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Program for Environmental and Regional Equity

An Equity Profile of

Orange County

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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.

Acknowledgments

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Through our partnership, Policylink and PERE are working to highlight the potential corrosive impact of inequity on growth and the particular way in which persistent racial disparities may threaten future prosperity. Our research illustrates that equity is the path to inclusive growth and prosperity. This equity profile of Orange County is part of a series of reports specific to the six-county Southern California region.

We would like to thank members of the working group convened by Orange County Grantmakers for helping to provide feedback and additional local data sources for this report: Association of California Cities - Orange County, AT&T, The California Endowment, CalOptima, Children & Families Commission, Disneyland Resort, JP Morgan Chase, Orange County Department of Education, Orange County Health Care Agency, Orange County Business Council, Orange County Community Foundation, OneOC, Samueli Foundation, Social Services Agency, St. Joseph Health Community Partnership Fund, Tarsadia Foundation, Orange County United Way , Weingart Foundation, and Wells Fargo Foundation. Special thanks to Taryn Palumbo and Jason Lacsamana from Orange County Grantmakers for their guidance and support on this project.

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Acknowledgments

(continued)

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We would also like to acknowledge, with gratitude and appreciation, that the land that is now known as Orange County is the traditional land of the Acjachemen and Tongva people past and present.

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Summary

While the nation is projected to become a people-of-color majority by the year 2044, Orange County reached that milestone in the early 2000s. For decades, Orange County has outpaced the nation in its dramatic population growth and demographic transformation—driven by growing Latino and Asian American populations.

Orange County's diversity is a major asset to the global economy, but inequities and disparities are holding the region back. Among the 150 largest regions, Orange County is ranked 58th in terms of income inequality, ranking higher than nearby San Diego metro area. While the working poverty rate in the region was lower than the national average in 1980 and 1990, it grew at a faster rate between 1990 and 2000 and is now on par with the national average. Racial and gender wage gaps persist in the labor market. Closing these gaps in economic opportunity and outcomes will be key to the region's future.

To build a more equitable Orange County, leaders in the private, public, nonprofit, and philanthropic sectors must commit to putting all residents on the path to economic security through equity-focused strategies and policies to grow good jobs, remove barriers, and expand opportunities for the people and places being left behind.

Foreword

Orange County is often seen as the sleepy suburb of Los Angeles where residents enjoy beautiful weather, beautiful beaches, and a strong economy with a wealth of community assets. And it is! But not all residents have been equal beneficiaries of the county's economic growth. In fact, over the next couple of years Orange County will face social and physical challenges that leaders must be aware of and ready to address. The 2019 Equity Profile of Orange County highlights what Orange County must do to lead the way on racial and economic equity, strategies to ensure accountability, and ways the community as a whole can prepare for any challenges along the way.

Orange County offers a great opportunity to promote a new narrative around equity that can bring together diverse stakeholders, including business leaders, and reach advocates who are rooted in the communities that most need to be part of the public policy dialogue. Rising inequality and changing demographics can be compelling to many who recognize that we need to address disparities in order to achieve economic sustainability.

Orange County Grantmakers represents a community of philanthropic leaders committed to inclusivity, fairness, and equal advantages for all residents. Through the work of our members, we are committed to building an equitable Orange County, today and in the future. The 2019 OC Equity Report represents an opportunity to identify and better understand the challenges that await us as we look ahead.

The St. Joseph Health Community Partnership Fund believes that in order to bring about real and lasting positive impact, we must have a more complete understanding of the various needs that exist in our community. This report will provide a deeper understanding for our leaders and community partners working in collaboration to develop a comprehensive, equitable, and long-term strategy to address the root causes of such disparities.

Thank you for being a part of this shared commitment.

Taryn Palumbo
Executive Director
Orange County Grantmakers

ORANGE COUNTY GRANTMAKERS

Gabriela Robles
Vice President, Community Partnerships
St. Joseph Health Community Partnership Fund

St. Joseph Health
Community Partnership Fund

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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 characteristics—is an essential element of the plans.

Understanding how a region measures up in terms of equity is a critical first step to 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 Orange County region. It was developed to help Orange County Grantmakers and other funders effectively address equity issues through their grantmaking, with the goal of a more integrated and sustainable region. PolicyLink, PERE, and Orange County Grantmakers also hope this will be a useful tool for advocacy groups, elected officials, planners, and others.

The data in this profile are drawn largely from a regional equity database that includes data for all 50 states, the largest 150 metropolitan regions, and the largest 100 cities, and includes historical data going back to 1980 for many economic indicators as well as demographic projections through 2050. 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

For the purposes of this equity profile and data analysis, the Orange County region is defined as solely Orange County.

Unless otherwise noted, all data presented in the profile use this regional boundary. Some exceptions due to lack of data availability are noted beneath the relevant figures. Information on data sources and methodology can be found in the "Data and methods" section beginning on page 99.

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 economic inequality is high and persistent.

Over the past several decades, long-standing inequities in income, wealth, health, and opportunity have reached unprecedented levels. Wages have stagnated for the majority of workers, inequality has skyrocketed, and many people of color face racial and geographic barriers to accessing economic opportunities.

Racial and economic equity is necessary for economic growth and prosperity.

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

For example:

- More equitable regions experience stronger, more sustained growth.[1]
- Regions with less segregation (by race and income) and lower income inequality have more upward mobility.[2]
- The elimination of health disparities would lead to significant economic benefits from reductions in health-care spending and increased productivity.[3]
- Companies with a diverse workforce achieve a better bottom line.[4]
- A diverse population more easily connects to global markets.[5]
- Less economic inequality results in better health outcomes for everyone.[6]

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

To secure America's health and prosperity, the nation must implement a new economic model based on equity, fairness, and opportunity. Leaders across all sectors must remove barriers to full participation, connect more people to opportunity, and invest in human potential.

Orange County has an opportunity to lead.

Orange County experienced demographic change and economic shocks before much of the rest of the nation—and it has emerged with a realization that leaving people and communities behind is a recipe for stress not success. Making progress on new commitments to inclusion can inform policy making in the rest of the nation's metros, many of which are playing catch-up to changes experienced here in the last few decades.

[1] 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 21st 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" (Cleveland, OH: Federal Reserve Bank of Cleveland, 2006), https://www.clevelandfed.org/newsroom-and-events/publications/working-papers/working-papers-archives/2006-working-papers/wp-0605-dashboard-indicators-for-the-northeast-ohio-economy.aspx.

[2] 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.," *Quarterly Journal of Economics 129 (2014): 1553-1623,* http://www.equality-of-opportunity.org/assets/documents/mobility_geo.pdf.

[3] Darrell Gaskin, Thomas LaVeist, and Patrick Richard, *The State of Urban Health: Eliminating Health Disparities to Save Lives and Cut Costs* (New York, NY: National Urban League Policy Institute, 2012).

[4] Cedric Herring, "Does Diversity Pay?: Race, Gender, and the Business Case for Diversity," *American Sociological Review* 74 (2009): 208-22; Slater, Weigand and Zwirlein, "The Business Case for Commitment to Diversity," *Business Horizons* 51 (2008): 201-209.

[5] 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.

[6] Kate Pickett and Richard Wilkinson, "Income Inequality and Health: A Causal Review," *Social Science & Medicine* 128 (2015): 316-326.

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?
- Racial/ethnic diversity
- Demographic change
- Population growth
- Racial generation gap

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 21st 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?
- Are all residents, especially immigrants, integrated into civic life?

Demographics

Demographics
Highlights
Who lives in the region and how is this changing?

- Orange County, when compared to the 150 largest regions, is the 18th most diverse region.
- The region has experienced dramatic growth and change over the past several decades, with the share of people of color increasing from 22 percent in 1980 to 58 percent in 2016.
- People of color will drive growth and change in the region; this growth will outpace national demographic shifts through 2050.
- Since 1990 Latino populations have doubled in six of the top ten most populous cities in Orange County while Asian American/Pacific Islander (API) populations have doubled in four.
- There is a large racial generation gap between the County's largely white senior population and its diverse youth population. Orange County's racial generation gap is larger than the national average; the region ranks 25th among the 150 largest regions on this measure.

People of color:

58%

Diversity rank (out of the 150 largest regions):

#18

Racial generation gap:

34 percentage points

Demographics
A diverse region

The total population of Orange County is 3,132,737. It became majority people of color around 2004.[1] Currently, people of color account for 58 percent of the population. Despite this growth, the single largest group is still white (42 percent), followed by Latino (34 percent), and Asian American/Pacific Islander (19 percent).

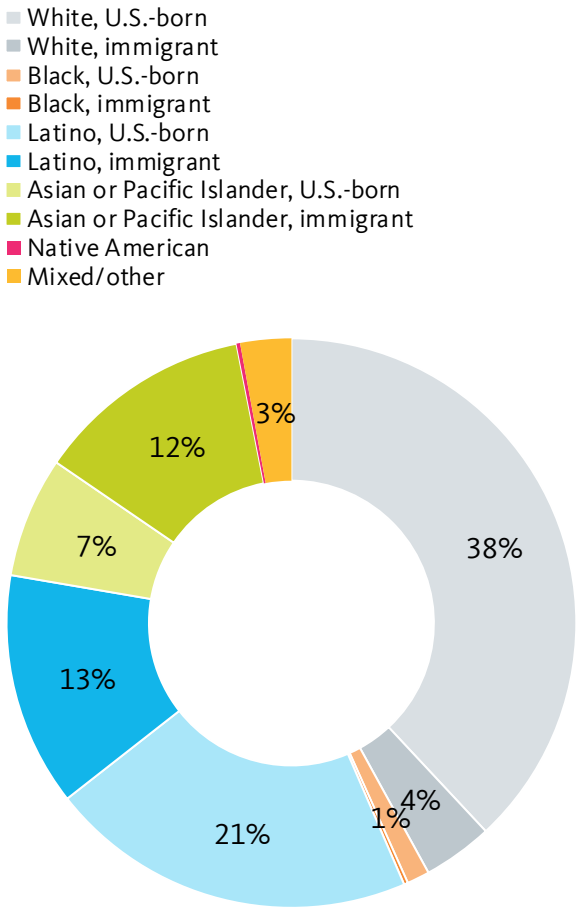
Nearly 40 percent of Latino residents are immigrants. People of Mexican ancestry make up the majority of Latinos (69 percent) of which 42 percent are immigrant. Central Americans constitute a smaller portion, with those of Salvadoran and Guatemalan ancestry making up 2 percent and 1.5 percent, respectively. These two groups are more likely to be immigrants.

The Asian American/Pacific Islander population is diverse. Vietnamese ancestry is most prominent (28 percent) followed by Korean and Chinese ancestry. Nearly two-thirds of all API residents are immigrants and the share ranges from 32 to 74 percent depending on ancestry.

[1]Rubin, Joel. 2004. "O.C. Whites a Majority No Longer." Los Angeles Times, September 30.

Orange County is majority people of color

1. Race/Ethnicity and Nativity, 2016



Total Population: 3,132,737

Source: Integrated Public Use Microdata Series.
Note: Data represent a 2012 through 2016 average.

Latino and Asian American/Pacific Islander Populations are ethnically diverse

2. Latino and API Populations by Ancestry, 2016

Latino

Ancestry	Population	% Immigrant
Mexican	743,102	42%
Salvadoran	22,907	65%
Guatemalan	16,089	68%
Peruvian	7,913	73%
Puerto Rican	7,570	0%
Cuban	6,610	33%
Colombian	6,414	60%
All other Latinos	260,005	25%
Total Latino	**1,070,610**	**39%**

Asian or Pacific Islander (API)

Ancestry	Population	% Immigrant
Vietnamese	171,170	70%
Korean	88,266	71%
Chinese	76,951	66%
Filipino	67,494	62%
Indian	45,058	69%
Japanese	31,644	32%
Taiwanese	16,528	74%
Cambodian	7,052	56%
All other API	97,591	73%
Total API	**601,754**	**64%**

Source: Integrated Public Use Microdata Series.
Note: Data represent a 2012 through 2016 average.

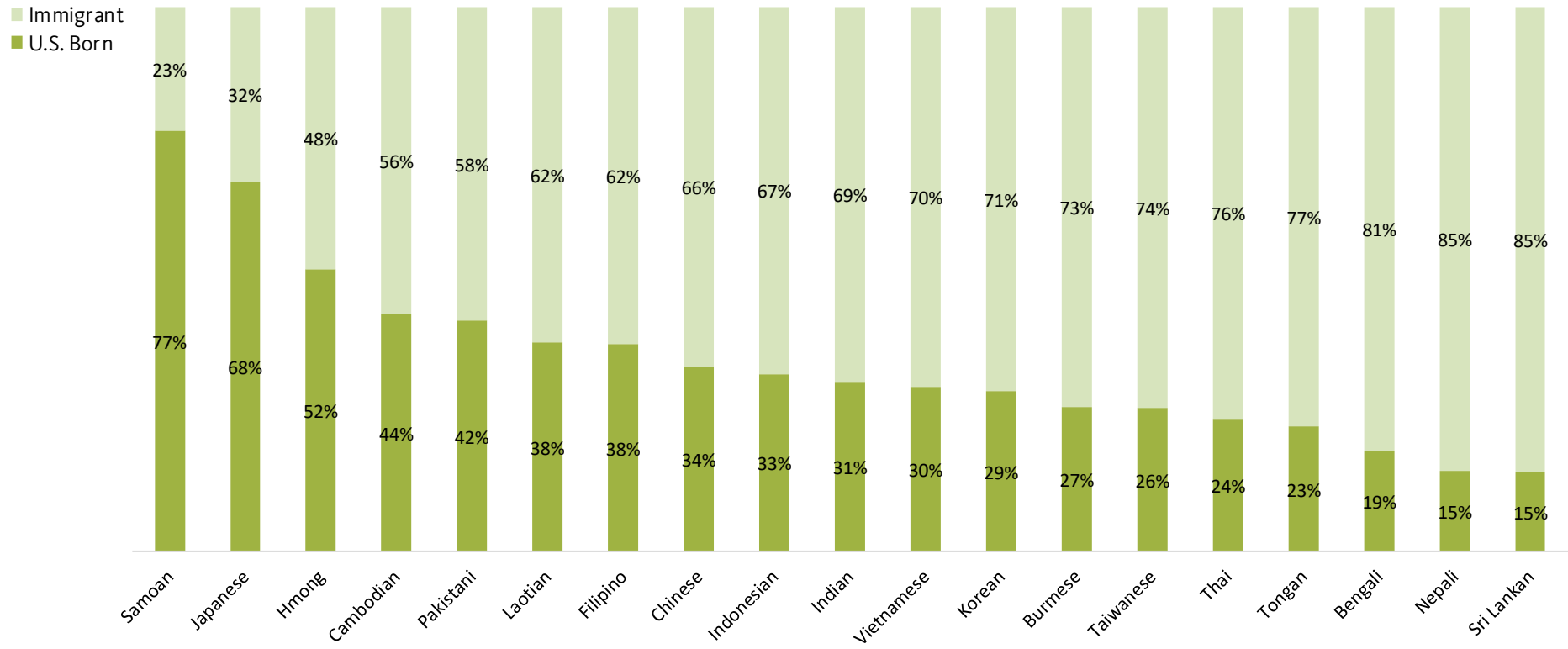
Demographics

Big differences in Asian American/Pacific Islander nativity

Immigrants compose a large segment of the Asian American/Pacific Islander community overall (64 percent). The immigrant share of the population differs across Asian American/Pacific Islander subgroups. Immigrants compose around 32 percent of the Japanese community in Orange County. Pacific Islanders have drastic differences in nativity rates, around 77 percent of Tongans in Orange County are foreign-born, while only 23 percent of Samoans are foreign-born.

The immigrant share of the population varies widely by Asian American/Pacific Islander subgroup

3. Asian American/Pacific Islander Subpopulations by Ancestry and Nativity, 2016



Source: Integrated Public Use Microdata Series.
Note: Data represent a 2012 through 2016 average.

Demographics
One of the most diverse regions

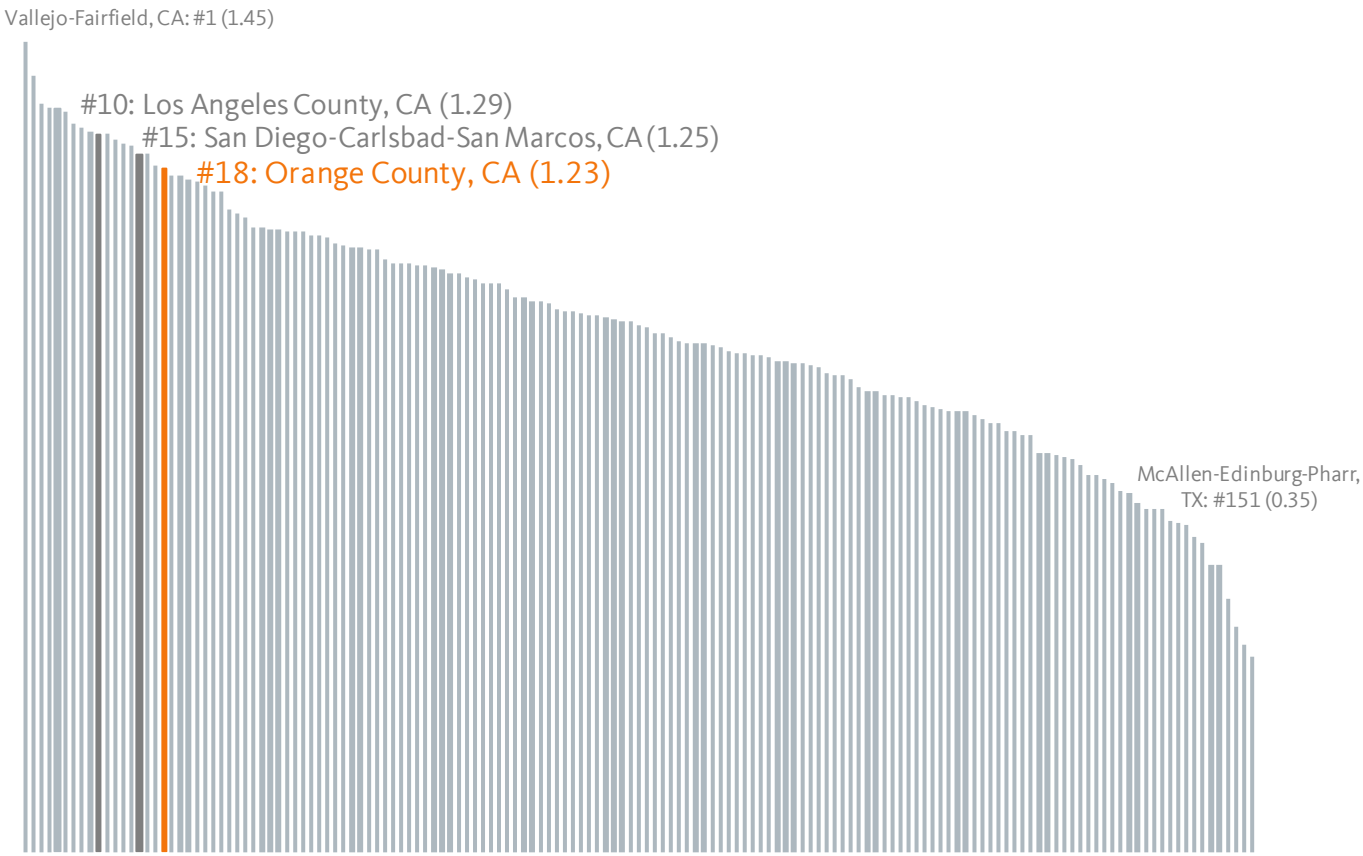
Orange County is the nation's 18th most diverse region out of the 150 largest regions. Orange County has a diversity score of 1.23.

The diversity score is a measure of racial/ethnic diversity in a given area. It measures the representation of the six major racial/ethnic groups (white, Black, Latino, Asian American/Pacific Islander, 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 74 and 75.

Orange County is the 18th most diverse region

4. Diversity Score in 2016: 150 Largest Metros, Orange County, and Los Angeles County, Ranked



Source: U.S. Census Bureau.
Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

Demographics
A growing and diversifying population

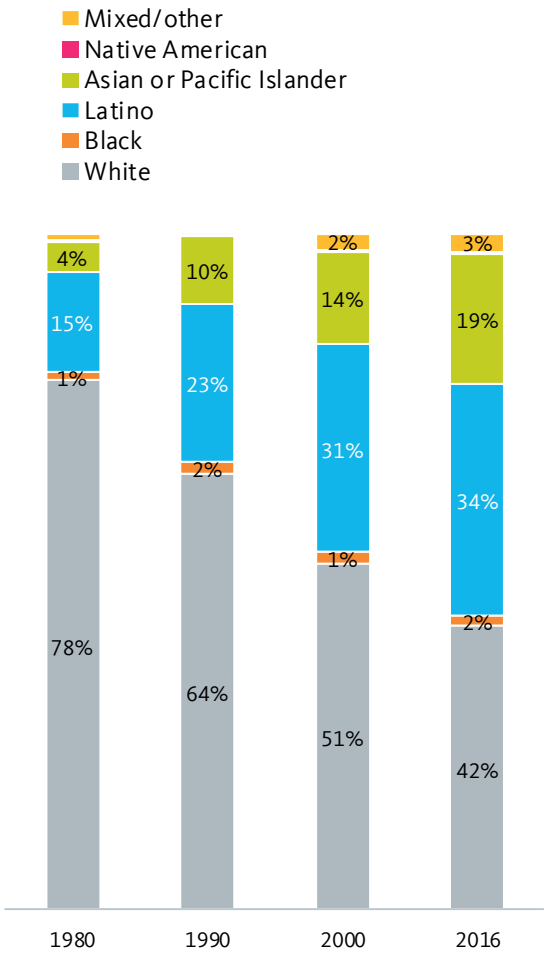
Orange County has experienced significant population growth since 1980, growing from 1.9 million to 3.1 million residents.

Since 1980, the diversity of Orange County has dramatically increased. People of color made up only 22 percent of the population in that year, as compared to 58 percent in 2016.

White population growth slowed and then decreased from 1990 to 2016, while people of color have contributed to the region's growth during the same period.

The population has become more diverse

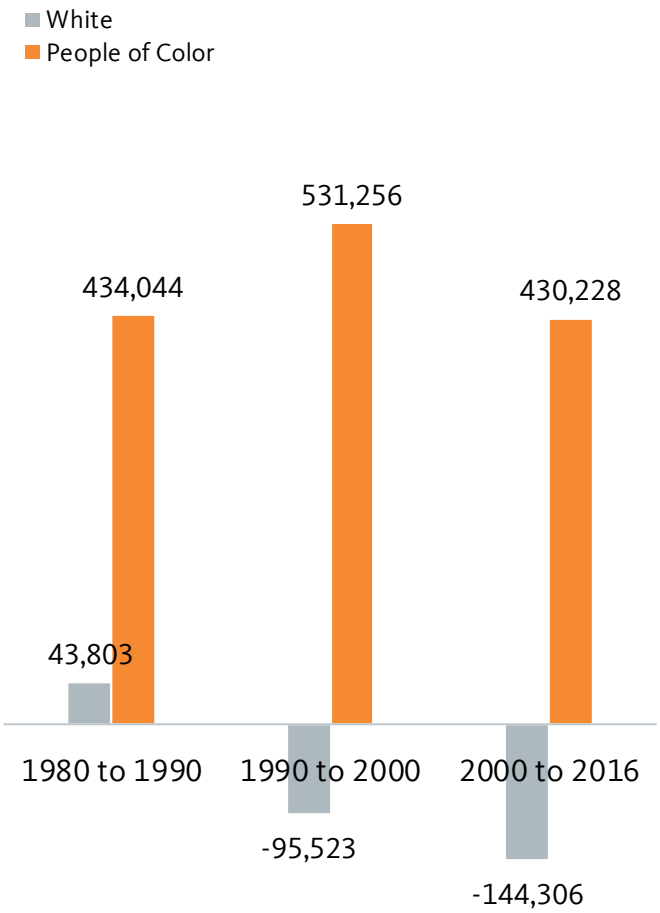
5. Racial/Ethnic Composition, 1980 to 2016



Source: U.S. Census Bureau.
Note: Data for 2016 represent a 2012 through 2016 average.

People of color have driven the region's growth since 1980

6. Composition of Net Population Growth by Decade, 1980 to 2016



Source: U.S. Census Bureau.
Note: Data for 2016 represent a 2012 through 2016 average.

Demographics

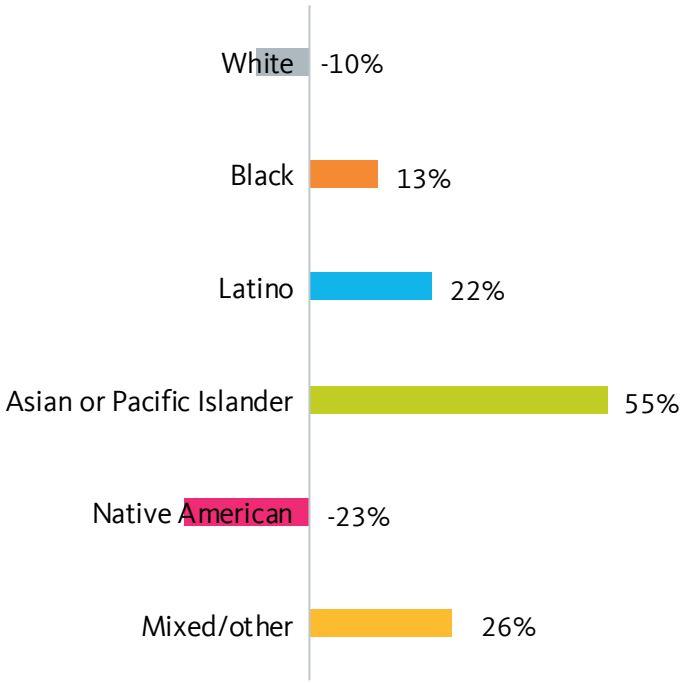
Asian Americans/Pacific Islanders and Latinos are driving population growth

Between 2000 and 2016, Orange County's Asian American/Pacific Islander (API) population grew by 55 percent (212,139 residents). Meanwhile the Latino population grew by 22 percent (199,723 residents) and the Black population by 13 percent (6,379 residents). The county's Native American and non-Hispanic white populations have decreased.

During this time period, immigration spurred growth of the API population: 55 percent of the growth in the API population between 2000 and 2016 was from foreign-born APIs. In contrast, the growth in the Latino population has been solely due to U.S.-born Latinos. There has been a net loss in the number of foreign-born Latinos in the county.

API and Latino populations experienced the most growth in the past decade

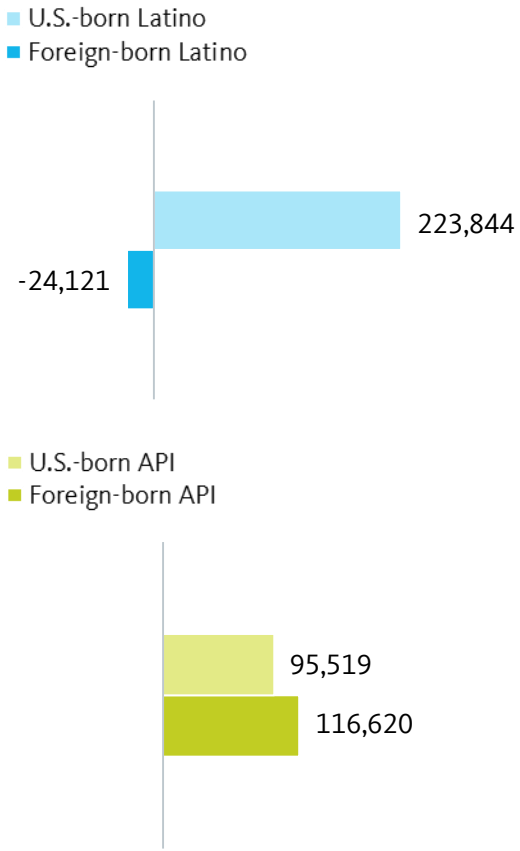
7. Growth Rates of Major Racial/Ethnic Groups, 2000 to 2016



Source: U.S. Census Bureau.
Note: Data for 2016 represent a 2012 through 2016 average.

Latino population growth was solely due to an increase in U.S.-born Latinos, while immigration can account for the majority of growth in the API population

8. Net Change in Latino and API Populations by Nativity, 2000 to 2016



Source: Integrated Public Use Microdata Series.
Note: Data for 2016 represent a 2012 through 2016 average.

Demographics

Changing immigration patterns

The top countries of origin for immigrants have shifted drastically since 1986. Twenty to thirty years ago, a large proportion of immigrants who arrived were from Mexico (43 percent). During the same time, about 19 percent of immigrants were coming from Vietnam and 6 percent from Korea. By 2016, Mexicans made up a significantly smaller portion (27 percent) of newly-arrived immigrants. In addition, incoming Vietnamese populations have decreased while there has been increased migration from the Philippines, China, and India.

The largest number of recent immigrants are from Mexico, Vietnam, and Korea

9. Immigrants Who Arrived in the U.S. in the Last 10 Years by Birthplace, 2016

Birthplace	Population	Percentage
Mexico	52,869	27%
Vietnam	26,170	13%
Korea	15,623	8%
Philippines	13,441	7%
China	12,760	7%
India	10,793	6%
Iran	7,034	4%
Japan	4,288	2%
El Salvador	3,659	2%
All Other Countries	49,441	25%
Total	**196,078**	**100%**

Source: Integrated Public Use Microdata Series. Universe includes immigrants who arrived in the U.S. during the 10 years prior to the survey year. Note: Data represent a 2012 through 2016 average.

Large numbers of immigrants from Mexico, Vietnam, and Korea have been in the region for 21 to 30 years

10. Immigrants Who Arrived in the U.S. Between 21 and 30 Years Ago by Birthplace, 2016

Birthplace	Population	Percentage
Mexico	102,089	43%
Vietnam	44,670	19%
Korea	14,041	6%
Philippines	12,677	5%
El Salvador	5,675	2%
India	5,592	2%
Taiwan	5,554	2%
Iran	4,514	2%
China	4,275	2%
All Other Countries	40,912	17%
Total	**239,999**	**100%**

Source: Integrated Public Use Microdata Series. Universe includes immigrants who arrived in the U.S. between 21 and 30 years prior to the survey year. Note: Data represent a 2012 through 2016 average.

Demographics

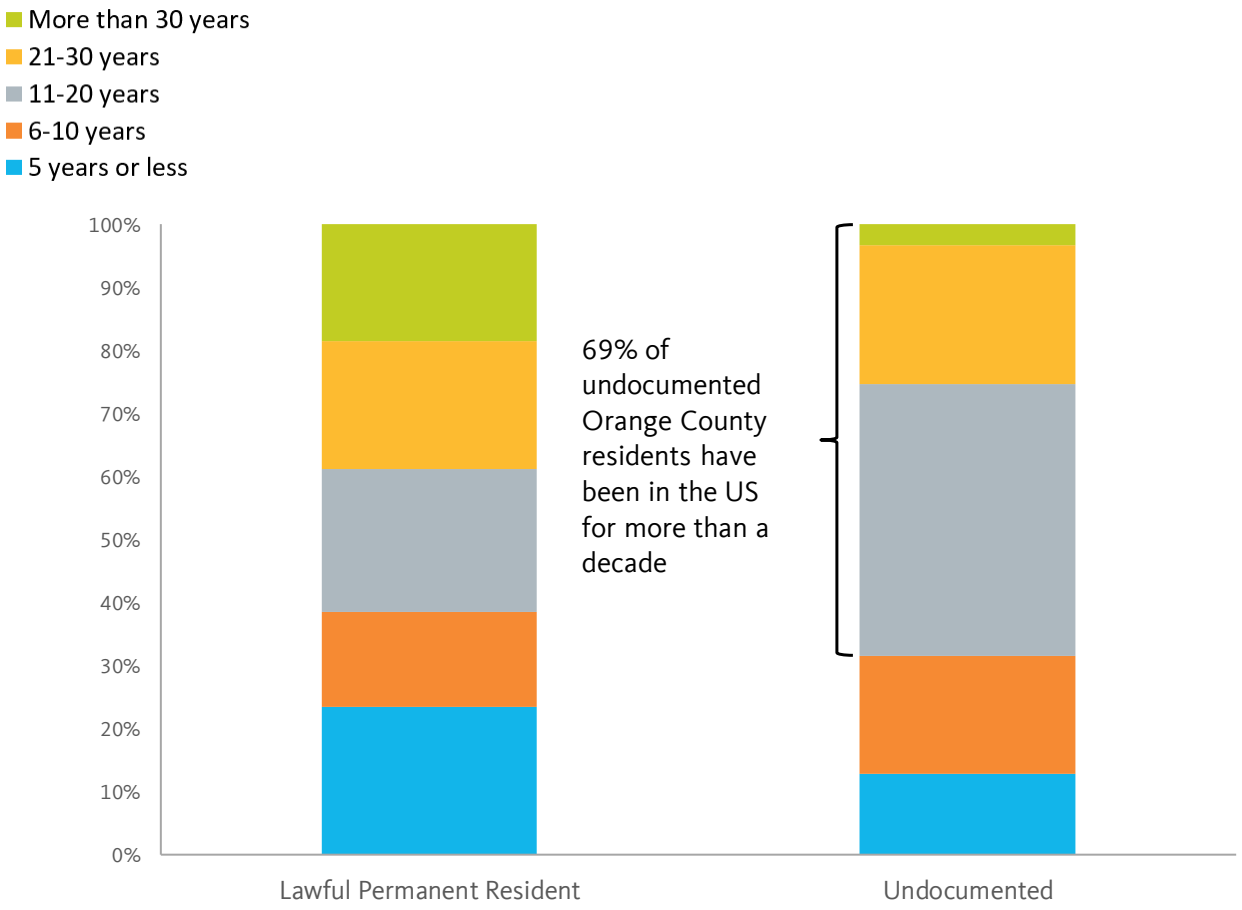
Immigrants are well-established in the county

Around one-third of the county's residents are immigrants. Lawful permanent residents account for 26 percent of immigrants in the county and those who are undocumented account for 24 percent of immigrants. In Orange County, 21 percent of children under the age of 18 have at least one undocumented parent.

Regardless of status, immigrants have deep roots in Orange County. A majority (around 69 percent) of the undocumented population has been in the United States for longer than a decade. Sixty-one percent of lawful permanent residents have been in the United States for longer than a decade.

Sixty-nine percent of the undocumented residents in Orange County have been in the U.S. for more than a decade

11. Recency of Arrival by Immigration Status, 2016



Source: Source: USC Center for the Study of Immigrant Integration analysis of 2016 5-year Integrated Public Use Microdata Series and 2014 Survey of Income and Program Participation.
Note: See "Data and methods" section for details on estimates of the undocumented population.

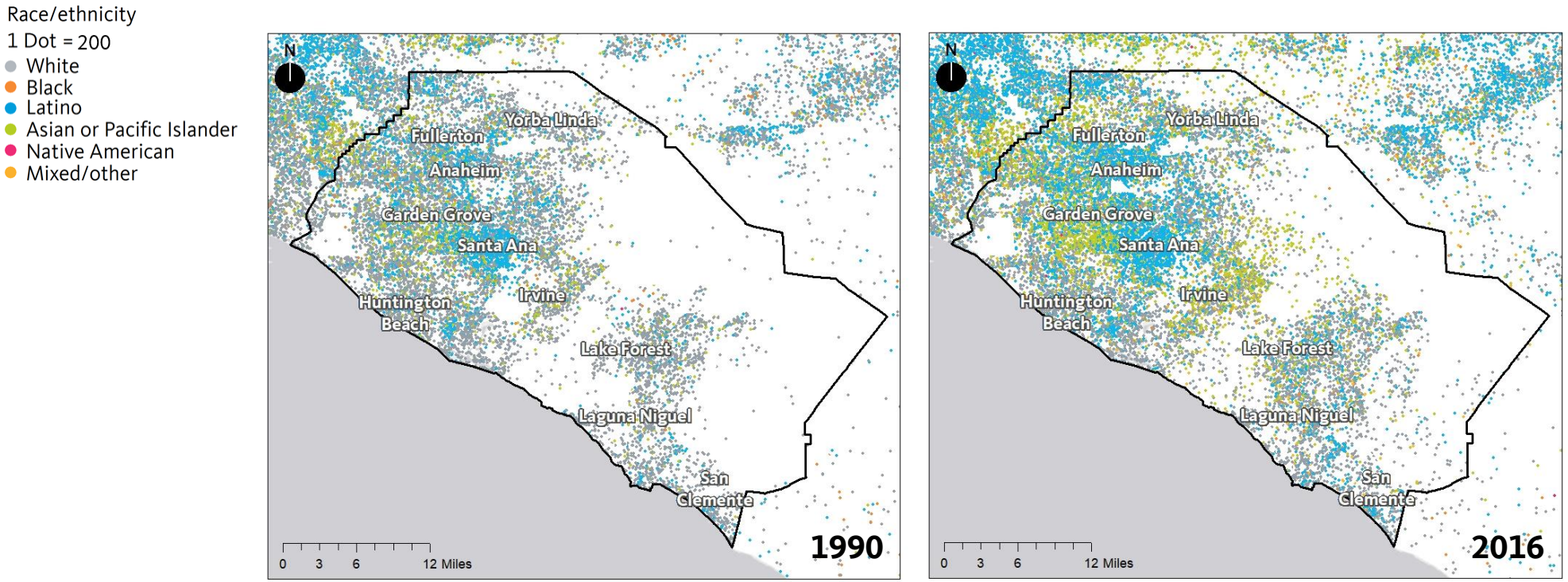
Demographics

Areas across the region are becoming more diverse

Since 1990, the region's population grew by over 700,000 residents. Growth can be seen throughout the region, but is most notable in the northern portions of the county. The Latino and Asian American/Pacific Islander (API) populations have been the fastest-growing groups in the region. Since 1990, the API population grew by about 30,200 people in Anaheim, 39,000 in Garden Grove, and 81,200 in Irvine. The Latino population grew by about 70,900 people in Santa Ana, 100,700 in Anaheim, and 30,400 in Garden Grove. The number of Latinos at least doubled over the period in six of the top ten most populous cities in Orange County (based on the population in 1990) while the number of APIs at least doubled in five, nearly quintupling in Irvine.

