

An Equity Profile of the  
**San Francisco Bay Area Region**



# Table of contents

3	<b>Summary</b>
7	<b>Foreword</b>
8	<b>Introduction</b>
14	<b>Demographics</b>
27	<b>Economic vitality</b>
59	<b>Readiness</b>
69	<b>Connectedness</b>
86	<b>Data and methods</b>

Equity Profiles are products of a partnership between PolicyLink and PERE, the Program for Environmental and Regional Equity at the University of Southern California.

The views expressed in this document are those of PolicyLink and PERE, and do not necessarily represent those of The San Francisco Foundation.

# Summary

The Bay Area is already a majority people-of-color region, and communities of color will continue to drive growth and change into the foreseeable future. The region's diversity is a tremendous economic asset – if people of color are fully included as workers, entrepreneurs, and innovators. But while the Bay Area economy is booming, rising inequality, stagnant wages, and persistent racial inequities place its long-term economic future at risk.

Equitable growth is the path to sustained economic prosperity. To build a Bay Area economy that works for all, regional leaders must commit to putting all residents on the path to economic security through strategies to grow good jobs, build capabilities, remove barriers, and expand opportunities for the people and places being left behind.

# List of figures

## Demographics

- 16 1. Race/Ethnicity, and Nativity, 2012
- 16 2. Latino and Asian Populations by Ancestry, 2008-2012
- 16 3. Diversity Score in 2010: Largest 150 Metros Ranked
- 18 4. Racial/Ethnic Composition, 1980 to 2010
- 18 5. Composition of Net Population Growth by Decade, 1980 to 2010
- 19 6. Growth Rates of Major Racial/Ethnic Groups, 2000 to 2010
- 19 7. Share of Net Growth in Latino and Asian Population by Nativity, 2000 to 2008-2012
- 20 8. Percent Change in Population, 2000 to 2010
- 21 9. Percent Change in People of Color by Census Block Group, 2000 to 2010
- 22 10. Racial/Ethnic Composition by Census Tract, 1990 and 2010
- 23 11. Racial/Ethnic Composition, 1980 to 2040
- 24 12. Percent People of Color by County, 1980 to 2040
- 25 13. Percent People of Color (POC) by Age Group, 1980 to 2010
- 25 14. Median Age by Race/Ethnicity, 2008-2012
- 26 15. The Racial Generation Gap in 2010: Largest 150 Metros Ranked

## Economic vitality

- 29 16. Cumulative Job Growth, 1979 to 2010
- 29 17. Cumulative Growth in Real GRP, 1979 to 2010
- 30 18. Unemployment Rate, 1990 to 2012
- 31 19. Cumulative Growth in Jobs-to-Population Ratio, 1979 to 2012
- 32 20. Labor Force Participation Rate by Race/Ethnicity, 1990 and 2008-2012
- 32 21. Unemployment Rate by Race/Ethnicity, 1990 and 2008-2012
- 33 22. Unemployment Rate by Race/Ethnicity, 2008-2012
- 34 23. Unemployment Rate by Census Tract and High People-of-Color Tracts, 2008-2012
- 35 24. Gini Coefficient, 1979 to 2008-2012
- 36 25. The Gini Coefficient in 2008-2012: Largest 150 Metros Ranked
- 37 26. Real Earned Income Growth for Full-Time Wage and Salary Workers Ages 25-64, 1979 to 2008-2012
- 38 27. Median Hourly Wage by Race/Ethnicity, 2000 and 2012
- 39 28. Household by Income Level, 1979 and 2008-2012
- 40 29. Racial Composition of Middle-Class Households and All Households, 1980 and 2012
- 41 30. Poverty Rate by Race/Ethnicity, 1980 and 2008-2012

# List of figures

## Economic Vitality (continued)

- |    |  |                  |  |
|----|--|------------------|--|
| 41 | 31. Working Poverty Rate, 1980 to 2008-2012  | 53               | 43. Occupation Opportunity Index: Occupations by Opportunity Level for Workers with More Than a High School Degree but Less Than a BA  |
| 42 | 32. Working Poverty Rate in 2008-2012: Largest 150 Metros Ranked   | 54               | 44. Occupation Opportunity Index: Occupations by Opportunity Level for Workers with a BA Degree or Higher  |
| 43 | 33. Poverty Rate by Race/Ethnicity, 2008-2012  | 55               | 45. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, All Workers   |
| 43 | 34. Working Poverty Rate by Race/Ethnicity, 2008-2012  | 56               | 46. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with Low Educational Attainment   |
| 44 | 35. Unemployment Rate by Educational Attainment and Race/Ethnicity, 2008-2012                                    | 57               | 47. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with Middle Educational Attainment  |
| 44 | 36. Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2008-2012                                   | 58               | 48. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with High Educational Attainment  |
| 45 | 37. Unemployment Rate by Educational Attainment, Race/Ethnicity, and Gender, 2008-2012                           | <b>Readiness</b> |  |
| 45 | 38. Median Hourly Wage by Educational Attainment, Race/Ethnicity, and Gender, 2008-2012                          | 61               | 49. Educational Attainment by Race/Ethnicity and Nativity, 2008-2012   |
| 46 | 39. Growth in Jobs and Earnings by Industry Wage Level, 1990 to 2012   | 62               | 50. Share of Working-Age Population with an Associate's Degree or Higher by Race/Ethnicity and Nativity, 2012 and Projected Share of Jobs that Require an Associate's Degree or Higher, 2020 |
| 47 | 40. Industries by Wage-Level Category in 1990  | 63               | 51. Percent of the Population with an Associate's Degree or Higher in 2008-2012: Largest 150 Metros Ranked   |
| 49 | 41. Industry Strength Index  | 64               | 52. Asian Immigrants, Percent with an Associate's Degree or Higher by Origin, 2008-2012  |
| 52 | 42. Occupation Opportunity Index: Occupations by Opportunity Level for Workers with a High School Degree or Less |                  |  |

# List of figures

## Readiness (continued)

- 64 53. Latino Immigrants, Percent with an Associate's Degree or Higher by Origin, 2008-2012
- 65 54. Percent of 16-24 Year Olds Not Enrolled in School and Without a High School Diploma, 1990 to 2008-2012
- 66 55. Disconnected Youth: 16-24-Year-Olds Not in Work or School, 1980 to 2008-2012
- 67 56. Percent of 16-24-Year-Olds Not in Work or School, 2008-2012: Largest 150 Metros Ranked
- 68 57. Adult Overweight and Obesity Rates by Race/Ethnicity, 2008-2012
- 68 58. Adult Diabetes Rates by Race/Ethnicity, 2008-2012
- 68 59. Adult Asthma Rates by Race/Ethnicity, 2008-2012

## Connectedness

- 71 60. Residential Segregation, 1990 and 2010, Measured by the Dissimilarity Index.
- 72 61. Residential Segregation, 1980 to 2010
- 73 62. Change in Poverty Rate by Census Tract (Percentage Points), 2000 to 2008-2012
- 74 63. Percent Population Below the Poverty Level by Census Tract and High People-of-Color Tracts, 2008-2012

- 75 64. Percent Using Public Transit by Annual Earnings and Race/Ethnicity/Nativity, 2008-2012
- 75 65. Percent of Households without a Vehicle by Race/Ethnicity, 2008-2012
- 76 66. Means of Transportation to Work by Annual Earnings, 2008-2012
- 77 67. Percent of Households Without a Vehicle by Census Tract and High People-of-Color Tracts, 2008-2012
- 78 68. Average Travel Time to Work by Census Tract and High People-of-Color Tracts, 2008-2012
- 79 69. Share of Households that are Rent Burdened, 2008-2012: Largest 150 Metros Ranked
- 80 70. Renter Housing Burden by Race/Ethnicity, 2008-2012
- 80 71. Homeowner Housing Burden by Race/Ethnicity, 2008-2012
- 81 72. Low-Wage Jobs and Affordable Rental Housing by County
- 82 73. Low-Wage Jobs, Affordable Rental Housing, and Jobs-Housing Ratios by County
- 83 74. Percent People of Color by Census Tract, 2010, and Food Desert Tracts
- 84 75. Racial/Ethnic Composition of Food Environments, 2010
- 85 76. Actual GDP and Estimated GDP without Racial Gaps in Income, 2012

# Introduction

## Foreword

Expanding opportunity is the defining challenge of our time. In the Bay Area, far too many of our families are being left behind, struggling to make ends meet, spending two-thirds of their income on housing and transportation alone. As a region, we are experiencing some of the largest disparities in wealth and income in the nation.

Our region is also the second most diverse in the country, and a microcosm of the nation's future. Communities of color are already the majority. Our diverse, growing population is a major asset that can only be fully realized when all communities have the resources and opportunities they need to participate, prosper, and reach their full potential.

This Bay Area Equity Profile adds to the growing body of research that finds that greater economic and racial inclusion fosters stronger economic growth. When we are talking about innovation, when we are talking about making the economy work for families and children, we are talking about geography, race, and class. We must take bold steps to build pathways of opportunity for communities of color and those at the lowest rungs of the economic ladder in partnership with the public and private sectors.

Our call to action is clear. When we innovate and create new models for economic growth here in the Bay Area, we are making change that will become a model for our nation. This work will take patience. It will take partnership. It will take fortitude. Now is the time to take action to achieve new models for economic growth.



Fred Blackwell  
Chief Executive Officer  
The San Francisco Foundation

# Introduction



# Introduction

## Overview

Across the country, regional planning organizations, local governments, community organizations and residents, funders, and policymakers are striving to put plans, policies, and programs in place that build healthier, more vibrant, more sustainable, and more equitable regions.

Equity – ensuring full inclusion of the entire region’s residents in the economic, social, and political life of the region, regardless of race, ethnicity, age, gender, neighborhood of residence, or other characteristic – is an essential element of the plans.

Knowing how a region stands in terms of equity is a critical first step in planning for greater equity. To assist communities with that process, PolicyLink and the Program for Environmental and Regional Equity (PERE) developed an equity indicators framework that communities can use to understand and track the state of equity in their regions.

This document presents an equity analysis of the San Francisco Bay Area region. It was developed to help the San Francisco Foundation effectively address equity issues through its grantmaking for a more integrated and sustainable region. PolicyLink and PERE also hope this will be a useful tool for advocacy groups, elected officials, planners, and others.

The data in this profile are drawn from a regional equity database that includes data for the largest 150 regions in the United States. This database incorporates hundreds of data points from public and private data sources including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the Behavioral Risk Factor Surveillance System (BRFSS), and Woods & Poole Economics, Inc. See the "Data and methods" section of this profile for a detailed list of data sources.

# Introduction

## Defining the region

Throughout this profile and data analysis, the Bay Area region is defined as the five-county San Francisco-Oakland-Fremont Metropolitan Statistical Area, which includes Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties. All data presented in the profile use this regional boundary. Minor exceptions due to lack of data availability are noted in the “Data and methods” section beginning on page 86.



# Introduction

## Why equity matters now

### The face of America is changing.

Our country's population is rapidly diversifying. Already, more than half of all babies born in the United States are people of color. By 2030, the majority of young workers will be people of color. And by 2044, the United States will be a majority people-of-color nation.

### Yet racial and income inequality is high and persistent.

Over the past several decades, long-standing inequities in income, wealth, health, and opportunity have reached unprecedented levels. And while most have been affected by growing inequality, communities of color have felt the greatest pains as the economy has shifted and stagnated.

### Strong communities of color are necessary for the nation's economic growth and prosperity.

Equity is an economic imperative as well as a moral one. Research shows that equity and diversity are win-win propositions for nations, regions, communities, and firms. For example:

- More equitable nations and regions experience stronger, more sustained growth.<sup>1</sup>
- Regions with less segregation (by race and income) and lower income inequality have more upward mobility.<sup>2</sup>
- Companies with a diverse workforce achieve a better bottom line.<sup>3</sup>
- A diverse population better connects to global markets.<sup>4</sup>

### The way forward is an equity-driven growth model.

To secure America's prosperity, the nation must implement a new economic model based on equity, fairness, and opportunity.

### Metropolitan regions are where this new growth model will be created.

Regions are the key competitive unit in the global economy. Metros are also where strategies are being incubated that foster equitable growth: growing good jobs and new businesses while ensuring that all – including low-income people and people of color – can fully participate and prosper.

<sup>1</sup> Manuel Pastor, "Cohesion and Competitiveness: Business Leadership for Regional Growth and Social Equity," OECD Territorial Reviews, Competitive Cities in the Global Economy, Organisation For Economic Co-Operation And Development (OECD), 2006; Manuel Pastor and Chris Benner, "Been Down So Long: Weak-Market Cities and Regional Equity" in *Retooling for Growth: Building a 21<sup>st</sup> Century Economy in America's Older Industrial Areas* (New York: American Assembly and Columbia University, 2008); Randall Eberts, George Erickcek, and Jack Kleinhenz, "Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future" (Federal Reserve Bank of Cleveland: April 2006), <https://ideas.repec.org/p/fip/fedcwp/0605.html>.

<sup>2</sup> Raj Chetty, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez, "Where is the Land of Economic Opportunity? The Geography of Intergenerational Mobility in the U.S." <http://obs.rc.fas.harvard.edu/chetty/website/v2/Geography%20Executive%20Summary%20and%20Memo%20January%202014.pdf>

<sup>3</sup> Vivian Hunt, Dennis Layton, and Sara Prince, "Diversity Matters," (McKinsey & Company, 2014); Cedric Herring. "Does Diversity Pay?: Race, Gender, and the Business Case for Diversity." *American Sociological Review*, 74, no. 2 (2009): 208-22; Slater, Weigand and Zvirlein. "The Business Case for Commitment to Diversity." *Business Horizons* 51 (2008): 201-209.

<sup>4</sup> U.S. Census Bureau. "Ownership Characteristics of Classifiable U.S. Exporting Firms: 2007" Survey of Business Owners Special Report, June 2012, <http://www.census.gov/econ/sbo/export07/index.html>.

# Introduction

## What is an equitable region?

Regions are equitable when all residents – regardless of their race/ethnicity and nativity, gender, or neighborhood of residence – are fully able to participate in the region’s economic vitality, contribute to the region’s readiness for the future, and connect to the region’s assets and resources.

### Strong, equitable regions:

- Possess **economic vitality**, providing high-quality jobs to their residents and producing new ideas, products, businesses, and economic activity so the region remains sustainable and competitive.
- Are **ready for the future**, with a skilled, ready workforce, and a healthy population.
- Are **places of connection**, where residents can access the essential ingredients to live healthy and productive lives in their own neighborhoods, reach opportunities located throughout the region (and beyond) via transportation or technology, participate in political processes, and interact with other diverse residents.

# Introduction

## Equity indicators framework

The indicators in this profile are presented in four sections. The first section describes the region's demographics. The next three sections present indicators of the region's economic vitality, readiness, and connectedness. Below are the questions answered within each of the four sections.

### Demographics:

Who lives in the region and how is this changing?

- Is the population growing?
- Which groups are driving growth?
- How diverse is the population?
- How does the racial composition vary by age?

### Economic vitality:

How is the region doing on measures of economic growth and well being?

- Is the region producing good jobs?
- Can all residents access good jobs?
- Is growth widely shared?
- Do all residents have enough income to sustain their families?
- Is race/ethnicity/nativity a barrier to economic success?
- What are the strongest industries and occupations?

### Readiness:

How prepared are the region's residents for the 21<sup>st</sup> century economy?

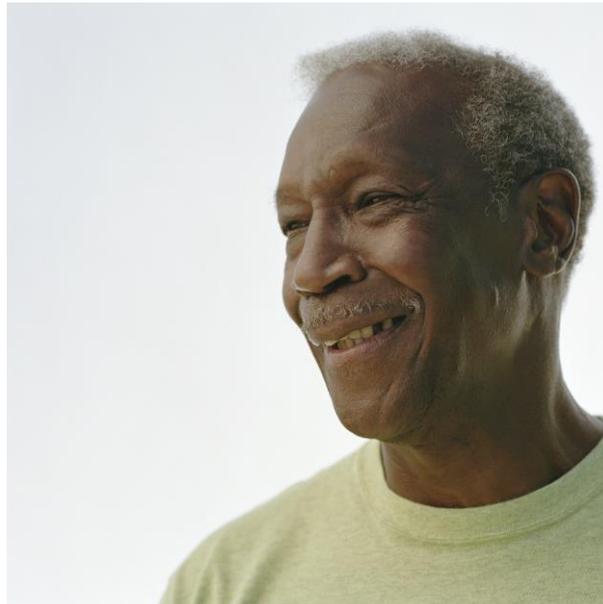
- Does the workforce have the skills for the jobs of the future?
- Are all youth ready to enter the workforce?
- Are residents healthy?
- Are racial gaps in education and health decreasing?

### Connectedness:

Are the region's residents and neighborhoods connected to one another and to the region's assets and opportunities?

- Do residents have transportation choices?
- Can residents access jobs and opportunities located throughout the region?
- Can all residents access affordable, quality, convenient housing?
- Do neighborhoods reflect the region's diversity? Is segregation decreasing?
- Can all residents access healthy food?

# Demographics



# Demographics

## Highlights

### Who lives in the region and how is this changing?

- The San Francisco Bay Area is the second most diverse region, with growing representation from all major racial/ethnic groups.
- The region has experienced dramatic growth and change over the past several decades, with the share of people of color increasing from 34 percent to 58 percent since 1980.
- Diverse communities, especially Asians and Latinos, are driving growth and change in the region and will continue to do so over the next several decades.
- The people-of-color population is expected to grow over the next few decades in every county except San Francisco County, where it will decline.
- There is a large racial generation gap between the region's mainly White senior population and its increasingly diverse youth population.

People of color:

58%

Diversity rank  
(out of largest 150 regions):

#2

Number of counties that  
are majority people of  
color:

4/5

# Demographics

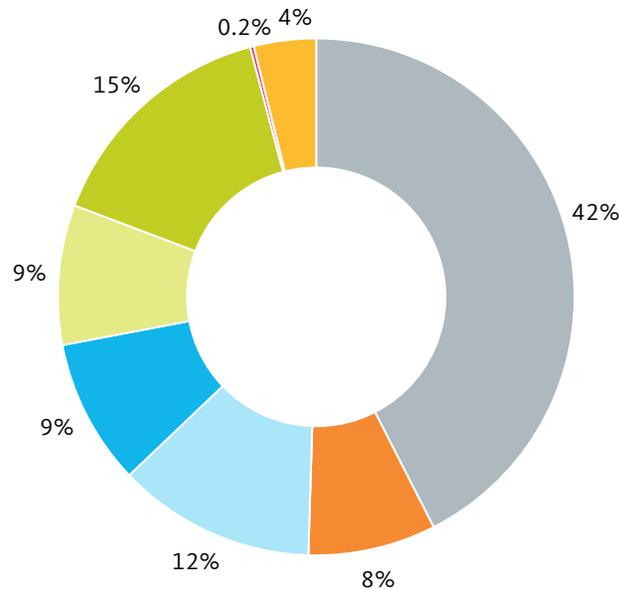
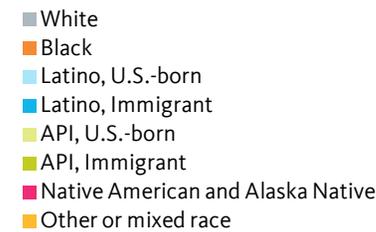
## One of the most diverse regions

Fifty-eight percent of residents in the San Francisco Bay Area region are people of color, including many different racial and ethnic groups. Non-Hispanic Whites are the single largest group (42%) followed by Asians (24%) and Latinos (21%).

The Latino population is predominately of Mexican ancestry (69%), though a significant proportion are of Salvadoran ancestry (9%). The Asian/Pacific Islander population is diverse with Chinese/Taiwanese, Filipino, Asian Indians, and Vietnamese being the most prevalent backgrounds.

### The Bay Area is majority people of color

#### 1. Race/Ethnicity and Nativity, 2012



Sources: IPUMS; U.S. Census Bureau.

### The people-of-color population is predominately Mexican and the area has a diverse Asian population

#### 2. Latino and Asian Populations by Ancestry, 2008-2012

##### Latino

Ancestry	Population
Mexican	643,376
Salvadoran	80,651
Guatemalan	37,663
Other Latino	31,759
Nicaraguan	30,867
Puerto Rican	27,534
All other Latinos	84,162
<b>Total</b>	<b>936,012</b>

##### Asian/Pacific Islander

Ancestry	Population
Chinese or Taiwanese	423,191
Filipino	238,449
Asian Indian	128,454
Vietnamese	59,094
Other (NH) API or mixed API	49,291
Korean	41,164
Japanese	40,672
All other Asians	57,822
<b>Total</b>	<b>1,038,136</b>

Source: IPUMS.

# Demographics

## One of the most diverse regions

(continued)

The Bay Area is the nation’s second most diverse metropolitan region out of the largest 150 regions. The Bay Area has a diversity score of 1.38; only the Vallejo-Fairfield region is more diverse, at 1.45.

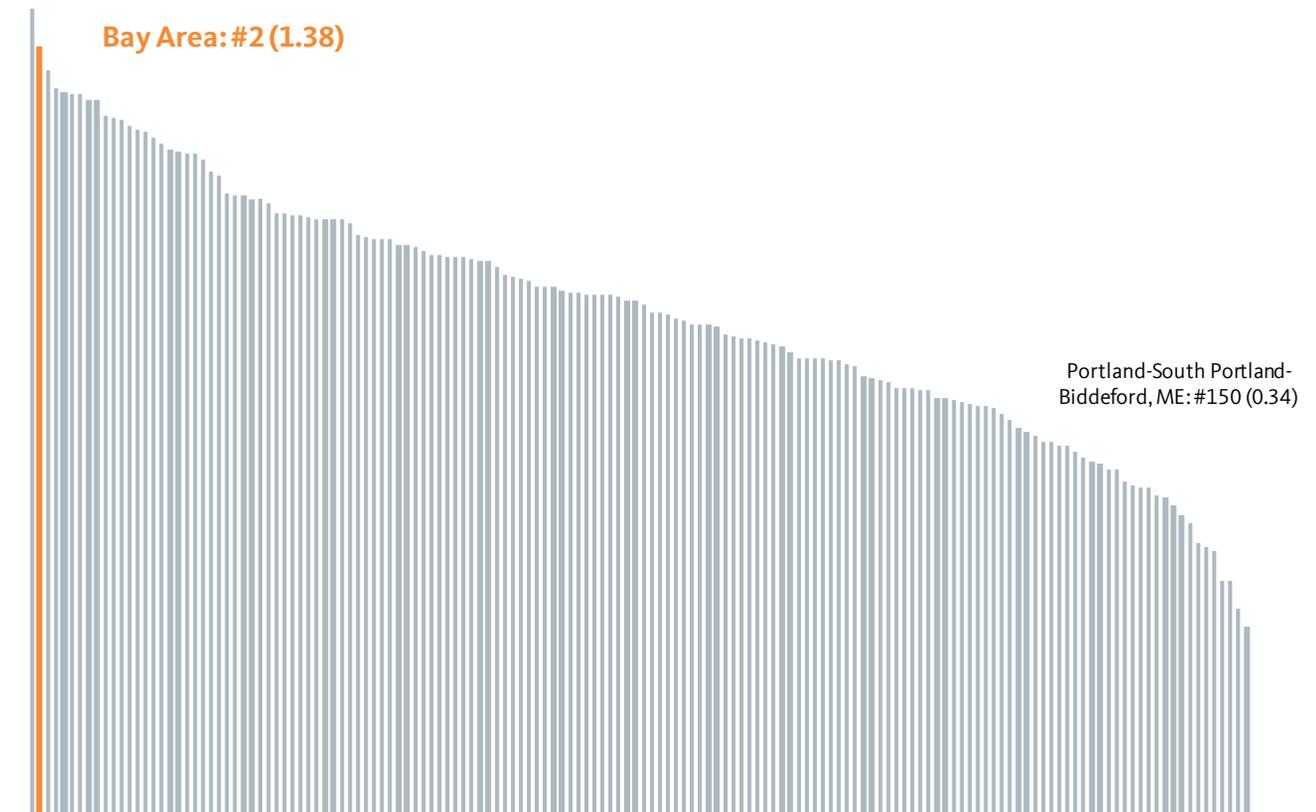
The diversity score is a measure of racial/ethnic diversity a given area. It measures the representation of the six major racial/ethnic groups (White, Black, Latino, API, Native American, and Other/mixed race) in the population. The maximum possible diversity score (1.79) would occur if each group were evenly represented in the region – that is, if each group accounted for one-sixth of the total population.

Note that the diversity score describes the region as a whole and does not measure racial segregation, or the extent to which different racial/ethnic groups live in different neighborhoods. Segregation measures can be found on pages 71-72.

The Bay Area is the second most diverse region

### 3. Diversity Score in 2010: Largest 150 Metros Ranked

Vallejo-Fairfield, CA: #1 (1.45)



Source: U.S. Census Bureau.

# Demographics

## Dramatic growth and change over the past several decades

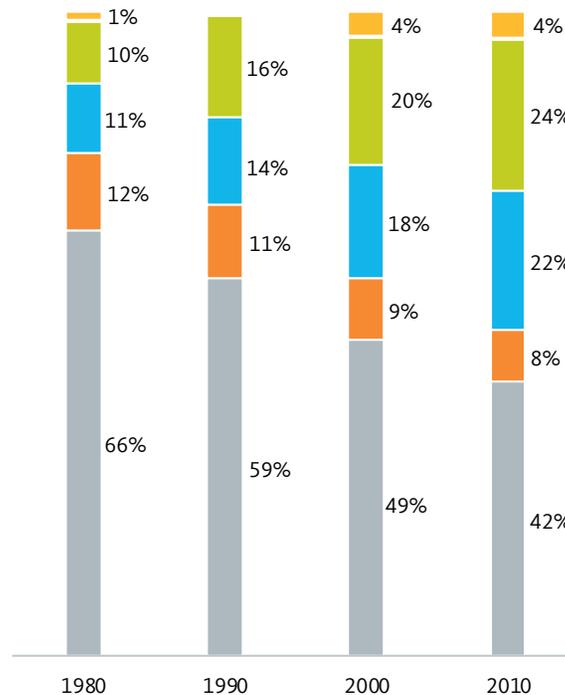
The Bay Area has experienced significant population growth since 1980, growing from 3.3 million to 4.3 million residents.

In the same time period, it has become a majority people-of-color region, increasing from 34 percent people of color to 58 percent people of color.

People of color have driven the region's growth over the past three decades, contributing 97 percent of the growth in the 1980s and driving all growth in the 1990s and 2000s.

**The population has rapidly diversified**  
**4. Racial/Ethnic Composition, 1980 to 2010**

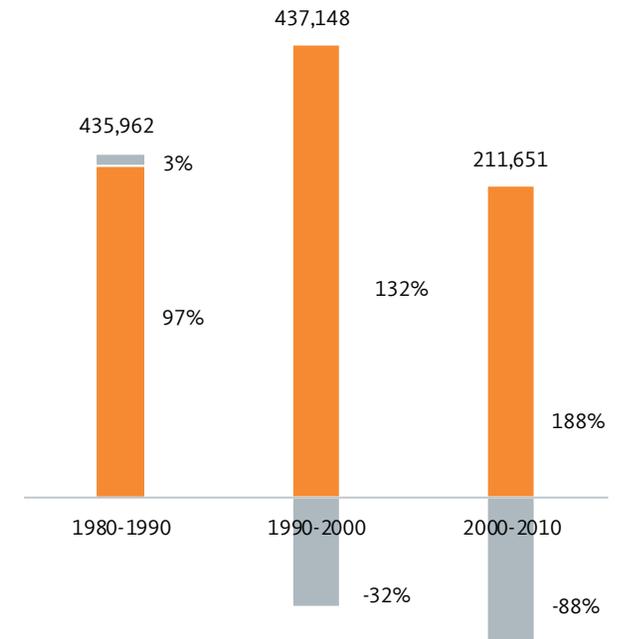
- Other
- Native American
- Asian/Pacific Islander
- Latino
- Black
- White



Source: U.S. Census Bureau.

**People of color have driven the region's growth since 1980**  
**5. Composition of Net Population Growth by Decade, 1980 to 2010**

- Non-Hispanic White
- People of Color



Source: U.S. Census Bureau.

# Demographics

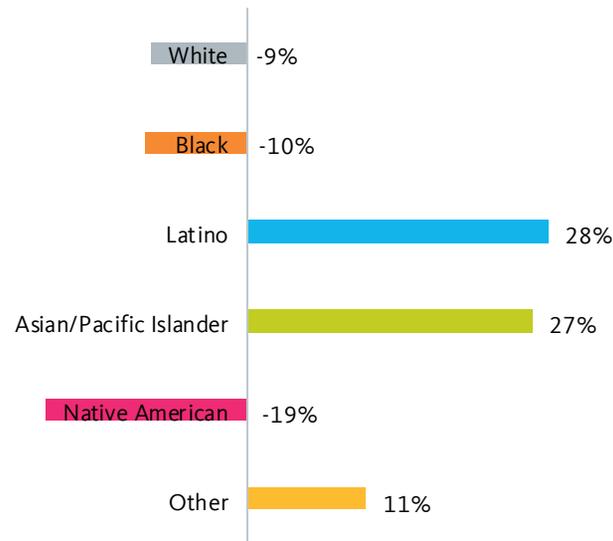
## Latinos and Asians are leading the region's growth

Over the past decade, the Bay Area's Latino population grew rapidly – 28 percent – adding 206,000 residents. The Asian population grew 27 percent, adding another 215,000 residents to the total population. The region's Native American, African American, and non-Hispanic White populations all decreased over the decade.

Immigration played a larger role in the growth of the Bay Area's Asian population than its Latino population: 52 percent of the growth in the Asian population was from foreign-born residents, while only 26 percent of growth in the Latino population was from immigrants.

The Latino and Asian populations experienced the most growth in the past decade, while the Native American population experienced the slowest growth

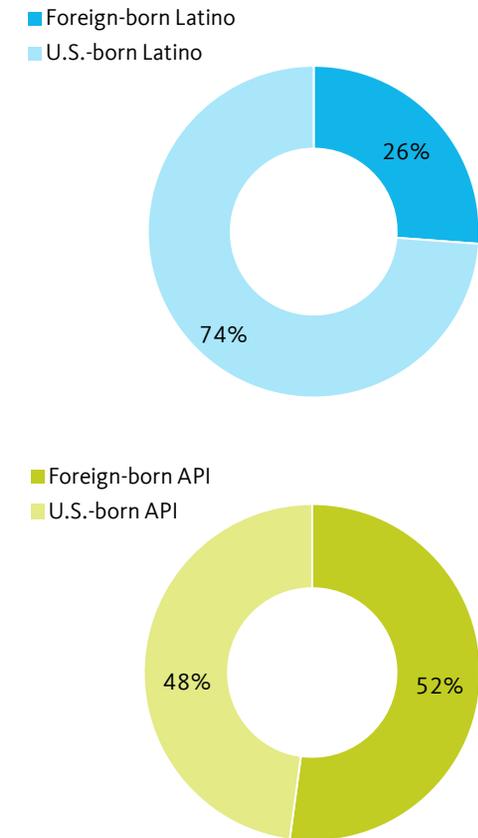
6. Growth Rates of Major Racial/Ethnic Groups, 2000 to 2010



Source: U.S. Census Bureau.

Latino population growth was mainly due to an increase in U.S.-born Latinos, while immigration had a larger contribution to growth in the Asian population

7. Share of Net Growth in Latino and Asian Population by Nativity, 2000 to 2008-2012



Source: IPUMS.

