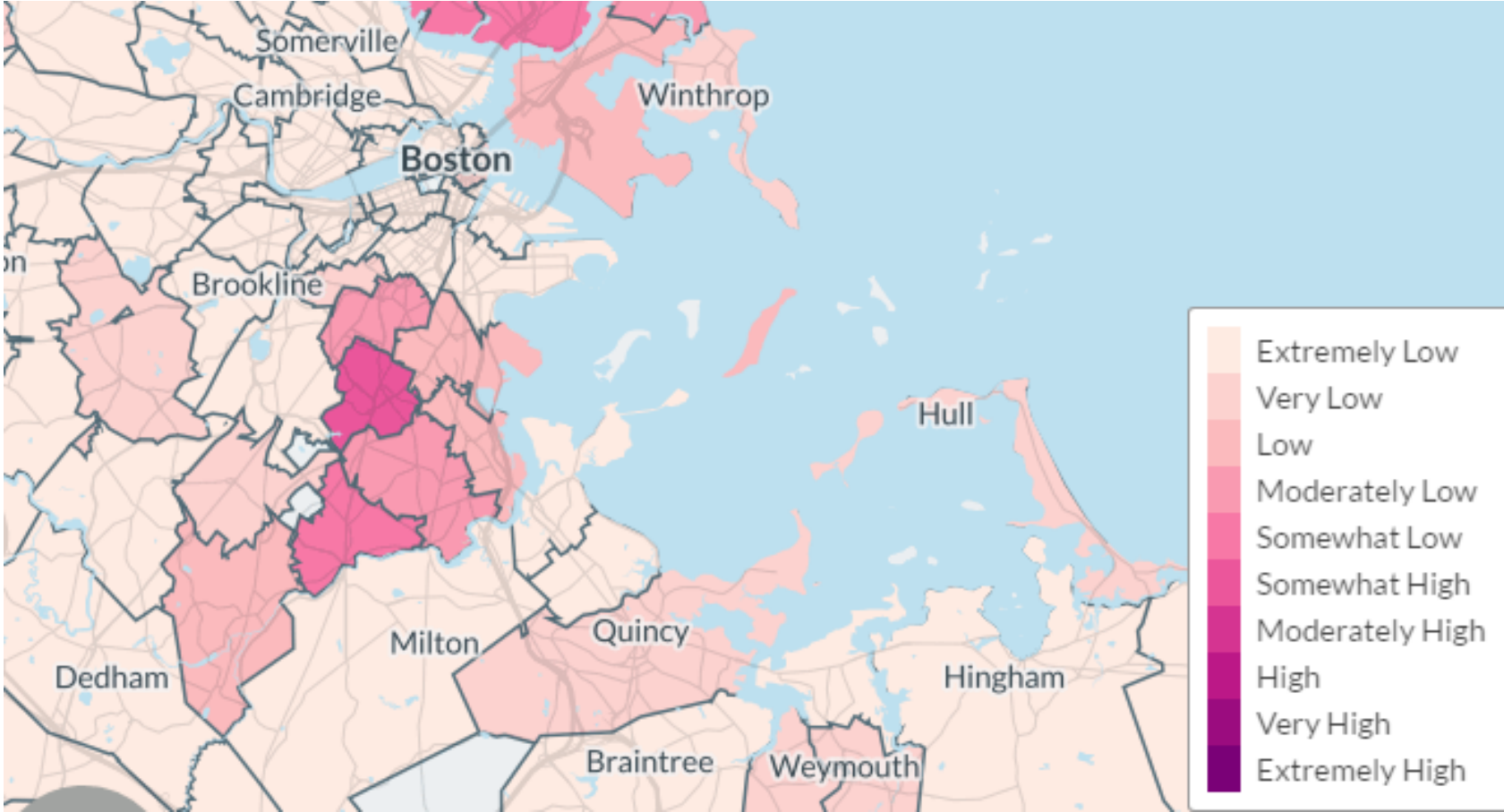
BUT SIGNIFICANT DISPARITIES EXIST ACROSS THE CITY



Source: U.S. Census Bureau, 2010-2014 American Community Survey, BPDA Research Division Analysis

STUDENT LOAN DELINQUENCY RATES

- In Boston, student loan debt balances in some areas of the city are more than double the national average, with some Boston zip codes having an average student loan debt balance of more than \$48,542.
- **Delinquency rates are low for the city; however, they are much higher in Dorchester, Roxbury, and Mattapan.**



MappingStudentDebt.org. <http://mappingstudentdebt.org/#/map-1-an-introduction> (See Footnote for methodology).
Family Assets Count. <http://familyassetscount.org/pdf/Boston%20Family%20Assets%20Count.pdf>

BOSTON IS . . .

GROWING

DIVERSE

EDUCATED

YOUTHFUL

RESILIENT

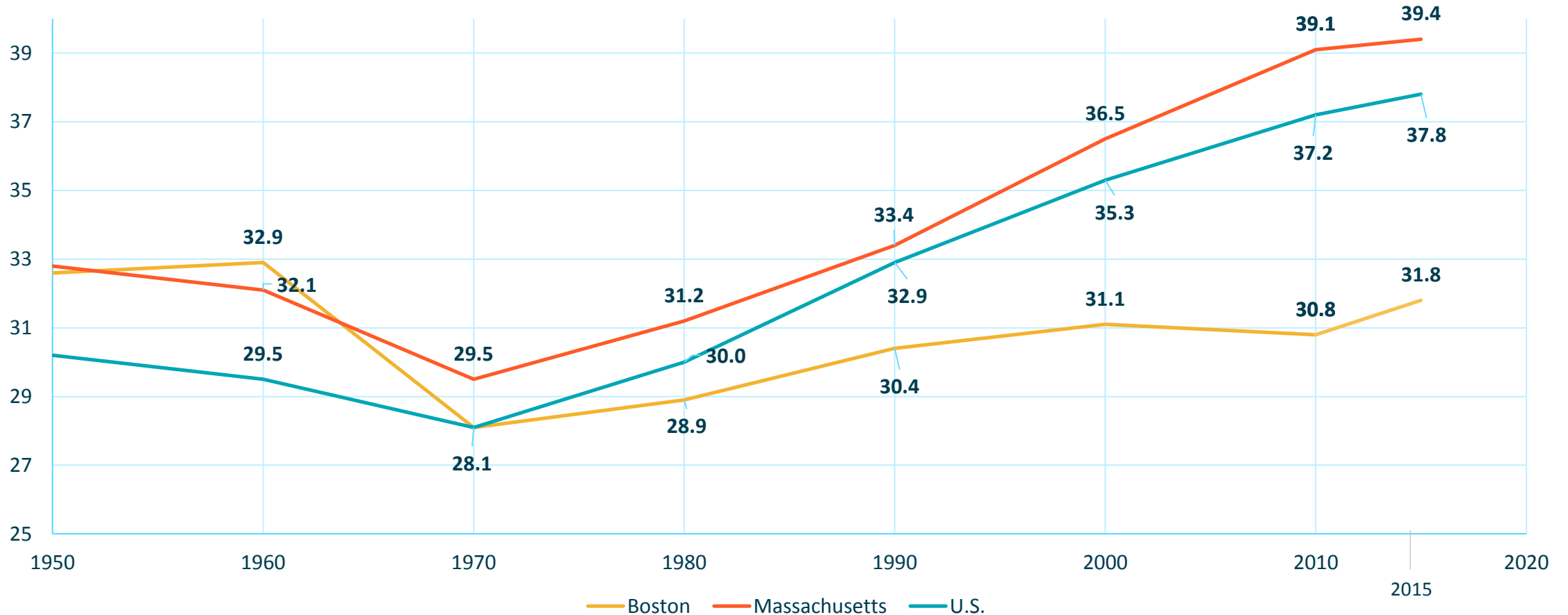


**boston planning &
development agency**

BOSTON PLANNING & DEVELOPMENT AGENCY PROJECTIONS: 2010 – 2030

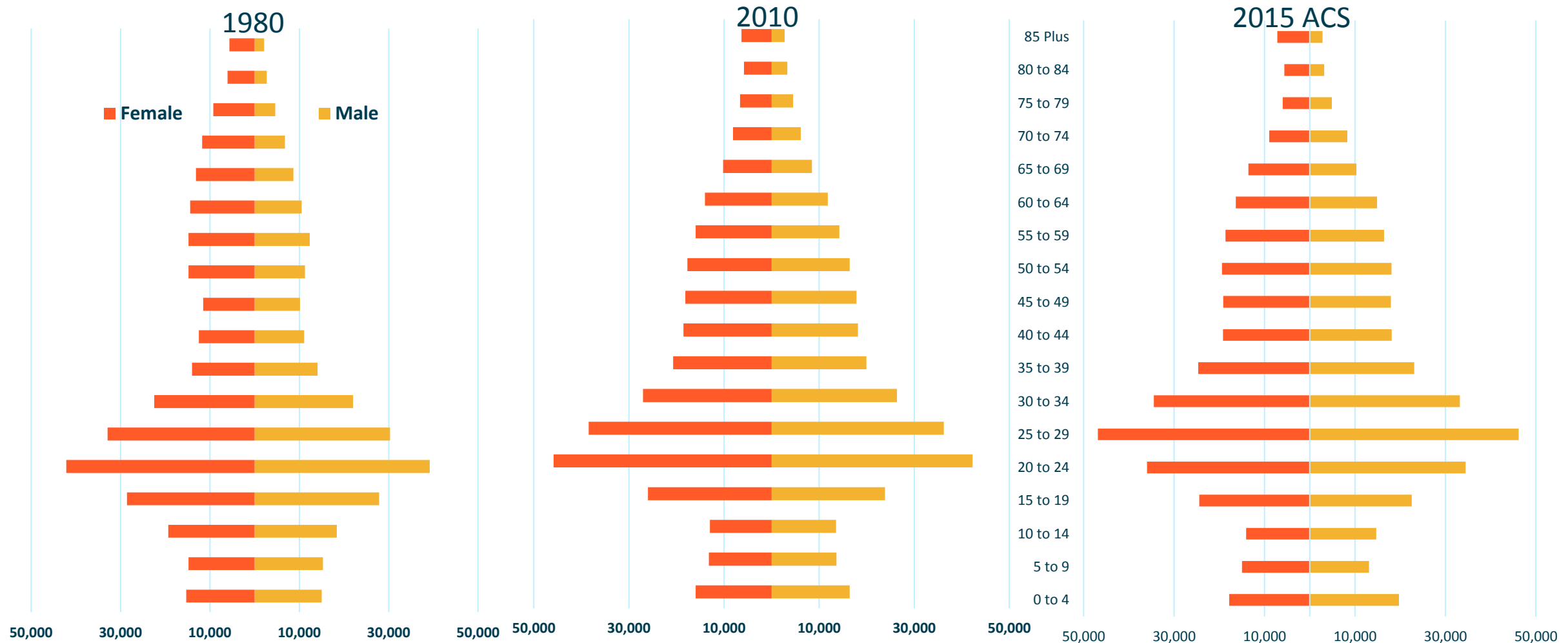
- The median age in Massachusetts and the U.S. has risen significantly since 1970
- While the median age in Boston has also risen, the large young adult population keeps Boston's median age below that of Massachusetts or the U.S.

