Advancing Health Equity and Inclusive Growth in
Fresno County

Summary

Fresno County is an agricultural powerhouse, yet it struggles with slow economic growth, high unemployment, and an economy dominated by low-wage jobs and few pathways into the middle class. While communities of color account for 68 percent of the population – up from 38 percent in 1980 – the county's racial inequities persist across all indicators of community health and well-being. These inequities threaten Fresno's future economic prosperity.

The region's economy could have been $17 billion stronger in 2014 alone if racial gaps in income were eliminated. To build a stronger Fresno, 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 improve housing quality and affordability, expand transportation access, address environmental hazards, remove barriers, and expand opportunities for low-income communities of color that have historically been and continue to be left behind.

Indicators

DEMOGRAPHICS

How racially/ethnically diverse is the county?

Race/Ethnicity and Nativity, 2014

Latino, Asian or Pacific Islander, and Black Populations by Ancestry, 2014

Percent People of Color by Census Block Group, 2014

How is the area's population changing over time?

Growth Rates of Major Racial/Ethnic Groups by Nativity, 2000 to 2014

Net Change in Population by Geography, 2000 to 2014

Racial/Ethnic Composition, 1980 to 2014

Race/Ethnicity Dot Map by Census Block Group, 1990 and 2014

Racial/Ethnic Composition, 1980 to 2050

Racial Generation Gap: Percent People of Color (POC) by Age Group, 1980 to 2014

Median Age by Race/Ethnicity, 2014

Median Age for the Southeast Asian Population by Ancestry, 2014

English-Speaking Ability Among Immigrants by Race/Ethnicity, 2000 and 2014

English-Speaking Ability Among Southeast Asian Immigrants by Ancestry, 2014

Linguistic Isolation by Census Tract, 2014

ECONOMIC VITALITY

Is the county producing good jobs?

Average Annual Growth in Jobs and GDP, 1990 to 2007 and 2009 to 2014

Growth in Jobs and Earnings by Industry Wage Level, 1990 to 2015

Access to Good Jobs

How close is the county to reaching full employment?

Unemployment Rate, December 2016

Unemployment Rate by Census Tract, 2014

Unemployment Rate by Race/Ethnicity, 2014

Unemployment Rate for the Southeast Asian Population by Ancestry, 2014

Labor Force Participation Rate by Race/Ethnicity, 2014

Unemployment Rate by Educational Attainment and Race/Ethnicity, 2014

Can all workers earn a living wage?

Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2014

Inclusive Growth

Are incomes increasing for all workers?

Real Earned Income Growth for Full-Time Wage and Salary Workers, 1979 to 2014

Indicators

Indicators

Youth Preparedness

Do all children have access to opportunity?

Composite Child Opportunity Index by Census Tract

Are youth ready to enter the workforce?

Share of 16- to 24-Year-Olds Not Enrolled in School and without a High School Diploma by Race/Ethnicity and Nativity, 1990 to 2014

Share of 16- to 24-Year-Olds Not Enrolled in School and without a High School Diploma by Race/Ethnicity and Gender, 2014

Disconnected Youth: 16- to 24-Year-Olds Not in School or Work by Race/Ethnicity, 1980 to 2014

Disconnected Youth: 16- to 24-Year-Olds Not in School or Work by Race/Ethnicity and Gender, 2000 to 2014

Percent of Students by School Poverty Level, as Defined by the Share of Students Eligible for FRPL, 2014

Health-Promoting Environments

Can all residents access healthy food?

Percent Living in Limited Supermarket Access (LSAs) Areas by Race/Ethnicity, 2014

Percent Population by Federal Poverty Level (FPL) and Food Environment, 2014

Percent People of Color by Census Block Group and Limited Supermarket Access (LSA) Block Groups, 2014

Do all residents live in areas with clean air?

Air Pollution: Exposure Index by Race/Ethnicity, 2014

Air Pollution: Exposure Index by Poverty Status, 2014

Health of Residents

Do all residents have the opportunity to live long and healthy lives?

Adult Overweight and Obesity Rates be Geography, 2012

Adult Overweight and Obesity Rates by Race/Ethnicity, 2012

Adult Diabetes Rates by Geography, 2012

Adult Diabetes Rates by Race/Ethnicity, 2012

Adult Asthma Rates by Geography, 2012

Adult Asthma Rates by Race/Ethnicity, 2012

Share of Adults Who Have Had a Heart Attack by Geography, 2012

Share of Adults Who Have Had a Heart Attack by Race/Ethnicity, 2012

Share of Adults with Angina or Coronary Heart Disease by Geography, 2012

Share of Adults with Angina or Coronary Heart Disease by Race/Ethnicity, 2012

Do residents have access to health insurance and health-care services?

Health Insurance Rates by Geography, 2014

Health Insurance Rates by Race/Ethnicity, 2014

Indicators

CONNECTEDNESS

Can all residents access affordable, quality housing?

Share of Affordable Rental Housing Units, 2014

Low-Wage Jobs, Affordable Rental Housing, and Jobs-Housing Ratio, 2014

Renter Housing Burden and Homeowner Housing Burden by Race/Ethnicity, 2014

Percent Rent-Burdened Households by Census Tract, 2014

Do residents have transportation choices?

Percent Households without a Vehicle by Census Tract, 2014

Means of Transportation to Work by Annual Earnings, 2014

Percent Using Public Transit by Annual Earnings and Race/Ethnicity, 2014

Average Travel Time to Work in Minutes by Census Tract, 2014

Do neighborhoods reflect the region's diversity?

Residential Segregation, 1980 to 2014

Residential Segregation, 1990 and 2014, Measured by the Dissimilarity Index

Neighborhood Poverty, 2000 to 2014

ECONOMIC BENEFITS

What are the economic benefits of inclusion?

Actual GDP and Estimated GDP without Racial Gaps in Income, 2014

Percentage Gain in Income with Racial Equity, 2014

Source of Income Gains, 2014

Foreword

Fresno County, home to nearly one million residents, is ripe with endless opportunity for social, economic, environmental, and political change. Our communities and our families depend on our ability to work together to shift the historic trajectory from one that has led to poverty, exclusion, and disenfranchisement to one that elevates community voices and ensures equal access to opportunity regardless of income, race, place, and wealth. There's too much at stake to do nothing.

As a community of advocates, we have come together to demand respect for the many people and communities in the region that for far too long have been subject to historic under-investment and inequality. We are growing our movement to ensure that all families have an opportunity for upward financial mobility, live in healthy and sustainable communities with safe water and basic infrastructure, have access to quality/dignified housing, live free from

pollution and degraded environments and most importantly, live in a region that values full inclusion of its diverse residents and communities.

We are excited to leverage the opportunities and confront the challenges highlighted in this report to grow our movement with community leaders, organizational partners, and the public and private sectors to create a prosperous and equitable Fresno County.

Veronica Garibay-Gonzalez
Co-Director
Leadership Counsel for Justice and
Accountability

Acknowledgments

Introduction
Overview

America's cities and metropolitan regions are the nation's engines of economic growth and innovation, and where a new economy that is equitable, resilient, and prosperous must be built.

Policy changes that advance *health equity* can guide leaders toward a new path of shared prosperity. Health equity means that everyone has a just and fair opportunity to be healthy. This requires removing obstacles to attaining and maintaining good health, such as poverty and discrimination, and addressing the social determinants of health: education, employment, income, family and social support, community safety, air and water quality, housing, and transit. Health equity promotes inclusive growth, since healthy people are better able to secure jobs, fully participate in society, and contribute to a vibrant local and regional economy.

This profile analyzes the state of health equity and inclusive growth in Fresno County, and the accompanying policy brief, *Fresno at a Crossroads: Equity is the Path to Health and Prosperity,* summarizes the data and presents recommendations to advance health equity and inclusive growth. They were created by PolicyLink and the Program for Environmental and Regional Equity (PERE) in partnership with the Leadership Counsel for Justice and Accountability, a community-based organization that works alongside the most impacted communities in the San Joaquin and East Coachella Valleys to advocate for policy that eradicates injustice and expands access to opportunity.

The data used in this profile were drawn from a regional equity indicators database that includes the largest 100 cities, the largest 150 metro areas, all 50 states, and the United States as a whole. The 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 the Integrated Public Use Microdata Series (IPUMS). Note that while we disaggregate most indicators by major racial/ethnic groups, there is too little data on certain populations to report confidently. Given Fresno's large Southeast Asian population, the advisory committee recommended adding data specific to this population throughout the profile. See the "Data and methods" section for a more detailed list of data sources.

We hope this information is used broadly by residents and community groups, elected officials, planners, business leaders, funders, and others working to build a stronger and more equitable Fresno.

Introduction
What is an equitable county?

Counties are equitable when all residents – regardless of race/ethnicity, nativity, family income, neighborhood of residence, or other characteristics – can fully participate in the county's economic vitality, contribute to its readiness for the future, and connect to its assets and resources.

Strong, equitable counties:

- Possess **economic vitality**, providing high-quality jobs to their residents and producing new ideas, products, businesses, and economic activity so the county 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 county (and beyond) via transportation or technology, and participate in political processes.

Introduction
Why equity matters now

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

Yet racial and income inequality is high and persistent.
Over the past several decades, long-standing inequities in income, wealth, health, and opportunity have reached unprecedented levels. 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.

Counties play a critical role in shifting to inclusive growth.
Local communities are where strategies are being incubated to foster equitable growth: growing good jobs and new businesses while ensuring that all – including low-income people and people of color – can fully participate as workers, consumers, entrepreneurs, innovators, and leaders.

[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, https://www2.census.gov/econ/sbo/07/sbo_export_report.pdf.

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

Introduction
Equity indicators framework

The indicators in this profile are presented in five sections. The first section describes the county's demographics. The next three sections present indicators of the county's economic vitality, readiness, and connectedness. The final section explores the economic benefits of equity. Below are the questions answered within each of the five sections.

Demographics:
Who lives in the county, and how is this changing?
- Is the population growing?
- Which groups are driving growth?
- How diverse is the population?
- How does the racial/ethnic composition vary by age?

Economic vitality:
How is the county 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?
- Are race/ethnicity and nativity barriers to economic success?
- What are the strongest industries and occupations?

Readiness:
How prepared are the city'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? Do they live in health-promoting environments?
- Are health disparities decreasing?
- Are racial gaps in education decreasing?

Connectedness:
Are the city'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 city's diversity? Is segregation decreasing?

Economic benefits:
What are the benefits of racial economic inclusion to the broader economy?
- What are the projected economic gains of racial equity?
- Do these gains come from closing racial wage or employment gaps?

Introduction
Policy change is the path to health equity and inclusive growth

Equity is just and fair inclusion into a society in which all can participate, prosper, and reach their full potential. Health equity, as defined by the Robert Wood Johnson Foundation, means that everyone has a just and fair opportunity to be healthy. This requires removing obstacles to health such as poverty, discrimination, and their consequences, which include powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.

Many of the conditions and policies that advance health equity also promote inclusive growth. Healthy people are better able to secure jobs and participate in their full capacity, creating a vibrant local economy. In a highly complementary way, equitable economic growth – where all residents have access to good jobs and entrepreneurial opportunities – supports the health of residents throughout the region. This happens through tackling structural barriers and ensuring greater economic security, which reduces stress and increases people's access to health care and preventive services.[1]

Ensuring that policies and systems serve to increase inclusion and remove barriers is particularly important given the history of urban and metropolitan development in the United States. Regions and cities are highly segregated by race and income. Today's cities are patchworks of concentrated advantage and disadvantage, with some neighborhoods home to good schools, bustling commercial districts, services, parks, and other crucial ingredients for economic success, while other neighborhoods provide few of those elements.

These patterns of exclusion were created and continue to be maintained by public policies at the federal, state, regional, and local levels. From redlining to voter ID laws to exclusionary zoning practices and more, government policies have fostered racial inequities in health, wealth, and opportunity. Reversing the trends and shifting to equitable growth requires dismantling barriers and enacting proactive policies that expand opportunity.

Health equity can be achieved through policy and systems changes that remove barriers, and build opportunity, and address the social determinants of health, or the factors outside of the health-care system that play a fundamental role in health outcomes. Social determinants of health include both structural drivers, like the inequitable distribution of power and opportunity, and the environments of everyday life – where people are born, live, learn, work, play, worship, and age.[2] There are seven key social determinants of health: education, employment, income, family and social support, community safety, air and water quality, and housing and transit.[3]

[1] Steven H. Woolf, Laudan Aron, Lisa Dubay, Sarah M. Simon, Emily Zimmerman, and Kim X. Luk, How Are Income and Wealth Linked to Economic Longevity (Washington, DC: The Urban Institute and the Center on Society and Health, April 2015), http://www.urban.org/sites/default/files/publication/49116/2000178-How-are-Income-and-Wealth-Linked-to-Health-and-Longevity.pdf.

[2] Rachel Davis, Diana Rivera, and Lisa Fujie Parks, Moving from Understanding to Action on Health Equity: Social Determinants of Health Frameworks and THRIVE (Oakland, CA: The Prevention Institute, August 2015), https://www.preventioninstitute.org/sites/default/files/publications/Moving%20from%20Understanding%20to%20Action%20on%20Health%20Equity%20E2%80%93%20Social%20Determinants%20of%20Health%20Frameworks%20and%20THRIVE.pdf.

[3] County Health Rankings and Roadmaps, "Our Approach" (University of Wisconsin Population Health Institute, 2016), http://www.countyhealthrankings.org/our-approach.

Introduction
Health equity and inclusive growth are intertwined

The interconnection between health equity and inclusive growth can be seen across the four dimensions of our framework.

Economic vitality
In a region that cultivates inclusive growth and health equity, good jobs are accessible to all, including less-educated workers, and residents have enough income to sustain their families and save for the future. The region has growing industries, and race/ethnicity and nativity are not barriers to economic success. Economic growth is widely shared, and incomes among lower-paid workers are increasing. The population becomes healthier and more productive, since income is a documented determinant of good health, and reduced economic inequality has been linked to better health outcomes for everyone.

Readiness
In a region that cultivates inclusive growth and health equity, all residents have the skills needed for jobs of the future, and youth are ready to enter the workforce. High levels of good health are found throughout the population, and racial gaps in health are decreasing. Residents have health insurance and can readily access health-care services.

Connectedness
In a region that cultivates inclusive growth and health equity, residents have good transportation choices linking them to a wide range of services that support good health and economic and educational opportunities. Many residents choose to walk, bike, and take public transit – increasing exercise for these residents and reducing air pollution, which positively influence health. Local neighborhood and school environments support health and economic opportunity for all residents, allowing everyone to participate fully in the local economy. Neighborhoods are less segregated by race and income, and all residents wield political power to make their voices heard.

Economic benefits
The elimination of racial health disparities and improving health for all generates significant economic benefits from reductions in health-care spending and increased productivity. Research shows that economic growth is stronger and more sustainable in regions that are more equitable.

Introduction
Key drivers of health equity and inclusive growth

Economic vitality

- Good jobs available to less-educated workers
- Family-supporting incomes
- Rising wages and living standards for lower-income households
- Strong regional industries
- Economic growth widely shared
- Reduced economic inequality
- Shrinking racial wealth gap

Readiness

- Skills for the jobs of the future
- Youth ready to enter the workforce and adapt to economic shifts
- Good population health and reduced health inequities
- Health insurance coverage and access to care

Healthy, economically secure people

Strong, inclusive regional economies

Connectedness

- Transportation and mobility choices, including walking, biking, and public transit
- Inclusive, health-supporting neighborhood and school environments
- Access to quality, affordable housing
- Shared political power and voice

Policies and practices that undo structural racism and foster full inclusion

Introduction
Geography

This profile describes demographic, economic, and health conditions in Fresno County, portrayed in black on the map to the right. Fresno County is also the Fresno, California metropolitan statistical area. Fresno County is home to the city of Fresno, the largest city in the Central Valley, as well as dozens of other cities and unincorporated areas.

Unless otherwise noted, all data reflect the county geography, which is simply referred to as "Fresno." 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 106.
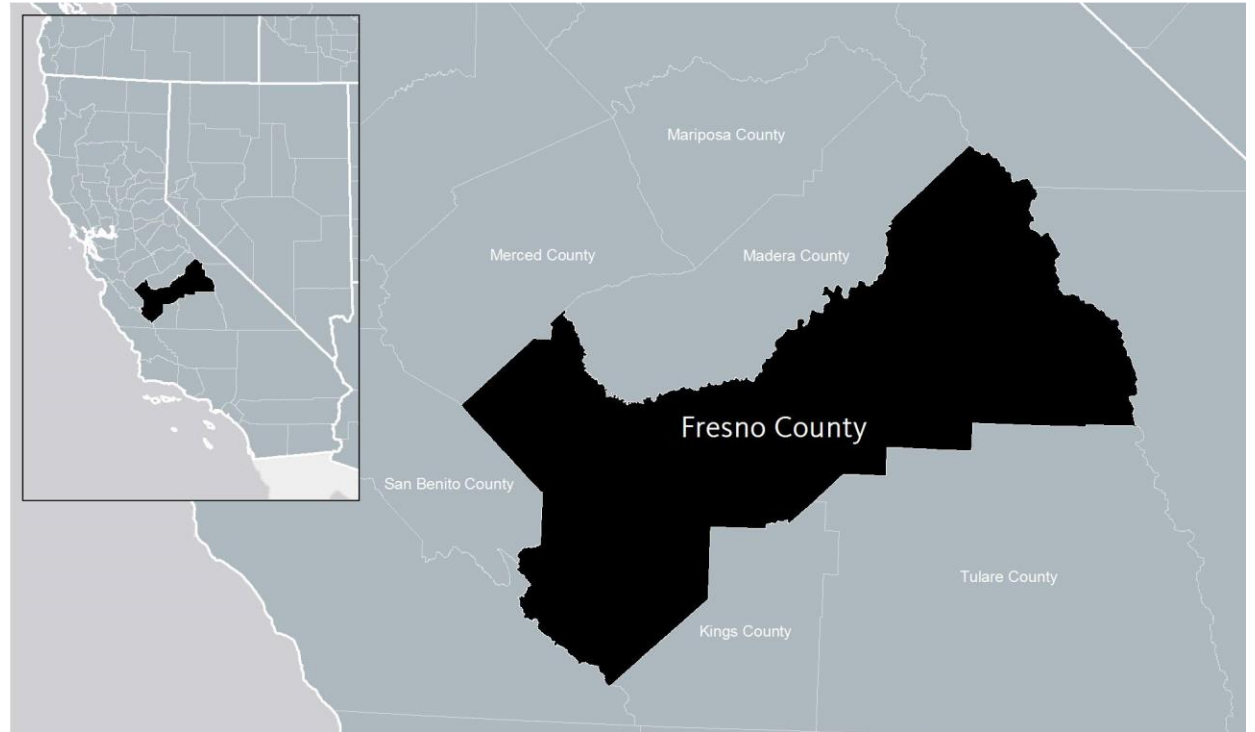
Demographics
Highlights

Who lives in the county, and how is this changing?

- Fresno County is majority Latino. Growth in communities of color outpaced overall population growth from 2000 to 2014.

- The county's fastest-growing demographic groups are younger than Whites on average.

- The U.S.-born Latino population grew by over 110,000 people from 2000 to 2014 while the U.S.-born White population declined by over 17,000 people.

- A large racial generation gap (the difference in the share of seniors of color and youth of color) often corresponds with lower investments in educational systems and infrastructure to support youth.

Growth in U.S-born Asian or Pacific Islander population since 2000:

60%

The median age of Latinos in the county:

26

Racial generation gap in 2014 (in percentage points):

39

Demographics

How racially/ethnically diverse is the county?