More APIs and Latinos are settling in communities throughout Orange County

12. Racial/Ethnic Composition by Census Tract, 1990 and 2016



Source: U.S. Census Bureau, GeoLytics, Inc.; TomTom, ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Note: Data for 2016 represent a 2012 through 2016 average.

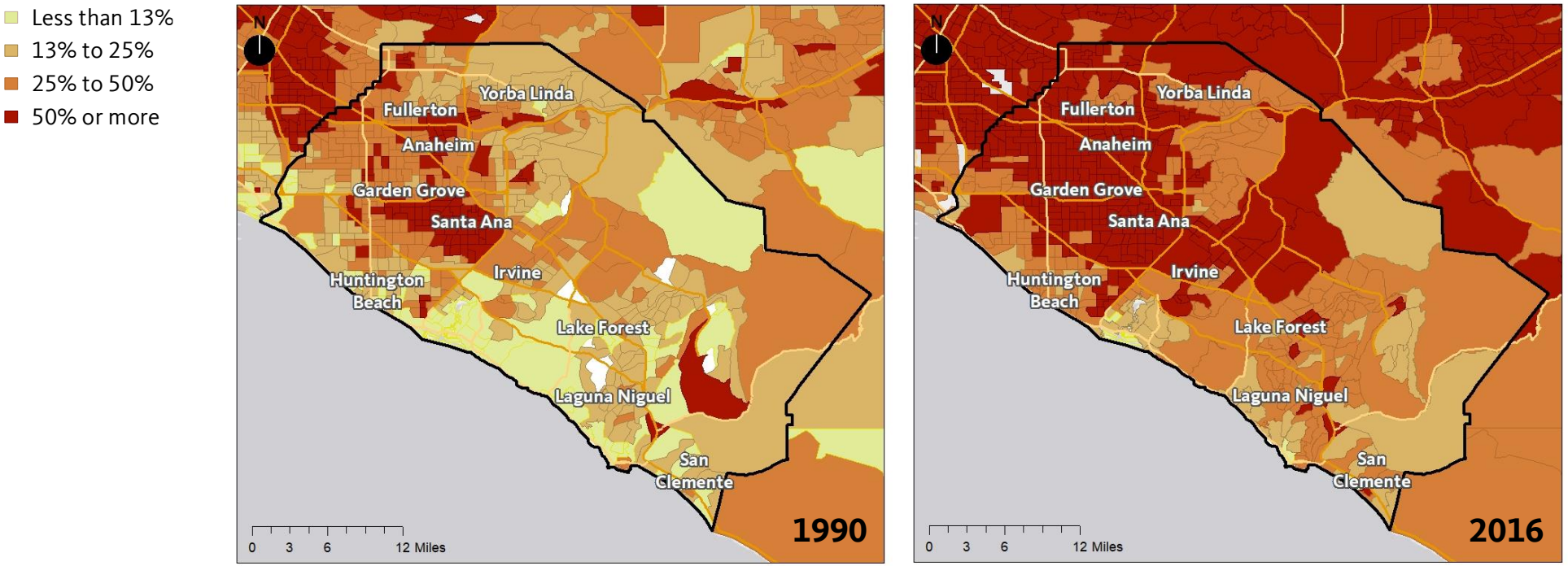
Demographics

Demographic change varies by neighborhood

Mapping the growth in people of color by census tract illustrates variation in growth in communities of color throughout the region. The map highlights how the percent of people of color has increased in many neighborhoods in Orange County. Many census tracts have changed to majority people of color since 1990, including neighborhoods in La Habra, Cypress, Buena Park, Fullerton, Irvine, Garden Grove, and Santa Ana. Areas that have increased the percent of people of color but are not majority people of color census tracts include neighborhoods in Huntington Beach, Newport Beach, Lake Forest, Mission Viejo, and Yorba Linda.

Significant variation in growth in communities of color by neighborhood

13. Percent People of Color by Census Tract, 1990 and 2016



Source: U.S. Census Bureau, GeoLytics, Inc.; TomTom, ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Note: Data for 2016 represent a 2012 through 2016 average.

Demographics
Outpacing the nationwide demographic shift

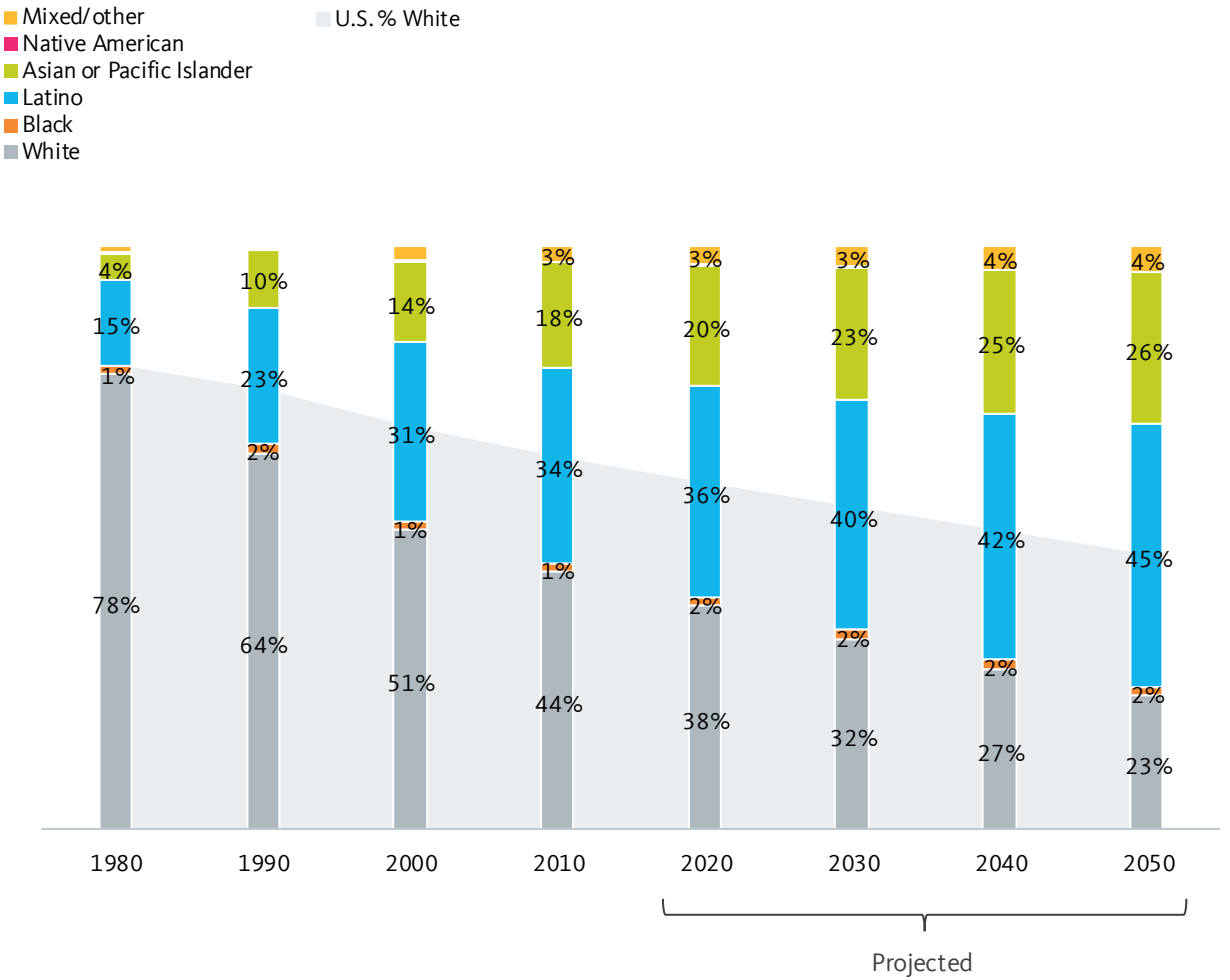
Orange County became majority people of color in 2004,[1] foreshadowing the demographic shift now occurring across the nation, which is predicted to become majority people of color by 2044.[2]

In 2016 the county ranked 20th among the largest 150 regions in terms of the percentage people of color (58 percent), and is projected to rank 16th in 2050 (77 percent). It should be noted that these rankings treat Los Angeles County and Orange County as separate regions and exclude the official Los Angeles metro area (which includes both counties), while all other regions are defined based on official metro area definitions.

[1] Rubin, Joel. 2004. "O.C. Whites a Majority No Longer." Los Angeles Times, September 30.
[2] Colby, Sandra and Jennifer Ortman. 2015. Projections of the Size and Composition of the U.S. Population: 2014 to 2060. Population Estimates and Projections. P25-1143. Washington DC: U.S. Census Bureau.

Orange County's demographic change is projected to outpace the nation through 2050

14. Racial/Ethnic Composition, 1980 to 2050



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

Demographics

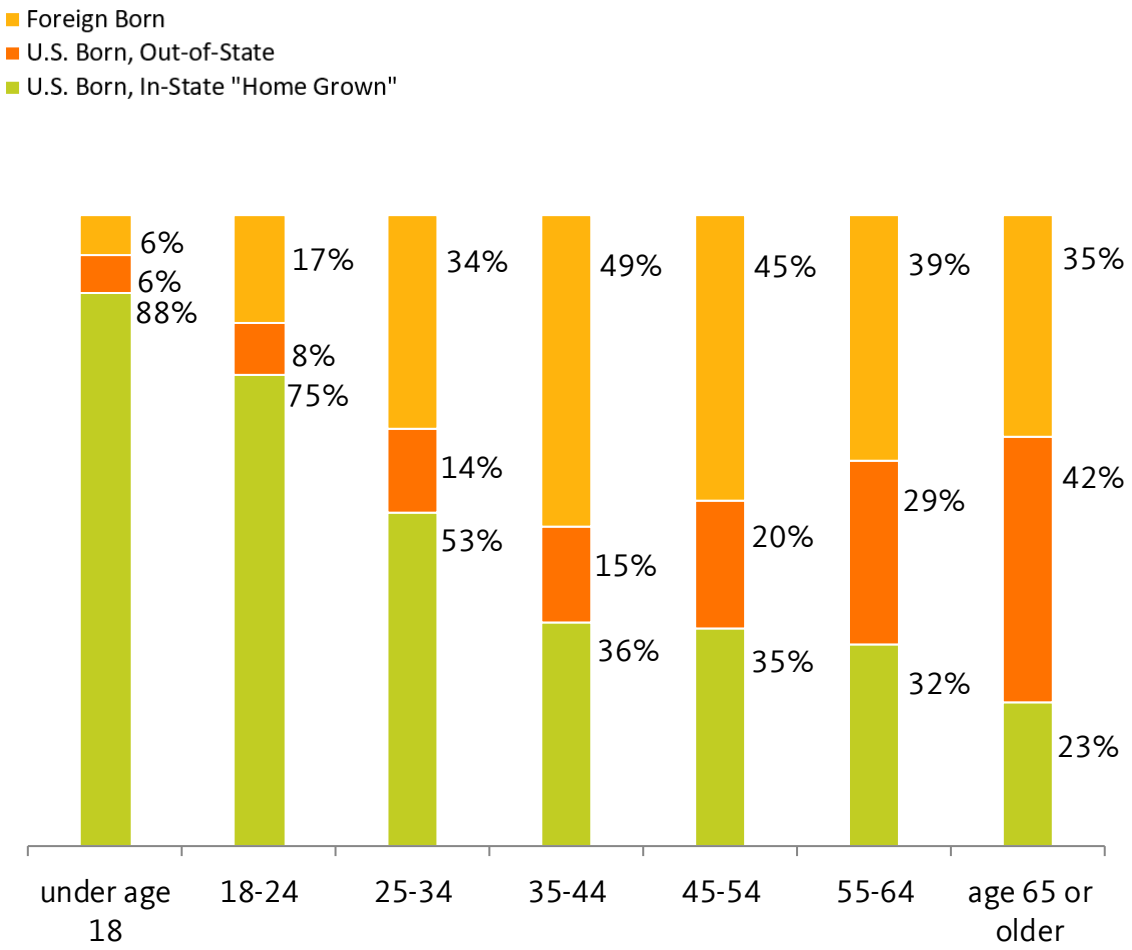
More than half of Orange County residents were born in California

Although there has been a notable increase in the number of foreign-born residents in the region since 1980, more than half of Orange County's residents were actually born in California (52 percent). About 18 percent of Orange County residents were born in another state and 30 percent were foreign-born.

When looking at birthplace by age, data show that about 88 percent of people under the age of 18 were born in California, while almost half of people ages 35 to 44 were foreign-born. Those born out-of-state constitute a considerable amount of the population ages 65 and older (42 percent).

The youngest sections of the population are born within the state while older generations are more mixed

15. Birthplace Composition by Age, 2016



Source: Integrated Public Use Microdata Series.
Note: Data represent a 2012 through 2016 average.

Demographics
A widening racial generation gap

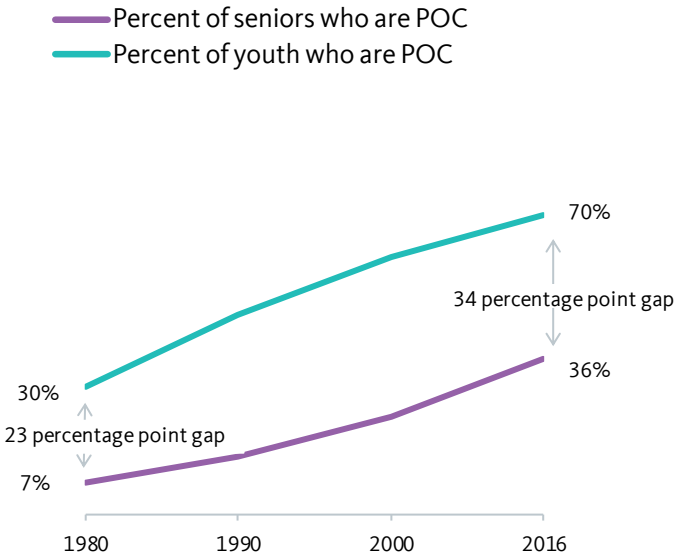
The racial generation gap, the difference between the share of people of color among young and old, has grown in the Orange County since 1980, as it has in many other parts of the country. Today, 70 percent of Orange County's youth (under age 18) are people of color, compared with only 36 percent of the region's seniors (age 65 and older).

Whites have the highest median age at 46. The median ages for Latinos and Pacific Islanders are lowest, with an 18-year gap between the median white and Latino resident. Similar to the Latino population, the median age of Pacific Islanders is relatively young at 29.

Asian Americans have the second-highest median age of 40, although this varies among ethnic groups. Cambodians and Pakistanis are notable exceptions and have median ages of 33 and 35, respectively, much younger than the racial group as a whole.

The racial generation gap has increased since 1980

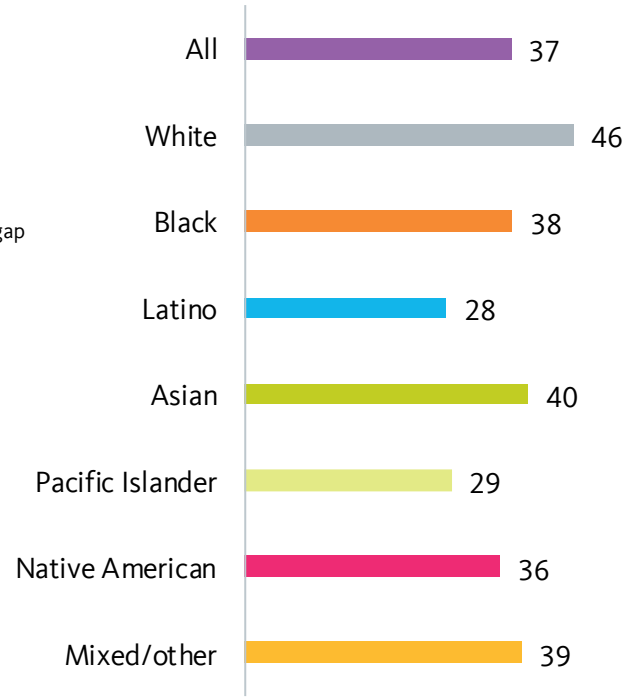
16. Percent People of Color (POC) by Age Group, 1980 to 2016



Source: U.S. Census Bureau.
Note: Data for 2016 represent a 2012 through 2016 average.

The region's Pacific Islander and Latino Population are younger than other groups

17. Median Age by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series.
Note: Data represent a 2012 through 2016 average. In order to obtain more robust estimates of the Pacific Islander population the estimate includes all those who identified as Pacific Islander. Asian estimate includes all those who identify as Asian or Pacific Islander.

Demographics

A widening racial generation gap

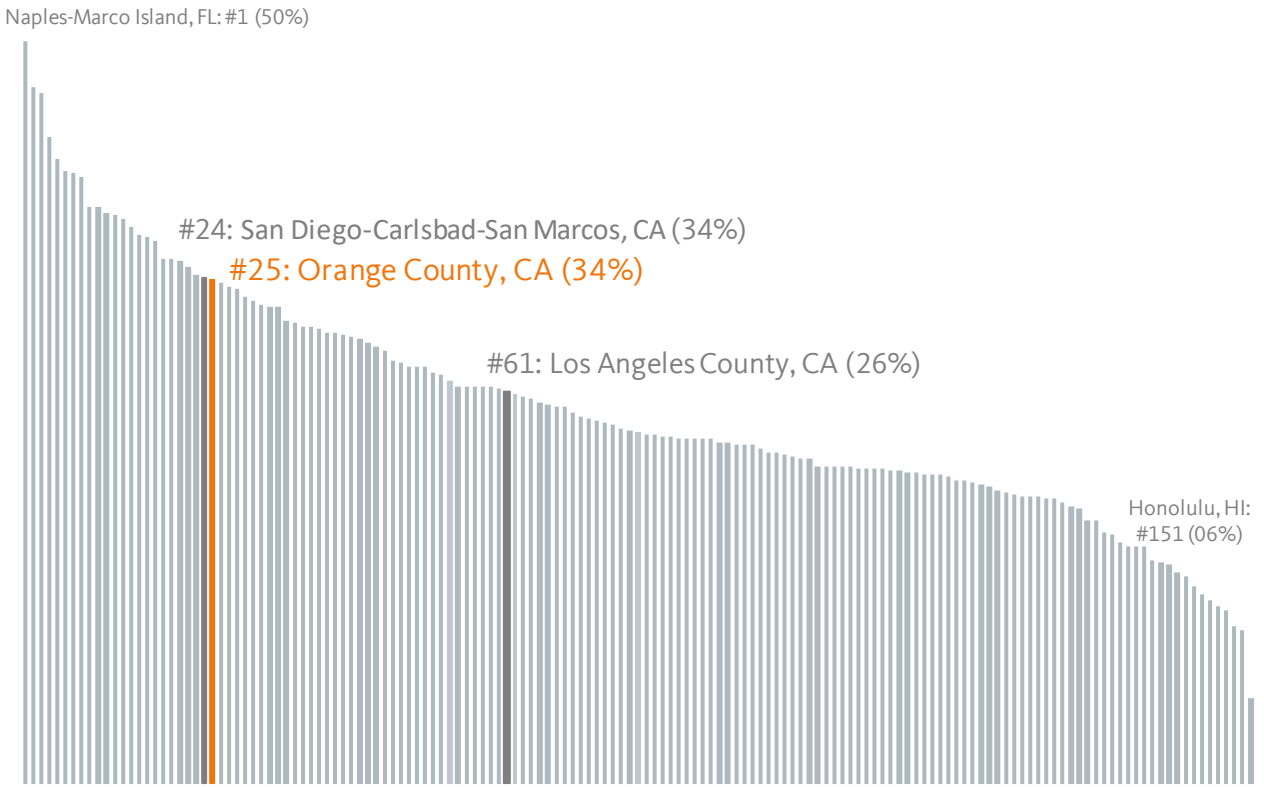
(continued)

Orange County's 34 percentage point racial generation gap is higher than the national average (27 percentage points), ranking the region 25th among the largest 150 regions on this measure.

Compared to other regions in California, the racial generation gap in Orange County (34 percent) is higher than Los Angeles County (26 percent) and equivalent to the San Diego metro area (34 percent).

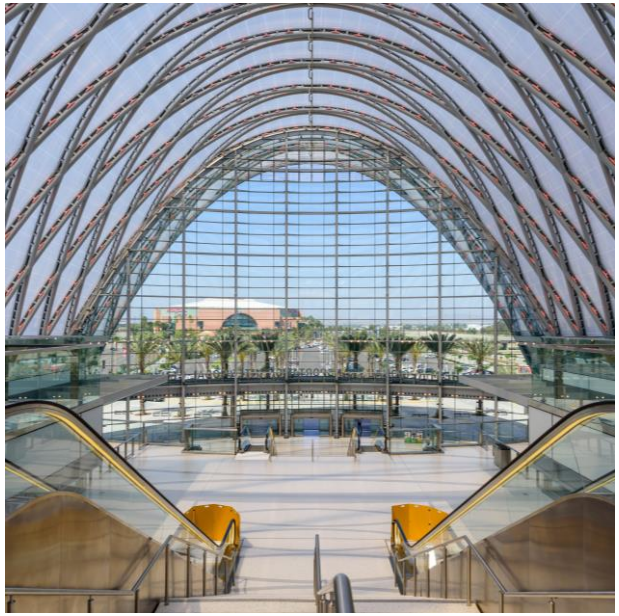
Orange County has a higher than average racial generation gap

18. The Racial Generation Gap in 2016: 150 Largest Metros, Orange County, and Los Angeles County, Ranked



Source: U.S. Census Bureau.
Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

Economic vitality



Economic vitality

Highlights

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

- Orange County's regional economic growth is outpacing national growth. The number of jobs grew by 116 percent between 1979 and 2016 while real gross regional product (GRP) increased by 209 percent, both surpassing national growth rates.
- Income inequality, driven in part by a widening wage gap, has sharply increased. Wages for top earners increased 24 percent between 1979 and 2016, while wages for the lowest earners fell by 26 percent. Low-wage jobs are the fastest growing job segment in the county.
- Black and Latino workers earn the lowest median wages and their wages stagnated between 2000 and 2016.
- Although education can be a leveler, racial, and gender gaps persist in the labor market. People of color with college degrees have a lower median hourly wage than their white counterparts. In addition, women of color at all levels of education earn a lower median hourly wage.

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.

Decline in wages for workers at the lowest percentile since 1979:

-26%

Median hourly wage gap between college-educated white men and women of color:

$16/hr

Increase in low-income households since 1979:

11 percentage points

Economic vitality

The regional economy is growing stronger and faster than the rest of the nation

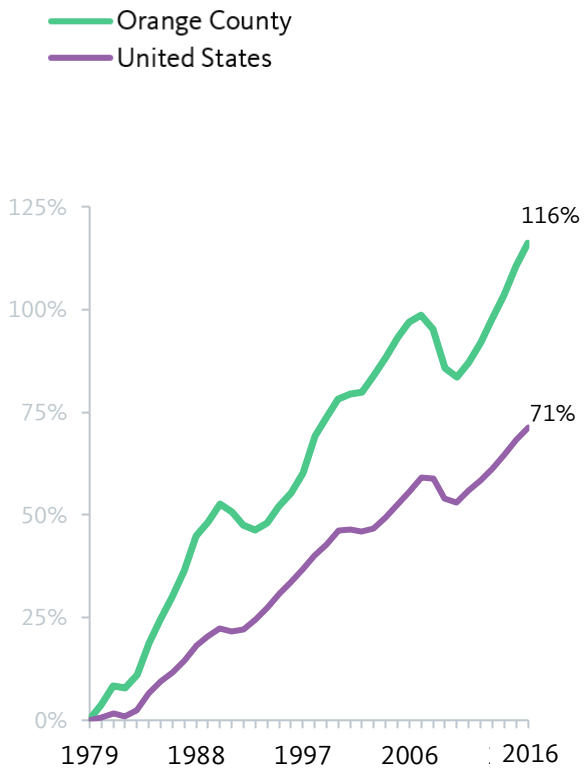
Measures of economic growth include increases in jobs and increases in Gross Regional Product (GRP), the value of all goods and services produced within the region.

By these measures, economic growth in Orange County kept pace with and surpassed the national average in the 1980s. The downturn of the early 1990s and the recession in 2007 hit the region more drastically than the nation as a whole but since then economic growth in Orange County has outpaced the nation.

From 1979 to 2016, the number of jobs increased by 71 percent in the United States and by 116 percent in Orange County. Over the same period, real GDP increased by 118 percent in the United States and GRP increased by 209 percent in Orange County.

Job growth has exceeded the national average since the early 1980s

19. Cumulative Job Growth, 1979 to 2016



Source: U.S. Bureau of Economic Analysis.

Gross regional product (GRP) growth has outpaced the national average since the early 1980s

20. Cumulative Growth in Real GRP, 1979 to 2016

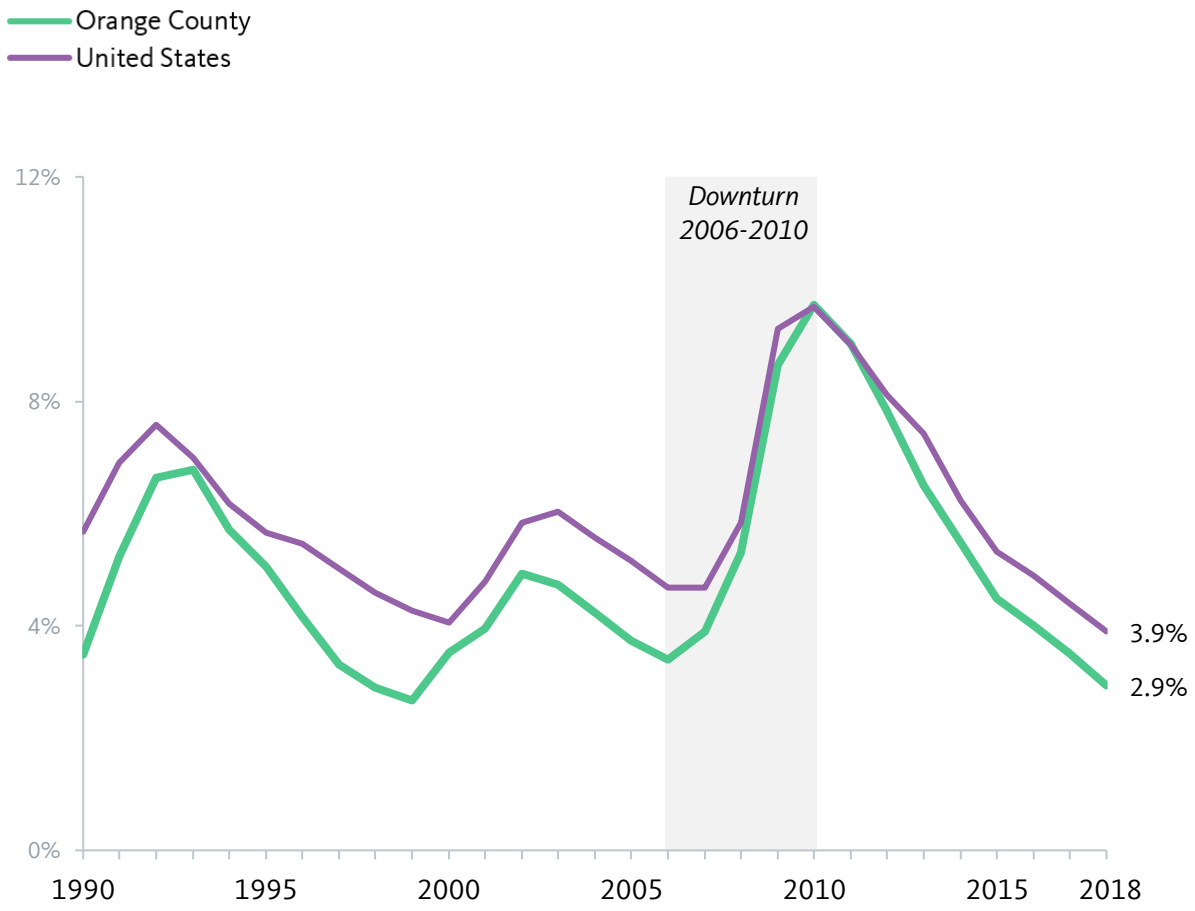
Source: U.S. Bureau of Economic Analysis.

Economic vitality
Relatively low levels of unemployment

Since the 1990s, the unemployment rate in Orange County has generally been lower than the national average. However, during the 2006 to 2010 economic downturn, unemployment increased more sharply than the national average. Since then, unemployment rates have fallen to pre-downturn levels with a 2018 unemployment rate of 2.9 percent in Orange County and 3.9 percent nationally.

Unemployment continues to be below the national average

21. Unemployment Rate, 1990 to 2018



Source: U.S. Bureau of Labor Statistics and California Employment Development Department December Monthly Labor Force Data for Counties. Universe includes the civilian non-institutional population ages 16 and older. Note: The years 1990-2017 use an annual unemployment rate, the 2018 unemployment rates reflect an annual average unemployment rate.

Economic vitality

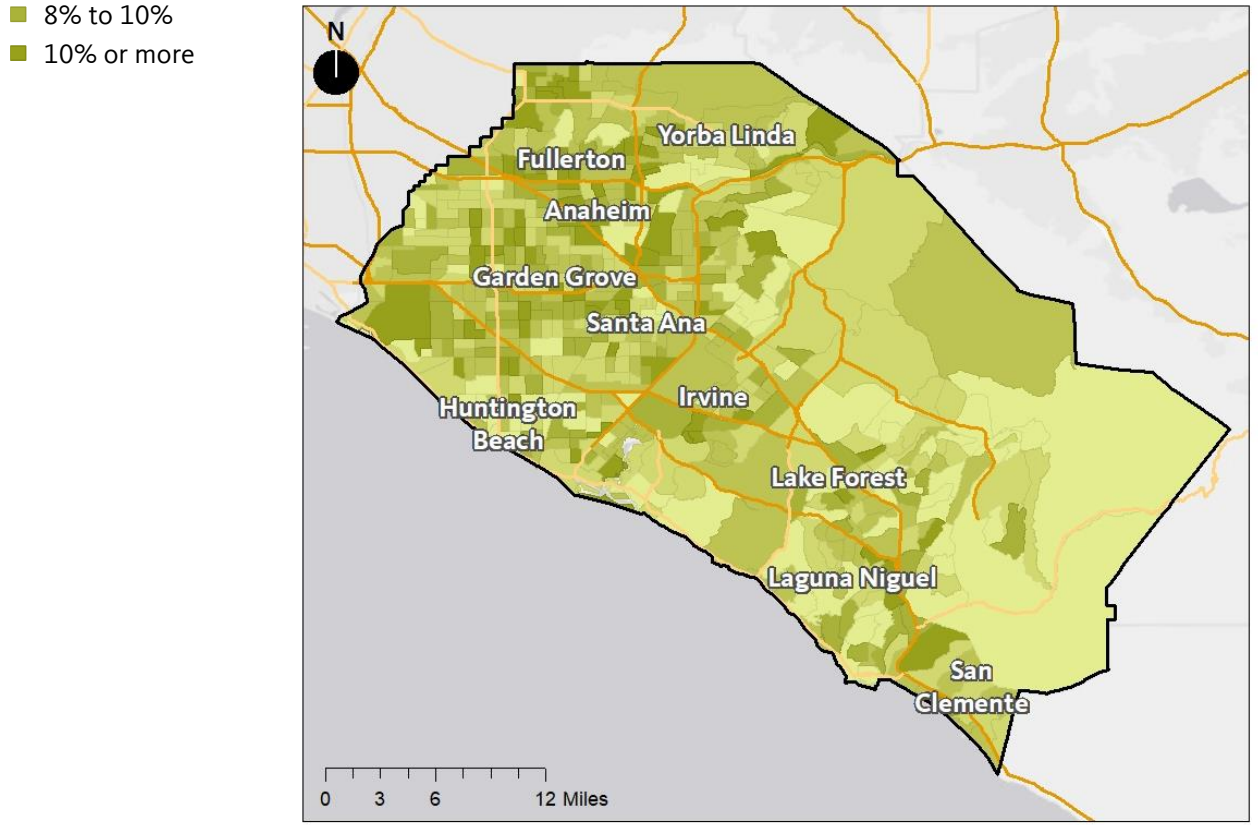
Overall unemployment is low, but pockets of high unemployment still remain

Identifying communities in the region that face high unemployment can help the region's leaders develop targeted solutions.

As the map to the right illustrates, while those facing unemployment live throughout the region, there are more neighborhoods in north and central Orange County with large percentages of people who are unemployed in cities like Anaheim and Santa Ana, as well as portions of Westminster and Cypress. The unemployment rate as of December 2018 for Orange County was 2.8 percent while the California unemployment rate was 4.1 percent.[1]

There are pockets of high unemployment in many portions of northern Orange County

22. Unemployment Rate by Census Tract, 2016



[1]Labor Market Information Division. 2019. December 2018 Monthly Labor Force Data for Counties. Table. 400 C. Sacramento, CA: California Employment Development Department.

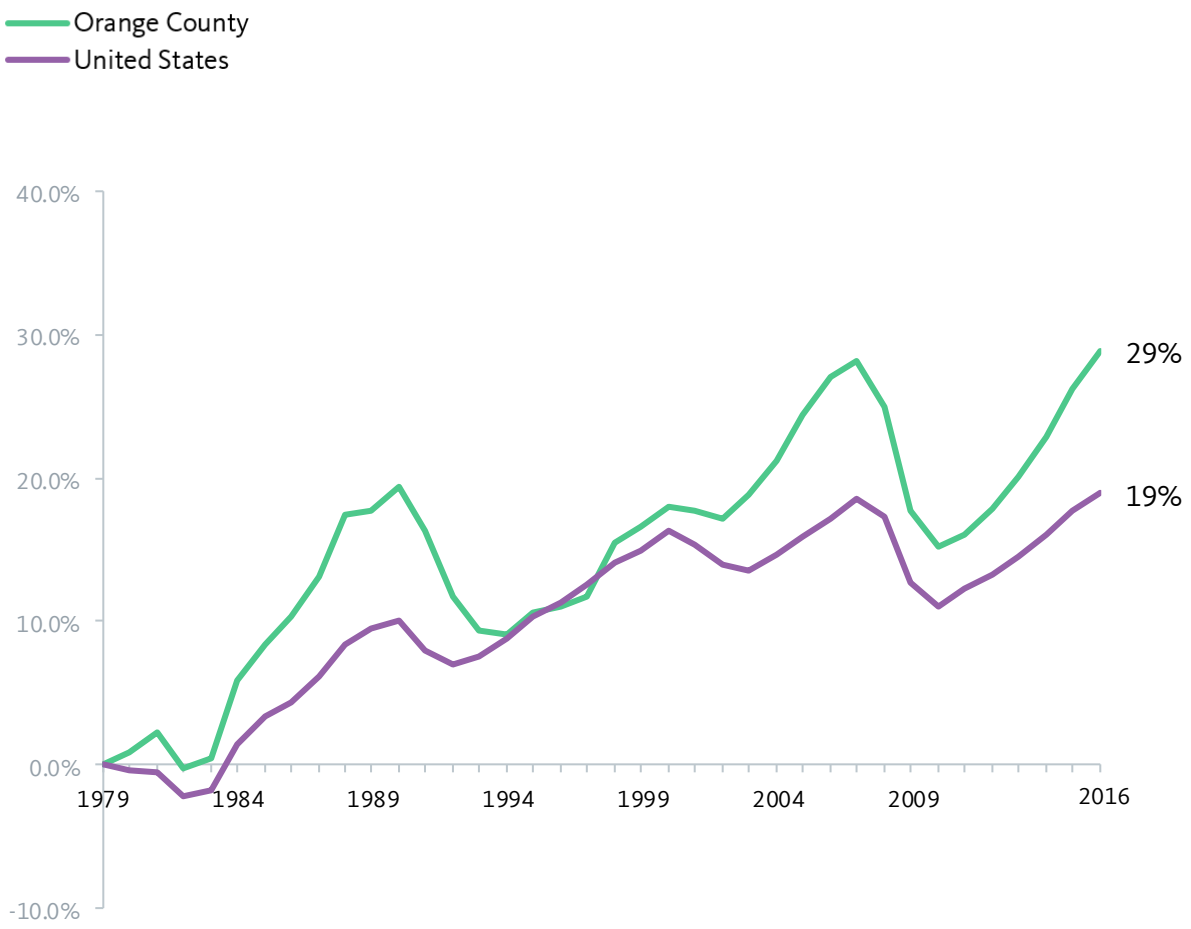
Source: U.S. Census Bureau; TomTom, ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Universe includes the civilian noninstitutional population ages 16 and older. Note: Data represent a 2012 through 2016 average. Areas in white have missing data.