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



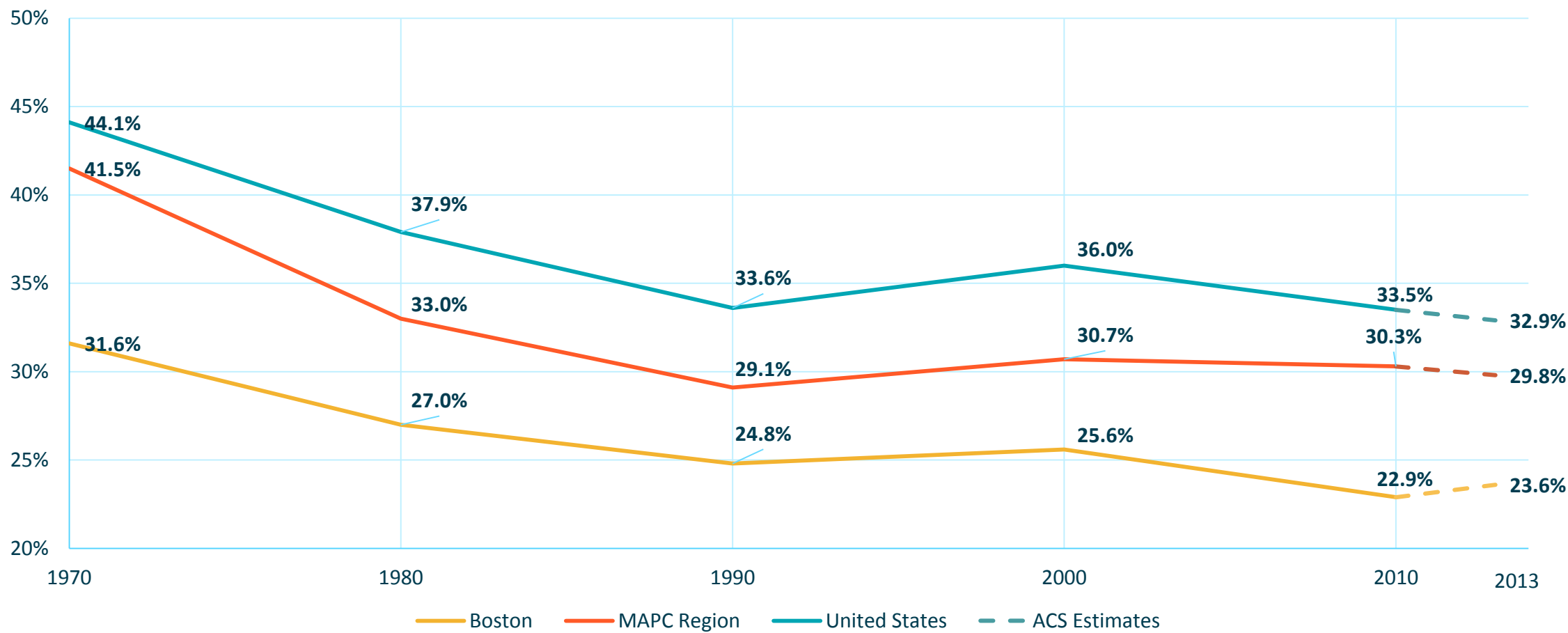
Source: U.S. Census Bureau, 1950-2010 Decennial Census, 2015 American Community Survey, BPDA Research Division Analysis

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



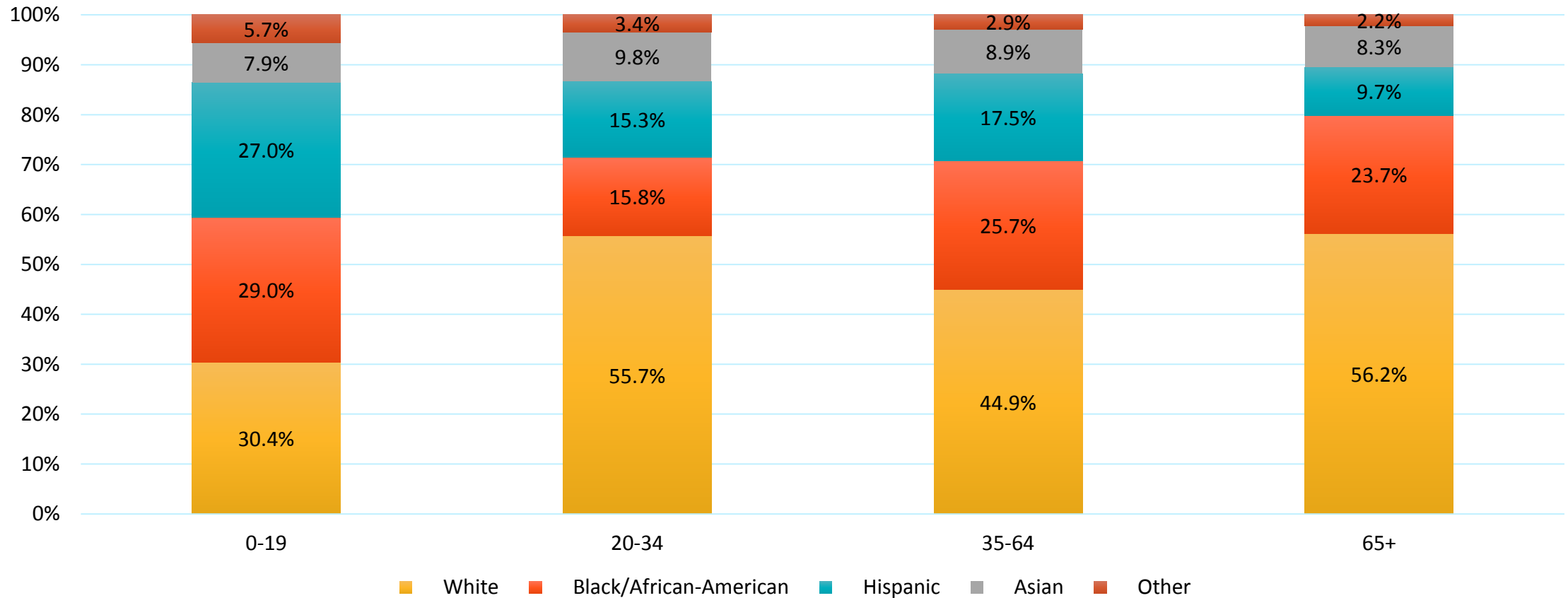
- The percentage of Boston households that include at least one person under age 18 has been falling and remains below national and regional levels

Households with Children under 18 (1970-2013)



- Boston's youth are disproportionately Black/African-American and Hispanic.
- Non-Hispanic White residents are overrepresented among those 20-34 and those 65 and older.

Race/Ethnicity by Age Group



BOSTON'S ECONOMY IS BOOMING

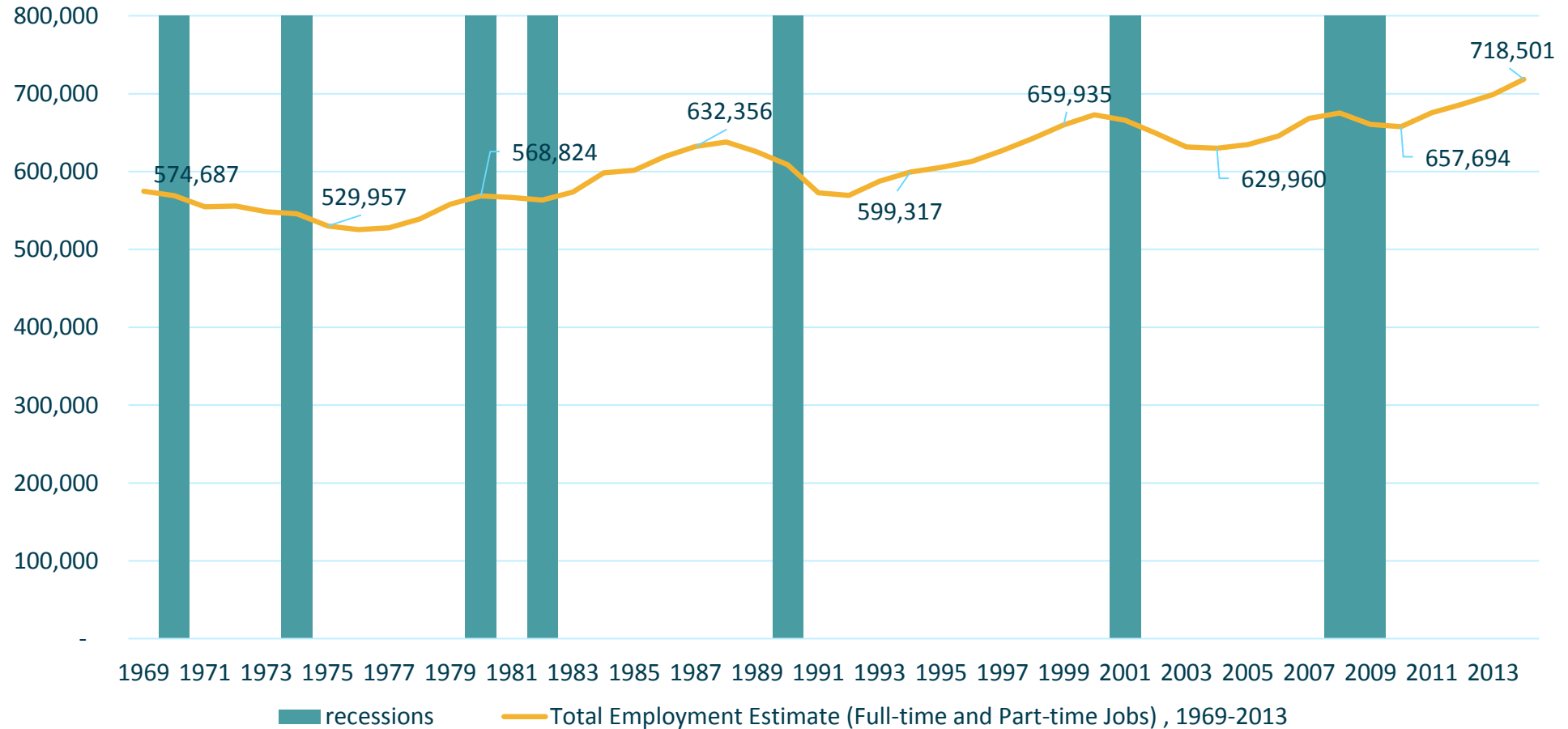
BOSTON'S POPULATION PROJECTIONS: 2010 – 2030



**boston planning &
development agency**

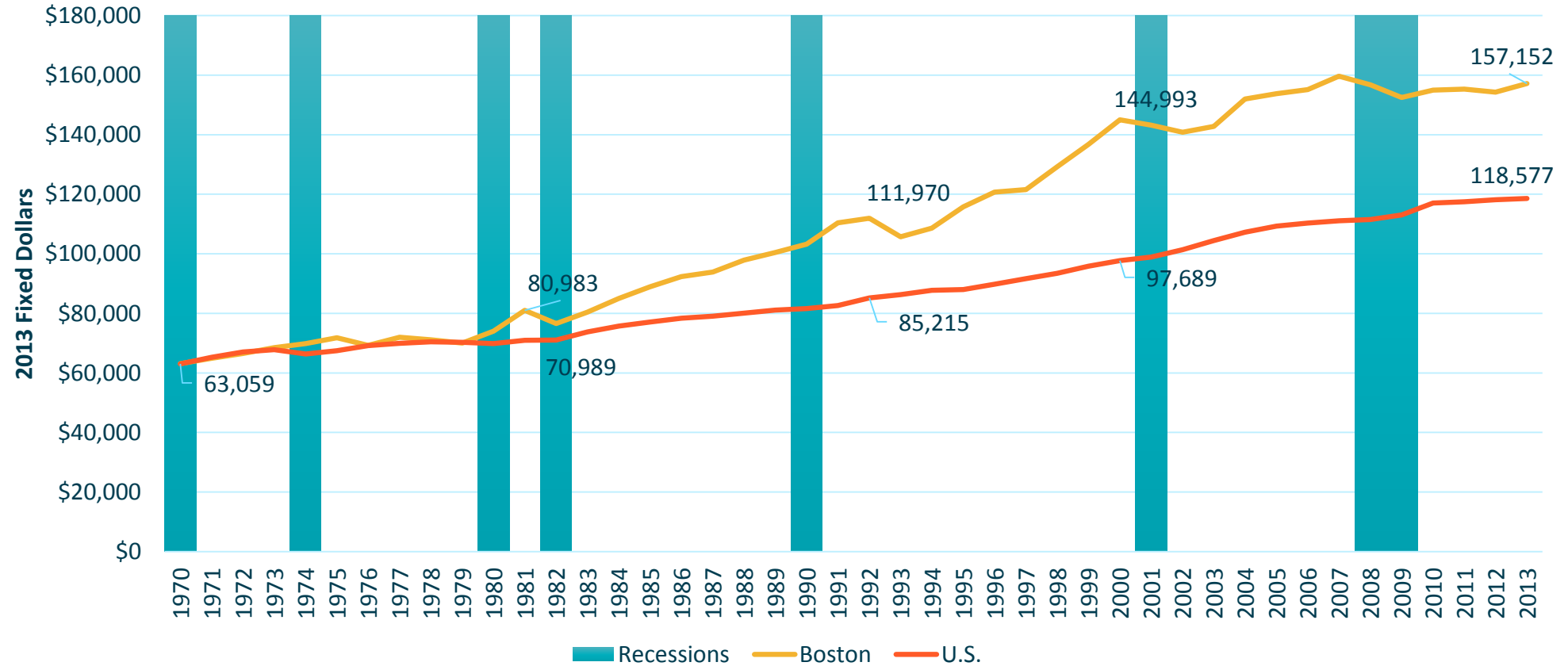
- Boston is the economic hub of the Commonwealth with 718,501 payroll and non-payroll jobs, representing 16.2% of total statewide jobs
- The number of jobs located in Boston grew 2.3% from 2013 to 2014.