# Demographics

## People of color are driving growth throughout the region

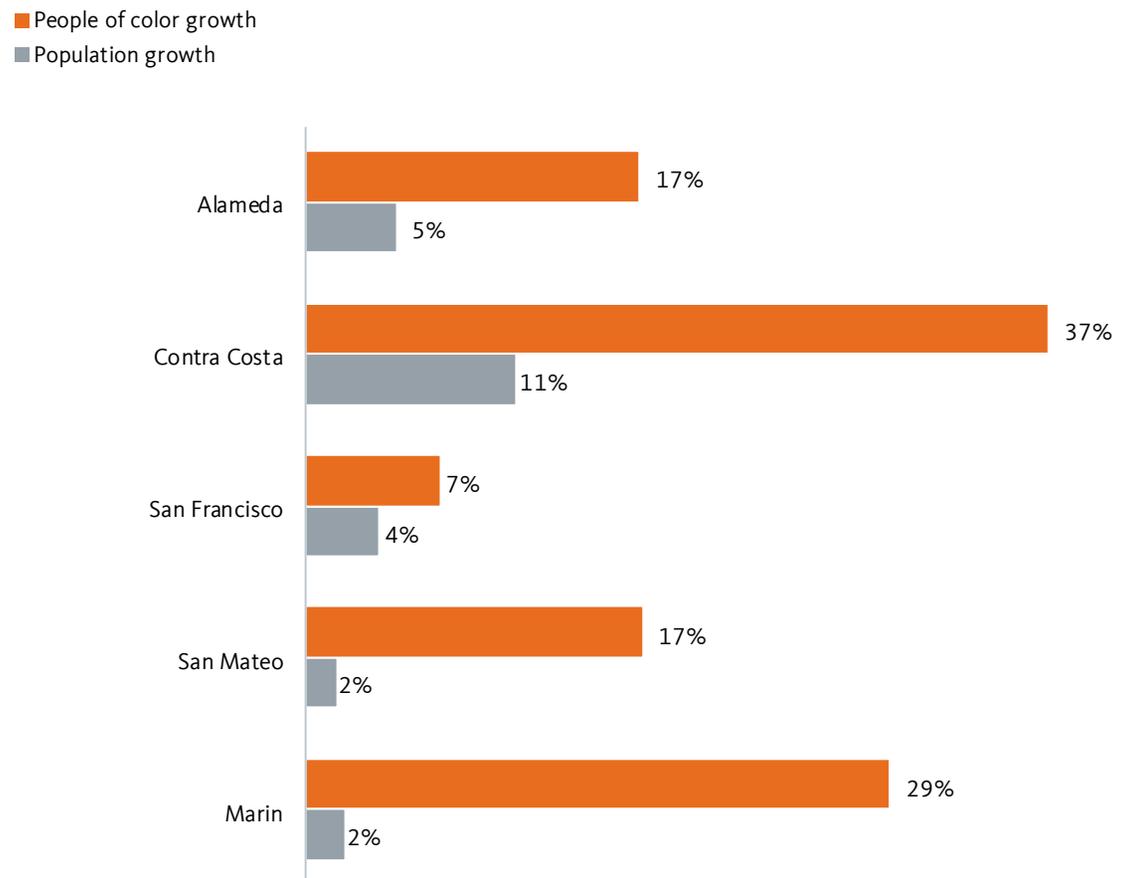
All counties in the region experienced population growth over the past decade, and in every county, the people-of-color population grew at a faster rate than the population as a whole.

The two counties in the region with the largest populations (Alameda and Contra Costa) had significantly larger growth in their people-of-color populations compared to their total populations. Alameda County grew 5 percent overall, but the people-of-color population grew more than three times as fast, at 17 percent. Similarly, while Contra Costa County's total population grew 11 percent, its people-of-color population grew 37 percent, more than any other county in the region.

While Marin and San Mateo counties had the lowest overall population growth in the region, the people-of-color populations in these counties were among the highest in the region. The people-of-color population grew the slowest in San Francisco County, but still faster than the White population.

The people-of-color population is growing faster than the overall population in every county

8. Percent Change in Population, 2000 to 2010 (in descending order by 2010 population)



Source: U.S. Census Bureau.

# Demographics

## People of color are driving growth throughout the region

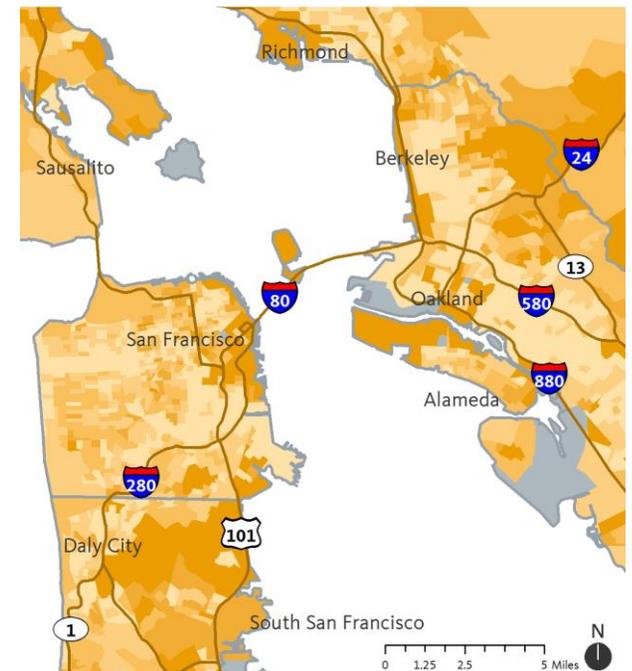
(continued)

Mapping the growth in people of color by census block group illustrates growing communities of color throughout all of the region's counties. Although this growth is slower in the most diverse, inner core areas in the region (San Francisco and Oakland), the people-of-color population is increasing most rapidly in the eastern portions of Contra Costa and Alameda counties and in San Mateo County as well.

### Significant growth in communities of color throughout the region

#### 9. Percent Change in People of Color by Census Block Group, 2000 to 2010

- Decline or no population growth
- Less than 12% increase
- 12% to 27% increase
- 27% to 49% increase
- 49% or more increase



Sources: U.S. Census Bureau; Geolytics.

# Demographics

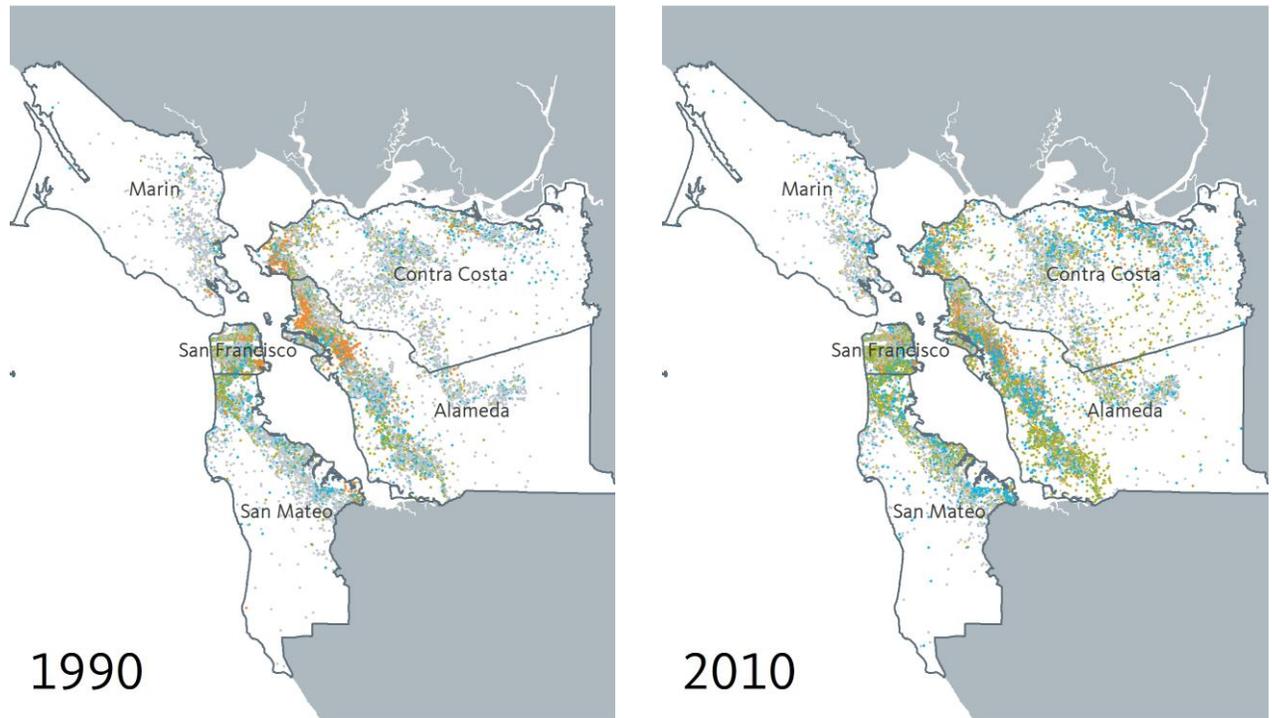
## Suburban areas are becoming more diverse

Since 1990, the region’s population has grown by 650,000 residents. This growth can be seen throughout the region, but is most notable in the inland areas – particularly eastern Contra Costa and Alameda counties. The cities of Concord, Pittsburg, Antioch, Dublin, and Livermore have seen large growth in their Latino and African American communities. The Asian population has grown significantly in the East Bay in Oakland, Union City, and Fremont, and along the Peninsula between San Francisco and San Jose.

### Diversity is spreading outwards

10. Racial/Ethnic Composition by Census Tract, 1990 and 2010

- Race/Ethnicity  
1 dot = 300
- Non-Hispanic White
  - Black
  - Latino
  - Asian/Pacific Islander
  - American Indian or Alaska Native
  - Other or Mixed Race



Sources: U.S. Census Bureau; Geolytics.

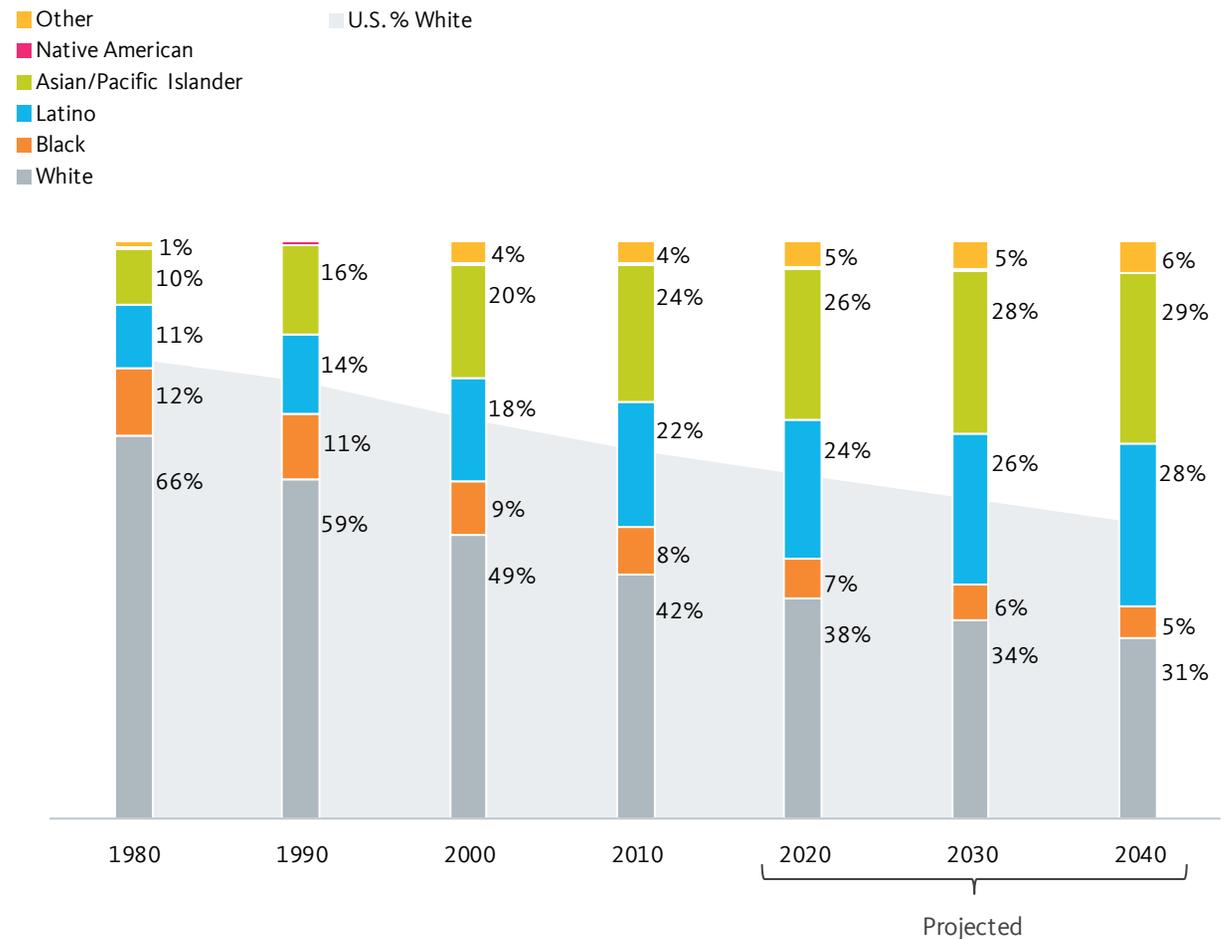
# Demographics

## At the forefront of the nation's demographic shift

The Bay Area region has long been more diverse than the nation as a whole. While the country is projected to become majority people of color by the year 2044 the Bay Area passed this milestone in the 2000s. By 2040, 69 percent of the region's residents – predominantly Asians and Latinos – are projected to be people of color. This would rank the region 19<sup>th</sup> among the 150 largest metros in terms of their share of people of color.

The share of people of color is projected to increase through 2040

11. Racial/Ethnic Composition, 1980 to 2040



Sources: U.S. Census Bureau; Woods & Poole Economics, Inc.

# Demographics

## At the forefront of the nation’s demographic shift

(continued)

In 1980, the region did not have a single county that was majority people of color, and San Francisco County had the highest percentage people of color. Now, all counties except for Marin are majority people of color. By 2040, the percentage people of color is projected to decline in San Francisco while it continues to rise in Marin. In 2040, seven in every ten San Mateo, Alameda, and Contra Costa county residents are expected to be people of color.

Communities of color will continue to increase population share in every county except San Francisco

12. Percent People of Color by County, 1980 to 2040

- Less than 30%
- 30% to 39%
- 40% to 49%
- 50% or more



# Demographics

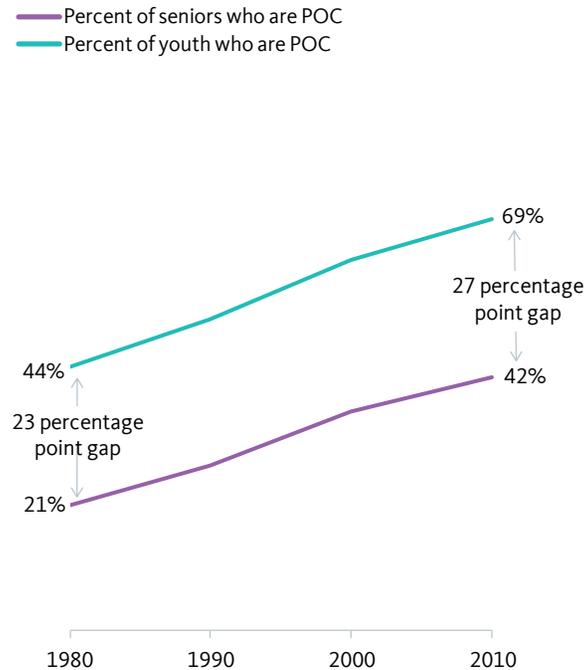
## A growing racial generation gap

Youth are leading the demographic shift occurring in the region. Today, 69 percent of the Bay Area’s youth (under age 18) are people of color, compared with 42 percent of the region’s seniors (over age 64). This 27 percentage point difference between the share of people of color among young and old can be measured as the racial generation gap, and has grown slightly since 1980.

Examining median age by race/ethnicity reveals how the region’s fast-growing Latino population is much more youthful than its White population. The median age of the Latino population is 29, which is 16 years younger than the median age of 45 for the White population. The region’s Other/mixed race population is also younger than average.

The racial generation gap between youth and seniors has grown slightly since 1980

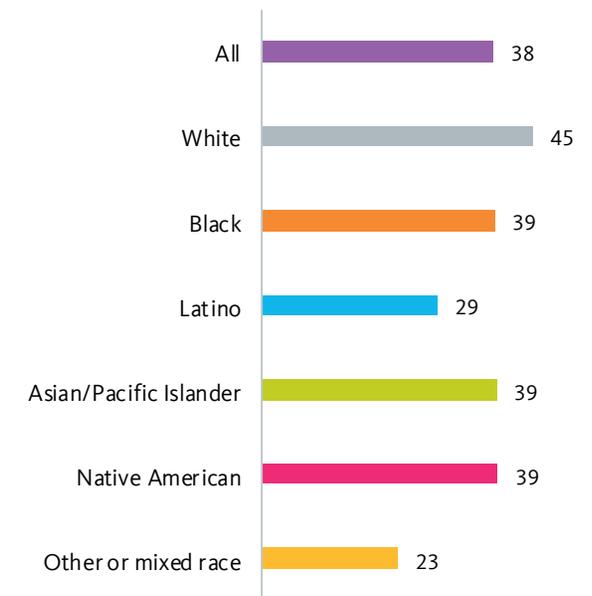
13. Percent People of Color (POC) by Age Group, 1980 to 2010



Source: U.S. Census Bureau.

The region’s people of mixed racial backgrounds and Latinos are much younger than other groups

14. Median Age by Race/Ethnicity, 2008-2012



Source: IPUMS.

# Demographics

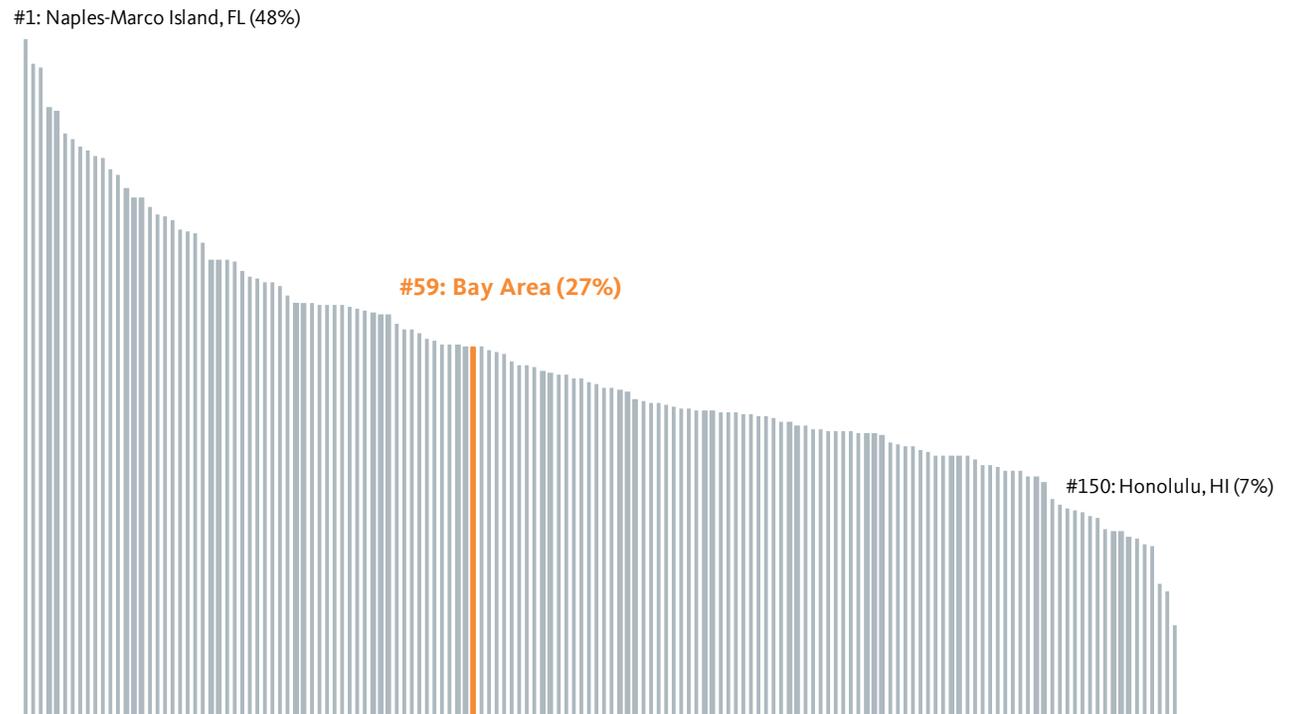
## A growing racial generation gap

(continued)

The San Francisco Bay Area's 27 percentage point racial generation gap is similar to the national average (26 percentage points), ranking the region 59<sup>th</sup> among the largest 150 regions on this measure.

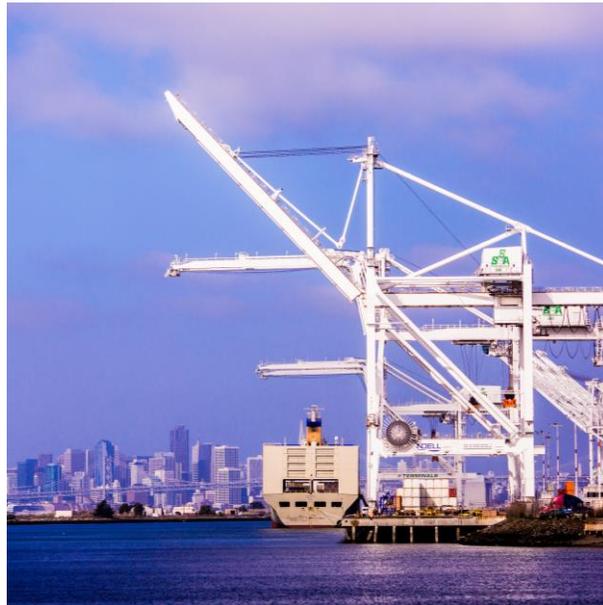
The Bay Area has a large racial generation gap

15. The Racial Generation Gap in 2010: Largest 150 Metros Ranked



Source: U.S. Census Bureau.

# Economic vitality



# Economic vitality

## Highlights

How is the region doing on measures of economic growth and well being?

- The Bay Area's economy has shown consistent growth over the past few decades, but job growth is not keeping up with population growth or growth in economic output.
- Income inequality has sharply increased in the region. Since 1979, the highest paid workers have seen their wages increase significantly, while wages for the lowest paid workers have declined.
- Since 1990, poverty and working poverty rates in the region have been consistently lower than the national averages. However, people of color are more likely to be in poverty or working poor than Whites.
- Although education is a leveler, racial and gender gaps persist in the labor market. At nearly every level of educational attainment, people of color have worse economic outcomes than Whites. Women of color earn significantly less than their counterparts at every level of educational attainment.

Decline in wages for workers at the 10<sup>th</sup> percentile since 1979:

-10%

Wage gap between college-educated Whites and people of color:

\$6/hr

Income inequality rank (out of largest 150 regions):

#14

# Economic vitality

## Strong long-term economic growth

Economic growth – as measured by increases in jobs and gross regional product (GRP) – the value of all goods and services produced within the region – has been consistently strong in the Bay Area over the past several decades. After the downturn in the late 1990s, the region fell behind the national average in job growth, but GRP growth has consistently remained above average.

**Job growth has fallen behind the national average since the late 1990s**

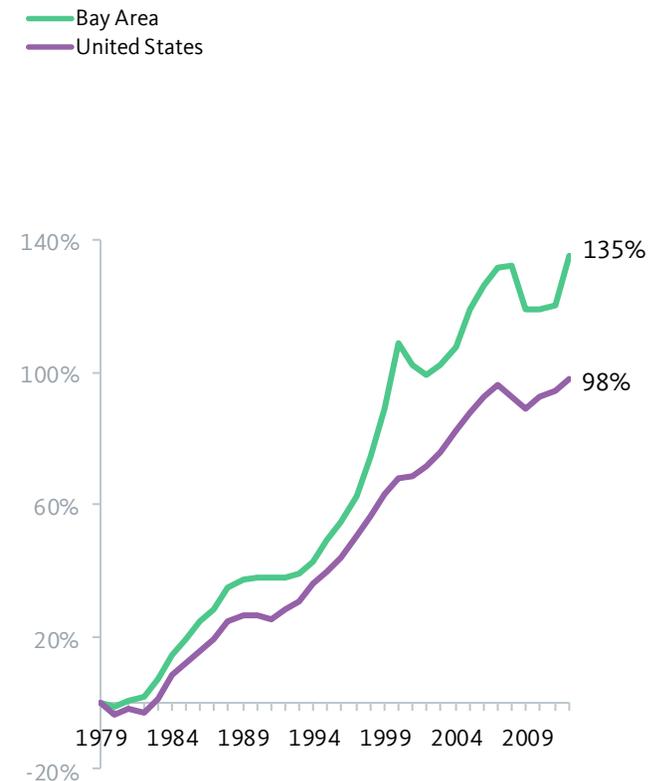
**16. Cumulative Job Growth, 1979 to 2012**



Source: U.S. Bureau of Economic Analysis.

**Gross regional product (GRP) growth has consistently outpaced the nation**

**17. Cumulative Growth in Real GRP, 1979 to 2012**



Source: U.S. Bureau of Economic Analysis.

# Economic vitality

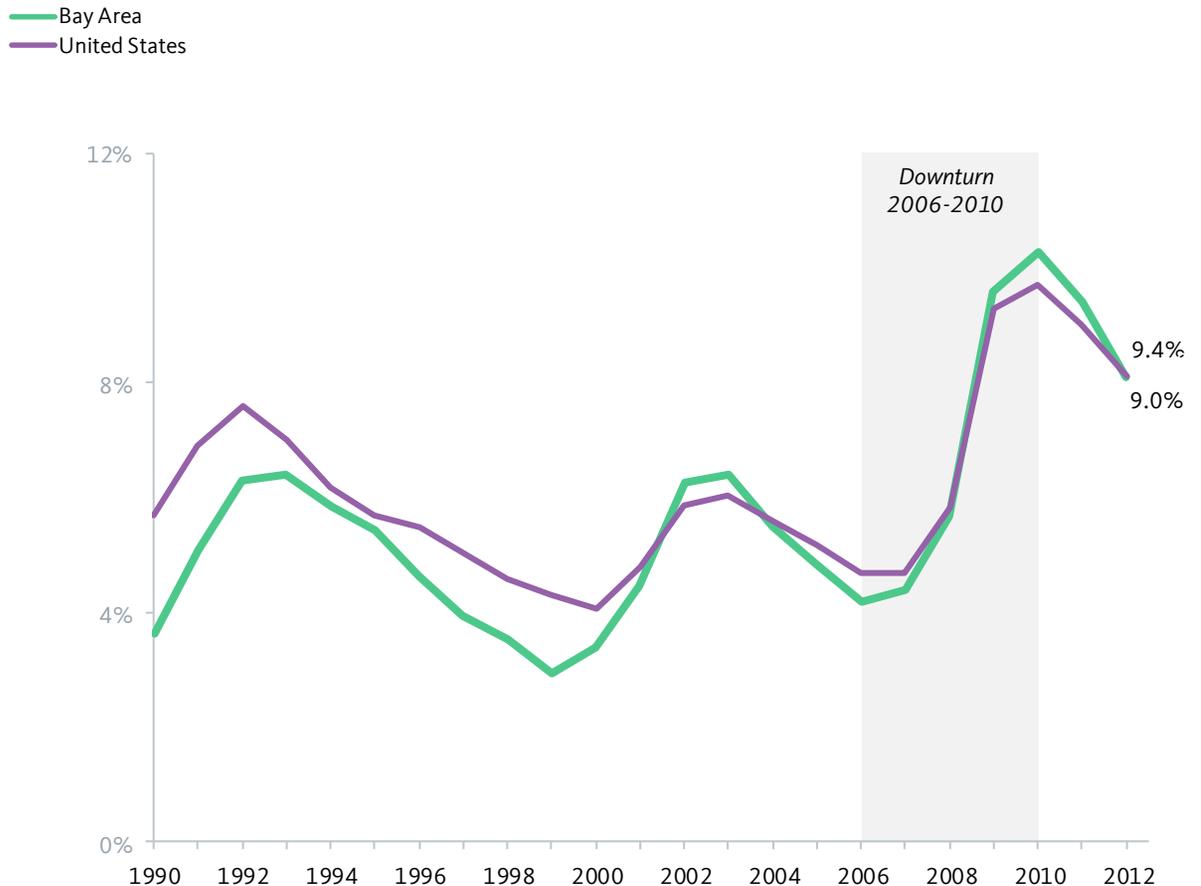
## Economic resilience through the downturn

The Bay Area’s economy was affected by the economic downturn in ways similar to the nation as a whole. During the 2006 to 2010 economic downturn, unemployment sharply increased, putting the rate just above the national average.

Although our database – and the chart here – captures regional unemployment data through 2012, the most recent data from the Bureau of Labor Statistics shows that the region’s recovery has continued. As of January 2015, 4.8 percent of Bay Area residents were unemployed, compared to the national average of 5.7 percent.

**Unemployment has surpassed the national average**

**18. Unemployment Rate, 1990 to 2012**



Source: U.S. Bureau of Labor Statistics. Universe includes the civilian noninstitutional population ages 16 and older.

# Economic vitality

## Job growth is not keeping up with population growth

While overall job growth is essential, the real question is whether jobs are growing at a fast enough pace to keep up with population growth. Despite the region's strong job growth, job growth per person has been slower than the national average for the past few decades. The number of jobs per person has only increased by 8 percent since 1979, while it has increased by 14 percent for the nation overall.

Job growth relative to population growth has been lower than the national average since 1989

19. Cumulative Growth in Jobs-to-Population Ratio, 1979 to 2012



Source: U.S. Bureau of Economic Analysis.

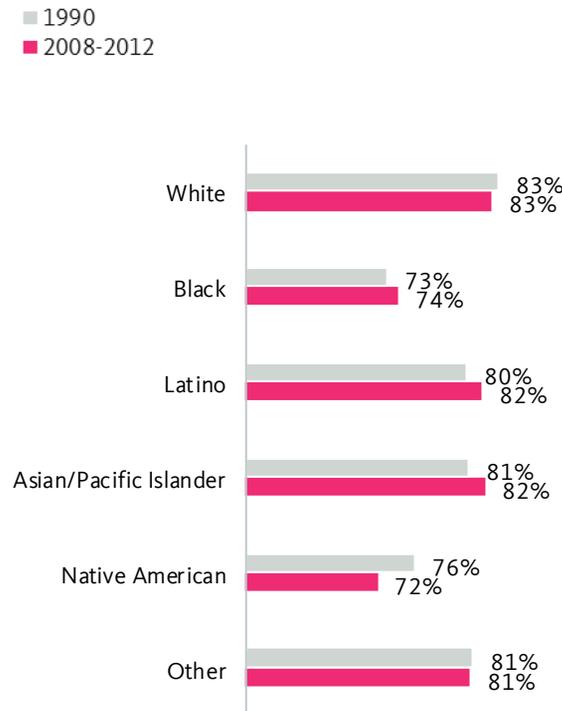
# Economic vitality

## Unemployment higher for people of color

Another key question is who is getting the region's jobs? Examining unemployment by race over the past two decades, we find that, despite some progress, racial employment gaps persist in the Bay Area region. Despite comparable labor force participation rates (either working or actively seeking employment) to Whites, Latinos, Other/mixed race, and Asian populations have higher unemployment rates. High unemployment rates for African Americans and Native Americans suggest that the lower labor force participation rates are due to long-term unemployment.

### African Americans and Native Americans participate in the labor market at lower rates

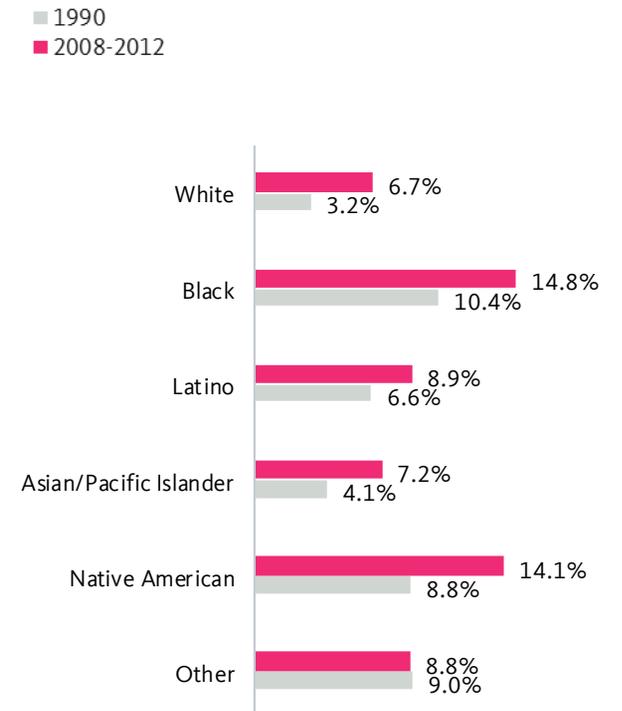
20. Labor Force Participation Rate by Race/Ethnicity, 1990 and 2008-2012



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.  
 Note: The full impact of the Great Recession is not reflected in the latest data shown, which is averaged over 2008 through 2012. These trends may change as new data become available.