Economic vitality
Job growth is strong

While overall job growth is essential to the local economy, the real question is whether jobs are growing at a fast enough pace to keep up with population growth. Since 1979, job growth in Orange County has generally kept up with population growth and has surpassed the national average except between 1994 and 1998. The number of jobs per person in Orange County has increased by 29 percent since 1979 as compared to an increase of 19 percent for the nation overall.

Job growth relative to population growth has been higher than the national average since 1998

23. Cumulative Growth in Jobs-to-Population Ratio, 1979 to 2016



Source: U.S. Bureau of Economic Analysis.

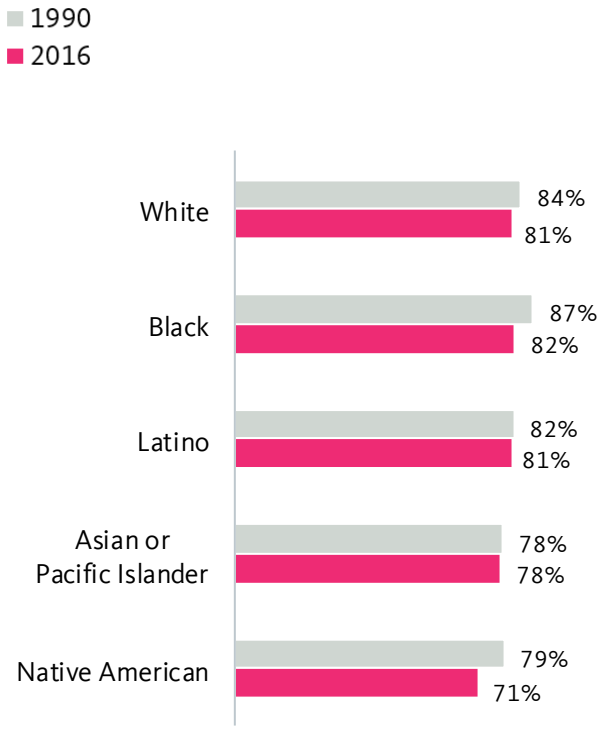
Economic vitality

Unemployment is higher for people of color

Who is getting the region's jobs? Examining unemployment by race/ethnicity over the past two decades we find that, despite some progress, racial and ethnic employment gaps persist in Orange County. Asian Americans/Pacific Islanders and Native Americans have the lowest labor force participation rates. Native Americans and African Americans have the highest unemployment rates. All racial/ethnic groups except Latinos experienced an increase in unemployment between 1990 and 2016.

Asian Americans/Pacific Islanders and Native Americans have the lowest labor force participation rates

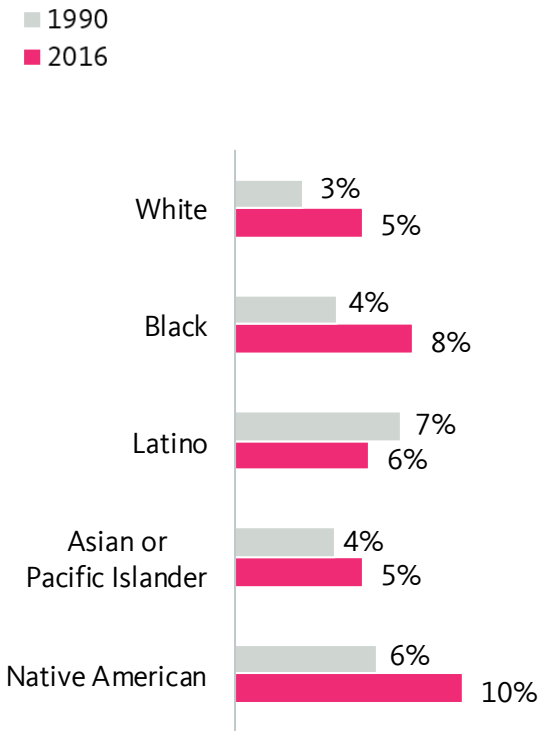
24. Labor Force Participation Rate by Race/Ethnicity, 1990 and 2016



Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional population ages 25 through 64.
Note: Data for 2016 represent a 2012 through 2016 average.

Most communities of color have higher unemployment rates than whites

25. Unemployment Rate by Race/Ethnicity, 1990 and 2016



Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional labor force ages 25 through 64.
Note: Data for 2016 represent a 2012 through 2016 average.

Economic vitality
Increasing income inequality

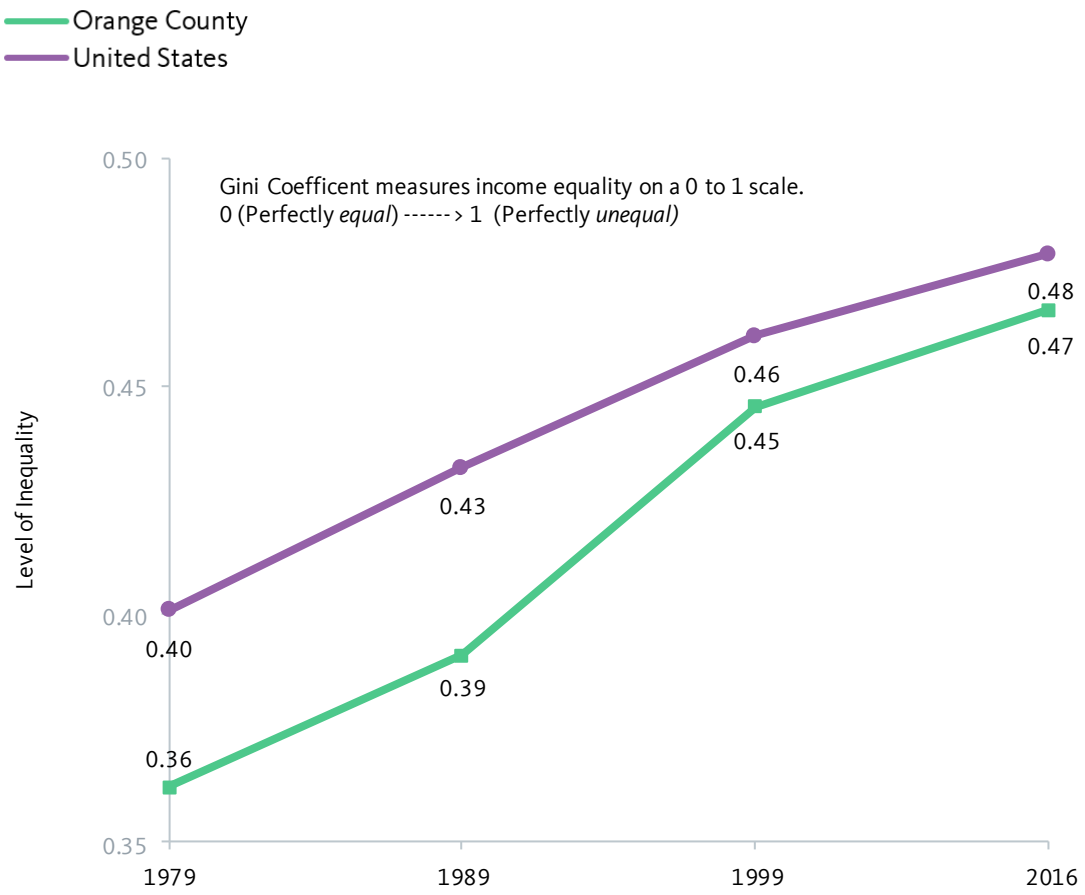
Although income inequality is slightly lower than the nation overall, it has increased dramatically in Orange County over the past 30 years, with the sharpest increase occurring in the 1990s.

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).

In Orange County, the Gini coefficient was 0.36 in 1979 and rose to 0.47 by 2016.

Income inequality has increased dramatically since 1979

26. Gini Coefficient, 1979 to 2016



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).
Note: Data for 2016 represent a 2012 through 2016 average.

Economic vitality

Increasing income inequality

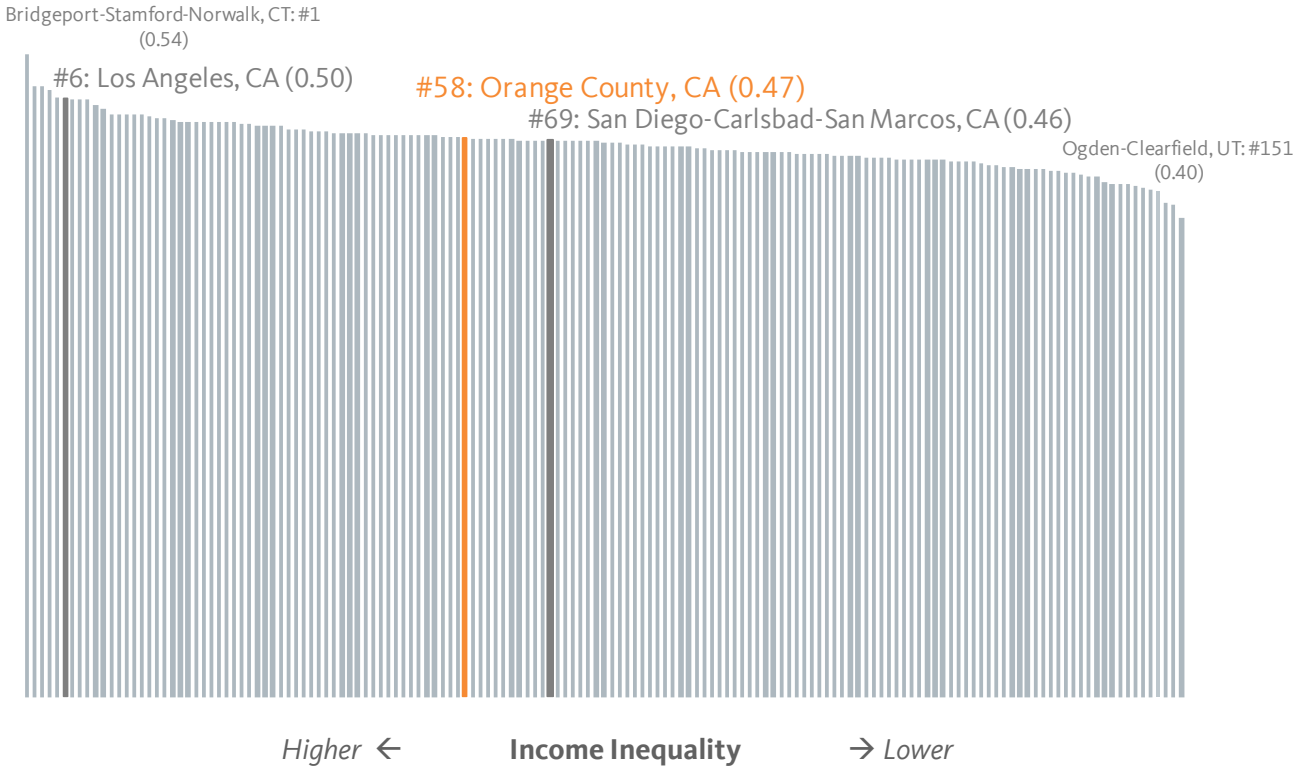
(continued)

Orange County ranks 58th in income inequality among the 150 largest regions, placing it between Pittsburgh (57th) and Indianapolis metro areas (59th).

Compared with other regions in California, the level of inequality in Orange County (0.47) is higher than the San Diego metro area (0.46) and lower than Los Angeles County (0.50), and the San Francisco metro area (0.48).

Orange County ranks 58th in income inequality compared with other regions

27. Gini Coefficient in 2016: 150 Largest Metros, Orange County, and Los Angeles County, Ranked



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).
Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

Economic vitality
Declining wages for low-wage workers

A widening gap in wages is one of the drivers of rising income inequality. After adjusting for inflation, wage growth for top earners in Orange County increased by 24 percent between 1979 and 2016. During the same period, wages for the lowest earners fell by 26 percent. Wages for lower-wage workers fell at a greater rate in Orange County than at the national level.

Wages grew only for higher-wage workers and fell for middle- and low-wage workers

28. Real Earned Income Growth for Full-Time Wage and Salary Workers, 1979 to 2016

Source: Integrated Public Use Microdata Series. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data for 2016 represent a 2012 through 2016 average.

Economic vitality

Uneven wage growth by race/ethnicity

Wage growth for full-time wage and salary workers was uneven across racial/ethnic groups between 2000 and 2016. The median wage increased for white, Asian American/Pacific Islander, and mixed race workers, while wages for Black and Latino workers stagnated.

Noticeably, the wage gap between Latinos and whites in Orange County is much larger than the national wage gap for these two groups. Whites in Orange County make around nine dollars more than the national median for whites while Latinos are making around the same amount as their national median.

Median hourly wages for Black and Latino workers have stagnated since 2000

29. Median Hourly Wage by Race/Ethnicity, 2000 and 2016 (all figures in 2016 dollars)

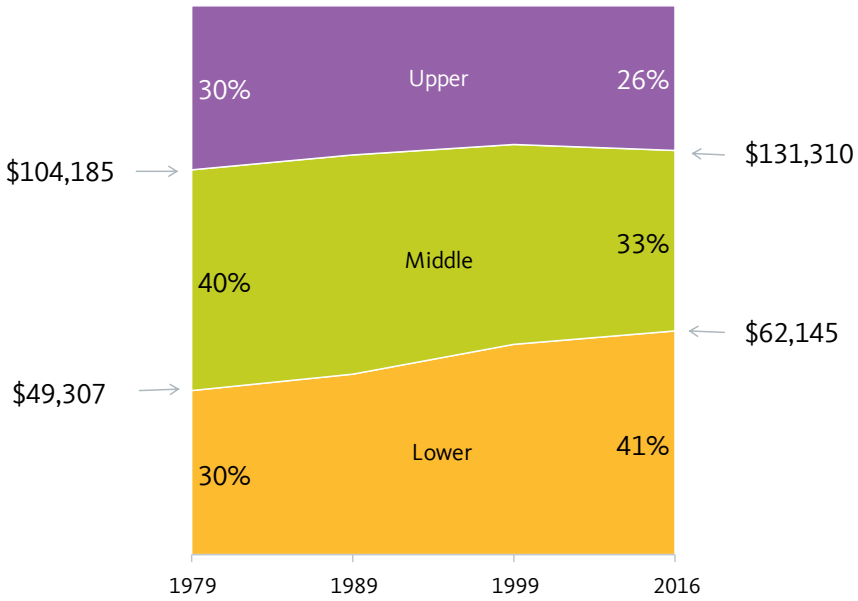
Source: Integrated Public Use Microdata Series. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data for 2016 represent a 2012 through 2016 average.

Economic vitality
A shrinking middle class

Orange County's middle class is shrinking: since 1979, the share of households with middle-class incomes decreased from 40 to 33 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 41 percent. Most of the decline in middle-income households has occurred since 1989. In this analysis, middle-income households are defined as having incomes in the middle 40 percent of household income distribution in 1979. In that year, middle-class household incomes ranged from $49,307 to $104,185. 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, about 33 percent of households have middle-class incomes, which range from $62,145 to $131,310. 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 share of middle-class households declined since 1979

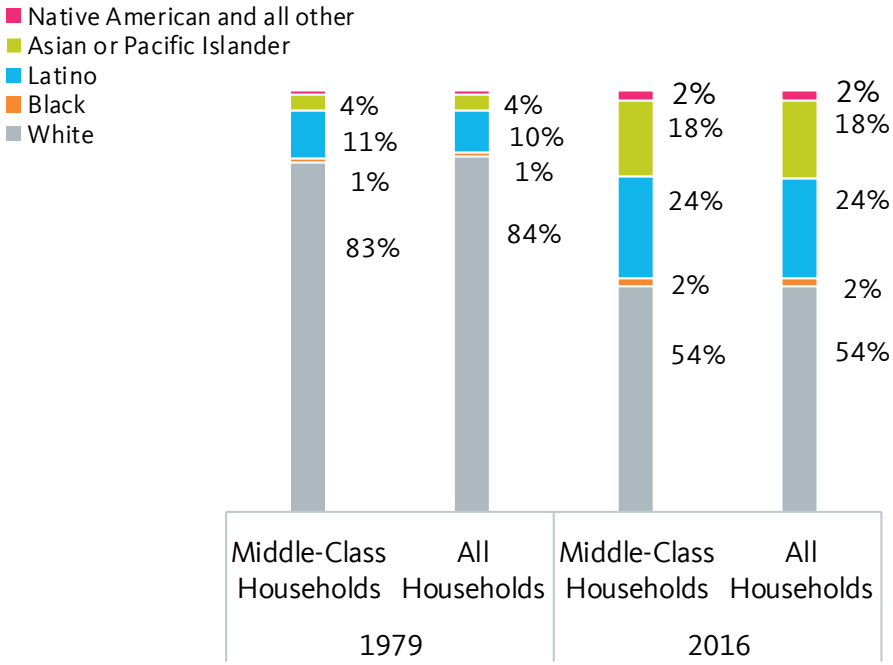
30. Households by Income Level, 1979 to 2016 (all figures in 2016 dollars)



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).
Note: Data for 2016 represent a 2012 through 2016 average.

The middle class more closely reflects the region's racial/ethnic composition

31. Racial Composition of Middle-Class Households and All Households, 1979 and 2016



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).
Note: Data for 2016 represent a 2012 through 2016 average.

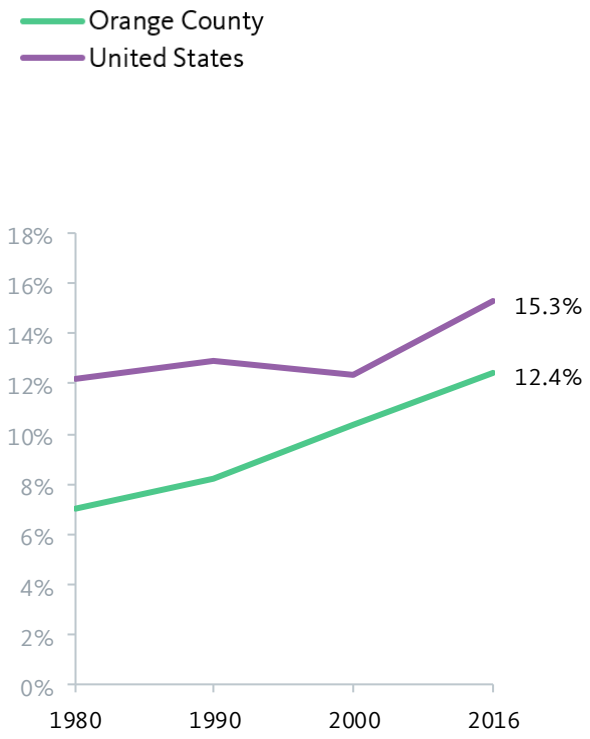
Economic vitality
Rising poverty and the working poor

Poverty in Orange County has been consistently lower than the national average, despite a steady rise since 1980. Between 1990 and 2000, the national poverty rate declined while it continued to rise in Orange County. In 2016, one in every ten Orange County residents (12.4 percent) lived below the poverty line, which was about $24,300 per year for a family of four.

In Orange County, the share of workers that are working poor (i.e. working full-time with an income below 150 percent of the federal poverty level) has also risen since 1980. It was well below the national average in 1980, rose just above it in 2000, and fell back down, just below the national average by 2016. In 2016 the working poverty rate in Orange County was 5.3 percent compared with 5.4 percent nationally.

Lower than average poverty since 1980

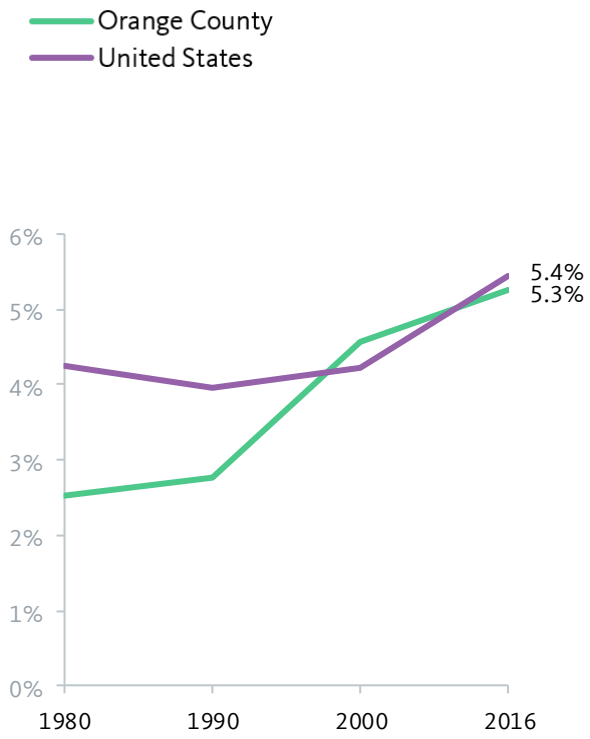
32. Poverty Rate, 1980 to 2016



Source: Integrated Public Use Microdata Series. Universe includes all persons not in group quarters. Note: Data for 2016 represent a 2012 through 2016 average.

A rise in working poverty since 1980

33. Working Poverty Rate, 1980 to 2016



Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional population ages 25 through 64 who worked during the year prior to the survey. Note: Data for 2016 represent a 2012 through 2016 average.

Economic vitality

Rising poverty and the working poor

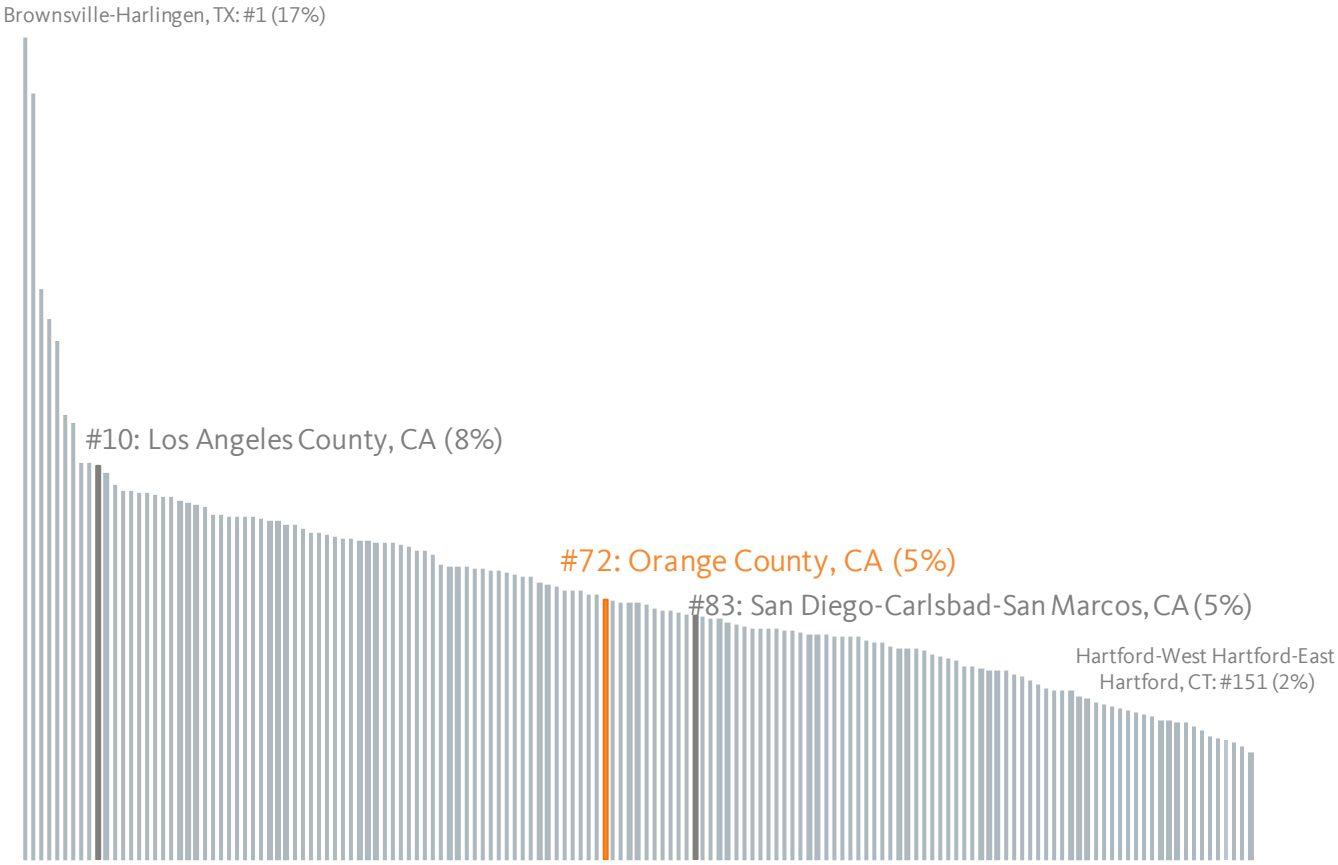
(continued)

Orange County has the 72nd highest rate of working poor among the 150 largest metros.

Compared with other regions in California, the working poverty rate in Orange County (5.3 percent) is higher than in the San Diego (4.9 percent), San Francisco (3 percent), and San Jose (3 percent) metro areas, but lower than in Los Angeles County (8 percent), and Riverside (7 percent) and Fresno (9 percent) metro areas.

Orange County ranks 72nd on working poverty compared with other regions

34. Working Poverty Rate in 2016: 150 Largest Metros, Orange County, and Los Angeles County, Ranked



Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional population ages 25 through 64 who worked during the year prior to the survey. Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

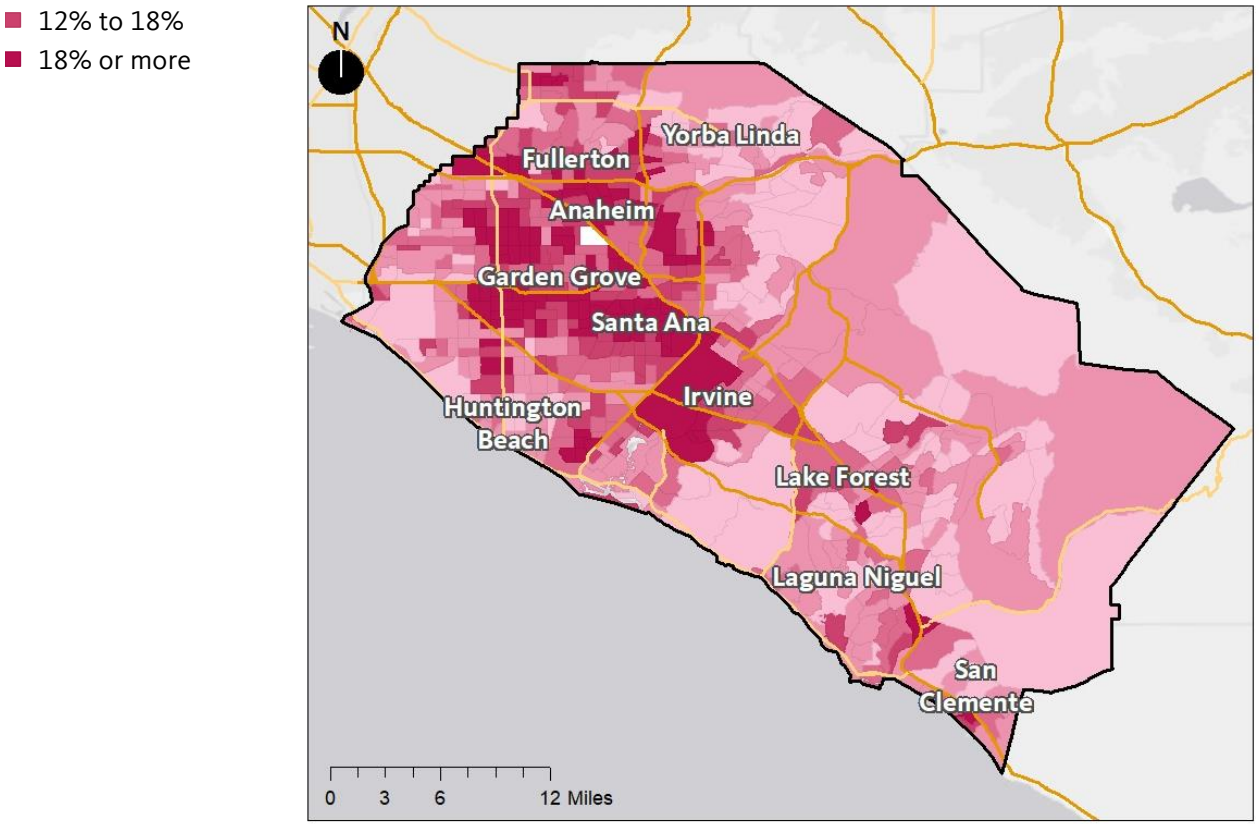
Economic vitality

High concentrations of poverty in portions of northern Orange County

The percent of the population in Orange County that lives below the federal poverty level is 12 percent. As the map illustrates, concentrated poverty is a challenge for neighborhoods in many parts of the region, including much of Anaheim, Santa Ana and Garden Grove, as well as parts of northern Irvine. There are also a few neighborhoods with concentrated poverty in San Juan Capistrano, San Clemente, and Laguna Niguel.

High concentrations of poverty in Anaheim, Santa Ana, northern Irvine and Garden Grove

35. Percent Population Below the Poverty Level by Census Tract, 2016



Source: U.S. Census Bureau; TomTom, ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Universe includes all persons not in group quarters. Note: Data represent a 2012 through 2016 average. Areas in white have missing data.

Economic vitality

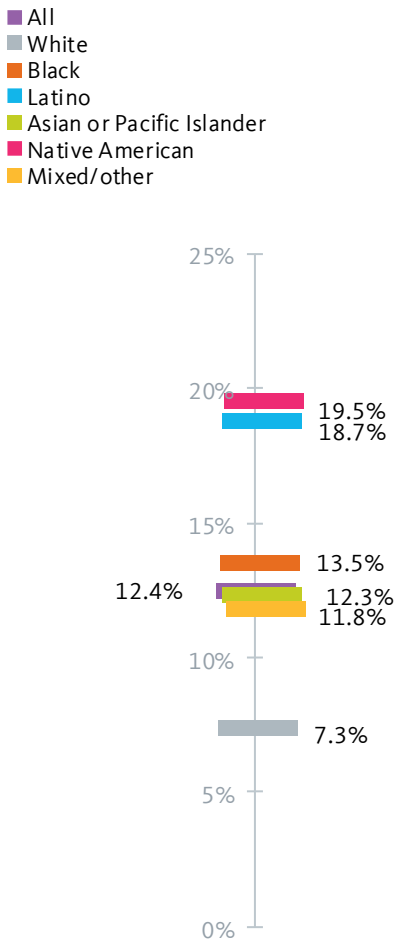
People of color are more likely to be in poverty or among the working poor

Nearly a fifth of the county's Native Americans (19.5 percent) and Latinos (18.7 percent) live below the poverty level—compared with less than a tenth of whites (7.3 percent). Poverty is also higher for African Americans (13.5 percent), people of other or mixed racial background (11.8 percent) and Asian Americans/Pacific Islanders (12.3 percent) compared with whites.

Latinos are much more likely to be working poor compared with all other groups. The working poverty rate for Latinos (11.7 percent) is about eight times as high as for whites (1.5 percent).

Poverty is highest for Latinos and Native Americans

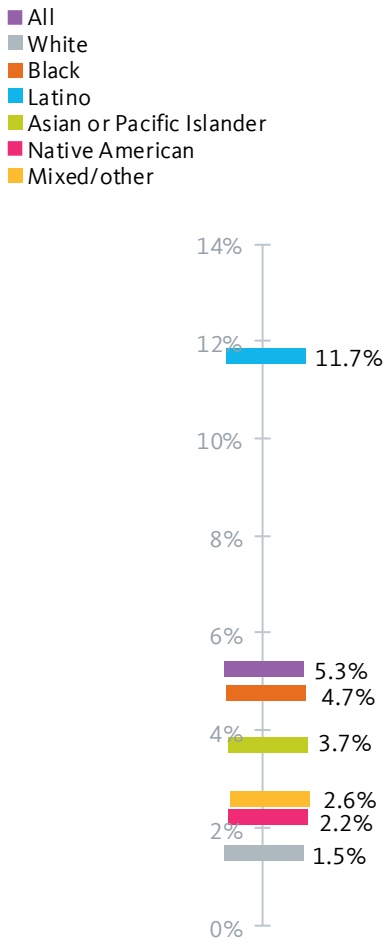
36. Poverty Rate by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes all persons not in group quarters.
Note: Data represent a 2012 through 2016 average.

Latinos have the highest share of working poor

37. Working Poverty Rate by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional population ages 25 through 64 who worked during the year prior to the survey. Note: Data represent a 2012 through 2016 average.

Economic vitality

Racial economic gaps persist across education levels

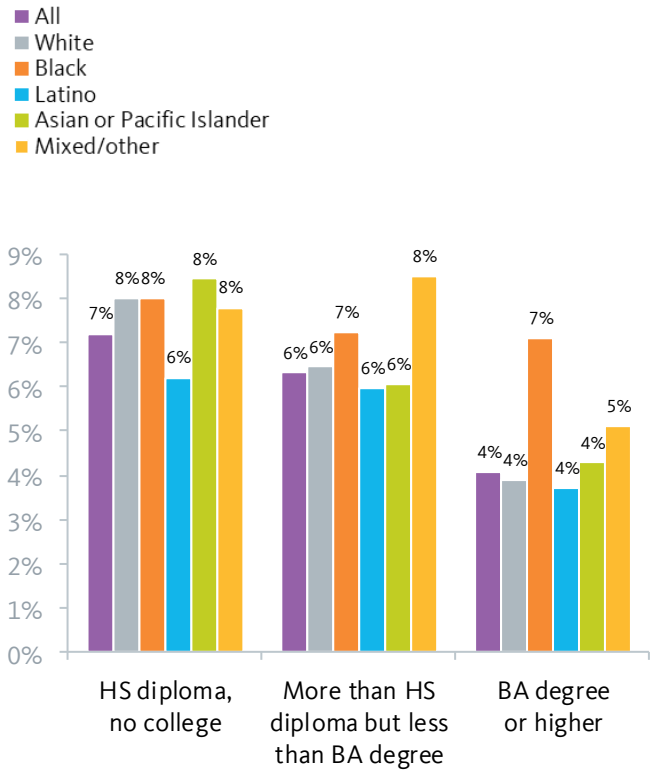
In general, unemployment decreases and wages increase with higher educational attainment.

In Orange County, Asian Americans/Pacific Islanders (API) with only a high school diploma have higher rates of joblessness than their counterparts. The disparity in joblessness between African Americans and whites is greatest among those who have a bachelor's degree or higher. Interestingly, Latinos across all education levels have lower unemployment rates.

Among full-time wage and salary workers, there are racial gaps in median hourly wages at all education levels, with whites earning substantially higher wages than all other groups. Among college graduates with a BA or higher, APIs earn $3/hour less than their white counterparts while African Americans earn $9/hour less and Latinos earn $11/hour less.

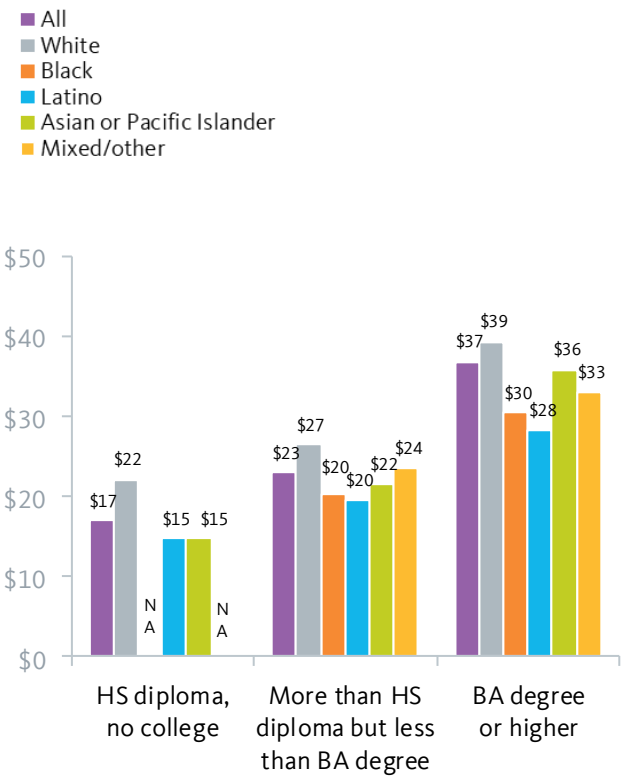
At every education level, people of color have lower wages than whites

38. Unemployment Rate by Educational Attainment and Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutional labor force ages 25 through 64.
Note: Data represent a 2012 through 2016 average.

39. Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2016 (in 2016 dollars)



Source: Integrated Public Use Microdata Series. Universe includes civilian non-institutional full-time wage and salary workers ages 25 through 64.
Note: Data represent a 2012 through 2016 average. N/A data omitted due to small sample size.