Total Employment Growth – Full-time and Part-time Jobs (1969-2014)



- 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), BPDA Research Division Analysis

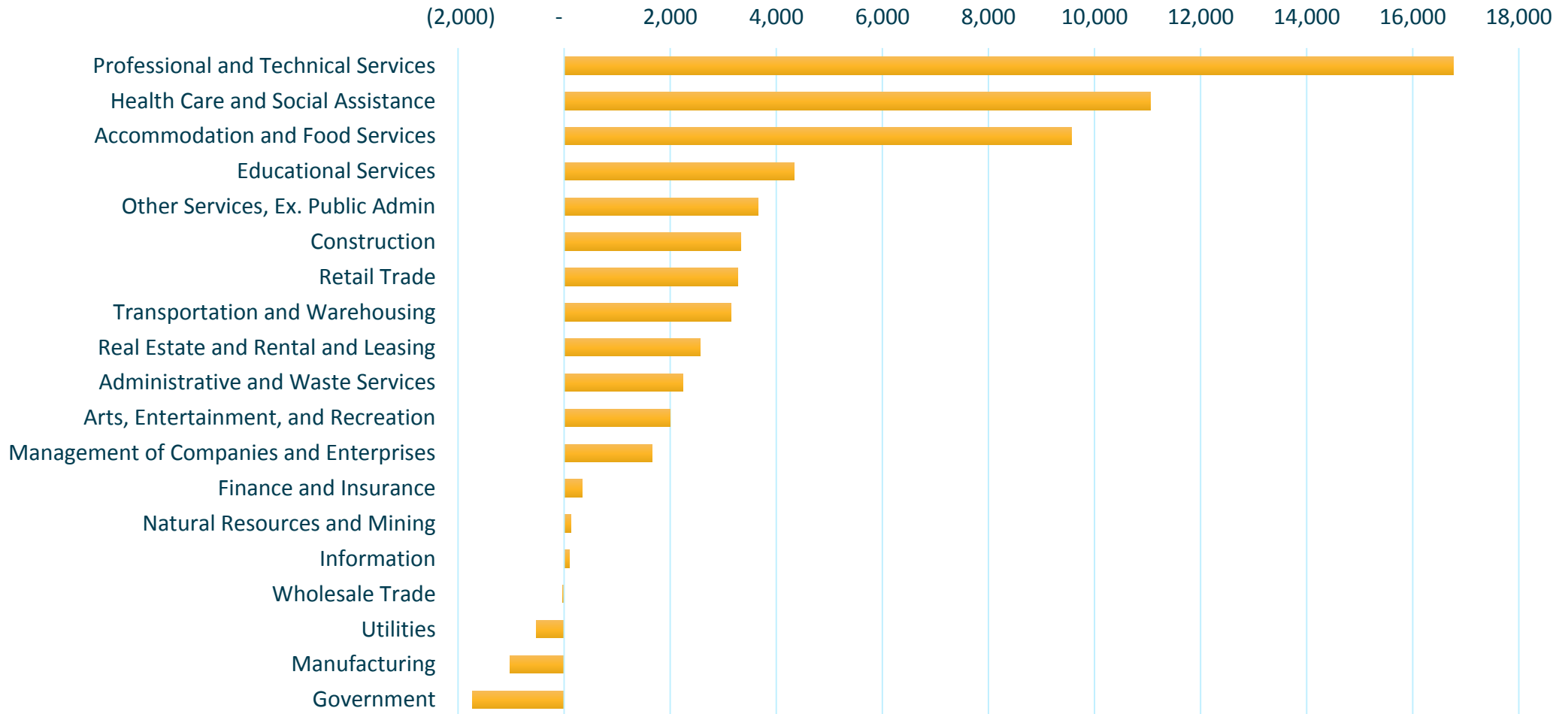
- The largest industry in Boston is health care and social assistance and five of the ten largest employers in Boston are hospitals: Massachusetts General, Brigham and Women's, Children's Hospital, Beth Israel Deaconess Medical Center, and Boston Medical Center.

Boston's Total Payroll and Non-payroll Jobs by Industry, 2014

INDUSTRY	2014	%
Health Care and Social Assistance	133,658	18.6%
Professional and Technical Services	88,636	12.3%
Finance and Insurance	79,990	11.1%
Government	76,602	10.7%
Accommodation and Food Services	58,887	8.2%
Educational Services	56,357	7.8%
Administrative and Waste Services	35,338	4.9%
Retail Trade	33,087	4.6%
Other Services, Except Government	32,985	4.6%
Real Estate and Rental and Leasing	24,881	3.5%
Transportation and Warehousing	21,641	3.0%
Construction	17,052	2.4%
Arts, Entertainment, and Recreation	16,253	2.3%
Information	16,051	2.2%
Wholesale Trade	9,240	1.3%
Management of Companies and Enterprises	7,837	1.1%
Manufacturing	7,797	1.1%
Utilities	1,871	0.3%
Natural Resources and Mining	336	0.0%
Total	718,501	100.0%

- High tech jobs grew particularly strongly, increasing by 9 percent per year 2010 to 2014

Employment Growth by Industry 2010-2014



BUT DISPARITIES REMAIN

BOSTON'S POPULATION PROJECTIONS: 2010 – 2030



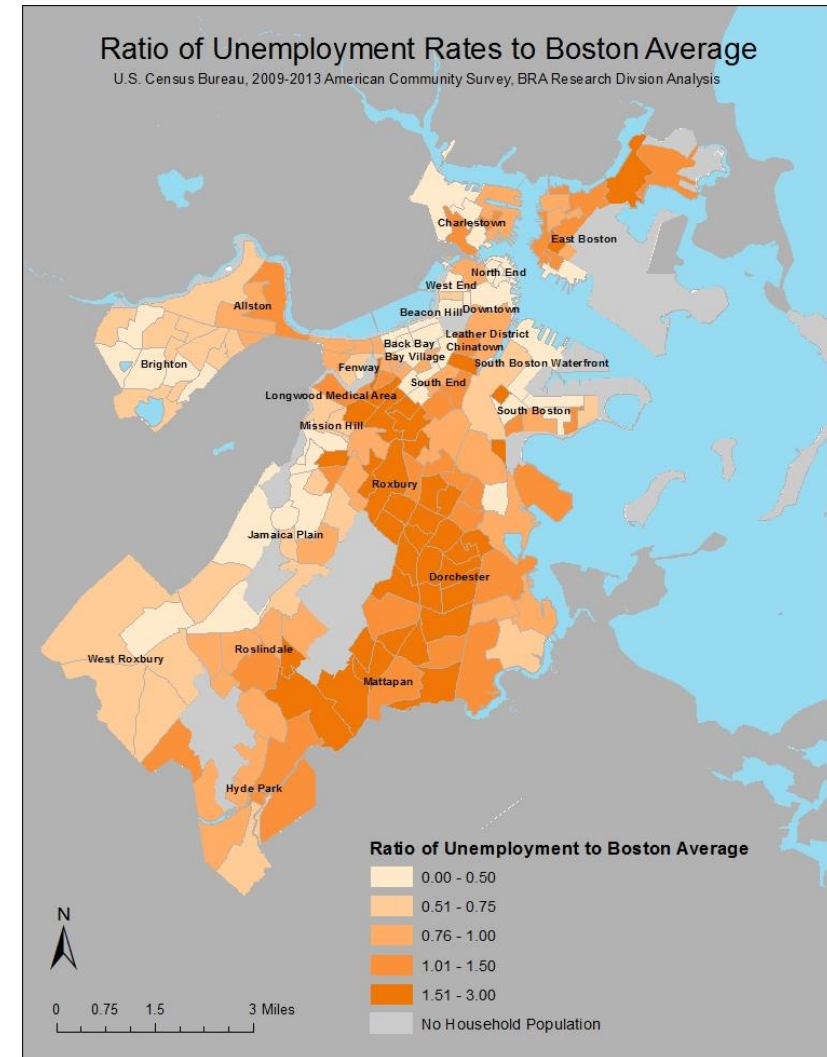
**boston planning &
development agency**

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, BPDA Research Division Analysis

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



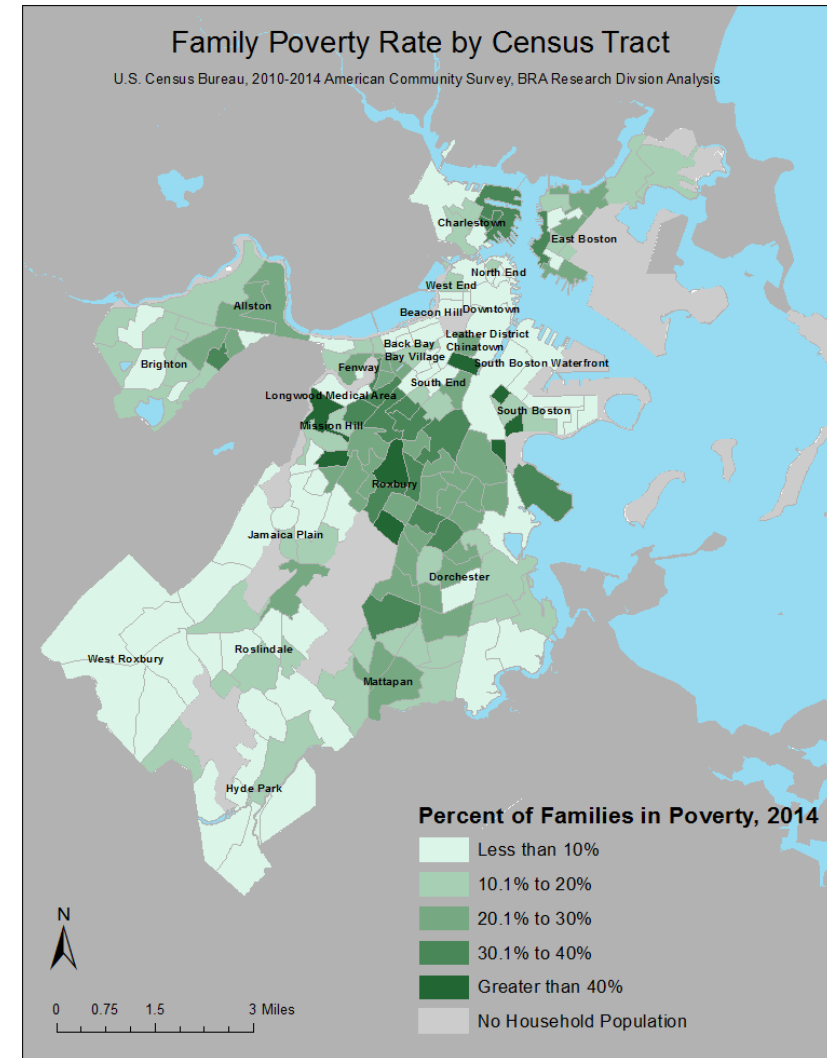
Source: U.S. Census Bureau, 2009-2013 American Community Survey, BPDA Research Division Analysis

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

BOSTON Family Poverty by Neighborhood, 2010-2014

Neighborhoods	Families in Poverty	% of Families in Poverty	Share of Boston's Families in Poverty
Roxbury	3,588	34.5%	17.5%
Mission Hill	609	26.9%	3.0%
Allston	302	21.8%	1.5%
Charlestown	852	21.5%	4.2%
Dorchester	5,605	21.1%	27.4%
South Boston	1,233	20.5%	6.0%
Mattapan	1,103	19.4%	5.4%
Fenway	330	19.4%	1.6%
BOSTON	20,458	17.1%	100.0%
East Boston	1,499	16.6%	7.3%
Jamaica Plain	1,172	15.1%	5.7%
Brighton	956	14.8%	4.7%
South End	751	12.5%	3.7%
Downtown	271	11.0%	1.3%
West End	82	10.2%	0.4%
Roslindale	644	9.9%	3.1%
Hyde Park	733	8.8%	3.6%
Back Bay	208	6.4%	1.0%
West Roxbury	433	5.3%	2.1%
South Boston Waterfront	19	4.1%	0.1%
Longwood	2	2.9%	0.0%
North End	33	2.8%	0.2%
Beacon Hill	33	2.6%	0.2%