### All communities of color have higher unemployment rates than Whites

21. Unemployment Rate by Race/Ethnicity, 1990 and 2008-2012



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.  
 Note: The full impact of the Great Recession is not reflected in the latest data shown, which is averaged over 2008 through 2012. These trends may change as new data become available.

# Economic vitality

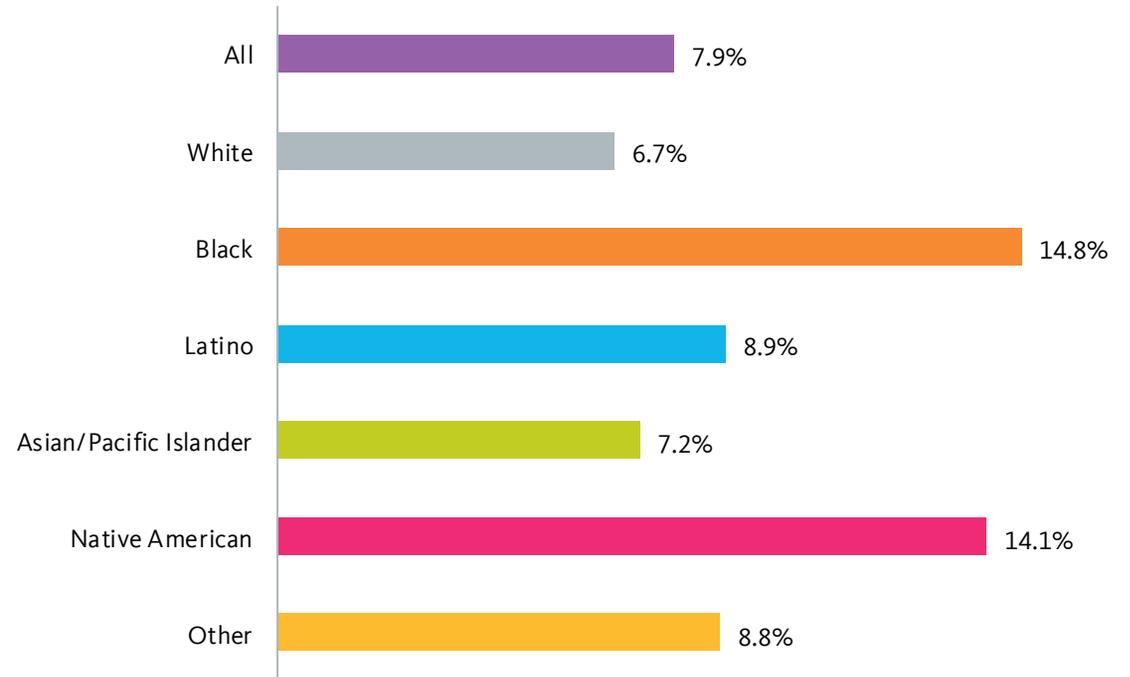
## Unemployment higher for people of color

(continued)

People of color are much more likely to be jobless than White residents. The unemployment rates of African Americans and Native Americans are double the rate of White unemployment. The unemployment rates for Latinos (8.9 percent) and people of Other/mixed race (8.8 percent) are also high in the Bay Area.

**Blacks and Native Americans have the highest unemployment rates in the region**

**22. Unemployment Rate by Race/Ethnicity, 2008-2012**



Source: IPUMS. Universe includes the civilian non institutional population ages 25 through 64.

Note: The full impact of the Great Recession is not reflected in the data shown, which is averaged over 2008 through 2012. These trends may change as new data become available.

# Economic vitality

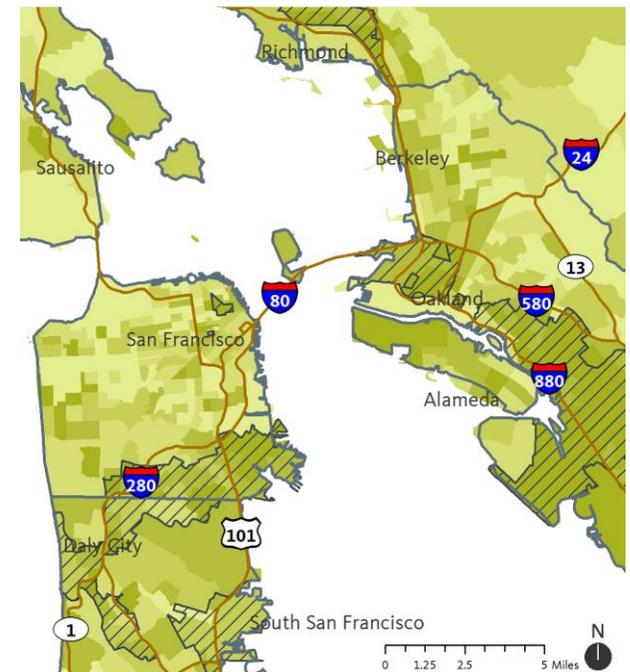
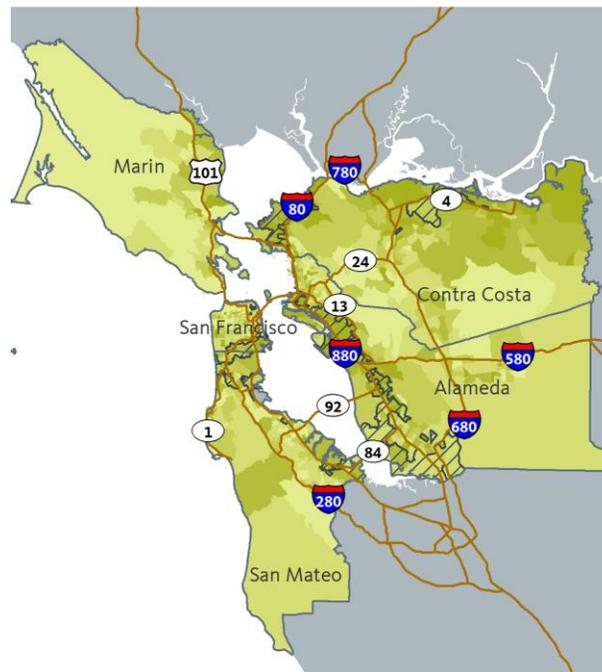
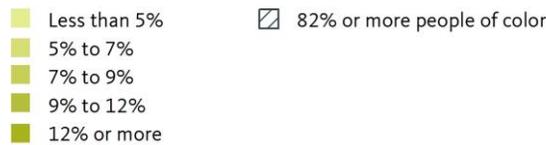
## High unemployment in urban communities of color and in the outer suburbs

Knowing where high-unemployment communities are located in the region can help the region’s leaders develop targeted solutions.

As the maps to the right illustrate, concentrations of unemployment exist in pockets throughout the region, many of which are also high people-of-color communities. More than one in four of the region’s unemployed live in neighborhoods where at least 82 percent of residents are people of color.

Clusters of unemployment can be found throughout the region and in high people-of-color communities

### 23. Unemployment Rate by Census Tract and High People-of-Color Tracts, 2008-2012



Source: U.S. Census Bureau.

Note: One should keep in mind when looking at this map and other maps displaying a share or rate that while there is wide variation in the size (land area) of the census tracts in the region, each has a roughly similar number of people. Thus, a large tract on the region’s periphery likely contains a similar number of people as a seemingly tiny tract in the urban core, and so care should be taken not to assign an unwarranted amount of attention to large tracts just because they are large.

# Economic vitality

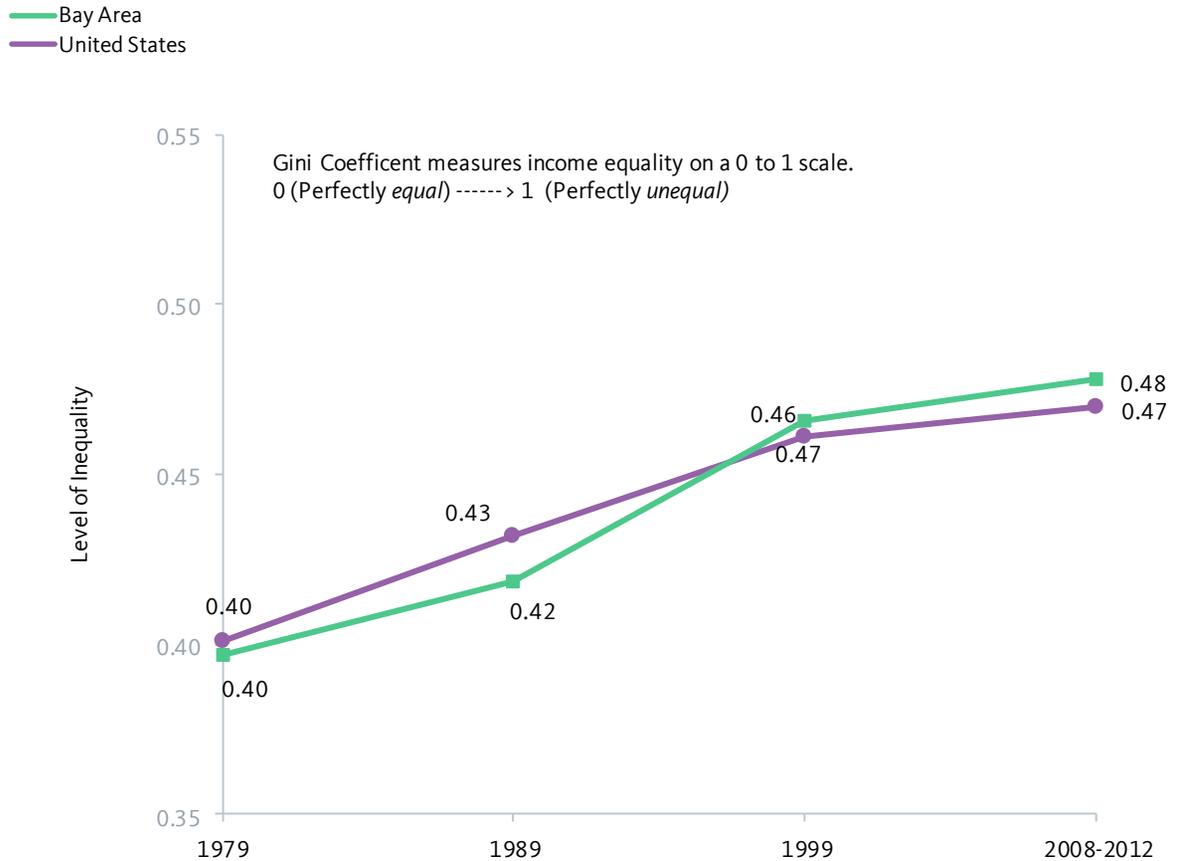
## Increasing income inequality

Income inequality has grown in the Bay Area region over the past 30 years at a rate slightly higher than the nation as a whole.

Inequality here is measured by the Gini coefficient, which is the most commonly used measure of inequality. The Gini coefficient measures the extent to which the income distribution deviates from perfect equality, meaning that every household has the same income. The value of the Gini coefficient ranges from zero (perfect equality) to one (complete inequality, one household has all of the income).

### Household income inequality has increased steadily since 1979

#### 24. Gini Coefficient, 1979 to 2008-2012



Source: IPUMS. Universe includes all households (no group quarters).

# Economic vitality

## Increasing income inequality

(continued)

In 1979, the San Francisco Bay Area ranked 45<sup>th</sup> out of the largest 150 regions in terms of income inequality. Today, it ranks 14<sup>th</sup>, leaving it between Lexington-Fayette, KY (13<sup>th</sup>), and Jackson, MS (15<sup>th</sup>). Compared with other similarly sized metros in the West, the level of inequality in the Bay Area is about the same as Los Angeles (0.48) and higher than San Diego (0.46) and San Jose (0.45).

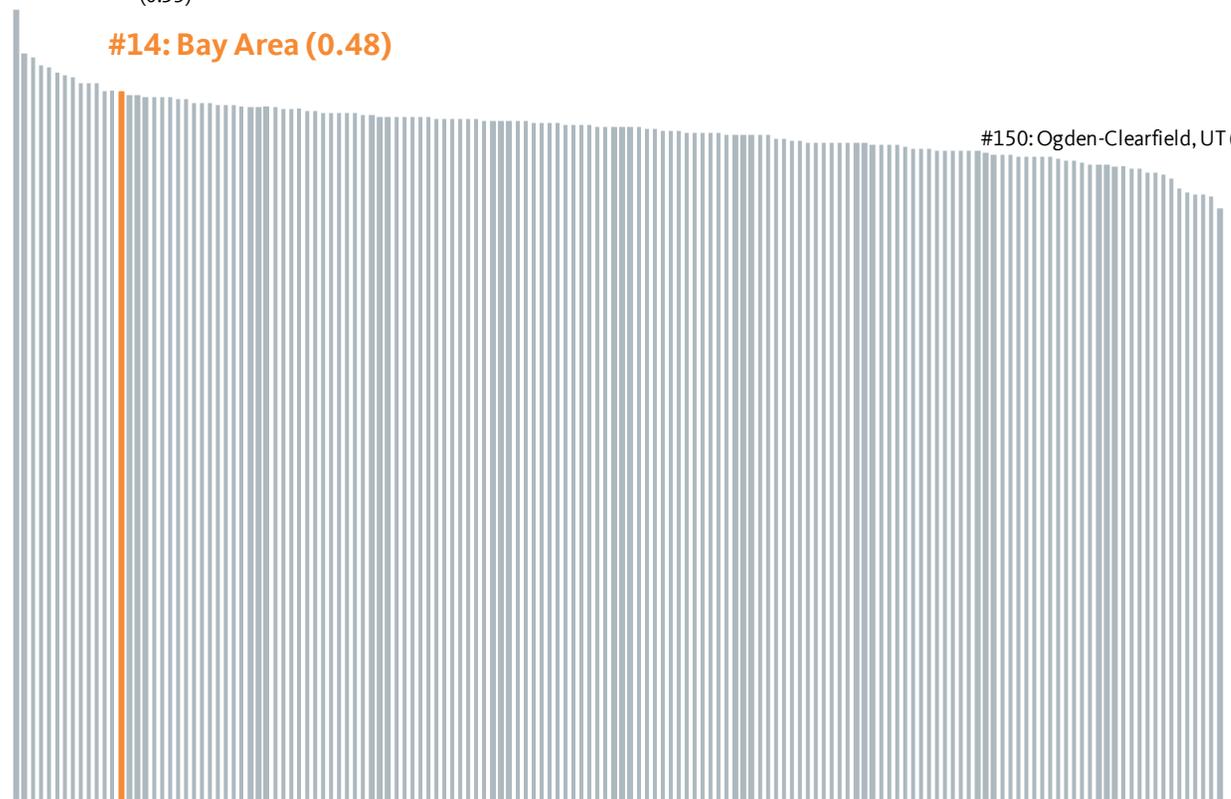
The Bay Area's inequality rank is 14<sup>th</sup> compared with other regions

25. The Gini Coefficient in 2008-2012: Largest 150 Metros Ranked

#1: Bridgeport-Stamford-Norwalk, CT  
(0.53)

#14: Bay Area (0.48)

#150: Ogden-Clearfield, UT (0.40)



Higher ←

Income Inequality

→ Lower

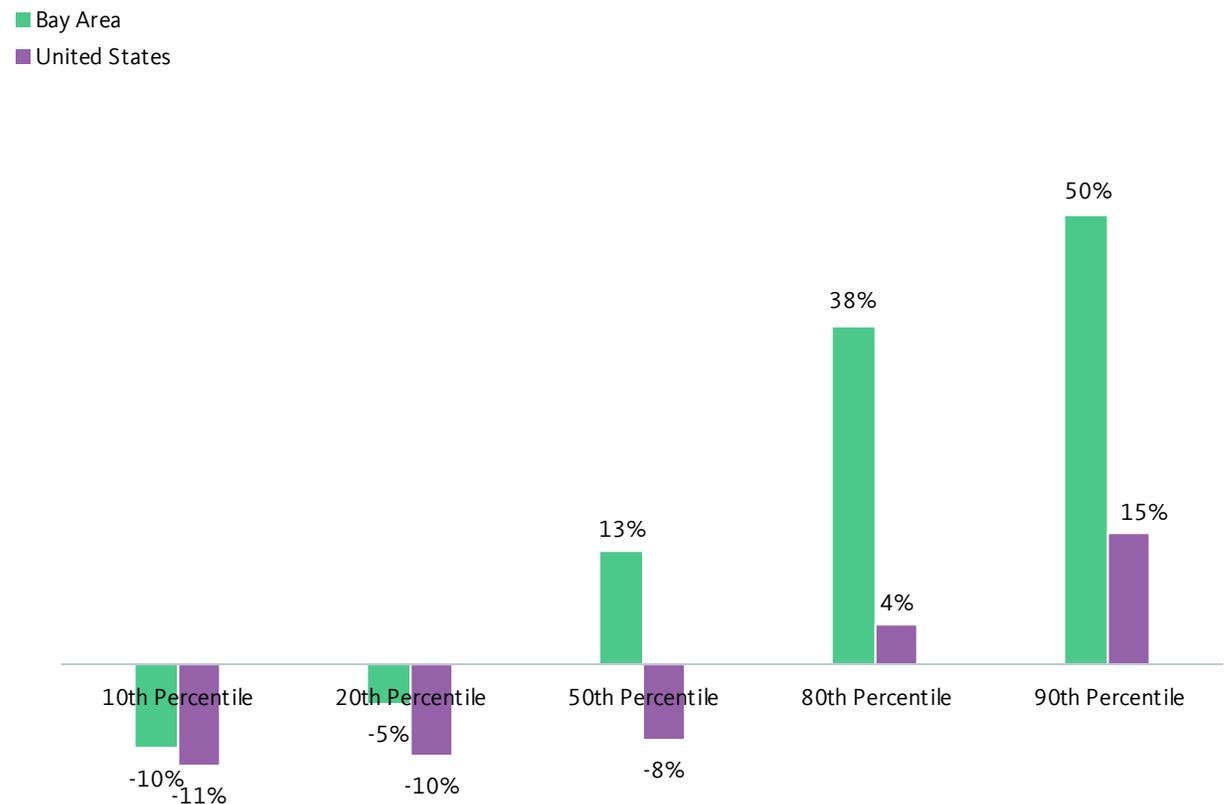
Source: IPUMS. Universe includes all households (no group quarters).

# Economic vitality

## Declining wages for low-wage workers

Wage gains at the top of the distribution play an important role in the region’s increasing inequality, alongside real wage declines at the bottom. After adjusting for inflation, growth in wages for middle earners, and top earners in particular, has been significantly higher in the Bay Area than for the nation overall. And while wages at the bottom have not fallen quite as fast as they have nationwide, the end result is widened inequality between the top and the middle, as well as between the middle and the bottom, of the wage distribution.

**Wages grew only for middle- and high-wage workers and fell for low-wage workers**  
**26. Real Earned Income Growth for Full-Time Wage and Salary Workers Ages 25-64, 1979 to 2008-2012**



Source: IPUMS. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.

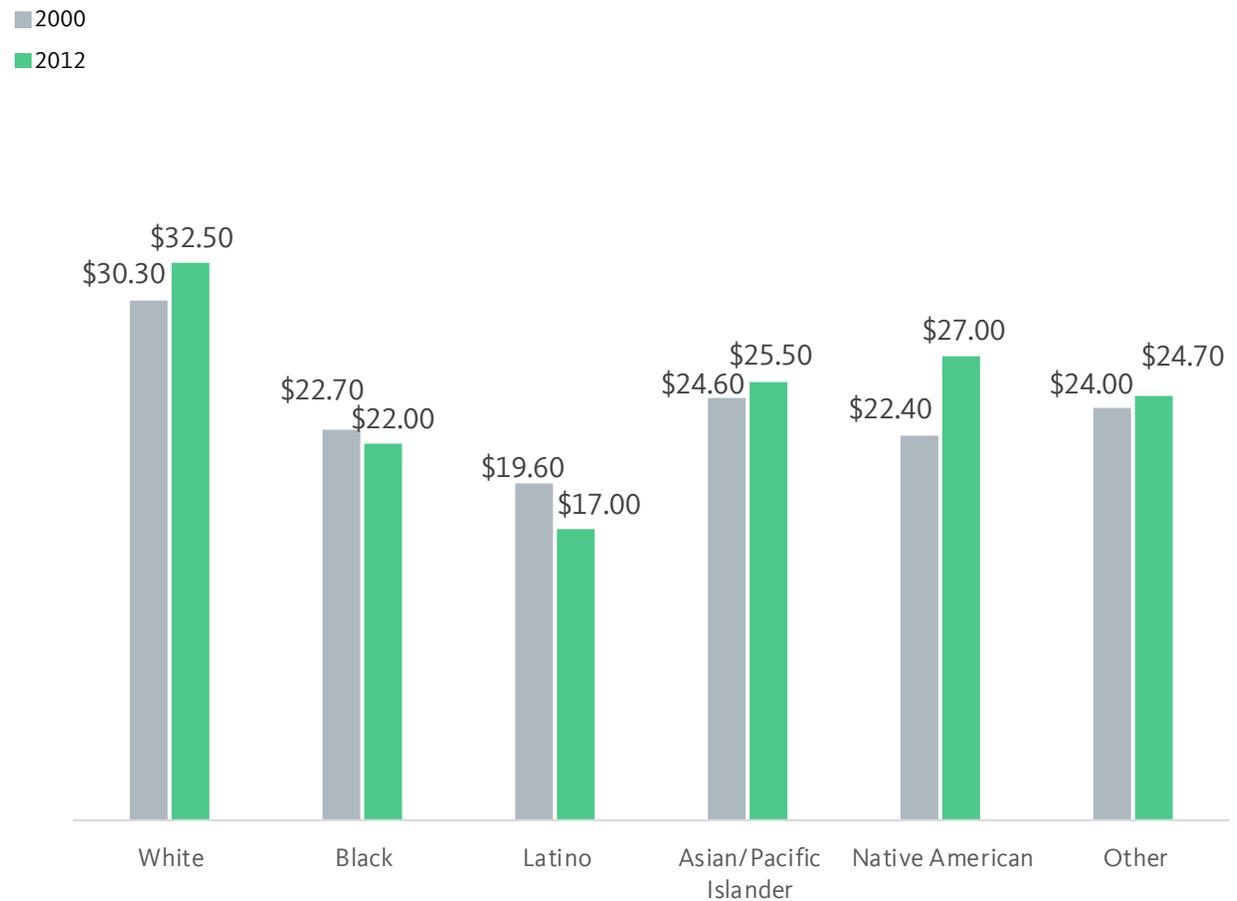
# Economic vitality

## Uneven wage growth by race/ethnicity

Wage growth has been uneven across racial/ethnic groups over the past decade. Median hourly wages have declined for African American and Latino workers over the past decade while wages have increased for Native Americans, Whites, and Asians.

Median hourly wages for Blacks and Latinos have declined since 2000

27. Median Hourly Wage by Race/Ethnicity, 2000 and 2012



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.  
 Note: Data for 2012 represents a 2008 through 2012 average.

# Economic vitality

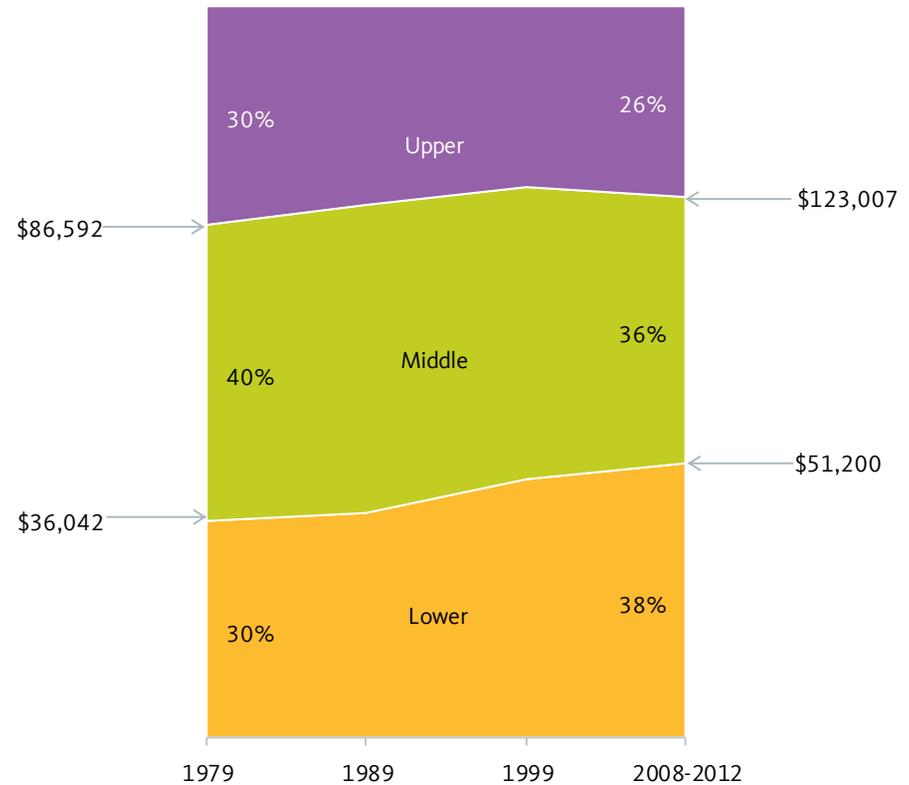
## A shrinking middle class

The San Francisco Bay Area’s middle class is shrinking: since 1979, the share of households with middle-class incomes decreased from 40 to 36 percent. The share of upper-income households also declined, from 30 to 26 percent, while the share of lower-income households grew from 30 to 38 percent.

In this analysis, middle-income households are defined as having incomes in the middle 40 percent of household income distribution. In 1979, those household incomes ranged from \$36,042 to \$86,592. To assess change in the middle-class and the other income ranges, we calculated what the income range would be today if incomes had increased at the same rate as average household income growth. Today’s middle class incomes would be \$51,200 to \$123,007, and 36 percent of households fall in that income range.

**The share of middle-class households declined since 1979**

**28. Household by Income Level, 1979 and 2008-2012 (all figures in 2012 dollars)**



Source: IPUMS. Universe includes all households (no group quarters).

# Economic vitality

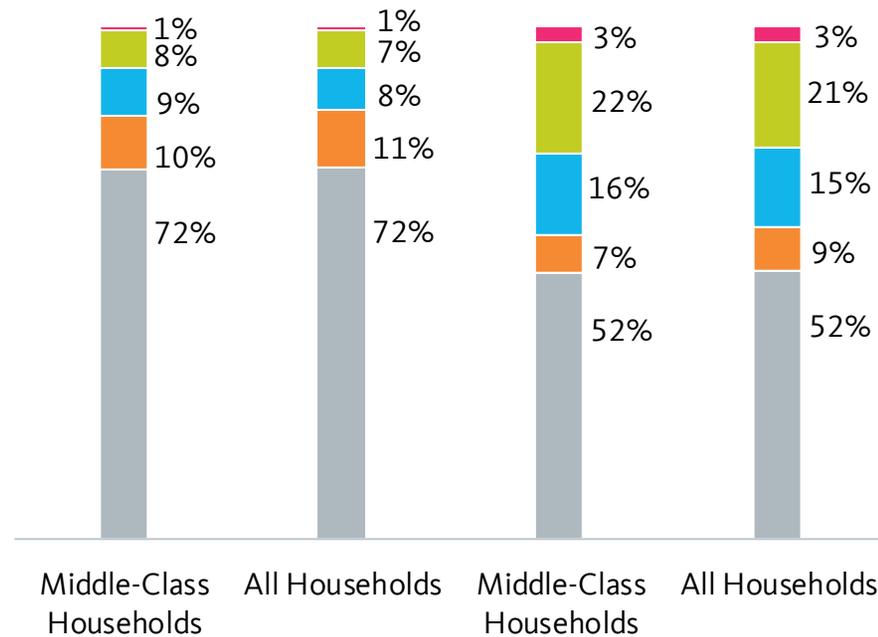
## Though the middle class is shrinking, it is relatively diverse

The demographics of the middle class reflect the region’s changing demographics. While the share of households with middle-class incomes has declined since 1979, middle-class households have become more racially and ethnically diverse as the population has become more diverse.

**The middle class reflects the region’s racial/ethnic composition**

**29. Racial Composition of Middle-Class Households and All Households, 1980 and 2012**

- Native American or Other
- Asian/Pacific Islander
- Latino
- Black
- White



Source: IPUMS. Universe includes all households (no group quarters).  
 Note: Data for 2012 represents a 2008 through 2012 average.

# Economic vitality

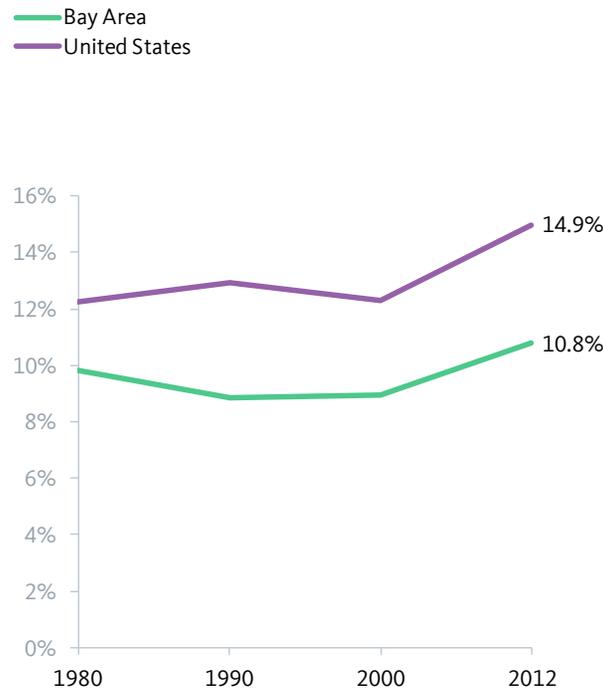
## Comparatively low, but slowly rising poverty and working poor

Poverty rates have been fairly consistent in the Bay Area over the past 30 years, and have been much lower than the national average since 1980. Still, today, about one in every nine Bay Area residents (10.8 percent) lives below the poverty line, which is about \$22,000 a year for a family of four.

The share of the working poor, defined as working full time with an income below 150 percent of the poverty level, is also consistently below average and has risen though not dramatically. About 2.5 percent of the region's 25- to 64-year-olds are working poor, compared with 4.4 percent nationally.

Lower than average poverty since 1980

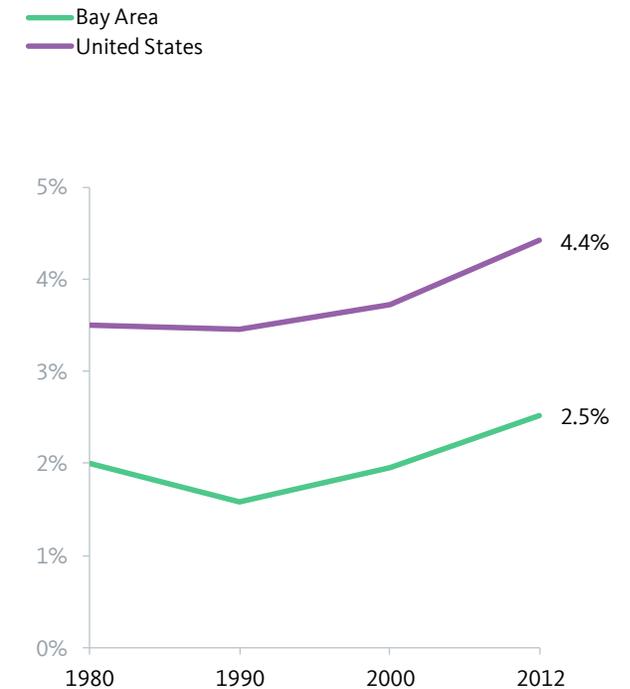
30. Poverty Rate, 1980 to 2008-2012



Source: IPUMS. Universe includes all persons not in group quarters.

Lower than average working poverty since 1980

31. Working Poverty Rate, 1980 to 2008-2012



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64 not in group quarters.