Latinos make up a majority of Fresno's population. White residents (including White immigrants) account for only 32 percent of the population, compared to 39 percent statewide. Asians or Pacific Islanders make up 10 percent of the county's population.

Race/Ethnicity and Nativity, 2014

- White, U.S.-born
- White, immigrant
- Black, U.S.-born
- Black, immigrant
- Latino, U.S.-born
- Latino, immigrant
- Asian or Pacific Islander, U.S.-born
- Asian or Pacific Islander, immigrant
- Native American and Alaska Native
- Mixed/other
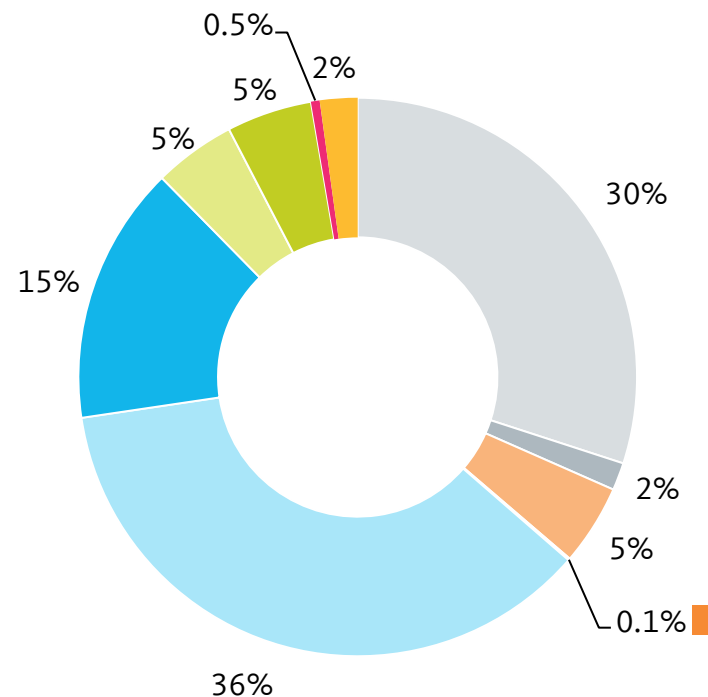
0.5%
2%
5%
5%
30%
15%
2%
5%
0.1%
36%

Source: Integrated Public Use Microdata Series.
Note: Data represent a 2010 through 2014 average. Figures may not sum to 100 percent due to rounding.

Demographics

How racially/ethnically diverse is the county?

Communities of color in the county are also diverse. People of Mexican ancestry make up the largest Latino subgroup, but those of Central American ancestry are more likely to be immigrants. The Hmong population makes up the largest Asian or Pacific Islander ancestry group while Indians are more likely to be immigrants.

Latino, Asian or Pacific Islander, and Black Populations by Ancestry, 2014

Latino	Population	% Immigrant
Mexican	384,987	31%
Central American (all)	11,387	62%
South American (all)	1,938	N/A
Caribbean (all)	3,551	6%
Other Latino	84,363	15%
Total	**486,225**	**29%**

Black	Population	% Immigrant
Nigerian	413	N/A
Ethiopian/Eritrean	217	N/A
German	164	N/A
French	148	N/A
Jamaican	120	N/A
Irish	96	N/A
All other Black	44,214	N/A
Total	**45,373**	**2%**

Asian or Pacific Islander (API)	Population	% Immigrant
Hmong	26,718	38%
Indian	14,233	74%
Filipino	8,416	64%
Laotian	6,885	51%
Chinese	5,621	53%
Cambodian	4,466	40%
Japanese	4,044	14%
Vietnamese	3,814	71%
All other API	17,713	N/A
Total	**91,911**	**51%**

Source: Integrated Public Use Microdata Series.
Note: Data represent a 2010 through 2014 average. "N/A" indicates that data on the percent immigrant is not available.

Demographics

How racially/ethnically diverse is the county?

Communities of color are spread throughout Fresno, but are most concentrated on the west side of the county. The darker census block groups, representing areas where people of color make up at least 76 percent of the population, are also more concentrated in southwest areas of the city of Fresno.

Percent People of Color by Census Block Group, 2014

- Less than 42%
- 42% to 62%
- 62% to 76%
- 76% to 89%
- 89% or more
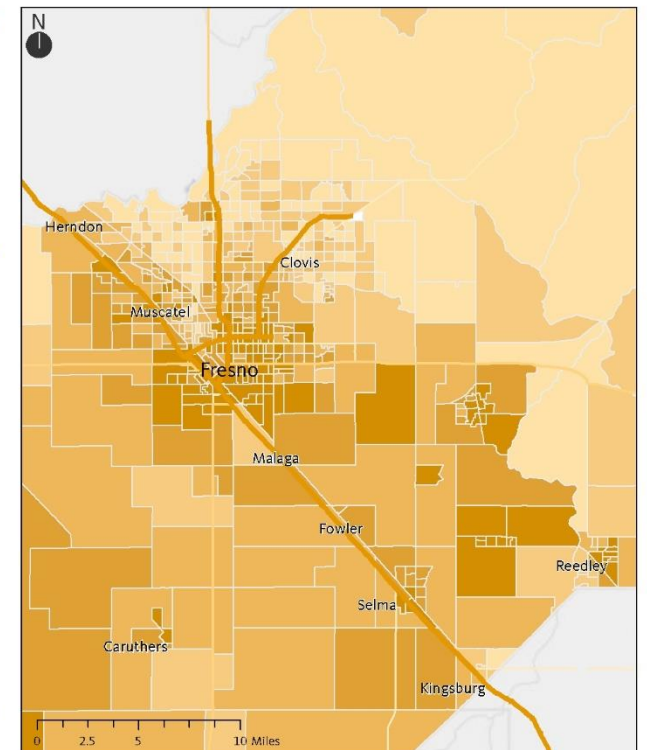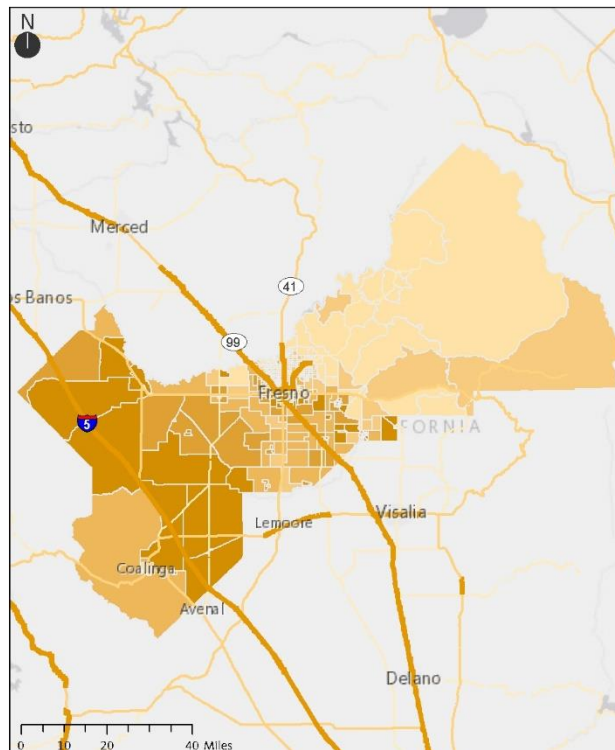
Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.
Note: Data represent a 2010 through 2014 average. Areas in white are missing data.

Demographics

How is the area's population changing over time?

Communities of color are driving growth. The U.S.-born Asian or Pacific Islander population was the fastest growing over the last decade adding nearly 17,000 people, while the U.S.-born Latino population grew by 110,000 people. Still, immigrants accounted for nearly one-quarter of net population growth.

Growth Rates of Major
Racial/Ethnic Groups by Nativity,
2000 to 2014

All	19%
White, U.S.-born	-6%
White, immigrant	34%
Black, U.S.-born	18%
Black, immigrant	-2%
Latino, U.S.-born	47%
Latino, immigrant	17%
API, U.S.-born	60%
API, immigrant	33%
Native American and Alaska Native	-23%
Mixed/other	-8%

Source: Integrated Public Use Microdata Series.
Note: Data for 2014 represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

Growth in communities of color has outpaced overall population growth in Fresno. While the overall population increased by 19 percent from 2000 to 2014, the people-of-color population grew by 35 percent.

Net Change in Population by Geography, 2000 to 2014

- People-of-color Growth
- Total Population Growth
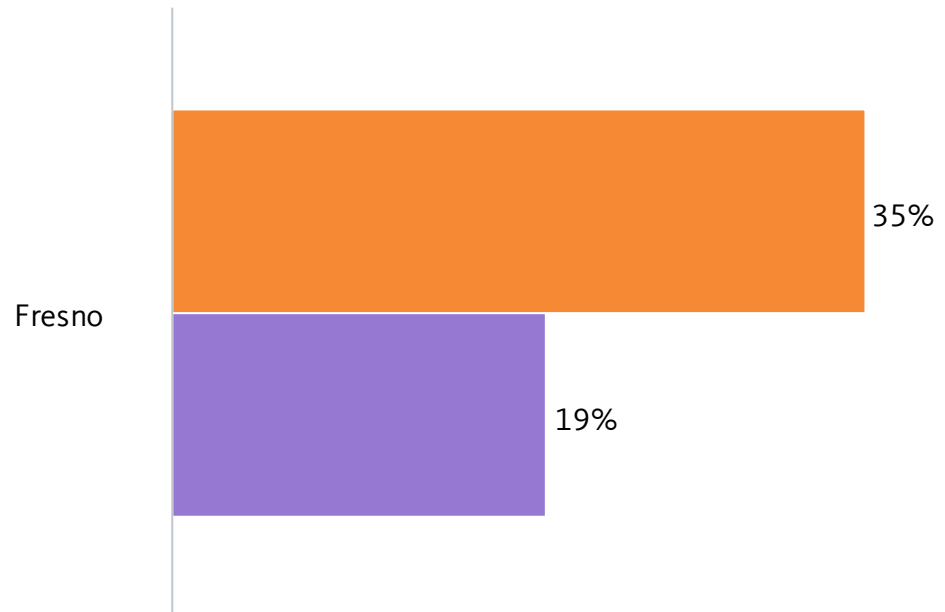
Fresno

35%

19%

Source: U.S. Census Bureau.
Note: Data for 2014 represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

The county turned majority people of color in the early 1990s.
Latinos and Asians or Pacific Islanders have driven growth: the
Latino population grew from 29 percent in 1980 to a majority in
2014, and the Asian or Pacific Islander population more than tripled
during the same time period. The White population share has
declined significantly each decade.

Racial/Ethnic Composition,
1980 to 2014

- ■ Mixed/other
- ■ Native American
- ■ Asian or Pacific Islander
- ■ Latino
- ■ Black
- ■ White

1980
3%
29%
5%
62%

1990
8%
35%
5%
51%

2000
3%
8%
44%
5%
40%

2014
2%
10%
51%
5%
32%
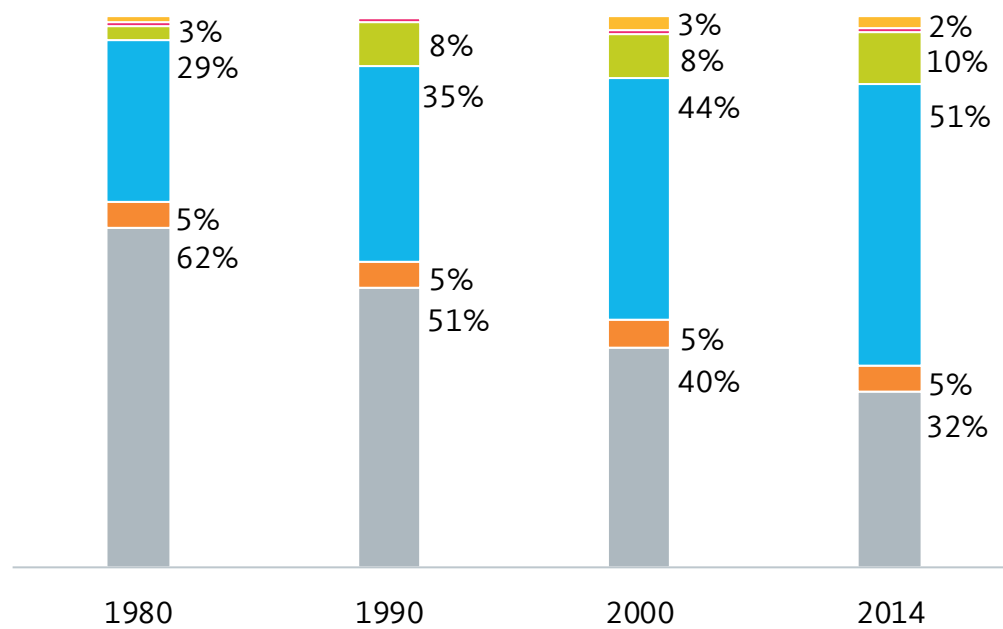
Source: U.S. Census Bureau.
Note: Much of the increase in the Mixed/other population between 1990 and 2000 is due to a change in the survey question on race.

Demographics

How is the area's population changing over time?

Fresno County is a largely Latino region with a few exceptions in the northeastern part of the county. The city of Clovis, for example, located just northeast of the city of Fresno, is 56 percent White. There has also been noticeable population growth in the southwest part of the county.

Race/Ethnicity Dot Map by Census Block Group, 1990 and 2014

Race/ethnicity

1 Dot = 25 people

- ⬤ White
- ⬤ Black
- ⬤ Latino
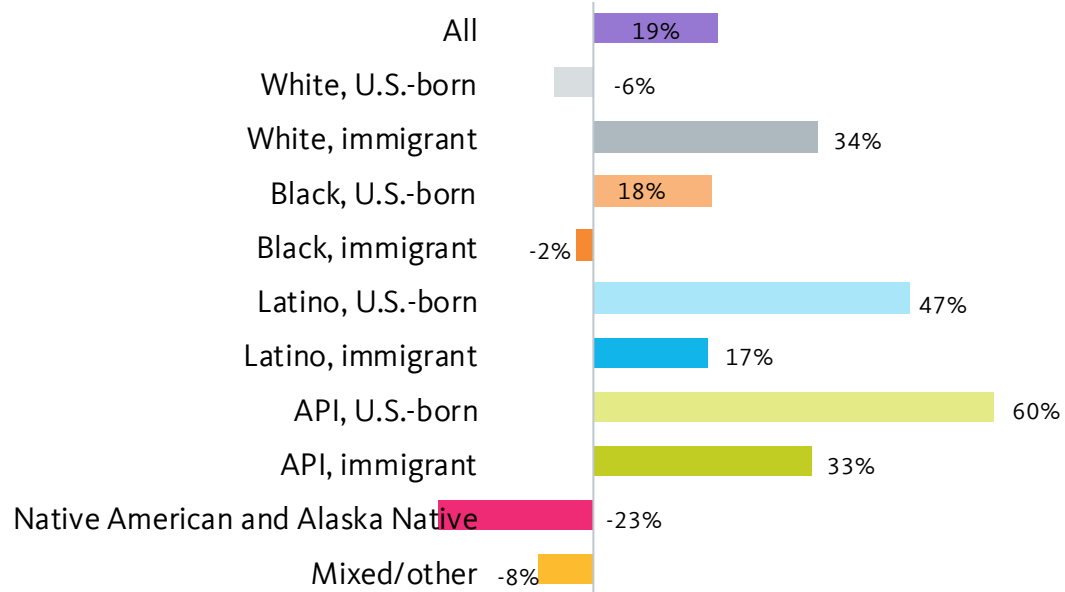- ⬤ Asian or Pacific Islander
- ⬤ Native American
- ⬤ Mixed/other
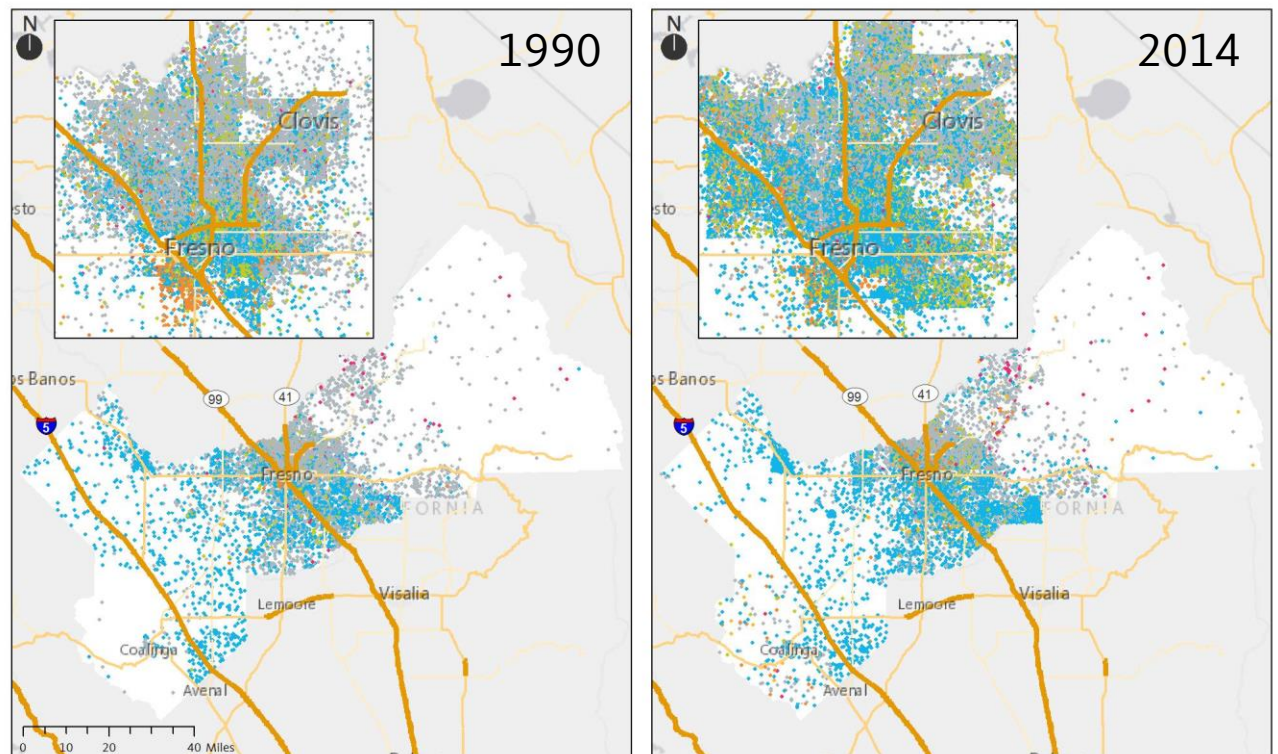
Sources: U.S. Census Bureau, GeoLytics, Inc.; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.
Note: Data for 2014 represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

There will continue to be a Latino plurality in Fresno County through 2050. From 2010 to 2050, the Latino population share is projected to grow from 50 to 58 percent. The Asian or Pacific Islander population share is projected to drop one percentage point over the same time period while the Black population share will grow by one percentage point.