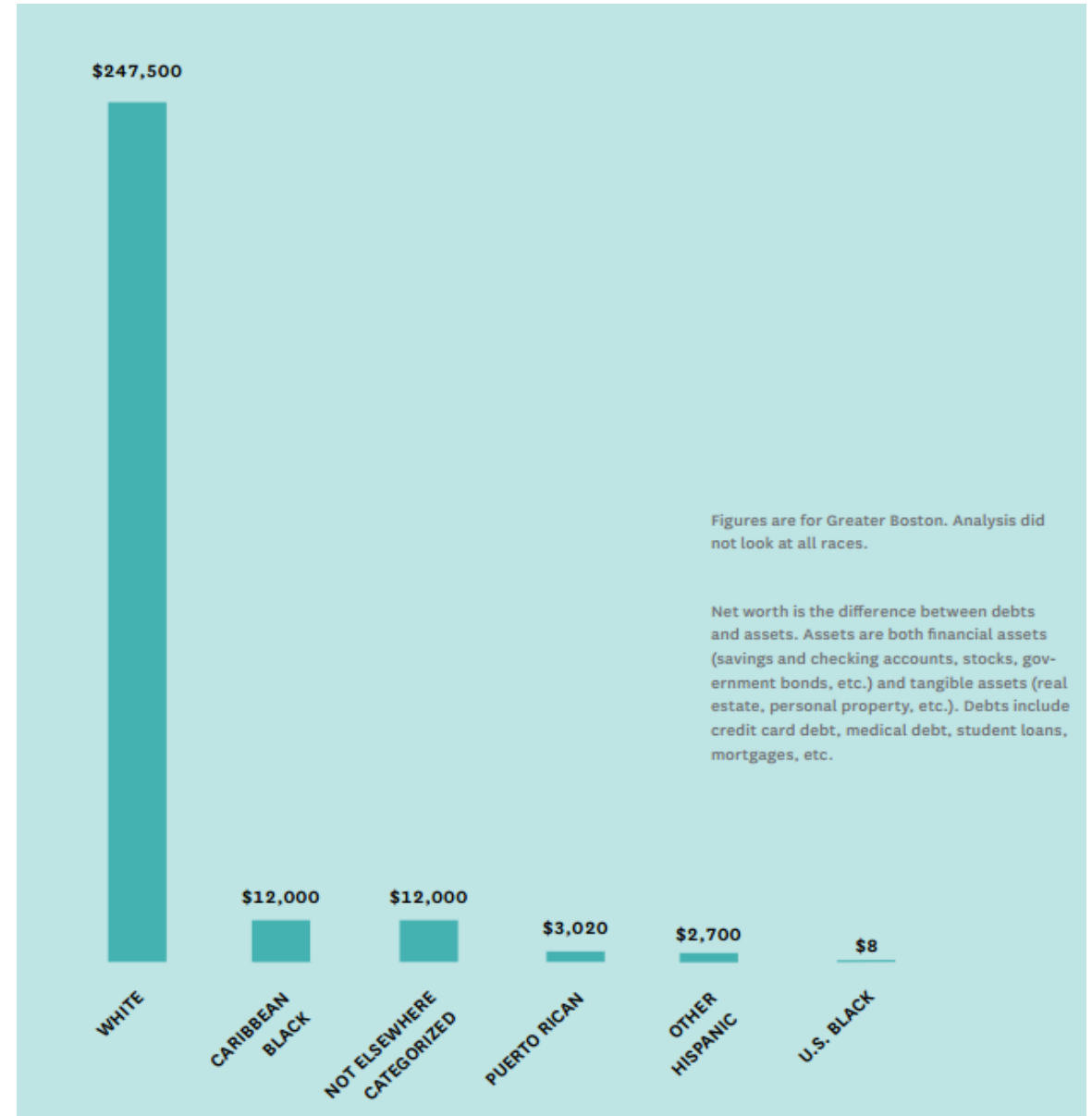
Source: U.S. Census Bureau, 2010-2014 American Community Survey, BPDA Research Division Analysis



Source: U.S. Census Bureau, 2010-2014 American Community Survey, BPDA Research Division Analysis

BOSTON'S RACIAL WEALTH GAP

- Nowhere are the disparities in Boston more evident than in data on financial wealth by race.
- The median white household in the Boston metro area has a financial net worth of \$247,500.
- Meanwhile, the median United States-born black household has a financial net worth of just \$8.
- Net worth is measured by subtracting the value of debts from the total value of all financial assets.



Source: "The Color of Wealth." Federal Reserve Bank of Boston, 2015

BOSTON IS . . .

GROWING

DIVERSE

EDUCATED

YOUTHFUL

RESILIENT



**boston planning &
development agency**

4 MAIN CLIMATE THREATS



Sea Level Rise



Coastal Storms

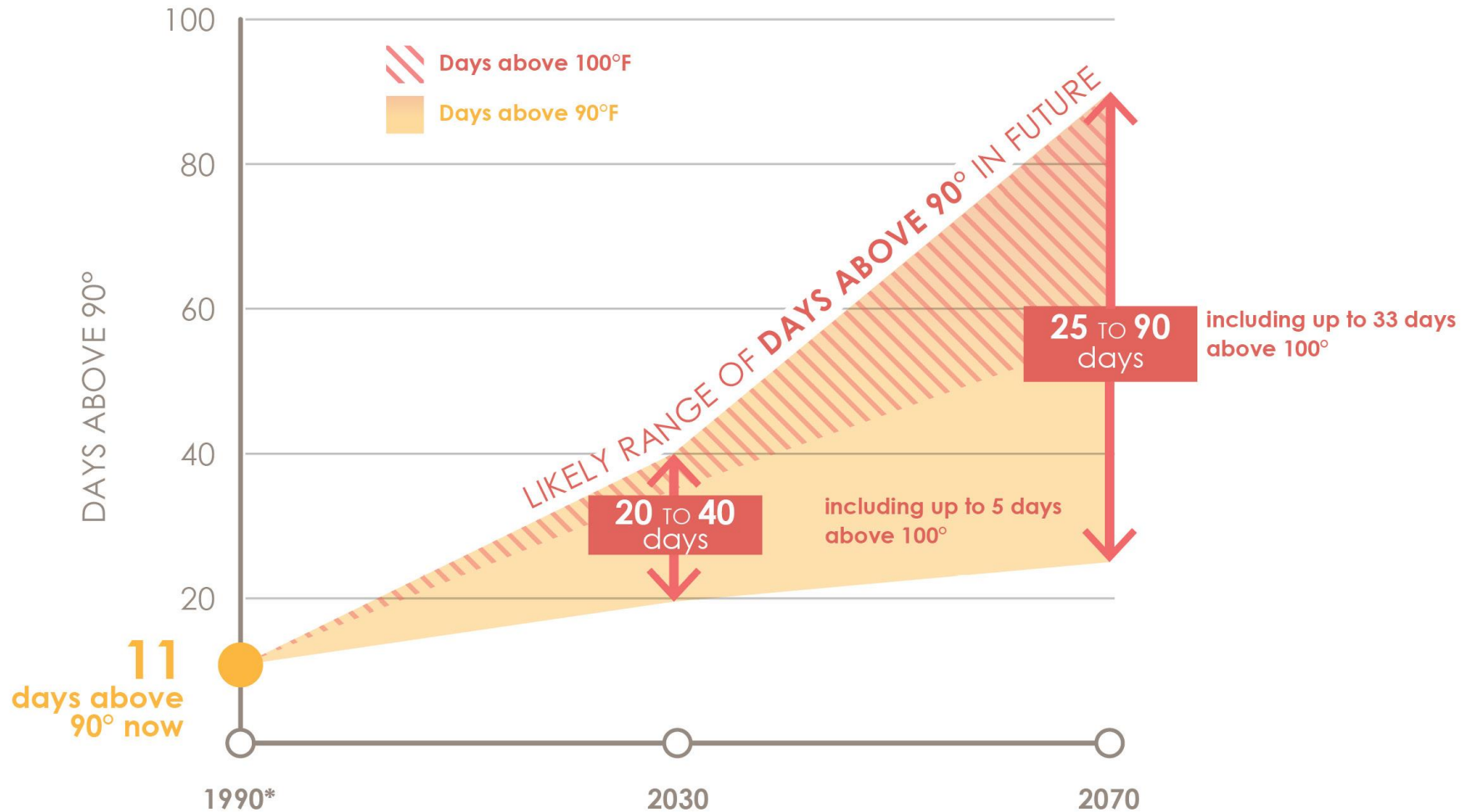


Extreme
Precipitation



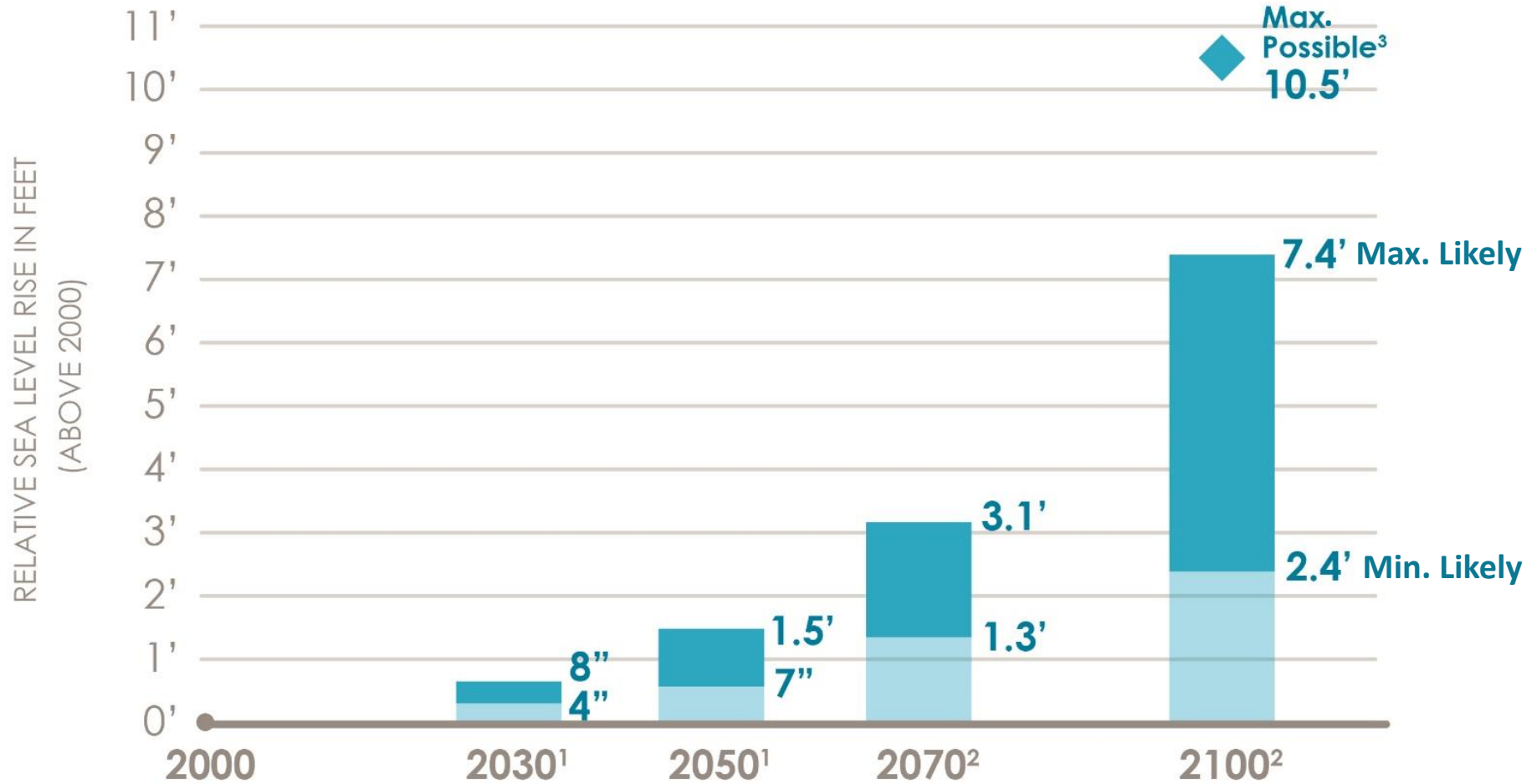
Extreme Temperatures

THE NUMBER OF VERY HOT DAYS WILL INCREASE



* Baseline represents historical average from 1971-2000
Upper values from high emissions scenario. Lower values from low emissions scenario.