# Economic vitality

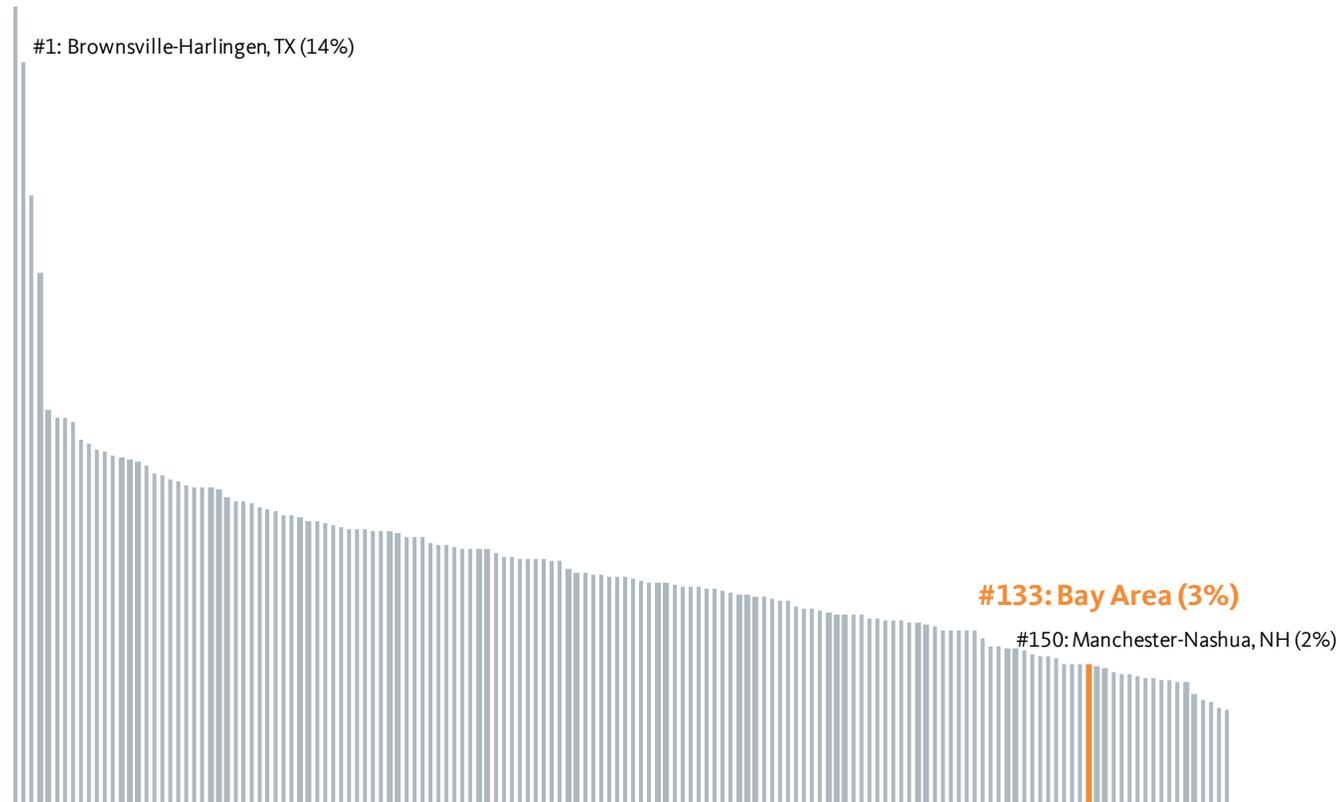
## Comparatively low, but slowly rising poverty and working poor

(continued)

The Bay Area has the 133<sup>rd</sup> highest rate of working poor among the largest 150 metros. Its poverty rate places it 132<sup>nd</sup> out of 150. Overall to other similarly sized metros in the West, the working poverty rate in the Bay Area (2.5 percent) is about the same as San Jose and much lower than Los Angeles (6 percent).

The Bay Area has the 133<sup>rd</sup> highest working poverty rate

32. Working Poverty Rate in 2008-2012: Largest 150 Metros Ranked



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64 not in group quarters.

# Economic vitality

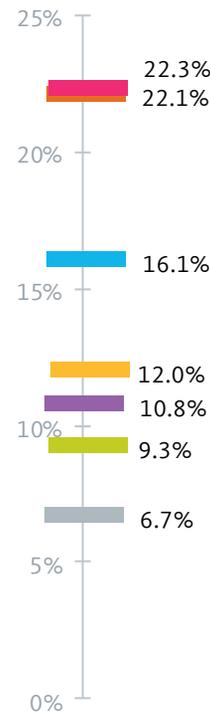
## People of color are more likely to be in poverty or among the working poor

More than one in every five of the region’s Native Americans and African Americans, and about one in every six Latinos, live below the poverty level – compared with about one in 15 Whites. Poverty is also higher for Asians and people of other or mixed racial background compared with Whites.

Latinos are much more likely to be working poor compared with all other groups, with a 6.3 percent working poor rate compared with the 2.5 percent average. African Americans also have an above-average working poor rate. Whites have the lowest rate of working poor, at just 1 percent.

### Poverty is highest for Native Americans and African Americans

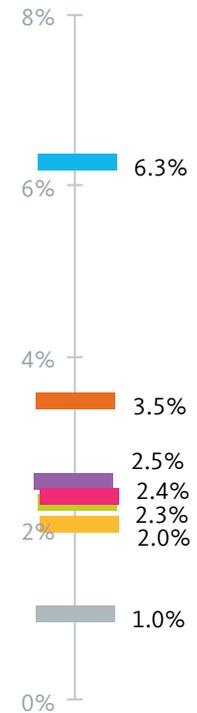
33. Poverty Rate by Race/Ethnicity, 2008-2012



Source: IPUMS. Universe includes all persons not in group quarters.

### Latinos have the highest share of working poor

34. Working Poverty Rate by Race/Ethnicity, 2008-2012



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64 not in group quarters.

# Economic vitality

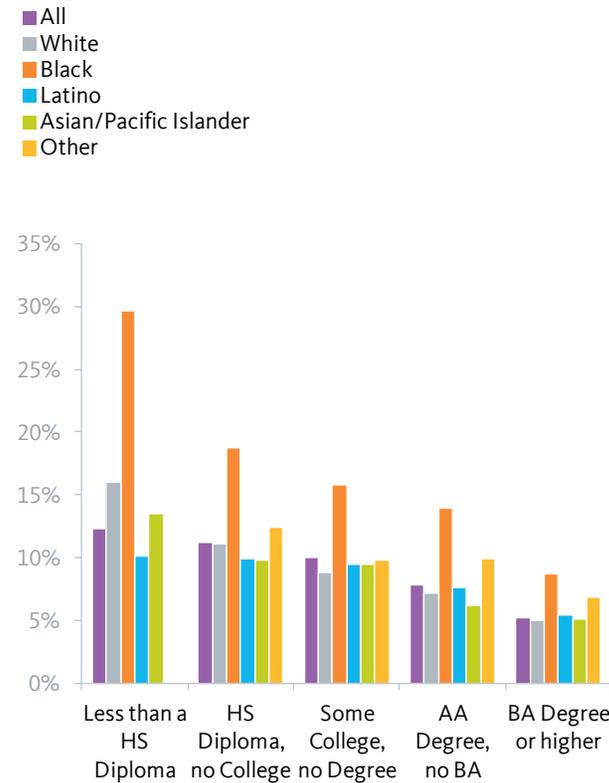
## Education is a leveler, but racial economic gaps persist

In general, unemployment decreases and wages increase with higher educational attainment.

Among college graduates, unemployment levels are similar by race, but wages still remain \$11/hour lower for Latinos and \$9/hour lower for Blacks compared with Whites. Wages for Asians with less than a bachelor's degree are also well below those of their White counterparts, and even college-educated Asians earn less than White college graduates. The unemployment rates for African Americans who have not gone to school beyond high school are particularly high compared with other groups with the same level of education.

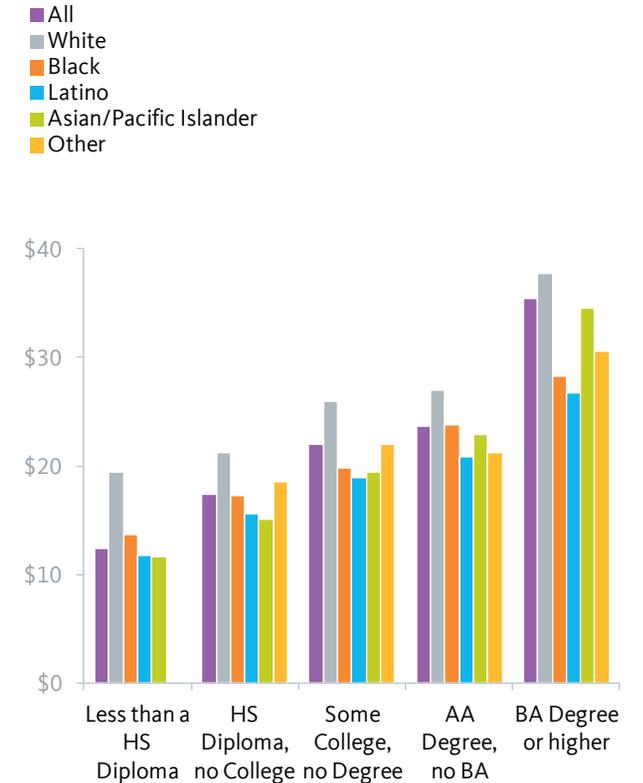
### People of color have higher unemployment and lower wages than Whites at nearly every education level

**35. Unemployment Rate by Educational Attainment and Race/Ethnicity, 2008-2012**



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.

**36. Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2008-2012**



Source: IPUMS. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.

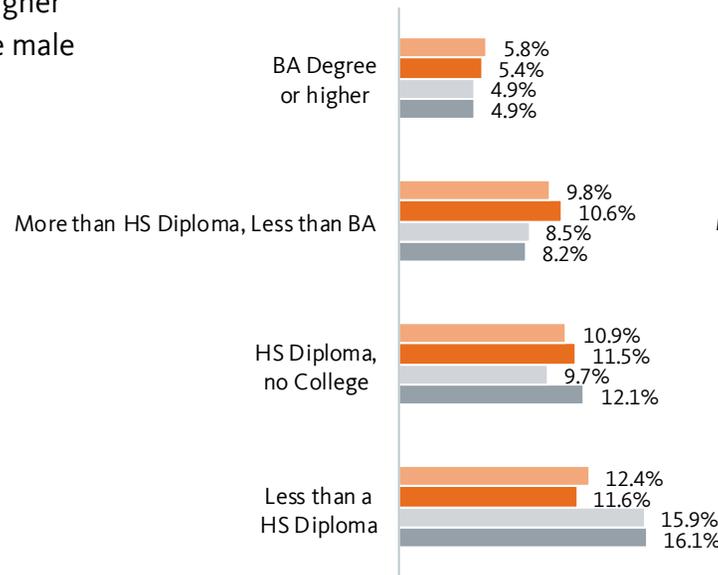
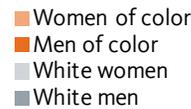
# Economic vitality

## There is also a gender gap in work and pay

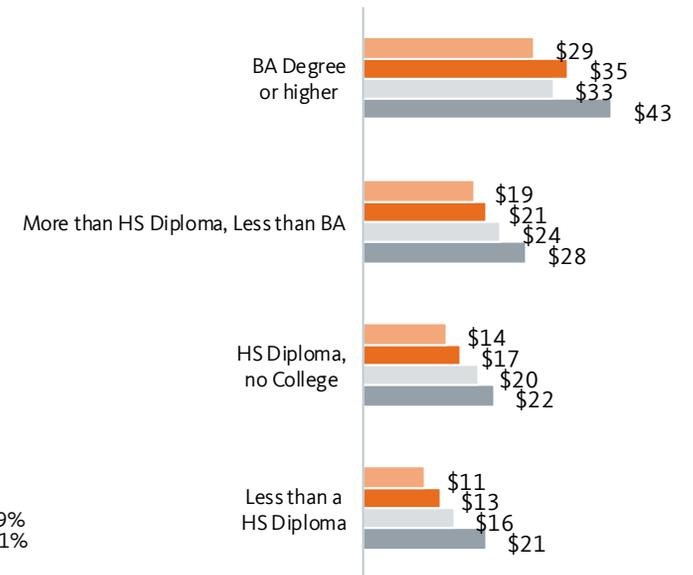
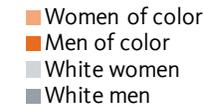
While men and women of color have higher unemployment rates than White men and women at higher levels of education, women and men of color have lower rates at lower levels of education. However, across the board, women of color have the lowest median hourly wages. College-educated women of color with a BA degree or higher earn \$14 an hour less than their White male counterparts.

### Women of color earn less than their male counterparts at every education level

**37. Unemployment Rate by Educational Attainment, Race/Ethnicity and Gender, 2008-2012**



**38. Median Hourly Wage by Educational Attainment, Race/Ethnicity and Gender, 2008-2012**



Source: IPUMS. Universe includes the civilian noninstitutional population ages 25 through 64.

Source: IPUMS. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.

# Economic vitality

## The region is not growing middle-wage jobs

Following the national trend, over the past two decades, many of the jobs that the Bay Area added were low-wage ones. Similar to the U.S. economy as a whole, the region is mainly adding low- and high-wage jobs. Middle-wage jobs have decreased in the past two decades.

Wage growth for high-wage workers was four-times that of low- and middle-wage workers.

### Low-wage jobs are growing fastest, but high-wage jobs had the most wage growth

39. Growth in Jobs and Earnings by Industry Wage Level, 1990 to 2012

- Low-wage
- Middle-wage
- High-wage



Sources: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc. Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

# Economic vitality

## Wage growth fast at the top, slow at the bottom

The region’s high-wage workers have fared well over the past two decades. Those working in professional and technical services and finance have seen their incomes more than double. Some middle-wage workers, such as those in manufacturing, real estate, and health care, have also seen strong wage growth. Growth has not been as abundant for some low-wage industries particularly those in agriculture and service jobs where the workers earn less today than they did in 1990.

**A widening wage gap by industry sector**

**40. Industries by Wage-Level Category in 1990**

Wage Category	Industry	Average Annual Earnings	Average Annual Earnings	Percent Change in Earnings	Share of Jobs
		1990 (\$2012)	2012 (\$2012)	1990-2012	2012
<b>High</b>	Mining	\$157,404	\$201,648	28%	<b>26%</b>
	Utilities	\$79,616	\$128,227	61%	
	Professional, Scientific, and Technical Services	\$77,996	\$148,877	91%	
	Management of Companies and Enterprises	\$76,660	\$134,343	75%	
	Finance and Insurance	\$76,094	\$151,771	99%	
	Information	\$67,971	\$123,487	82%	
<b>Middle</b>	Wholesale Trade	\$64,023	\$78,511	23%	<b>45%</b>
	Transportation and Warehousing	\$60,808	\$57,978	-5%	
	Manufacturing	\$60,412	\$93,831	55%	
	Construction	\$58,928	\$69,798	18%	
	Health Care and Social Assistance	\$50,482	\$65,005	29%	
	Real Estate and Rental and Leasing	\$48,457	\$66,961	38%	
	Arts, Entertainment, and Recreation	\$42,683	\$46,118	8%	
<b>Low</b>	Retail Trade	\$35,715	\$37,558	5%	<b>29%</b>
	Agriculture, Forestry, Fishing and Hunting	\$35,333	\$31,780	-10%	
	Education Services	\$33,612	\$42,996	28%	
	Administrative and Support and Waste Management and Remediation Services	\$33,377	\$50,445	51%	
	Other Services (except Public Administration)	\$31,020	\$30,161	-3%	
	Accommodation and Food Services	\$21,476	\$23,712	10%	

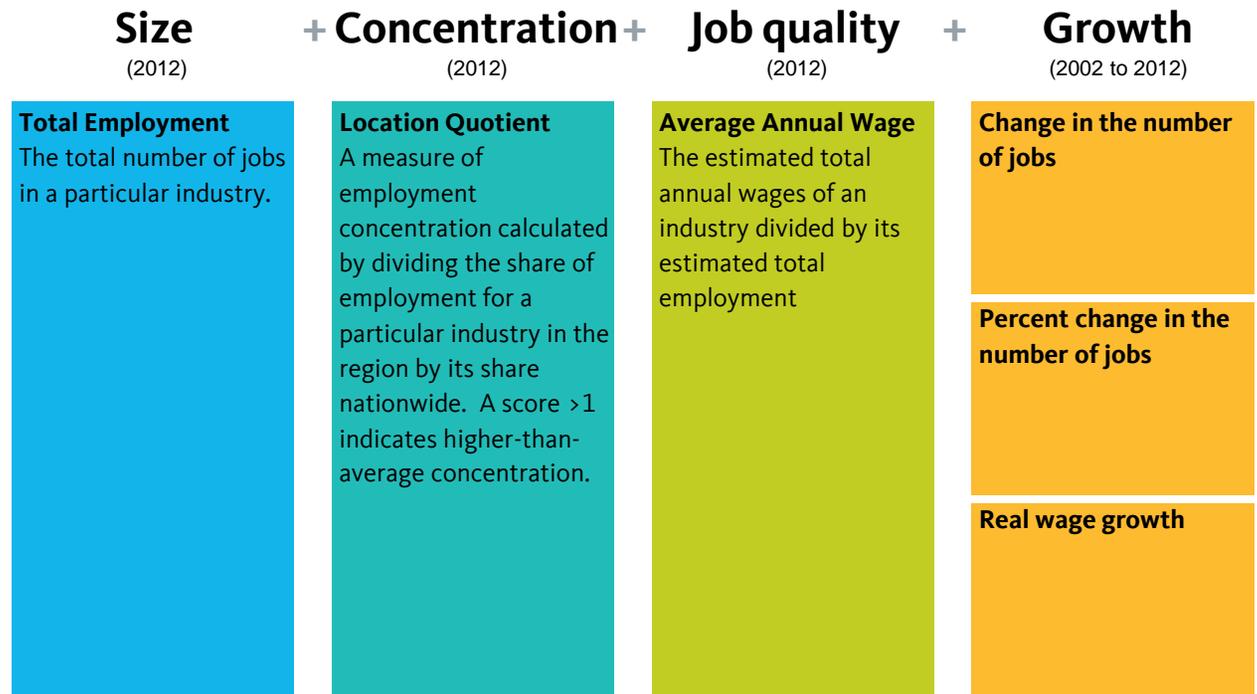
Sources: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc. Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

# Economic vitality

## Identifying the region’s strong industries

Understanding which industries are strong and competitive in the region is critical for developing effective strategies to attract and grow businesses. To identify strong industries in the region, 19 industry sectors were categorized according to an “**industry strength index**” that measures four characteristics: size, concentration, job quality, and growth. Each characteristic was given an equal weight (25 percent each) in determining the index value. “Growth” was an average of three indicators of growth (change in the number of jobs, percent change in the number of jobs, and wage growth). These characteristics were examined over the last decade to provide a current picture of how the region’s economy is changing.

### Industry strength index =



Note: This industry strength index is only meant to provide general guidance on the strength of various industries in the region, and its interpretation should be informed by an examination of individual metrics used in its calculation, which are presented in the table on the next page. Each indicator was normalized as a cross-industry z-score before taking a weighted average to derive the index.

# Economic vitality

## Management, finance, health care, and professional services dominate

According to the industry strength index, the region’s strongest industries are **professional services, management, information, health care, and other services (except public administration)**.

Professional services ranks first due to its high concentration of jobs in the region, high and growing wages, and large and growing

employment base. Management and Information rank second and third (respectively). Despite smaller (and contracting) employment numbers, their high (and growing) annual wages and relatively strong job concentration lifts up their rankings. Health Care ranks fourth due to its large and growing employment base and moderate but rising wages.

### Management, health care, finance, professional services, and wholesale trade are strong and expanding in the region

#### 41. Industry Strength Index

Industry	Size	Concentration	Job Quality	Growth			Industry Strength Index
	Total Employment	Location Quotient	Average Annual Wage	Change in Employment	% Change in Employment	Real Wage Growth	
	(2012)	(2012)	(2012)	(2002 to 2012)	(2002 to 2012)	(2002 to 2012)	
Professional, Scientific, and Technical Services	233,053	1.9	\$148,877	56,564	32%	48%	180.5
Management of Companies and Enterprises	49,083	1.6	\$134,343	-2,713	-5%	36%	51.2
Information	67,880	1.7	\$123,487	-15,793	-19%	17%	36.0
Health Care and Social Assistance	204,598	0.8	\$65,005	25,804	14%	18%	32.6
Other Services (except Public Administration)	118,732	1.7	\$30,161	24,654	26%	-15%	26.4
Finance and Insurance	91,544	1.1	\$151,771	-24,887	-21%	18%	22.2
Accommodation and Food Services	189,538	1.1	\$23,712	30,161	19%	1%	16.3
Utilities	9,918	1.2	\$128,227	-1,536	-13%	36%	9.0
Mining	1,301	0.1	\$201,648	240	23%	51%	5.9
Education Services	47,622	1.2	\$42,996	12,621	36%	8%	-9.5
Administrative and Support and Waste Management and Remediation Services	112,043	0.9	\$50,445	-782	-1%	12%	-17.6
Retail Trade	192,619	0.8	\$37,558	-17,243	-8%	-9%	-20.5
Real Estate and Rental and Leasing	35,712	1.2	\$66,961	-4,792	-12%	15%	-23.2
Arts, Entertainment, and Recreation	36,451	1.2	\$46,118	3,140	9%	9%	-24.6
Manufacturing	115,974	0.6	\$93,831	-35,953	-24%	21%	-28.3
Construction	87,268	1.0	\$69,798	-23,977	-22%	4%	-30.9
Wholesale Trade	69,512	0.8	\$78,511	-12,167	-15%	7%	-35.7
Transportation and Warehousing	65,927	1.0	\$57,978	-10,987	-14%	-3%	-38.3
Agriculture, Forestry, Fishing and Hunting	3,568	0.2	\$31,780	-2,853	-44%	-26%	-137.6

Sources: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc. Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

# Economic vitality

## Identifying high-opportunity occupations

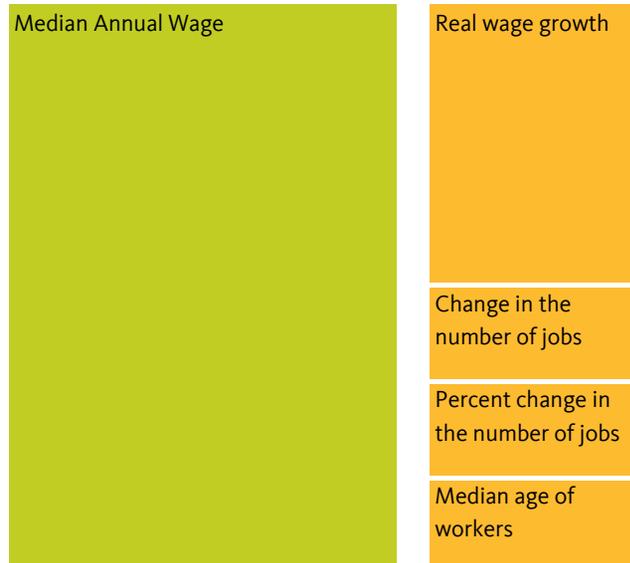
Understanding which occupations are strong and competitive in the region can help leaders develop strategies to connect and prepare workers for good jobs. To identify “high-opportunity” occupations in the region, we developed an “**occupation opportunity index**” based on measures of job quality and growth, including median annual wage, wage growth, job growth (in number and share), and median age of workers. A high median age of workers indicates that there will be replacement job openings as older workers retire.

Job quality, measured by the median annual wage, accounted for two-thirds of the occupation opportunity index, and growth accounted for the other one-third. Within the growth category, half was determined by wage growth and the other half was divided equally between the change in number of jobs, percent change in the number jobs, and median age of workers.

### Occupation opportunity index =

**Job quality**

**+ Growth**



Note: Each indicator was normalized as a cross-occupation z-score before taking a weighted average to derive the index.

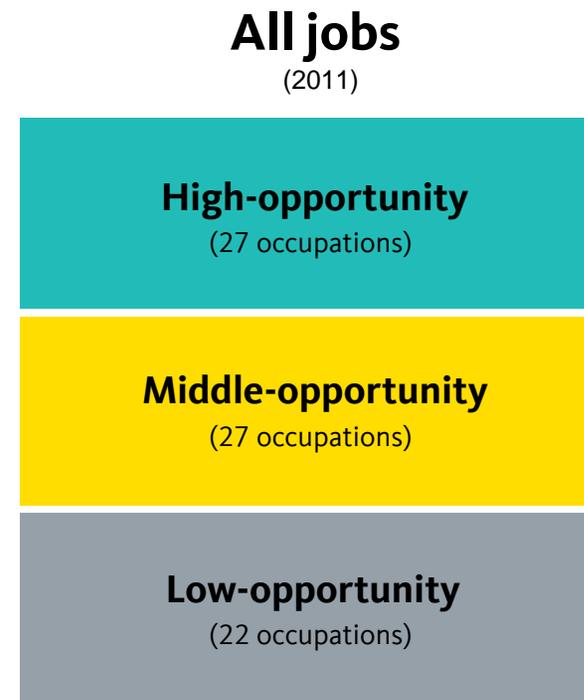
# Economic vitality

## Identifying high-opportunity occupations

(continued)

Once the occupation opportunity index score was calculated for each occupation, occupations were sorted into three categories (high-, middle-, and low-opportunity). The average index score is zero, so an occupation with a positive value has an above-average score while a negative value represents a below-average score.

Because education level plays such a large role in determining access to jobs, we present the occupational analysis for each of three educational attainment levels: workers with a high school degree or less, workers with more than a high school degree but less than a BA, and workers with a BA or higher.



Note: The occupation opportunity index and the three broad categories drawn from it are only meant to provide general guidance on the level of opportunity associated with various occupations in the region, and its interpretation should be informed by an examination of individual metrics used in its calculation, which are presented in the tables on the following pages.

# Economic vitality

## High-opportunity occupations for workers with a high school degree or less

Supervisory positions are high-opportunity jobs for workers without postsecondary education

### 42. Occupation Opportunity Index: Occupations by Opportunity Level for Workers with a High School Degree or Less

Occupation	Employment (2011)	Job Quality Median Annual Wage (2011)	Growth				Occupation Opportunity Index
			Real Wage Growth (2005-11)	Change in Employment (2005-11)	% Change in Employment (2005-11)	Median Age (2006-10 avg)	
<b>High-Opportunity</b>							
Supervisors of Construction and Extraction Workers	5,400	\$81,420	-5.4%	-3,180	-37.1%	45	0.42
Supervisors of Production Workers	4,640	\$62,950	5.7%	-1,470	-24.1%	46	0.25
<b>Middle-Opportunity</b>							
Nursing, Psychiatric, and Home Health Aides	25,140	\$30,172	3.9%	6,390	34.1%	44	-0.42
Supervisors of Food Preparation and Serving Workers	12,760	\$34,196	3.7%	680	5.6%	36	-0.51
Supervisors of Building and Grounds Cleaning and Maintenance Workers	3,360	\$47,238	-3.4%	-550	-14.1%	49	-0.23
Construction Trades Workers	50,740	\$58,920	-1.8%	-32,290	-38.9%	37	-0.40
Other Construction and Related Workers	4,540	\$54,159	-9.6%	-890	-16.4%	45	-0.24
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	15,670	\$51,541	-4.2%	-590	-3.6%	40	-0.24
Other Installation, Maintenance, and Repair Occupations	26,650	\$47,934	-1.7%	-2,890	-9.8%	45	-0.25
Metal Workers and Plastic Workers	10,330	\$40,431	-3.5%	-1,620	-13.6%	45	-0.44
Supervisors of Transportation and Material Moving Workers	4,840	\$54,656	-5.8%	-460	-8.7%	45	-0.14
Motor Vehicle Operators	36,560	\$37,859	4.1%	1,520	4.3%	44	-0.32
<b>Low-Opportunity</b>							
Other Protective Service Workers	21,580	\$29,521	-2.5%	-2,060	-8.7%	38	-0.75
Cooks and Food Preparation Workers	45,130	\$23,831	-1.1%	4,700	11.6%	34	-0.81
Food and Beverage Serving Workers	86,450	\$20,818	1.7%	6,840	8.6%	29	-0.86
Other Food Preparation and Serving Related Workers	26,740	\$20,648	3.2%	5,910	28.4%	26	-0.86
Building Cleaning and Pest Control Workers	45,950	\$27,768	1.9%	-470	-1.0%	44	-0.62
Grounds Maintenance Workers	12,360	\$30,884	1.0%	-2,990	-19.5%	39	-0.66
Animal Care and Service Workers	2,350	\$25,465	-11.9%	560	31.3%	33	-1.01
Personal Appearance Workers	7,110	\$25,987	-3.0%	3,710	109.1%	41	-0.63
Other Personal Care and Service Workers	22,220	\$30,897	-4.2%	1,120	5.3%	42	-0.66
Retail Sales Workers	111,500	\$24,070	0.1%	-10,850	-8.9%	30	-1.00
Material Recording, Scheduling, Dispatching, and Distributing Workers	54,360	\$36,564	-5.5%	-5,270	-8.8%	42	-0.63
Helpers, Construction Trades	1,940	\$33,550	6.8%	-760	-28.1%	29	-0.59
Assemblers and Fabricators	11,720	\$31,854	3.3%	-7,280	-38.3%	44	-0.60
Food Processing Workers	8,260	\$28,056	-12.0%	-900	-9.8%	38	-0.95
Printing Workers	3,650	\$41,679	-12.3%	-420	-10.3%	43	-0.59
Textile, Apparel, and Furnishings Workers	6,740	\$24,366	2.4%	-2,270	-25.2%	47	-0.69
Other Production Occupations	23,600	\$32,705	-0.5%	-1,830	-7.2%	41	-0.60
Other Transportation Workers	4,650	\$24,860	-0.1%	-160	-3.3%	40	-0.76
Material Moving Workers	44,180	\$29,506	1.5%	-6,770	-13.3%	37	-0.73

Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes all nonfarm wage and salary jobs for which the typical worker is estimated to have less than a high school degree..

# Economic vitality

## High-opportunity occupations for workers with more than a high school degree but less than a BA

Plant and system operators, supervisors of maintenance workers, and legal support are high-opportunity occupations for workers with more than a high school degree but less than a BA

43. Occupation Opportunity Index: Occupations by Opportunity Level for Workers with More Than a High School Degree but Less Than a BA

Occupation	Employment	Job Quality	Growth				Occupation Opportunity Index	
	(2011)	Median Annual Wage (2011)	Real Wage Growth (2005-11)	Change in Employment (2005-11)	% Change in Employment (2005-11)	Median Age (2006-10 avg)		
<b>High-Opportunity</b>	Plant and System Operators	2,400	\$70,710	2.9%	1,090	83.2%	46	0.51
	Supervisors of Installation, Maintenance, and Repair Workers	4,720	\$74,370	2.2%	-710	-13.1%	47	0.47
	Legal Support Workers	6,030	\$64,769	11.2%	570	10.4%	40	0.38
	Electrical and Electronic Equipment Mechanics, Installers, and Repairers	8,800	\$53,720	8.9%	4,550	107.1%	42	0.24
	Life, Physical, and Social Science Technicians	7,050	\$55,659	14.4%	2,080	41.9%	34	0.22
	Drafters, Engineering Technicians, and Mapping Technicians	10,290	\$62,726	2.5%	-630	-5.8%	45	0.20
<b>Middle-Opportunity</b>	Health Technologists and Technicians	33,120	\$61,109	-1.5%	9,530	40.4%	39	0.17
	Supervisors of Office and Administrative Support Workers	22,350	\$60,200	3.5%	-1,280	-5.4%	45	0.15
	Supervisors of Sales Workers	18,340	\$50,453	0.3%	-2,070	-10.1%	42	-0.18
	Secretaries and Administrative Assistants	60,520	\$49,176	-0.4%	-2,020	-3.2%	45	-0.18
	Financial Clerks	44,980	\$42,565	3.6%	-8,820	-16.4%	44	-0.34
	Other Education, Training, and Library Occupations	20,440	\$36,180	2.2%	2,200	12.1%	45	-0.37
	Other Healthcare Support Occupations	22,290	\$39,383	-0.3%	4,640	26.3%	35	-0.41
Information and Record Clerks	65,660	\$38,780	2.3%	-7,180	-9.9%	34	-0.54	
<b>Low-Opportunity</b>	Other Office and Administrative Support Workers	48,620	\$37,019	6.0%	-21,630	-30.8%	40	-0.61
	Entertainment Attendants and Related Workers	8,050	\$22,552	7.0%	570	7.6%	28	-0.80
	Communications Equipment Operators	2,110	\$32,220	-10.1%	-930	-30.6%	38	-0.84

Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes all nonfarm wage and salary jobs for which the typical worker is estimated to have at least a high school degree but less than a BA.