Economic vitality

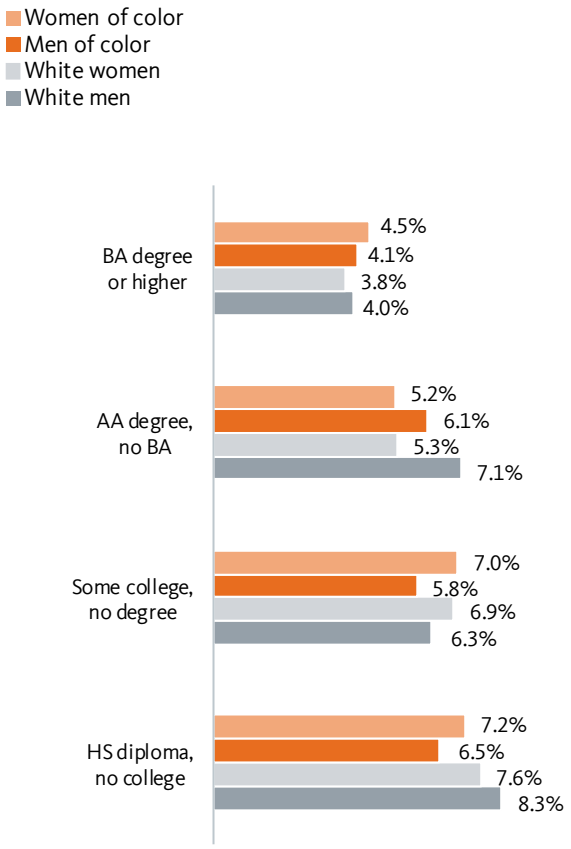
There is also a gender gap in employment and pay

While unemployment rates are quite similar by race/ethnicity and gender among those with higher levels of education, among those with a high school diploma, men of color actually have the lowest unemployment rates in Orange County while white men and women of color have higher rates. This finding is largely driven by low unemployment for Latino and Asian American/Pacific Islander men and does not reflect the experience of Black men.

Across the board, women of color have the lowest median hourly wages. College-educated women of color with a BA degree or higher earn $16 an hour less than their white male counterparts.

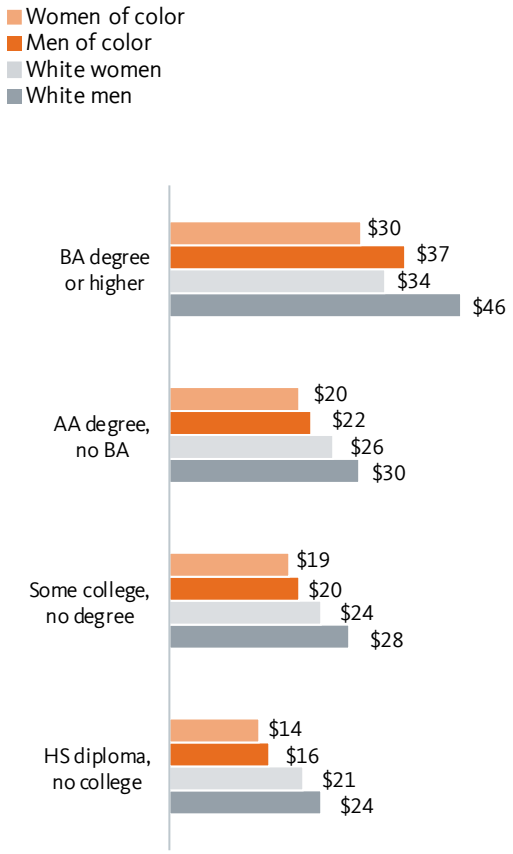
Women of color and white women earn less than their male counterparts at every education level

40. Unemployment Rate by Educational Attainment, Race/Ethnicity and Gender, 2016



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutional labor force ages 25 through 64.
Note: Data represent a 2012 through 2016 average.

41. Median Hourly Wage by Educational Attainment, Race/Ethnicity and Gender, 2016 (in 2016 dollars)



Source: Integrated Public Use Microdata Series. Universe includes civilian non-institutional full-time wage and salary workers ages 25 through 64.
Note: Data represent a 2012 through 2016 average. . N/A data omitted due to small sample size.

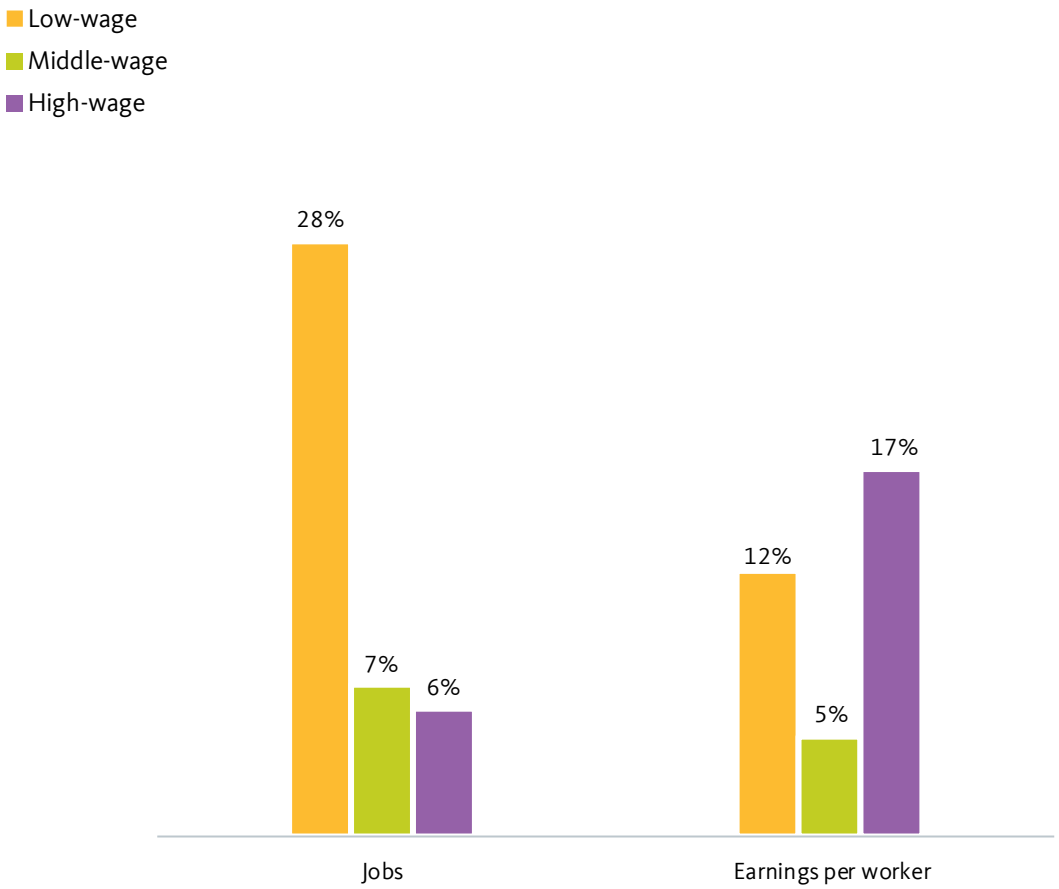
Economic vitality
Low-wage jobs are growing fastest

While overall job growth has been strong countywide, Orange County has experienced more growth in the number of low-wage jobs (28 percent) than middle- and high-wage jobs since 2000. Middle- and high-wage jobs have increased by only 7 and 6 percent, respectively.

Earnings have increased by an inflation-adjusted 17 percent for high-wage workers and by 12 percent for low-wage workers. Earnings for middle-wage workers grew by only 5 percent.

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

42. Growth in Jobs and Earnings by Industry Wage Level, 2000 to 2016



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

Change in earnings varies by industry

Wage growth in Orange County has been uneven across industry sectors since 2000. High-wage industries like mining, finance and insurance, and utilities have experienced significant increases in annual earnings.

Among middle-wage industries, real estate experienced the highest increases in annual earnings. At the same time, retail trade has seen a decrease in earnings.

Among the low-wage industries, workers in administrative, support, waste management, and remediation services have seen the largest increases in earnings. There has been a slight decrease in earnings among those working in education services.

A widening wage gap by industry sector

43. Industries by Wage-Level Category in 2000

Wage Category	Industry	Average Annual Earnings 2000 ($2016)	Average Annual Earnings 2016 ($2016)	Percent Change in Earnings 2000-2016	Share of Jobs 2016
High	Utilities	$98,632	$117,825	19%	25%
	Information	$89,895	$101,079	12%	
	Mining	$87,830	$108,578	24%	
	Finance and Insurance	$83,683	$107,212	28%	
	Professional, Scientific, and Technical Services	$82,953	$92,867	12%	
	Wholesale Trade	$76,191	$83,632	10%	
	Management of Companies and Enterprises	$72,932	$98,791	35%	
Middle	Manufacturing	$63,217	$73,438	16%	45%
	Real Estate and Rental and Leasing	$59,249	$74,402	26%	
	Construction	$57,551	$67,180	17%	
	Health Care and Social Assistance	$50,624	$50,673	0%	
	Transportation and Warehousing	$46,079	$50,459	10%	
	Retail Trade	$41,073	$35,621	-13%	
Low	Education Services	$39,044	$38,678	-1%	30%
	Administrative and Support and Waste Management and Remediation Services	$34,759	$42,585	23%	
	Arts, Entertainment, and Recreation	$33,671	$35,866	7%	
	Other Services (except Public Administration)	$32,866	$36,605	11%	
	Agriculture, Forestry, Fishing and Hunting	$28,078	$33,629	20%	
	Accommodation and Food Services	$20,297	$22,835	13%	

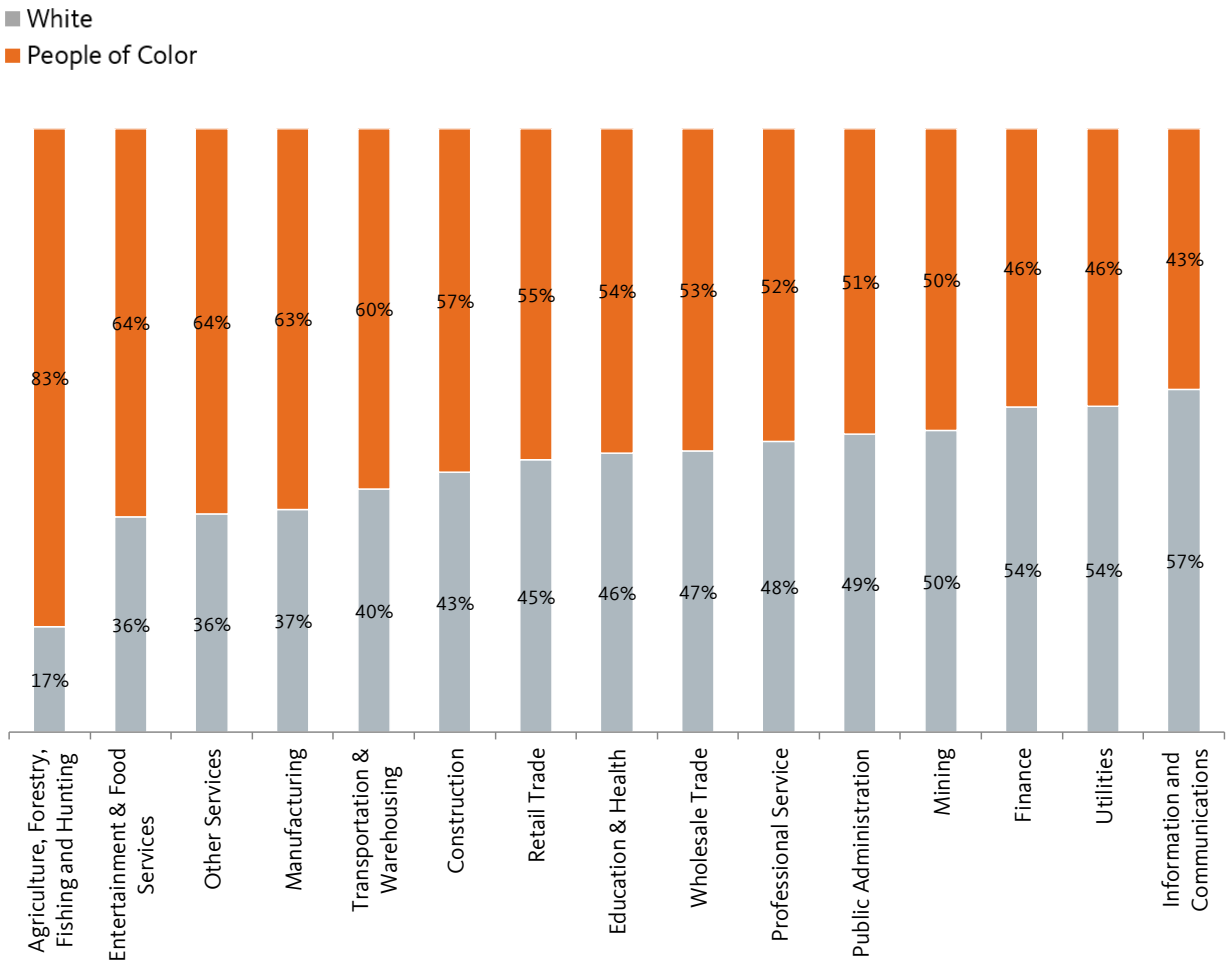
Sources: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc. Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

Economic vitality
A diverse workforce

Many key industries throughout Orange County rely on a primarily people of color workforce. People of color make up nearly two-thirds of workers in the entertainment and food services, services, manufacturing, and transportation and warehousing industries. People of color also make up a majority of construction, retail trade, education and health, wholesale trade, and professional services. It is notable that people of color are underrepresented in growing sectors such as finance and information and communications.

People of color make up a majority of the workforce in many key industries

44. Industry by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes civilian non-institutional population age 16 and older.
Note: Data reflect a 2012 through 2016 average.

Economic vitality

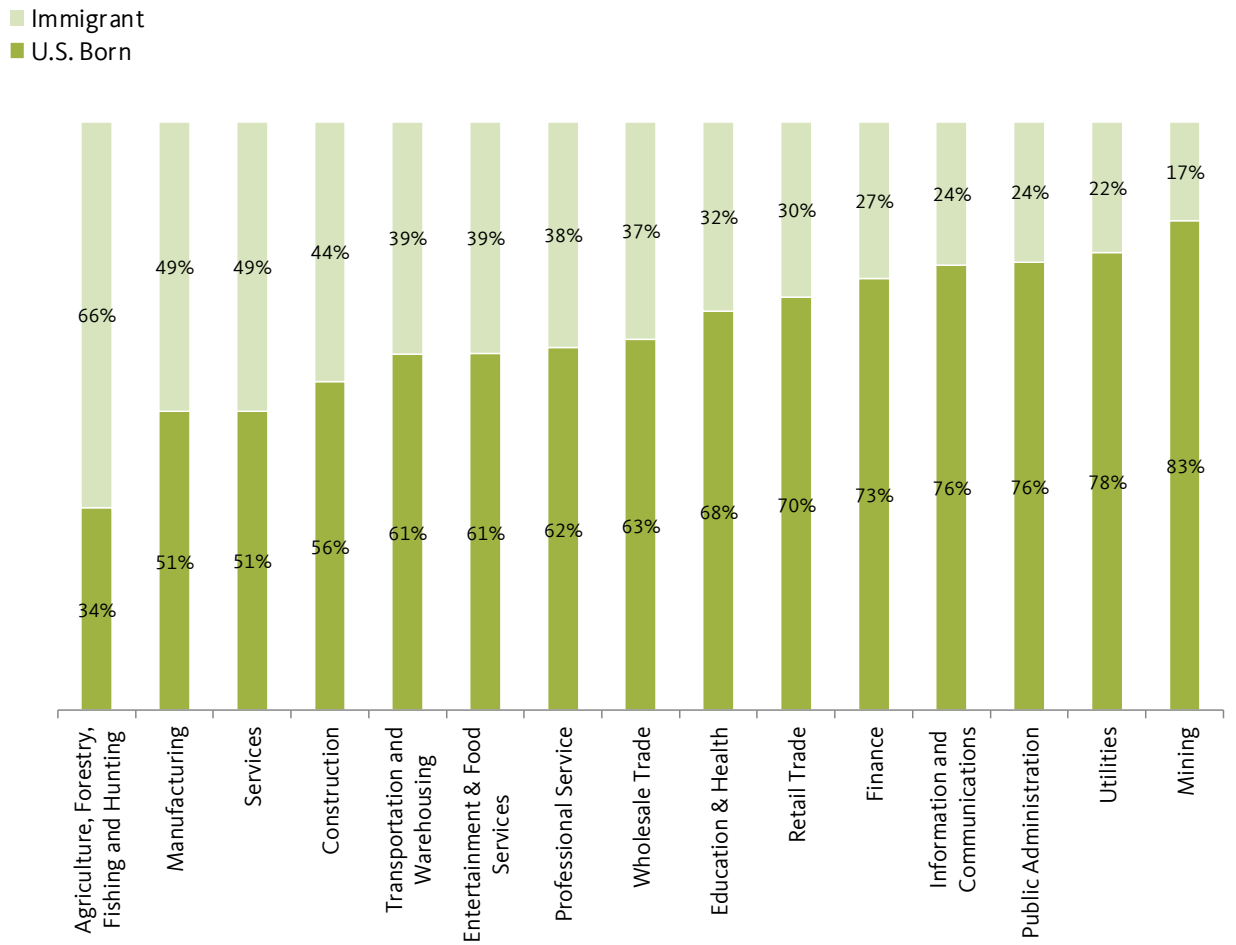
A diverse workforce

(continued)

Immigrants play a significatn role in the economy of Orange County. Immigrants make up nearly half of the workforce in the services, manufacturing, and construction industries and make up around a third of the workforce in the entertainment and food service, professional services, and education and health industries.

Immigrants make up a large section of many key industries

45. Industry by Nativity, 2016



Source: Integrated Public Use Microdata Series. Universe includes civilian non-institutional population age 16 and above.
Note: Data reflect a 2012 through 2016 average.

Readiness

Readiness

Highlights

How prepared are the region's residents for the 21st century economy?

- Although Orange County ranks high among the 150 largest regions in terms of the share of residents with an associate's degree or higher, it ranks even higher in terms of those who lack a high school diploma.
- Educational outcomes for Latinos have improved since 2000, but this population is not on track to meet future job requirements.
- The pursuit of education and employment has increased for all youth. While the number of disconnected youth has been on the decline, youth of color are still far more likely to be disconnected and less likely to finish high school than their white counterparts.
- According to early development indicators, Latino children are less prepared for kindergarten than their peers in other racial/ethnic groups.
- Communities of color face greater health challenges in the region. For example, Black and Latino communities face high rates of obesity.

Equitable regions are **ready for the future**, with a skilled, ready workforce and a healthy population.

Percent of Latino adults with an associate's degree or higher:

20%

Ranking among the 150 largest regions of adults with less than a high school degree:

#19

Number of disconnected youth of color:

26,600

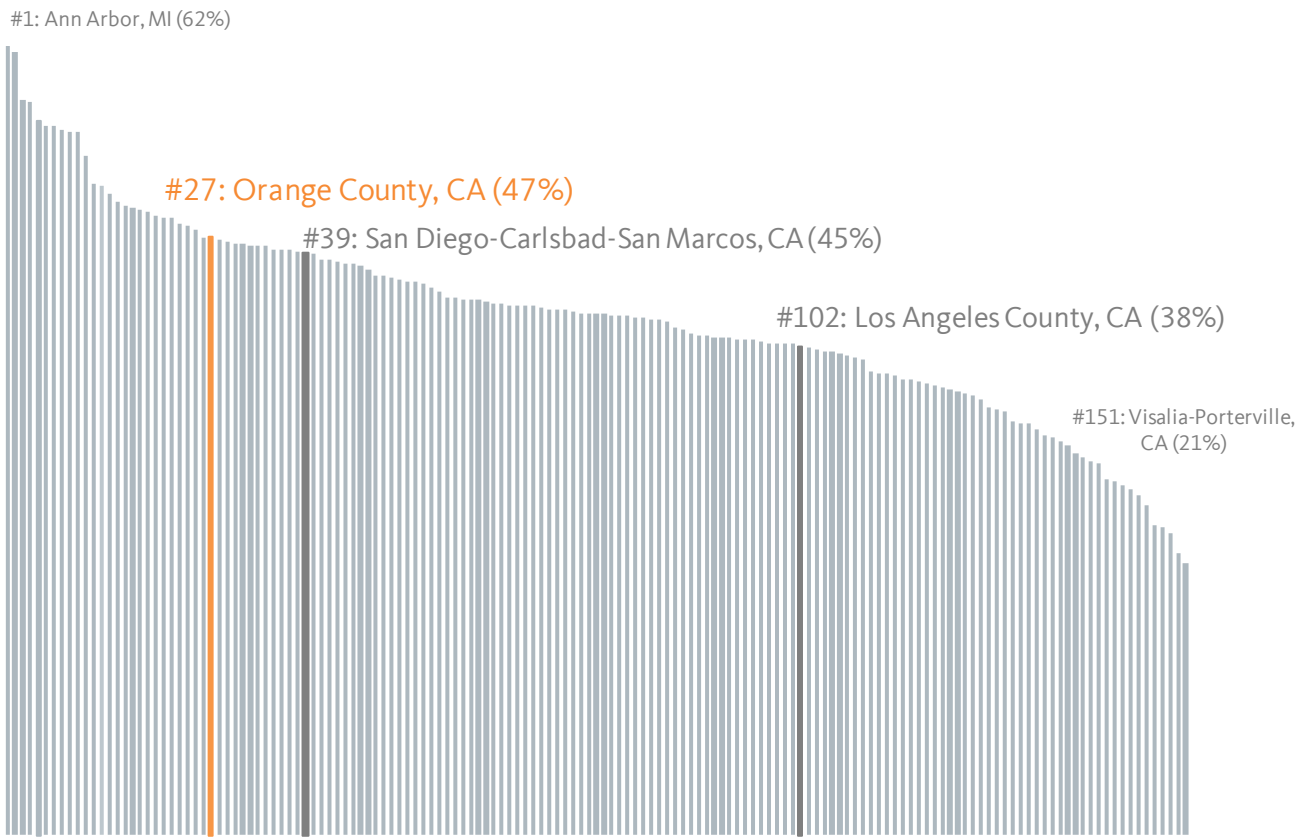
Readiness

Relatively high education levels regionally

Orange County ranks 27th among the 150 largest regions on the share of residents with an associate's degree or higher (47 percent). This is lower than other California metro areas like San Jose (58 percent) and San Francisco (55 percent), but higher than the San Diego metro area (45 percent), Los Angeles County (38 percent), the Riverside metro area (28 percent) and the Bakersfield metro area (22 percent).

The county is in the top third for residents with an associate's degree or higher among the 150 largest regions

46. Percent of the Population with an Associate's Degree or Higher in 2016: 150 Largest Metros, Orange County, and Los Angeles County, Ranked



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64.
Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

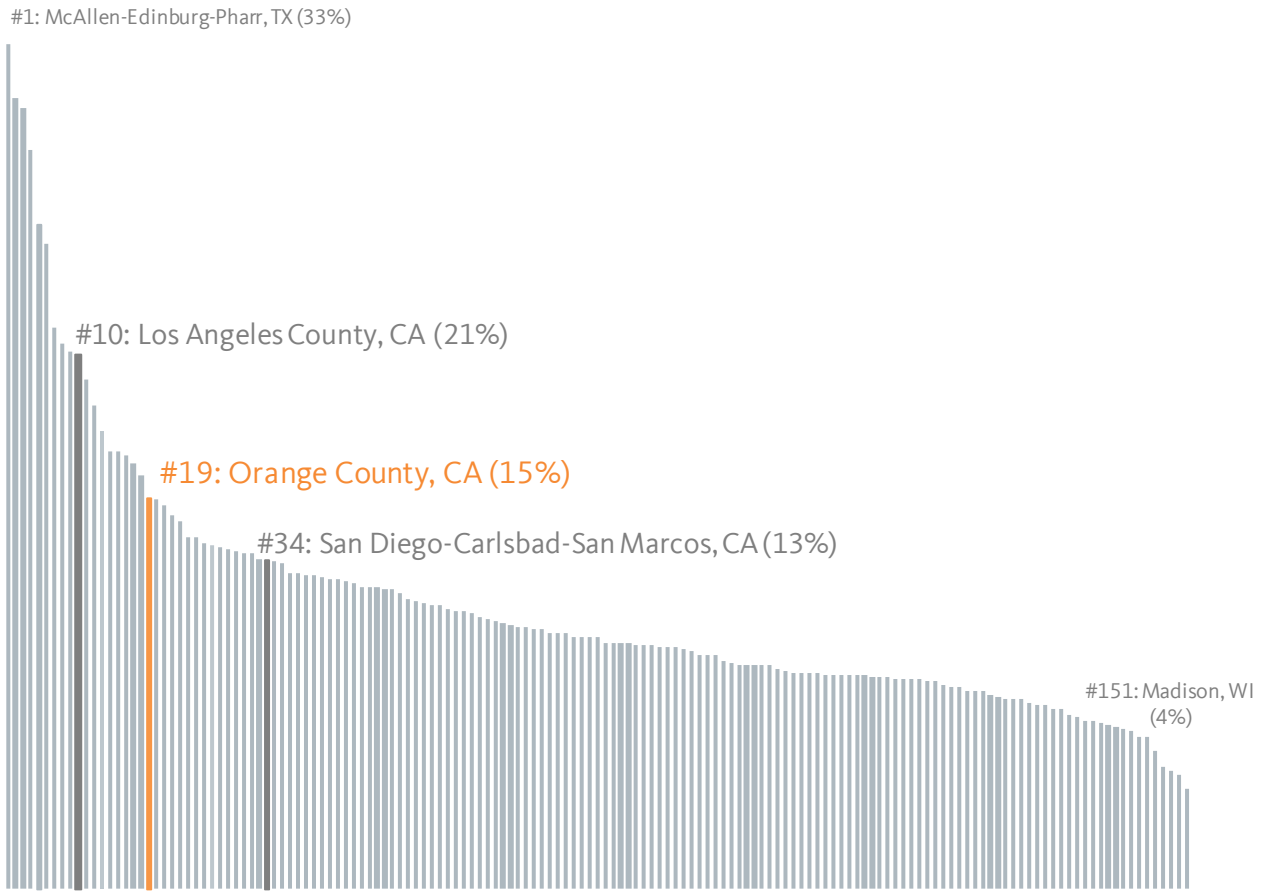
Readiness

Orange County has many residents who have less than a high school diploma

Orange County ranks 19th among the 150 largest regions on the share of residents with less than a high school diploma (15 percent). This is lower than other California regions like Los Angeles County (21 percent), and Riverside (20 percent) and Fresno (25 percent) metro areas, but higher than the San Diego (13 percent), San Francisco (11 percent), and San Jose (12 percent) metro areas.

Orange County ranks lower than Los Angeles County but higher than the San Diego metro

47. Percent of the Population with Less than a High School Diploma in 2016: 150 Largest Metros, Orange County, and Los Angeles County, Ranked



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64.
Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

Readiness

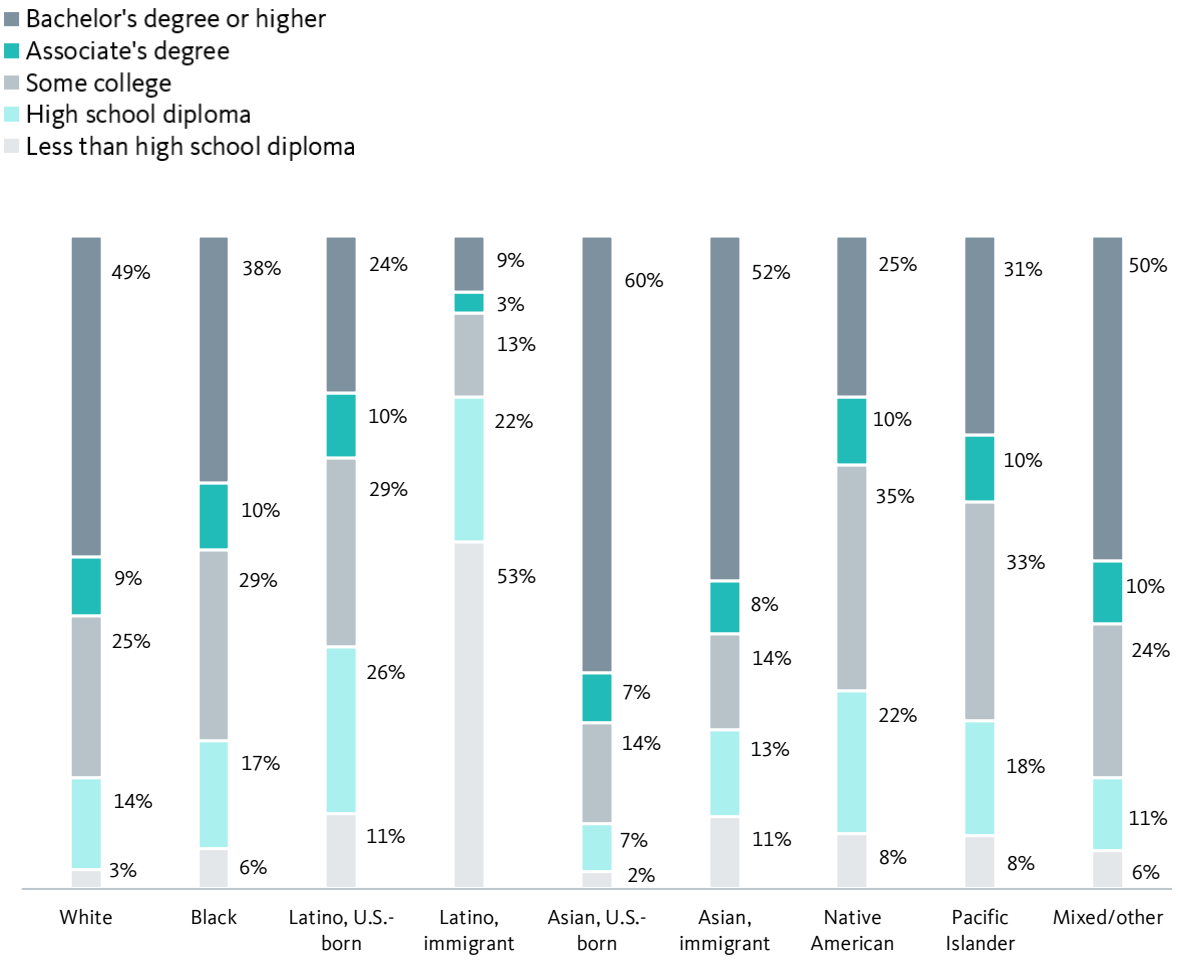
Educational attainment varies by race/ethnicity

While educational outcomes have improved since 2000, there are still large disparities in educational attainment by race/ethnicity and nativity. Despite progress, Latinos, who will account for an increasing share of the region's workforce, are still less prepared for the future economy than their white and Asian American counterparts. Only 9 percent of Latino immigrants have a bachelor's degree or higher, while 53 percent have less than a high school degree. African Americans, Native Americans, and Pacific Islanders lag far behind in educational attainment as well.

Notably there is also a wide educational gap among Asian American immigrants. For example, 11 percent of Asian American immigrants lack a high school diploma, a rate similar to U.S.-born Latinos and the second highest among racial groups. However, at the same time, Asian American immigrants have one of the highest percentages of those with a bachelor's degree or higher.

There are wide racial/ethnic gaps in educational attainment

48. Educational Attainment by Race/Ethnicity and Nativity, 2016



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64.
Note: Data represent a 2012 through 2016 average. In order to obtain more robust estimates of the Pacific Islander population the estimate includes all those who identified as Pacific Islander.

Readiness

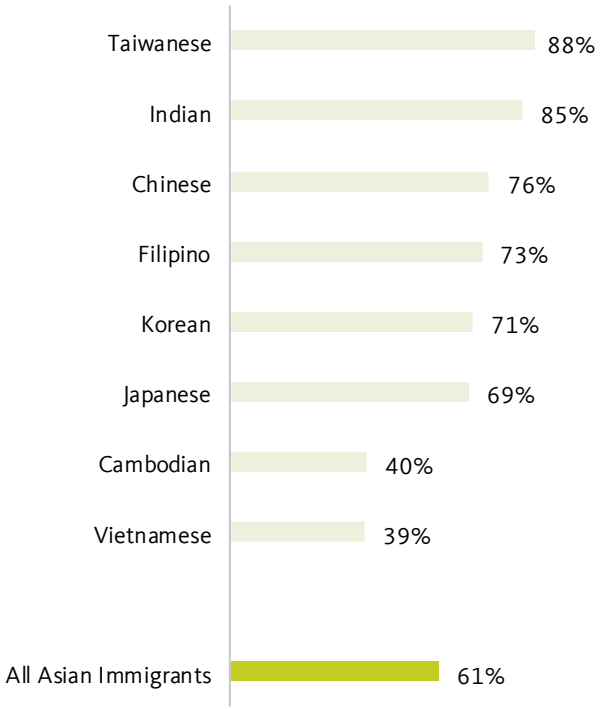
High variation in education levels among immigrants

Latino 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, less than 15 percent of those from Mexico, Guatemala, and El Salvador have at least an associate's degree while more than 40 percent of those from Peru and Colombia do.

Looking at disaggregated Asian American data by ethnicity show even more dramatic disparities within the racial group. About 88 percent of Taiwanese immigrants ages 25 to 64 have an associate's degree or higher compared to 39 percent of immigrants from Vietnam and 40 percent of those from Cambodia.

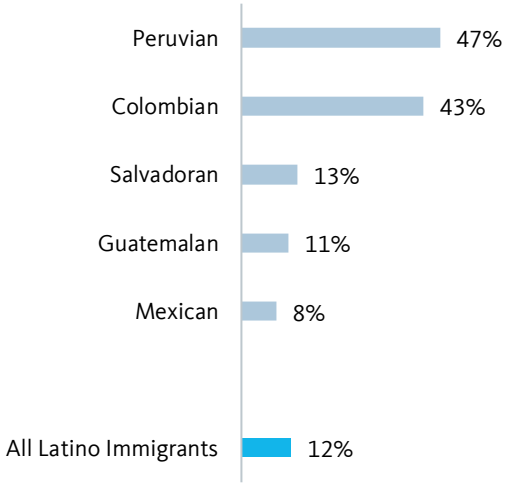
Asian American immigrants tend to have higher education levels than Latino immigrants, but there are major differences in educational attainment across immigrants by ancestry

49. Asian American Immigrants, Percent with an Associate's Degree or Higher by Ancestry, 2016



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64. Note: Data represent a 2012 through 2016 average.

50. Latino Immigrants, Percent with an Associate's Degree or Higher by Ancestry, 2016



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64. Note: Data represent a 2012 through 2016 average.

Readiness

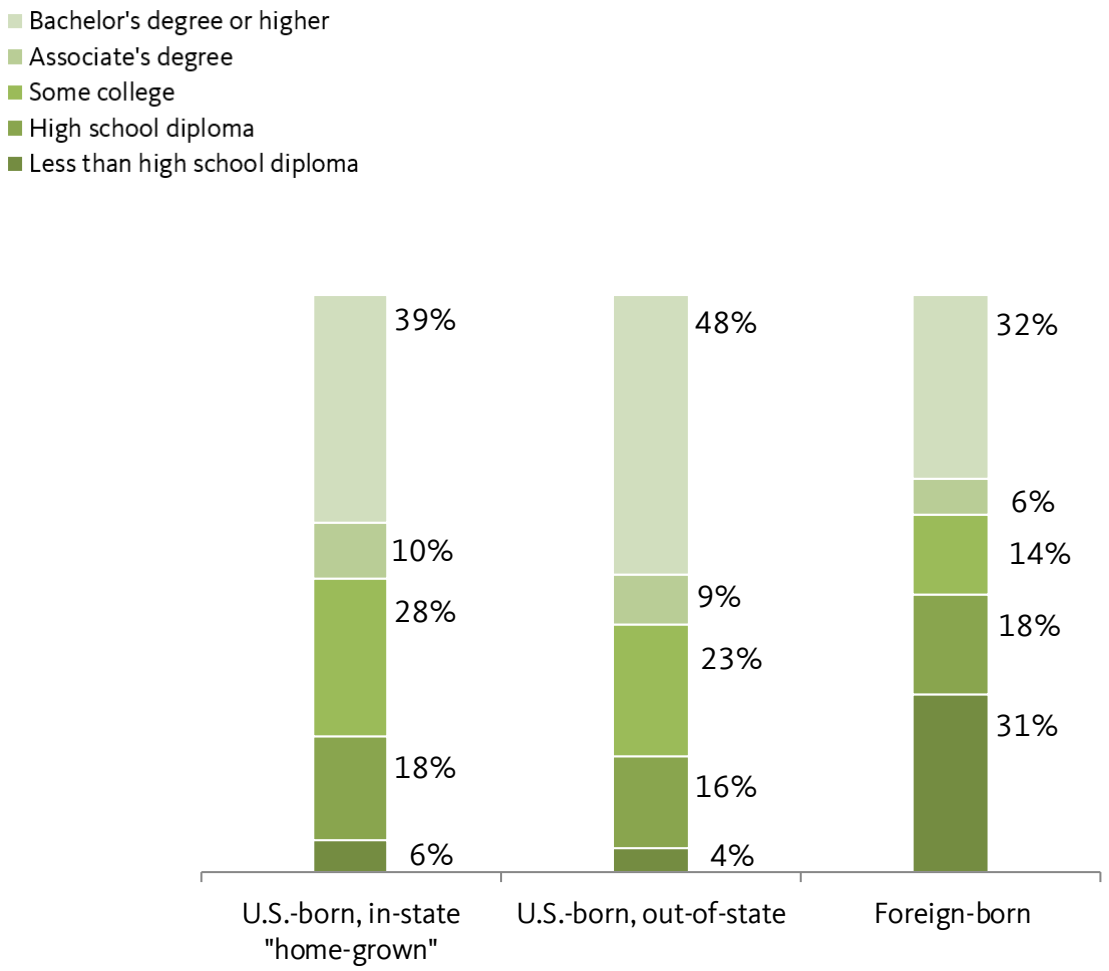
"Home-grown" residents not keeping up with newcomers from other states on education

Overall, Orange County is home to a relatively well-educated population, with 39 percent of residents ages 25-64 holding a college degree compared to 32 percent nationally. However, there are differences between those who are "home-grown" (born in California) and other residents.