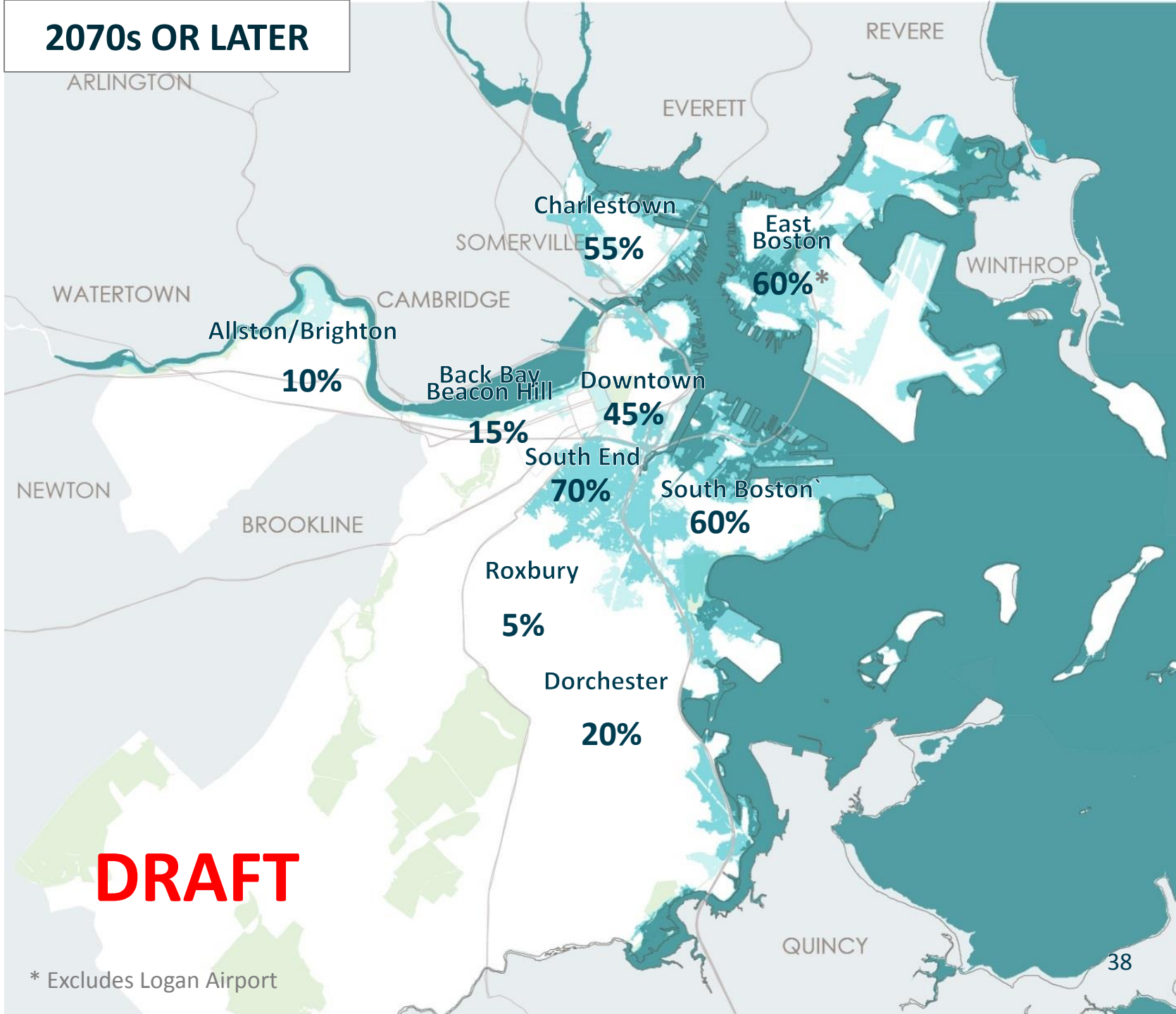
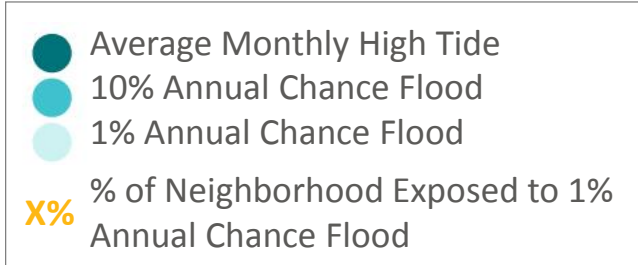
RELATIVE SEA LEVEL IN BOSTON WILL RISE



1 - Likely under all emission scenarios
2 - Likely under moderate to high emission scenarios
3 - Low probability under high emission scenario

FLOOD PROGRESSION

COASTAL FLOODING



SO...
WHAT
ACTIONS
WILL WE TAKE?

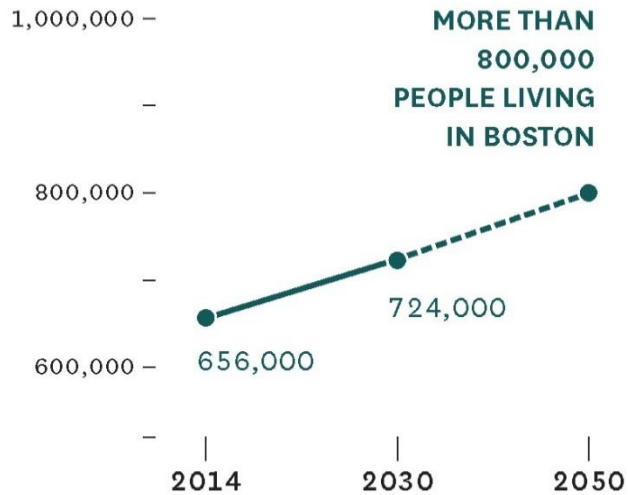
BOSTON'S POPULATION PROJECTIONS: 2010 – 2030



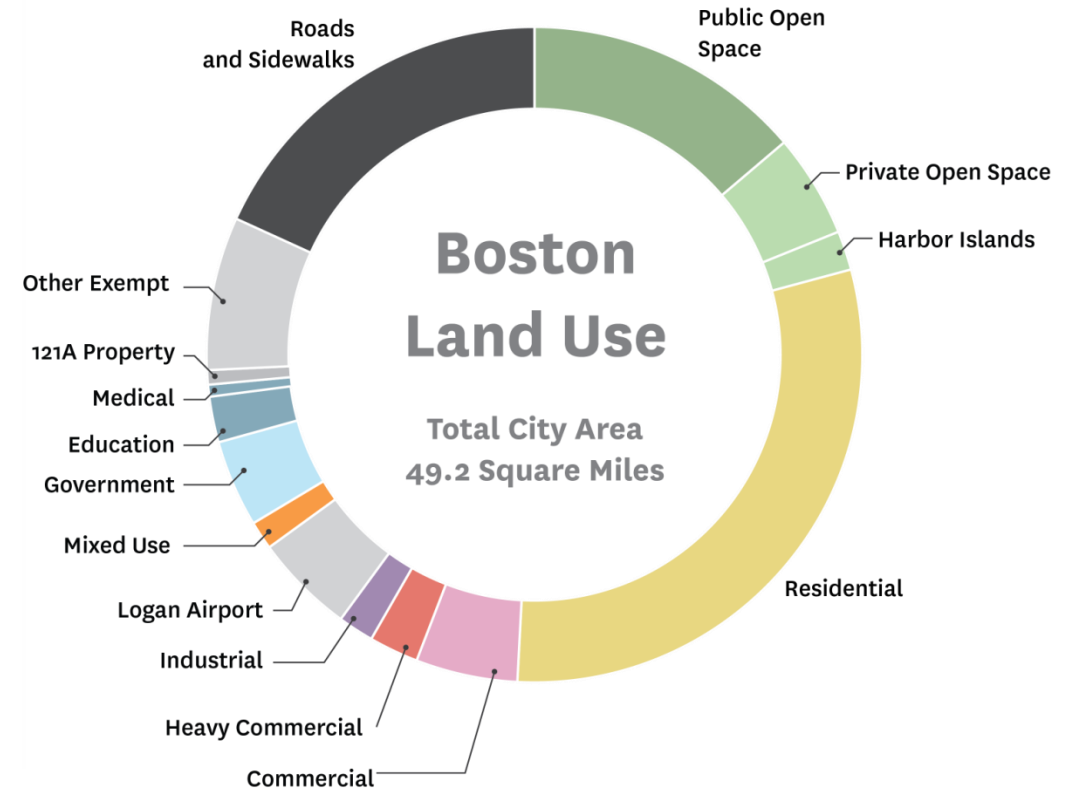
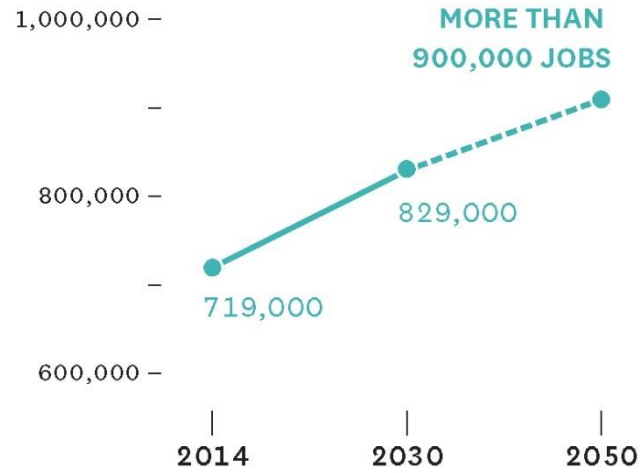
boston planning &
development agency

Boston is growing rapidly, but we have a restricted land budget

Population Growth Projections



Job Growth Projections



Three types of places where growth and investment can occur



Existing Neighborhoods

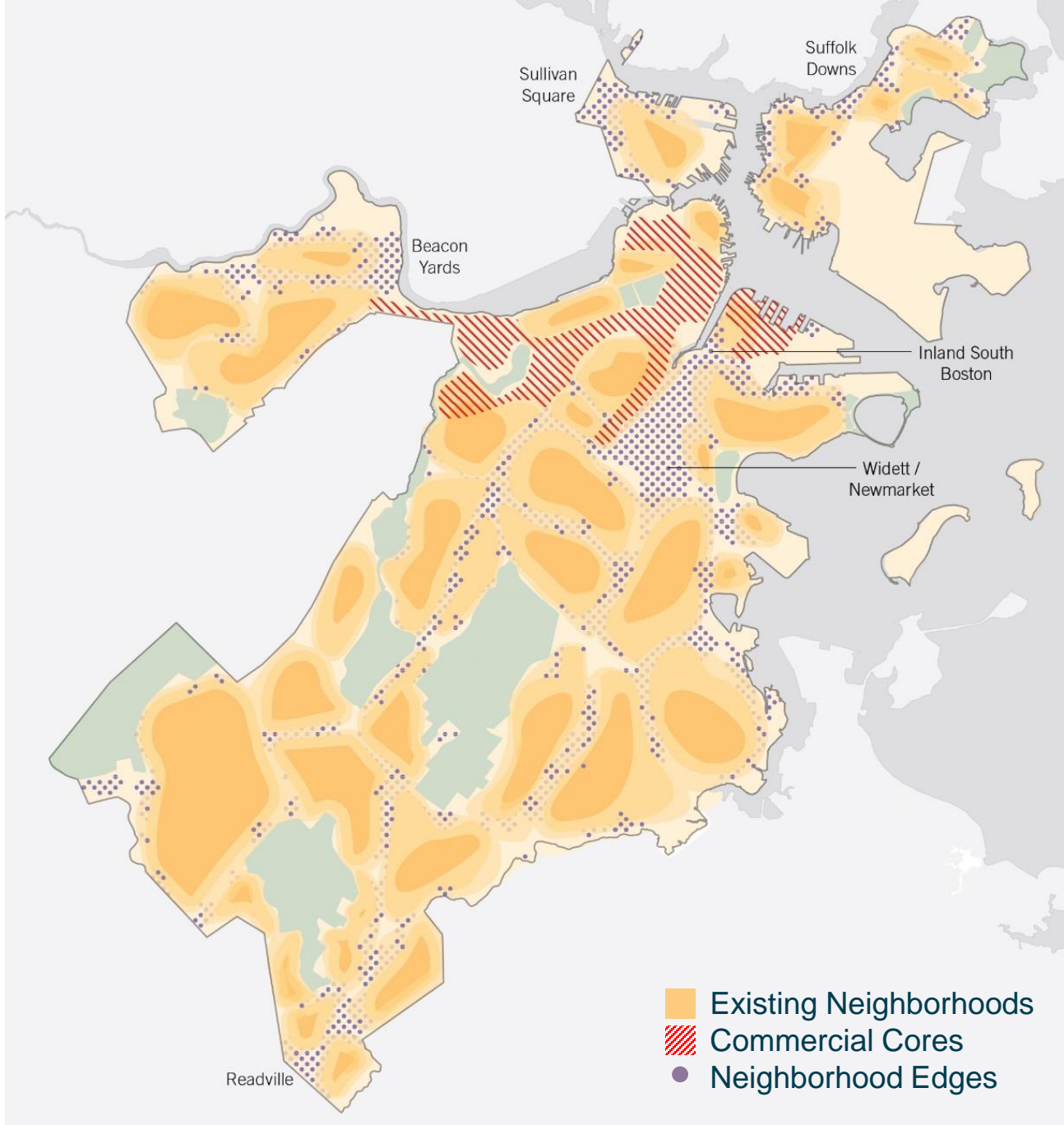


Commercial Cores



Neighborhood Edges

Different areas of the city need different approaches for growth, enhancement, and preservation



Enhance neighborhoods



- Improve the public realm, strengthen neighborhood services and connectivity
- Encourage contextually sensitive development
- Improve urban vitality and to affirm each neighborhood's distinct identity.