# Economic vitality

## High-opportunity occupations for workers with a BA degree or higher

Legal fields, health diagnosing, and operations specialties managers are all high-opportunity occupations for workers with a BA degree or higher

44. Occupation Opportunity Index: Occupations by Opportunity Level for Workers with a BA Degree or Higher

Occupation	Employment	Job Quality	Growth				Occupation Opportunity Index
	(2011)	Median Annual Wage (2011)	Real Wage Growth (2005-11)	Change in Employment (2005-11)	% Change in Employment (2005-11)	Median Age (2006-10 avg)	
<b>High-Opportunity</b>							
Lawyers, Judges, and Related Workers	14,610	\$151,506	7.6%	2,390	19.6%	45	2.38
Health Diagnosing and Treating Practitioners	64,980	\$117,683	16.0%	14,750	29.4%	45	1.90
Operations Specialties Managers	32,490	\$129,593	10.7%	850	2.7%	43	1.88
Advertising, Marketing, Promotions, Public Relations, and Sales Managers	16,640	\$133,181	6.9%	210	1.3%	39	1.84
Top Executives	39,480	\$130,557	2.6%	370	0.9%	47	1.79
Other Management Occupations	40,220	\$101,543	11.1%	970	2.5%	45	1.27
Engineers	26,330	\$101,470	7.4%	2,100	8.7%	42	1.18
Computer Occupations	87,550	\$95,094	3.1%	11,140	14.6%	38	1.01
Physical Scientists	6,370	\$90,626	10.9%	790	14.2%	39	0.96
Mathematical Science Occupations	2,830	\$89,328	6.5%	-320	-10.2%	43	0.86
Life Scientists	11,810	\$86,346	0.1%	3,930	49.9%	37	0.70
Architects, Surveyors, and Cartographers	3,770	\$83,418	2.6%	-910	-19.4%	46	0.67
Social Scientists and Related Workers	6,800	\$83,625	4.0%	-2,600	-27.7%	45	0.66
Financial Specialists	45,120	\$79,626	4.9%	3,590	8.6%	42	0.65
Business Operations Specialists	60,880	\$78,751	9.9%	-6,290	-9.4%	42	0.61
Other Healthcare Practitioners and Technical Occupations	2,550	\$69,992	-14.0%	2,070	431.3%	49	0.56
Postsecondary Teachers	22,790	\$79,856	-0.9%	-110	-0.5%	43	0.51
Sales Representatives, Wholesale and Manufacturing	22,500	\$70,570	7.4%	-1,370	-5.7%	44	0.45
Sales Representatives, Services	29,840	\$75,122	-4.2%	-1,410	-4.5%	41	0.31
<b>Middle-Opportunity</b>							
Librarians, Curators, and Archivists	3,380	\$60,266	0.0%	-670	-16.5%	49	0.13
Media and Communication Equipment Workers	3,880	\$51,629	9.2%	1,680	76.4%	40	0.12
Media and Communication Workers	12,240	\$61,477	-5.5%	1,510	14.1%	42	0.03
Art and Design Workers	13,500	\$58,130	-3.7%	3,920	40.9%	40	0.01
Specialists	27,510	\$50,043	2.5%	6,510	31.0%	42	-0.02
Preschool, Primary, Secondary, and Special Education School Teachers	47,080	\$58,328	-1.7%	-2,960	-5.9%	42	-0.04
Entertainers and Performers, Sports and Related Workers	8,960	\$49,936	2.1%	530	6.3%	37	-0.17
Other Teachers and Instructors	15,540	\$46,484	-5.2%	2,330	17.6%	39	-0.33
Other Sales and Related Workers	11,440	\$52,598	-22.5%	10	0.1%	45	-0.50

Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes all nonfarm wage and salary jobs for which the typical worker is estimated to have a BA degree or higher.

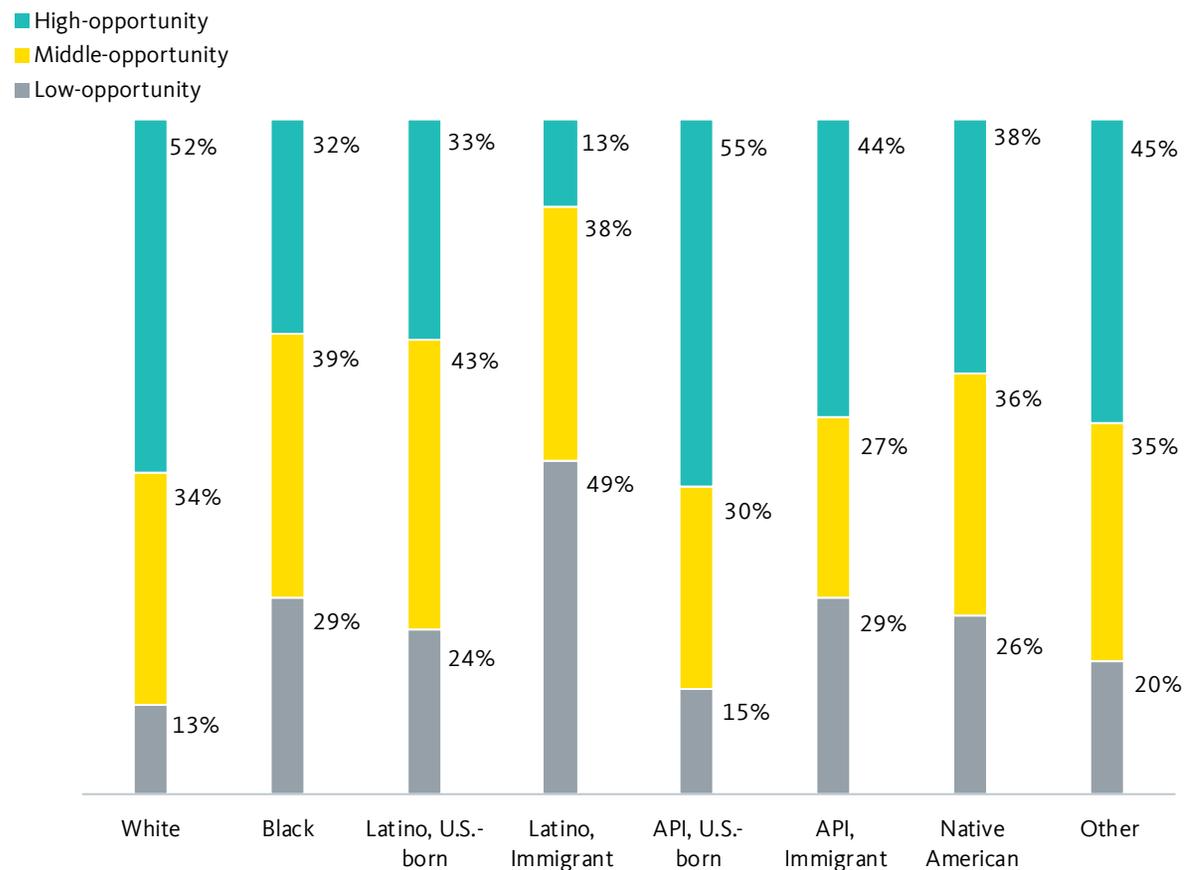
# Economic vitality

## Latinos and African Americans have the least access to high-opportunity jobs

Examining access to high-opportunity jobs by race/ethnicity and nativity, we find that U.S.-born Asians and Whites are most likely to be employed in the region’s high-opportunity occupations. People of other or mixed racial backgrounds, Asian immigrants, and Native Americans have moderate access to high-opportunity occupations. Latino immigrants are by far the least likely to be in these occupations, followed by African Americans and U.S.-born Latinos. Differences in education levels play a large role in determining access to high-opportunity jobs, but racial discrimination; work experience, social networks; and, for immigrants, legal status and English language ability are also contributing factors.

Latino immigrants, African Americans, and Native Americans are least likely to access high-opportunity jobs

45. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, All Workers



Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes the employed civilian non institutional population ages 25 through 64.

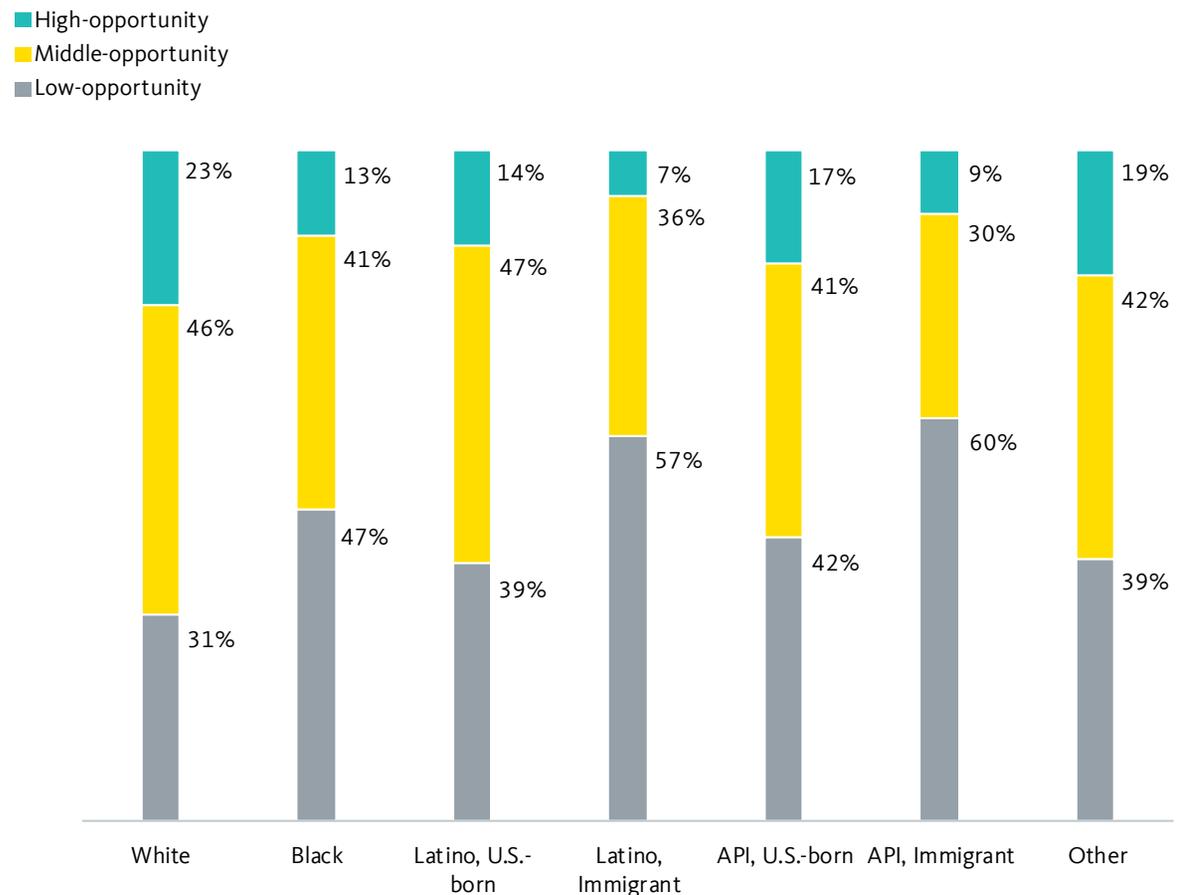
# Economic vitality

## Access to high-opportunity jobs by race for workers with a high school degree or less

Among workers with low education levels, Whites and people of other or mixed racial backgrounds are most likely to be in high-opportunity jobs, followed by U.S.-born Asians. Latino and Asian immigrants are by far the least likely to be in high-opportunity jobs. African Americans tend to be in jobs with lower levels of opportunity.

Of those with low education levels, Latino immigrants, Asian immigrants, and African Americans are least likely to access high-opportunity jobs

46. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with Low Educational Attainment



Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes the employed civilian noninstitutional population ages 25 through 64 with less than a high school degree.

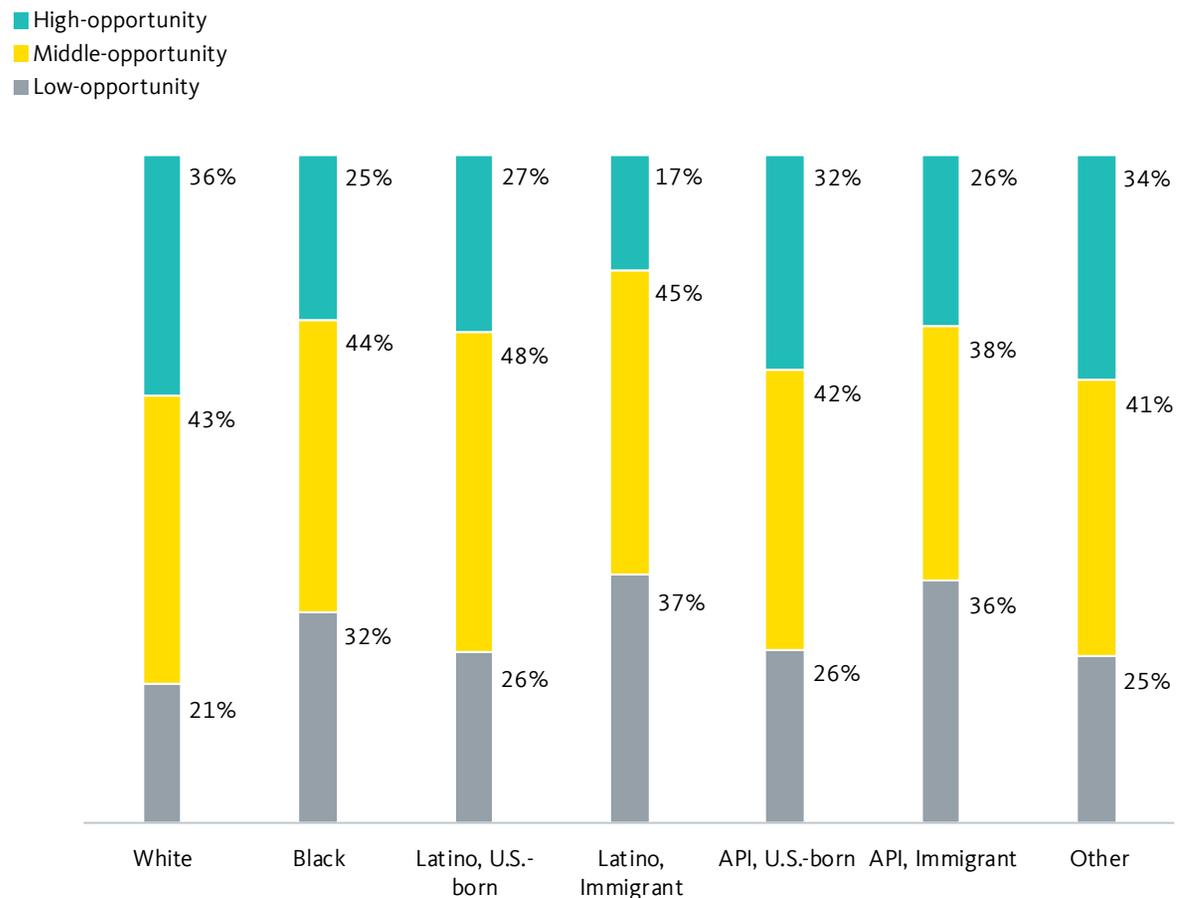
# Economic vitality

## Access to high-opportunity jobs by race for workers with more than a high school degree but less than a BA

Among workers with middle education levels, Whites, people of other or mixed race backgrounds, and U.S-born Asians are most likely to be found in high-opportunity jobs. Latino immigrants have the least access to high-opportunity jobs and along with Asian immigrants are most likely to be concentrated in low-opportunity jobs. U.S.-born Latinos are most likely to be in middle-opportunity jobs, and African Americans are more likely than most groups to be in low-opportunity jobs but are fairly concentrated in middle-opportunity jobs.

Of those with middle education levels, Latino immigrants, African Americans, Asian immigrants, U.S.-Born Latinos are least likely to access high-opportunity jobs

47. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with Middle Educational Attainment



Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes the employed civilian non institutional population ages 25 through 64 with at least a high school degree but less than a BA.

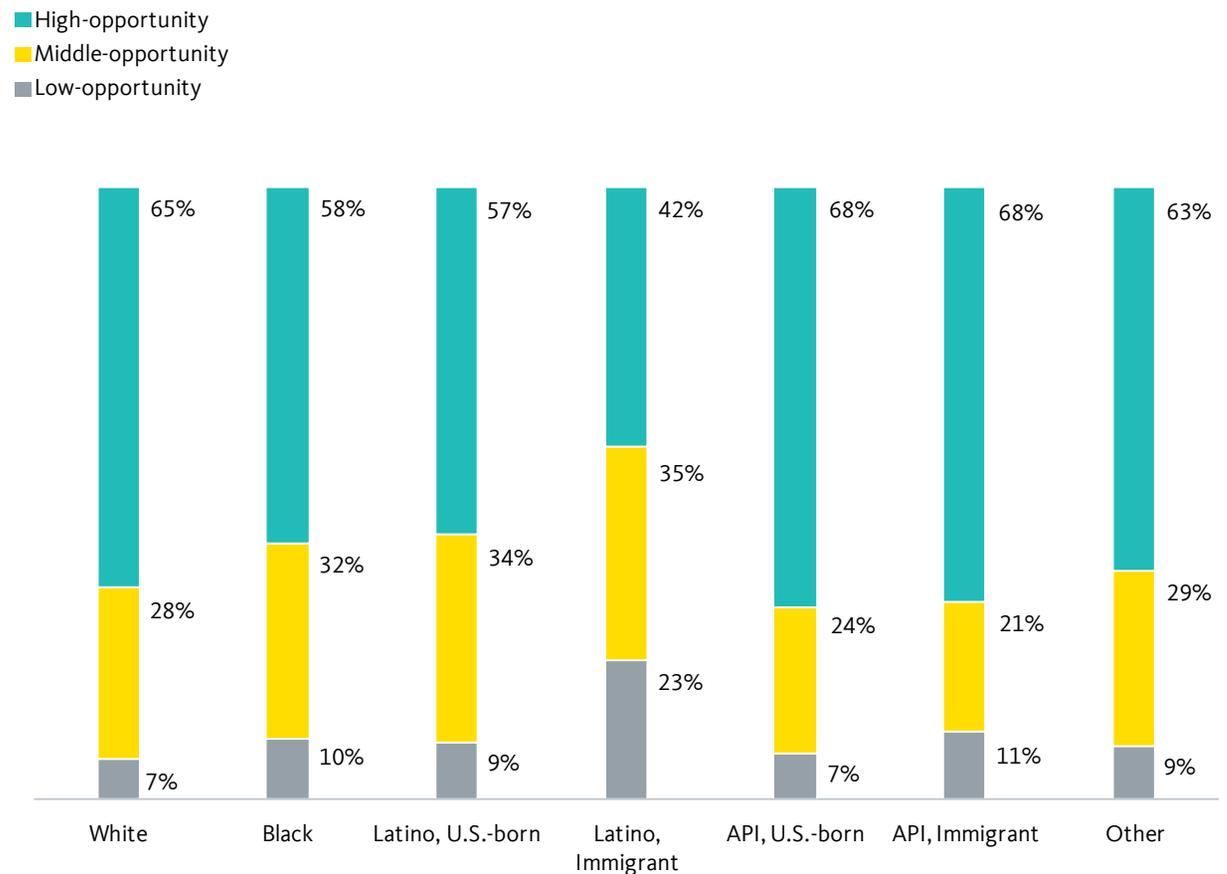
# Economic vitality

## Even among college graduates, Blacks and Latinos have less access to high-opportunity jobs

Differences in access to high-opportunity occupations tend to decrease even more for workers with college degrees, though a racial/ethnic/nativity gap remains. Asians, regardless of nativity, and Whites are the most likely to be in high-opportunity occupations, but most groups are less than 10 percentage points behind. Latino immigrants with college degrees have by far the least access to high-opportunity jobs and the highest representation in both low- and middle-opportunity occupations.

Differences in occupational opportunity by race/ethnicity and nativity shrink somewhat for college-educated workers

48. Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with High Educational Attainment



Sources: U.S. Bureau of Labor Statistics; IPUMS. Universe includes the employed civilian non institutional population ages 25 through 64 with a BA degree or higher.

# Readiness



# Readiness

## Highlights

How prepared are the region's residents for the 21<sup>st</sup> century economy?

- There is a skills and education gap for people of color, with the share of future jobs requiring at least an associate's degree being higher than the proportion of people with the requisite education level.
- Education levels differ dramatically among immigrant groups. For example, South and East Asian immigrants have high education levels and Southeast Asian, Mexican, and Central American immigrants have low education levels than their White counterparts.
- Educational attainment and pursuit of it has increased dramatically for youth of color. However, while the number of disconnected youth has decreased, youth of color are still less likely to finish high school.
- Communities of color are facing significant health challenges, with over 68 percent of the region's African Americans and Latinos obese or overweight.

Percent of Latino immigrants with at least an associate's degree:

14%

Percent of African American disconnected youth:

21%

Percent of adults who are overweight or obese:

55%

# Readiness

## An education and skills gap for people of color

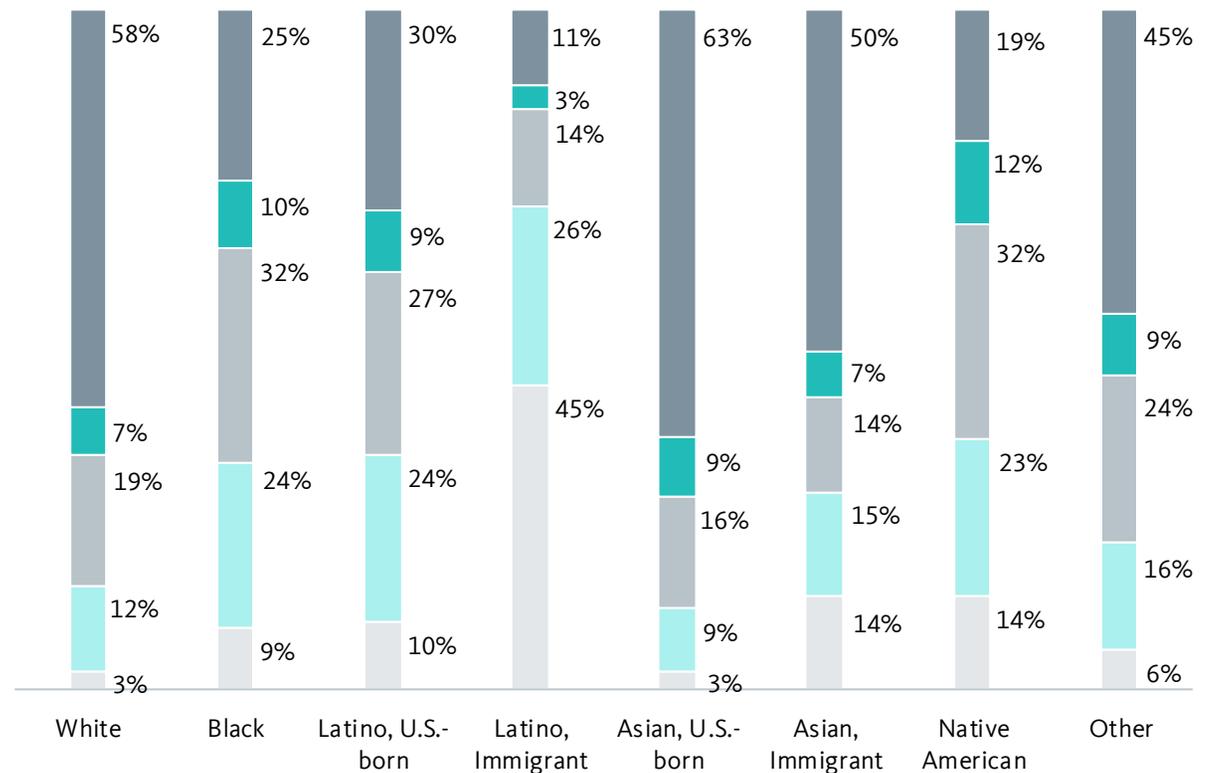
The region has large differences in educational attainment by race/ethnicity and nativity. Over half of Asians and Whites have a bachelor's degree or higher, compared with 11 percent of Latino immigrants, 19 percent of Native Americans, 25 percent of Blacks, and 30 percent of U.S.-born Latinos.

While not shown in the graph, people of every race/ethnicity and nativity improved their education levels since 1990. Despite this progress, Latinos and African Americans, who will account for an increasing share of the region's workforce, are still less prepared for the future economy than their White counterparts.

**There are wide gaps in educational attainment**

**49. Educational Attainment by Race/Ethnicity and Nativity, 2008-2012**

- Bachelor's degree or higher
- Associate's degree
- Some college
- High school grad
- Less than high school diploma



Source: IPUMS. Universe includes all persons ages 25 through 64.

# Readiness

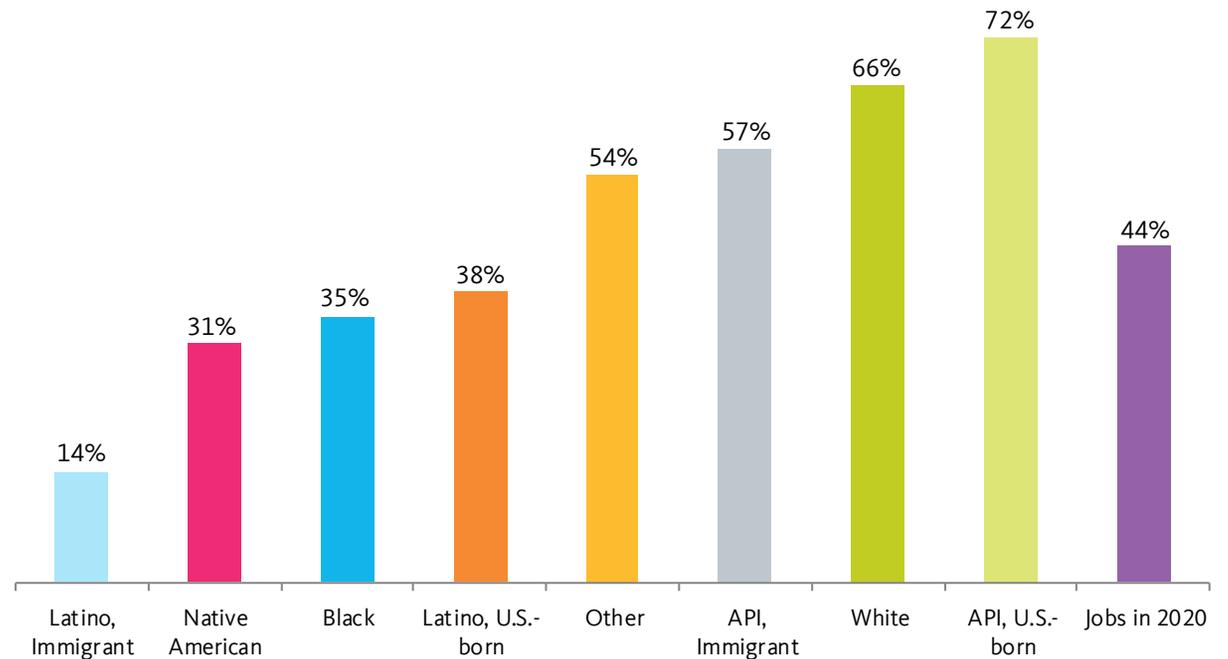
## An education and skills gap for people of color

(continued)

The region will face a skills gap unless education levels increase. By 2020, 43 percent of the state's jobs will require an associate's degree or above. Only 38 percent of U.S.-born Latinos, 35 percent of Blacks, 31 percent of Native Americans, and 14 percent of Latino immigrants have that level of education.

The region will face a skills gap unless education levels increase for Latinos, Native Americans, and Blacks

50. Share of Working-Age Population with an Associate's Degree or Higher by Race/Ethnicity and Nativity, 2012 and Projected Share of Jobs that Require an Associate's Degree or Higher, 2020



Sources: Georgetown Center for Education and the Workforce; IPUMS. Universe for education levels of workers includes all persons ages 25 through 64. Note: Data for 2012 represents a 2008 through 2012 average.

# Readiness

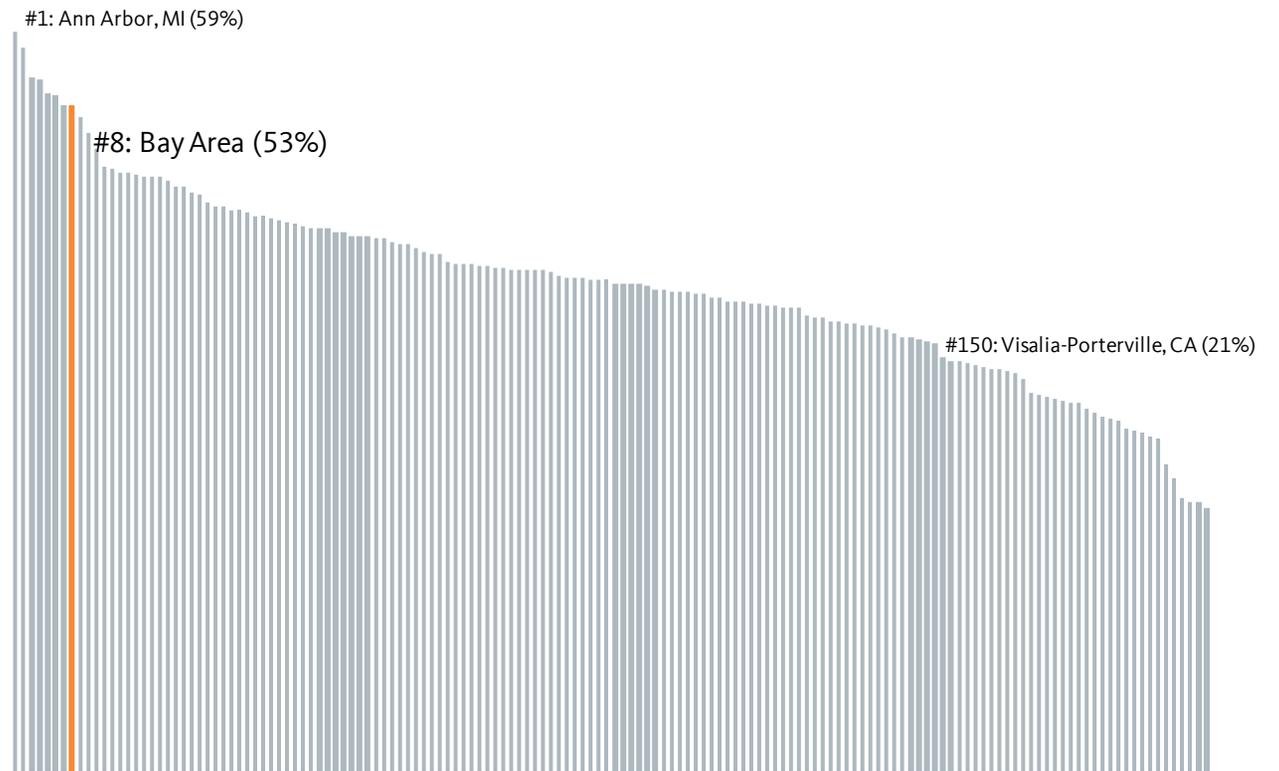
## Relatively high education levels regionally

The Bay Area ranks eighth among the largest 150 metro regions on the share of residents with an associate’s degree or higher. The region’s share of residents with an associate’s degree or higher is 53 percent, slightly lower than the share in San Jose (55 percent).

The region ranks 62<sup>nd</sup> among the 150 metros in the share of residents with less than a high school education (11 percent), lower than San Jose which ranks 50<sup>th</sup> and has a share of 12 percent.

The region is among the top ten for residents with an associate’s degree or higher among the largest 150 regions

**51. Percent of the Population with an Associate’s Degree or Higher in 2008-2012: Largest 150 Metros Ranked**



Source: IPUMS. Universe includes all persons ages 25 through 64.

# Readiness

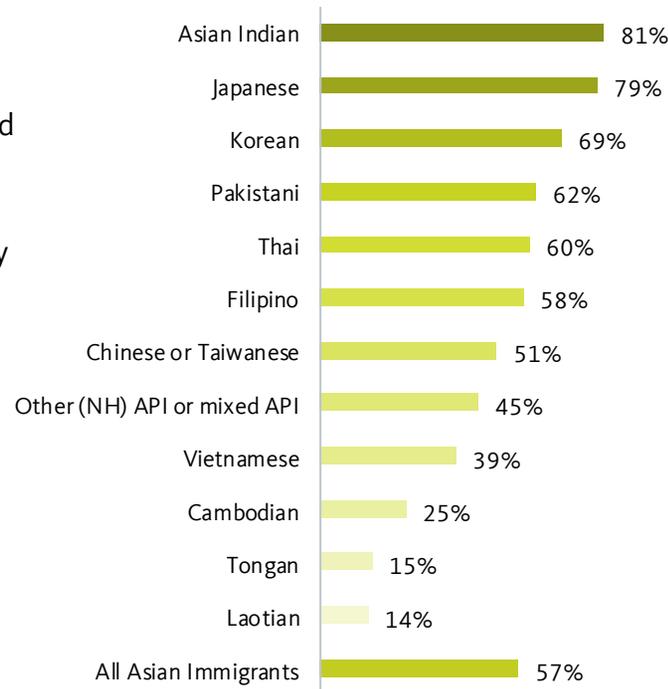
## High variation in education levels among immigrants

Immigrants from Central America and Mexico tend to have very low education levels while those from South America tend to have higher education levels (for example, 66 percent of immigrants from Argentina have at least an associate’s degree).