In 2016, 48 percent of Orange County residents born in the U.S. but born out-of-state had a bachelor's degree or higher compared with 39 percent of the "home-grown" population and 32 percent of foreign-born residents.

Foreign-born residents have the lowest educational attainment when compared with their U.S.-born counterparts

51. In-state U.S.-born, Out-of-state U.S.-born, and Immigrant Populations by Educational Attainment, Ages 25-64, 2016



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64.
Note: Data represent a 2012 through 2016 average.

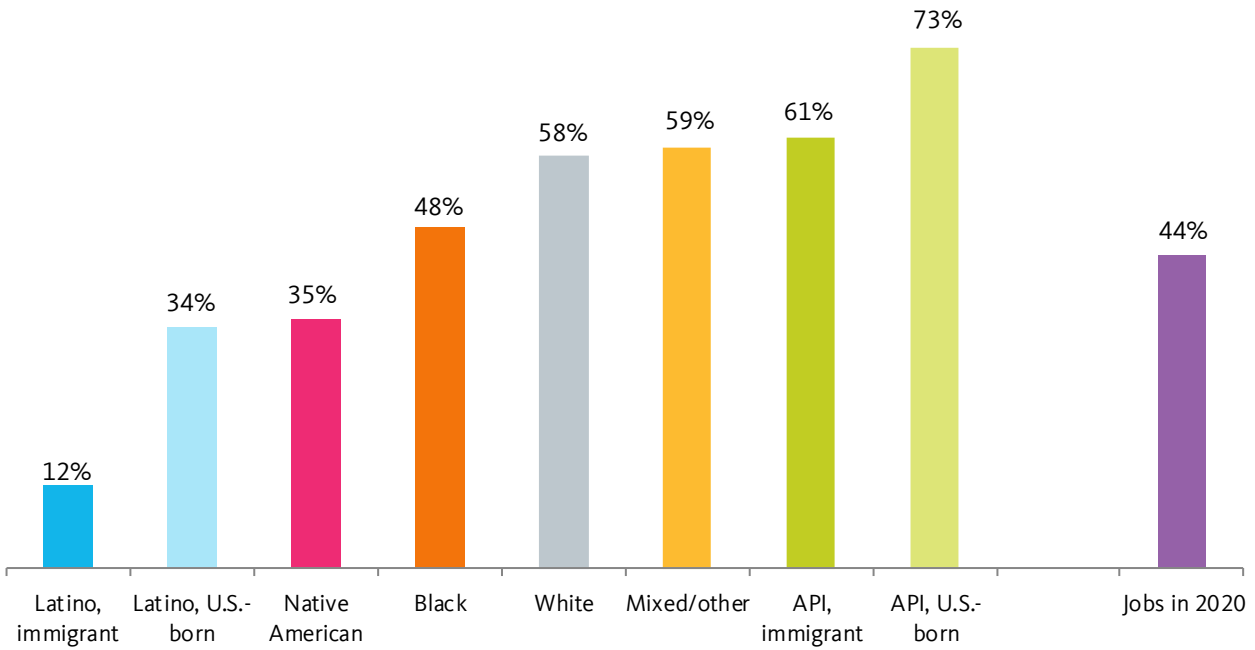
Readiness

Education gaps for Latinos and Native Americans

By 2020, 44 percent of the state's jobs will require an associate's degree or higher. Unless current education levels increase, many workers will not be able to meet this requirement. The region will face a gap between job requirements and educational attainment, particularly among Latinos (one of the largest racial/ethnic groups). Currently, only 12 percent of Latino immigrants, 34 percent of U.S.-born Latinos, and 35 percent of Native Americans have an associate's degree.

Education levels for Latinos and Native Americans are not on track to meet job requirements in 2020

52. Share of Working-Age Population with an Associate's Degree or Higher by Race/Ethnicity and Nativity, 2016, and Projected Share of California Jobs that Will Require an Associate's Degree or Higher, 2020



Sources: Georgetown Center for Education and the Workforce; Integrated Public Use Microdata Series. Universe for education levels of working-age population includes all persons ages 25 through 64. Note: Data on education levels by race/ethnicity and nativity represent a 2012 through 2016 average for Orange County while data on educational requirements for jobs in 2020 are based on statewide projections for California.

Readiness

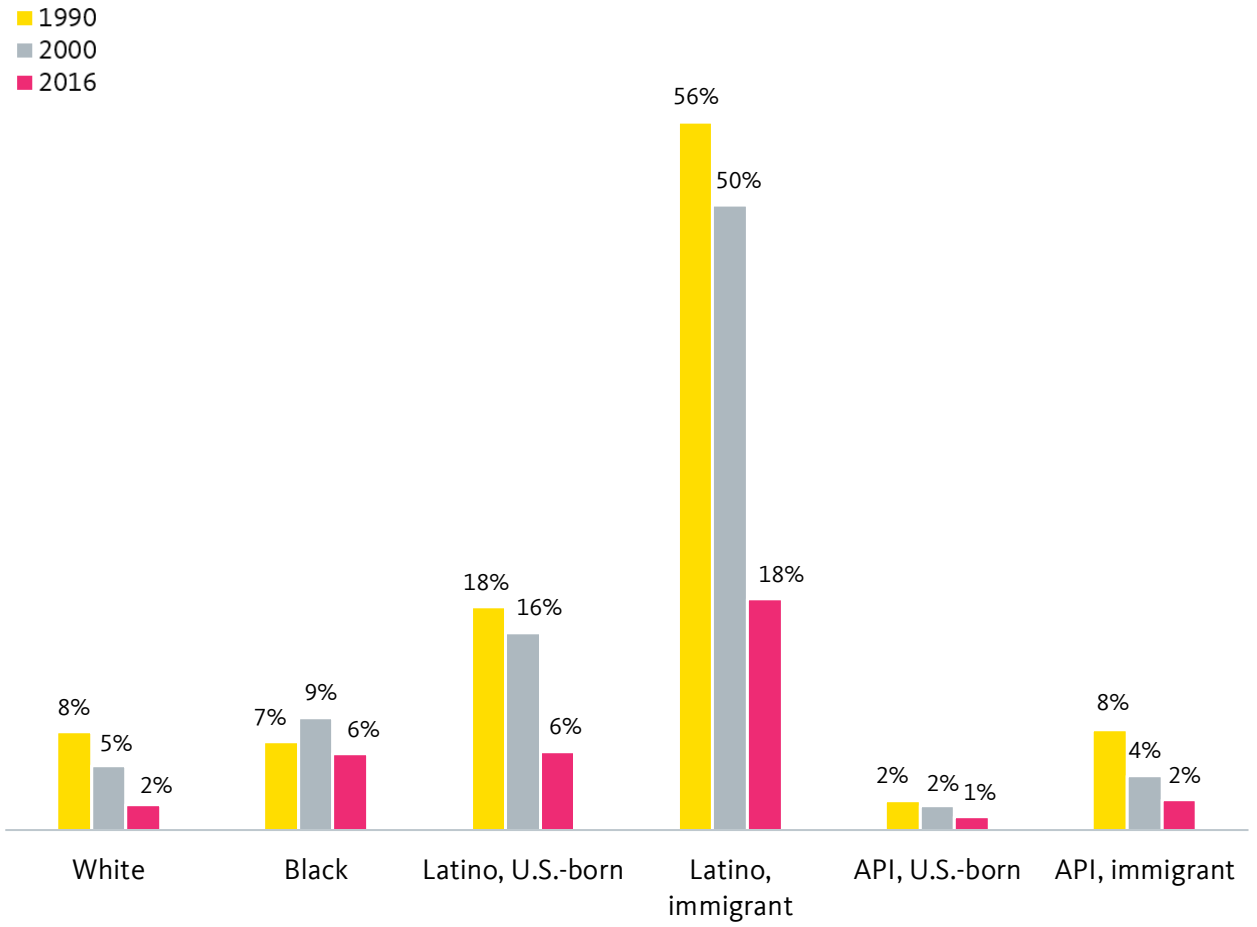
More youth are getting high school diplomas, but racial/ethnic gaps remain

The share of youth who are not enrolled in school and do not have a high school diploma has declined considerably since 1990 for all groups by race/ethnicity and nativity, except for Black youth. For Black youth, there was an increase between 1990 and 2000, followed by a decrease.

Despite the overall improvement, youth of color (with the exception of Asian Americans/Pacific Islanders) are still less likely to have finished high school or be enrolled in school than white youth. A particularly high percentage of immigrant Latinos do not have a high school degree and are not enrolled in school (18 percent).

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

53. Percent of 16- to 24-Year-Olds Not Enrolled in School and Without a High School Diploma, 1990 to 2016



Source: Integrated Public Use Microdata Series.
Note: Data for 2016 represent a 2012 through 2016 average.

Readiness

Many youth remain disconnected from work or school

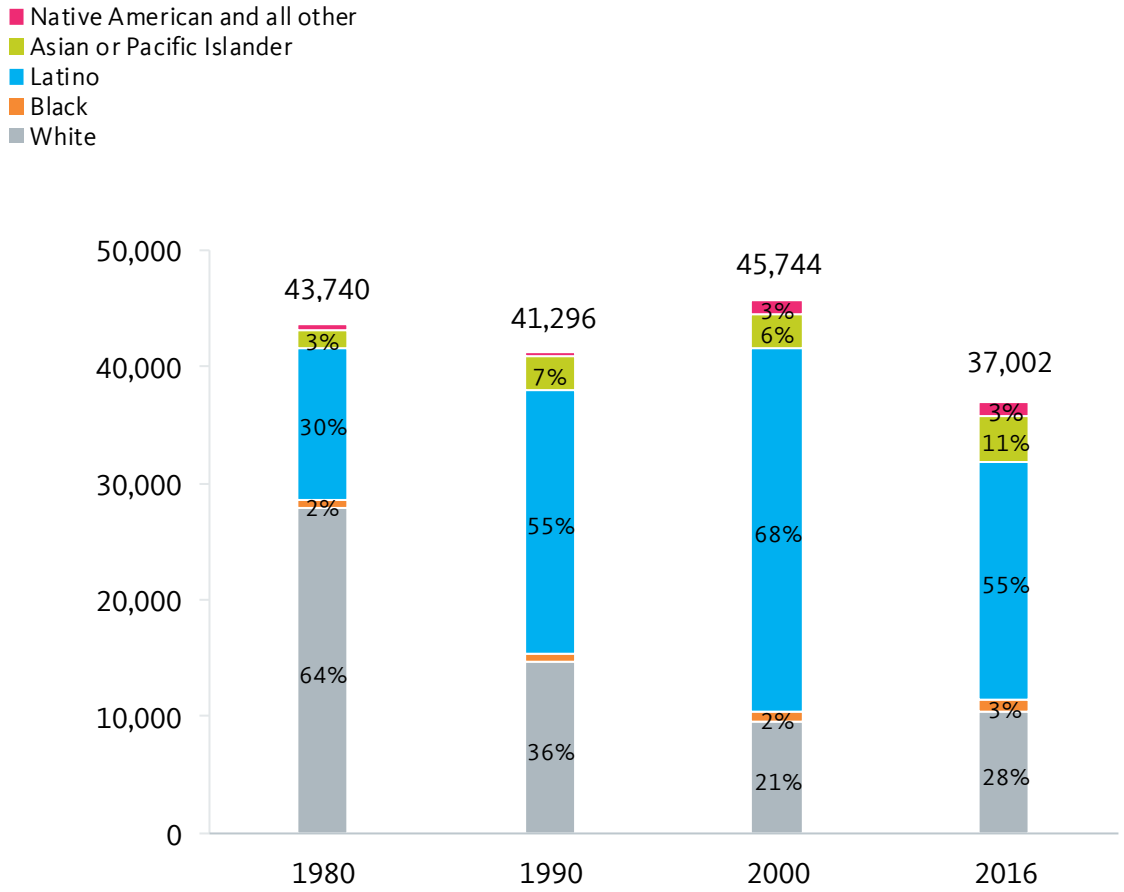
While trends in high school completion and pursuit of further education have been positive for youth of color, the number of "disconnected youth" who are neither in school nor working remains high. Of the region's approximately 37,000 disconnected youth, 55 percent are Latino, 28 percent are white, 3 percent are Black, and 11 percent are Asian American/Pacific Islander (API).

As a share of the youth population of each racial/ethnic group, African Americans have the highest rate of disconnection (17 percent), followed by Latinos (12 percent), those of other or mixed race (7 percent), whites (8 percent), and then API (6 percent).

Since 2000, the number of disconnected youth has decreased slightly. This is due to improvements among Latino youth; all other groups have seen slight increases.

There are about 37,000 disconnected youth in the region

54. Disconnected Youth: 16- to 24-Year-Olds Not in Work or School, 1980 to 2016



Source: Integrated Public Use Microdata Series.
Note: Data for 2016 represent a 2012 through 2016 average.

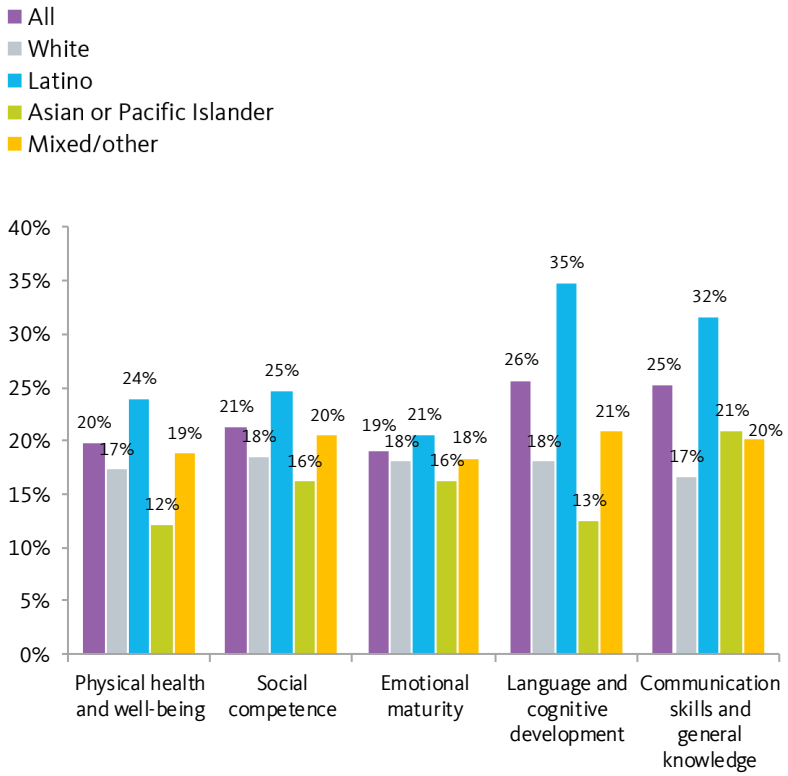
Readiness

Inequality in kindergarten readiness across the county

The Early Development Index (EDI) is a measure of school readiness based on a survey completed by kindergarten teachers in Orange County public schools that evaluates students across five developmental areas: physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge. Latino students were most likely to be evaluated as being vulnerable or at risk across all five developmental areas. In addition, the map below depicts the percentage of students within each neighborhood who are at risk in one or more developmental areas. The highest percentage of children are experiencing risk in one or more developmental areas in neighborhoods within Newport Beach, Costa Mesa, Anaheim, Westminster, Santa Ana, and San Clemente.

Latino youth are vulnerable or at risk across multiple domains

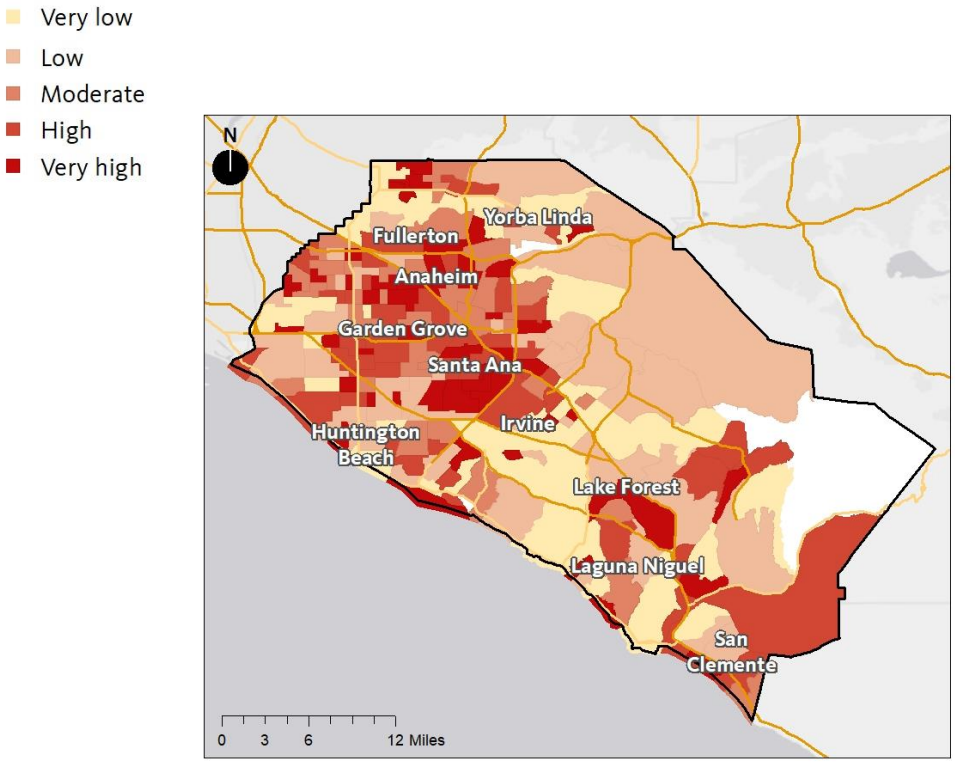
55. Vulnerable or At-Risk Students by EDI Domain and Race/Ethnicity, 2018



Source: 2018 Early Development Index Data, Orange County Children and Families Commission. Universe includes all public schools that have a kindergarten population, although not all children at these schools participated.

Areas of lower opportunity are concentrated in portions of northern Orange County

56. Early Development Index by Census Tract, 2018



Source: 2018 Early Development Index Data, Orange County Children and Families Commission; ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Areas in white have missing data.

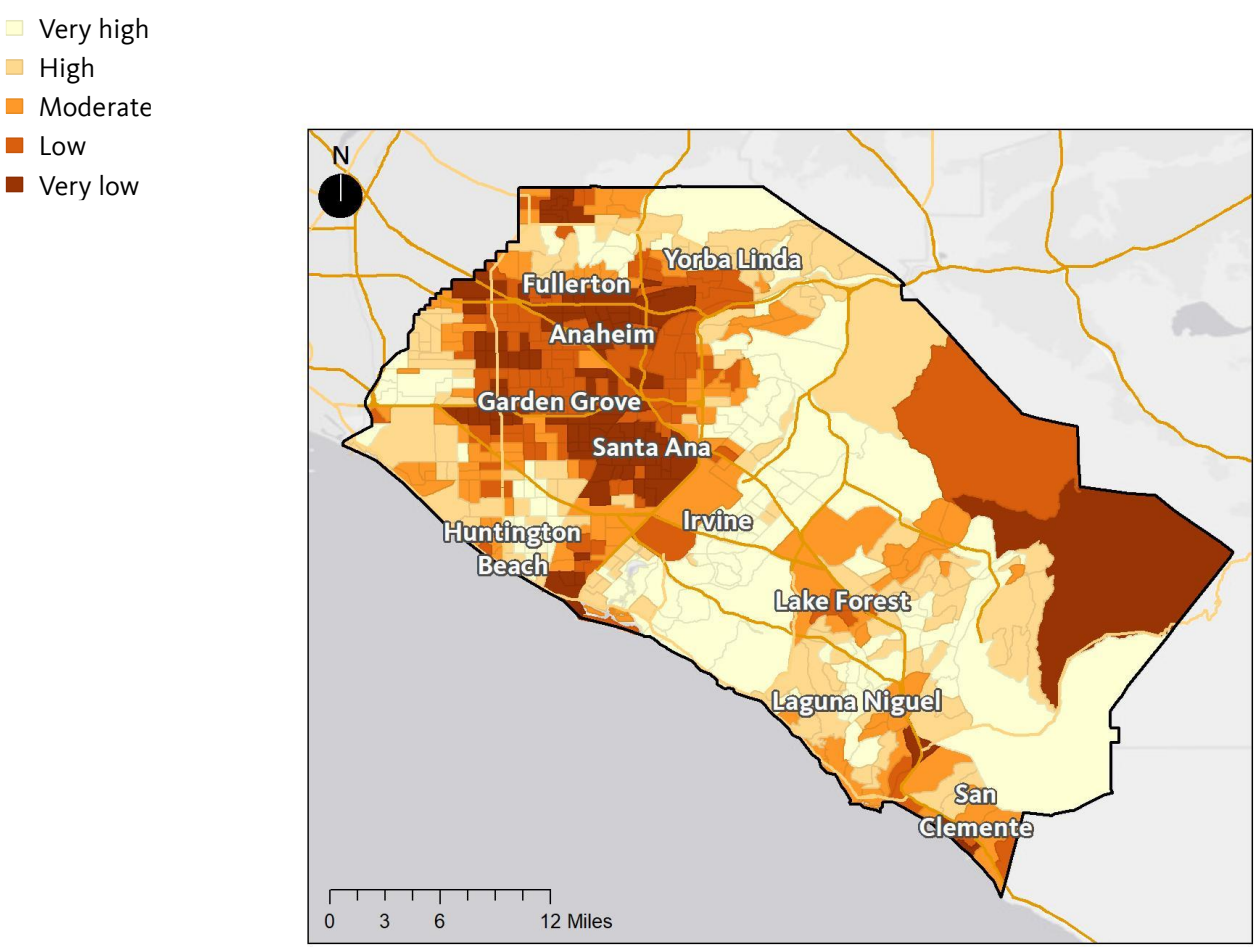
Readiness

Child opportunity is lower in more racially diverse portions of the county

The Child Opportunity Index measures relative opportunity across neighborhoods in the region based on indicators from three domains: educational opportunity, health and environmental opportunity, and social and economic opportunity. By this measure, child opportunities are limited for children in the neighborhoods of of Anaheim, Buena Park, Fullerton, and Santa Ana.

Areas of lower opportunity are concentrated in portions of northern Orange County

57. Child Opportunity Index by Census Tract



Sources: The diversitydatakids.org and the Kirwan Institute for the Study of Race and Ethnicity; ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Note: The Child Opportunity Index is a composite of indicators across three domains: educational opportunity, health and environmental opportunity, and social and economic opportunity. The vintage of the underlying indicator data varies, ranging from the year 2007 to 2013. The map was created by ranking the census tract level Overall Child Opportunity Index Score into quintiles for the region.

Readiness

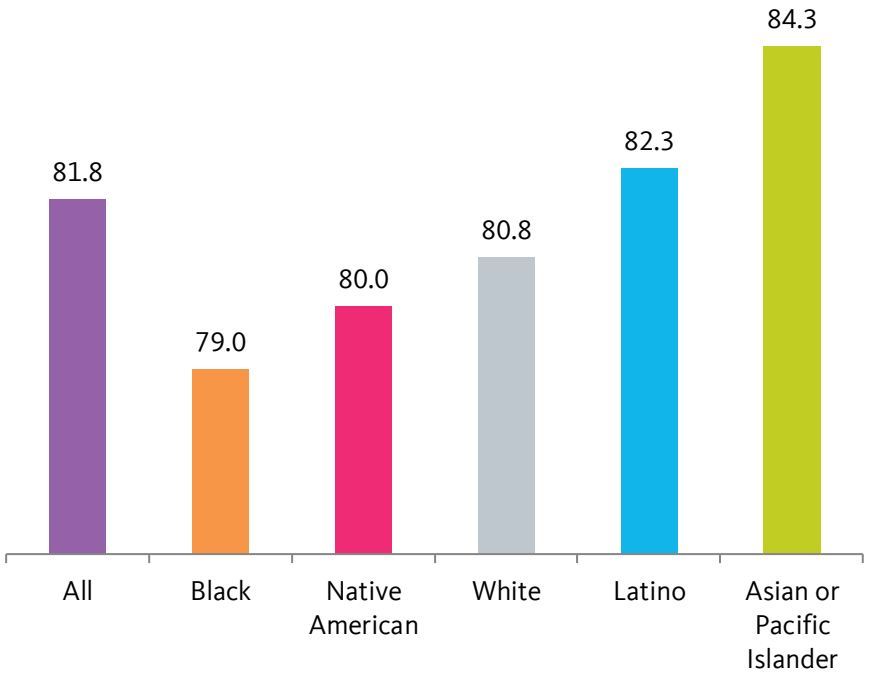
Racial disparities in health outcomes

One dimension of readiness includes how long we expect people to live once they are born, (i.e. life expectancy at birth). Life expectancy can reflect a wide variety of factors in a person's environment including access to health care, exposure to pollution, inadequate food environments, and social/financial security.

African Americans and Native Americans have the lowest life expectancy at birth, with the average Black resident living nearly three years less than the county average. For context, though three years may seem short on paper, this length of time is the equivalent to the years that could be gained by eliminating certain prevalent and devastating diseases. For example the Centers for Disease Control and Prevention estimates that removing all cancer deaths across the nation would increase average lifespan by 3.2 years.[1]

Black and Native American populations have lower life expectancies

58. Life Expectancy at Birth, Orange County, 2015



Source: Centers for Disease Control and Prevention.
Note: Data represent a 2011 through 2015 average.

[1]Arias, Elizabeth, Melonie Heron, and Betzaida Tejada-Vera. 2013. United States Life Tables Eliminating Certain Causes of Death, 1999–2001. 9. Centers for Disease Control and Prevention.

Readiness

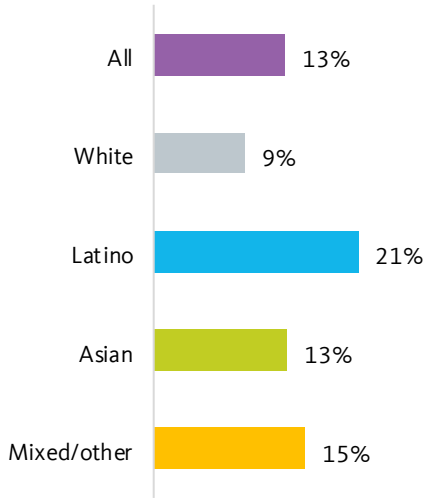
Spatial disparities in health quality and access to care

Data from the California Health Interview Survey show that there are a relatively high number of adults in zip codes in the northern part of the county that describe their health quality as fair or poor. In addition, the data show that when broken down by race, Latinos and Asian Americans are more likely to rate their health quality as fair or poor. Finally, while Orange County has the second largest number of Covered California enrollees,[1] Latinos and mixed/other identified people often report having no usual source of care.

[1]Covered California.(2018). Covered California Open Enrollment Profile. Open Enrollment Plan Selection Profile. County Tab. Retrieved from https://hbex.coveredca.com/data-research/

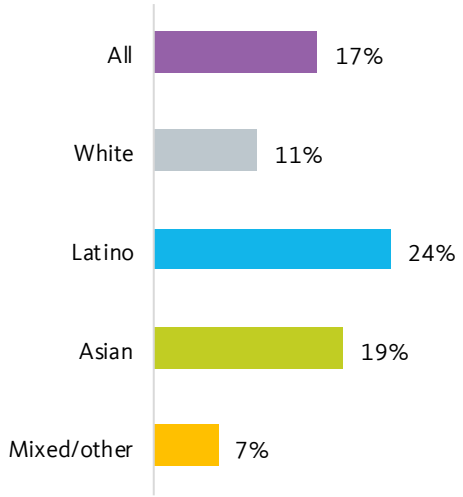
Latinos are most likely to have no usual source of care and to rate their health as fair or poor

59. No Usual Source of Care by Race/Ethnicity, 2011-2017



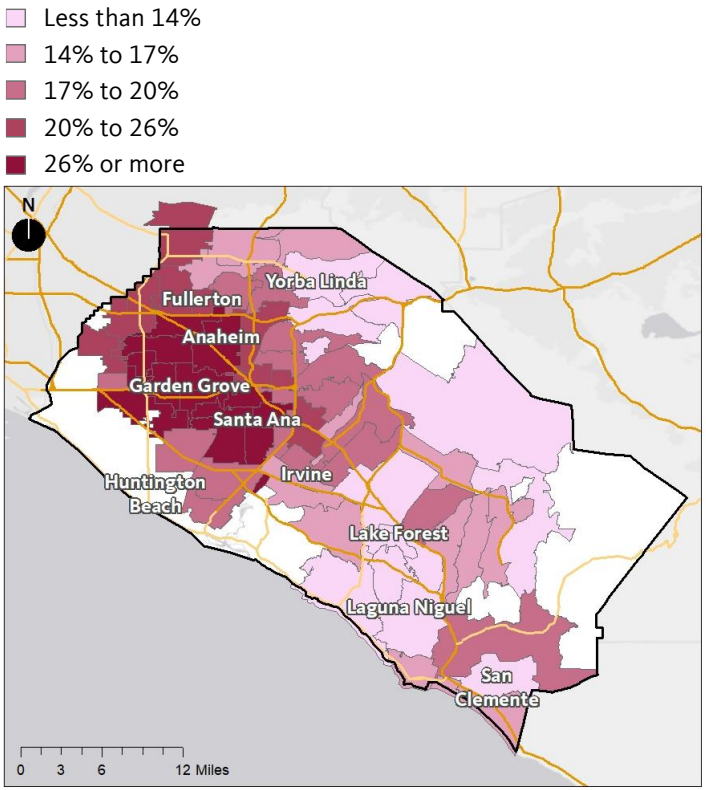
Source: California Health Interview Survey. Universe includes all adults age 18 or older. Note: Data reflect an average of the years 2011, 2012, 2013, 2014, and 2017. Data for Asians exclude Pacific Islanders.

60. Fair or Poor Health Quality by Race/Ethnicity, 2011-2017



Source: California Health Interview Survey. Universe includes all adults age 18 or older. Note: Data reflect an average of the years 2011, 2012, 2013, 2014, and 2017. Data for Asians exclude Pacific Islanders.

61. Fair or Poor Health Quality by Zip Code Tabulation Area, 2011-2017



Source: California Health Interview Survey; ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Universe includes all adults age 18 or older. Note: Data reflect an average of the years 2011, 2012, 2013, 2014, and 2017.

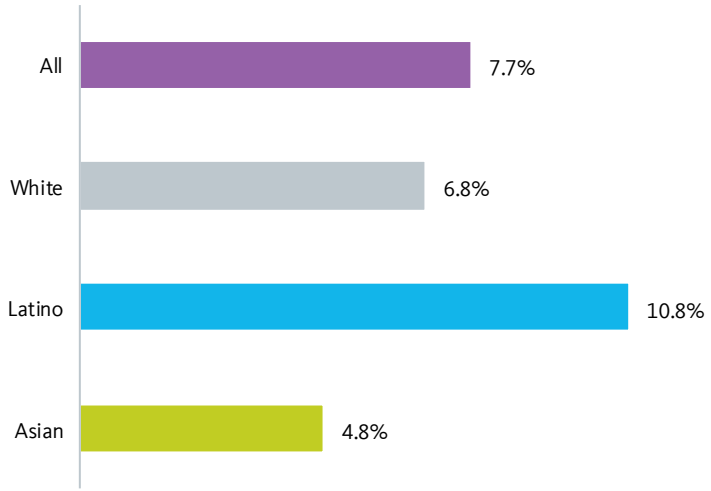
Readiness

Spatial disparities in mental health

Latinos report the highest rates of experiencing serious psychological distress (10.8 percent). Around 6.8 percent of whites and 4.8 percent of Asian Americans reported experiencing serious psychological distress in the last year. Zip codes in and around Huntington Beach, Fountain Valley, Costa Mesa, Irvine, and Laguna Niguel have among the highest percentages of people who report psychological distress.

Latinos are more likely to report serious psychological distress in the past year

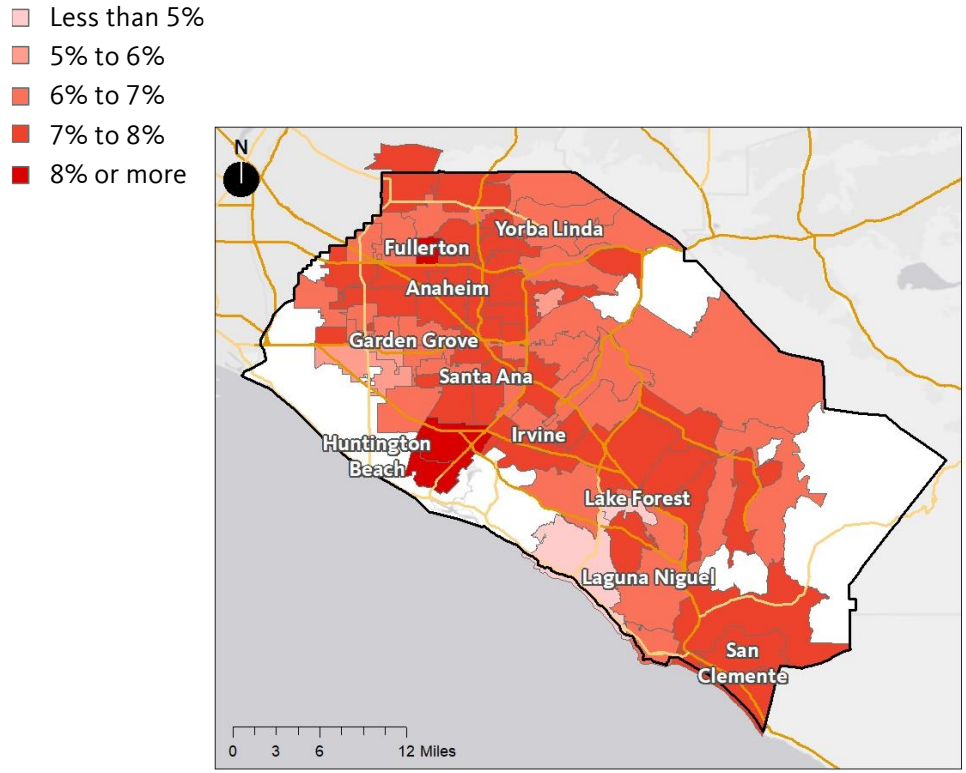
62. Experienced Serious Psychological Distress in the Past Year by Race/Ethnicity, 2011-2017



Source: California Health Interview Survey. Universe includes all adults age 18 or older. Note: Data reflect an average of the years 2011, 2012, 2013, 2014, and 2017. Data for Asians exclude Pacific Islanders.

There are zip codes across the county with high levels of psychological distress

63. Experienced Serious Psychological Distress in the Past Year by Zip Code Tabulation Area, 2011-2017



Source: California Health Interview Survey; ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Universe includes all adults age 18 or older. Note: Data reflect an average of the years 2011, 2012, 2013, 2014, and 2017.

Readiness

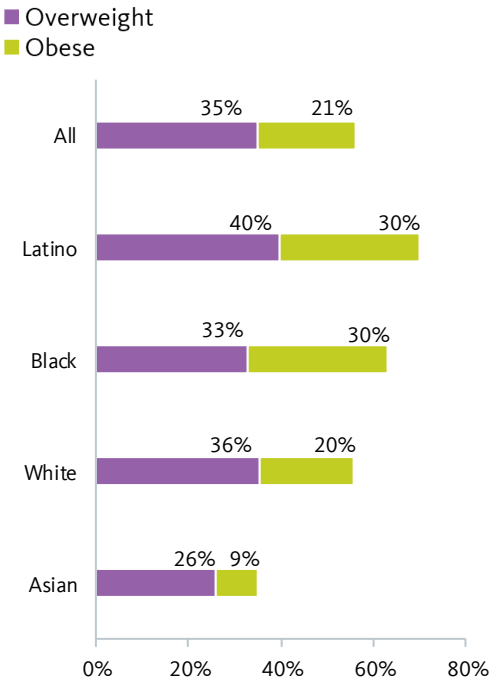
Latinos face higher rates of obesity and diabetes

The region's Latinos are at a higher risk for being overweight or obese and having diabetes but have below average rates of asthma. Whites do better than average on all measures except for asthma. Although Asian Americans do better than average on all measures, health outcomes are not uniform across Asian subgroups. According to the California Health Interview Survey, Filipinos report higher rates of diabetes (19.5 percent) and though not included in this dataset, Pacific Islanders are also at higher risk. One 2010 study showed that Native Hawaiians in Southern California are at higher risk for diabetes, obesity, and cardiovascular disease compared with other groups. Nearly 75 percent of those studied reported a cardiometabolic-related condition, and nearly 87 percent were either overweight or obese.[1]

[1]McEligot, Archana Jaiswal, Juliet McMullin, Ka'ala Pang, Momi Bone, Shauna Winston, Rebekah Ngewa, and Sora Park Tanjasiri. 2010. "Diet, Psychosocial Factors Related to Diet and Exercise, and Cardiometabolic Conditions in Southern Californian Native Hawaiians." Hawaii Medical Journal 69(5 Suppl 2):16–20.