Racial/Ethnic Composition, 1980 to 2050

- U.S. % White
- Mixed/other
- Native American
- Asian or Pacific Islander
- Latino
- Black
- White

	1980	1990	2000	2010	2020	2030	2040	2050
Mixed/other	3%	8%	3%	2%	2%	1%		
Asian or Pacific Islander	29%	35%	8%	9%	10%	9%	9%	8%
Latino	5%		44%	50%	54%	55%	57%	58%
Black	62%	5%	5%	5%	5%	5%	6%	6%
White		51%	40%	33%	30%	28%	27%	27%
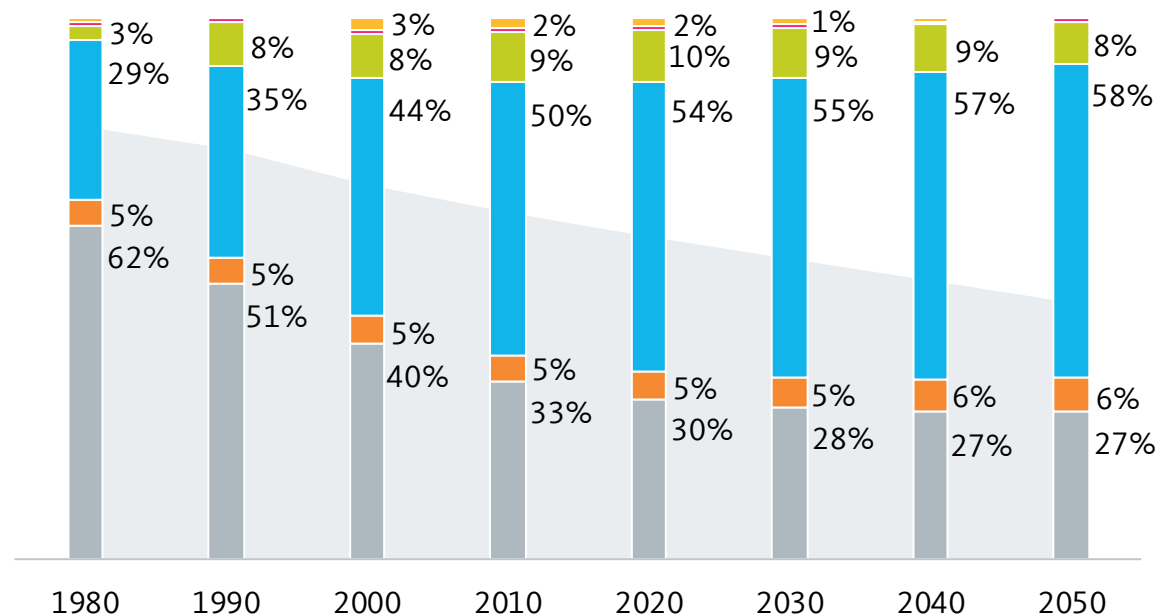
Sources: U.S. Census Bureau; Woods & Poole Economics, Inc.
Note: Much of the increase in the Mixed/other population between 1990 and 2000 is due to a change in the survey question on race.

Demographics

How is the area's population changing over time?

The racial generation gap was high in 1980, and continues to grow. By 2014, 81 percent of youth were people of color, compared with just 42 percent of seniors. A large racial generation gap often corresponds with lower investments in educational systems and infrastructure to support youth.

Racial Generation Gap:
Percent People of Color (POC)
by Age Group, 1980 to 2014

—— Percent of seniors who are POC
—— Percent of youth who are POC

81%

39 percentage point gap

50%

30 percentage point gap

42%

20%

1980   1990   2000   2014
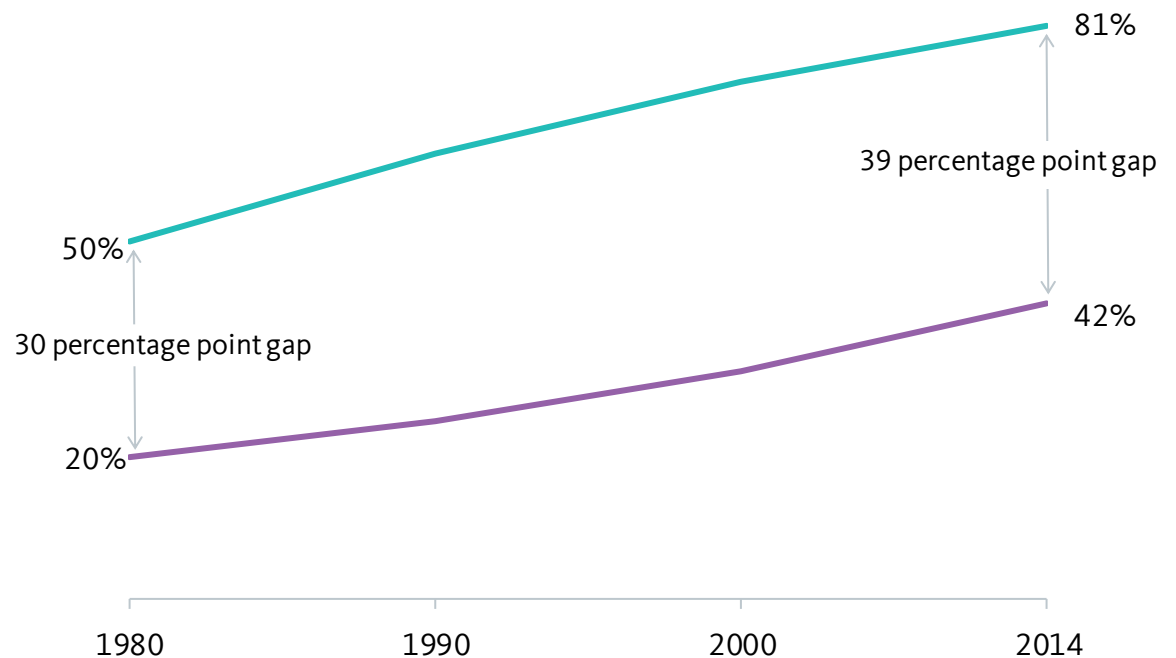
Source: U.S. Census Bureau.
Note: Youth include persons under age 18 and seniors include those age 65 or older. Data for 2014 represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

The county's fastest-growing demographic groups are also significantly younger than Whites. People of mixed/other races have the youngest median age at 25 years old. The median ages of all groups of color are much lower than the median age for Whites.

Median Age by Race/Ethnicity, 2014
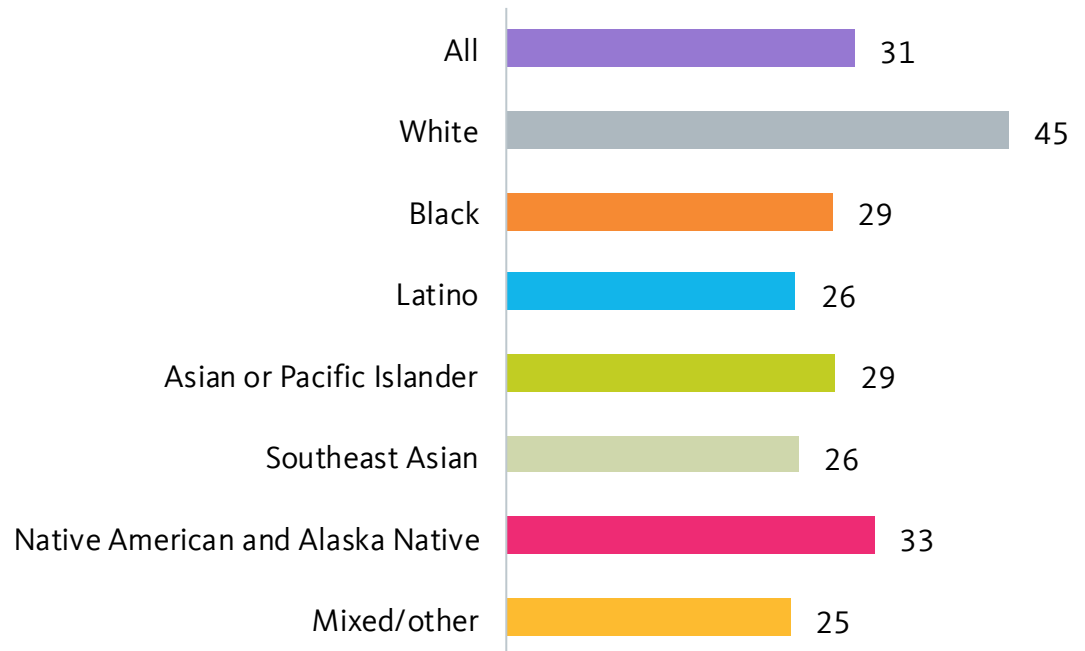
Race/Ethnicity	Median Age
All	31
White	45
Black	29
Latino	26
Asian or Pacific Islander	29
Southeast Asian	26
Native American and Alaska Native	33
Mixed/other	25

Source: Integrated Public Use Microdata Series.
Note: Data represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

Southeast Asians, who account for 56 percent of the Asian or Pacific Islander population, have a lower median age than the Asian or Pacific Islander population as a whole. Within the Southeast Asian population, those of Hmong ancestry have the lowest median age at just 22 years old – younger than the other major race/ethnic groups.

Median Age for the Southeast Asian Population by Ancestry, 2014
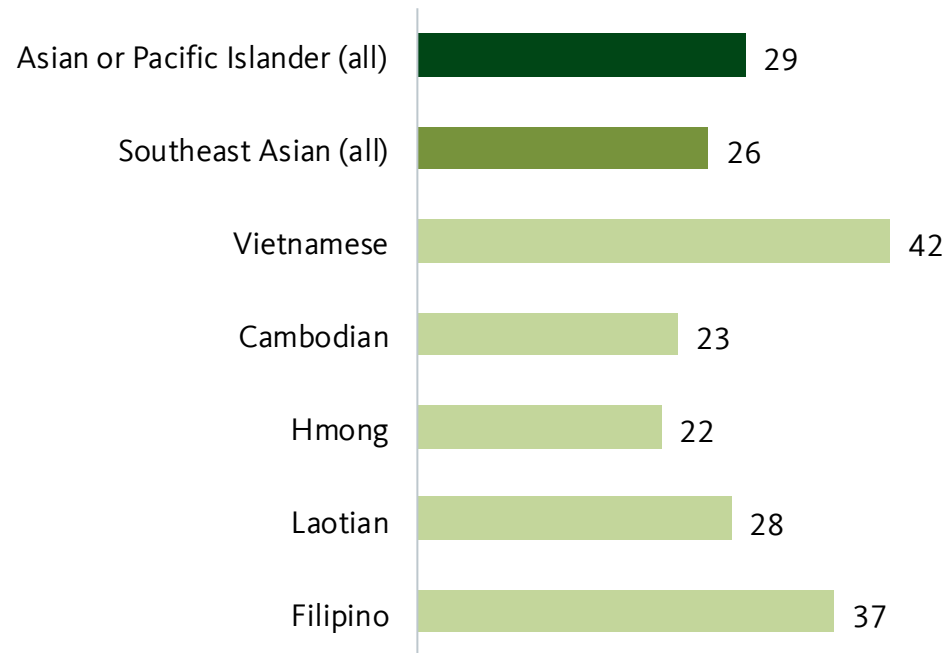
Ancestry	Median Age
Asian or Pacific Islander (all)	29
Southeast Asian (all)	26
Vietnamese	42
Cambodian	23
Hmong	22
Laotian	28
Filipino	37

Source: Integrated Public Use Microdata Series.
Note: Data represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

Latino immigrants are the largest immigrant group and are the most likely to speak little or no English. Language barriers are known to impact access to health and other vital services, and not all Latino immigrants speak Spanish.

English-Speaking Ability
Among Immigrants by
Race/Ethnicity, 2000 and 2014

Percent speaking English...
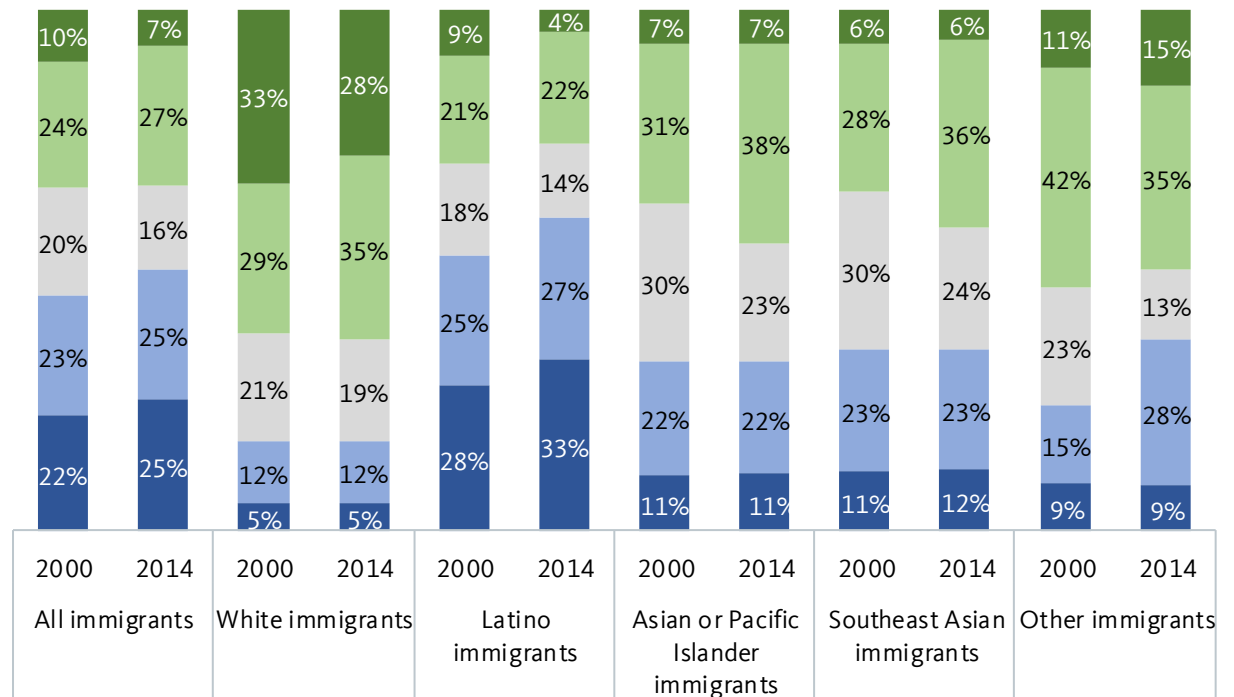
- ■ Only
- ■ Very well
- ■ Well
- ■ Not well
- ■ Not at all

	All immigrants		White immigrants		Latino immigrants		Asian or Pacific Islander immigrants		Southeast Asian immigrants		Other immigrants	
	2000	2014	2000	2014	2000	2014	2000	2014	2000	2014	2000	2014
Only	10%	7%	33%	28%	9%	4%	7%	7%	6%	6%	11%	15%
Very well	24%	27%	29%	35%	21%	22%	31%	38%	28%	36%	42%	35%
Well	20%	16%	21%	19%	18%	14%	30%	23%	30%	24%	23%	13%
Not well	23%	25%	12%	12%	25%	27%	22%	22%	23%	23%	15%	28%
Not at all	22%	25%	5%	5%	28%	33%	11%	11%	11%	12%	9%	9%

Source: Integrated Public Use Microdata Series. Universe includes all persons ages 5 or older.
Note: Data for some groups by race/ethnicity/nativity in some years are excluded due to small sample size. Data for 2014 represent a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

Among all Southeast Asian immigrants, 35 percent speak little or no English. Vietnamese, Hmong, and Laotian immigrants are significantly more likely than Filipino immigrants to speak little or no English.

English-Speaking Ability
Among Southeast Asian
Immigrants by Ancestry, 2014

Percent speaking English...
- Only
- Very well
- Well
- Not well
- Not at all
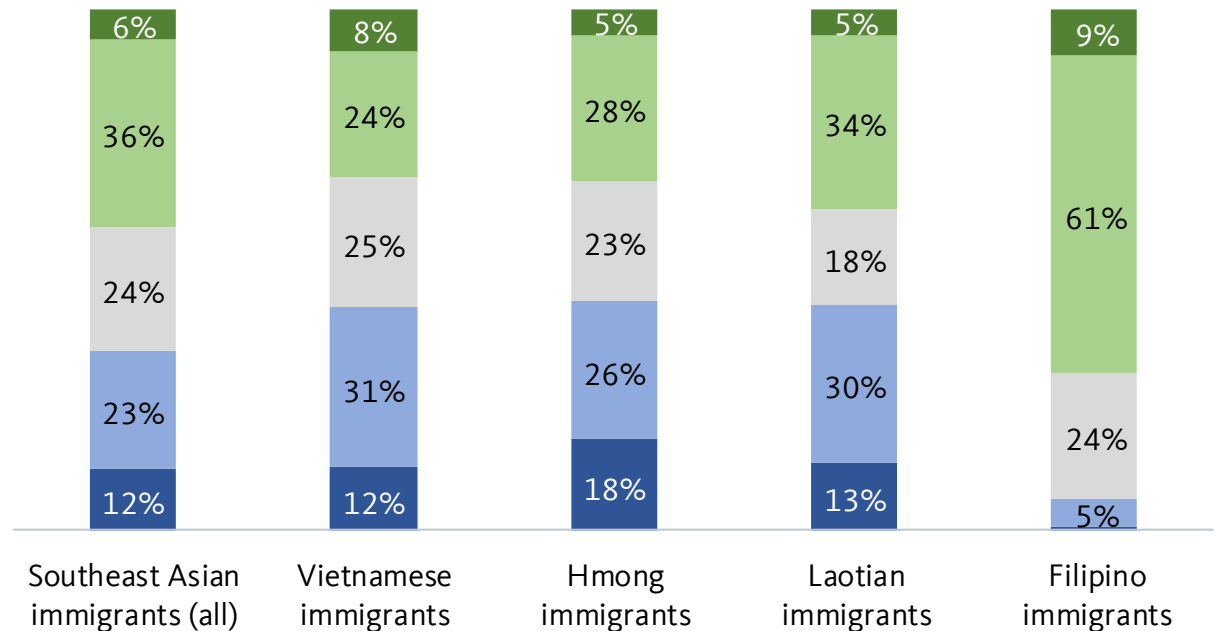
	Southeast Asian immigrants (all)	Vietnamese immigrants	Hmong immigrants	Laotian immigrants	Filipino immigrants
Only	6%	8%	5%	5%	9%
Very well	36%	24%	28%	34%	61%
Well	24%	25%	23%	18%	24%
Not well	23%	31%	26%	30%	5%
Not at all	12%	12%	18%	13%	

Source: Integrated Public Use Microdata Series. Universe includes all persons ages 5 or older.
Note: Data represents a 2010 through 2014 average.

Demographics

How is the area's population changing over time?

There are pockets of linguistic isolation throughout the region, with higher concentrations on the west side of the county. Linguistically isolated households are defined as those in which no member age 14 or older speaks English at least "very well."