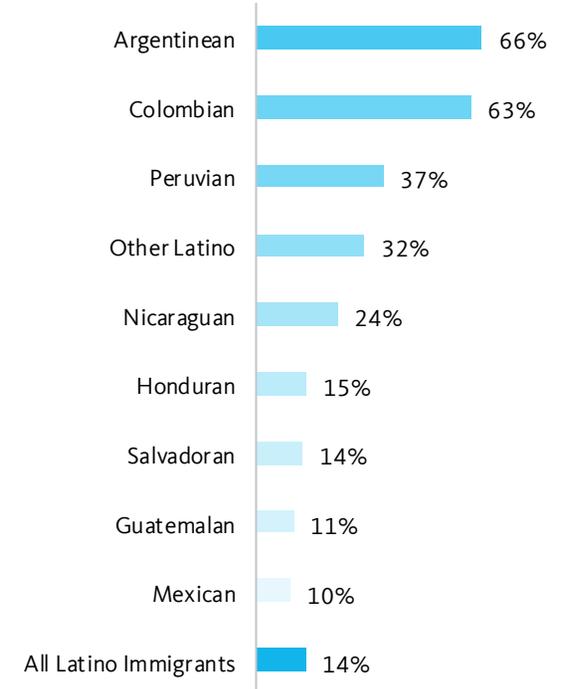
There is a lot of variation among education levels for Asian immigrants as well: South and East Asians tend to have higher education levels while Southeast Asians and Pacific Islanders have lower levels. For example, only 14 percent of Laotian immigrants have an associate’s degree or higher compared to 81 percent of Asian Indian immigrants.

Asian immigrants tend to have higher education levels compared with Latino immigrants, but there are major differences in educational attainment among immigrants by country of origin

**52. Asian Immigrants, Percent with an Associate’s Degree or Higher by Origin, 2008-2012**



**53. Latino Immigrants, Percent with an Associate’s Degree or Higher by Origin, 2008-2012**



Source: IPUMS. Universe includes all persons ages 25 through 64.

Source: IPUMS. Universe includes all persons ages 25 through 64.

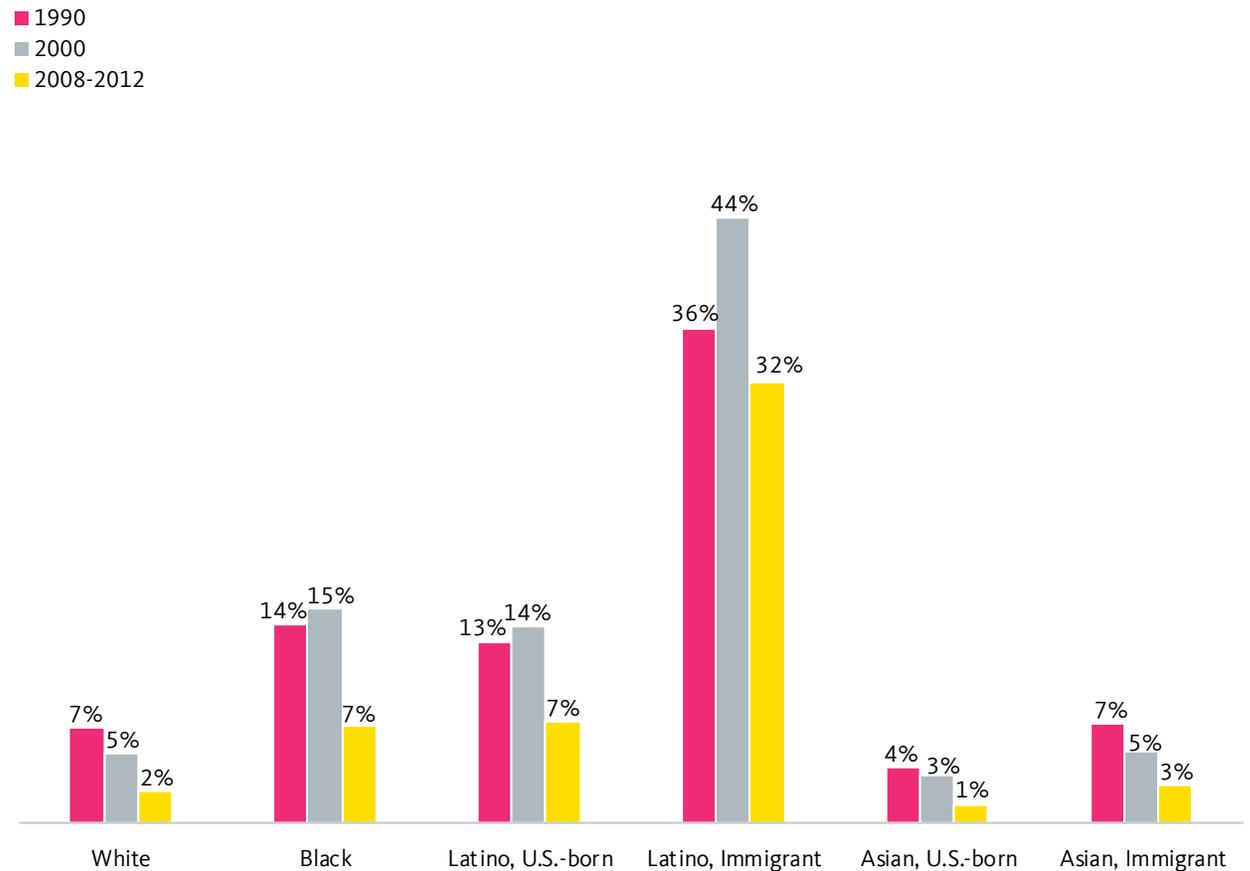
# Readiness

## More youth are getting high school degrees, but Latino immigrants are more likely to be behind

The share of youth who do not have a high school education and are not pursuing one has declined considerably since 1990 for all racial/ethnic groups. Despite the overall improvement, youth of color (with the exception of Asians) are still less likely to finish high school. Immigrant Latinos have particularly high rates of dropout or non-enrollment, with about one in three lacking and not pursuing a high school degree.

Educational attainment and enrollment among youth has improved for all groups since 1990

54. Percent of 16-24-Year-Olds Not Enrolled in School and Without a High School Diploma, 1990 to 2008-2012



Source: IPUMS.

# Readiness

## Many youth remain disconnected from work or school

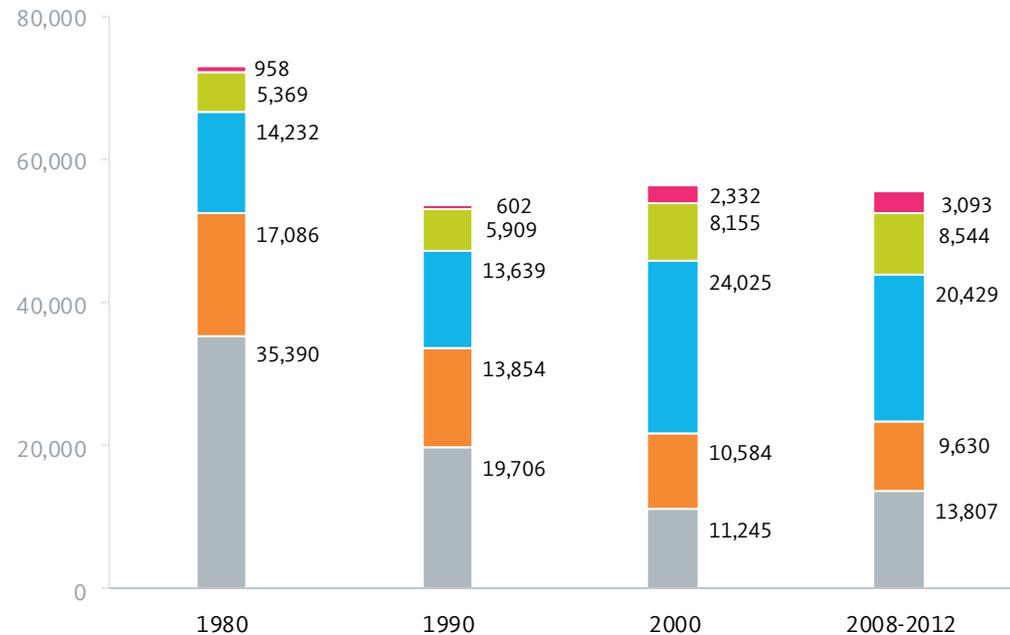
While trends in the pursuit of education have been positive for youth of color, the number of “disconnected youth” who are neither in school nor working remains high. Of the region’s 56,000 disconnected youth, 37 percent are Latino, 25 percent are White, 17 percent are African American, and 15 percent are Asian. As a share of the youth population, African Americans have the highest rate of disconnection (21 percent), followed by Latinos (15 percent), Whites (9 percent), and Asians (8 percent).

Since 2000, the number of disconnected youth decreased slightly. This was due to improvements among African American and Latino youth; all other groups saw a slight increase.

There are nearly 56,000 disconnected youth in the region

55. Disconnected Youth: 16-24-Year-Olds Not in Work or School, 1980 to 2008-2012

- Native American or Other
- Asian/Pacific Islander
- Latino
- Black
- White



Source: IPUMS.

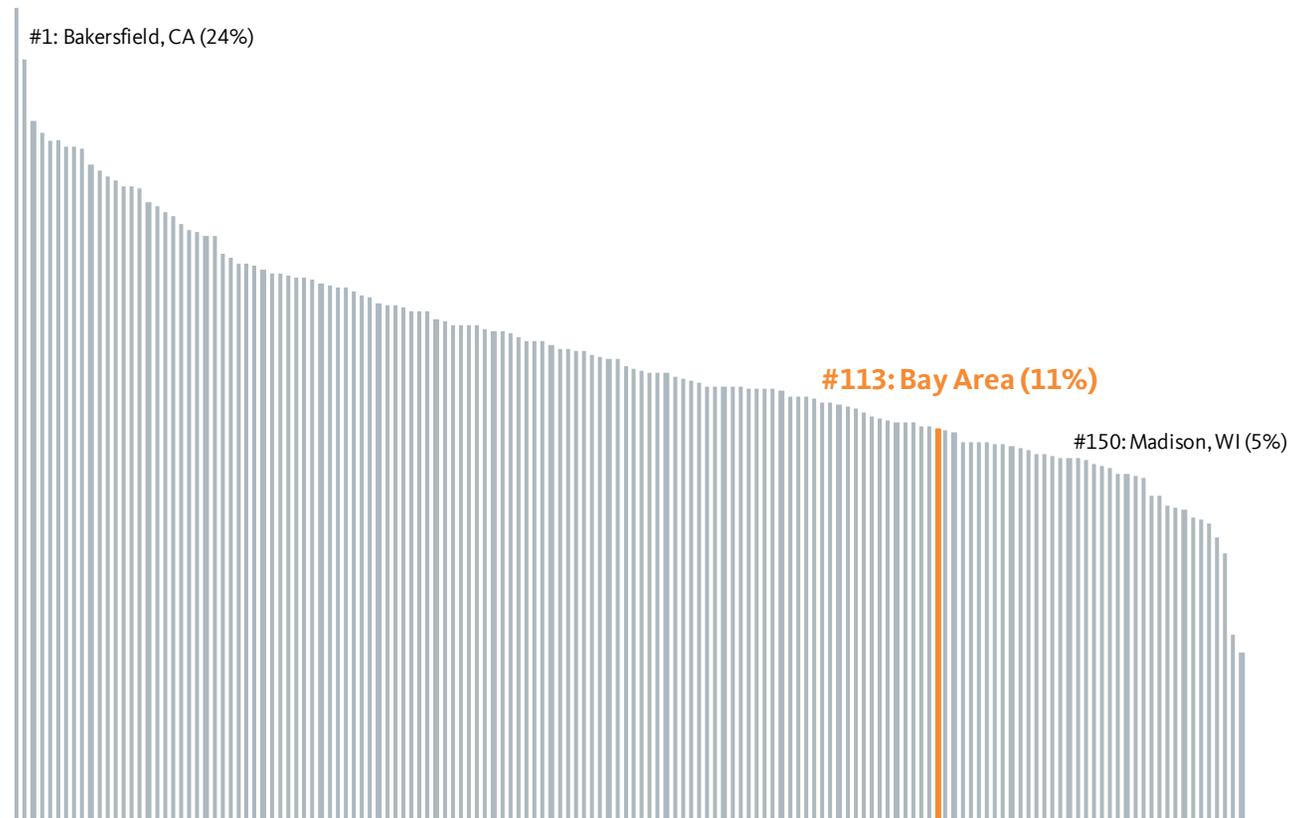
# Readiness

## Many youth remain disconnected from work or school

(continued)

Despite the drop in disconnected youth over the last decade, about one in nine of the Bay Area's youth are not in work or school. This places the region at 113<sup>th</sup> out of the largest 150 metro areas – compared to similarly sized metro areas in the West, the region is doing better than Los Angeles which is ranked 74<sup>th</sup>, but worse than San Jose, which is ranked 126<sup>th</sup>.

The Bay Area ranks among the bottom third of regions in its share of disconnected youth  
56. Percent of 16-24-Year-Olds Not in Work or School, 2008-2012: Largest 150 Metros Ranked



Source: IPUMS.

# Readiness

## Health challenges among communities of color

The region’s African Americans have particularly high rates of obesity, diabetes, and asthma. Latinos are at high risk of being overweight and obese but have average rates of diabetes and asthma. Whites do better than average on all measures except for asthma. Despite having lower obesity rates, Asians have higher-than-average rates of diabetes.

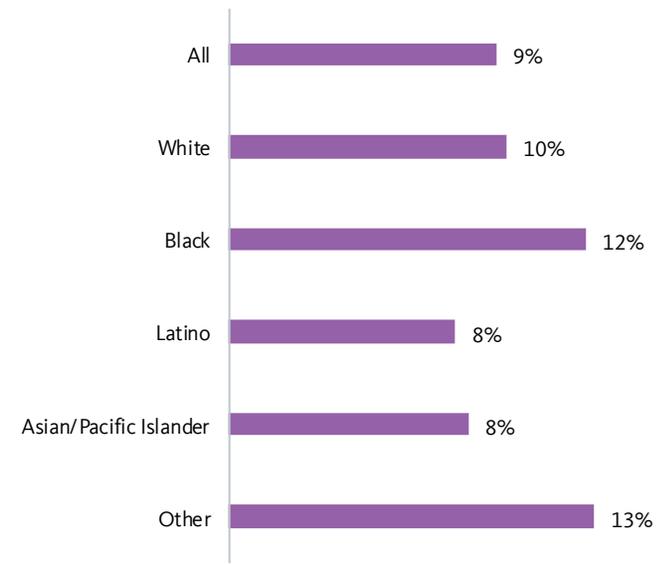
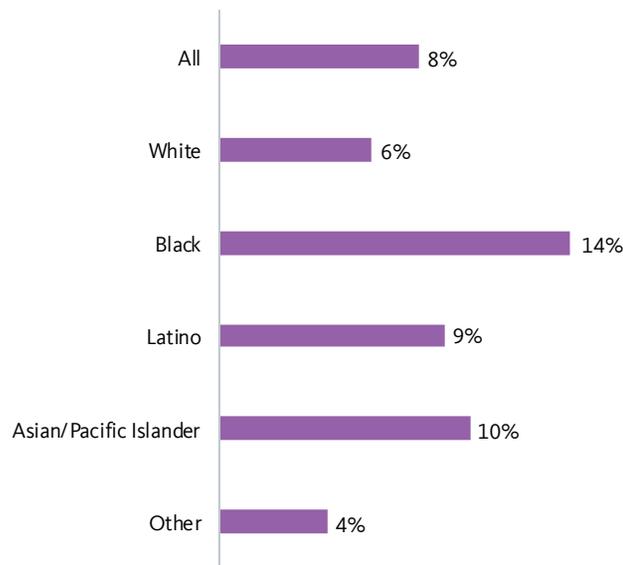
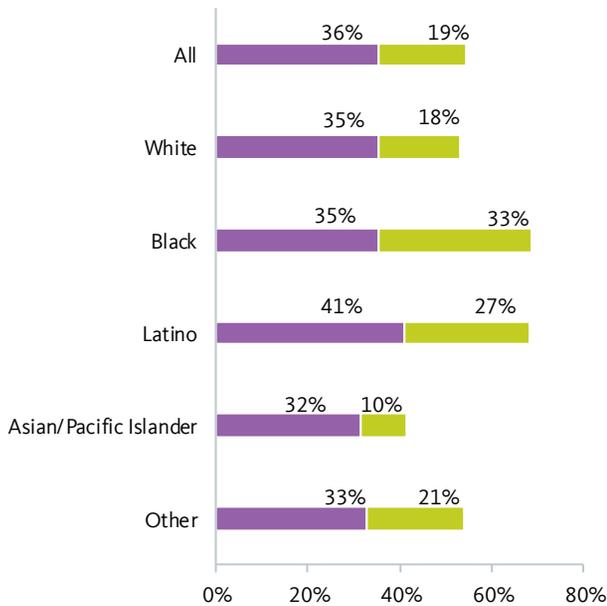
**African Americans face above average obesity, diabetes, and asthma rates, while Latinos have high rates of being overweight and obese**

**57. Adult Overweight and Obesity Rates by Race/Ethnicity, 2008-2012**

**58. Adult Diabetes Rates by Race/Ethnicity, 2008-2012**

**59. Adult Asthma Rates by Race/Ethnicity, 2008-2012**

■ Overweight  
■ Obese



Source: Centers for Disease Control and Prevention. Universe includes adults ages 18 and older.

Source: Centers for Disease Control and Prevention. Universe includes adults ages 18 and older.

Source: Centers for Disease Control and Prevention. Universe includes adults ages 18 and older.

# Connectedness



# Connectedness

## Highlights

Are the region's residents and neighborhoods connected to one another and to the region's assets and opportunities?

- The Bay Area is less auto dependent than much of the nation, with 62 percent of residents driving alone to work, the second lowest share of the 150 largest metros in the nation.
- Communities of color are more likely to live in neighborhoods of concentrated poverty. For example, about 3 percent of the Black population lives in high-poverty tracts compared with less than 1 percent of Whites.
- Communities of color have higher housing burdens, especially for those who are renters.
- Residential segregation is declining at the regional scale for all groups, but Black-White segregation remains high and Latino-White and Latino-Asian segregation is increasing.
- Food deserts are clustered around the region, and are predominantly in people-of-color neighborhoods.

Percent of food desert residents who are people of color:

80%

Homeowner housing burden rank (out of largest 150 regions):

#12

Percent of renters who are burdened by housing costs:

50%

# Connectedness

## Segregation remains high between some groups and White-Latino segregation is increasing

While racial segregation overall has been on the decline in the region, it remains very high between certain groups, and is increasing for others.

The chart at the right displays the dissimilarity index, which estimates the share of a given racial/ethnic group that would need to move to a new neighborhood to achieve complete integration with the other group.

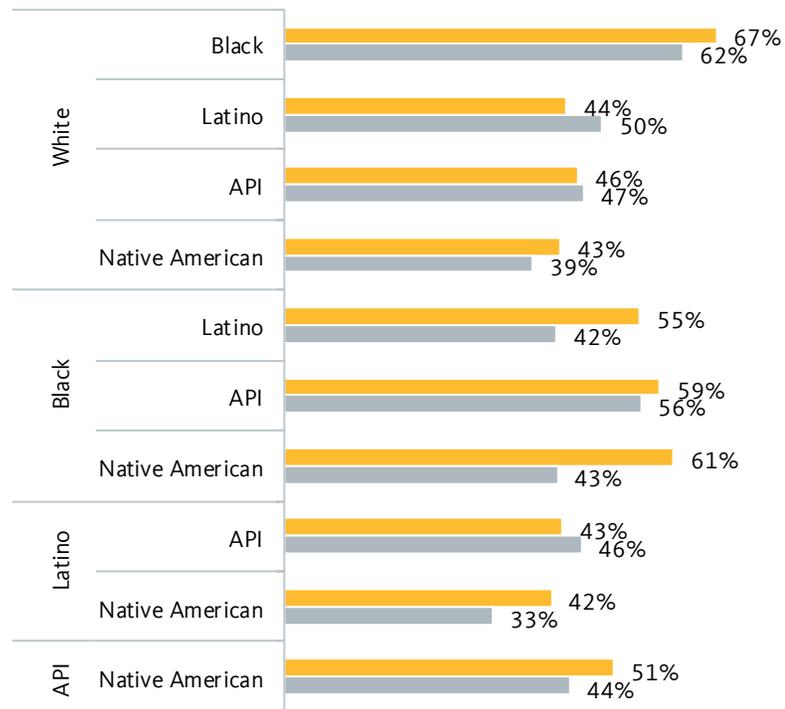
This index shows that Black-White segregation remains high: 62 percent of Black Bay Area residents would need to move to achieve integration with Whites.

It also shows that segregation is increasing between several groups. Latinos and Whites are more segregated from each other now than in 1990, and the same is true for Latinos and Asians.

Segregation among all groups of color has decreased, but White-Latino and Latino-API segregation increased

60. Residential Segregation, 1990 and 2010, Measured by the Dissimilarity Index.

1990  
2010



Sources: U.S. Census Bureau; Geolytics. Data reported is the dissimilarity index for each combination of racial/ethnic groups. See the "Data and methods" section for details of the residential segregation index calculations.

# Connectedness

## Segregation is steadily decreasing

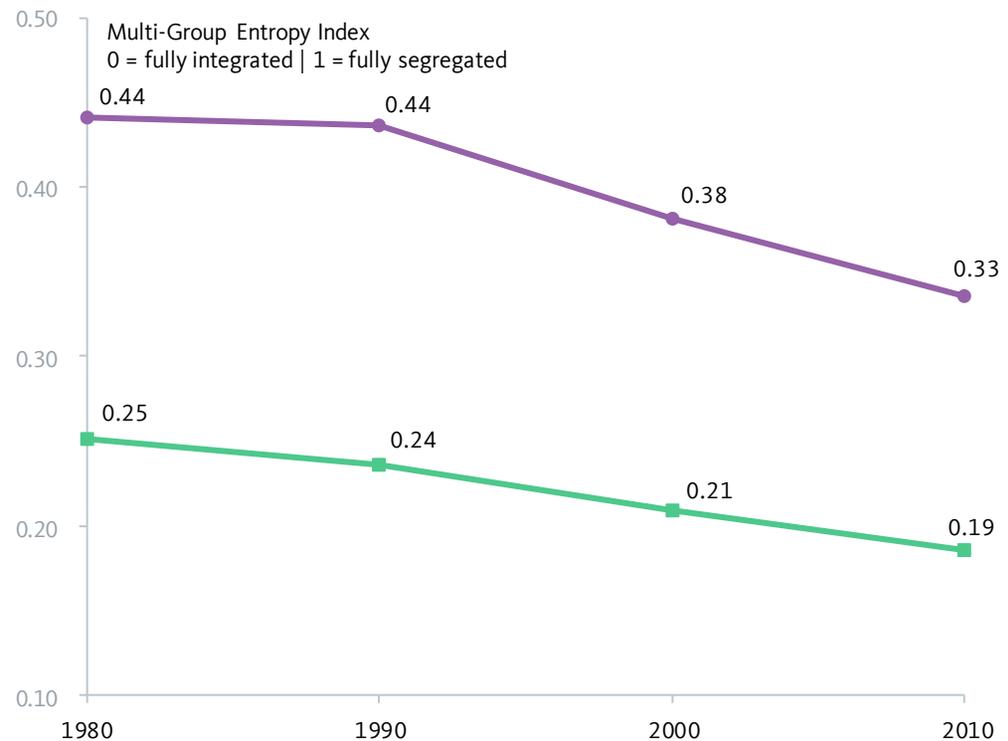
The Bay Area is less segregated by race/ethnicity than the state of California or the nation, and segregation has steadily declined over time as the region has become more diverse.

Segregation is measured by the entropy index, which ranges from a value of 0, meaning that all census tracts have the same racial/ethnic composition as the entire metropolitan area (maximum integration), to a high of 1, if all census tracts contained one group only (maximum segregation).

**Residential segregation is decreasing over time at the regional scale**

**61. Residential Segregation, 1980 to 2010**

- Bay Area
- United States



Sources: U.S. Census Bureau; Geolytics. See the "Data and methods" section for details of the residential segregation index calculations.

# Connectedness

## Poverty has risen faster in suburban areas

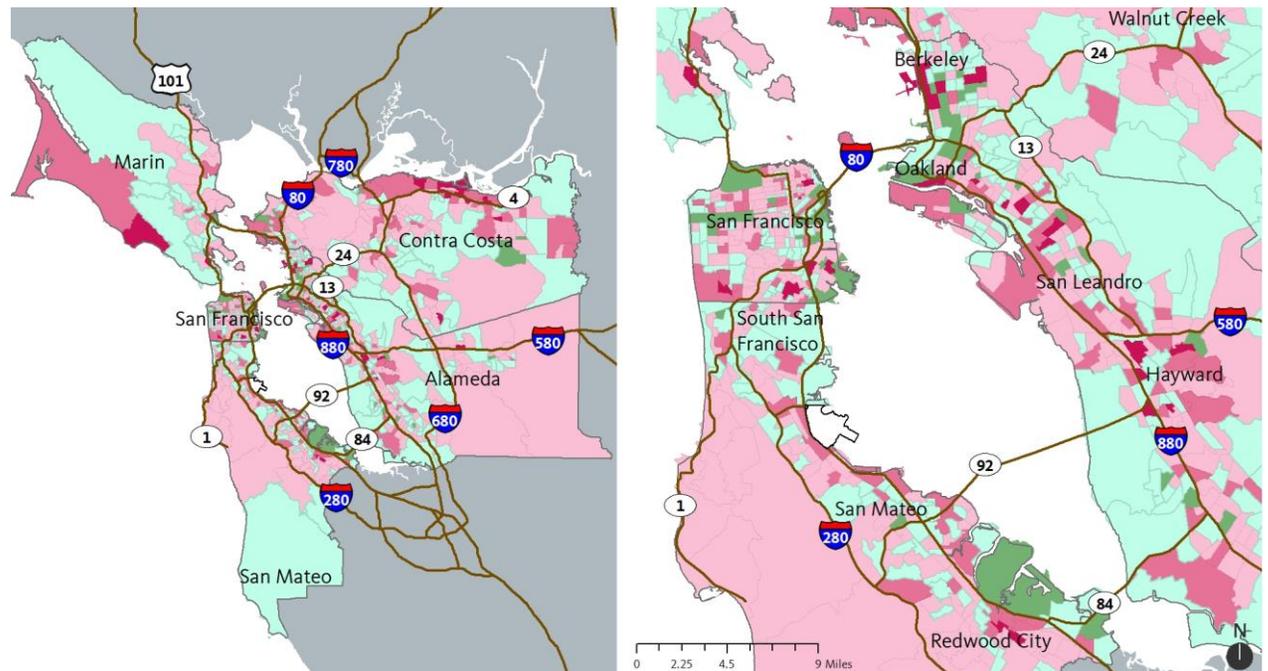
While poverty rates have risen in neighborhoods throughout the region over the past decade, the rise has been sharper in the suburbs. While there is no universal definition of suburbs, the Brookings Institution, through their Metropolitan Policy Program, defines suburbs for the Bay Area as including all areas outside of San Francisco and Oakland (the two “primary cities” of the region). They [report](#) that while the region overall saw the poverty rate rise by 2.3 percentage points between 2000 and 2013 (from 9.1 to 11.5 percent), it rose by only 1.8 percent in “primary cities” (from 13.6 to 15.4 percent) but increased by 2.7 percent in the suburbs (from 7.0 to 9.7 percent).

The maps shown here are consistent with that trend. While poverty has increased in some urban neighborhoods of San Francisco and Oakland in which poverty rates were already relatively high, many of the neighborhoods with notable increases are located in the more suburban cities of Hayward, Pittsburg, Antioch, Marin City, and Redwood City, as well as in more recently developed parts of the major cities, such as East Oakland.

Areas of with the greatest increases in poverty since 2000 include suburban areas in Hayward, Pittsburg, Antioch, East Oakland, Marin City, and Redwood City, as well as the traditionally high-poverty areas of Oakland and San Francisco

**62. Change in Poverty Rate by Census Tract (Percentage Points), 2000 to 2008-2012**

- Decline, 5 or more
- Decline, up to 5
- Increase, up to 5
- Increase, 5 to 12
- Increase, 12 or more



Sources: U.S. Census Bureau; GeoLytics.

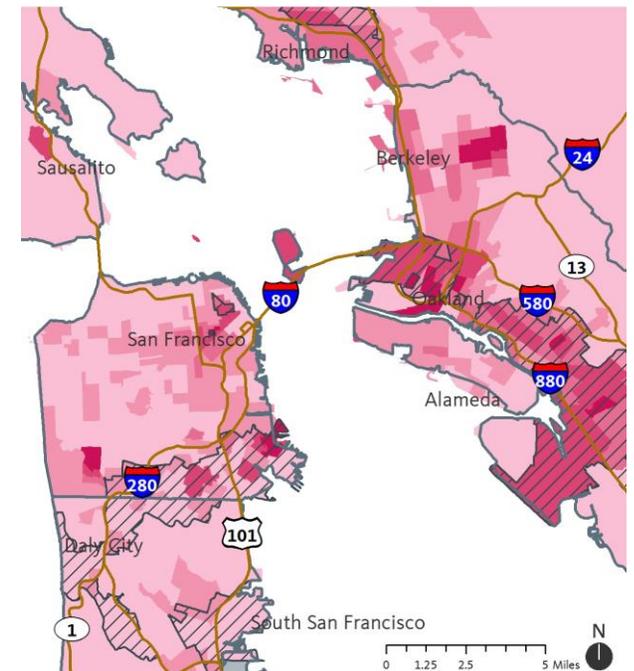
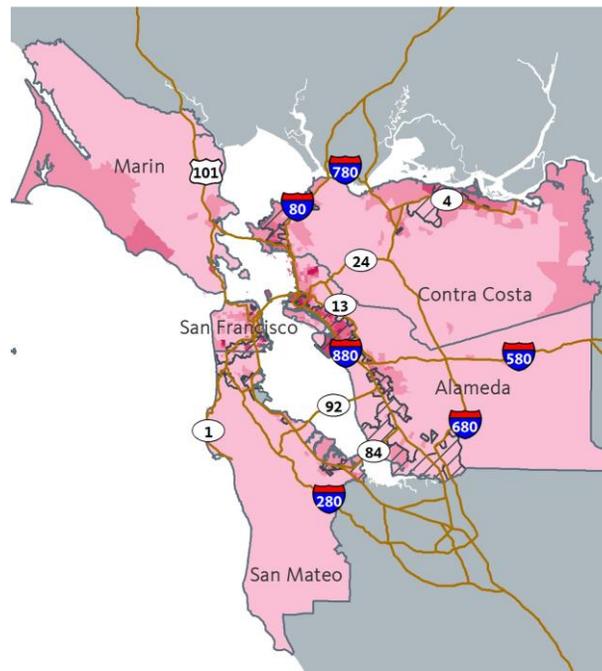
# Connectedness

## Concentrated poverty a challenge for communities of color

In the Bay Area, the share of people living in high-poverty neighborhoods (those with poverty rates 40 percent or higher) has remained stable since 1980, at about 1 percent. People of color are about twice as likely to live in these neighborhoods as Whites: 1.3 percent of people of color live in high-poverty tracts compared with 0.6 percent of Whites. In neighborhoods with the highest shares of people of color (82 percent or more), the average poverty rate is about 18 percent, compared with 11 percent for the region overall.

As these maps show, high poverty rates are found both in San Francisco and Oakland, as well as Richmond, Bolinas, and Pittsburg. All of the counties in the region include neighborhoods with moderately high poverty (20 to 40 percent).