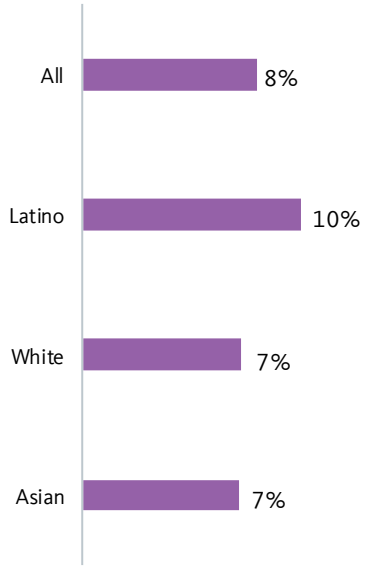
Latinos face higher health risks with the exception of asthma

64. Adult Overweight and Obesity Rates by Race/Ethnicity, 2017



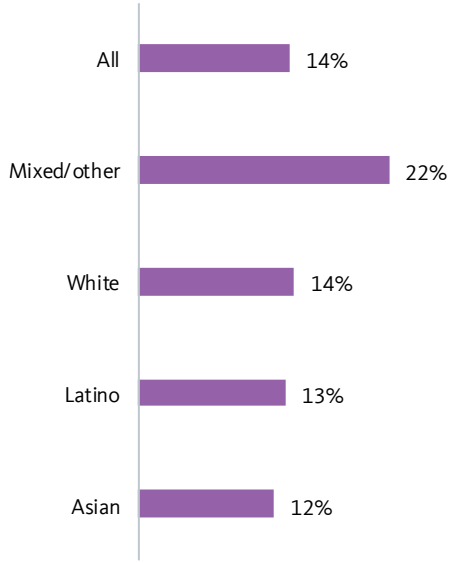
Source: UCLA Center for Health Policy Research; AskCHIS 2013-2017. Universe includes population ages 1 and older. Note: Data represent a 2013 through 2017 average. Data for Asians exclude Pacific Islanders.

65. Adult Diabetes Rates by Race/Ethnicity, 2017



Source: UCLA Center for Health Policy Research; AskCHIS 2013-2017. Universe includes population ages 1 and older. Note: Data represent a 2013 through 2017 average. Data for Asians exclude Pacific Islanders.

66. Asthma Rates by Race/Ethnicity, 2017



Source: UCLA Center for Health Policy Research; AskCHIS 2013-2017. Universe includes population ages 1 and older. Note: Data represent a 2013 through 2017 average. Data for Asians exclude Pacific Islanders.

Readiness

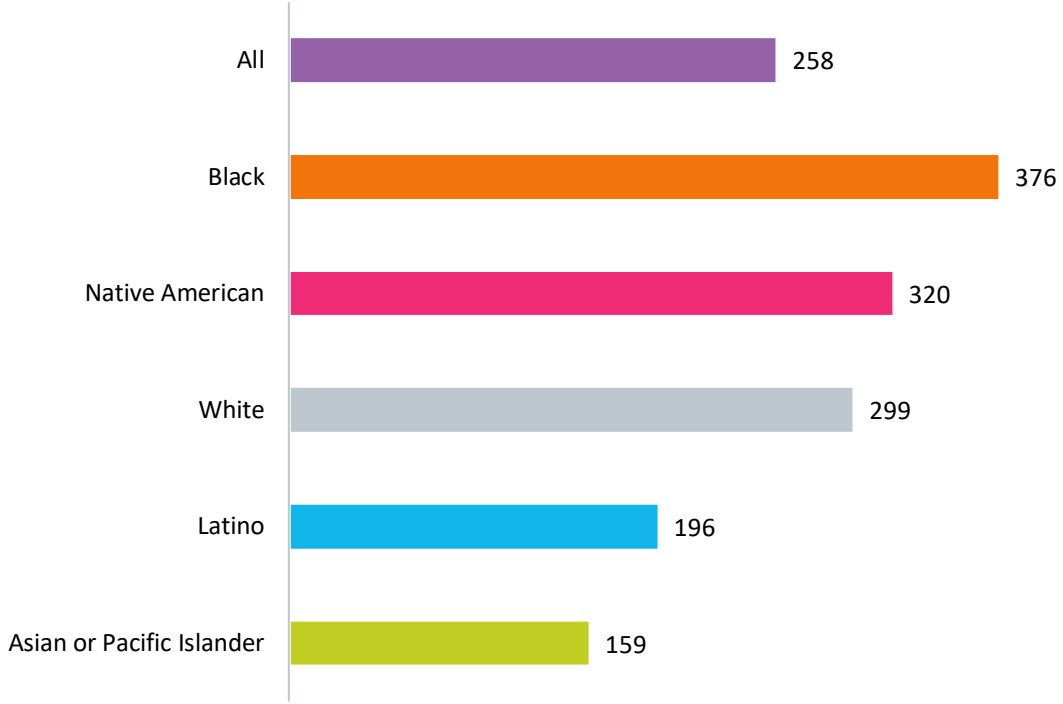
Poor health outcomes disproportionately affect Black and Native communities

Black and Native American populations have poor health outcomes notably including the highest incidence of heart disease mortality in Orange County.

Asian Americans/Pacific Islanders have the lowest heart disease mortality prevalence, but it should be noted that there is wide variability in health across subgroups in this community. One California Department of Public Health study showed that mortality rates have been consistently high among Pacific Islanders. According to that study cardiovascular disease mortality for Pacific Islanders in California was at 332.5 per 100,000 (CDPH 2016).

Black and Native American residents are more likely to die of heart disease

67. Heart Disease Mortality per 100,000 People Age 35 or Older, 2014-2016



Source: Centers for Disease Control and Prevention, Division for Heart Disease and Stroke Prevention, Interactive Atlas of Heart Disease and Stroke. Universe includes all persons age 35 or older. Note: Data are age-standardized and reflect a 2014 through 2016 average.

Readiness

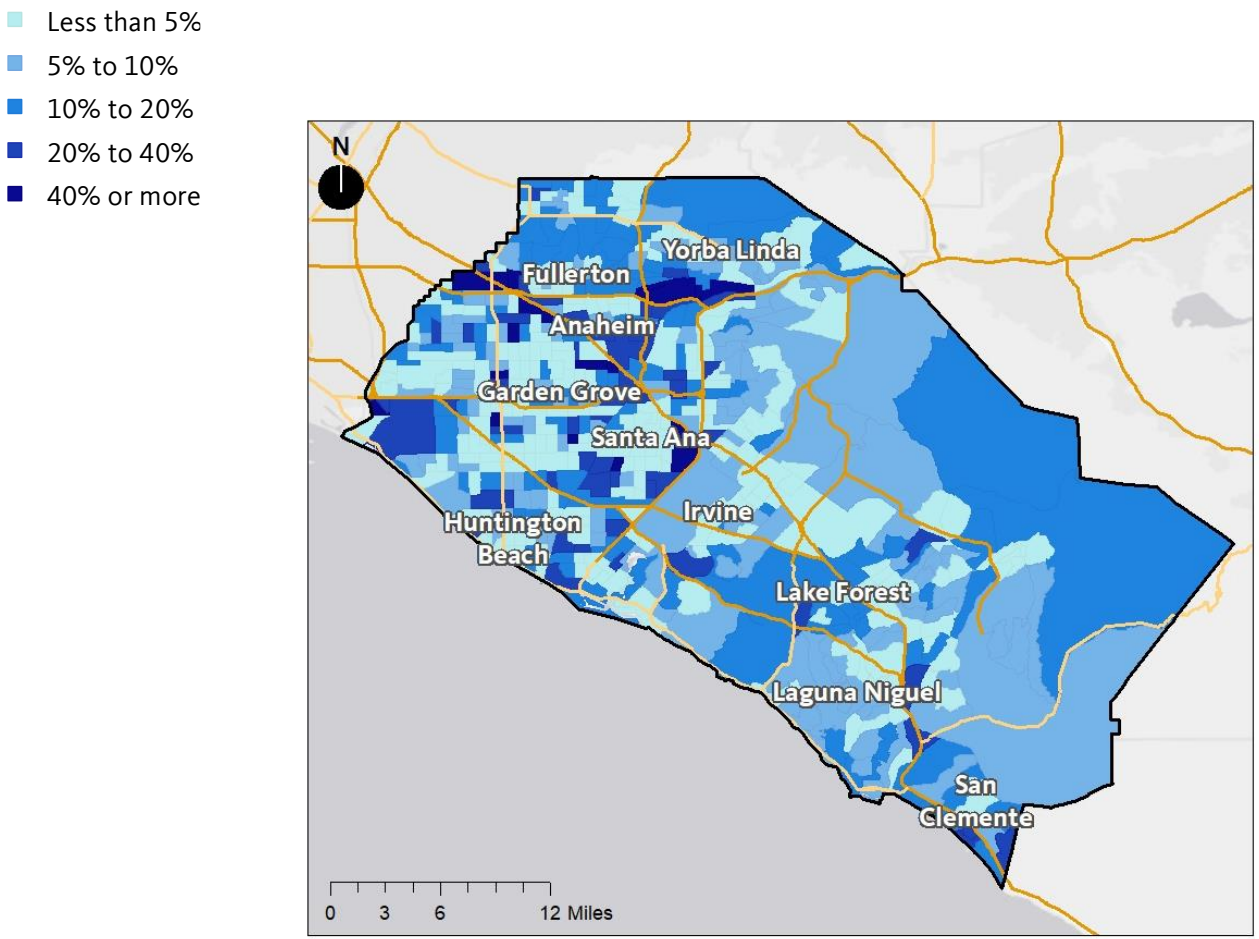
Pockets of low food access for low-income communities exist throughout the county

Food access is important to ensure proper nutrition for families. Nutrition is connected to many positive outcomes including attentiveness in schools and overall health. Low access to healthy food is defined as being far from a supermarket. "Far" is defined as more than half a mile for urban centers and more than 10 miles for rural areas. The map to the right highlights the share of each census tract's population that has low-income and low food access.

The top ten census tracts with the largest share of people who are low-income and who are not near a supermarket (between 58 percent and 78 percent of the population) are in Anaheim, Placentia, Tustin, Santa Ana, and Fullerton.

Low-income low food access tracts are dispersed throughout the county

68. Percent of Population with Low-Income and Low Food Access by Census Tract, 2015



Sources: USDA Food Access Research Atlas, 2015; ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community.

Connectedness

Connectedness

Highlights

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

- While Orange County is less segregated compared to the state and nation overall, segregation has risen in Orange County since 1990 and tends to be highest between whites and other racial/ethnic groups.
- Orange County ranks high in rent-burdened households among the 150 largest regions and in general, people of color face a higher housing-cost burden, whether owners or renters.
- Low-wage workers in the region are not likely to find affordable rental housing. About 23 percent of jobs are low-wage while only 6 percent of rental units are affordable.
- Neighborhoods with high concentrations of low-income families and people of color are more likely to be exposed to air pollution.
- Civic engagement among communities of color is on the rise. The number of Latino and Asian American voters increased rapidly between 2012 and 2016—faster than the number of citizens of voting age or registered voters.

Equitable regions 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.

Share of Latinos who would need to move to achieve residential integration with whites:

53%

Rent-burdened households rank (out of 150 largest regions):

#12

Number of eligible-to-naturalize adults:

180,000

Connectedness

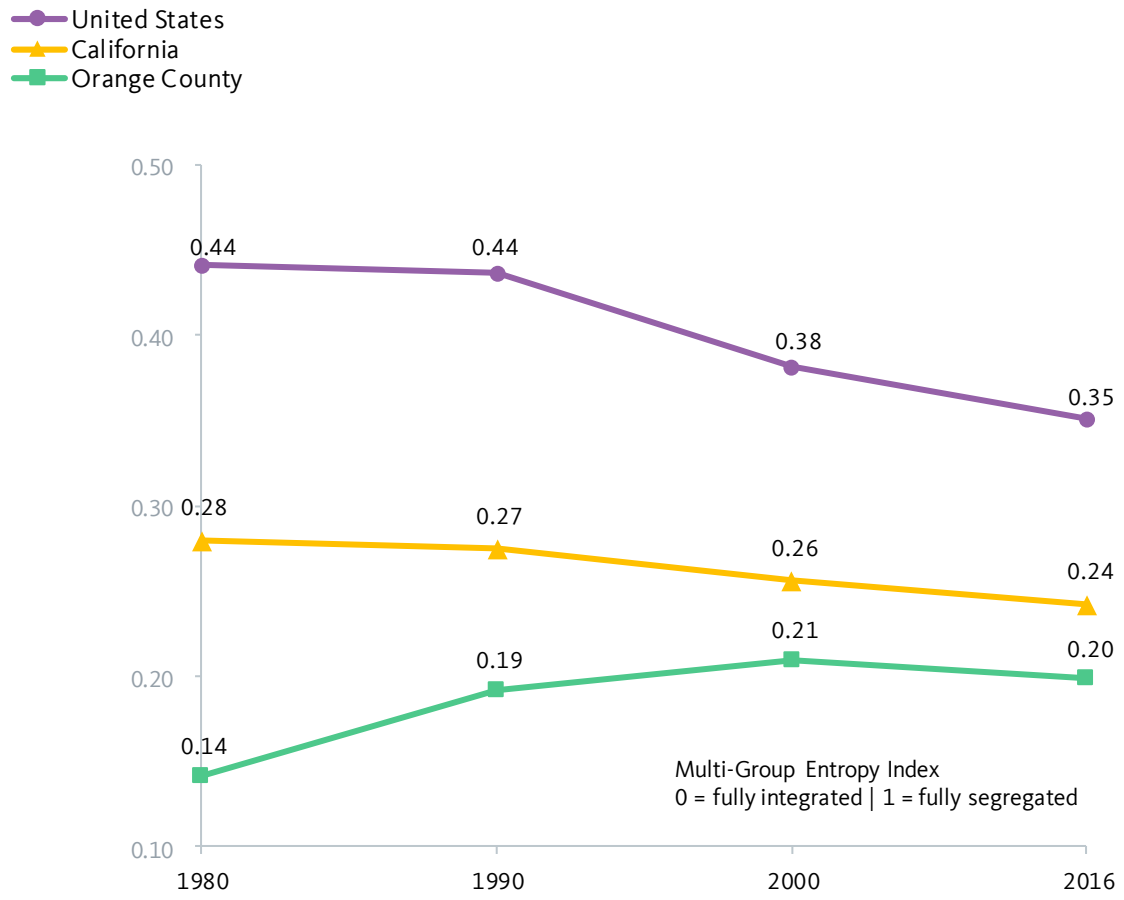
Regional segregation has increased despite decreasing statewide

Orange County segregation by race/ethnicity increased overall between 1980 and 2000 but has since leveled off. Orange County still remains less segregated than the state of California and the United States overall.

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 region overall (maximum integration), to a high of 1, if all census tracts contained one group only (maximum segregation).

Segregation has increased regionally since 1980

69. Residential Segregation, 1980 to 2016, Measured by the Multi-Group Entropy Index



Source: U.S. Census Bureau; Geolytics.
Note: Data for 2016 represent a 2012 through 2016 average. See the "Data and methods" section for details on the residential segregation index calculations.

Connectedness

Segregation is on the rise between most groups

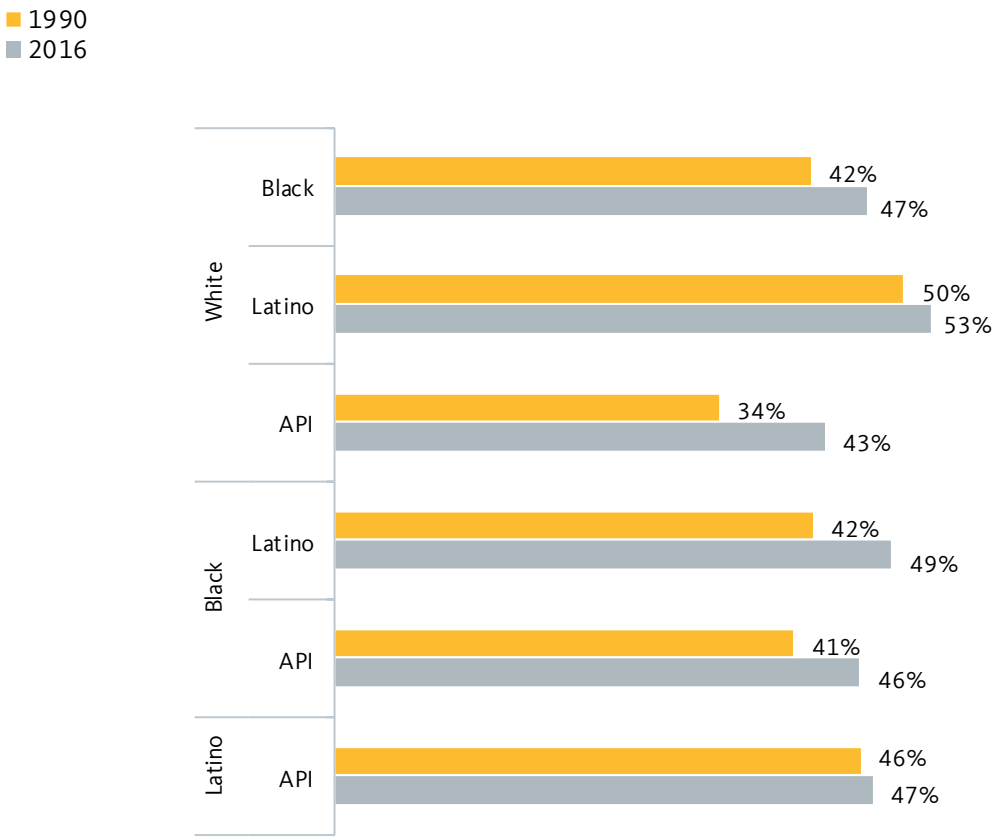
The dissimilarity index estimates the share of a given racial/ethnic group that would need to move to a new neighborhood to achieve complete integration with the other group.

Using this measure, residential segregation between whites and all other groups has increased since 1990. Around 53 percent of Latinos, 47 percent of African Americans and 43 percent of Asian Americans/Pacific Islanders (API) would need to move in order to achieve full integration with whites.

It is also noticeable that residential segregation has increased significantly for some groups. Whites and APIs are much more segregated now than they were in 1990 (around a 10 percentage point difference).

Segregation has increased between whites and all other racial/ethnic groups

70. Residential Segregation, 1990 and 2016, Measured by the Dissimilarity Index



Source: U.S. Census Bureau; Geolytics.
Note: Data reported are the dissimilarity index for each combination of racial/ethnic groups. Data for 2016 represent a 2012 through 2016 average. See the "Data and methods" section for details on the residential segregation index calculations.

Connectedness

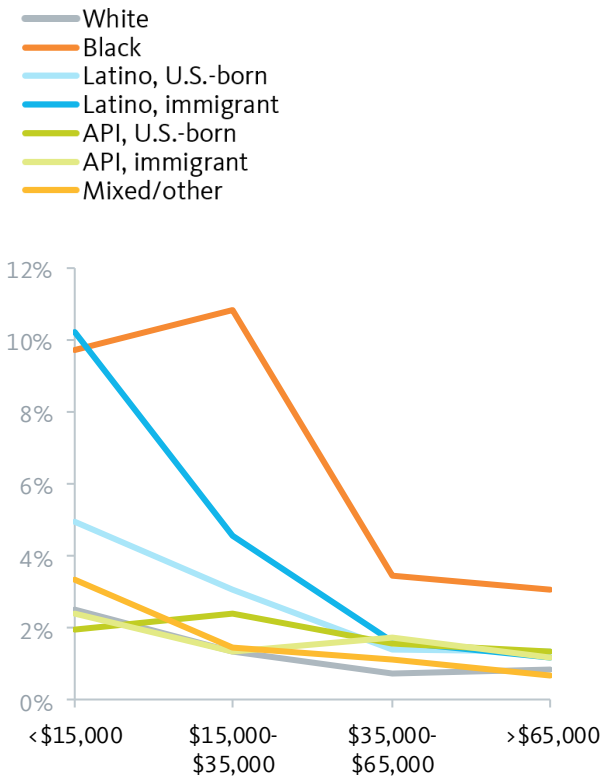
Black and Latino workers are more likely to rely on the region's transit system

Examining transit use by looking at race/ethnicity and income combined helps us better understand who takes public transit to work in Orange County. Very low-income African Americans and Latino immigrants are most likely to get to work using public transit, but transit use declines for all groups as incomes increase.

Households of color are much less likely to own cars than whites. Across the region, 96 percent of white households have at least one car, while only 91 percent of Black-headed households have at least one car. African American and Native American households are the most likely to be carless.

Transit use varies by income, race, and nativity

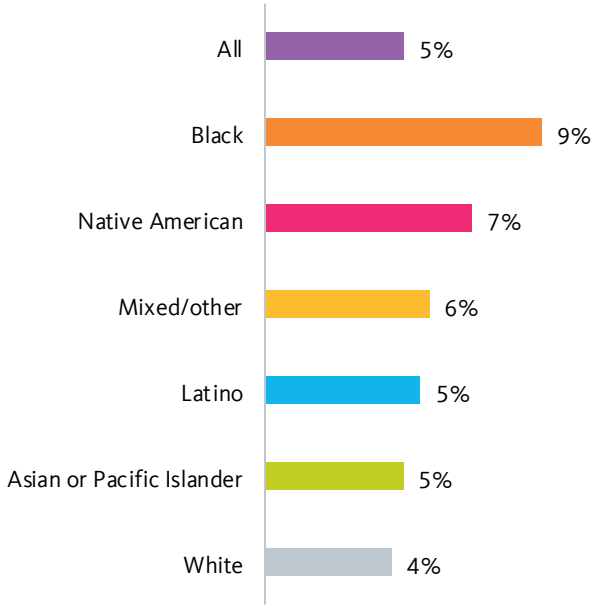
71. Percent Using Public Transit by Annual Earnings and Race/Ethnicity and Nativity, 2016



Source: Integrated Public Use Microdata Series. Universe includes workers ages 16 and older with earnings.
Note: Data represent a 2012 through 2016 average.

Households of color are less likely to own cars

72. Percent of Households Without a Vehicle by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).
Note: Data represent a 2012 through 2016 average.

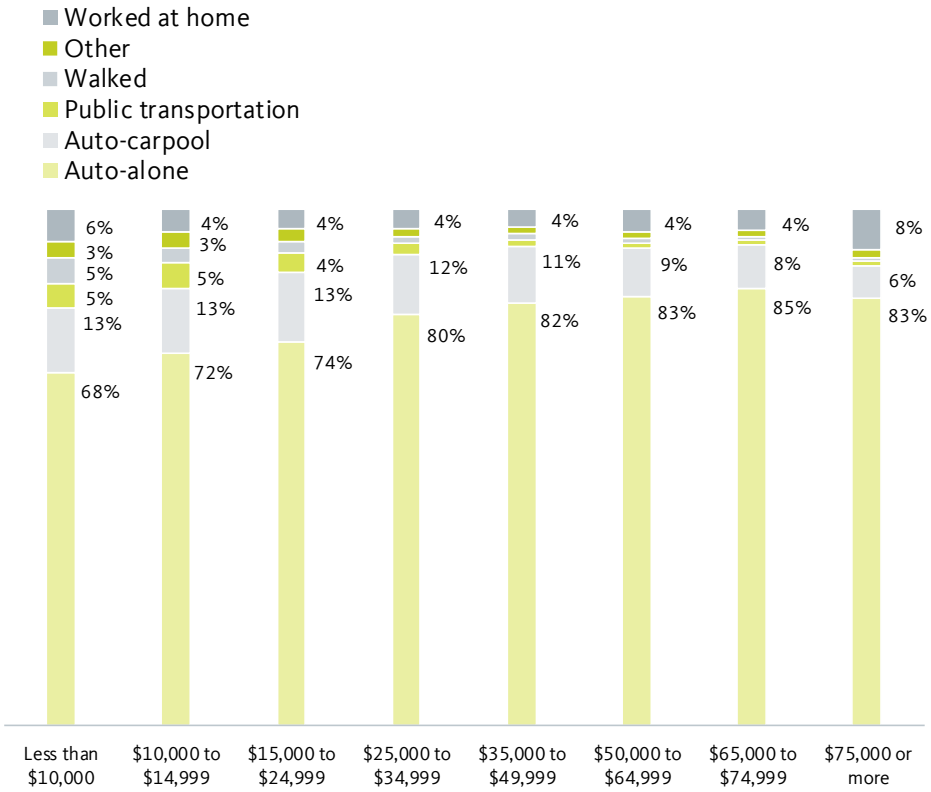
Connectedness

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

The majority of residents in the region—78 percent—drive alone to work. However, single-driver commuting varies by income. About 70 percent of very low-income workers (earning under $15,000 per year) drive alone to work, compared with 82 percent of workers who make $75,000 or more. In a region where people still rely heavily on driving, the vast majority of households (95 percent) have access to at least one vehicle. But access to a vehicle remains a challenge for households in many areas of Orange County, with a particular concentration of carless households in the neighborhoods of Anaheim, Garden Grove, Santa Ana, Tustin, and northern Irvine. There are also high concentrations of carless households in neighborhoods in Laguna Hills, Laguna Woods, and San Clemente.

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

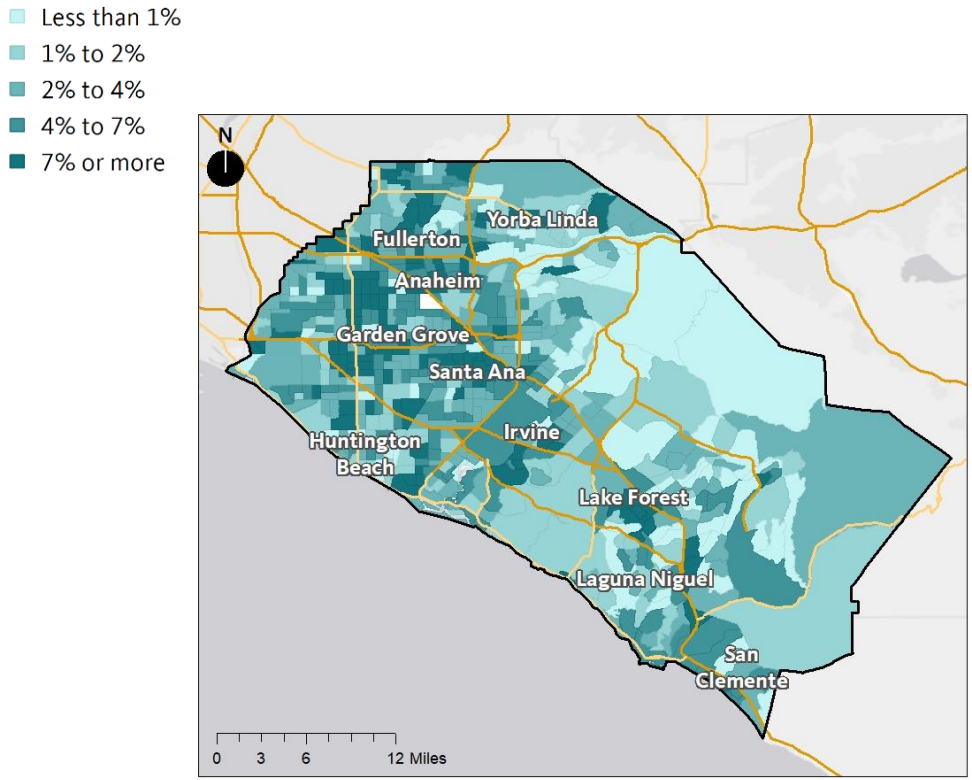
73. Means of Transportation to Work by Annual Earnings, 2016



Source: U.S. Census Bureau. Universe includes workers ages 16 and older with earnings.
Note: Data represent a 2012 through 2016 average.

Vehicle access varies across the County

74. Percent of Households Without a Vehicle by Census Tract, 2016



Source: U.S. Census Bureau; ESRI, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community. Universe includes all households (no group quarters). Note: Data represent a 2012 through 2016 average. Areas in white have missing data.

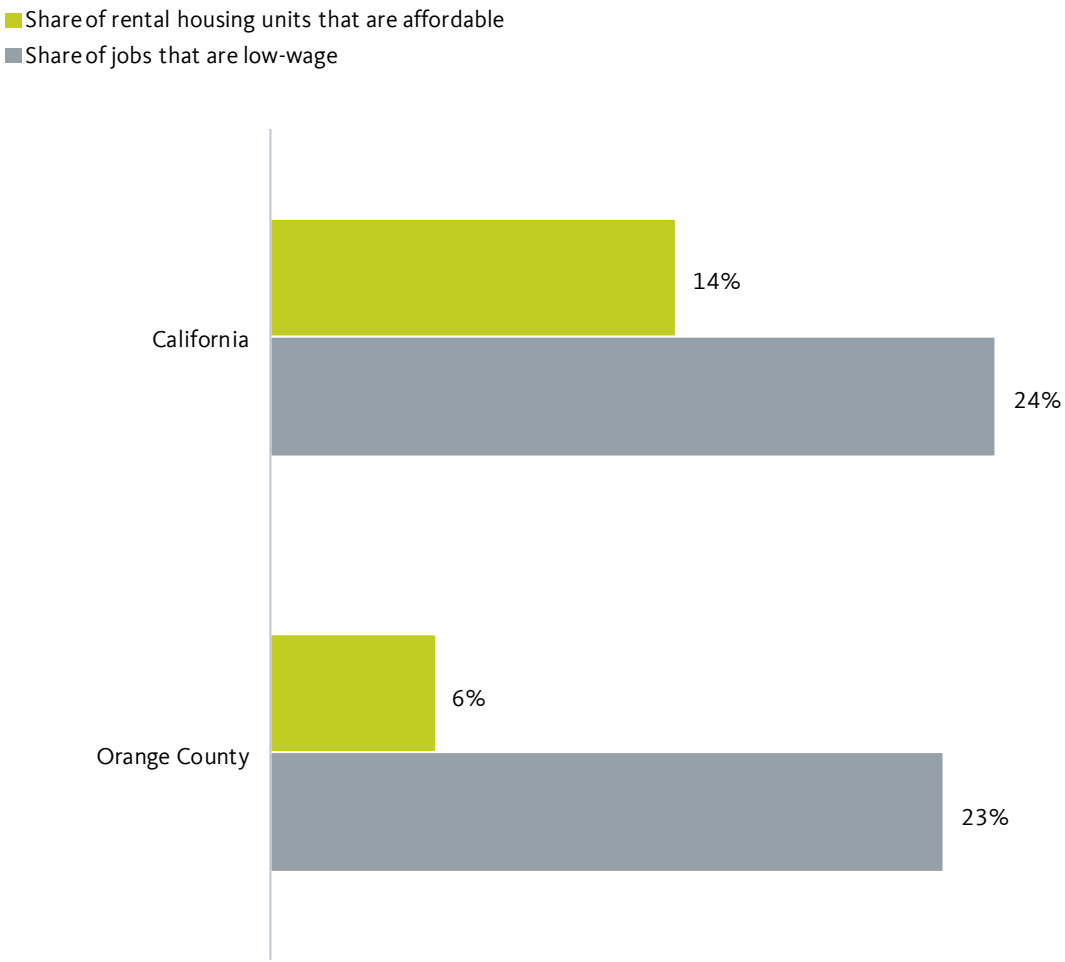
Connectedness

Jobs-housing mismatch for low-wage workers

Most low-wage workers in the region are not likely to find affordable rental housing. In Orange County, 23 percent of jobs are low-wage (paying $1,250 per month or less) and only 6 percent of rental units are affordable (defined as having a rent of $749 per month or less, which would be 30 percent or less of two low-wage workers' incomes).

California and Orange County have a low-wage jobs affordable housing gap

75. Low-Wage Jobs and Affordable Rental Housing, California and Orange County, 2016



Source: U.S. Census Bureau.
Note: Data on the share of affordable rental units represent a 2012 through 2016 average, while data on the share of low-wage jobs are from 2014 and are calculated on a place-of-work basis.

Connectedness

Jobs-housing mismatch for low-wage workers

(continued)

The Orange County ratio of low-wage jobs to affordable housing ratio demonstrates how many low-income jobs there are compared to the number of affordable housing units. When the ratio is larger it indicates that there are more low-wage jobs than affordable housing. In this case the county low-wage jobs to affordable rental housing ratio is higher than the ratio for the state. This indicates that there is a lower availability of affordable rental housing for low-wage workers in the county relative to the state overall.

So while there is a jobs-housing mismatch for low-wage workers throughout California, the challenge of affordable housing for low-wage workers is particularly acute in Orange County.

The jobs-housing mismatch for low-wage workers is greater in Orange County than the state overall

76. Low-Wage Jobs, Affordable Rental Housing, and Jobs-Housing Ratios, 2016

	Jobs (2014)		Housing (2012-2016)			Jobs-Housing Ratios	
	All	Low-wage	All	Rental*	Affordable Rental*	All Jobs: All Housing	Low-wage Jobs-Affordable Rentals
California	15,614,666	3,791,046	12,807,387	5,692,346	773,100	1.2	4.9
Orange	1,532,322	345,281	1,017,012	424,498	23,549	1.5	14.7

*Includes only those units paid for in cash rent.

Source: U.S. Census Bureau.
Note: Data on the number of affordable rental units represent a 2012 through 2016 average, while data on the number of low-wage jobs are from 2014 and are calculated on a place-of-work basis.

Connectedness

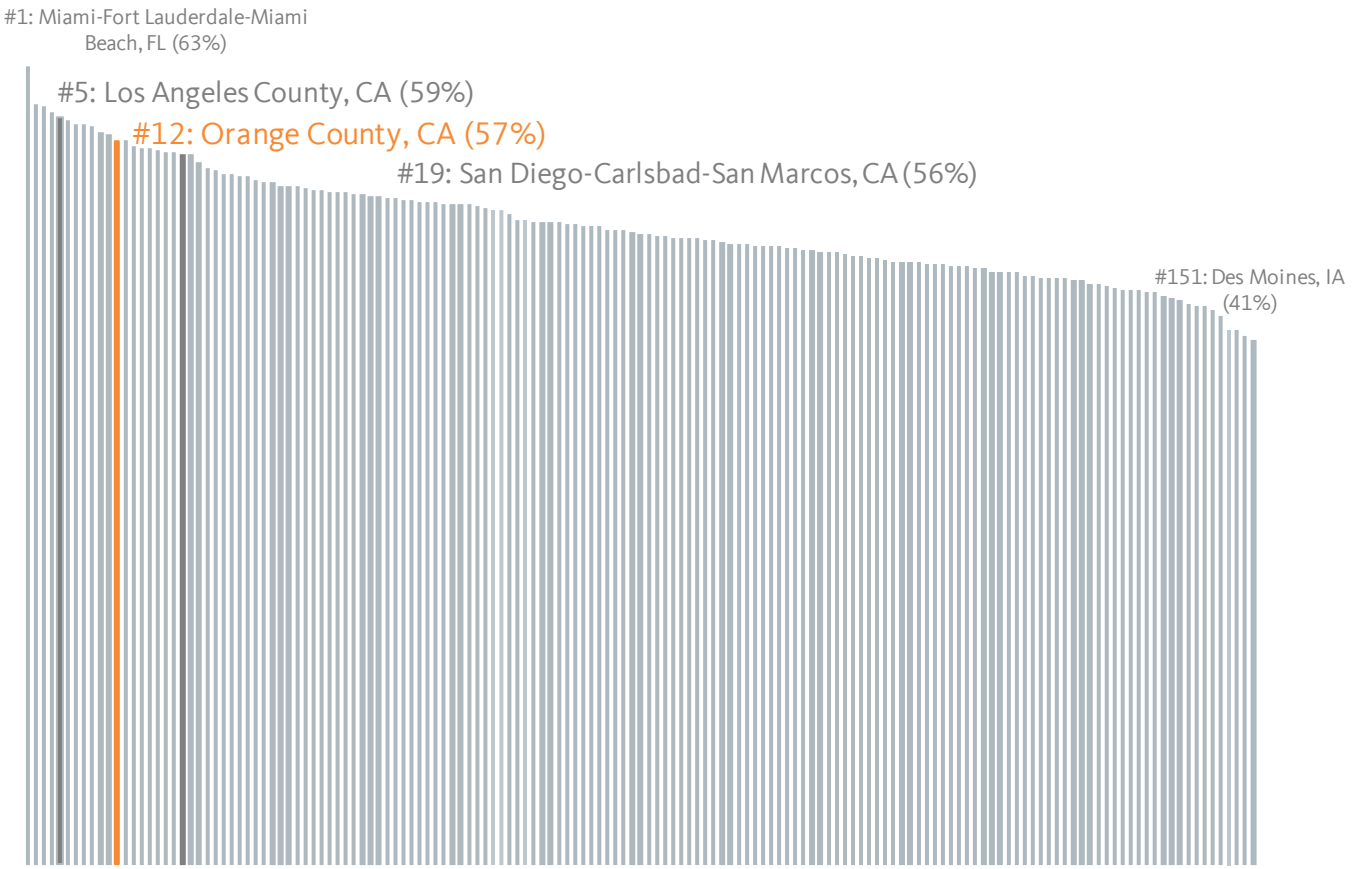
More than half of households in the region are rent-burdened

Orange County ranks 12th in renter-burdened households among the 150 largest regions. Nearly 6 in 10 (57 percent) households are rent-burdened, defined as spending more than 30 percent of their household income on housing costs. Orange County has a slightly lower level of rent-burden than Los Angeles County and Riverside metro area (both at 59 percent), and a slightly higher level than the San Diego metro area (56 percent).