Linguistic Isolation by Census Tract, 2014

- Less than 4%
- 4% to 8%
- 8% to 15%
- 15% to 27%
- 27% or more
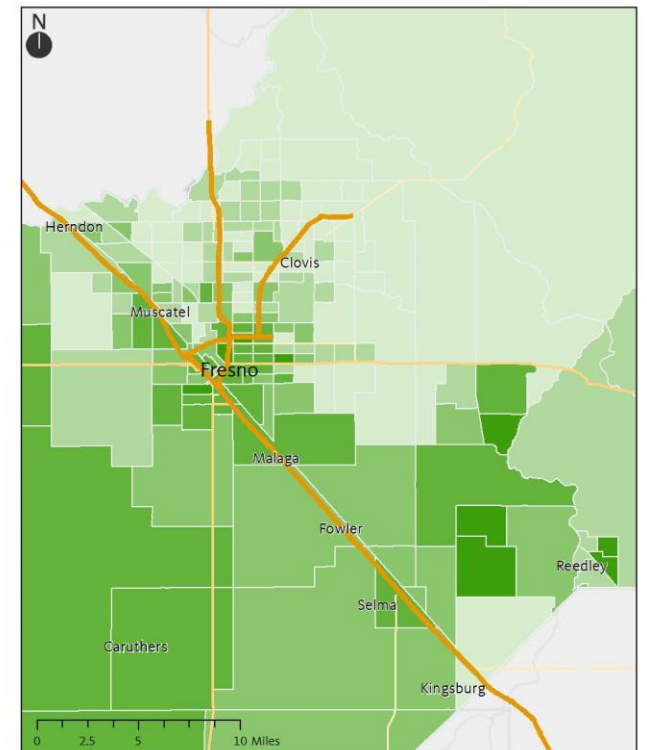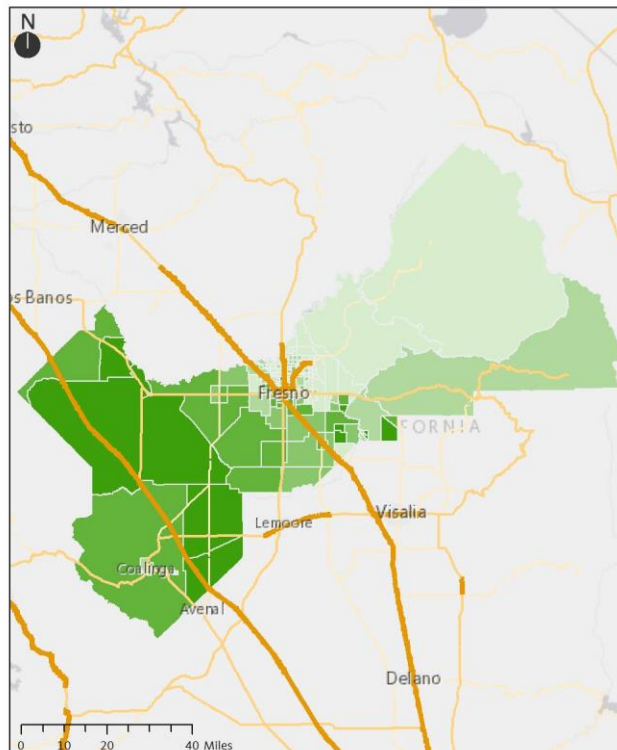
Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.
Note: Data represent a 2010 through 2014 average.

Economic vitality
Highlights

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

- Job growth has been similar to the national average since 1990 but unemployment remains stubbornly high.

- While middle-wage industries have grown the most in number of jobs since 1990, they have seen the least growth in real wages.

- Although education is a leveler, racial gaps persist in the labor market. Black workers have a consistently higher unemployment rate, and Latino workers earn much less than their White counterparts regardless of education.

- Economic insecurity and working poverty have grown over the last decade. Latinos are more than three times as likely as Whites to be working full-time with a family income less than 200 percent of poverty.

Decline in median wages for workers since 1979:

-13%

Share of Black children living in poverty:

53%

Wage gap between White and Latino workers:

$10/hr

Economic vitality

Is the county producing good jobs?

Fresno is still recovering from the Great Recession. Pre-downturn, the county's economy performed on par with the nation in terms of job and gross domestic product (GDP) growth. Since 2009, it has experienced higher growth in jobs but lower growth in GDP.

Average Annual Growth in Jobs and GDP, 1990 to 2007 and 2009 to 2014

- Jobs
- GDP

	1990-2007		2009-2014	
	Fresno, CA	All U.S.	Fresno, CA	All U.S.
Jobs	1.6%	1.6%	1.7%	1.3%
GDP	2.5%	2.6%	1.4%	1.7%

Source: U.S. Bureau of Economic Analysis.
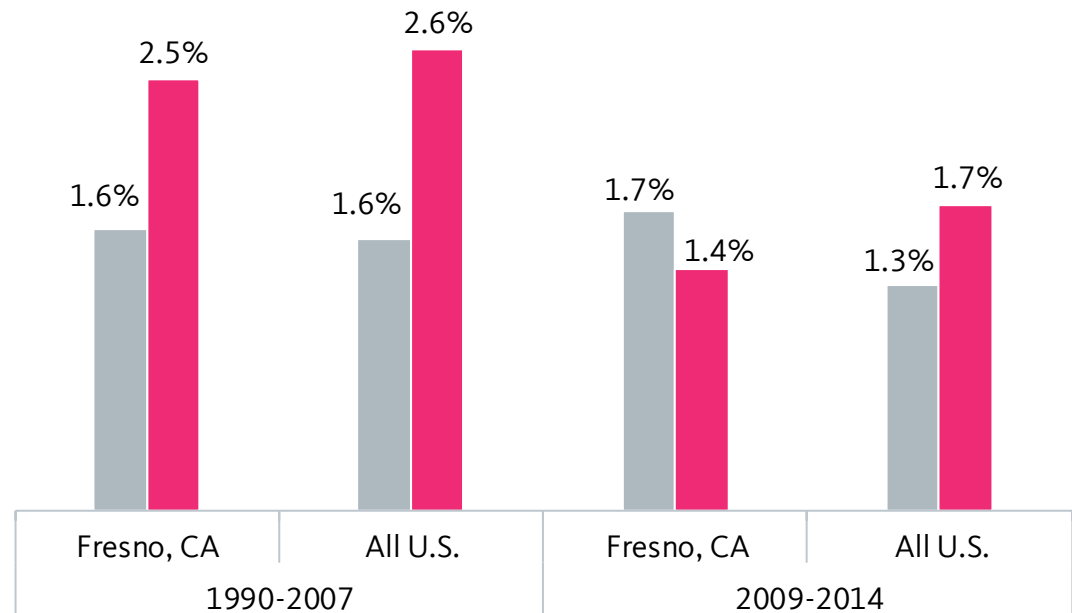
Economic vitality

Is the county producing good jobs?

Low-wage jobs have grown considerably faster than high-wage jobs from 1990 to 2015. More importantly, middle-wage jobs have also grown. Earnings per worker have increased across the board with the highest increases among low- and high-wage jobs.

Growth in Jobs and Earnings
by Industry Wage Level, 1990
to 2015

■ Low wage
■ Middle wage
■ High wage
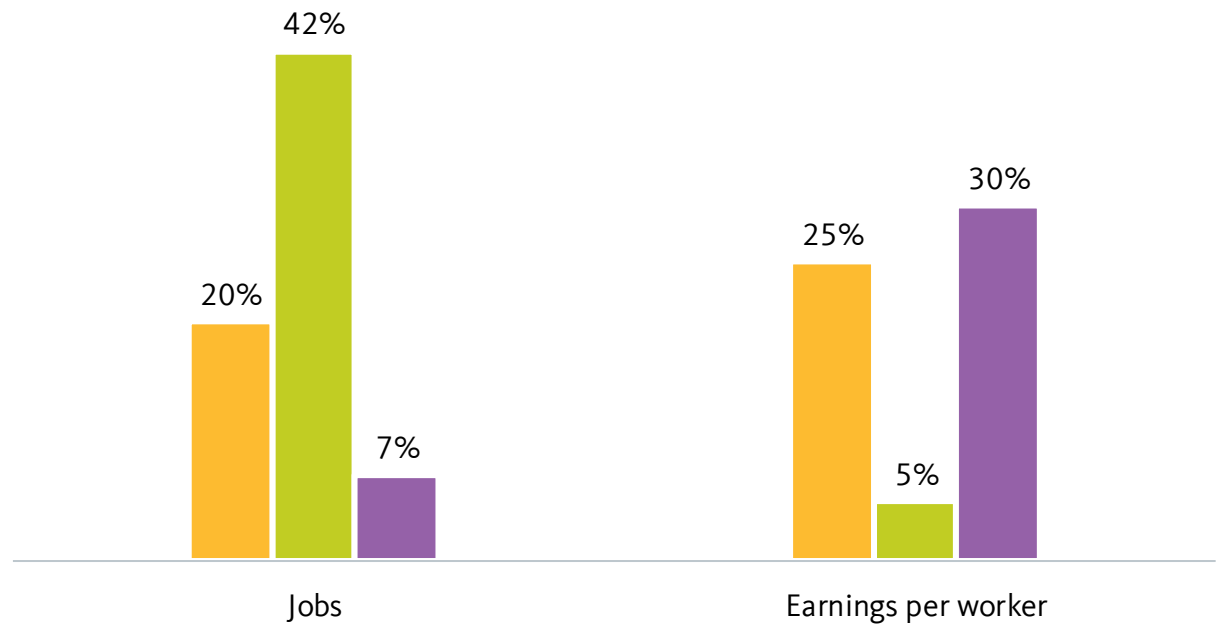
42%

25%   30%

20%

7%   5%

Jobs   Earnings per worker

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

Access to good jobs

How close is the county to reaching full employment?

Unemployment has declined in the region but is still more than double the national rate. The unemployment rate in the country was 4.5 percent in December 2016, and it was 5.0 percent in California. In Fresno County, however, it was 9.5 percent, and in the city of Fresno it was still 10.3 percent.

Unemployment Rate,
December 2016

United States	4.5%
California	5.0%
Fresno County, CA	9.5%
Fresno city, CA	10.3%
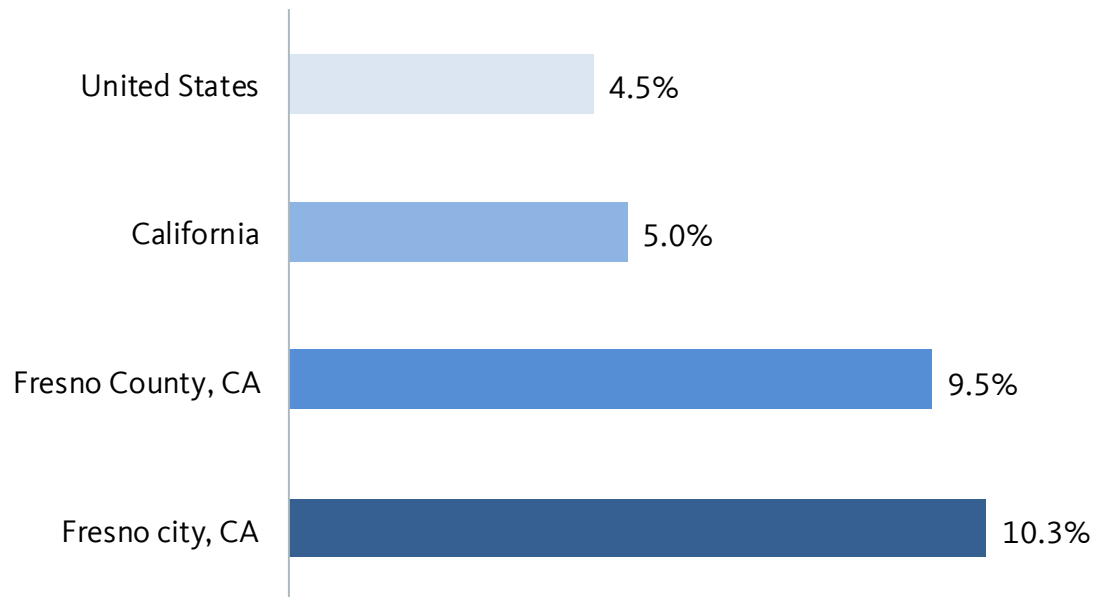
Source: U.S. Bureau of Labor Statistics. Universe includes the civilian noninstitutional labor force ages 16 and older.
Note: Rates are not seasonally adjusted.

Access to good jobs

How close is the county to reaching full employment?

Unemployment is relatively high in Fresno, compared to the state, but it varies geographically. Unemployment rates were less than 2 percent in Coalinga and near San Joaquin and Helm, but greater than 20 percent in communities located along the I-5 freeway in the northern part of the county.

Unemployment Rate by
Census Tract, 2014

- Less than 2%
- 2% to 12%
- 12% to 15%
- 15% to 20%
- 20% or more
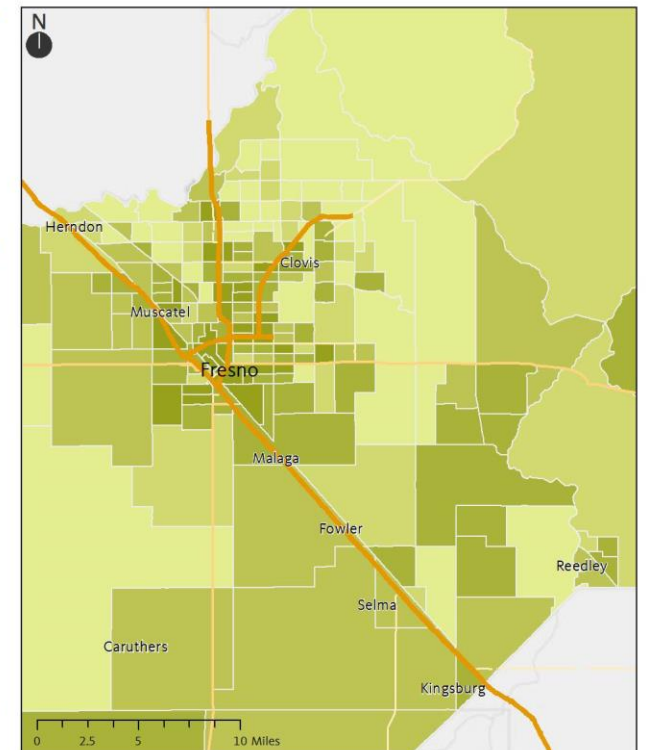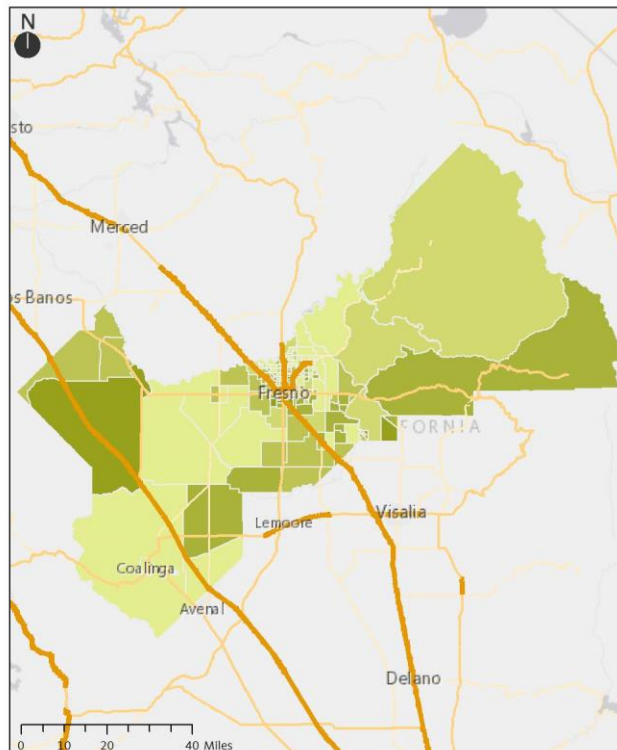
Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.
Note: Data represent a 2010 through 2014 average.

Access to good jobs

How close is the county to reaching full employment?

Unemployment is relatively high in the county overall, and racial inequities persist. Rates of unemployment in the county are highest for Black residents followed by those of mixed/other races and Latinos. Whites have the lowest unemployment rate.

Unemployment Rate by
Race/Ethnicity, 2014
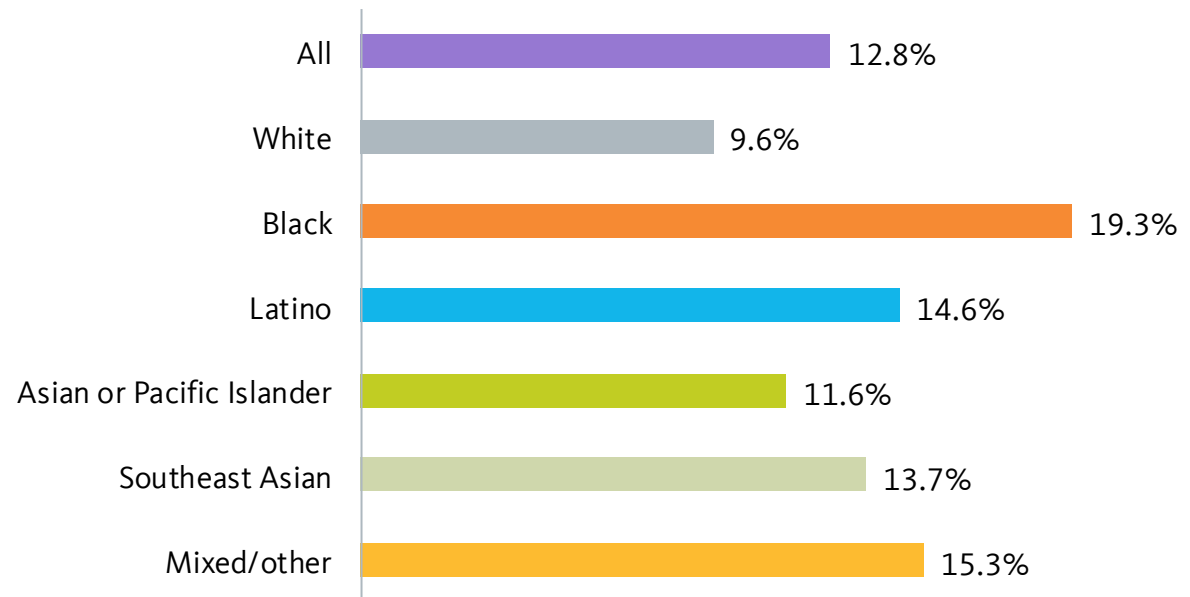
Race/Ethnicity	Unemployment Rate
All	12.8%
White	9.6%
Black	19.3%
Latino	14.6%
Asian or Pacific Islander	11.6%
Southeast Asian	13.7%
Mixed/other	15.3%

Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional labor force ages 25 through 64.
Note: Data represent a 2010 through 2014 average.

Access to good jobs

How close is the county to reaching full employment?

People of Hmong ancestry have a higher unemployment rate than Asians or Pacific Islanders overall. When looking within the Southeast Asian population, the overall unemployment rate is 13.7 percent, but it goes up to 15.8 percent for those of Hmong ancestry.

Unemployment Rate for the
Southeast Asian Population by
Ancestry, 2014

Ancestry	Rate
Asian or Pacific Islander (all)	11.6%
Southeast Asian (all)	13.7%
Hmong	15.8%
Filipino	13.7%

Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional labor force ages 25 through 64.
Note: Data represent a 2010 through 2014 average.

Access to good jobs
How close is the county to reaching full employment?

Labor force participation is relatively low in the county, and racial inequities persist. Rates of labor force participation in the county are lowest for Black and Southeast Asian residents, while Whites and Latinos have higher rates.

Labor Force Participation Rate
by Race/Ethnicity, 2014

Race/Ethnicity	Rate
All	75%
White	76%
Black	68%
Latino	76%
Asian or Pacific Islander	72%
Southeast Asian	69%
Mixed/other	74%

Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional population ages 25 through 64.
Note: Data represent a 2010 through 2014 average.

Access to good jobs

How close is the county to reaching full employment?

Unemployment declines as education levels increase, but racial gaps remain. African Americans tend to face the highest rates of unemployment regardless of education. Southeast Asians also have persistently high unemployment among the population with a least a high school diploma.