Areas of high poverty (40 percent or higher) are found primarily in the cities of Oakland, San Francisco, Richmond, Bolinas, and Pittsburg  
**63. Percent Population Below the Poverty Level by Census Tract and High People-of-Color Tracts, 2008-2012**



Source: U.S. Census Bureau.

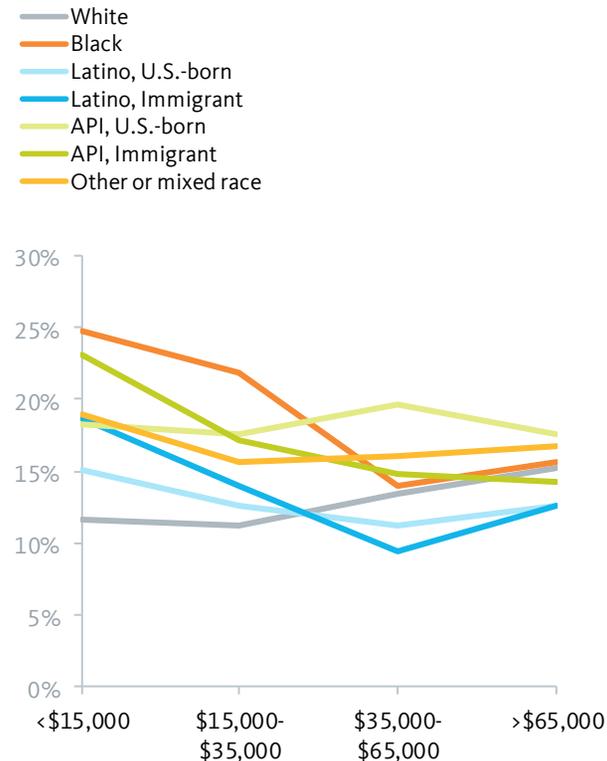
# Connectedness

## People of color are more likely to rely on the region's transit system to get to work

Income and race both play a role in determining who uses the Bay Area's bus and rail systems to get to work. Very low-income African Americans and Asian immigrants are most likely to get to work using public transit, but transit use declines rapidly for these groups as incomes increase. For Whites and U.S.-born Asians, public transit use actually increases among higher-income workers.

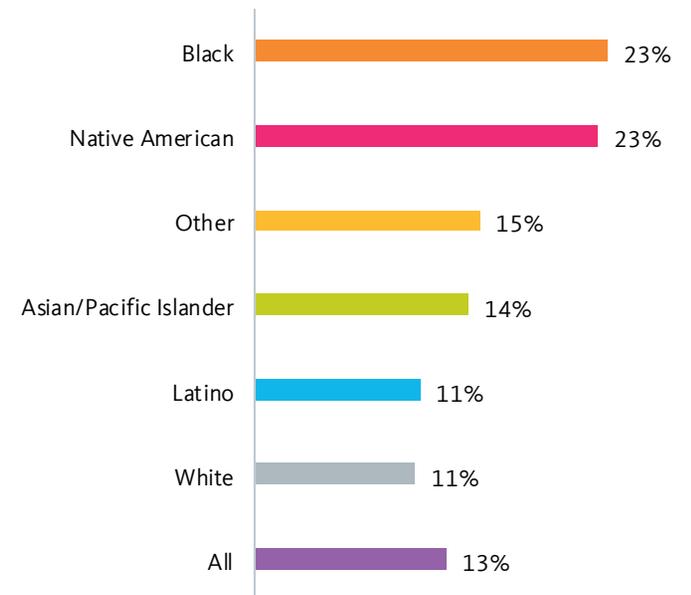
Households of color are much less likely to own cars than Whites. Across the region, 89 percent of White households have at least one car, but among households headed by a person of color, only 85 percent do. Households of Other/mixed races, African American, and Native American households are the most likely to be carless.

**Transit use varies by income and race**  
**64. Percent Using Public Transit by Annual Earnings and Race/Ethnicity and Nativity, 2008-2012**



Source: IPUMS. Universe includes workers ages 16 and older with earnings.

**Households of color are less likely to own cars**  
**65. Percent of Households without a Vehicle by Race/Ethnicity, 2008-2012**



Source: IPUMS. Universe includes all households (no group quarters).

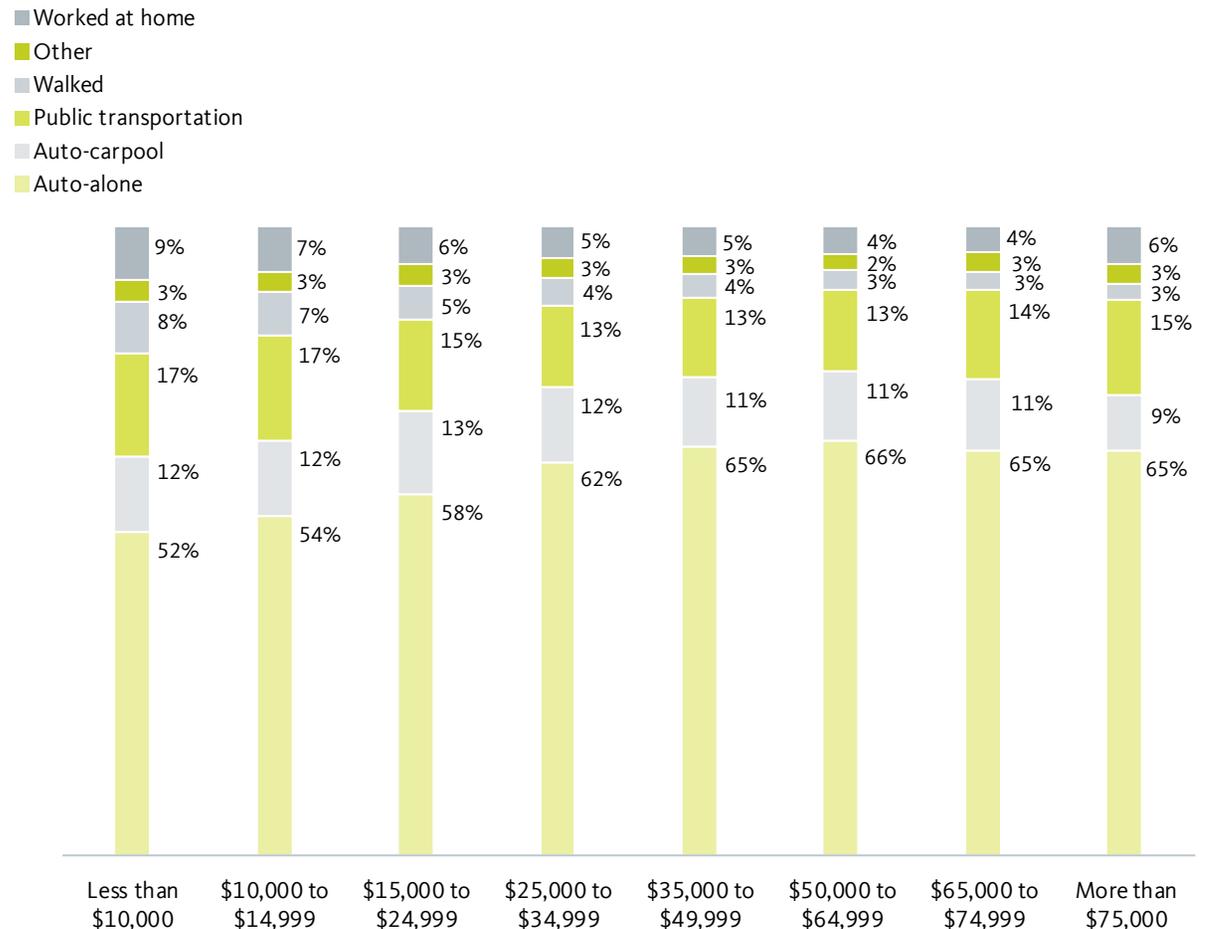
# Connectedness

## Low-income residents are least likely to drive alone to work

While the majority of residents in the region – 62 percent – drive alone to work, the Bay Area ranks #149 among the largest 150 metros in its share of lone commuters. Single-driver commuting varies by income. Only 52 percent of very low-income workers (earning under \$15,000 per year) drive alone to work, compared with 65 percent of workers who make over \$65,000 a year.

**Lower-income residents are less likely to drive alone to work**

**66. Means of Transportation to Work by Annual Earnings, 2008-2012**



Source: U.S. Census Bureau. Universe includes workers ages 16 and older with earnings.



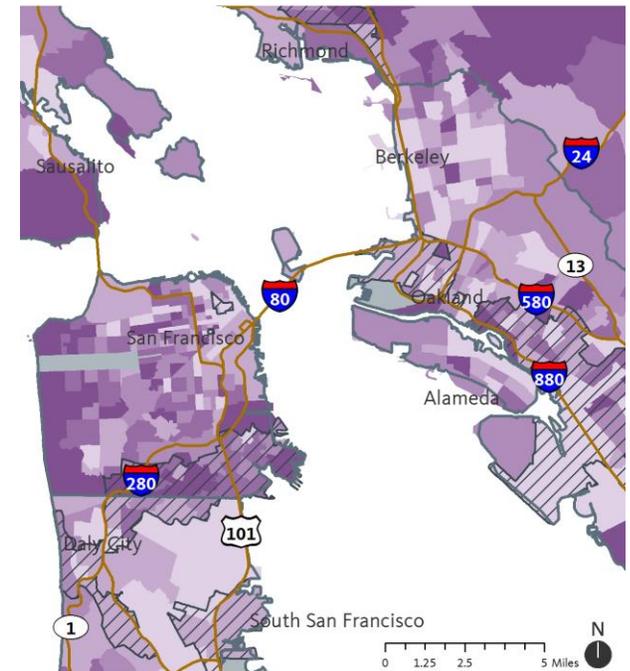
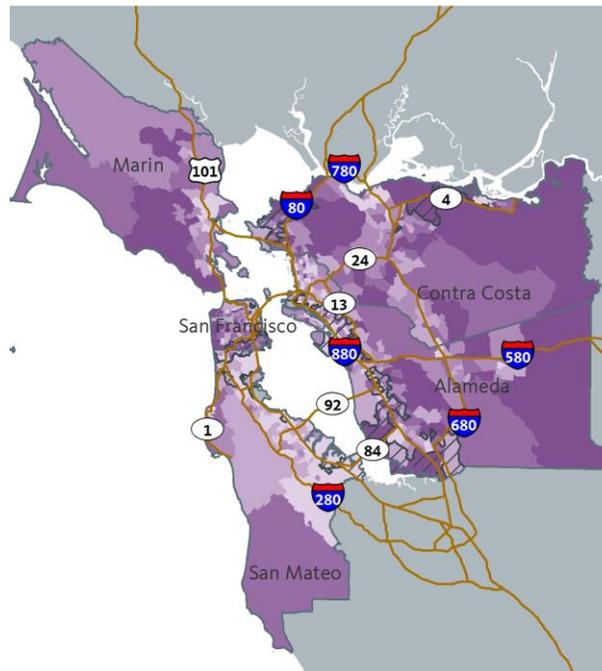
# Connectedness

## Long commutes for residents throughout the region

Workers living in San Mateo County and along western Alameda County have the shortest commutes. Many of the outer-suburb areas of Contra Costa and Alameda Counties, the western neighborhoods in San Francisco, and Bolinas in Marin County have the longest commutes for workers.

**Workers throughout the region have long commute times, including neighborhoods in San Francisco**

**68. Average Travel Time to Work by Census Tract and High People-of-Color Tracts, 2006-2010**



Source: U.S. Census Bureau.

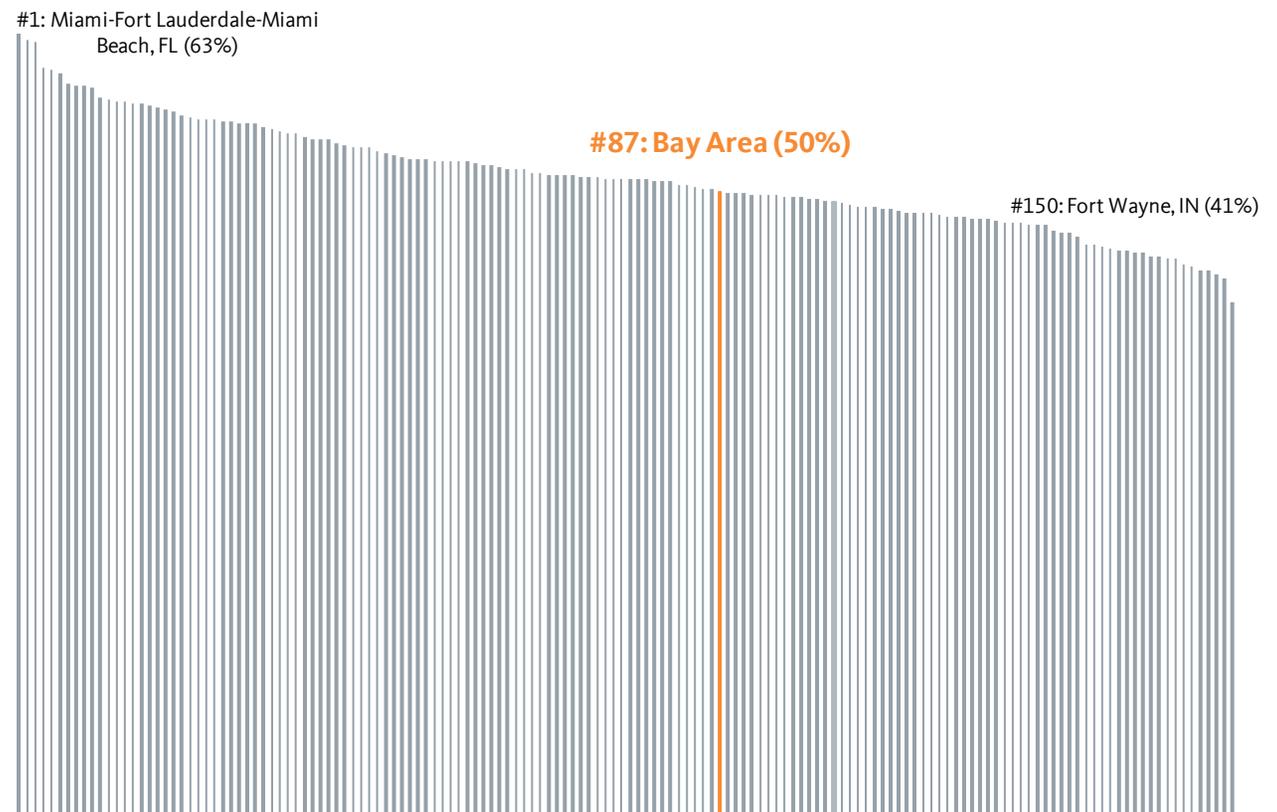
# Connectedness

## Half of renters in the region are housing burdened

The Bay Area ranks 87<sup>th</sup> in renter housing burden, but ranks 12<sup>th</sup> in homeowner housing burden among the largest 150 metros. Half of renters are housing burdened, defined as spending more than 30 percent of their income on housing. Compared with other metros in the West, this is much better than Los Angeles (58 percent) but significantly worse than San Jose (46 percent).

The Bay Area ranks toward the middle for rent-burdened households compared with other regions

69. Share of Households that are Rent Burdened, 2008-2012: Largest 150 Metros Ranked



Source: IPUMS. Universe includes renter-occupied households with cash rent (excludes group quarters).

# Connectedness

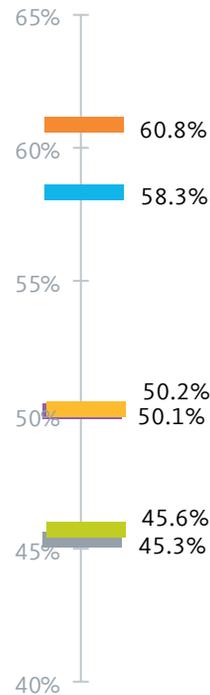
## People of color face higher housing burdens

People of color are much more likely than Whites to spend a large share of their income on housing, whether they rent or own. Asian renters have a similar housing burden to White renters, but Asian homeowners have higher housing burdens than Whites. Housing burden is defined as paying more than 30 percent of household income toward housing.

### African Americans and Latinos have the highest renter housing burden

70. Renter Housing Burden by Race/Ethnicity, 2008-2012

- All
- White
- Black
- Latino
- Asian/Pacific Islander
- Other

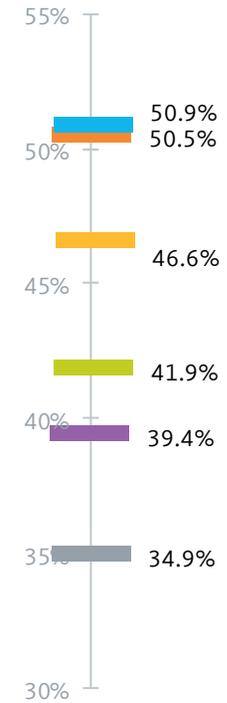


Source: IPUMS. Universe includes renter-occupied households with cash rent (excludes group quarters).

### Latinos and African Americans have the highest homeowner housing burden

71. Homeowner Housing Burden by Race/Ethnicity, 2008-2012

- All
- White
- Black
- Latino
- Asian/Pacific Islander
- Other



Source: IPUMS. Universe includes owner-occupied households (excludes group quarters).

# Connectedness

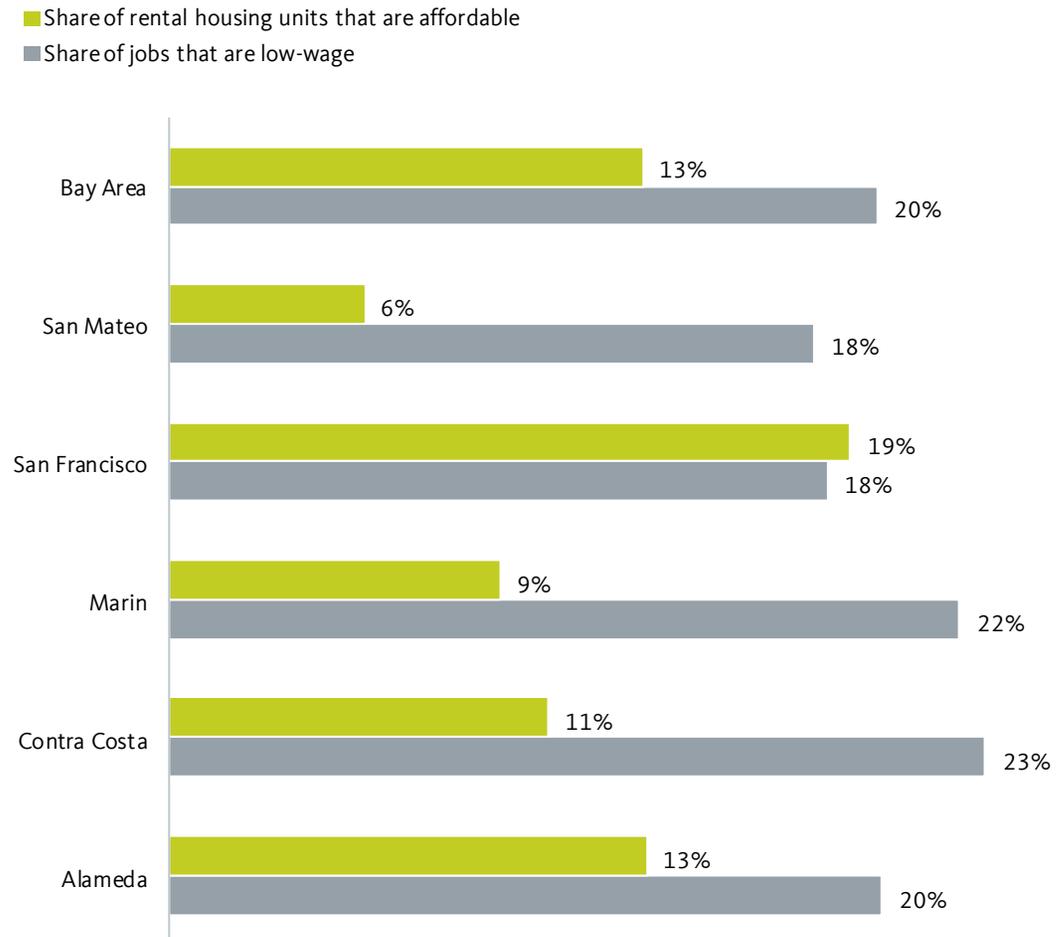
## Jobs-housing mismatch for low-wage workers in some parts of the region

Low-wage workers in the region are not likely to find affordable rental housing. Across the region, 20 percent of jobs are low-wage (paying \$1,250 per month or less) and only 13 percent of rental units are affordable (defined as having rent of \$749 per month or less, which would be 30 percent or less of two low-wage workers' incomes).

San Mateo, Marin, and Contra Costa counties have far more low-wage jobs than affordable rental housing units.

Most counties have a low-wage jobs - affordable housing gap

72. Low-Wage Jobs and Affordable Rental Housing by County



Source: U.S. Census Bureau.

# Connectedness

## Jobs-housing mismatch for low-wage workers in some parts of the region

(continued)

A low-wage jobs to affordable rental housing ratio in a county with a higher than regional average ratio indicates a lower availability of affordable rental housing for low-wage workers in that county relative to the region overall.

San Mateo, Marin, and Contra Costa counties all have higher ratios than the regional average, indicating a potential shortage of affordable units. San Mateo’s ratio is particularly high, at more than double the regional average.

The range of jobs-housing ratios throughout the region, with San Mateo having the highest affordability mismatch

73. Low-Wage Jobs, Affordable Rental Housing, and Jobs-Housing Ratios by County

	Jobs (2010)		Housing (2008-12 avg)			Jobs-Housing Ratios	
	All	Low-wage	All	Rental*	Affordable Rental*	All Jobs: All Housing	Low-wage Jobs: Affordable Rentals
Alameda	650,526	130,184	539,179	242,601	32,509	1.2	4.0
San Francisco	560,854	103,687	340,839	209,210	40,024	1.6	2.6
Contra Costa	324,527	74,391	373,145	119,834	12,769	0.9	5.8
San Mateo	316,444	57,356	257,369	100,702	5,544	1.2	10.3
Marin	101,475	22,525	103,152	37,416	3,490	1.0	6.5
<b>Bay Area</b>	<b>1,953,826</b>	<b>388,143</b>	<b>1,613,684</b>	<b>709,763</b>	<b>94,336</b>	<b>1.2</b>	<b>4.1</b>

Source: U.S. Census Bureau.

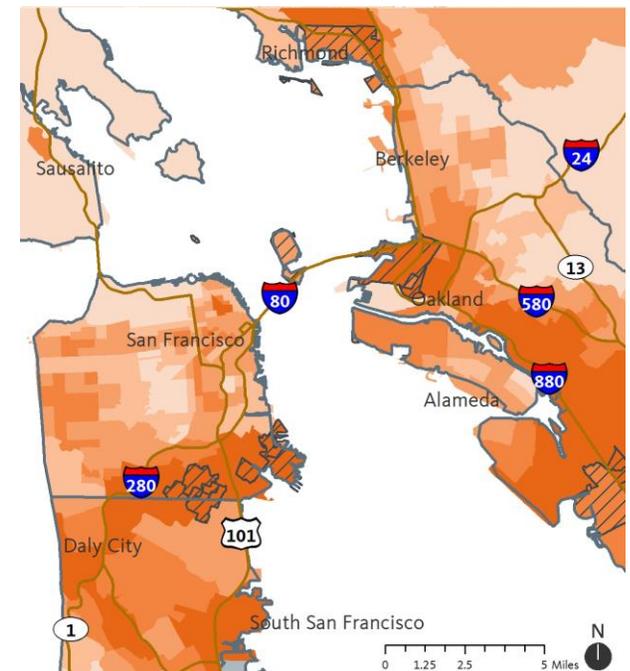
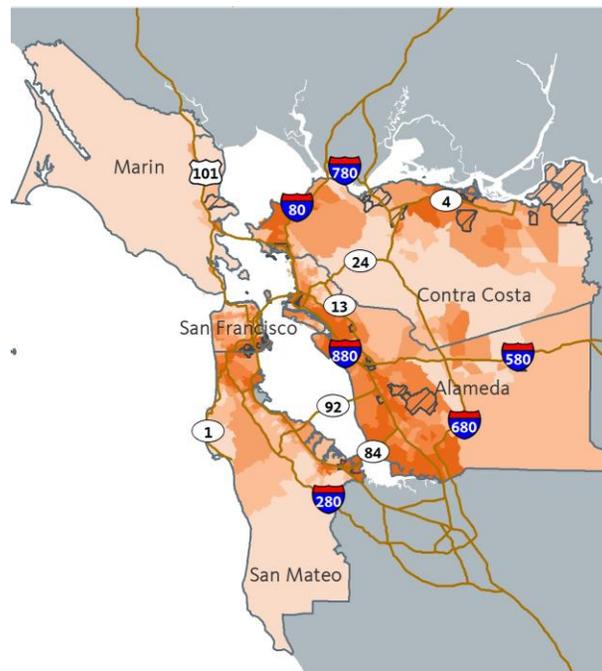
# Connectedness

## Food deserts are primarily in the East Bay

The region's food deserts, defined as low-income census tracts where a substantial number or share of residents have low access to a supermarket or large grocery store, are primarily found in East Bay neighborhoods in Antioch, Concord, Richmond, Oakland, San Leandro, Fairview, and Union City. San Francisco is also home to several food deserts in the southeast portion of the city. Many of these are also communities with the highest shares of people of color. Food deserts in Bethel Island in Contra Costa County and Santa Venetia in Marin County have larger White populations.

Food deserts found throughout the region, but concentrated in the East Bay

74. Percent People of Color by Census Tract, 2010, and Food Desert Tracts



Sources: Geolytics; U.S. Department of Agriculture. See the "Data and methods" section for details.

# Connectedness

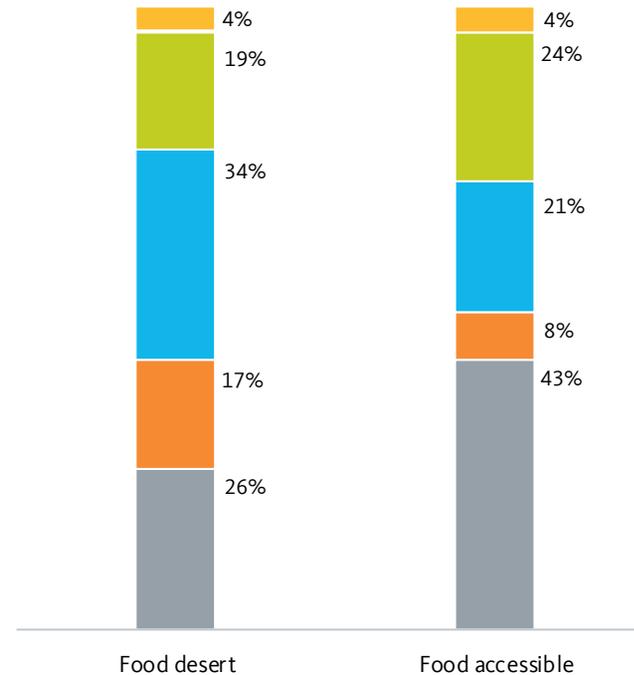
## Blacks and Latinos are more likely to live in food deserts

(continued)

The region's food deserts are home to higher shares of people of color compared with the other neighborhoods in the region. African Americans and Latinos make up a much higher share of the population in food deserts (51 percent) than in areas with better food access (29 percent).

**People of color are more likely to live in food deserts**

**75. Racial/Ethnic Composition of Food Environments, 2010**



Sources: U.S. Census Bureau; U.S. Department of Agriculture. See the "Data and methods" section for details.

# Economic benefits of inclusion

## A potential \$117 billion per year GDP boost from racial equity

The Bay Area stands to gain a great deal from addressing racial inequities. The region's economy could have been \$117 billion stronger in 2012 if its racial gaps in income had been closed: a 32 percent increase.

Using data on income by race, we calculated how much higher total economic output would have been in 2012 if all racial groups who currently earn less than Whites had earned similar average incomes as their White counterparts, controlling for age.

We also examined how much of the region's racial income gap was due to differences in wages and how much was due to differences in employment (measured by hours worked). Nationally, 66 percent of the racial income gap is due to wage differences. In the Bay Area, the share of the gap attributable to wages is even higher, at 72 percent.

The Bay Area's GDP would have been \$117 billion higher if there were no racial gaps in income

76. Actual GDP and Estimated GDP without Racial Gaps in Income, 2012



Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, and IPUMS.

# Data and methods

- 87 **Data source summary and regional geography**
- 89 **Selected terms and general notes**
  - 89 Broad racial/ethnic origin
  - 89 Nativity
  - 89 Detailed racial/ethnic ancestry
  - 90 Other selected terms
  - 91 General notes on analyses
- 92 **Summary measures from IPUMS microdata**
  - 92 About IPUMS microdata
  - 92 A note on sample size
  - 92 Geography of IPUMS microdata
- 93 **Adjustments made to census summary data on race/ethnicity by age**
- 94 **Adjustments made to demographic projections**
- 96 **Estimates and adjustments made to BEA data on GDP, GRP, and GSP**
  - 96 Adjustments at the state and national levels
  - 96 County and metropolitan area estimates
- 98 **Middle class analysis**
- 99 **Assembling a complete dataset on employment and wages by industry**
- 100 **Growth in jobs and earnings by industry wage level, 1990 to 2012**
- 101 **Analysis of occupations by opportunity level**
- 104 **Health data and analysis**
- 105 **Measures of diversity and segregation**
- 106 **Food desert analysis**
- 107 **Estimates of GDP gains without racial gaps in income**

# Data and methods

## Data source summary and regional geography

Unless otherwise noted, all of the data and analyses presented in this equity profile are the product of PolicyLink and the USC Program for Environmental and Regional Equity (PERE).

The specific data sources are listed in the table on the right. Unless otherwise noted, the data used to represent the region were assembled to match the San Francisco-Oakland-Fremont Metropolitan Statistical Area, based on the U.S. Office of Management and Budget's (OMB) December 2003 definitions, including Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties.

While much of the data and analysis presented in this equity profile are fairly intuitive, in the following pages we describe some of the estimation techniques and adjustments made in creating the underlying database, and provide more detail on terms and methodology used. Finally, the reader should bear in mind that while only a single region is profiled here, many of the analytical

Source	Dataset
Integrated Public Use Microdata Series (IPUMS)	1980 5% State Sample
	1990 5% Sample
	2000 5% Sample
	2010 American Community Survey, 5-year microdata sample
	2012 American Community Survey, 5-year microdata sample
U.S. Census Bureau	1980 Summary Tape File 1 (STF1)
	1980 Summary Tape File 2 (STF2)
	1980 Summary Tape File 3 (STF3)
	1990 Summary Tape File 2A (STF2A)
	1990 Modified Age/Race, Sex and Hispanic Origin File (MARS)
	1990 Summary Tape File 4 (STF4)
	2000 Summary File 1 (SF1)
	2012 ACS 5-year Summary File (2012 5-year ACS)
	2010 Summary File 1 (SF1)
	2010 Local Employment Dynamics, LODES 6
	2014 National Population Projections
	Cartographic Boundary Files, 2000 Census Block Groups
Cartographic Boundary Files, 2000 Census Tracts	
2010 TIGER/Line Shapefiles, 2010 Census Tracts	
2010 TIGER/Line Shapefiles, 2010 Counties	
Geolytics	1980 Long Form in 2000 Boundaries
	1990 Long Form in 2000 Boundaries
	2010 Summary File 1 in 2000 Boundaries
U.S. Department of Agriculture	Food Desert Research Atlas
Woods & Poole Economics	2014 Complete Economic and Demographic Data Source
U.S. Bureau of Economic Analysis	Gross Domestic Product by State
	Gross Domestic Product by Metropolitan Area
	Local Area Personal Income Accounts, CA30: regional economic profile
U.S. Bureau of Labor Statistics	Quarterly Census of Employment and Wages
	Local Area Unemployment Statistics
	Occupational Employment Statistics
Centers for Disease Control and Prevention	Behavioral Risk Factor Surveillance System

# Data and methods

## Data source summary and regional geography

(continued)

choices in generating the underlying data and analyses were made with an eye toward replicating the analyses in other regions and the ability to update them over time. Thus, while more regionally specific data may be available for some indicators, the data in this profile draws from our regional equity indicators database that provides data that are comparable and replicable over time. At times, we cite local data sources in the Summary document.