Mixed-use Job Centers



Mixed-Use Job Centers:

- Continued dense, mixed-use development and public realm improvements
- Supporting job growth and new housing opportunities, adding amenities, and creating active centers

Expanded neighborhoods

100 Acres / South Boston Waterfront, South Boston:

- One of the city's emerging core areas
- Potential for mixed-use growth

Beacon Yards, Allston:

- Situated near key research education clusters and medical inst
- Potential for mixed-use development anchored by research and space

Readville, Hyde Park:

- Existing industrial area with some surrounding residential
- Potential to be strengthened as an anchor for industrial econom

Newmarket / Widett:

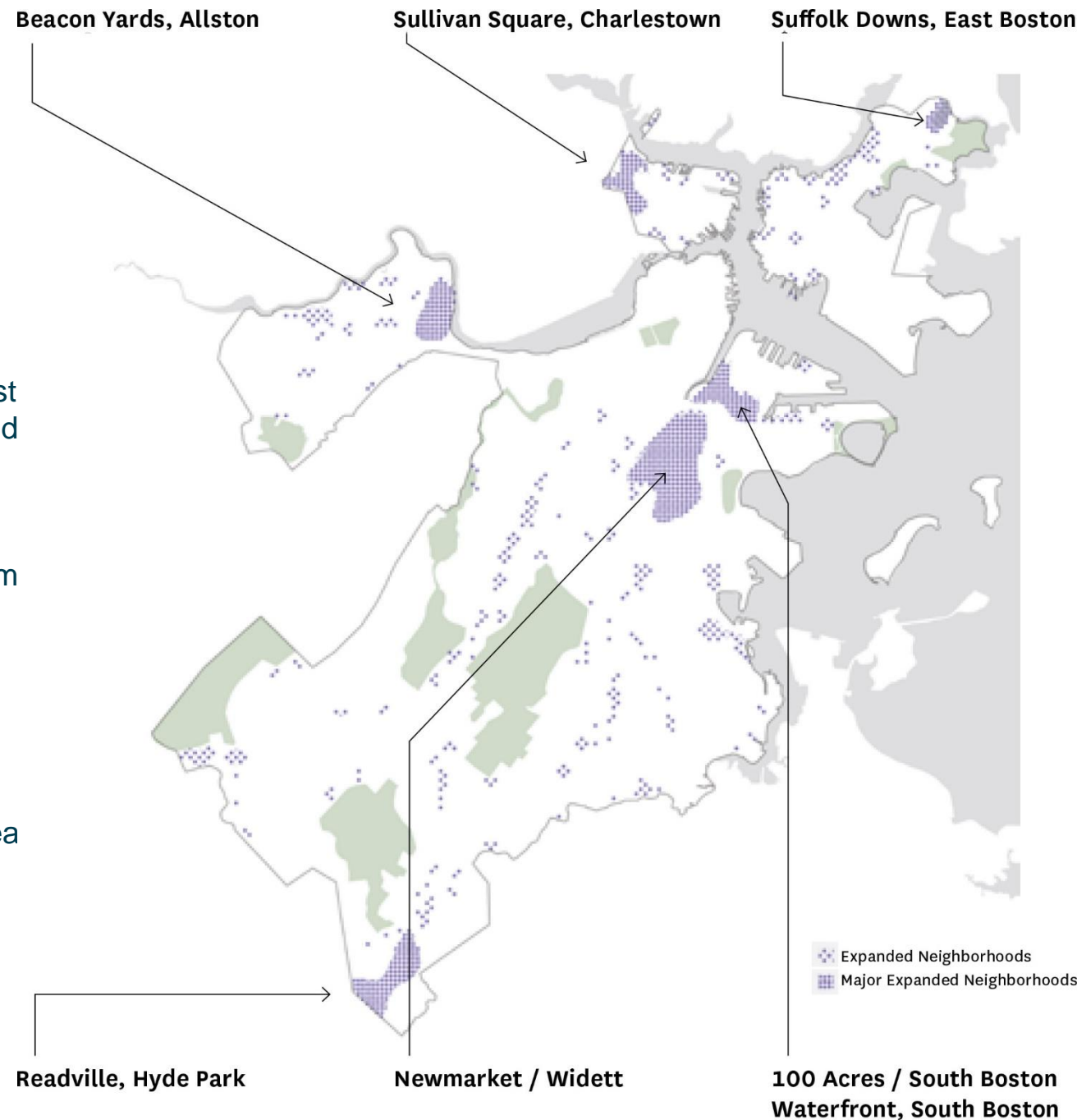
- Existing industrial and transportation hub
- Potential for growth as a well-connected center for jobs that strengthens connections between neighborhoods

Suffolk Downs, East Boston:

- Well-connected area, transitioning from its historic use
- Potential to become a climate-ready, mixed-use residential area signature open space and other destinations

Sullivan Square, Charlestown:

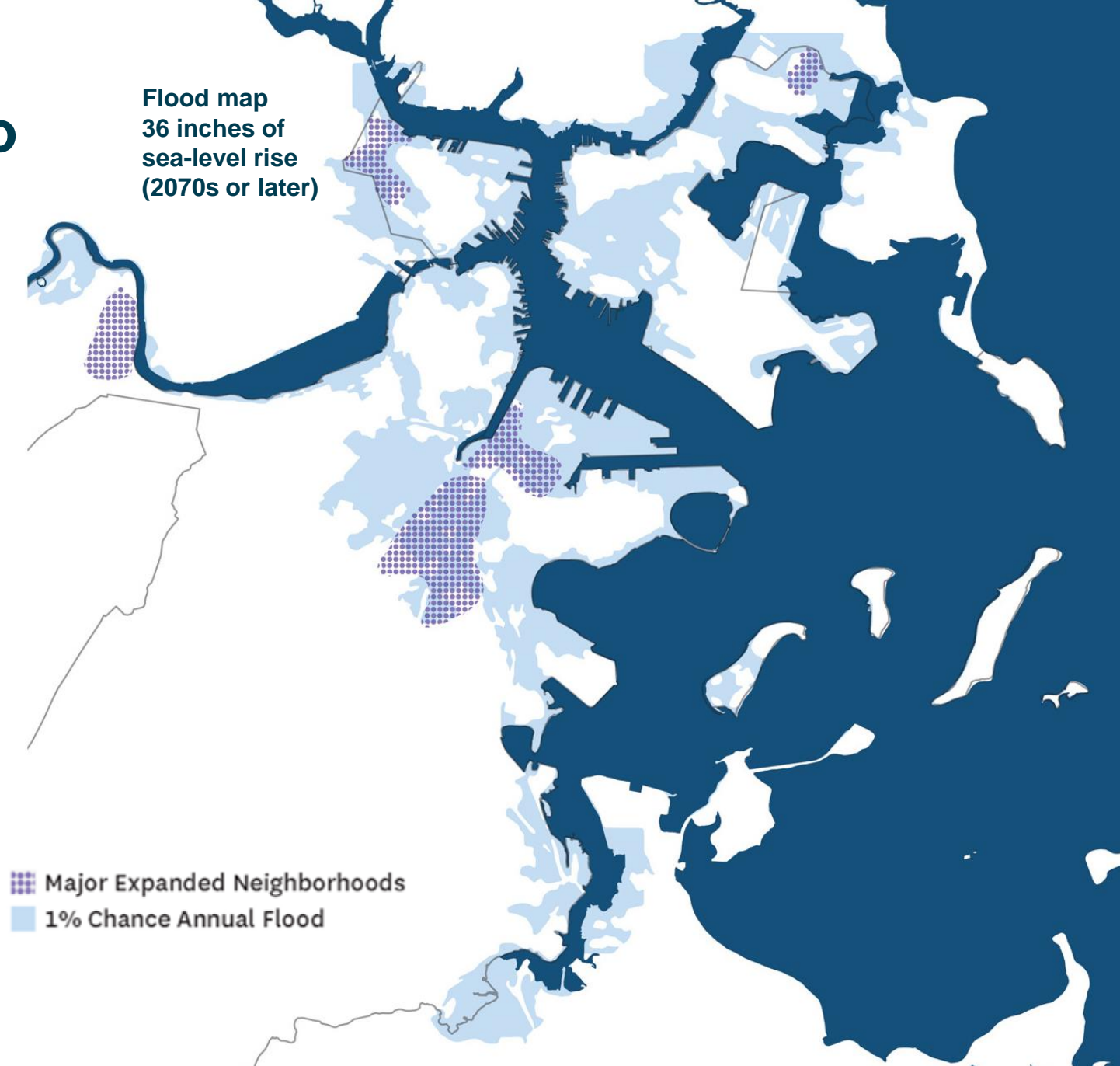
- Existing industrial and transportation hub adjacent to stable neighborhood
- Potential as walkable job and housing center



A Climate-Ready Approach to Growth

- Many areas where Boston will grow are exposed to flooding risks as sea levels rise
- Growth in these areas means committing to protect them
- Developing local climate plans for vulnerable areas and identifying multilayered investments to enable climate-ready growth

More details in
Climate Ready
Boston



Create a Waterfront City for Future Generations

Vision

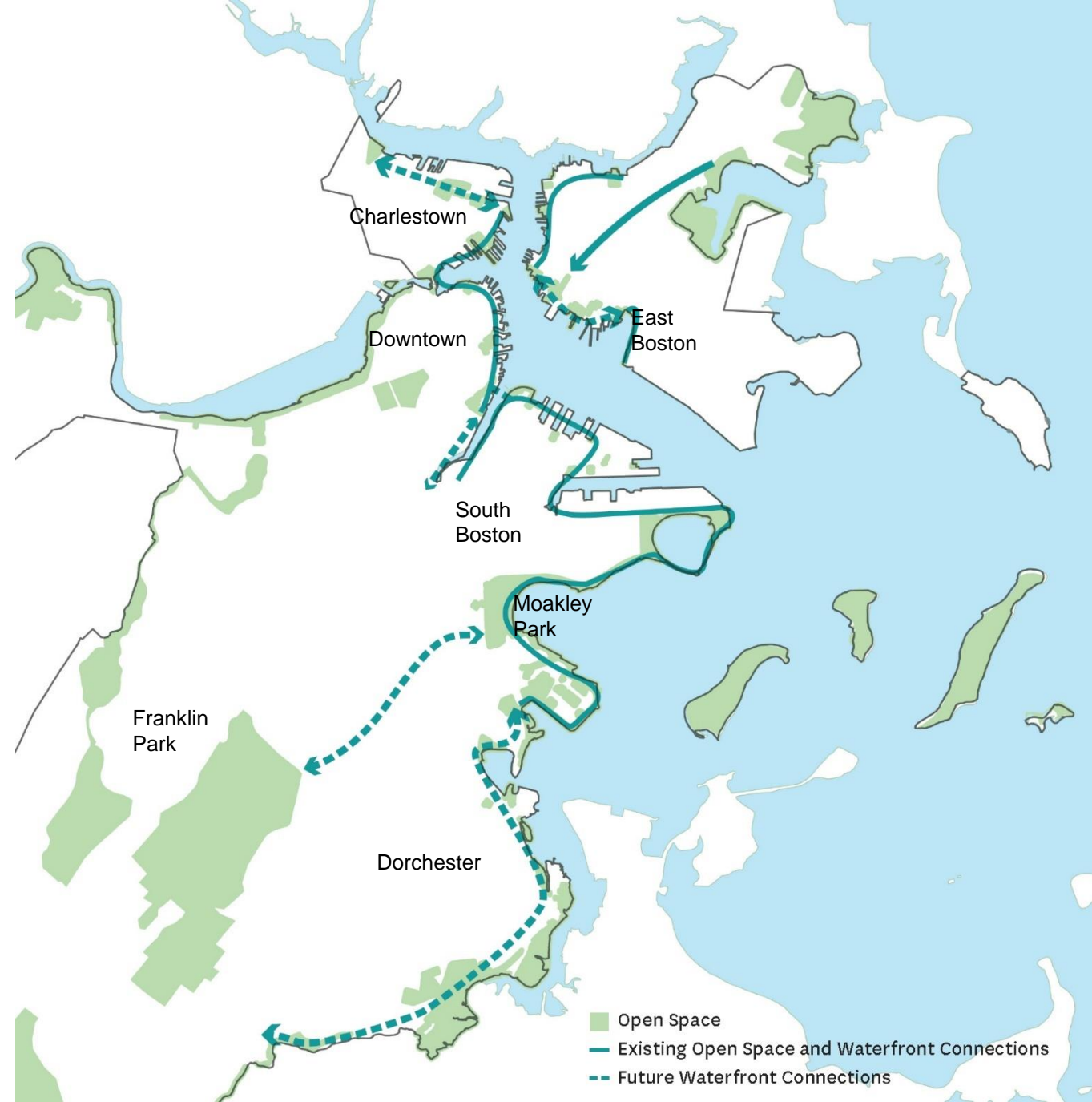
- Investments in open space and the public realm
- Existing and emerging job and housing centers
- Proactive climate planning