Unemployment Rate by Educational Attainment and Race/Ethnicity, 2014

- All
- White
- Black
- Latino
- Asian or Pacific Islander
- Southeast Asian

Less than a HS Diploma: 18%, 20%, 17%, 22%, 21%

HS Diploma, no College: 16%, 14%, 27%, 18%, 14%, 18%

Some College, no Degree: 13%, 12%, 19%, 11%, 14%, 18%

AA Degree, no BA: 10%, 8%, 12%, 4%
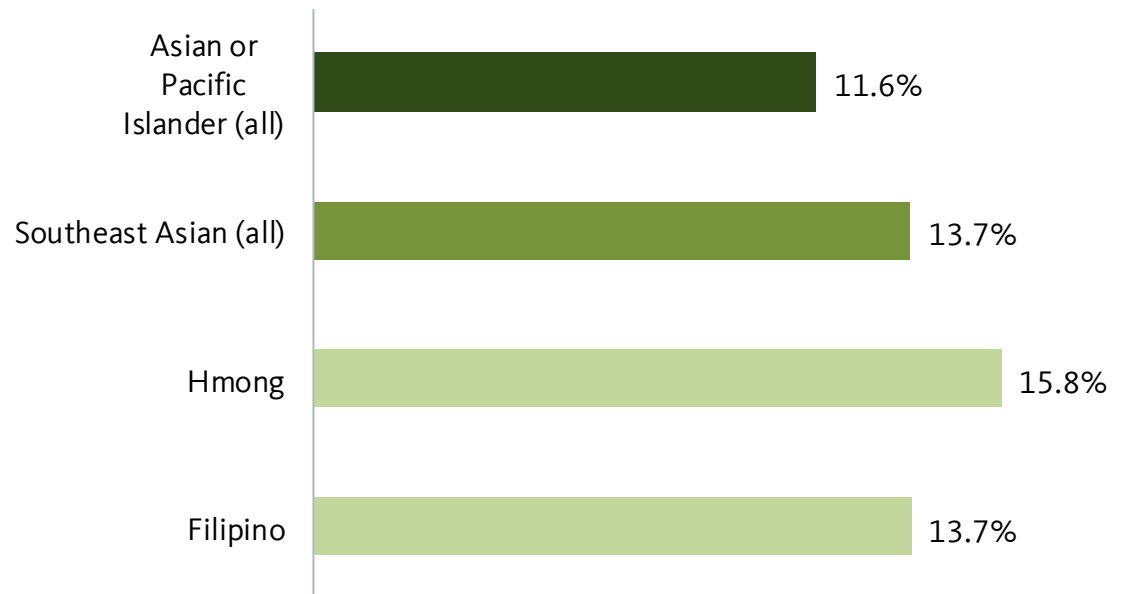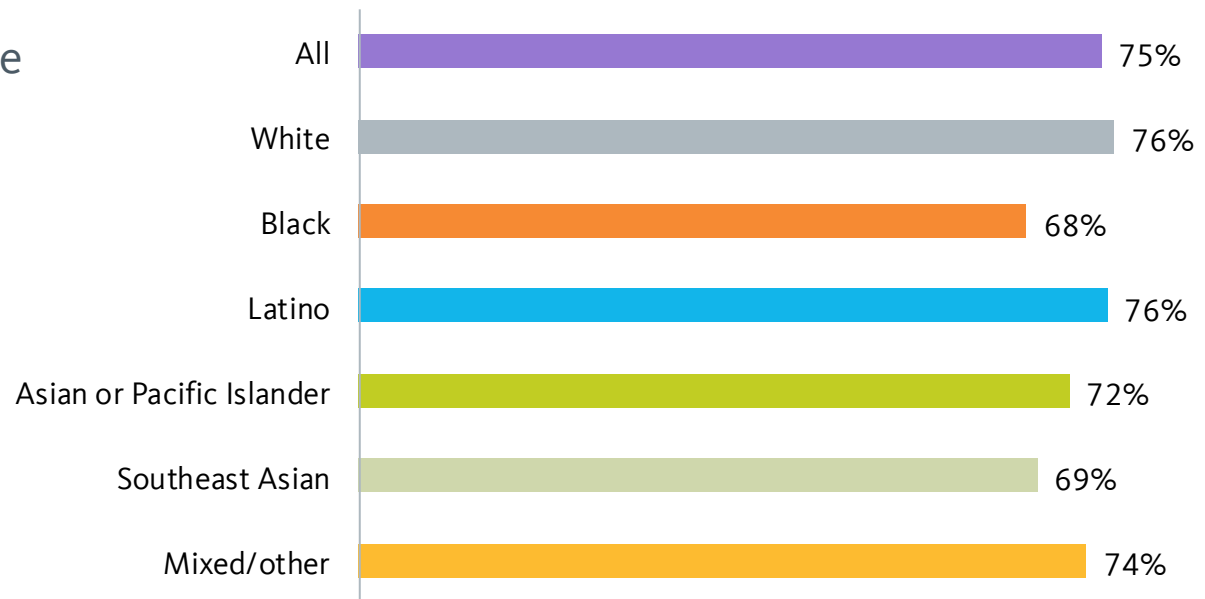
BA Degree or Higher: 6%, 4%, 11%, 6%, 7%, 8%
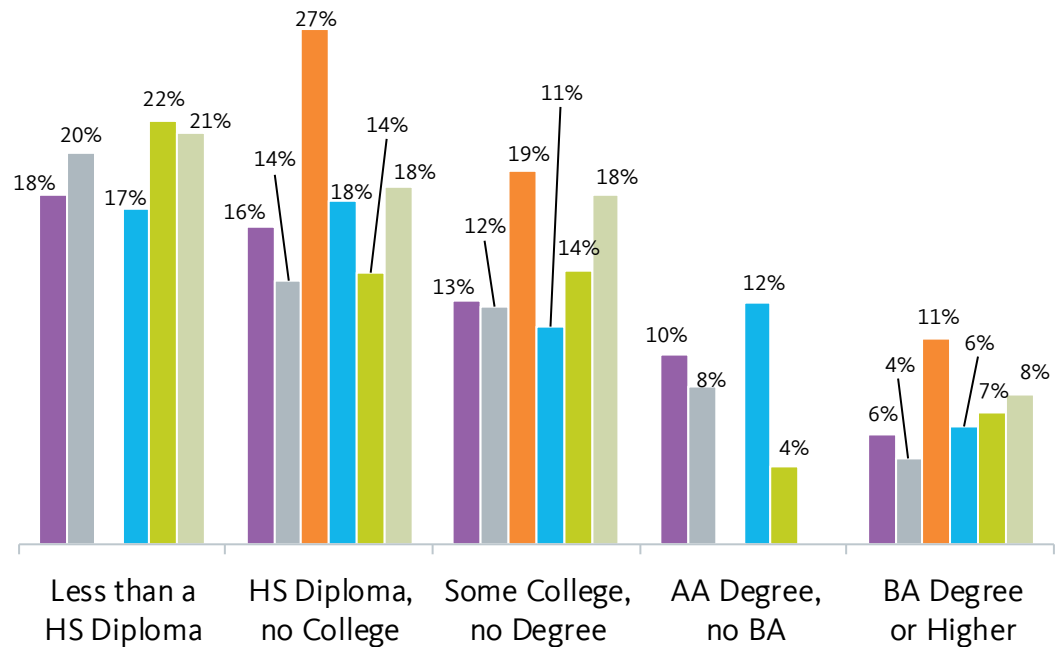
Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional labor force ages 25 through 64.
Note: Data for some racial/ethnic groups are excluded due to small sample size. Data represent a 2010 through 2014 average.

Access to good jobs
Can all workers earn a living wage?

Racial wage gaps also persist regardless of education. Latino workers tend to have the lowest wages at all education levels, while White workers have the highest. Comparing all workers of color to White workers, the racial wage gap is largest among those with more than a high school diploma but less than a bachelor's degree, at about $5/hour.

Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2014

Legend:
- All
- White
- Black
- Latino
- Asian or Pacific Islander
- Southeast Asian

Chart data:

Less than a HS Diploma
- All: $10.70
- Latino: $10.50

HS Diploma, no College
- All: $15.30
- White: $18.20
- Latino: $13.80
- Asian or Pacific Islander: $14.60

More than HS Diploma but less than BA Degree
- All: $18.60
- White: $21.70
- Black: $17.50
- Latino: $17.00
- Asian or Pacific Islander: $14.60
- Southeast Asian: $14.60

BA Degree or Higher
- All: $29.50
- White: $30.70
- Latino: $25.60
- Asian or Pacific Islander: $28.00
- Southeast Asian: $28.10

Source: Integrated Public Use Microdata Series. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data for some racial/ethnic groups are excluded due to small sample size. Data represent a 2010 through 2014 average. Values are in 2014 dollars.

Inclusive growth
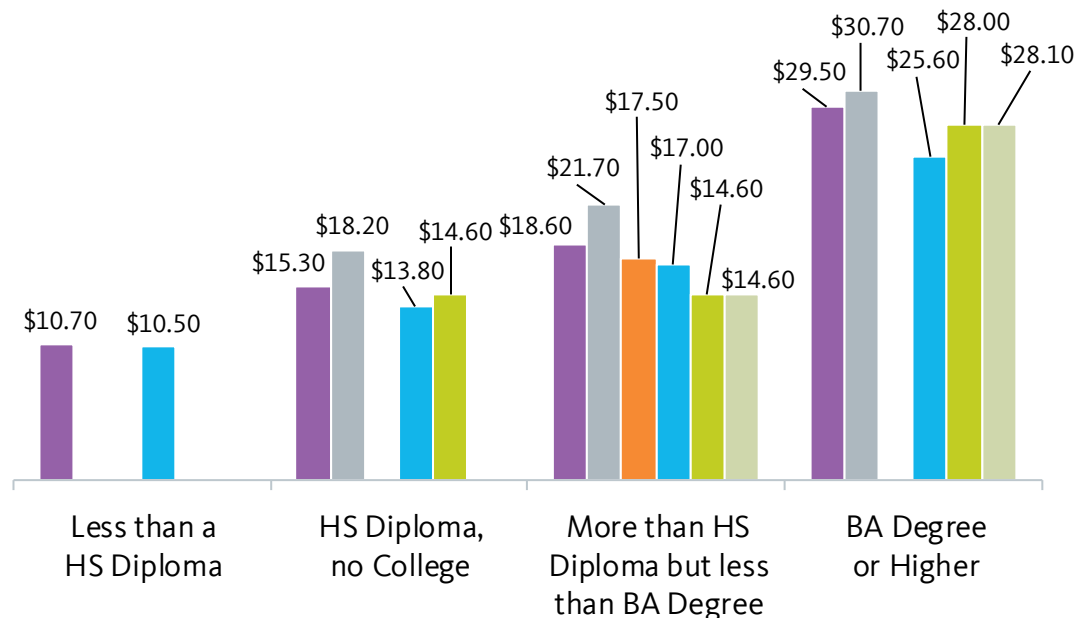
Are incomes increasing for all workers?

Since 1979, only workers in the 90th percentile have seen their wages grow. Workers at the bottom of the earnings distribution have experienced the most significant wage declines, and the declines have been greater in Fresno than in the nation overall.

Real Earned Income Growth
for Full-Time Wage and Salary
Workers, 1979 to 2014

■ Fresno, CA
□ United States
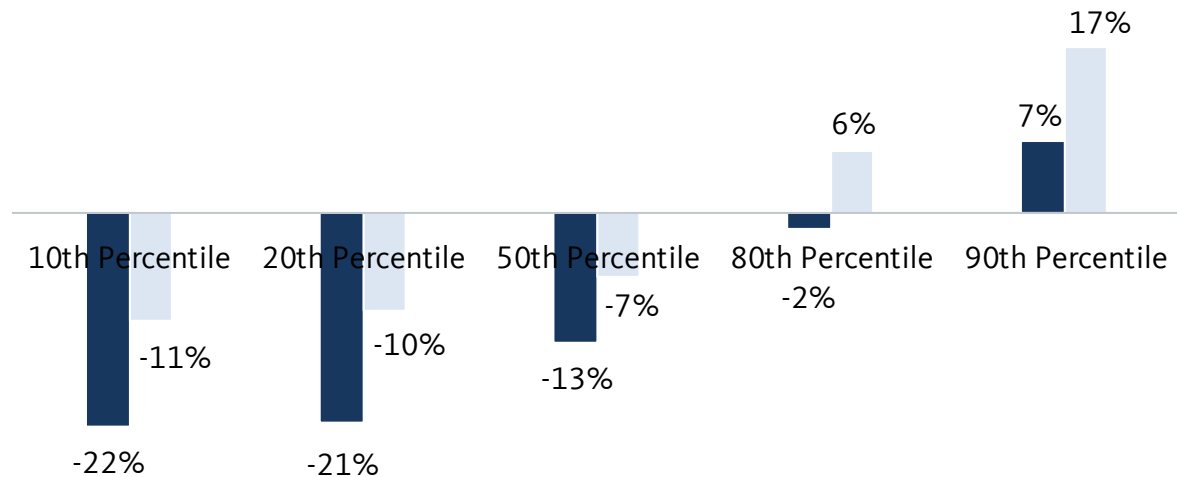
	10th Percentile	20th Percentile	50th Percentile	80th Percentile	90th Percentile
Fresno, CA	-22%	-21%	-13%	-2%	7%
United States	-11%	-10%	-7%	6%	17%

Source: Integrated Public Use Microdata Series. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data for 2014 represent a 2010 through 2014 average.

Inclusive growth
Are incomes increasing for all workers?

Racial gaps in wages have grown over the past decade. From 2000 to 2014, White workers saw their median hourly wage increase in real terms, while most groups of color experienced wage stagnation or decline.

Median Hourly Wage by
Race/Ethnicity, 2000 and 2014

■ 2000
■ 2014
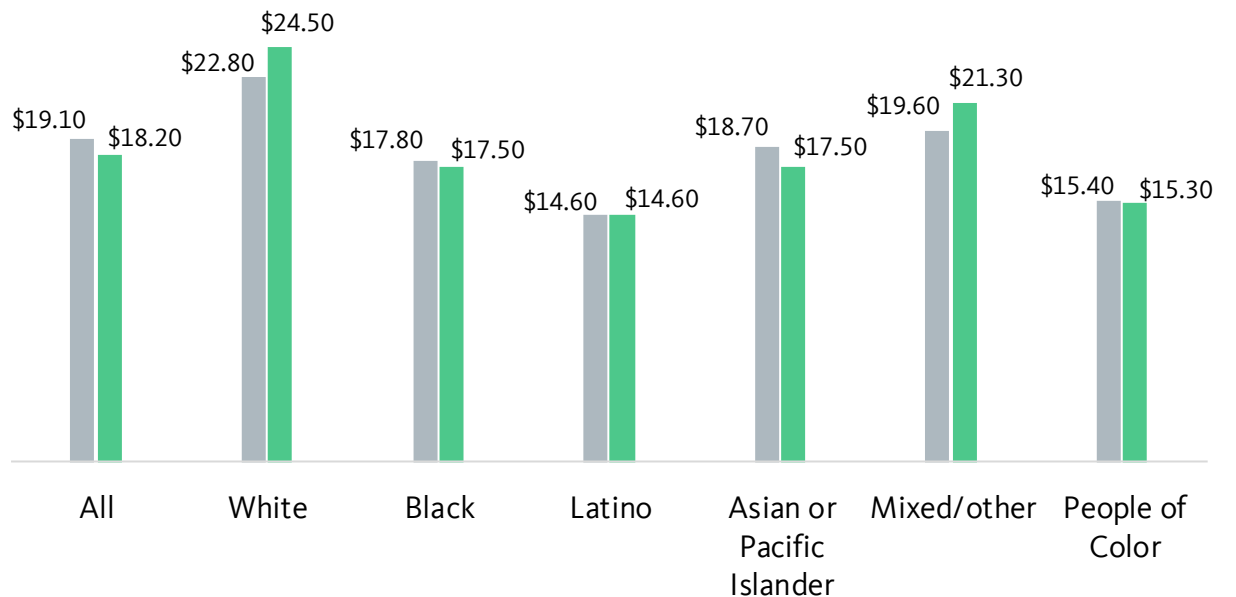
	All	White	Black	Latino	Asian or Pacific Islander	Mixed/other	People of Color
2000	$19.10	$22.80	$17.80	$14.60	$18.70	$19.60	$15.40
2014	$18.20	$24.50	$17.50	$14.60	$17.50	$21.30	$15.30

Source: Integrated Public Use Microdata Series. Universe includes civilian noninstitutional full-time wage and salary workers ages 25 through 64.
Note: Data for 2014 represent a 2010 through 2014 average. Values are in 2014 dollars.

Inclusive growth
Is the middle class expanding?

The county's middle class has declined. Since 1979, the share of middle-income households has declined three percentage points, as has the share of upper-income households. Meanwhile, the share of lower-income households has increased by six percentage points.

Households by Income Level, 1979 and 2014

Upper 30% / 27%
$77,216 / $77,283
Middle 40% / 37%
$30,896 / $30,923
Lower 30% / 36%

1979 1989 1999 2014

Inclusive growth

Is the middle class becoming more inclusive?

The middle class has become more diverse and representative of households overall. Latinos make up 42 percent of all households in Fresno and 45 percent of middle-class households. Whites make up 42 percent of all households and 41 percent of middle-class households.

Racial Composition of Middle-Class Households and All Households, 1979 and 2014

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

1979

Middle-Class Households
- 3%
- 25%
- 4%
- 68%

All Households
- 3%
- 22%
- 5%
- 70%

2014

Middle-Class Households
- 7%
- 45%
- 5%
- 41%

All Households
- 8%
- 42%
- 5%
- 42%
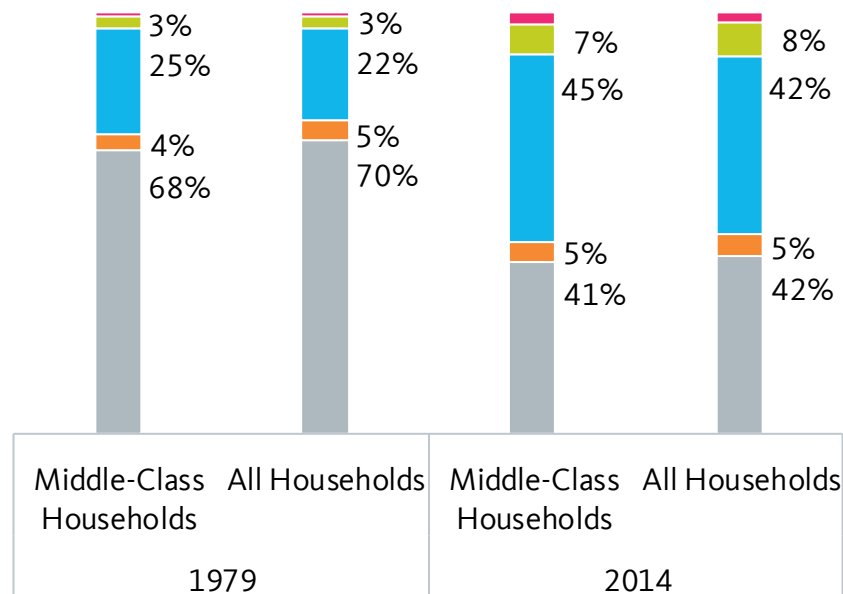
Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).
Note: Data for 2014 represent a 2010 through 2014 average.

Inclusive growth

Is inequality low and decreasing?

Income inequality, as measured by the Gini coefficient, has increased in Fresno. A growing body of research suggests that living in a community with high levels of income inequality is associated with lower life expectancy.

Income Inequality, 1979 to 2014

— Fresno, CA Metro Area
— United States

Inequality is measured here by the Gini coefficient for household income, which ranges from 0 (perfect equality) to 1 (perfect inequality: one household has all of the income).