# Data and methods

## Selected terms and general notes

### Broad racial/ethnic origin

In all of the analyses presented, all categorization of people by race/ethnicity and nativity is based on individual responses to various census surveys. All people included in our analysis were first assigned to one of six mutually exclusive racial/ethnic categories, depending on their response to two separate questions on race and Hispanic origin as follows:

- “White” and “non-Hispanic White” are used to refer to all people who identify as White alone and do not identify as being of Hispanic origin.
- “Black” and “African American” are used to refer to all people who identify as Black or African American alone and do not identify as being of Hispanic origin.
- “Latino” refers to all people who identify as being of Hispanic origin, regardless of racial identification.
- “Asian,” “Asian/Pacific Islander,” and “API” are used to refer to all people who identify as Asian or Pacific Islander alone and do not identify as being of Hispanic origin.

- “Native American” and “Native American and Alaska Native” are used to refer to all people who identify as Native American or Alaskan Native alone and do not identify as being of Hispanic origin.
- “Other” and “Other or mixed race” are used to refer to all people who identify with a single racial category not included above, or identify with multiple racial categories, and do not identify as being of Hispanic origin.
- “People of color” or “POC” is used to refer to all people who do not identify as non-Hispanic White.

### Nativity

The term “U.S.-born” refers to all people who identify as being born in the United States (including U.S. territories and outlying areas), or born abroad of American parents. The term “immigrant” refers to all people who identify as being born abroad, outside of the United States, of non-American parents.

### Detailed racial/ethnic ancestry

Given the diversity of ethnic origin and substantial presence of immigrants among the Latino and Asian populations, we sometimes present data for more detailed racial/ethnic categories within these groups. In order to maintain consistency with the broad racial/ethnic categories, and to enable the examination of second-and-higher generation immigrants, these more detailed categories (referred to as “origin” or “ancestry”) are drawn from the same two questions on race and Hispanic origin. For example, while country-of-origin information could have been used to identify Filipinos among the Asian population or Salvadorans among the Latino population, it could only do so for immigrants, leaving only the broad “Asian” and “Latino” racial/ethnic categories for the U.S.-born population. While this methodological choice makes little difference in the numbers of immigrants by detailed origin we report – i.e., the vast majority of immigrants from El Salvador mark “Salvadoran” under Hispanic origin – it is an important point of clarification.

# Data and methods

## Selected terms and general notes

(continued)

### Other selected terms

Below we provide some definitions and clarification around some of the terms used in the equity profile:

- The terms “region,” “metropolitan area,” “metro area,” and “metro,” are used interchangeably to refer to the geographic areas defined as Metropolitan Statistical Areas under the OMB’s December 2003 definitions.
- The term “neighborhood” is used at various points throughout the equity profile. While in the introductory portion of the profile this term is meant to be interpreted in the colloquial sense, in relation to any data analysis it refers to census tracts.
- The term “communities of color” generally refers to distinct groups defined by race/ethnicity among people of color.
- The term “high-poverty neighborhood” refers to census tracts with a poverty rate of greater than or equal to 40 percent.
- The term “high POC tracts” (or “high people-of-color tracts”) refers to census tracts in which people of color account for 82 percent of the population or more.
- The term “full-time” workers refers to all persons in the IPUMS microdata who reported working at least 45 or 50 weeks (depending on the year of the data) and usually worked at least 35 hours per week during the year prior to the survey. A change in the “weeks worked” question in the 2008 ACS, as compared with prior years of the ACS and the long form of the decennial census, caused a dramatic rise in the share of respondents indicating that they worked at least 50 weeks during the year prior to the survey. To make our data on full-time workers more comparable over time, we applied a slightly different definition in 2008 and later than in earlier years: in 2008 and later, the “weeks worked” cutoff is at least 50 weeks while in 2007 and earlier it is 45 weeks. The 45-week cutoff was found to produce a national trend in the incidence of full-time work over the 2005-2010 period that was most consistent with that found using data from the March Supplement of the Current Population Survey, which did not experience a change to the relevant survey questions. For more information, see [http://www.census.gov/acs/www/Downloads/methodology/content\\_test/P6b\\_Weeks\\_Worked\\_Final\\_Report.pdf](http://www.census.gov/acs/www/Downloads/methodology/content_test/P6b_Weeks_Worked_Final_Report.pdf).

# Data and methods

## Selected terms and general notes

(continued)

### General notes on analyses

Below we provide some general notes about the analysis conducted:

- At several points in the profile we present rankings comparing the profiled region to the “largest 150 metros” or “largest 150 regions,” and refer in the text to how the profiled region compares with these metros. In all such instances, we are referring to the largest 150 metropolitan statistical areas in terms of 2010 population, based on the OMB’s December 2003 definitions.
- In regard to monetary measures (income, earnings, wages, etc.) the term “real” indicates the data has been adjusted for inflation. All inflation adjustments are based on the Consumer Price Index for all Urban Consumers (CPI-U) from the U.S. Bureau of Labor Statistics, available at: <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt>.
- Some may wonder why the graph on page 35 indicates the years 1979, 1989, and 1999 rather than the actual survey years from which the information is drawn (1980, 1990, and 2000, respectively). This is because income information in the decennial census for those years is reported for the year prior to the survey. While seemingly inconsistent, the actual survey years are indicated in the graphs on page 41 depicting rates of poverty and working poverty, as these measures are partly based on family composition and work efforts at the time of the survey, in addition to income from the year prior to the survey.

# Data and methods

## Summary measures from IPUMS microdata

### About IPUMS microdata

Although a variety of data sources were used, much of our analysis is based on a unique dataset created using microdata samples (i.e., “individual-level” data) from the Integrated Public Use Microdata Series (IPUMS), for four points in time: 1980, 1990, 2000, and 2008 through 2012 pooled together. While the 1980 through 2000 files are based on the decennial census and cover about 5 percent of the U.S. population each, the 2008 through 2012 files are from the American Community Survey (ACS) and cover only about 1 percent of the U.S. population each. Five years of ACS data were pooled together to improve the statistical reliability and to achieve a sample size that is comparable to that available in previous years. Survey weights were adjusted as necessary to produce estimates that represent an average over the 2008 through 2012 period.

Compared with the more commonly used census “summary files,” which includes a limited set of summary tabulations of population and housing characteristics, use of

the microdata samples allows for the flexibility to create more illuminating metrics of equity and inclusion, and provide a more nuanced view of groups defined by age, race/ethnicity, and nativity in each region of the United States.

### A note on sample size

While the IPUMS microdata allows for the tabulation of detailed population characteristics, it is important to keep in mind that because such tabulations are based on samples, they are subject to a margin of error and should be regarded as estimates – particularly in smaller regions and for smaller demographic subgroups. In an effort to avoid reporting highly unreliable estimates, we do not report any estimates that are based on a universe of fewer than 100 individual survey respondents.

### Geography of IPUMS microdata

A key limitation of the IPUMS microdata is geographic detail. Each year of the data has a particular lowest level of geography associated with the individuals included

known as the Public Use Microdata Area (PUMA) for years 1990 and later, or the County Group in 1980. PUMAs are generally drawn to contain a population of about 100,000, and vary greatly in geographic size from being fairly small in densely populated urban areas, to very large in rural areas, often with one or more counties contained in a single PUMA.

While the geography of the IPUMS microdata generally poses a challenge for the creation of regional summary measures, this was not the case for the San Francisco Bay Area as the geography of region could be assembled perfectly by combining entire 1980 County Groups and 1990, 2000, and 2010 PUMAs.

# Data and methods

## Adjustments made to census summary data on race/ethnicity by age

Demographic change and what is referred to as the “racial generation gap” (pages 25-26) are important elements of the equity profile. Due to their centrality, care was taken to generate consistent estimates of people by race/ethnicity and age group (under 18, 18-64, and over 64) for the years 1980, 1990, 2000, and 2010, at the county level, which was then aggregated to the regional level and higher. The racial/ethnic groups include non-Hispanic White, non-Hispanic Black, Hispanic/Latino, non-Hispanic Asian and Pacific Islander, non-Hispanic Native American/Alaska Native, and non-Hispanic Other (including other single race alone and those identifying as multiracial). While for 2000 and 2010, this information is readily available in SF1 of each year, for 1980 and 1990, estimates had to be made to ensure consistency over time, drawing on two different summary files for each year.

For 1980, while information on total population by race/ethnicity for all ages combined was available at the county level for all the requisite groups in STF1, for

race/ethnicity by age group we had to look to STF2, where it was only available for non-Hispanic White, non-Hispanic Black, Hispanic, and the remainder of the population. To estimate the number non-Hispanic Asian and Pacific Islanders, non-Hispanic Native Americans/Alaska Natives, and non-Hispanic Others among the remainder for each age group, we applied the distribution of these three groups from the overall county population (of all ages) from STF1.

For 1990, population by race/ethnicity at the county level was taken from STF2A, while population by race/ethnicity taken from the 1990 Modified Age Race Sex (MARS) file – a special tabulation of people by age, race, sex, and Hispanic origin. However, to be consistent with the way race is categorized by the OMB’s Directive 15, the MARS file allocates all persons identifying as “other race” or multiracial to a specific race. After confirming that population totals by county were consistent between the MARS file and STF2A, we calculated the number of “other race” or multiracial that had been added to

each racial/ethnic group in each county (for all ages combined) by subtracting the number that is reported in STF2A for the corresponding group. We then derived the share of each racial/ethnic group in the MARS file that was made up of “other race” or multiracial people and applied this share to estimate the number of people by race/ethnicity and age group exclusive of the “other race” and multiracial, and finally number of the “other race” and multiracial by age group.

# Data and methods

## Adjustments made to demographic projections

On page 23, national projections of the non-Hispanic White share of the population are based on the U.S. Census Bureau's 2014 National Population Projections. However, because these projections follow the OMB 1997 guidelines on racial classification and essentially distribute the other single-race alone group across the other defined racial/ethnic categories, adjustments were made to be consistent with the six broad racial/ethnic groups used in our analysis.

Specifically, we compared the percentage of the total population composed of each racial/ethnic group from the Census Bureau's Population Estimates program for 2013 (which follows the OMB 1997 guidelines) to the percentage reported in the 2013 1-year ACS Summary File (which follows the 2000 Census classification). We subtracted the percentage derived using the 2013 Population Estimates program from the percentage derived using the 2013 ACS to obtain an adjustment factor for each group (all of which were negative except that for the

non-Hispanic Other/Mixed group) and carried this adjustment factor forward by adding it to the projected percentage for each group in each projection year. Finally, we applied the resulting adjusted projected population distribution by race/ethnicity to the total projected population from the 2014 National Population Projections to get the projected number of people by race/ethnicity.

Similar adjustments were made in generating county and regional projections of the population by race/ethnicity. Initial county-level projections were taken from Woods & Poole Economics, Inc. Like the 1990 MARS file described above, the Woods & Poole projections follow the OMB Directive 15-race categorization, assigning all persons identifying as other or multiracial to one of five mutually exclusive race categories: White, Black, Latino, Asian/Pacific Islander, or Native American. Thus, we first generated an adjusted version of the county-level Woods & Poole projections that removed the other or multiracial group from each of these five categories. This was done by comparing the

Woods & Poole projections for 2010 to the actual results from SF1 of the 2010 Census, figuring out the share of each racial/ethnic group in the Woods & Poole data that was composed of other or multiracial persons in 2010, and applying it forward to later projection years. From these projections, we calculated the county-level distribution by race/ethnicity in each projection year for five groups (White, Black, Latino, Asian/Pacific Islander, and Native American), exclusive of others or multiracials.

To estimate the county-level share of population for those classified as other or multiracial in each projection year, we then generated a simple straight-line projection of this share using information from SF1 of the 2000 and 2010 Census. Keeping the projected other or multiracial share fixed, we allocated the remaining population share to each of the other five racial/ethnic groups by applying the racial/ethnic distribution implied by our adjusted Woods & Poole projections for each county and projection year.

## Data and methods

# Adjustments made to demographic projections

(continued)

The result was a set of adjusted projections at the county level for the six broad racial/ethnic groups included in the profile, which were then applied to projections of the total population by county from Woods & Poole to get projections of the number of people for each of the six racial/ethnic groups.

Finally, an Iterative Proportional Fitting (IPF) procedure was applied to bring the county-level results into alignment with our adjusted national projections by race/ethnicity described above. The final adjusted county results were then aggregated to produce a final set of projections at the metro area and state levels.

# Data and methods

## Estimates and adjustments made to BEA data on GDP, GRP, and GSP

The data presented on page 85 on national gross domestic product (GDP) and its analogous regional measure, gross regional product (GRP) is based on data from the U.S. Bureau of Economic Analysis (BEA). However, due to changes in the estimation procedure used for the national (and state-level) data in 1997, a lack of metropolitan area estimates prior to 2001, and no available county-level estimates for any year, a variety of adjustments and estimates were made to produce a consistent series at the national, state, metropolitan area, and county levels from 1969 to 2012.

### **Adjustments at the state and national levels**

While data on gross state product (GSP) are not reported directly in the equity profile, they were used in making estimates of gross product at the county level for all years and at the regional level prior to 2001, so we applied the same adjustments to the data that were applied to the national GDP data. Given a change in BEA's estimation of gross product at the state and national levels from a standard Industrial Classification (SIC) basis

to a North American Industry Classification System (NAICS) basis in 1997, data prior to 1997 were adjusted to avoid any erratic shifts in gross product in that year. While the change to NAICS basis occurred in 1997, BEA also provides estimates under a SIC basis in that year. Our adjustment involved figuring the 1997 ratio of NAICS-based gross product to SIC-based gross product for each state and the nation, and multiplying it by the SIC-based gross product in all years prior to 1997 to get our final estimate of gross product at the state and national levels.

### **County and metropolitan area estimates**

To generate county-level estimates for all years, and metropolitan-area estimates prior to 2001, a more complicated estimation procedure was followed. First, an initial set of county estimates for each year was generated by taking our final state-level estimates and allocating gross product to the counties in each state in proportion to total earnings of employees working in each county – a BEA variable that is available for all counties and years. Next, the initial county estimates were

aggregated to metropolitan-area level, and were compared with BEA's official metropolitan area estimates for 2001 and later. They were found to be very close, with a correlation coefficient very close to one (0.9997). Despite the near-perfect correlation, we still used the official BEA estimates in our final data series for 2001 and later. However, to avoid any erratic shifts in gross product during the years up until 2001, we made the same sort of adjustment to our estimates of gross product at the metropolitan-area level that was made to the state and national data – we figured the 2001 ratio of the official BEA estimate to our initial estimate, and multiplied it by our initial estimates for 2000 and earlier to get our final estimate of gross product at the metropolitan-area level.

We then generated a second iteration of county-level estimates – just for counties included in metropolitan areas – by taking the final metropolitan-area-level estimates and allocating gross product to the counties in each metropolitan area in proportion to total

## Data and methods

# Estimates and adjustments made to BEA data on GDP, GRP, and GSP

(continued)

earnings of employees working in each county. Next, we calculated the difference between our final estimate of gross product for each state and the sum of our second-iteration county-level gross product estimates for metropolitan counties contained in the state (that is, counties contained in metropolitan areas). This difference, total nonmetropolitan gross product by state, was then allocated to the nonmetropolitan counties in each state, once again using total earnings of employees working in each county as the basis for allocation. Finally, one last set of adjustments was made to the county-level estimates to ensure that the sum of gross product across the counties contained in each metropolitan area agreed with our final estimate of gross product by metropolitan area, and that the sum of gross product across the counties contained in state agreed with our final estimate of gross product by state. This was done using a simple IPF procedure.

# Data and methods

## Middle-class analysis

Page 39 of the equity profile shows a decline in the share of households falling in the middle class in the region over the past four decades. To analyze middle-class decline, we began with the regional household income distribution in 1979 – the year for which income is reported in the 1980 Census (and the 1980 IPUMS microdata). The middle 40 percent of households were defined as “middle class,” and the upper and lower bounds in terms of household income (adjusted for inflation to be in 2010 dollars) that contained the middle 40 percent of households were identified. We then adjusted these bounds over time to increase (or decrease) at the same rate as real average household income growth, identifying the share of households falling above, below, and in between the adjusted bounds as the upper, lower, and middle class, respectively, for each year shown. Thus, the analysis of the size of the middle class examined the share of households enjoying the same relative standard of living in each year as the middle 40 percent of households did in 1979.

## Data and methods

# Assembling a complete dataset on employment and wages by industry

We report analyses of jobs and wages by industry on pages 46-47. These are based on an industry-level dataset constructed using two-digit NAICS industry data from the Quarterly Census of Employment and Wages (QCEW) of the Bureau of Labor Statistics (BLS). Due to some missing (or nondisclosed) data at the county and regional levels, we supplemented our dataset using information from Woods & Poole Economics, Inc., which contains complete jobs and wages data for broad, two-digit NAICS industries at multiple geographic levels. (Proprietary issues barred us from using the Woods & Poole data directly, so we instead used it to complete the QCEW dataset.) While we refer to counties in describing the process for “filling in” missing QCEW data below, the same process was used for the metro area and state levels of geography.

Given differences in the methodology underlying the two data sources, it would not be appropriate to simply “plug in” corresponding Woods & Poole data directly to fill in the QCEW data for nondisclosed

industries. Therefore, our approach was to first calculate the number of jobs and total wages from nondisclosed industries in each county, and then distribute those amounts across the nondisclosed industries in proportion to their reported numbers in the Woods & Poole data.

To make for a more consistent application of the Woods & Poole data, we made some adjustments to it to better align it with the QCEW. One of the challenges of using the Woods & Poole data as a “filler dataset” is that it includes all workers, while QCEW includes only wage and salary workers. To normalize the Woods & Poole data universe, we applied both a national and regional wage and salary adjustment factor; given the strong regional variation in the share of workers who are wage and salary, both adjustments were necessary. Second, while the QCEW data is available on an annual basis, the Woods & Poole data is available on a quinquennial basis (once every five years) until 1995, at which point it becomes annual. For individual years in the 1990 to 1995 period, we estimated the

Woods & Poole jobs and wages figures using a simple straight-line approach. We then standardized the Woods & Poole industry codes to match the NAICS codes used in the QCEW.

It is important to note that not all counties and regions were missing data at the two-digit NAICS level in the QCEW, and the majority of larger counties and regions with missing data were only missing data for a small number of industries and only in certain years. Moreover, when data are missing it is often for smaller industries. Thus, the estimation procedure described is not likely to greatly affect our analysis of industries, particularly for larger counties and regions.

# Data and methods

## Growth in jobs and earnings by industry wage level, 1990 to 2012

The analysis presented on pages 46-47 uses our filled-in QCEW dataset (for more on the creation of this dataset, see the previous page, “Assembling a complete dataset on employment and wages by industry”), and seeks to track shifts in regional industrial job composition and wage growth over time by industry wage level.

Using 1990 as the base year, we classified broad industries (at the two-digit NAICS level) into three wage categories: low-, medium-, and high-wage. An industry’s wage category was based on its average annual wage, and each of the three categories contained approximately one-third of all private industries in the region.

We applied the 1990 industry wage category classification across all the years in the dataset, so that the industries within each category remained the same over time. This way, we could track the broad trajectory of jobs and wages in low-, medium-, and high-wage industries.

This approach was adapted from a method used in a Brookings Institution report, *Building From Strength: Creating Opportunity in Greater Baltimore's Next Economy*. For more information, see:

[http://www.brookings.edu/~media/research/files/reports/2012/4/26%20baltimore%20economy%20vey/0426\\_baltimore\\_economy\\_vey.pdf](http://www.brookings.edu/~media/research/files/reports/2012/4/26%20baltimore%20economy%20vey/0426_baltimore_economy_vey.pdf).

While we initially sought to conduct the analysis at a more detailed NAICS level, the large amount of missing data at the three to six-digit NAICS levels (which could not be resolved with the method that was applied to generate our filled-in two-digit QCEW dataset) prevented us from doing so.

# Data and methods

## Analysis of occupations by opportunity level

Pages 50-58 of the equity profile present an analysis of “occupational opportunity.” The analysis seeks to identify occupations in the region that are of “high opportunity” for workers, but also to associate each occupation with a “typical” level of education that is held by workers in that occupation, so that specific occupations can be examined by their associated opportunity level for workers with different levels of educational attainment. In addition, once each occupation in the region is defined as being of either high, medium, or low opportunity, based on the “occupation opportunity index,” this general level of opportunity associated with jobs held by workers with different education levels and backgrounds by race/ethnicity and nativity is examined, in an effort to better understand differences in access to high-opportunity occupations in the region while holding broad levels of educational attainment constant. For that analysis, which appears on pages 55-58, data on workers is from the 2010 IPUMS 5-year ACS, while data on occupations is mostly from 2011 (as described below).

There are several aspects of this analysis that warrant further clarification. First, the “occupation opportunity index” that is constructed is based on a measure of job quality and set of growth measures, with the job quality measure weighted twice as much as all of the growth measures combined. This weighting scheme was applied both because we believe pay is a more direct measure of “opportunity” than the other available measures, and because it is more stable than most of the other growth measures, which are calculated over a relatively short period (2005-2011). For example, an increase from \$6 per hour to \$12 per hour is fantastic wage growth (100 percent), but most would not consider a \$12-per-hour job as a “high-opportunity” occupation.

Second, all measures used to calculate the “occupation opportunity index” are based on data for Metropolitan Statistical Areas from the Occupational Employment Statistics (OES) program of the U.S. Bureau of Labor Statistics (BLS), with one exception: median age by occupation. This measure, included

among the growth metrics because it indicates the potential for job openings due to replacements as older workers retire, is estimated for each occupation from the same pooled 2006-2010 IPUMS American Community Survey (ACS) microdata file that is used for many other analyses (for the employed civilian noninstitutional population ages 16 and older). The median age measure is also based on data for metropolitan statistical areas (to be consistent with the geography of the OES data), except in cases for which there were fewer than 30 individual survey respondents in an occupation; in these cases, the median age estimate is based on national data.

Third, the level of occupational detail at which the analysis was conducted, and at which the lists of occupations are reported, is the three-digit standard occupational classification (SOC) level. While data of considerably more detail is available in the OES, it was necessary to aggregate the OES data to the three-digit SOC level in order to associate education levels with the occupations. This information

# Data and methods

## Analysis of occupations by opportunity level

(continued)

is not available in the OES data, and was estimated using 2010 IPUMS ACS microdata. Given differences in between the two datasets in the way occupations are coded, the three-digit SOC level was the most detailed level at which a consistent crosswalk could be established.

Fourth, while most of the data used in the analysis are regionally specific, information on the education level of “typical workers” in each occupation, which is used to divide occupations in the region into the three groups by education level (as presented on pages 52-54), was estimated using national 2010 IPUMS ACS microdata (for the employed civilian noninstitutional population ages 16 and older). Although regionally specific data would seem to be the better choice, given the level of occupational detail at which the analysis is conducted, the sample sizes for many occupations would be too small for statistical reliability. And, while using pooled 2006-2010 data would increase the sample size, it would still not be sufficient for many regions, so national 2010 data were

chosen given the balance of currency and sample size for each occupation. The implicit assumption in using national data is that the occupations examined are of sufficient detail that there is not great variation in the typical educational level of workers in any given occupation from region to region. While this may not hold true in reality, we would note that a similar approach was used by Jonathan Rothwell and Alan Berube of the Brookings Institution in *Education, Demand, and Unemployment in Metropolitan America* (Washington D.C.: Brookings Institution, September 2011).

We should also note that the BLS does publish national information on typical education needed for entry by occupation. However, in comparing this data with the typical education levels of actual workers by occupation that were estimated using ACS data, there were important differences, with the BLS levels notably lower (as expected). The levels estimated from the ACS were determined to be the appropriate choice for our analysis as they provide a more realistic

measure of the level of educational attainment necessary to be a viable job candidate – even if the typical requirement for entry is lower.

Fifth, it is worthwhile to clarify an important distinction between the lists of occupations by typical education of workers and opportunity level, presented on pages 52-54, and the charts depicting the opportunity level associated with jobs held by workers with different education levels and backgrounds by race/ethnicity/nativity, presented on pages 54-56. While the former are based on the national estimates of typical education levels by occupation, with each occupation assigned to one of the three broad education levels described, the latter are based on actual education levels of workers in the region (as estimated using 2010 IPUMS ACS 5-year microdata), who may be employed in any occupation, regardless of its associated “typical” education level.

Lastly, it should be noted that for all of the occupational analysis, it was an intentional

## Data and methods

# Analysis of occupations by opportunity level

(continued)

decision to keep the categorizations by education and opportunity level fairly broad, with three categories applied to each. For the categorization of occupations, this was done so that each occupation could be more justifiably assigned to a single typical education level; even with the three broad categories some occupations had a fairly even distribution of workers across them nationally, but, for the most part, a large majority fell in one of the three categories. In regard to the three broad categories of opportunity level, and education levels of workers shown on pages 55-58, this was kept broad to ensure reasonably large sample sizes in the 2010 IPUMS ACS 5-year microdata that was used for the analysis.

# Data and methods

## Health data and analysis

Health data in this study were taken from the Behavioral Risk Factor Surveillance System (BRFSS) database, housed in the Centers for Disease Control and Prevention. The BRFSS database is created from randomized telephone surveys conducted by states, which then incorporate their results into the database on a monthly basis.

The results of this survey are self-reported and the population includes all related adults, unrelated adults, roomers, and domestic workers who live at the residence. The survey does not include adult family members who are currently living elsewhere, such as at college, a military base, a nursing home, or a correctional facility.

The most detailed level of geography associated with individuals in the BRFSS data is the county. Using the county-level data as building blocks, we created additional estimates for the region, state, and United States.

While the data allow for the tabulation of

personal health characteristics, it is important to keep in mind that because such tabulations are based on samples, they are subject to a margin of error and should be regarded as estimates – particularly in smaller regions and for smaller demographic subgroups.

To increase statistical reliability, we combined five years of survey data, for the years 2008 through 2012. As an additional effort to avoid reporting potentially misleading estimates, we do not report any estimates that are based on a universe of fewer than 100 individual survey respondents. This is similar to, but more stringent than, a rule indicated in the documentation for the 2012 BRFSS data of not reporting (or interpreting) percentages based on a denominator of fewer than 50 respondents (see [http://www.cdc.gov/brfss/annual\\_data/2012/pdf/Compare\\_2012.pdf](http://www.cdc.gov/brfss/annual_data/2012/pdf/Compare_2012.pdf)). Even with this sample size restriction, regional estimates for smaller demographic subgroups should be regarded with particular care.

For more information and access to the BRFSS database, please visit <http://www.cdc.gov/brfss/index.htm>.

# Data and methods

## Measures of diversity and segregation

In the equity profile we refer to a measure of racial/ethnic diversity (the “diversity score” on page 17) and several measures of residential segregation by race/ethnicity (the “multi-group entropy index” on page 72 and the “dissimilarity index” on page 71). While the common interpretation of these measures is included in the text of the profile, the data used to calculate them, and the sources of the specific formulas that were applied, are described below.

All of these measures are based on census-tract-level data for 1980, 1990, 2000, and 2010 from Geolytics. While the data originate from the decennial censuses of each year, an advantage of the Geolytics data we use is that (with the exception of 2000) they have been “re-shaped” to be expressed in 2000 census tracts boundaries, and so the underlying geography for our calculations is consistent over time; the census tract boundaries of the original decennial census data change with each release, which could potentially cause a change in the value of residential segregation indices even if no actual change in residential

segregation occurred. In addition, while most all the racial/ethnic categories for which indices are calculated are consistent with all other analyses presented in this profile, there is one exception. Given limitations of the tract-level data released in the 1980 Census, Native Americans are combined with Asians and Pacific Islanders in that year. For this reason, we set 1990 as the base year (rather than 1980) in the chart on page 67, but keep the 1980 data in other analyses of residential segregation as this minor inconsistency in the data is not likely to affect the analyses.

The formulas for the diversity score and the multi-group entropy index were drawn from a 2004 report by John Iceland of the University of Maryland, *The Multigroup Entropy Index (Also Known as Theil’s H or the Information Theory Index)* available at [http://www.census.gov/housing/patterns/about/multigroup\\_entropy.pdf](http://www.census.gov/housing/patterns/about/multigroup_entropy.pdf). In that report, the formula used to calculate the Diversity Score (referred to as the “entropy score” in the report), appears on page 7, while the formulas used to calculate the multigroup entropy

index (referred to as the “entropy index” in the report), appear on page 8.

The formula for the other measure of residential segregation, the dissimilarity index, is well established, and is made available by the U.S. Census Bureau at: [http://www.census.gov/hhes/www/housing/housing\\_patterns/app\\_b.html](http://www.census.gov/hhes/www/housing/housing_patterns/app_b.html).

# Data and methods

## Food desert analysis

There are many ways to define a food desert or to measure access to food. In their Food Desert Locator data, the U.S. Department of Agriculture's (USDA's) Healthy Foods Financing Initiative working group defined a food desert as a *low-income community* (census tract) where a substantial number or share of residents have *low access* to a supermarket or large grocery store, and the underlying data on income and access only for census tracts that were defined as food deserts.

Subsequently, with their release of the Food Access Research Atlas, which relies on updated data on income and access at the census tract level, they place less emphasis on a single definition of food deserts, and provide more detailed underlying data covering all census tracts in the U.S. (rather than just food deserts). In our analysis, we define food deserts based on the initial definition used in the Food Desert Locator data, as follows.

To qualify as a *low-income community*, a

census tract must have either 1) a poverty rate of 20 percent or higher, or 2) a median family income at or below 80 percent of the statewide or metropolitan area median family income (in the case of urban tracts, the "area median" income applied is the greater of the metro area median and the state median; for rural tracts, the "area median" applied is always the state median).

To qualify as a *low-access community*, at least 500 people and/or at least 33 percent of a census tracts' population must reside more than one mile from a supermarket or large grocery store (for rural census tracts, the distance is more than 10 miles).

The USDA's data on population are derived from block-level data from the 2010 Census of Population and Housing, and data on income is from block-group-level data from the 2010 American Community Survey 5-year summary file. All data is then allocated to a 1/2-km-square grid where it can be matched with data on food access drawn from two separate 2010 lists of supermarkets,

supercenters, and large grocery stores (food stores selling all major categories of food and having annual sales of at least \$2 million).

The USDA has released a Food Access Research Atlas (<http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx>) that shows census tracts considered food deserts under four different definitions. The definition ("LI and LA at 1 and 10 miles") is the one used in our analysis.

# Data and methods

## Estimates of GDP gains without racial gaps in income

Estimates of the gains in average annual income and GDP under a hypothetical scenario in which there is no income inequality by race/ethnicity are based on the IPUMS 2012 5-Year American Community Survey (ACS) microdata. We applied a methodology similar to that used by Robert Lynch and Patrick Oakford in Chapter Two of *All-in Nation: An America that Works for All* with some modification to include income gains from increased employment (rather than only those from increased wages).

We first organized individuals aged 16 or older in the IPUMS ACS into six mutually exclusive racial/ethnic groups: non-Hispanic White, non-Hispanic Black, Latino, non-Hispanic Asian/Pacific Islander, non-Hispanic Native American, and non-Hispanic Other or multiracial. Following the approach of Lynch and Oakford in *All-In Nation*, we excluded from the non-Hispanic Asian/Pacific Islander category subgroups whose average incomes were higher than the average for non-Hispanic Whites. Also, to avoid excluding subgroups based on unreliable average

income estimates due to small sample sizes, we added the restriction that a subgroup had to have at least 100 individual survey respondents in order to be excluded.

We then assumed that all racial/ethnic groups had the same average annual income and hours of work, by income percentile and age group, as non-Hispanic Whites, and took those values as the new “projected” income and hours of work for each individual. For example, a 54-year-old non-Hispanic Black person falling between the 85th and 86th percentiles of the non-Hispanic Black income distribution was assigned the average annual income and hours of work values found for non-Hispanic White persons in the corresponding age bracket (51 to 55 years old) and “slice” of the non-Hispanic White income distribution (between the 85th and 86th percentiles), regardless of whether that individual was working or not. The projected individual annual incomes and work hours were then averaged for each racial/ethnic group (other than non-Hispanic Whites) to get projected average incomes and work

hours for each group as a whole, and for all groups combined.

The key difference between our approach and that of Lynch and Oakford is that we include in our sample all individuals ages 16 years and older, rather than just those with positive income values. Those with income values of zero are largely non working, and they were included so that income gains attributable to increases in average annual hours of work would reflect both an expansion of work hours for those currently working and an increase in the share of workers – an important factor to consider given measurable differences in employment rates by race/ethnicity. One result of this choice is that the average annual income values we estimate are analogous to measures of per capita income for the age 16 and older population and are notably lower than those reported in Lynch and Oakford; another is that our estimated income gains are relatively larger as they presume increased employment rates.

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