It is also notable that Orange County cities like Anaheim and Santa Ana have some of the highest level of rent burden, with Anaheim placing 6th (62 percent) and Santa Ana 5th (64 percent) among the 100 largest cities in the nation.

Orange County experiences some of the highest levels of rent burden when compared to the top 150 metro areas

77. Share of Households that are Rent-Burdened, 2016: 150 Largest Metros, Los Angeles County, and Orange County, Ranked



Source: Integrated Public Use Microdata Series. Universe includes renter-occupied households with cash rent (excludes group quarters).
Note: Data represent a 2012 through 2016 average. Rankings include the most populous 150 Metropolitan Statistical Areas. However, because Orange County and Los Angeles County are in the same Metropolitan Statistical Area, data for each county are reported as separate observations and the combined metro data is omitted.

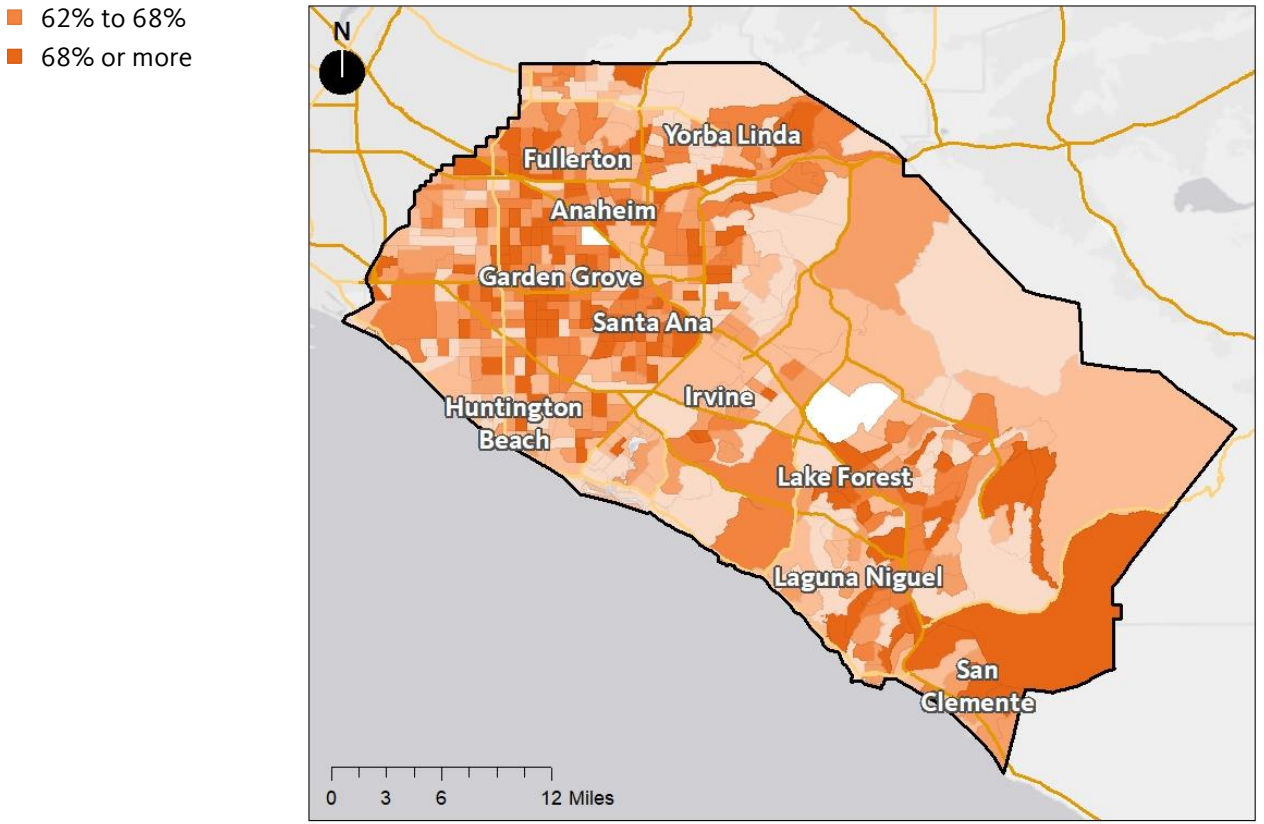
Connectedness

Heavily rent burdened throughout the county

Orange County residents face a housing crisis. Throughout the county there are neighborhoods with rent-burden rates of 68 percent or higher. However, there are particular concentrations in neighborhoods in Anaheim, Santa Ana, Fullerton, and Garden Grove. There are also neighborhoods with rent-burdened households in Laguna Niguel, Laguna Hills, Laguna Woods, and San Juan Capistrano. In Orange County, 57 percent of renter-occupied households are rent-burdened.

High levels of rent burden are common throughout much of the county

78. Rent Burden by Census Tract, 2016



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes renter-occupied households with cash rent. Note: Data represent a 2012 through 2016 average. Areas in white have missing data.

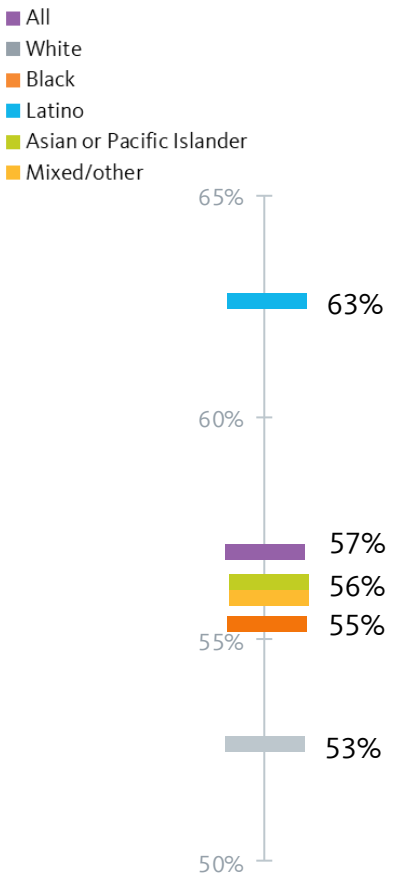
Connectedness

People of color face higher housing-cost burdens

Latino households are the most likely to spend a large share of their income on housing, whether they rent or own. Asian American/Pacific Islander and Black renter households have similar levels of rent burden. Black households have the second highest housing-cost burden among homeowners. White households have the lowest housing-cost burden for renters and homeowners.

Latino households are the most rent-burdened

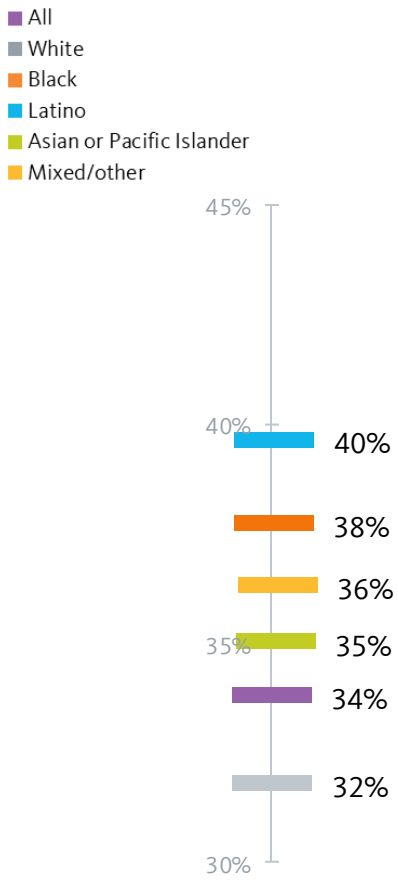
79. Household Rent Burden by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes renter-occupied households with cash rent (excludes group quarters).
Note: Data represent a 2012 through 2016 average.

Latino and African American households have the highest homeowner housing-cost burdens

80. Homeowner Housing-Cost Burden by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes owner-occupied households (excludes group quarters).
Note: Data represent a 2012 through 2016 average.

Connectedness

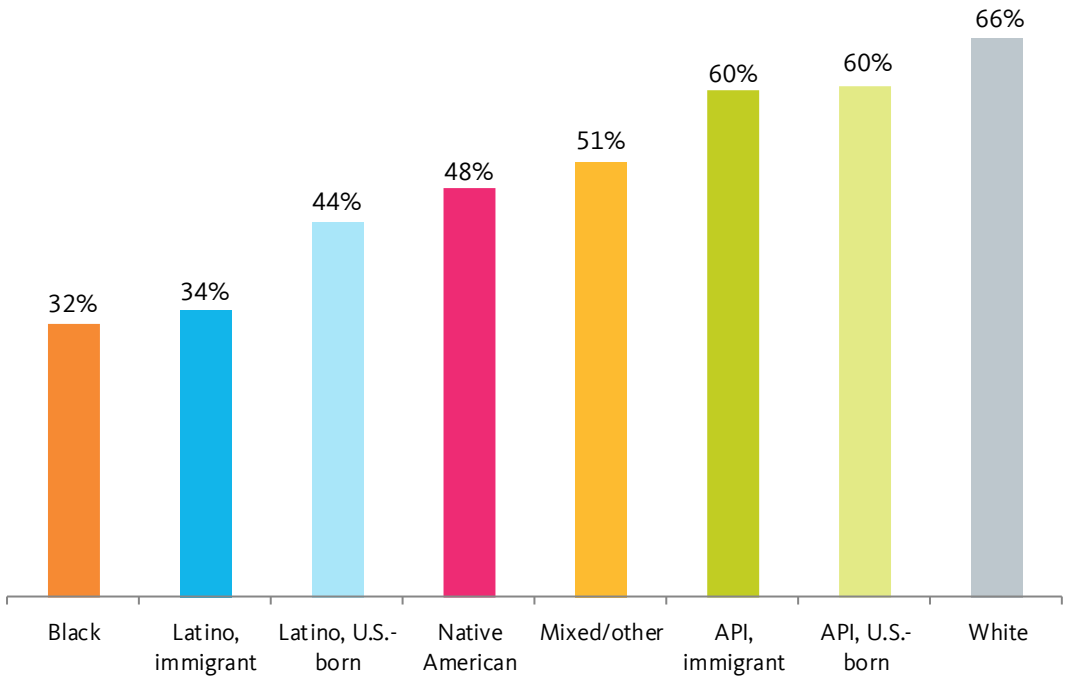
Black and Latino households face significant homeownership disparities

Homeownership can be a critical pathway to economic security and mobility, helping lower-income people build an asset that can be used to pay for education or other productive investments. However, people of color have faced major barriers to accessing sustainable homeownership. Communities of color were disproportionately targeted by predatory lenders and negatively impacted by the foreclosure crisis, which has contributed to the rising racial wealth gap.[1]

In 2016, Black households and Latino immigrant households had the lowest homeownership rates at 32 percent and 34 percent, respectively. In contrast, white and Asian American/Pacific Islander households had homeownership rates of 60 percent and higher.

Black and Latino households have the lowest levels of homeownership

81. Percent Owner-Occupied Households by Race/Ethnicity, 2016



Source: Integrated Public Use Microdata Series. Universe includes all households (excludes group quarters).
Note: Data represent a 2012 through 2016 average.

[1] Steil, Justin P., Len Albright, Jacob S. Rugh, and Douglas S. Massey. 2018. "The Social Structure of Mortgage Discrimination." Housing Studies 33(5):759–76.

Connectedness

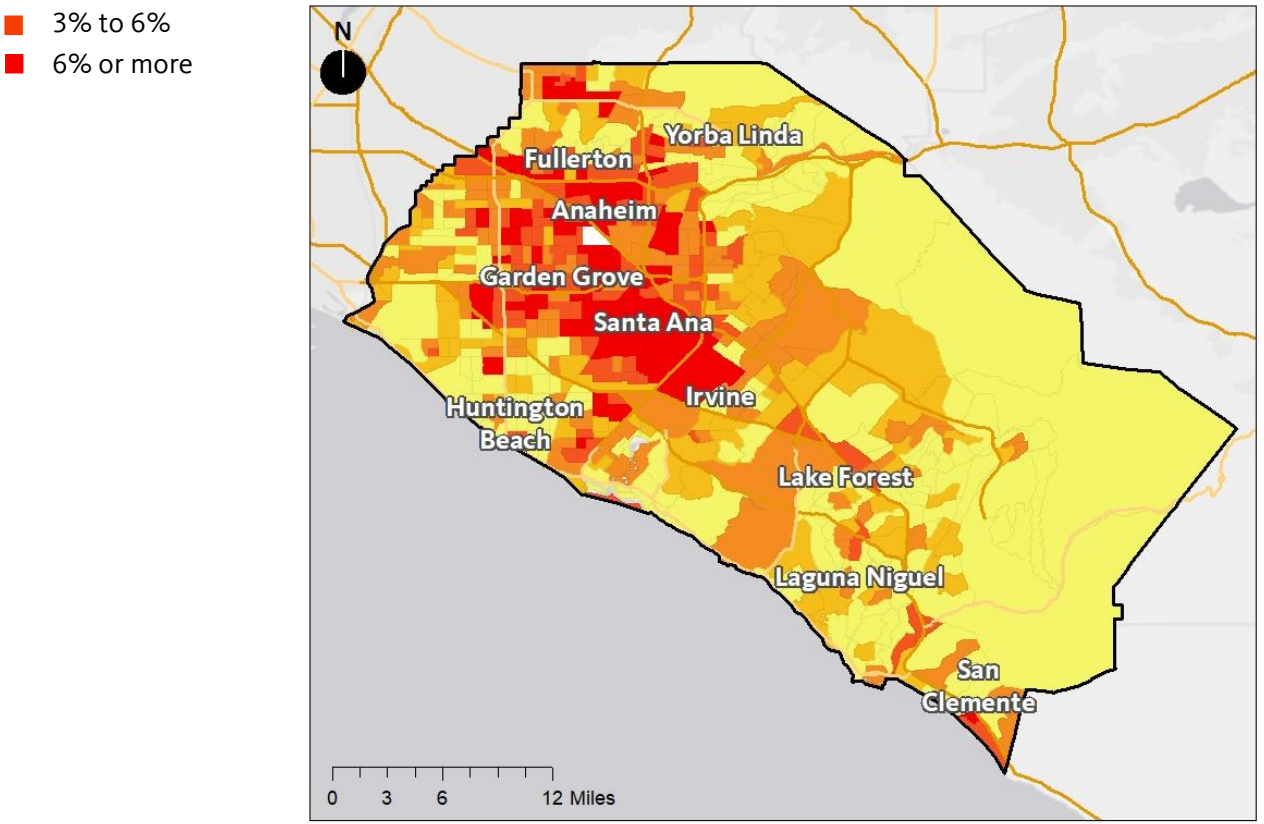
Overcrowding in north county neighborhoods

The census defines overcrowding as housing units that have more than 1.5 people per room. Overcrowding can be harmful and affect the quality of life and safety of residents. Unfortunately, overcrowded homes are far more common in some communities where sharing space may be necessary to alleviate the financial pressure of high housing costs.

The areas which have the most overcrowding include neighborhoods in Santa Ana, Orange, Tustin, Garden Grove, Anaheim, Westminster, and southern Fullerton. There are also neighborhoods in eastern La Habra and western Brea that are experiencing high levels of overcrowding.

High percentages of overcrowding in north county

82. Percent of Housing Units that are Overcrowded, 2016



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all occupied housing units (excludes group quarters). Note: Data represent a 2012 through 2016 average. Areas in white have missing data.

Connectedness

A disproportionate number of African Americans suffer from homelessness

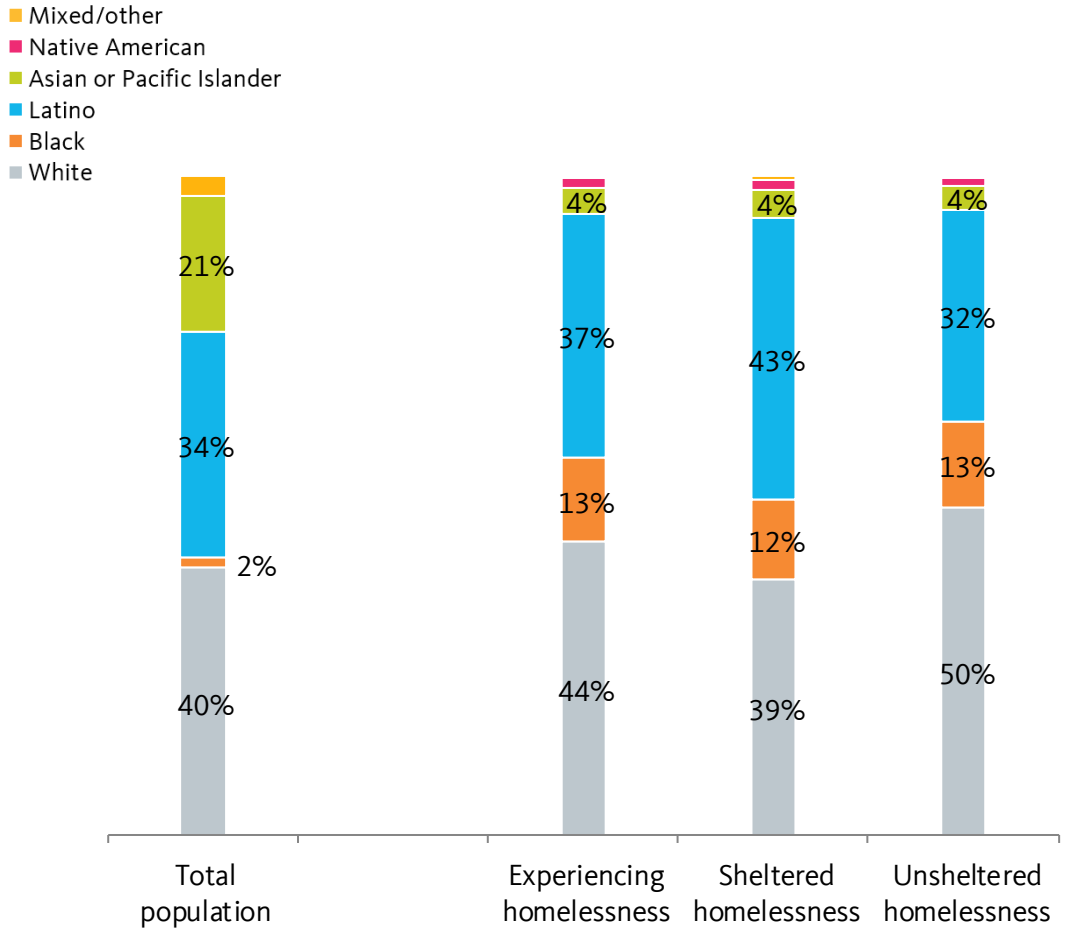
The growing affordability crisis is creating unstable housing for many in Orange County. According to 2017 U.S. Department of Housing and Urban Development (HUD) data, there were an estimated 4,792 people experiencing homelessness and 1,265 of them were in families with children. People of color make up a majority of the population experiencing homelessness (56 percent) in the county. The Black population is by far the most disproportionately affected by homelessness, making up only 2 percent of the total population in 2017 but 13 percent of the homeless population.

A recent 2018 homeless population count in 13 north county cities found 1,837 people experiencing homelessness, a number higher than HUD's estimate. Of the 13 cities, nine had a larger number of homeless people than previously estimated. This report also showed that about 80 percent were unsheltered.[1]

Local data also show that housing insecurity is broader than homelessness. For example, in 2016/2017, 5.5 percent of students in Orange County had insecure housing, which can affect academic success and development.[2]

People of color make up a majority of people experiencing homelessness

83. People Experiencing Homelessness by Race/Ethnicity Compared to Total Population, 2017



Source: U.S. Department of Housing and Urban Development, COC Racial Equity Analysis Tool, Santa Ana Anaheim Orange County COC 602; U.S. Census Bureau. Note: Homeless population data reflect a point-in-time count during the last week of January 2017 while total population data are for 2017. Non-Hispanic counts were estimated from the original homeless population data by applying the non-Hispanic shares by race alone from the 2017 1-year ACS summary file for the total Orange County population. See the "Data and methods" section for details.

[1]Replogle, Jill. 2019. "Homelessness In North Orange County Is Significantly Higher Than Last Official Estimate." LAist, March 6.
[2]Orange County Children's Partnership. 2018. The 24th Annual Report on the Conditions of Children in Orange County. Orange County: Orange County Children's Partnership.

Connectedness

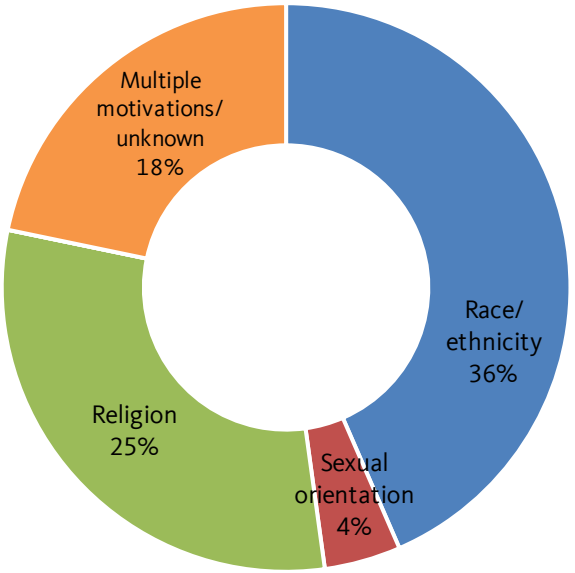
Hate crimes targeting people of color are increasing

In the last few years, as opposing views on race, religion, and sexual orientation have become increasingly polarized in public discourse, the number of hate crimes targeting marginalized communities has also increased.

The year 2017 saw a spike in the number of hate crimes reported to the Human Relations Commission of Orange County. Around 36 percent of these hate crimes were motivated by race/ethnicity, 4 percent by sexual orientation, and 25 percent by religion. According to the 2017 Human Relations report, Muslim and Middle Eastern residents were the most frequently targeted communities for hate crimes. Crimes against these communities were higher than in recent years.

Race/ethnicity was the most common motivator for hate crimes

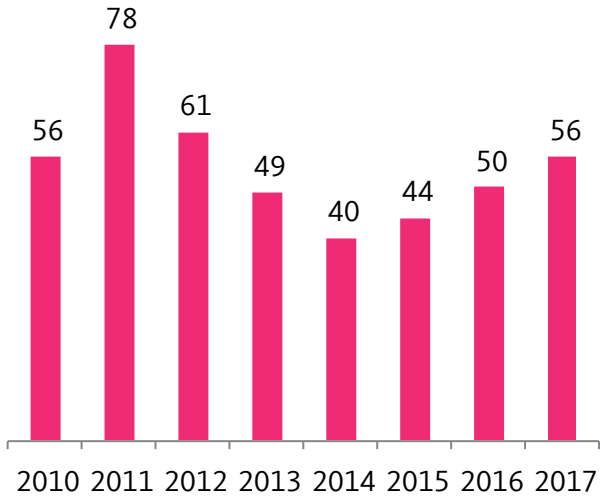
84. Hate Crimes by Motivation, 2017



Source: 2017 Hate Crime Report, Orange County Commission on Human Relations.

Hate crimes have been on the rise since 2015

85. Number of Hate Crimes, 2010 to 2017



Source: 2010-2017 Hate Crime Report, Orange County Commission on Human Relations.

Connectedness

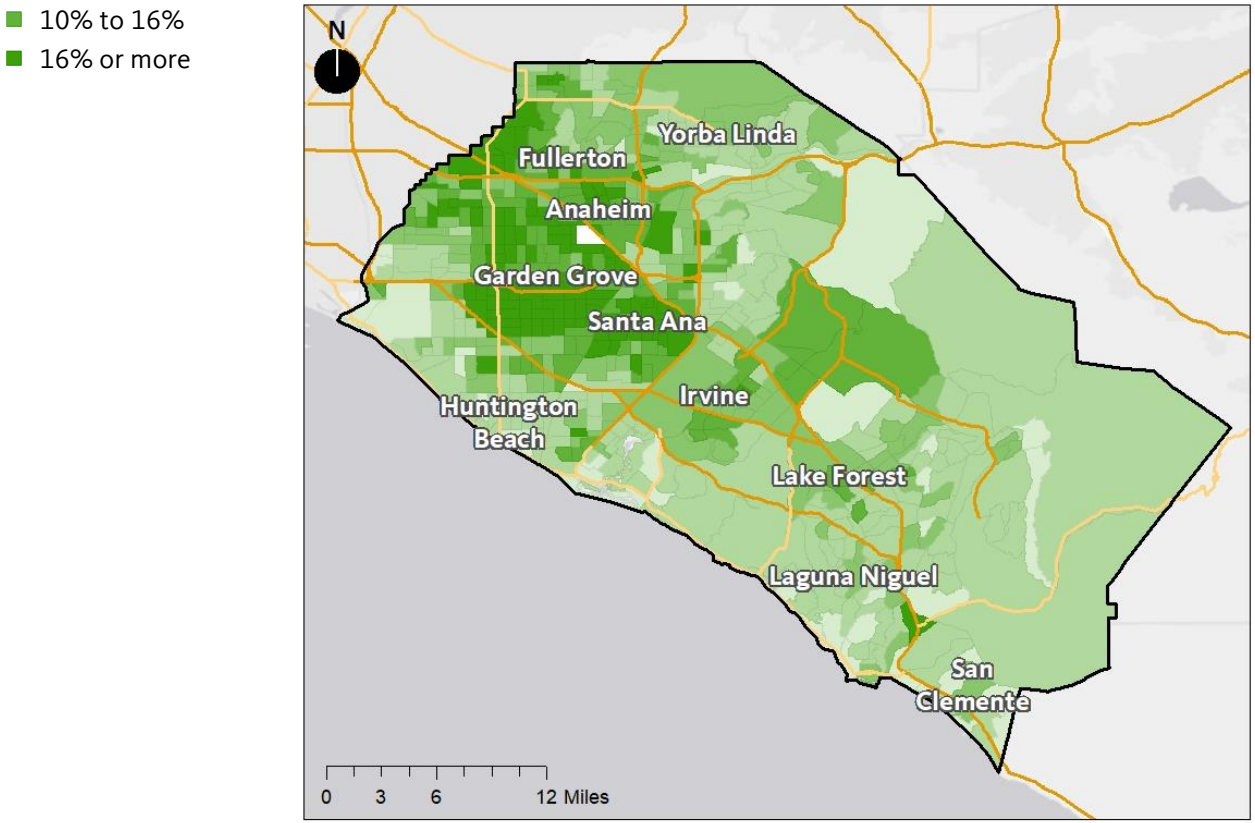
Linguistic isolation is common throughout northern portions of the county

Orange County has been home to large immigrant populations for generations. Many of these immigrants live in households that are considered "linguistically isolated," defined as households in which no member age 14 or older speaks only English or speaks English at least "very well."

Not surprisingly, areas with high levels of linguistic isolation tend to be neighborhoods with more immigrants—and likely more recently-arrived immigrants. Such areas include Anaheim, Santa Ana, Garden Grove, Buena Park, and Westminster. In Orange County, 8 percent of households are linguistically isolated.

Many linguistically isolated households are in Garden Grove and Santa Ana

86. Percent Linguistically Isolated Households by Census Tract, 2016



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all households. Note: Data represent a 2012 through 2016 average. Areas in white have missing data.

Connectedness

People of color in poverty face highest pollution exposure

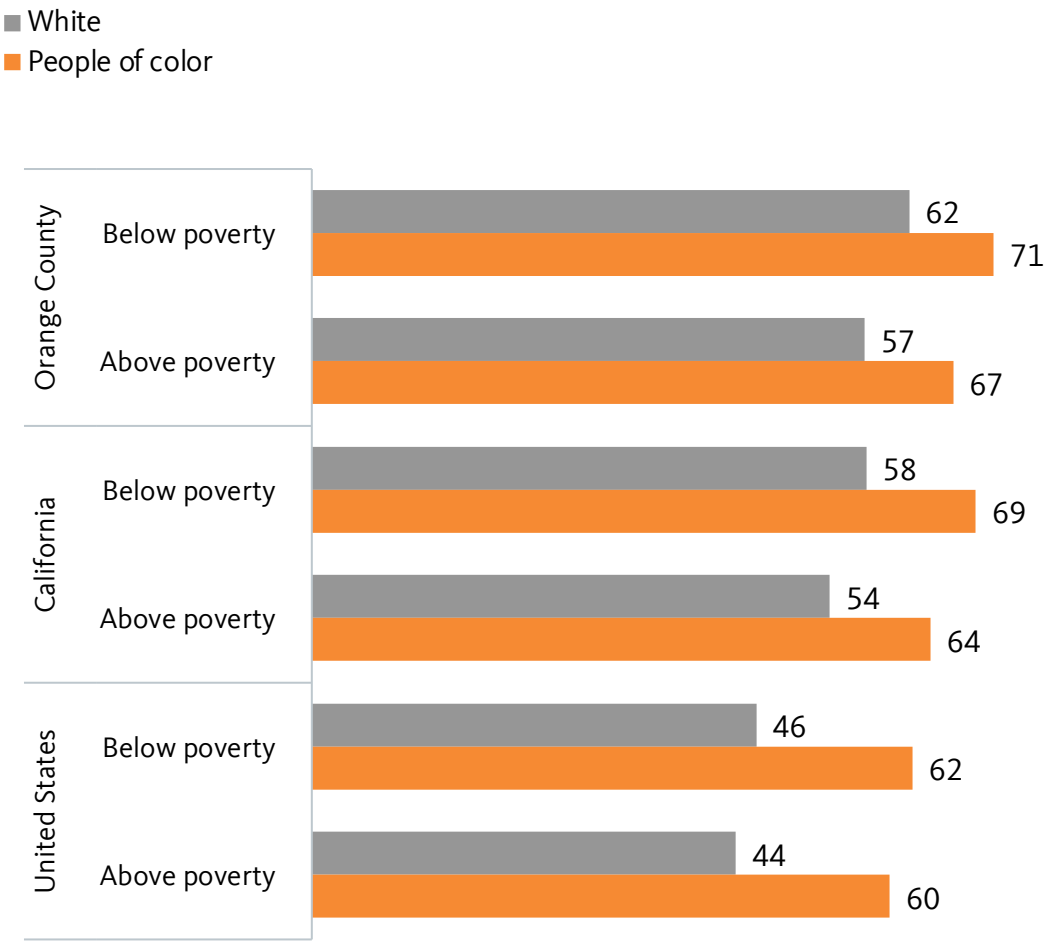
Healthy neighborhoods are free of pollution and toxins that undermine the safety, health, and well-being of their residents. Neighborhoods with high concentrations of low-income families and people of color are more likely to be exposed to environmental hazards, putting them at higher risk for chronic diseases and premature death.

In 2015, for cancer and non-cancer risk, people of color living *above* the federal poverty level actually had a higher air pollution exposure than white residents living *below* the federal poverty level—with the pattern holding for Orange County, California, and the United States overall.

Pollution exposure index values range from 1 (lowest risk) to 100 (highest risk) on a national scale. The index value is based on percentile ranking each risk measure across all census tracts in the United States and taking the average ranking for each geography and demographic group shown.

People of color above the poverty level face a higher pollution burden than white people below the poverty level

87. Air Pollution Exposure Index by Race/Ethnicity and Poverty Status, Cancer and Non-Cancer Risk, 2015



Source: U.S. Environmental Protection Agency, 2011 National Air Toxics Assessment; U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: While data on people by race/ethnicity and poverty status reflect a 2011 through 2015 average, data on air pollution are from 2011. See the "Data and methods" section for details on the pollution exposure index calculations.

Connectedness

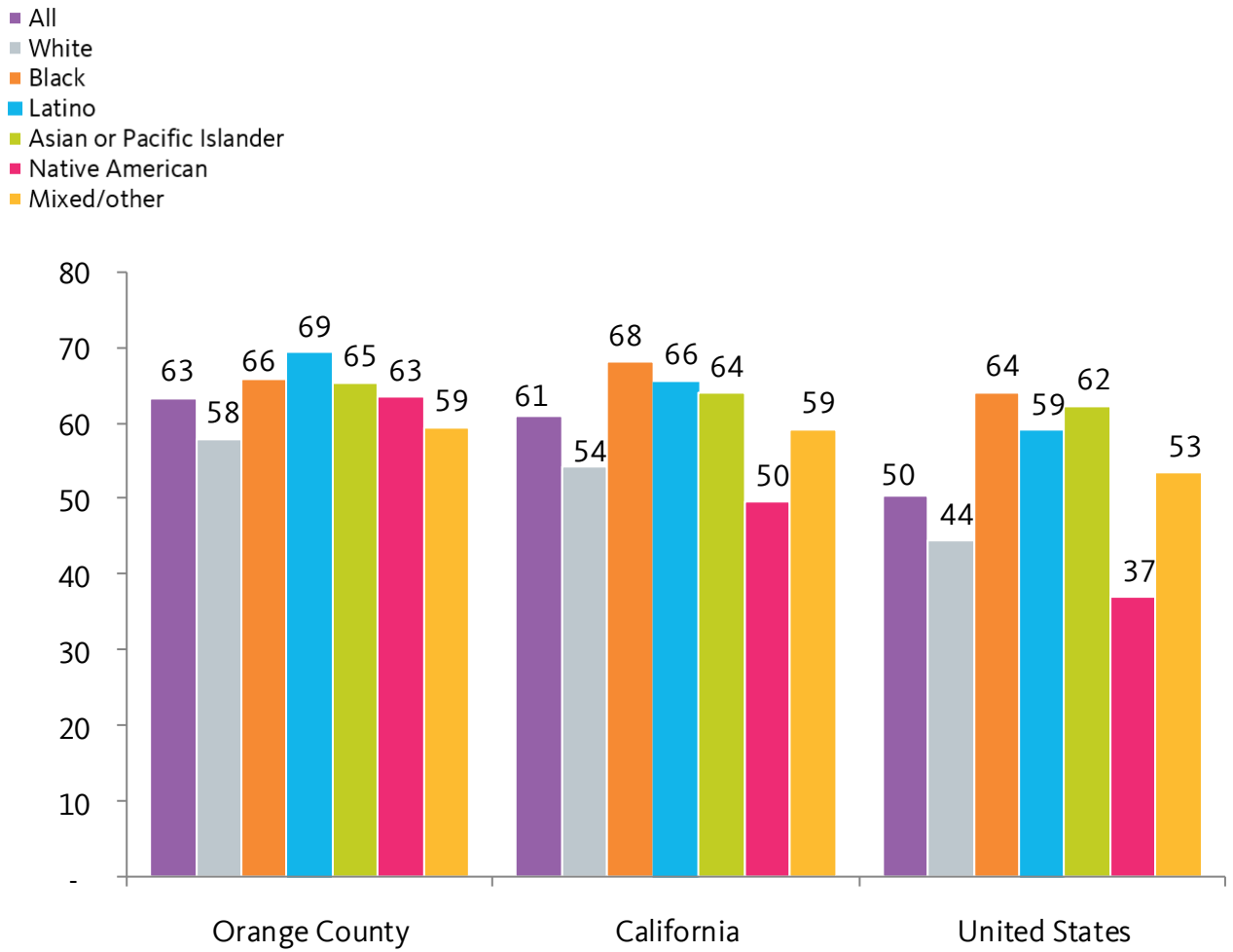
People of color face more exposure to pollution

Whites in Orange County have lower air pollution exposure than the county average while people of color tend to have higher than average air pollution exposure. Latinos have the highest air pollution exposure index value (for cancer and non-cancer risk) of 69 while African Americans have a value of 66 and Asian Americans/Pacific Islanders have a value of 65.

Levels of pollution exposure are higher in Orange County for nearly all broad racial/ethnic groups than in California or the United States overall.

Latinos have the highest air pollution exposure index in Orange County

88. Air Pollution Exposure Index by Race/Ethnicity, Cancer and Non-Cancer Risk, 2015



Source: U.S. Environmental Protection Agency, 2011 National Air Toxics Assessment; U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: While data on people by race/ethnicity and poverty status reflect a 2011 through 2015 average, data on air pollution are from 2011. See the "Data and methods" section for details on the pollution exposure index calculations.