Level of Inequality

0.50
0.45
0.40
0.35

0.47
0.47

0.47
0.46

0.43
0.43

0.41
0.40

1979   1989   1999   2014

Economic security

Is poverty low and decreasing?

Poverty is on the rise in the county, and the rates are higher for people of color. The overall poverty rate in 2014 was 27 percent but it was 40 percent for Blacks, 39 percent for Native Americans, and 35 percent for Latinos and Southeast Asians. The White poverty rate was much lower at 13 percent.

Poverty Rate by Race/Ethnicity, 2000 and 2014

- ■ All
- ■ White
- ■ Black
- ■ Latino
- ■ Asian or Pacific Islander
- ■ Southeast Asian
- ■ Native American
- ■ Mixed/other

2000

49%
39%
31%
32%
30%
24%
23%
10%

2014

40%
39%
35%
35%
27%
27%
24%
13%
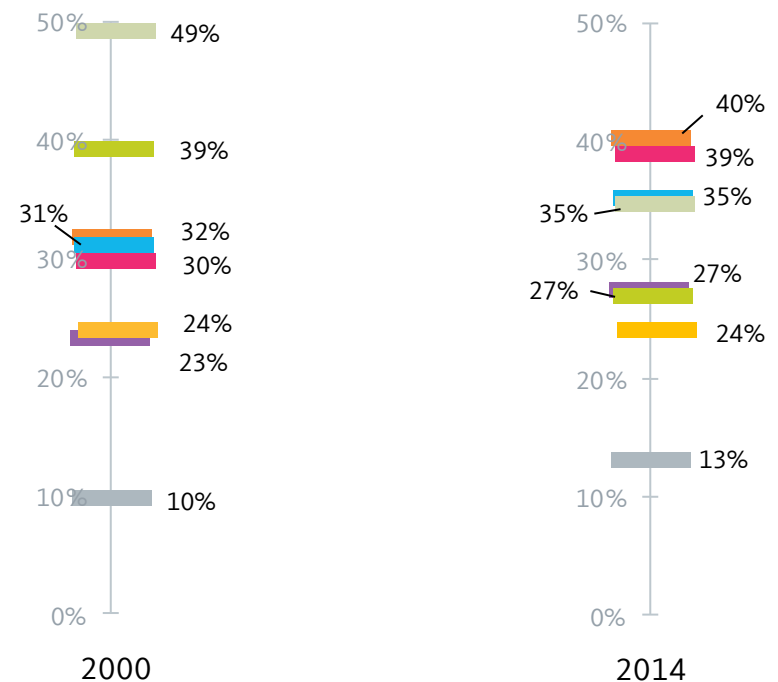
Source: Integrated Public Use Microdata Series. Universe includes all persons not in group quarters.
Note: Data for 2014 represent a 2010 through 2014 average.

Economic security

Is poverty low and decreasing?

Children of color also have much higher poverty rates than White children. In 2014, 39 percent of all children in Fresno were in poverty. But Black children are three times as likely as White children to live in poverty. A wealth of research finds that children who grow up in poverty are more likely to have serious health problems.

Child Poverty Rate by
Race/Ethnicity, 2014

All	39%
Black	53%
Latino	46%
Southeast Asian	43%
Asian or Pacific Islander	36%
Other	28%
White	17%
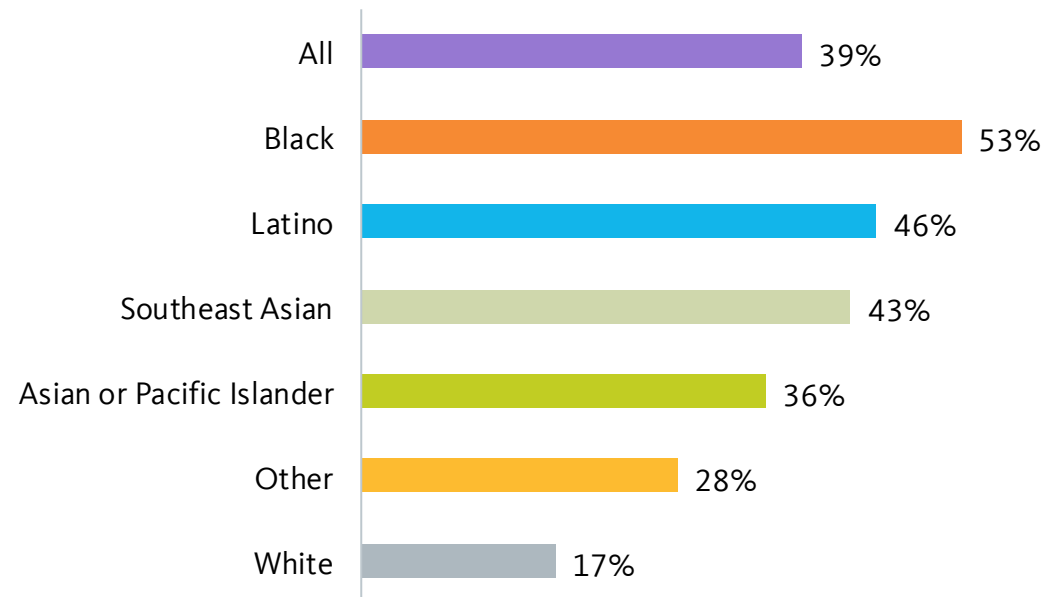
Source: Integrated Public Use Microdata Series. Universe includes the population under age 18 not in group quarters.
Note: Data represent a 2010 through 2014 average.

Economic security

Is poverty low and decreasing?

Poverty rates are relatively high in Fresno across the board, though differences by neighborhood remain. The highest poverty rates are seen on the west side of the county.

Percent Population Below the Poverty Level by Census Tract, 2014

Less than 9%
9% to 22%
22% to 32%
32% to 43%
43% or more
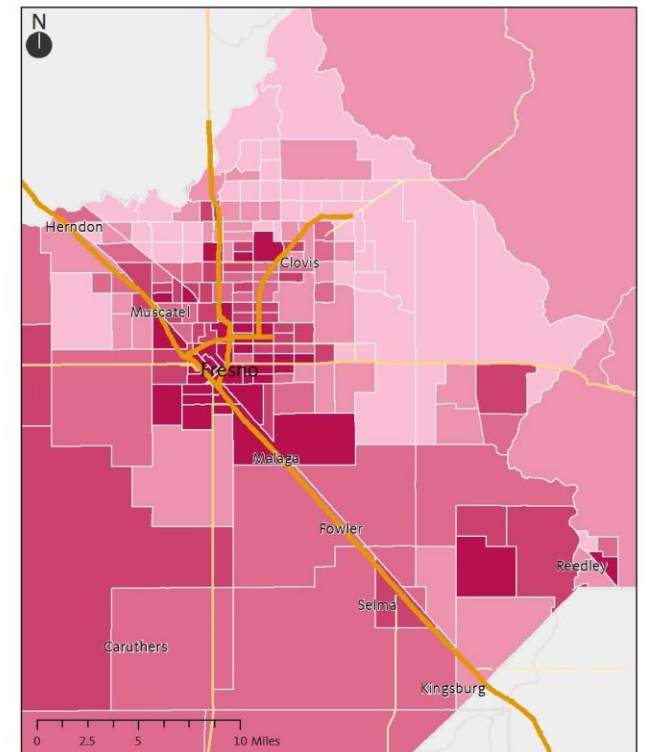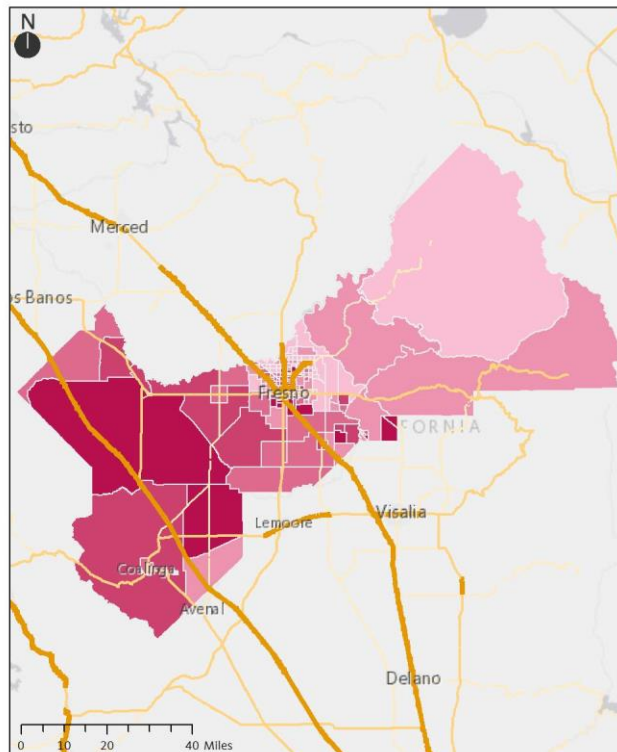
Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all persons not in group quarters.
Note: Data represent a 2010 through 2014 average.

Economic security

Is the share of working poor low and decreasing?

Rates of working poverty have also increased in Fresno. The working poor rate – defined as working full time with family income below 200 percent of poverty – is highest among Native Americans, Southeast Asians, and Latinos.

Working Poor Rate by
Race/Ethnicity, 2000 and 2014

- All
- White
- Black
- Latino
- Asian or Pacific Islander
- Southeast Asian
- Native American
- Mixed/other

2000

30%

21%

20%

18%

15%
14% 13%
12% 11%

10%

5%

0%

2014

30%

25%

20% 20%
19%

16%
14%
13%

11%

10%

6%

0%
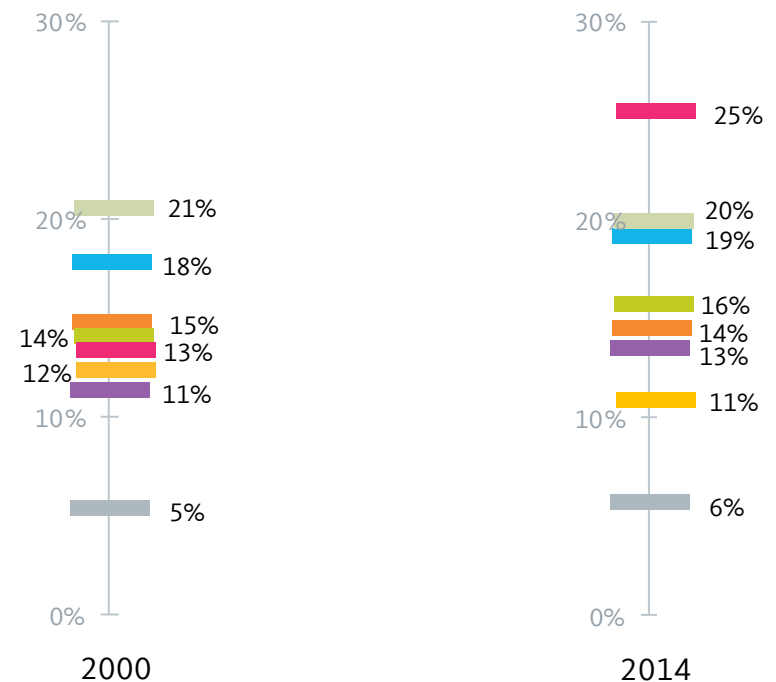
Source: Integrated Public Use Microdata Series. Universe includes the civilian noninstitutional population ages 25 through 64 not in group quarters.
Note: Data for 2014 represent a 2010 through 2014 average.

Strong industries and occupations

Which industries are projected to grow?

Fresno County is projected to add 57,600 jobs from 2012 to 2022. More than 15,200 of these jobs will be in the health care and social assistance industry, and another 6,200 will be in the leisure and hospitality sector.

Industry Employment Projections, 2012-2022

Industry	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change	Total Percent Change
Health Care and Social Assistance	45,900	61,100	15,200	3%	33%
Leisure and Hospitality	28,000	34,200	6,200	2%	22%
Total Farm	48,900	53,700	4,800	1%	10%
Administrative and Support and Waste Management	16,200	20,900	4,700	3%	29%
Construction	12,200	16,800	4,600	3.8%	38%
Retail Trade	33,800	38,300	4,500	1%	13%
Professional, Scientific and Technical Services	9,800	13,400	3,600	4%	37%
Government	64,100	67,600	3,500	1%	5%
Manufacturing	23,600	27,000	3,400	1%	14%
Finance and Insurance	8,800	10,600	1,800	2%	20%
Transportation, Warehousing, and Utilities	11,600	13,000	1,400	1%	12%
Educational Services (Private)	5,200	6,300	1,100	2%	21%
Self Employment (A)	25,200	26,000	800	0%	3%
Wholesale Trade	12,800	13,600	800	1%	6%
Other Services (excludes 814-Private Household Workers)	10,600	11,300	700	1%	7%
Real Estate and Rental and Leasing	4,000	4,700	700	2%	18%
Management of Companies and Enterprises	2,000	2,500	500	3%	25%
Unpaid Family Workers (B)	1,200	1,100	-100	-1%	-8%
Mining and Logging	300	200	-100	-3%	-33%
Information	3,800	3,500	-300	-1%	-8%
Private Household Workers (C)	1,400	1,100	-300	-2%	-21%
Total Employment	**369,300**	**426,900**	**57,600**	**2%**	**16%**

Source: State of California Employment Development Department.
Note: Figures may not add up to total due to rounding.

Strong industries and occupations

Which occupations are projected to grow?

Of the 57,600 jobs to be added by 2022, office and administrative support occupations are expected to grow the most, adding more than 7,600 jobs. Another 6,500 jobs will be in personal care and service occupations and over 6,200 will be in food preparation and serving-related occupations.

Occupational Employment Projections, 2012-2022

Occupation	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change	Total Percent Change
Office and Administrative Support Occupations	52,490	60,140	7,650	1.4%	15%
Personal Care and Service Occupations	17,360	23,950	6,590	3%	38%
Food Preparation and Serving Related Occupations	25,400	31,670	6,270	2%	25%
Other Personal Care and Service Workers	13,980	20,070	6,090	4%	44%
Personal Care Aides	9,890	15,670	5,780	5%	58%
Sales and Related Occupations	32,590	37,810	5,220	1%	16%
Farming, Fishing, and Forestry Occupations	40,870	44,840	3,970	1%	10%
Agricultural Workers	39,690	43,510	3,820	1%	10%
Construction and Extraction Occupations	11,500	15,200	3,700	3%	32%
Food and Beverage Serving Workers	12,900	16,350	3,450	2%	27%
Retail Sales Workers	19,910	23,330	3,420	2%	17%
Transportation and Material Moving Occupations	26,350	29,670	3,320	1%	13%
Construction Trades Workers	9,740	12,870	3,130	3%	32%
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	34,230	37,320	3,090	1%	9%
Business and Financial Operations Occupations	13,730	16,810	3,080	2%	22%
Education, Training, and Library Occupations	25,310	28,270	2,960	1%	12%
Healthcare Practitioners and Technical Occupations	16,550	19,380	2,830	2%	17%
Production Occupations	17,360	19,740	2,380	1%	14%
Healthcare Support Occupations	8,320	10,480	2,160	2%	26%
Combined Food Preparation and Serving Workers, Including Fast Food	6,670	8,820	2,150	3%	32%
Management Occupations	26,170	28,300	2,130	1%	8%
Business Operations Specialists	8,040	10,150	2,110	2%	26%
Total, All Occupations	**369,300**	**426,900**	**57,600**	**1%**	**16%**

Source: State of California Employment Development Department.
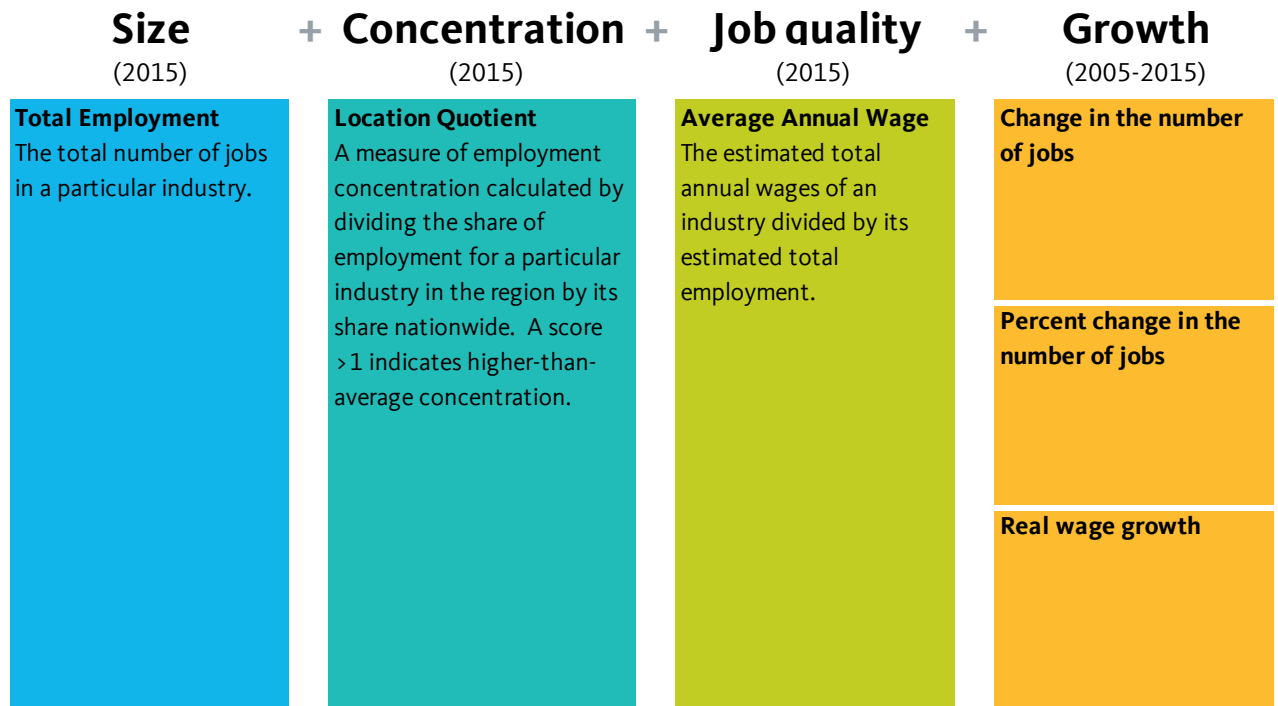Note: Figures may not add up to total due to rounding.

Strong industries and occupations
Identifying the county's strong industries

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

Given that the regional economy has experienced uneven employment growth across industries, it is important to note that this index is only meant to provide general guidance on the strength of various industries. Its interpretation should be informed by examining all four metrics of size, concentration, job quality, and growth.

Industry strength index =

Size (2015)	+	**Concentration** (2015)	+	**Job quality** (2015)	+	**Growth** (2005-2015)
Total Employment The total number of jobs in a particular industry.		**Location Quotient** A measure of employment concentration calculated by dividing the share of employment for a particular industry in the region by its share nationwide. A score >1 indicates higher-than-average concentration.		**Average Annual Wage** The estimated total annual wages of an industry divided by its estimated total employment.		**Change in the number of jobs**
						Percent change in the number of jobs
						Real wage growth

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

Strong industries and occupations
What are the county's strongest industries?

The strongest industries in the region include agriculture, forestry, fishing and hunting; health care and social assistance; and utilities. Health care and social assistance added over 22,000 jobs from 2005 and 2015, but real wages declined by 9 percent.