Create a Waterfront City for Future Generations

Vision

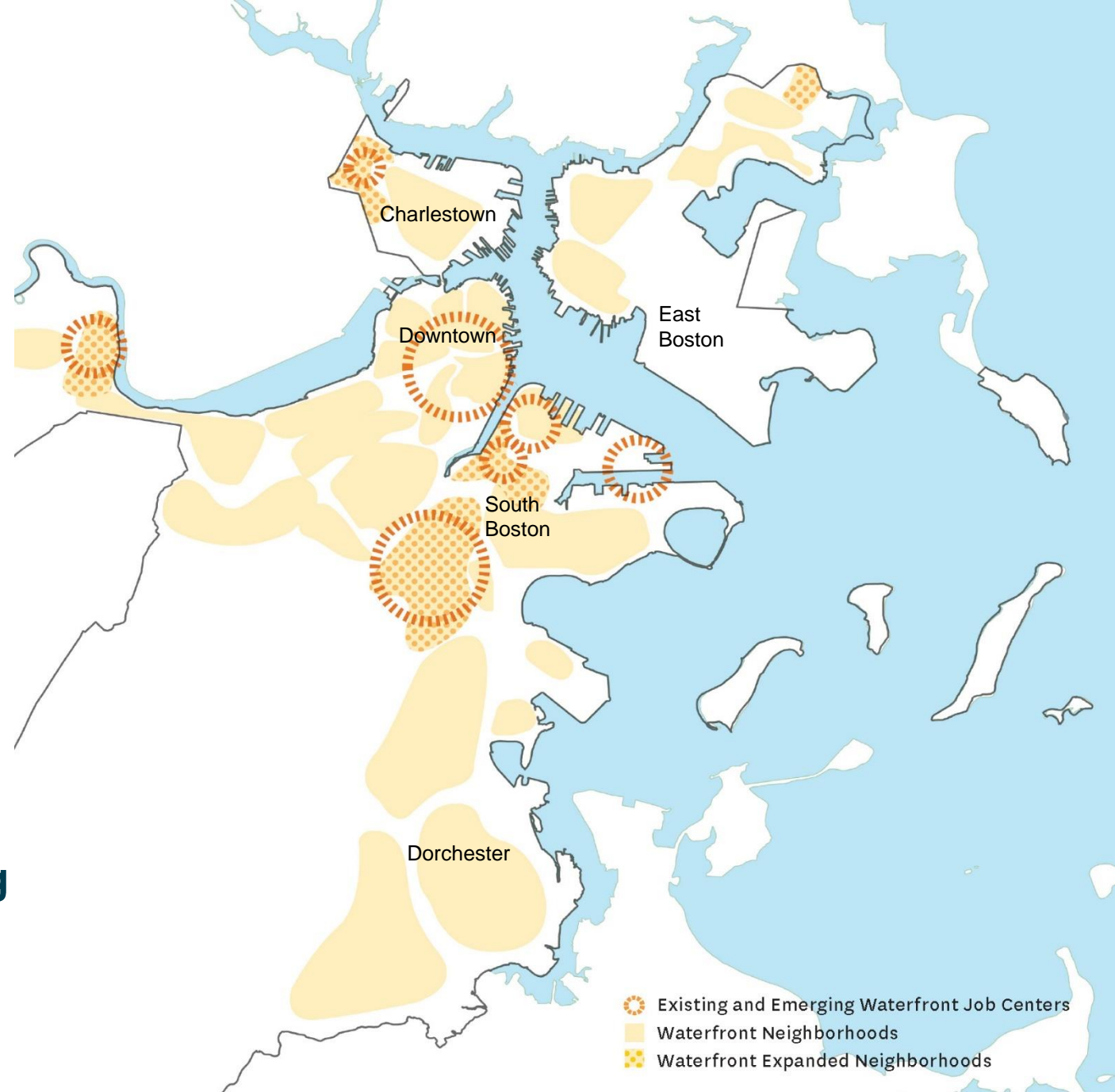
- Investments in open space and the public realm
- Existing and emerging job and housing centers
- Proactive climate planning



Create a Waterfront City for Future Generations

Vision

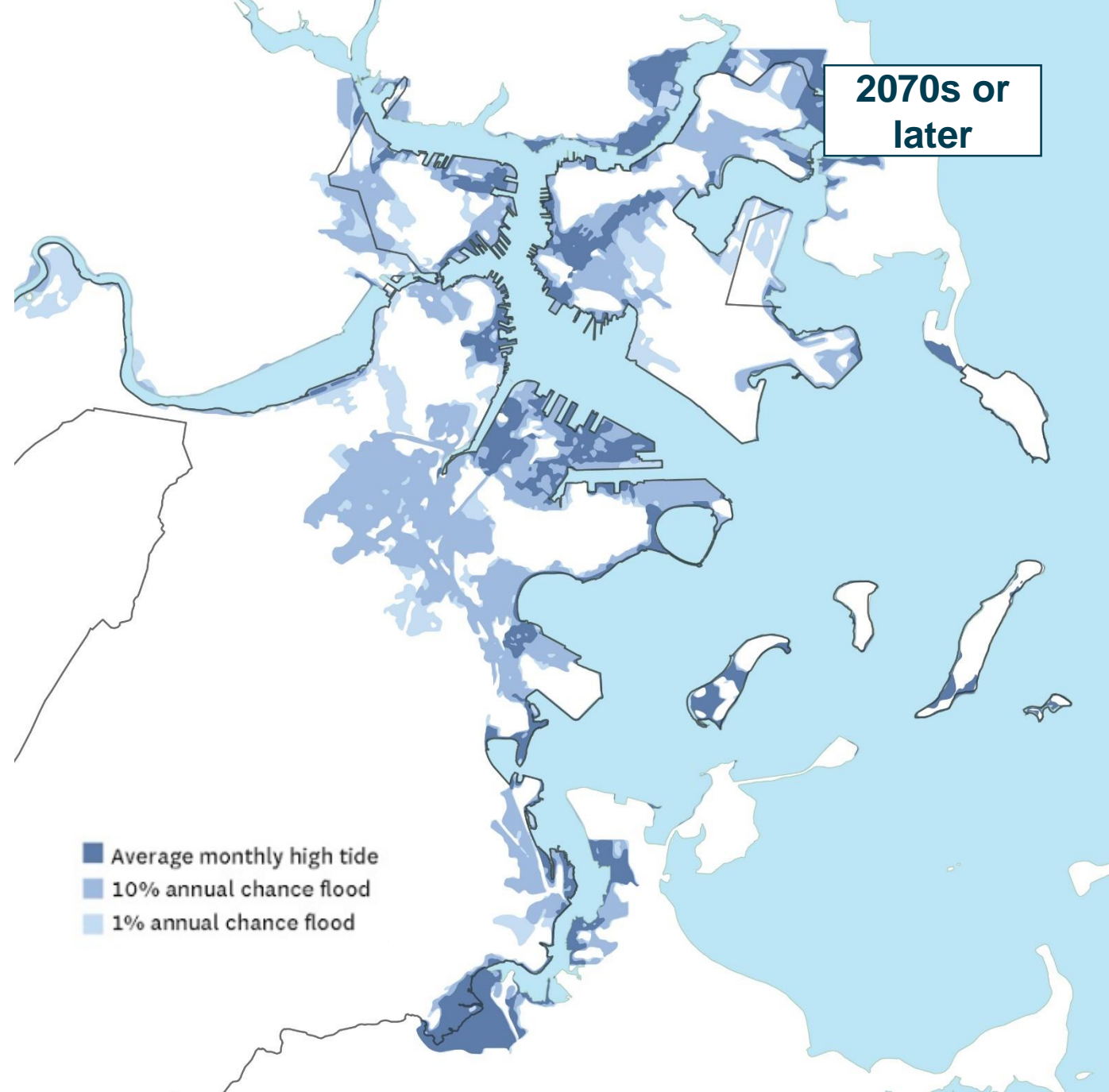
- Investments in open space and the public realm
- **Existing and emerging job and housing centers**
- Proactive climate planning



Create a Waterfront City for Future Generations

Vision

- Investments in open space and the public realm
- Existing and emerging job and housing centers
- **Proactive climate planning**



ADAPTING TO CLIMATE CHANGE



PROTECTED SHORES



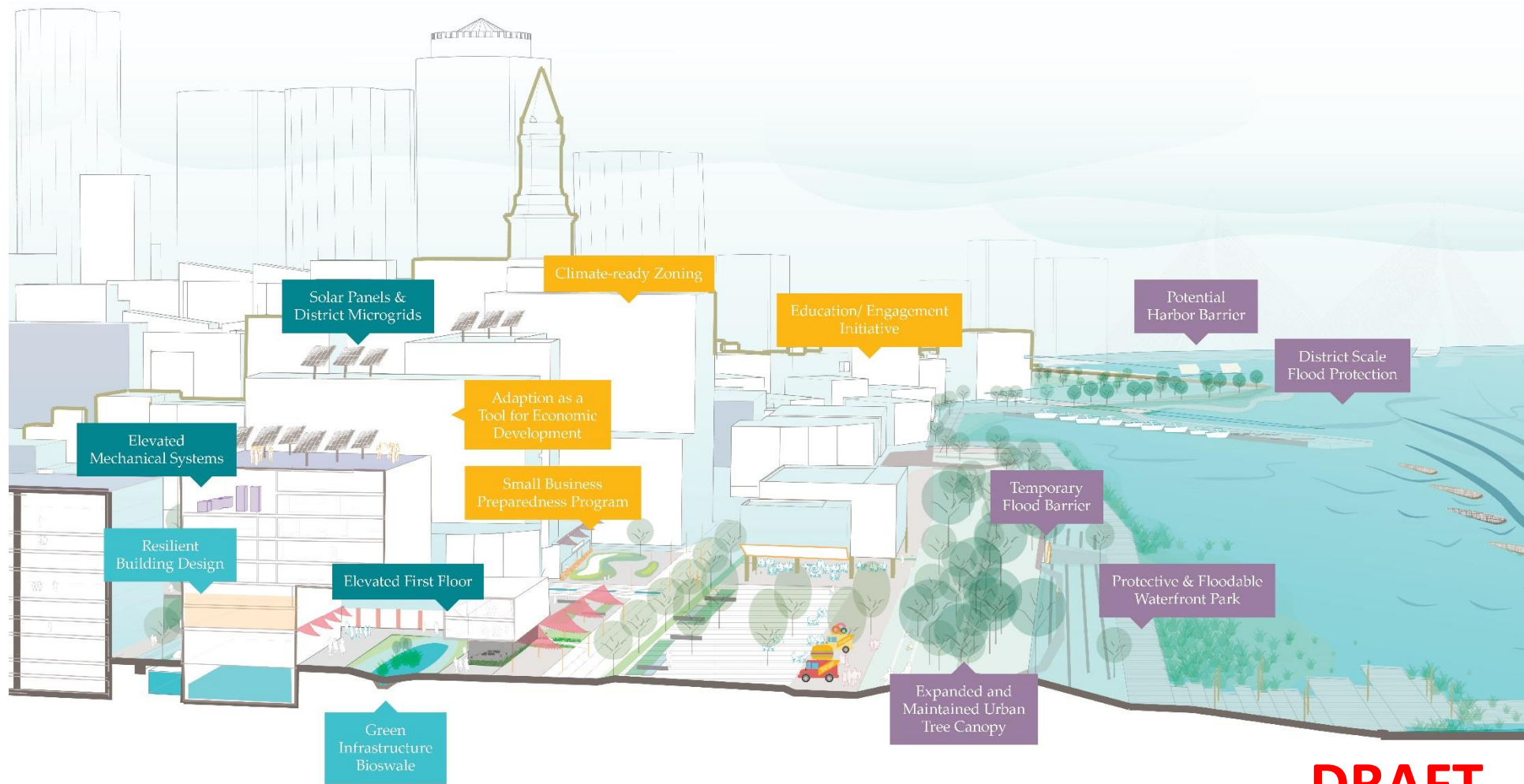
PREPARED AND CONNECTED COMMUNITIES



RESILIENT INFRASTRUCTURE



ADAPTED BUILDINGS



DRAFT



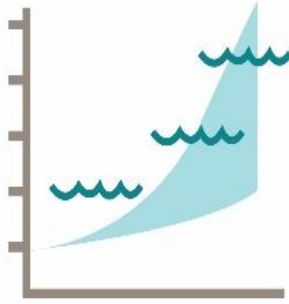
GREENOVATE
BOSTON

CITY of BOSTON



BOSTON
Green Ribbon
COMMISSION

SCALES OF CLIMATE RESILIENCE



Updated Climate Projections



Prepared & Connected Communities



Protected Shores



Resilient Infrastructure



Adapted Buildings

DRAFT

INITIATIVE PRINCIPLES



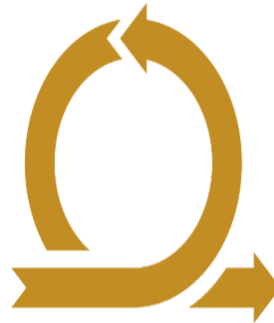
SUPPORT **MULTIPLE BENEFITS** WITH EACH ACTIVITY