Connectedness

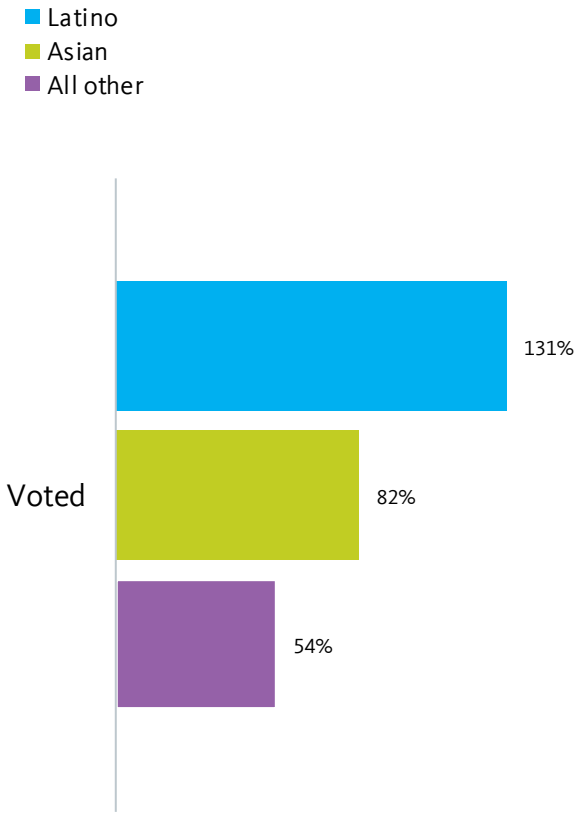
Voter turnout has increased for most groups since 2014

Civic participation is an important part of a thriving equitable economy. When residents are able to exercise power and agency in the policies that affect them, they are more connected and more engaged in their implementation.

People of color make up a growing proportion of voters who cast ballots in Orange County. From the 2014 to 2018 midterm elections the number of Latinos who voted grew by over 100,000 people, an increase of 131 percent. The number of Asian American voters grew by over 60,000 people, an 82 percent increase from 2014. Latinos accounted for 17 percent of the total votes cast in 2018. Asian Americans accounted for 13 percent of votes.

Asian Americans and Latinos are a fast-growing part of the voting population

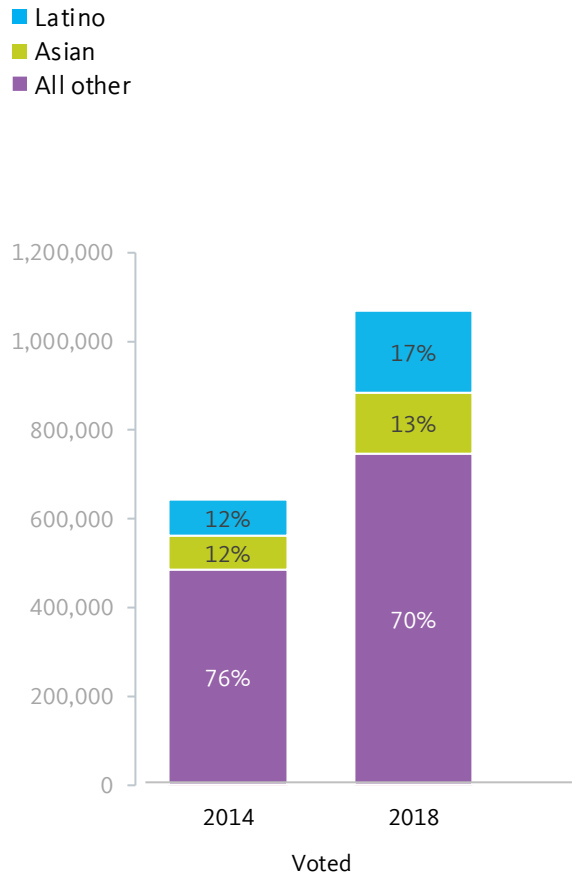
89. Growth in Voter Turnout by Race/Ethnicity, 2014-2018



Source: Statewide Database; U.S. Census Bureau.
Note: Voting data are for the midterm elections of 2014 and 2018. Data for Asians exclude Pacific Islanders.

Voter turnout increased between the 2014 and 2018 midterm elections

90. Voters by Race/Ethnicity, 2014 and 2018



Source: Statewide Database; U.S. Census Bureau.
Note: Voting data are for the midterm elections of 2014 and 2018. Data for Asians exclude Pacific Islanders.

Connectedness

Large proportions of eligible-to-naturalize adults are Latino and Asian American/Pacific Islander

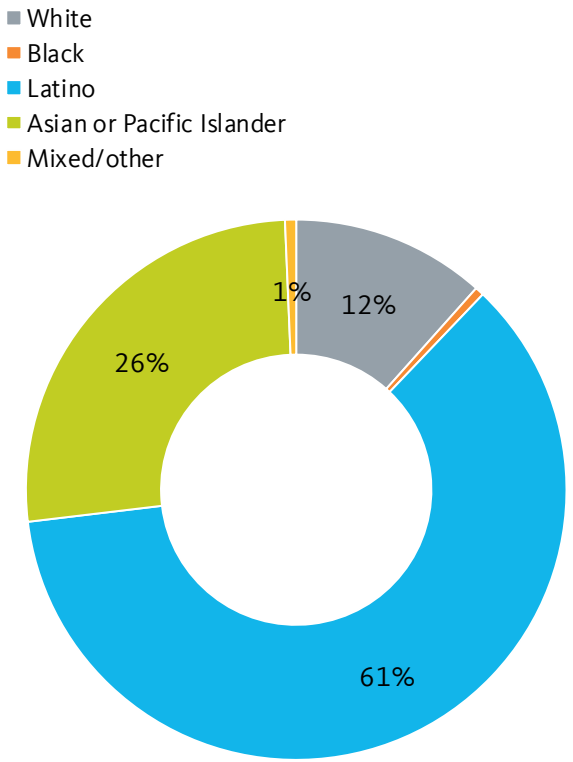
One aspect of connection is the ability of residents to engage and participate civically, and citizenship is an important component of that. Citizenship is tied to important resources from the ability to vote and to access to critical services.

There are over 180,000 adult immigrants in Orange County who are eligible to naturalize but have not yet done so. Increasing naturalization rates in the county would reduce this number and help improve the level of voter representation and civic engagement.

Over half of all eligible-to-naturalize adults in Orange County are Latino (61 percent), while about a quarter (26 percent) are Asian American/Pacific Islander. Half of these eligible-to-naturalize adults are from Mexico and the next largest groups are from Korea and Vietnam (6 percent each), followed by the Philippines and Japan.

One quarter of eligible-to-naturalize adults are Asian American/Pacific Islander

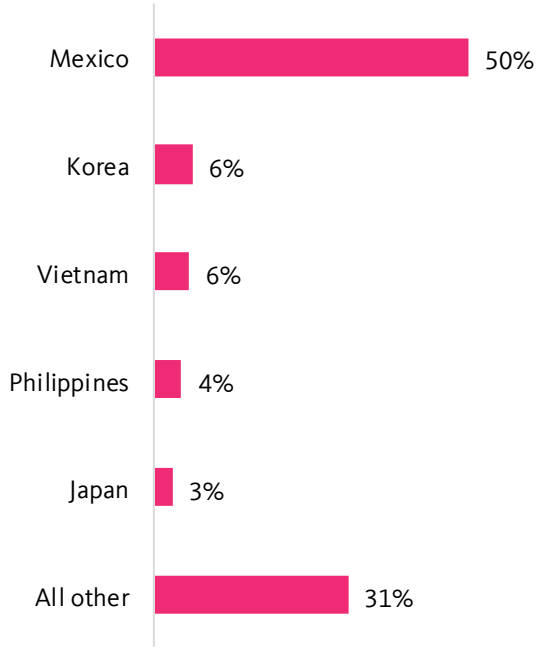
91. Eligible-to-Naturalize Adults by Race/Ethnicity, 2016



Source: USC Center for the Study of Immigrant Integration analysis of 2016 5-year Integrated Public Use Microdata Series and 2014 Survey of Income and Program Participation. Note: See "Data and methods" for details on how the eligible to naturalize were estimated.

Half of eligible-to-naturalize adults are from Mexico

92. Eligible-to-Naturalize Adults by Country of Origin, 2016

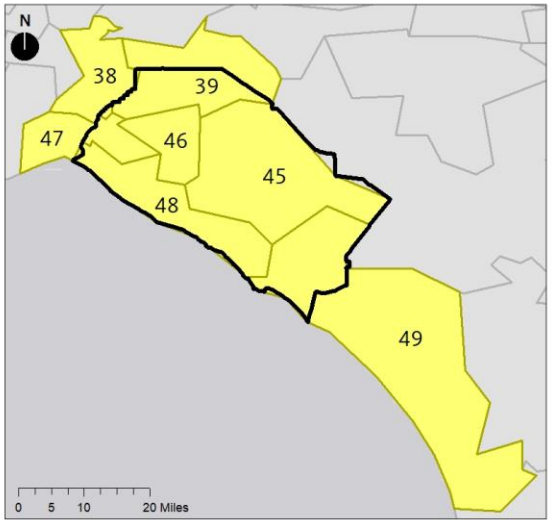


Source: USC Center for the Study of Immigrant Integration analysis of 2016 5-year Integrated Public Use Microdata Series and 2014 Survey of Income and Program Participation. Note: See "Data and methods" for details on how the eligible to naturalize were estimated.

Connectedness

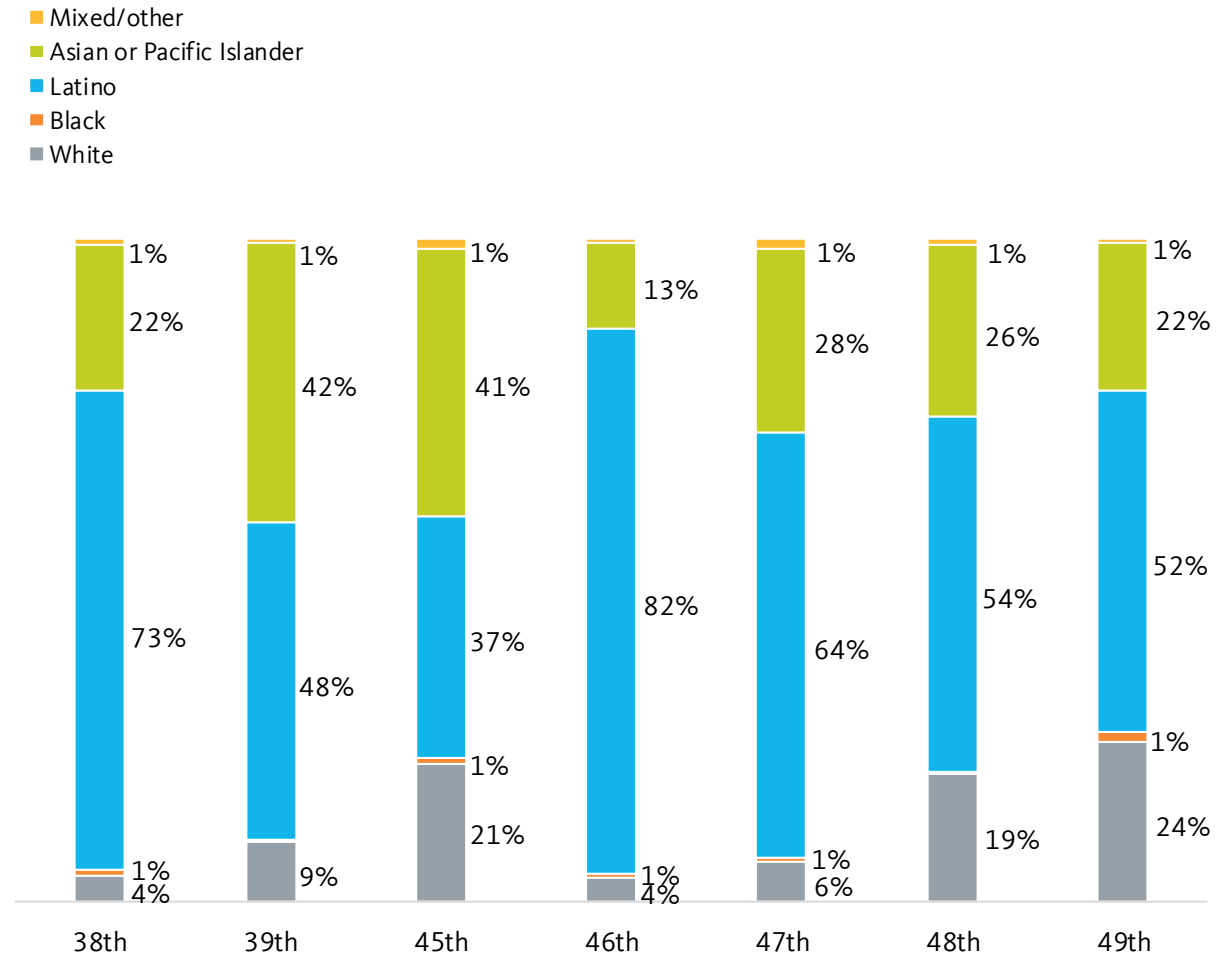
Large proportions of eligible-to-naturalize adults are Latino and Asian American/Pacific Islander (continued)

Although eligible-to-naturalize adults in Orange County congressional districts are largely Latino and Asian American/Pacific Islander, there are some demographic differences among districts. In the 46th district, over 80 percent of eligible-to-naturalize adults are Latino while in the 39th and 49th districts, over 40 percent are API.



In all of Orange County's congressional districts a vast majority of eligible-to-naturalize adults are people of color

93. Eligible-to-Naturalize Adults by Race/Ethnicity, Orange County Congressional Districts, 2016



Source: USC Center for the Study of Immigrant Integration analysis of 2016 5-year Integrated Public Use Microdata Series and 2014 Survey of Income and Program Participation. Note: See "Data and methods" for details on how the eligible to naturalize were estimated.

Implications

Economic benefits of inclusion

A potential $83 billion per year GDP boost from racial equity

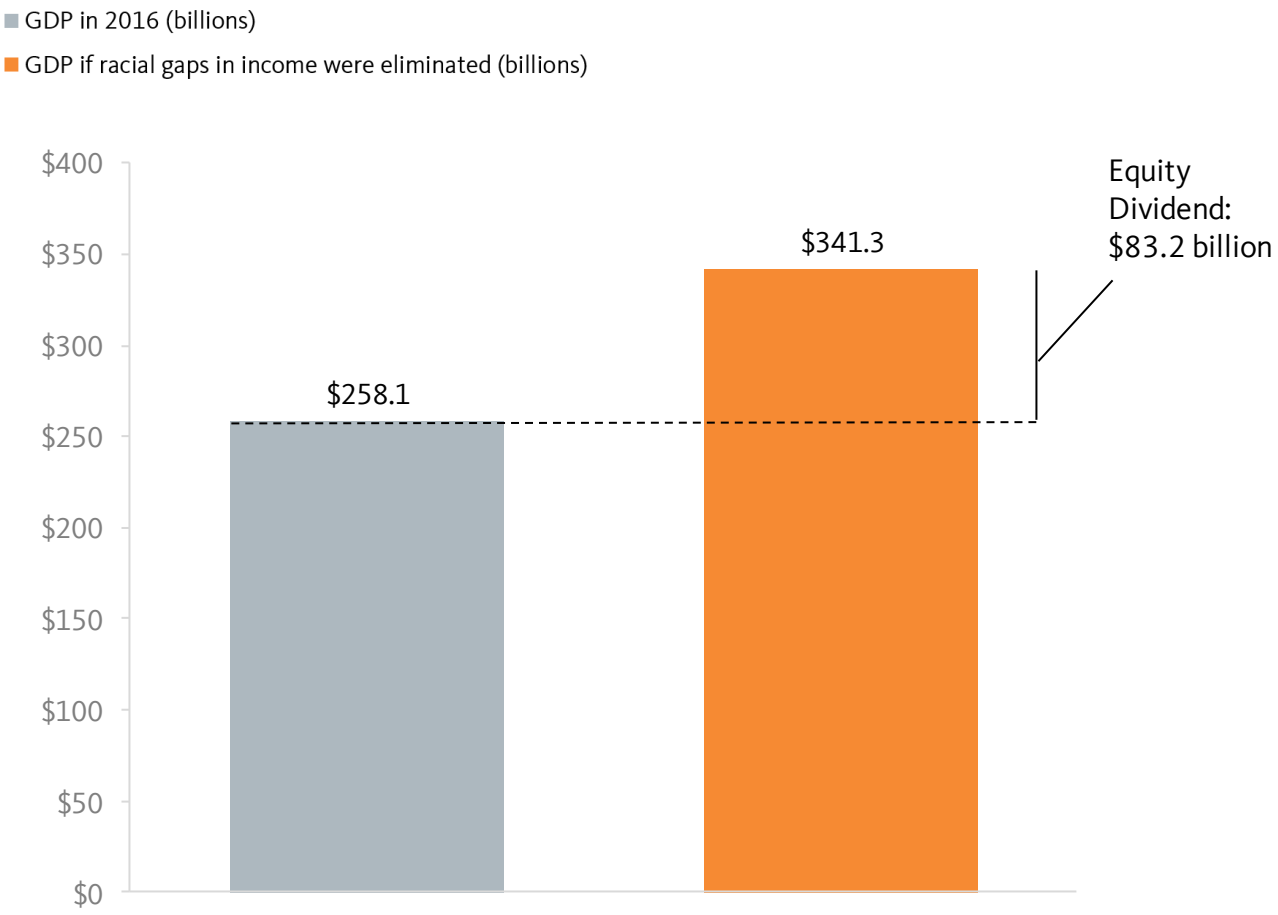
Orange County stands to gain a great deal from addressing racial inequities. The county's economy could have been nearly $83 billion stronger (a 32 percent increase) in 2016 if its racial gaps in income had been closed. The dollar value of this equity dividend is the 10th largest of any metropolitan region and ranks 15th as a percentage of GDP.

Using data on income by race, we calculated how much higher total economic output would have been in 2016 if all racial/ethnic groups who currently earn less than whites had earned similar average incomes to 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, 33 percent of the racial income gap is due to differences in employment. In Orange County, that share is only 23 percent, with the remaining 77 percent due to differences in hourly wages.

Orange County's GDP would have been $83 billion higher if there were no racial gaps in income

94. Actual GDP and Estimated GDP without Racial Gaps in Income, 2016 (in 2016 dollars)



Sources: Bureau of Economic Analysis; Integrated Public Use Microdata Series.
Note: The "equity dividend" is calculated using data from IPUMS for 2012 through 2016 and is then applied to estimated GDP in 2016. See the "Data and methods" section for details.

Implications

Ten (plus one) steps to an equitable Orange County

1. Commit to reducing disparities and improving outcomes for all in Orange County.
Equity and growth have traditionally been pursued separately but both are needed to secure Orange County's future. Economic growth must be linked to the economic well-being and mobility of those most at risk of being left behind. With shifting demographics and a strong economy, along with a strong network of civic leaders, philanthropic partners, and community-based organizations, Orange County is well-positioned to be a national example of how infusing strategies that promote regional equity can grow the economy.

2. Use data for cross-sector dialogue.
Data in this profile and from other Orange County indicator reports should be used to anchor dialogue and discussion among the growing, dynamic, and diverse network of leaders who have a stake in the future of Orange County. Recent research has shown that what more equitable regions have in common is a diverse "knowledge community" in which members have a shared understanding of the region and are moving towards a common action-oriented agenda. By coming together repeatedly over time, relationships are built and consensus becomes more possible. As a result, the group is rooted in collective strength rather than division and in-fighting.

3. Link inclusion with innovation.
Changes in the economy have, and will, bring both job growth and job "disruption." Collaborations among workforce development programs, educational institutions, worker organizations, and employers are more critical now than ever before. As workplace changes and innovations reshape the labor market, workers will need new skills and supports to be able to navigate the future of work. The future of work will also largely be in the caring economy, so attention needs to be given to training, improved wages, and caregiver support programs for domestic workers, home-care workers, and those caring for aging family members.

Implications

Ten (plus one) steps to an equitable Orange County

(continued)

4. Invest in early childhood education and other early interventions.

There are long-term benefits to ensuring a child is on a path to opportunity early in life. Targeted investments in high-quality, early childhood education in those neighborhoods with "very low" and "low" Child Opportunity Index scores will help increase school readiness among kindergarteners. Because a parent's resources greatly shape the development of a child, investing in the county's youngest residents also means investing in their parents.

5. Ensure affordable housing for all.

Equitable growth strategies need to ensure that all residents—renters, homeowners, and home-seekers—can afford to live in Orange County and contribute to the local economy. Santa Ana and Anaheim rank fifth and sixth, respectively, in rent-burdened households among the 100 largest cities in the country. Given the scale of homelessness and housing unaffordability, multiple tools are needed to address the problem—and specific tools are needed for renters, homeowners, potential home buyers, and the homeless. Possible policy and program solutions range from early interventions to prevent chronic homelessness to tenant protections, rent stabilization, affordable housing bonds, and community land trusts.

6. Embed and operationalize a prevention-oriented approach to advance health equity.

Emerging strategies intended to improve the collective health of Orange County's residents must include a more intentional focus on upstream prevention. This means explicitly tackling the social determinants of health and wellbeing, rather than primarily engaging in efforts that emphasize increased availability and coordination of clinical services and treatment. To eliminate health disparities and create a landscape that fosters health and wellness, Orange County should take a comprehensive approach with strategies that bridge social, physical, and economic factors through new policies, stronger systems, and improved organizational practices.

Implications

Ten (plus one) steps to an equitable Orange County

(continued)

7. Promote immigrant integration.

To improve outcomes for all, Orange County must look at ways to ensure that immigrants are welcomed, gain economic mobility, and participate in local civic decisions. One approach to promoting immigrant integration is to institutionalize a commitment within county and city governments by establishing an office or position that is tasked with integrating services across multiple departments and developing and maintaining relationships with immigrant-serving nonprofits. Encouraging naturalization among those who are eligible is also an important way to garner greater security for immigrant families—in addition to broader economic and civic benefits to society.

8. Build civic health among underrepresented voices.

The region's health is tied to its civic health. Increasing community engagement among racial/ethnic groups that have been historically underrepresented in decision-making brings in the voices of those who are often most impacted by policy change. Supporting non-profit organizations and other trusted local institutions who are most attune to the needs and concerns of the community can ensure policies are truly addressing equity.

9. Build a culture in which racial equity is discussed and is a shared goal.

Discussing issues of race and racism can be uncomfortable, but this is a necessary step in working towards equity. To improve outcomes for all, Orange County should acknowledge the history that led to today's racialized gaps, develop partnerships that center on the perspectives of vulnerable populations, and keep an eye towards mitigating future inequities. Rooting the conversation in data can help business leaders, funders, government officials, and community-based organizations create a sustained dialogue around race and racial equity.

Implications

Ten (plus one) steps to an equitable Orange County

(continued)

10. Partner with peer regions pursuing similar goals.

Orange County is not alone in facing the imperatives of equity and growth. Regions across the country are facing the challenge of balancing economic prosperity with inclusion—and overcoming political polarization and social divides in doing so. For example, in Oklahoma City, a diverse regional collaboration—with leadership from Republican mayors and a conservative Chamber of Commerce—committed to turn around the region's trajectory of economic decline in the 1980s and early 1990s. They did so by gaining consensus on the importance of taxes in supporting public expenditures on quality of life and educational improvements. Peer exchanges with other regions could be helpful in educating and inspiring Orange County leaders.

10+1. Develop a regional equity strategy, indicators of progress, and a data system for measuring progress.

Looking forward, Orange County is poised to develop a county-wide strategy that centers racial and economic equity practices. The region's relative prosperity means that it can pursue a bold strategy that addresses inequities in order to set the stage for decades of equitable growth. Developing an ongoing system for tracking progress over time can help to keep equity as a county-wide goal. What is not measured will not be achieved—yet measurement and data alone are not enough. Now is the time for bold leadership and first steps to ensure Orange County is on a path to prosperity, inclusion, and improved outcomes for all.

Data and methods

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), and reflect Orange County. The specific data sources are listed in the table shown here.

In the following pages we describe the estimation techniques and adjustments made in creating the underlying database of regional equity indicators and provide more detail on the terms and methodology used. The reader should bear in mind that while only a single region is profiled here, many of the analytical choices in generating the underlying data and analyses were made with an eye towards replicating the analyses in other regions and updating 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 which provides data that are comparable and replicable over time.

Data and methods

Selected terms and general notes

Broad racial/ethnic origin categories

Unless otherwise noted, the 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 or Pacific Islander," "Asian American/Pacific Islander," and "API" are used to refer to all people who identify as Asian American or Pacific Islander alone and do not identify as being of Hispanic origin.
- In cases where "Pacific Islanders" are disaggregated, "Pacific Islanders" can refer to anyone identifying as Native Hawaiian or Pacific Islander alone or in combination. Please check the notation in the figure for further information clarification.
- "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.
- "Mixed/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 to American parents. The term "immigrant" refers to all people who identify as being born abroad, outside of the United States, to non-American parents.

Detailed racial/ethnic ancestry

Given the diversity of ethnic origin and large presence of immigrants among the Latino, Asian American, and Pacific Islander populations, we sometimes present data for more specific racial/ethnic subcategories 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 "ancestry") are drawn from the first response to the census question on ancestry, recorded in the IPUMS variable "ANCESTR1."

For example, while country-of-origin information could have been used to identify

Data and methods

Selected terms and general notes

(continued)

Filipinos among the Asian American population or Salvadorans among the Latino population, it could only do so for immigrants, leaving only the broad "Asian American" and "Latino" racial/ethnic categories for the U.S.-born population. While this methodological choice makes little difference in the numbers of immigrants by origin we report—i.e., the vast majority of immigrants from El Salvador mark "Salvadoran" for their ancestry—it is an important point of clarification.

Other selected terms

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

- The terms "region," "metropolitan area," and "metro area," are used interchangeably to refer to the geographic areas defined as Metropolitan Statistical Areas under the OMB's December 2003 definitions. At several points in the profile we present rankings comparing the profiled region to the "150 largest metros" or "150 largest 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, but breaking up the Los Angeles metro area, which includes both Los Angeles and Orange Counties, into separate counties.
- 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 "full-time" workers refers to all persons in the IPUMS microdata who reported working at least 45 or 50 weeks per year (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: https://www.census.gov/content/dam/Census/library/working-papers/2012/demo/Gottschalck_2012FCSM_VII-B.pdf.

Data and methods

Selected terms and general notes

(continued)

General notes on analyses

Below we provide some general notes about the analysis conducted:

- In regard to monetary measures (income, earnings, wages, etc.) the term "real" indicates the data have 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: https://www.bls.gov/news.release/cpi.t01.htm (see table 24).
- Some may wonder why the graph on page 43 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 44 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 2012 through 2016 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 2012 through 2016 files are from the American Community Survey (ACS) and each only cover about 1 percent of the U.S. population. 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 2012 through 2016 period.

Compared with the more commonly used census "summary files," which include a limited set of summary tabulations of population and housing characteristics, use of the microdata samples allow 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 allow 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 at least 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 Orange County, as the geography of Orange County 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 30-31) 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 2016 (which reflects a 2012 through 2016 average) 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 American/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 this information is readily available in SF1, 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 American/Pacific Islanders, non-Hispanic Native Americans/Alaska Natives, and non-Hispanic other or mixed race 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 and age was 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 or mixed race 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 or mixed-race people 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 or mixed race people and applied this share to estimate the number of people by race/ethnicity and age group exclusive of the other or mixed-race category, and finally number of the other or mixed race people by age group.

For 2016 (which, again, reflects a 2012 through 2016 average), population by race/ethnicity and age was taken from the 2016 ACS 5-year summary file, which provides counts by race/ethnicity and age for the non-Hispanic white, Hispanic/Latino, and total population combined. County by race/ethnicity and age for all people of color combined was derived by subtracting non-Hispanic whites from the total population.

Data and methods

Adjustments made to demographic projections

On page 28, 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 2016 (which follows the OMB 1997 guidelines) to the percentage reported in the 2016 ACS 1-year Summary File (which follows the 2000 Census classification). We subtracted the percentage derived using the 2016 Population Estimates program from the percentage derived using the 2016 ACS to obtain an adjustment factor for each group (all of which were negative except that for the mixed/other 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 in each projection year.

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 American/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 mixed-race 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 American/Pacific Islander, and Native American), exclusive of other and mixed-race people.

To estimate the county-level share of population for those classified as other or mixed race 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 mixed-race 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

Data and methods

Adjustments made to demographic projections

(continued)

for each county and projection year. 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 the Woods & Poole data 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 34 on national gross domestic product (GDP) and its analogous regional measure, gross regional product (GRP), are 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 2016.

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 43 of the equity profile shows a decline in the share of households falling in the middle class in the region since 1979 as well as the racial/ethnic composition of middle-class households over time. 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 2016 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 and composition of the middle class examines 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 50-51. 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 U.S. 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 better align 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 are available on an annual basis, the Woods & Poole data are 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, 2000 to 2016

The analysis presented on pages 50-51 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 2000 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 2000 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: https://www.brookings.edu/wp-content/uploads/2016/06/0426_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

Air pollution data and analysis

The air pollution exposure index referred to on pages 88-89 is derived from the 2011 National-Scale Air Toxics Assessment (NATA) developed by the U.S. Environmental Protection Agency. The NATA uses general information about emissions sources to develop risk estimates and *does not* incorporate more refined information about emissions sources, which suggests that the impacts of risks may be overestimated. Note, however, that because that analysis presented using this data is relative to the United States overall in the case of exposure index, the fact that the underlying risk estimates themselves may be overstated is far less problematic.

The NATA data include estimates of cancer risk and respiratory hazards (non-cancer risk) at the census-tract level based on exposure to outdoor sources. It is important to note that while diesel particulate matter (PM) exposure is included in the NATA non-cancer risk estimates, it is not included in the cancer risk estimates (even though PM is a known carcinogen).

The index of exposure to air pollution presented is based on a combination of separate indices for cancer risk and respiratory hazard at the census-tract level, using the 2011 NATA. We followed the approach used by the U.S. Department of Housing and Urban Development (HUD) in developing its Environmental Health Index. The cancer risk and respiratory hazard estimates were combined by calculating tract-level z-scores for each and adding them together as indicated in the formula below:

$$COMBINED_i = \left(\frac{c_i - \mu_c}{\sigma_c}\right) + \left(\frac{r_i - \mu_r}{c_r}\right)$$

Where *c* indicates cancer risk, *r* indicates respiratory risk, *i* indexes census tracts, and μ and σ represent the means and standard deviations, respectively, of the risk estimates across all census tracts in the United States.

The combined tract level index, $COMBINED_i$, was then ranked in ascending order across all tracts in the United States, from 1 to 100. Finally, the tract-level rankings were summarized to the city, county, and higher levels of geography for various demographic groups (i.e., by race/ethnicity and poverty status) by taking a population-weighted average using the group population as weight, with group population data drawn from the 2015 5-year ACS summary file.

For more information on the NATA data, see http://www.epa.gov/national-air-toxics-assessment.

Data and methods

Health data and analysis

Health data in this study were taken from the California Health Interview Survey (CHIS), housed in the UCLA Center for Health Policy Research. The AskCHIS is tool created from randomized telephone surveys of households conducted by SQL Server Reporting Services (SSRS).

The results of this survey are self-reported and the population includes one randomly selected adult in the household and children/adolescents if they were present.

The most detailed level of geography associated with individuals in the AskCHIS data is the 58 counties in California.

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 2013 through 2017. As an additional effort to avoid reporting potentially misleading estimates, we do not report any estimates that are statistically unstable, meaning that the estimate has a coefficient of variation greater than 30 percent which is the rule for statistical instability indicated in the documentation for the 2017 CHIS documentation (see: http://healthpolicy.ucla.edu/chis/faq/Pages/default.aspx#e4). 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 AskCHIS database, please visit: http://healthpolicy.ucla.edu/chis/Pages/default.aspx.

Data and methods

Analysis of access to healthy food

Analysis of low-income, low food access is from the United States Department of Agriculture Food Access Research Atlas. USDA defines low-income as individuals whose annual family income is at or below 200 percent of the federal poverty threshold for a particular family size.

In the Food Access Research Atlas, *low access* to healthy food is defined as being far from a supermarket. An individual is considered to have low access if they live more than ½ mile from the nearest supermarket for urban areas or more than 10 miles from the nearest supermarket for rural areas.

The specific measure mapped in this profile is the percentage of the tract population that has low-income and lives more than ½ mile from the nearest supermarket

The data used to compile this measure are from the 2017 Food Access Research Atlas report. A directory of supermarkets, supercenters, and large grocery stores within the United States, including Alaska and Hawaii, was derived from merging the 2015 STARS directory of stores authorized to accept SNAP benefits and the 2015 Trade Dimensions TDLinx directory of stores.

Block-level population data from the 2010 Census of Population and Housing and block-group level income data from the 2010-14 American Community Survey were aerially allocated down to ½-kilometer-square grids across the United States. For each ½-kilometer-square grid cell, the distance was calculated from its geographic center to the center of the grid cell with the nearest supermarket.

Once distance to the nearest supermarket or large grocery store was calculated for each grid cell, the number of low-income individuals living more than ½ mile from a supermarket or large grocery store was aggregated to the tract level and then divided by the total number of individuals in the tract to obtain the percentage of the total population in the tract with low-income that resided more than ½ mile from a supermarket.

For more information on the Food Access Research Atlas visit: https://www.ers.usda.gov/data-products/food-access-research-atlas/ .

Data and methods

Early Development Index and hate crimes data

Page 64 of the profile presents data on the Early Development Index (EDI). The EDI gives us a picture of kindergarteners in five developmental domains: social competence, emotional maturity, physical health and well-being, language and cognitive development, and communication skills and general knowledge.

This assessment is completed by kindergarten teachers and aims to identify a child's developmental status. The Index has been found to predict later school success in Canada and Australia. Disaggregated and spatial data on the competencies were provided by the Children and Families Commission of Orange County in partnership with Datalink Partners. For more information on the Early Development Index please visit the Children and Families Commission at http://occhildrenandfamilies.com/edi/.

Page 86 of the profile presents data on reported hate crimes in Orange County. The data presented were sourced from the 2010-2017 hate crimes reports produced by the Orange County Human Relations Commission. The report provides a statistical snapshot of reported hate crimes. The Orange County Human Relations Commission receives reports from law enforcement, school districts, universities, community–based organizations, and from victims directly. Every case counted in the reports has been reviewed to ensure it meets the definition of a hate crime as described in the California penal code.

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 21) and several measures of residential segregation by race/ethnicity (the "multi-group entropy index" on page 74 and the "dissimilarity index" on page 75). 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, and 2000 from Geolytics, and for 2016 (which reflect the 2012 through 2016 average) from the 2016 5-year ACS. While the data for 1980, 1990, and 2000 originate from the decennial censuses of each year, an advantage of the Geolytics data we use is that it has been "re-shaped" to be expressed in 2010 census tract 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 Asian Americans/Pacific Islanders in that year. For this reason, we set 1990 as the base year (rather than 1980) in the chart on page 75, 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: https://www.census.gov/topics/housing/housing-patterns/about/multi-group-entropy-index.html. 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: https://www.census.gov/library/publications/2002/dec/censr-3.html.

Data and methods

Estimates of GDP gains from eliminating 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 2016 5-Year IPUMS 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 ages 16 or older in the IPUMS ACS into six mutually exclusive racial/ethnic groups: non-Hispanic white, non-Hispanic Black, Latino, non- Hispanic Asian American/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 American/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. 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 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.

Data and methods

Voter, undocumented, and eligible-to-naturalize analysis

Voter data

Data on voters are from the Statewide Database at the University of California, Berkeley (SWDB). Voter data are obtained by the Statewide Database from individual Registrars of Voters in each of the 58 counties in California. Because county voter registration data do not include racial identifiers, the Statewide Database employs a surname matching technique to identify Latinos and Asian American voters. For more information, please refer to the SWDB methodology available on their website, http://statewidedatabase.org/index.html.

Undocumented and eligible-to-naturalize

Pages 91-92 of the equity profile present estimates that stem from a dataset PERE/CSII assembled using the 2016 5-year American Community Survey (ACS) microdata from IPUMS-USA, covering the years 2012 through 2016, and the 2014 Survey of Income and Program Participation (SIPP). We chose the 5-year ACS microdata because it contains a wide variety of individual and household characteristics and the sample size is large enough to make reasonably accurate estimates for sub-state geographies. One critical shortcoming of this dataset for our purposes, however, is that while it identifies non-citizen immigrants, it does not identify which non-citizens are documented and which are not. In order to figure out who was eligible to naturalize, we first had to determine who was undocumented, then assumed that the remaining non-citizen immigrants were documented Lawful Permanent Residents (LPRs).

Our estimation of who was undocumented is based on a statistical model developed using the 2014 SIPP that was applied to the ACS microdata. For those interested in the details of our methodology, please refer to the document at: https://dornsife.usc.edu/assets/sites/731/docs/Methodology_Final_updated_ETN_2017.pdf. For the current research, we applied the same methodology to the more recent aforementioned datasets.

With identifiers in place for who was an LPR among non-citizens in the ACS microdata, we applied some basic conditions to determine which of them were likely to be eligible-to-naturalize adults. We included all individuals at least 18-years-old who had been in the United States for at least five years prior to the survey (or three years if married to a U.S. citizen).

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