Strong Industries Analysis, 2015

Industry	Size Total employment	Concentration Location quotient	Job Quality Average annual wage	Growth Change in employment	% Change in employment	Real wage growth	Industry Strength Index
	(2015)	(2015)	(2015)	(2005 to 2015)	(2005 to 2015)	(2005 to 2015)	
Agriculture, Forestry, Fishing and Hunting	47,196	14.5	$27,676	980	2%	25%	134.7
Health Care and Social Assistance	55,074	1.1	$44,357	22,297	68%	-9%	82.8
Utilities	2,190	1.5	$116,514	740	51%	33%	68.2
Mining	290	0.1	$95,988	117	68%	41%	41.8
Information	3,906	0.5	$82,892	-562	-13%	35%	10.1
Wholesale Trade	13,624	0.9	$57,224	1,073	9%	10%	-3.6
Retail Trade	37,117	0.9	$28,963	2,046	6%	-5%	-5.3
Manufacturing	25,199	0.8	$44,442	-1,736	-6%	2%	-13.6
Finance and Insurance	8,387	0.6	$67,957	-1,998	-19%	14%	-13.7
Professional, Scientific, and Technical Services	10,316	0.5	$56,495	-339	-3%	14%	-16.1
Accommodation and Food Services	27,461	0.8	$16,504	4,922	22%	6%	-17.1
Transportation and Warehousing	9,640	0.8	$43,814	1,803	23%	3%	-22.1
Management of Companies and Enterprises	2,077	0.4	$69,439	-890	-30%	10%	-26.4
Administrative and Support and Waste Management and Remediation Services	18,810	0.8	$26,966	3,915	26%	-8%	-27.3
Construction	14,828	0.9	$50,577	-6,735	-31%	8%	-32.6
Other Services (except Public Administration)	10,591	0.9	$32,667	-6,533	-38%	36%	-41.9
Real Estate and Rental and Leasing	4,547	0.8	$39,033	142	3%	2%	-42.2
Education Services	3,306	0.5	$30,846	437	15%	7%	-48.3
Arts, Entertainment, and Recreation	3,454	0.6	$18,639	564	20%	-5%	-64.4

Sources: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc. Universe includes all private sector jobs covered by the federal Unemployment Insurance (UI) program.
Note: Dollar values are in 2015 dollars.

Strong industries and occupations
Identifying high-opportunity occupations

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

Occupation opportunity index =

Job quality	+	Growth
Median annual wage		Real wage growth
		Change in the number of jobs
		Percent change in the number of jobs
		Median age of workers

Strong industries and occupations
What are the county's high-opportunity occupations?

The three strongest occupations in the region require education beyond a bachelor's degree. School teachers have experienced negative wage growth even though they have grown considerably in number.

Strong Occupations Analysis, 2011

Occupation	Employment	Job Quality Median annual wage	Real wage growth	Growth Change in employment	% Change in employment	Median age	Occupation Opportunity Index
	(2011)	(2011)	(2011)	(2005-11)	(2005-11)	(2010)	
Lawyers, Judges, and Related Workers	1,040	$114,326	-11%	110	12%	48	2.02
Life Scientists	370	$78,815	59%	260	236%	40	1.88
Health Diagnosing and Treating Practitioners	8,860	$96,028	8%	1,240	16%	43	1.69
Top Executives	4,670	$93,990	-6%	370	9%	48	1.48
Social Scientists and Related Workers	760	$84,795	21%	100	15%	46	1.46
Postsecondary Teachers	4,070	$77,970	N/A	N/A	N/A	45	1.45
Engineers	1,690	$84,690	14%	100	6%	42	1.34
Other Management Occupations	4,120	$81,513	19%	-1,010	-20%	47	1.26
Advertising, Marketing, Promotions, Public Relations, and Sales Managers	1,190	$86,580	-8%	260	28%	42	1.20
Operations Specialties Managers	2,490	$84,571	-4%	370	17%	44	1.19
Physical Scientists	390	$66,282	20%	100	34%	41	0.87
Law Enforcement Workers	2,020	$71,600	-2%	150	8%	40	0.77
Supervisors of Construction and Extraction Workers	640	$64,900	6%	-890	-58%	45	0.57
Computer Occupations	2,460	$62,796	-2%	-330	-12%	36	0.42
Sales Representatives, Wholesale and Manufacturing	2,750	$56,351	8%	-100	-4%	43	0.41
Business Operations Specialists	7,600	$55,771	4%	50	1%	43	0.37
Preschool, Primary, Secondary, and Special Education School Teachers	11,610	$55,676	-4%	1,250	12%	42	0.34
Drafters, Engineering Technicians, and Mapping Technicians	1,210	$54,219	7%	-10	-1%	41	0.33
Plant and System Operators	640	$52,646	2%	120	23%	46	0.31
Supervisors of Installation, Maintenance, and Repair Workers	1,000	$56,170	-6%	60	6%	44	0.29
Financial Specialists	5,190	$53,438	-5%	710	16%	45	0.27

Source: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes all nonfarm wage and salary jobs.
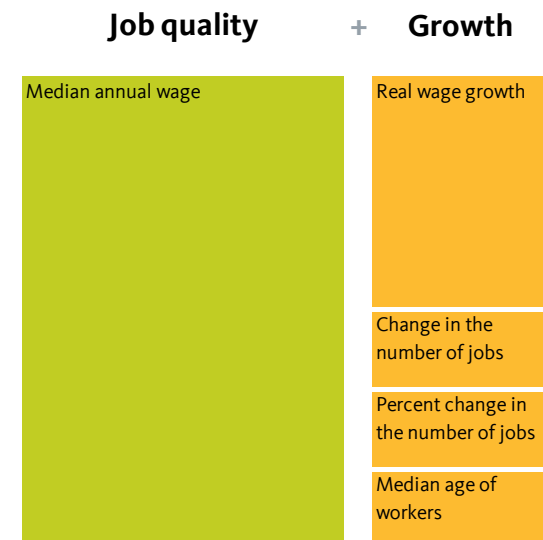Note: Dollar values are in 2011 dollars.

Strong industries and occupations
Identifying high-opportunity occupations

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

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

All jobs
(2011)

High-opportunity
(30 occupations)

Middle-opportunity
(27 occupations)

Low-opportunity
(20 occupations)

Strong industries and occupations

What occupations are high opportunity?

Supervisors of construction, extraction, transportation and material moving, and production workers and other installation, maintenance, and repair occupations are high-opportunity jobs for workers without postsecondary education.

Occupation Opportunity Index: Occupations by Opportunity Level for Workers with a High School Diploma or Less

	Occupation	Employment	Job Quality Median annual wage	Growth Real wage growth	Growth Change in employment	Growth % Change in employment	Growth Median age	Occupation Opportunity Index
		(2011)	(2011)	(2011)	(2005-11)	(2005-11)	(2010)	
High-Opportunity	Supervisors of Construction and Extraction Workers	640	$64,900	5.8%	-890	-58.2%	45	0.57
	Supervisors of Transportation and Material Moving Workers	980	$47,469	-0.1%	20	2.1%	43	0.08
	Supervisors of Production Workers	1,080	$47,590	-2.1%	-200	-15.6%	42	0.02
	Other Installation, Maintenance, and Repair Occupations	4,810	$38,997	10.0%	50	1.1%	40	-0.10
	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	3,850	$39,905	-5.7%	500	14.9%	40	-0.20
Middle-Opportunity	Supervisors of Building and Grounds Cleaning and Maintenance Workers	550	$36,363	-6.5%	-40	-6.8%	44	-0.32
	Construction Trades Workers	7,180	$44,781	8.6%	-6,840	-48.8%	37	-0.36
	Motor Vehicle Operators	8,980	$31,872	1.3%	-850	-8.6%	43	-0.43
	Metal Workers and Plastic Workers	1,230	$32,907	-1.1%	-720	-36.9%	44	-0.44
	Supervisors of Farming, Fishing, and Forestry Workers	530	$24,200	18.9%	-520	-49.5%	48	-0.45
	Material Recording, Scheduling, Dispatching, and Distributing Workers	8,670	$30,626	-0.6%	960	12.5%	34	-0.46
	Agricultural Workers	24,240	$18,726	-1.6%	5,500	29.3%	36	-0.56
Low-Opportunity	Other Transportation Workers	370	$28,461	3.6%	-280	-43.1%	36	-0.58
	Nursing, Psychiatric, and Home Health Aides	4,120	$23,216	2.7%	300	7.9%	40	-0.62
	Food Processing Workers	4,600	$22,546	-7.3%	1,530	49.8%	39	-0.65
	Supervisors of Food Preparation and Serving Workers	2,070	$25,240	-3.1%	150	7.8%	30	-0.73
	Building Cleaning and Pest Control Workers	5,530	$21,952	-1.2%	-460	-7.7%	43	-0.73
	Other Protective Service Workers	3,860	$19,941	-3.8%	1,530	65.7%	31	-0.75
	Textile, Apparel, and Furnishings Workers	670	$20,893	-2.8%	-180	-21.2%	46	-0.75
	Material Moving Workers	11,950	$23,190	4.3%	-1,130	-8.6%	34	-0.75
	Assemblers and Fabricators	1,500	$25,137	-5.2%	-530	-26.1%	37	-0.76
	Grounds Maintenance Workers	2,090	$23,325	-4.5%	-150	-6.7%	37	-0.76
	Other Production Occupations	5,370	$23,216	1.6%	-1,840	-25.5%	39	-0.79
	Other Personal Care and Service Workers	3,380	$21,201	-11.1%	330	10.8%	42	-0.81
	Cooks and Food Preparation Workers	6,940	$20,283	-0.7%	550	8.6%	31	-0.82
	Food and Beverage Serving Workers	12,790	$18,902	-0.7%	870	7.3%	24	-0.91
	Retail Sales Workers	19,390	$20,852	-4.1%	90	0.5%	26	-0.92
	Other Food Preparation and Serving Related Workers	3,290	$18,354	-1.8%	720	28.0%	22	-0.94

Sources: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes all nonfarm wage and salary jobs for which the typical worker is estimated to have a high school diploma or less.
Note: Dollar values are in 2011 dollars.

Strong industries and occupations
What occupations are high opportunity?

Law enforcement workers; drafters, engineering technicians, and mapping technicians; and plant and system operators are high-opportunity jobs for workers with more than a high school diploma but less than a bachelor's degree.

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

	Occupation	Employment	Job Quality Median annual wage	Growth Real wage growth	Change in employment	% Change in employment	Median age	Occupation Opportunity Index
		(2011)	(2011)	(2011)	(2005-11)	(2005-11)	(2010)	
High-Opportunity	Law Enforcement Workers	2,020	$71,600	-1.6%	150	8.0%	40	0.77
	Drafters, Engineering Technicians, and Mapping Technicians	1,210	$54,219	7.3%	-10	-0.8%	41	0.33
	Plant and System Operators	640	$52,646	1.6%	120	23.1%	46	0.31
	Supervisors of Installation, Maintenance, and Repair Workers	1,000	$56,170	-6.1%	60	6.4%	44	0.29
	Legal Support Workers	570	$53,248	5.2%	-1,000	-63.7%	42	0.18
	Supervisors of Office and Administrative Support Workers	3,660	$48,180	-2.6%	500	15.8%	44	0.12
	Electrical and Electronic Equipment Mechanics, Installers, and Repairers	860	$50,211	-7.5%	130	17.8%	38	0.06
	Health Technologists and Technicians	5,280	$46,476	-0.4%	850	19.2%	37	0.05
	Supervisors of Personal Care and Service Workers	360	$38,410	13.2%	140	63.6%	41	0.00
	Supervisors of Sales Workers	2,910	$41,245	2.3%	-130	-4.3%	41	-0.12
Middle-Opportunity	Life, Physical, and Social Science Technicians	590	$32,573	4.0%	160	37.2%	35	-0.35
	Other Education, Training, and Library Occupations	5,470	$33,072	7.0%	-800	-12.8%	39	-0.37
	Financial Clerks	7,670	$33,562	1.3%	-760	-9.0%	43	-0.37
	Information and Record Clerks	10,420	$31,303	7.0%	1,010	10.7%	32	-0.37
	Secretaries and Administrative Assistants	7,060	$33,717	-11.1%	1,270	21.9%	41	-0.39
	Other Office and Administrative Support Workers	12,000	$29,148	5.7%	-220	-1.8%	38	-0.47
Low-Opportunity	Other Healthcare Support Occupations	4,410	$27,897	-7.8%	390	9.7%	31	-0.67
	Communications Equipment Operators	390	$22,400	-4.5%	-140	-26.4%	41	-0.78
	Entertainment Attendants and Related Workers	810	$18,463	-5.8%	-180	-18.2%	24	-1.06

Sources: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes all nonfarm wage and salary jobs for which the typical worker is estimated to have more than a high school diploma but less than a BA.
Note: Dollar values are in 2011 dollars.

Strong industries and occupations
Which occupations are high opportunity?

Lawyers, judges, and related workers; life scientists; and health diagnosing and treating practitioners are high-opportunity occupations for workers with a bachelor's degree or higher.

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

	Occupation	Employment	Job Quality Median annual wage	Growth Real wage growth	Growth Change in employment	Growth % Change in employment	Growth Median age	Occupation Opportunity Index
		(2011)	(2011)	(2011)	(2005-11)	(2005-11)	(2010)	
High-Opportunity	Lawyers, Judges, and Related Workers	1,040	$114,326	-11.3%	110	11.8%	48	2.02
	Life Scientists	370	$78,815	58.7%	260	236.4%	40	1.88
	Health Diagnosing and Treating Practitioners	8,860	$96,028	7.6%	1,240	16.3%	43	1.69
	Top Executives	4,670	$93,990	-5.6%	370	8.6%	48	1.48
	Social Scientists and Related Workers	760	$84,795	21.0%	100	15.2%	46	1.46
	Postsecondary Teachers	4,070	$77,970	N/A	N/A	N/A	45	1.45
	Engineers	1,690	$84,690	14.1%	100	6.3%	42	1.34
	Other Management Occupations	4,120	$81,513	18.5%	-1,010	-19.7%	47	1.26
	Advertising, Marketing, Promotions, Public Relations, and Sales Managers	1,190	$86,580	-7.6%	260	28.0%	42	1.20
	Operations Specialties Managers	2,490	$84,571	-4.2%	370	17.5%	44	1.19
	Physical Scientists	390	$66,282	19.8%	100	34.5%	41	0.87
	Computer Occupations	2,460	$62,796	-1.8%	-330	-11.8%	36	0.42
	Sales Representatives, Wholesale and Manufacturing	2,750	$56,351	7.8%	-100	-3.5%	43	0.41
	Business Operations Specialists	7,600	$55,771	4.4%	50	0.7%	43	0.37
	Preschool, Primary, Secondary, and Special Education School Teachers	11,610	$55,676	-4.4%	1,250	12.1%	42	0.34
	Financial Specialists	5,190	$53,438	-4.8%	710	15.8%	45	0.27
	Specialists	4,350	$47,452	10.3%	250	6.1%	36	0.14
	Other Sales and Related Workers	1,620	$30,825	34.7%	300	22.7%	48	0.03
	Media and Communication Workers	500	$46,227	9.6%	-510	-50.5%	37	0.00
	Librarians, Curators, and Archivists	600	$42,039	-30.6%	440	275.0%	48	-0.04
	Sales Representatives, Services	2,150	$47,788	-11.3%	-470	-17.9%	41	-0.10
	Entertainers and Performers, Sports and Related Workers	550	$41,975	3.4%	-10	-1.8%	28	-0.19
Middle-Opportunity	Media and Communication Equipment Workers	380	$36,692	9.7%	-80	-17.4%	38	-0.21
	Art and Design Workers	480	$34,518	-0.2%	-260	-35.1%	42	-0.37
	Other Teachers and Instructors	3,530	$39,449	-16.4%	460	15.0%	28	-0.44

Sources: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes all nonfarm wage and salary jobs for which the typical worker is estimated to have a BA degree or higher.
Note: "N/A" indicates that data is not available. Dollar values are in 2011 dollars.
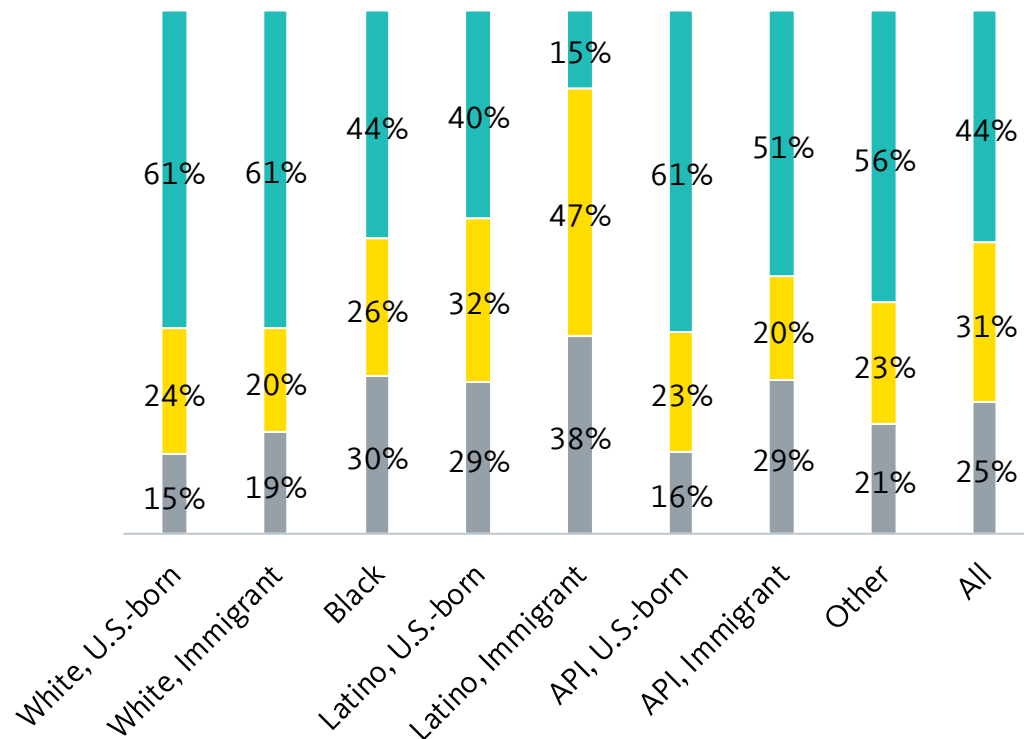
Strong industries and occupations
Is race/ethnicity a barrier to economic success?

When examining access to high-opportunity jobs by race/ethnicity and nativity, White and U.S.-born Asian or Pacific Islander workers are most likely to be employed in high-opportunity occupations. Latino immigrants are the least likely to be in these occupations and most likely to be in low-opportunity occupations.

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

- High Opportunity
- Middle Opportunity
- Low Opportunity

	White, U.S.-born	White, Immigrant	Black	Latino, U.S.-born	Latino, Immigrant	API, U.S.-born	API, Immigrant	Other	All
High Opportunity	61%	61%	44%	40%	15%	61%	51%	56%	44%
Middle Opportunity	24%	20%	26%	32%	47%	23%	20%	23%	31%
Low Opportunity	15%	19%	30%	29%	38%	16%	29%	21%	25%

Sources: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian noninstitutional population ages 25 through 64.
Note: Data for some racial/ethnic groups are excluded due to small sample size. Figures may not sum to 100 percent due to rounding.