MAKE IMPROVEMENTS AS PART OF **NATURAL BUILDING CYCLES**, AND ADDRESS **MARKET FAILURES**



INCORPORATE LOCAL INVOLVEMENT IN DESIGN AND DECISION-MAKING



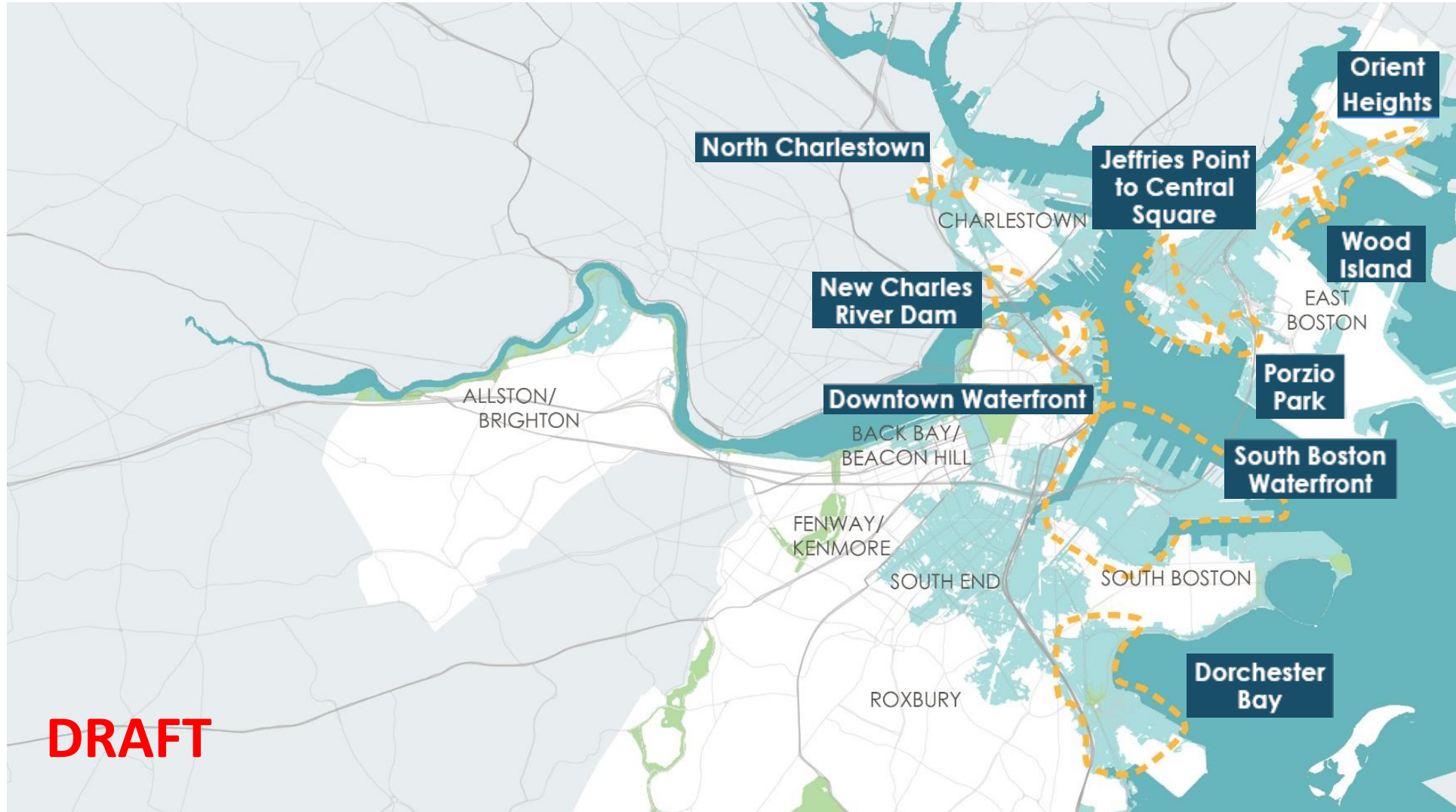
DEVELOP **ADAPTIVE AND FLEXIBLE** STRATEGIES



WORK IN LAYERS FOR INDEPENDENTLY EFFECTIVE SOLUTIONS

36 INCHES SLR (2070S OR LATER)

DISTRICT-SCALE FLOOD PROTECTION FOR 1% ANNUAL CHANCE FLOOD



DRAFT



**GREENOVATE
BOSTON**

CITY of BOSTON



**BOSTON
Green Ribbon
COMMISSION**

We will generate networks of opportunity

Vision:

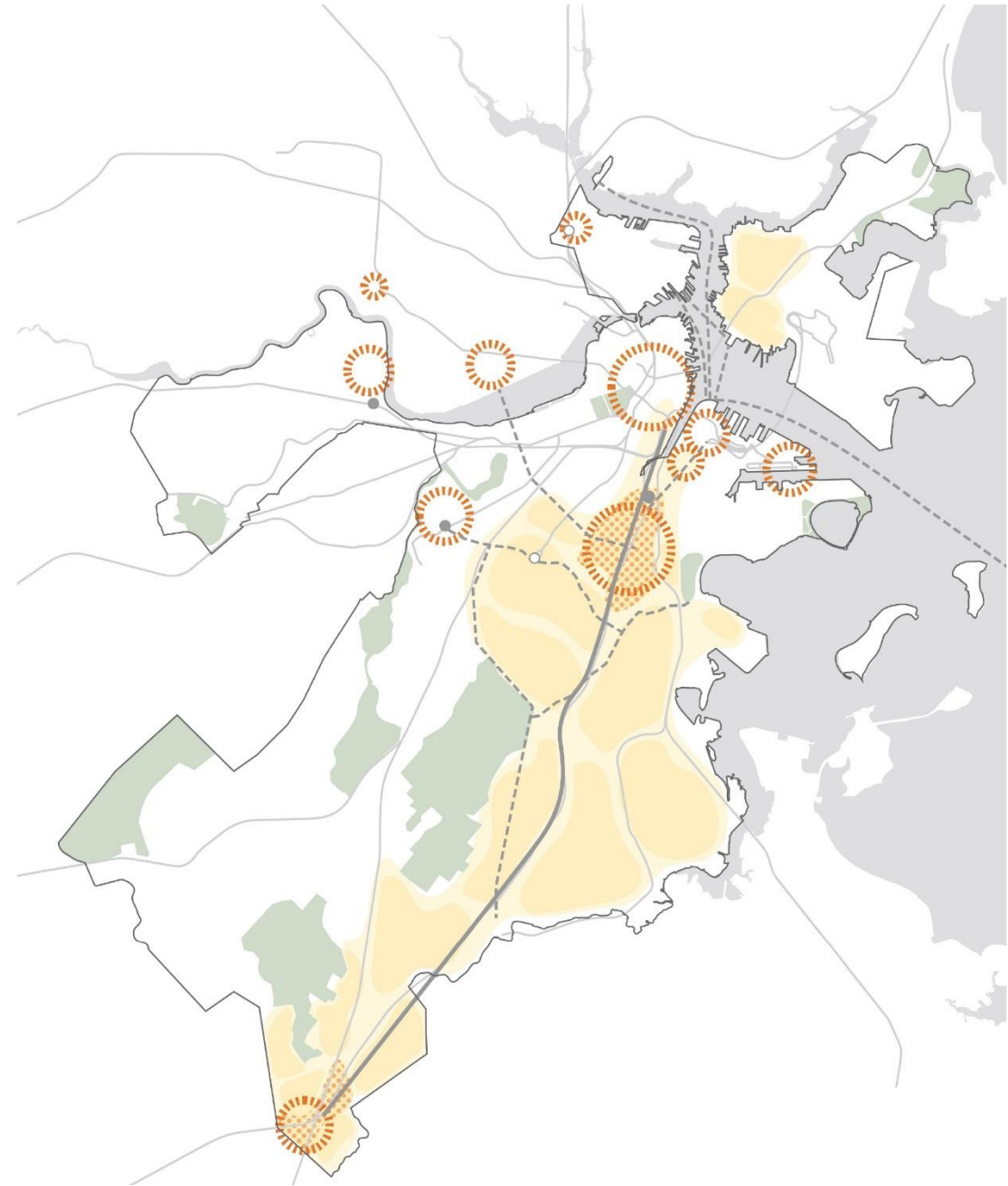
1. Strengthened transit connections and encouraging job growth
2. Investments in open space, culture, and the public realm
3. Targeted economic mobility and antidisplacement policies.



We will generate networks of opportunity

Vision:

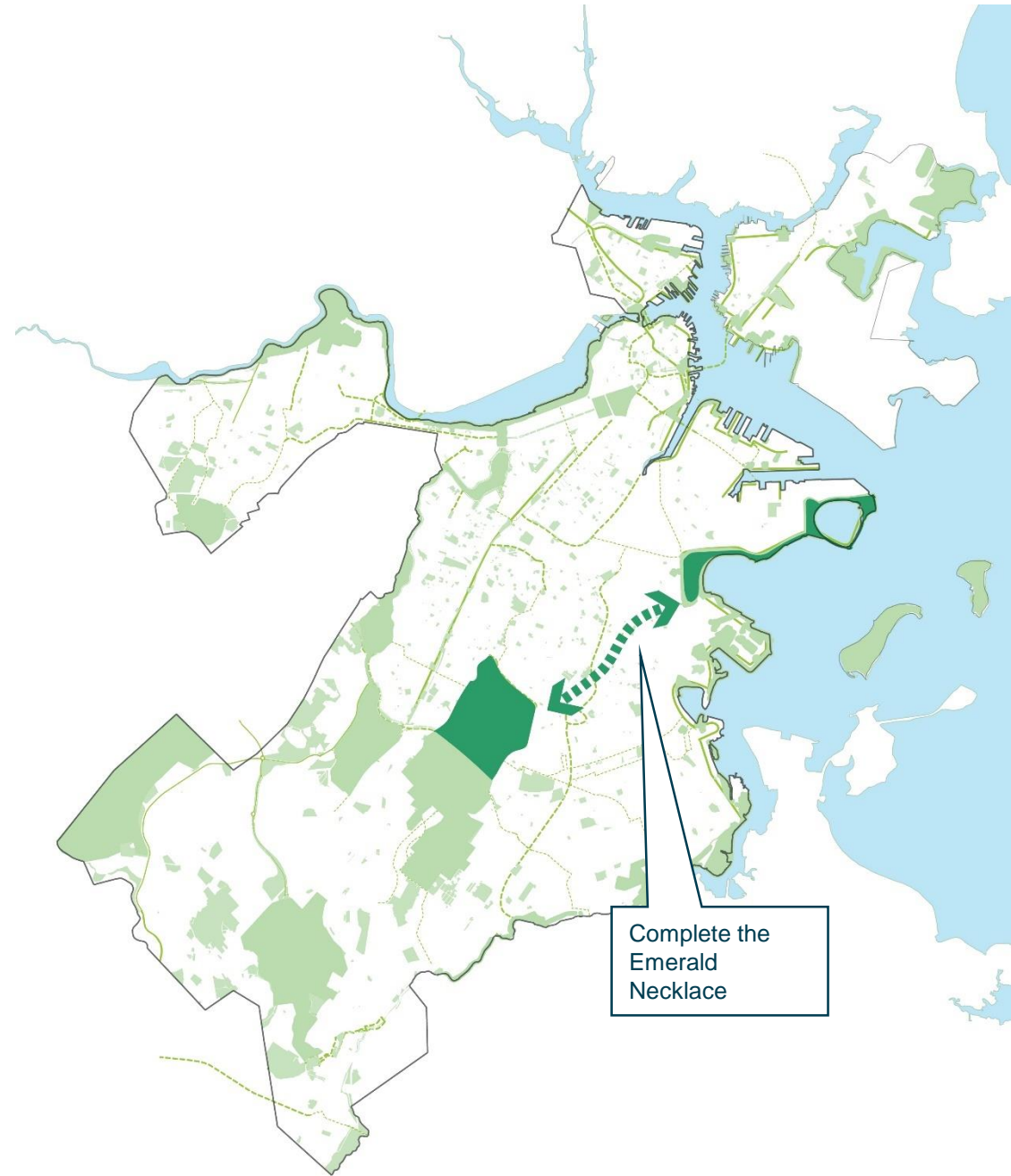
1. **Strengthened transit connections and encouraging job growth**
2. Investments in open space, culture, and the public realm
3. Targeted economic mobility and antidisplacement policies.



We will generate networks of opportunity

Vision:

1. Strengthened transit connections and encouraging job growth
- 2. Investments in open space, culture, and the public realm**
3. Targeted economic mobility and antidisplacement policies.



We will generate networks of opportunity

Vision:

1. Strengthened transit connections and encouraging job growth
2. Investments in open space, culture, and the public realm
3. **Targeted economic mobility and antidisplacement policies.**