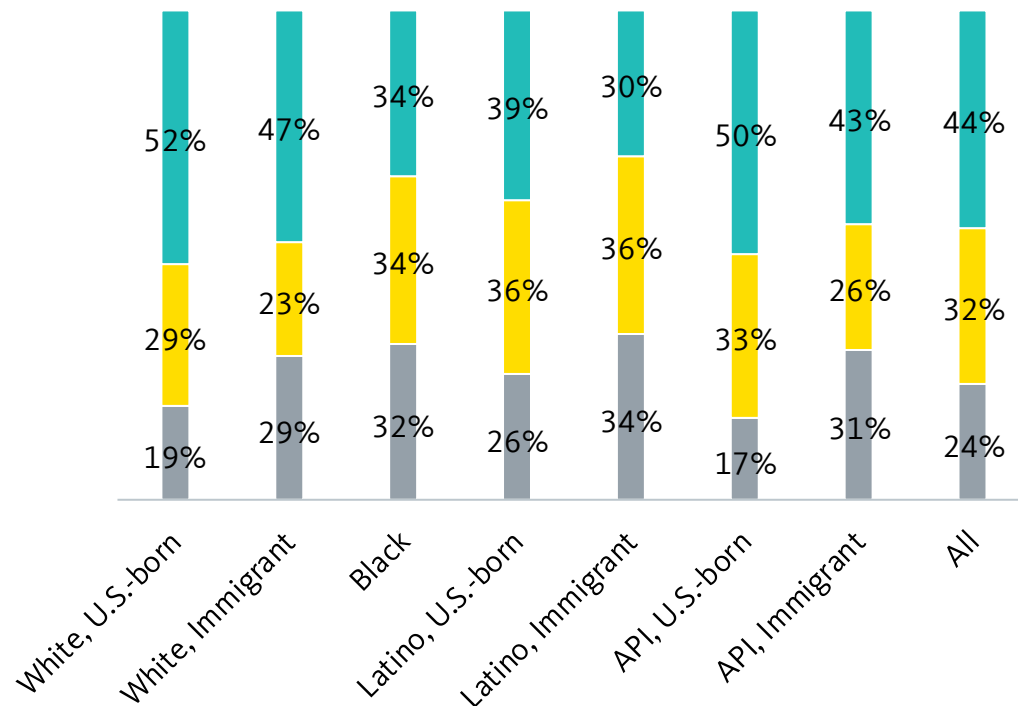# Strong industries and occupations
Is race/ethnicity a barrier to economic success?

Among workers with a high school degree or less, Whites are most likely to be in the high-opportunity occupations.

Latino immigrants are the most likely to be in middle-opportunity jobs while Black and Asian or Pacific Islander workers are the most likely to be in low-opportunity jobs.

Opportunity Ranking of Occupations by Race/Ethnicity and Nativity, Workers with Low Educational Attainment
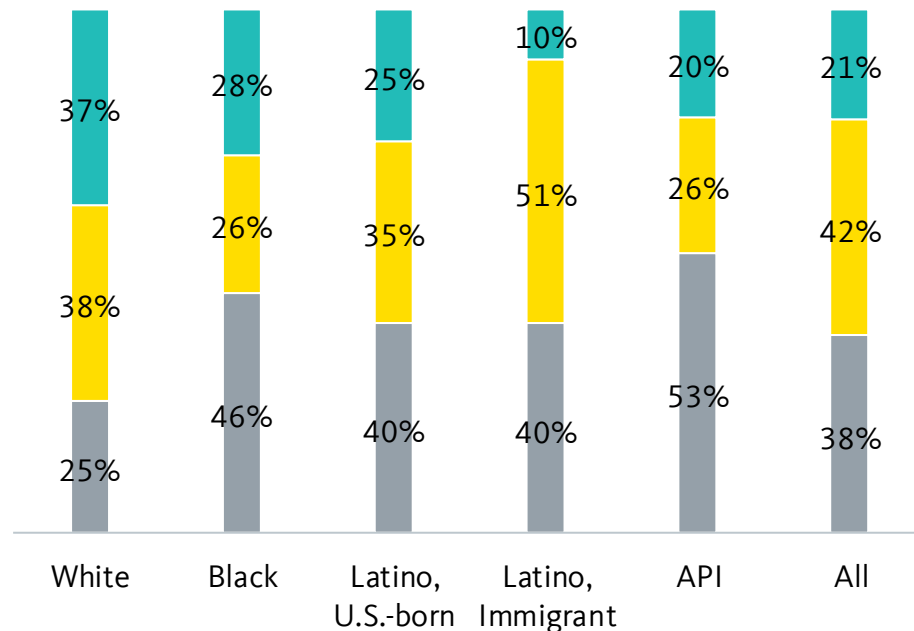
■ High Opportunity
■ Middle Opportunity
■ Low Opportunity

	White	Black	Latino, U.S.-born	Latino, Immigrant	API	All
High Opportunity	37%	28%	25%	10%	20%	21%
Middle Opportunity	38%	26%	35%	51%	26%	42%
Low Opportunity	25%	46%	40%	40%	53%	38%

Sources: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian noninstitutional population ages 25 through 64 with a high school diploma or less.
Note: Data for some racial/ethnic groups are excluded due to small sample size. Figures may not sum to 100 percent due to rounding.
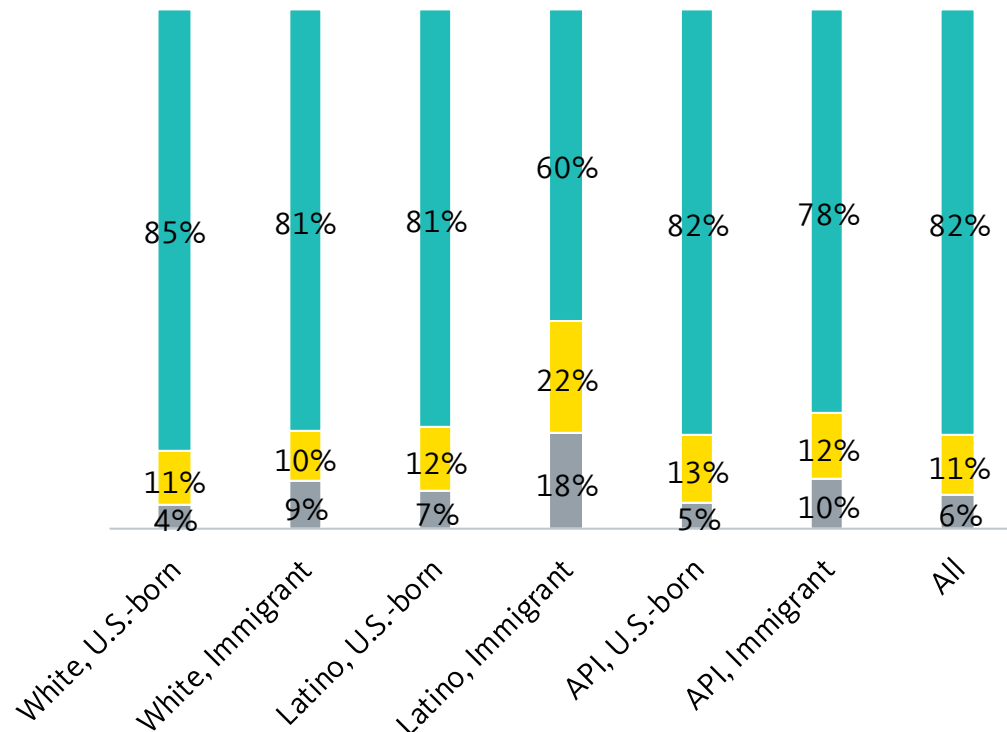
Strong industries and occupations
Is race/ethnicity a barrier to economic success?

Differences in job opportunity are generally smaller for workers with middle education levels. More than half of U.S.-born White workers are in high-opportunity jobs. About one-third of Black and Latino immigrant workers are in low-opportunity jobs.

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

- ■ High Opportunity
- ■ Middle Opportunity
- ■ Low Opportunity

	White, U.S-born	White, Immigrant	Black	Latino, U.S-born	Latino, Immigrant	API, U.S-born	API, Immigrant	All
High Opportunity	52%	47%	34%	39%	30%	50%	43%	44%
Middle Opportunity	29%	23%	34%	36%	36%	33%	26%	32%
Low Opportunity	19%	29%	32%	26%	34%	17%	31%	24%

Sources: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian noninstitutional population ages 25 through 64 with more than a high school diploma but less than a BA degree.
Note: Data for some racial/ethnic groups are excluded due to small sample size. Figures may not sum to 100 percent due to rounding.

Strong industries and occupations

Is race/ethnicity a barrier to economic success?

Differences in access to high-opportunity occupations tend to decrease even more for workers with college degrees, though gaps across groups remain. Among the most educated workers, Latino immigrants are the least likely of the groups shown to be in high-opportunity jobs.

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

■ High Opportunity
■ Middle Opportunity
■ Low Opportunity

	White, U.S.-born	White, Immigrant	Latino, U.S.-born	Latino, Immigrant	API, U.S.-born	API, Immigrant	All
High Opportunity	85%	81%	81%	60%	82%	78%	82%
Middle Opportunity	11%	10%	12%	22%	13%	12%	11%
Low Opportunity	4%	9%	7%	18%	5%	10%	6%

Readiness
Highlights

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

- There is a looming skills and education gap with rates of postsecondary education (having at least an associate's degree) that are far lower than the share of future jobs that will require that level of education. The gaps are widest for Latinos and African Americans.

- Despite some progress since 2000, Black and Latino young people are at least three times as likely as White youth to be without a high school diploma and not in pursuit of one.

- The average Fresno resident has more exposure to air pollution than nearly 70 percent of census tracts nationwide.

- Adult asthma rates are higher in Fresno than both the state and nation overall.

Share of people of color with an AA degree or higher:

20%

Number of youth who are disconnected:

26,314

Share of adults with asthma:

12%

Skilled workforce

Does the workforce have the skills for the jobs of the future?

The education levels of the county's population are not keeping up with employers' educational demands. By 2020, an estimated 44 percent of jobs in California will require at least an associate's degree. Only 7 percent of Latino immigrants and 22 percent of U.S.-born Latinos have this level of education.

Share of Working-Age Population with an Associate's Degree or Higher by Race/Ethnicity, 2014, and Projected Share of Jobs that Require an Associate's Degree or Higher, 2020

Category	Value
Latino, Immigrant	7%
Latino, U.S.-born	22%
Native American	24%
Black	26%
Southeast Asian, Immigrant	31%
Mixed/other	36%
Southeast Asian, U.S.-born	36%
API, Immigrant	37%
White, U.S.-born	42%
API, U.S.-born	49%
White, Immigrant	53%
Jobs in 2020	44%
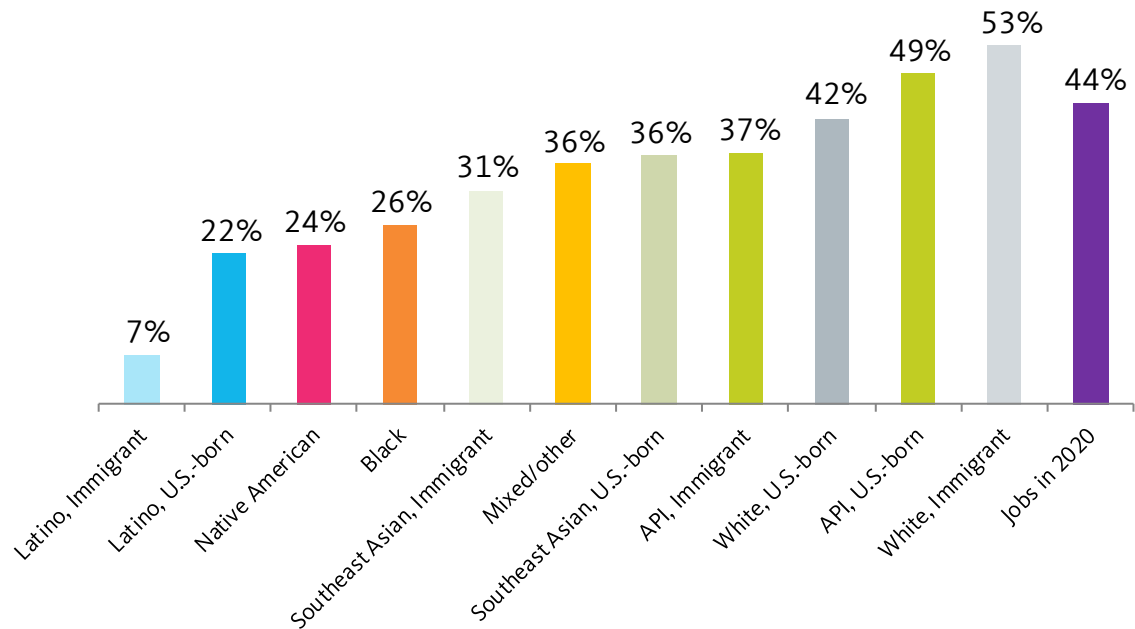
Sources: Georgetown Center for Education and the Workforce; Integrated Public Use Microdata Series. Universe for education levels of workers includes all persons ages 25 through 64.
Note: Data for 2014 by race/ethnicity and nativity represent a 2010 through 2014 average for Fresno County; data on jobs in 2020 represents a state-level projection for California.

Youth preparedness

Do all children have access to opportunity?

The highest levels of opportunities for children are concentrated in and around the city of Clovis. The areas ranked lowest on the child opportunity index include communities in and around Huron and Cantua Creek.

Composite Child Opportunity Index by Census Tract

- Very High
- High
- Moderate
- Low
- Very Low

Youth preparedness
Are youth ready to enter the workforce?

More of Fresno's youth are getting high school diplomas, but racial gaps remain. Despite some progress since 2000, young Latino immigrants were eight times as likely as their White counterparts to be without a high school diploma and not in pursuit of one in 2014.

Share of 16- to 24-Year-Olds Not Enrolled in School and without a High School Diploma by Race/Ethnicity and Nativity, 1990 to 2014

- ■ 1990
- ■ 2000
- ■ 2014
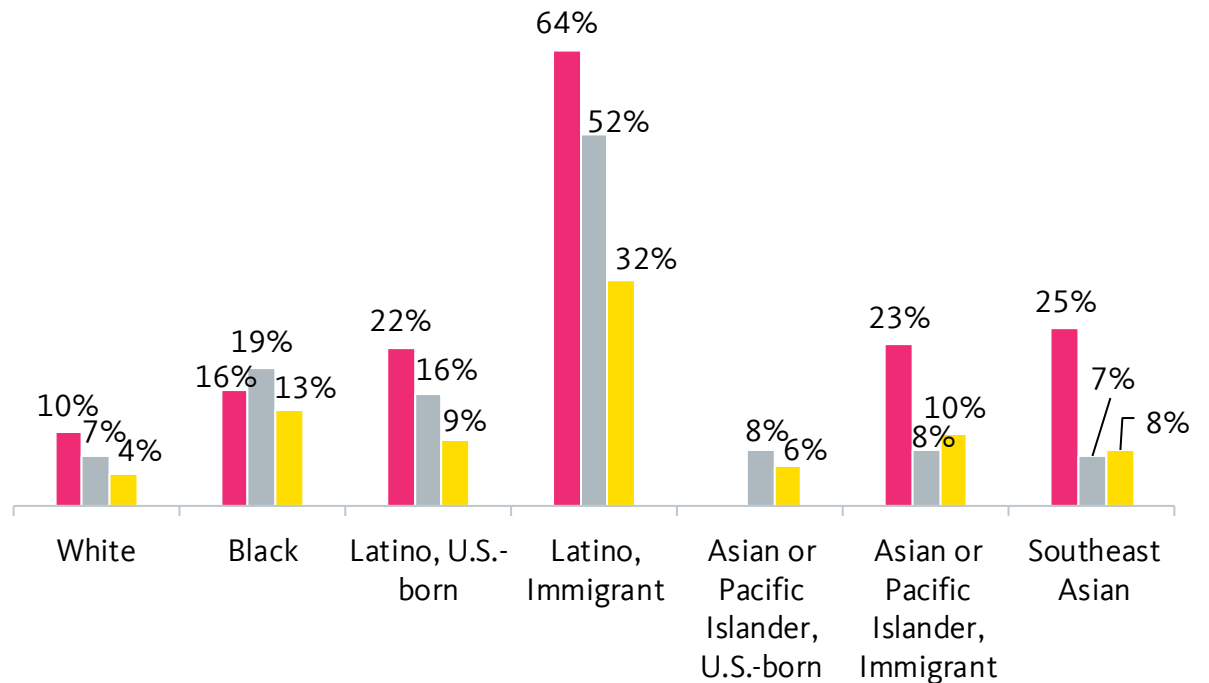
Source: Integrated Public Use Microdata Series.
Note: Data for 2014 represent a 2010 through 2014 average. Data for some racial/ethnic groups in some years are excluded due to small sample size.

Youth preparedness

Are youth ready to enter the workforce?

Young women are less likely than men to drop out of high school across all races/ethnicities. One in 10 young Black and Latina women ages 16 to 24 do not have a high school diploma and are not currently in pursuit of one, as are 16 percent of young Black men and 17 percent of young Latino men.

Share of 16- to 24-Year-Olds Not Enrolled in School and without a High School Diploma by Race/Ethnicity and Gender, 2014

- Male
- Female
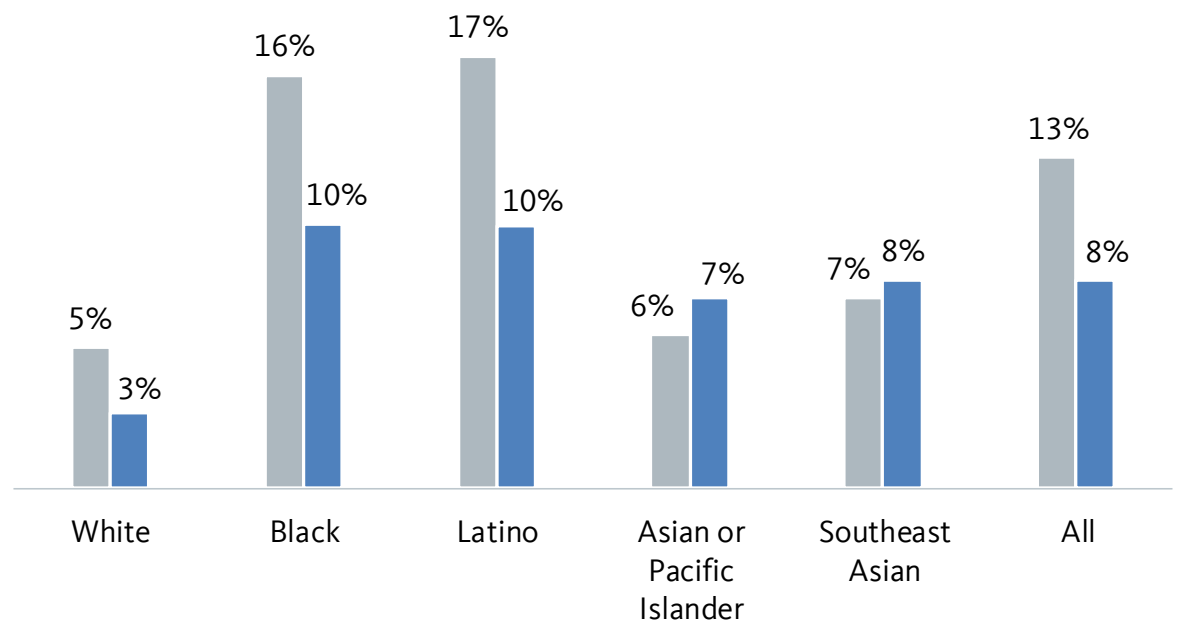
	White	Black	Latino	Asian or Pacific Islander	Southeast Asian	All
Male	5%	16%	17%	6%	7%	13%
Female	3%	10%	10%	7%	8%	8%

Source: Integrated Public Use Microdata Series.
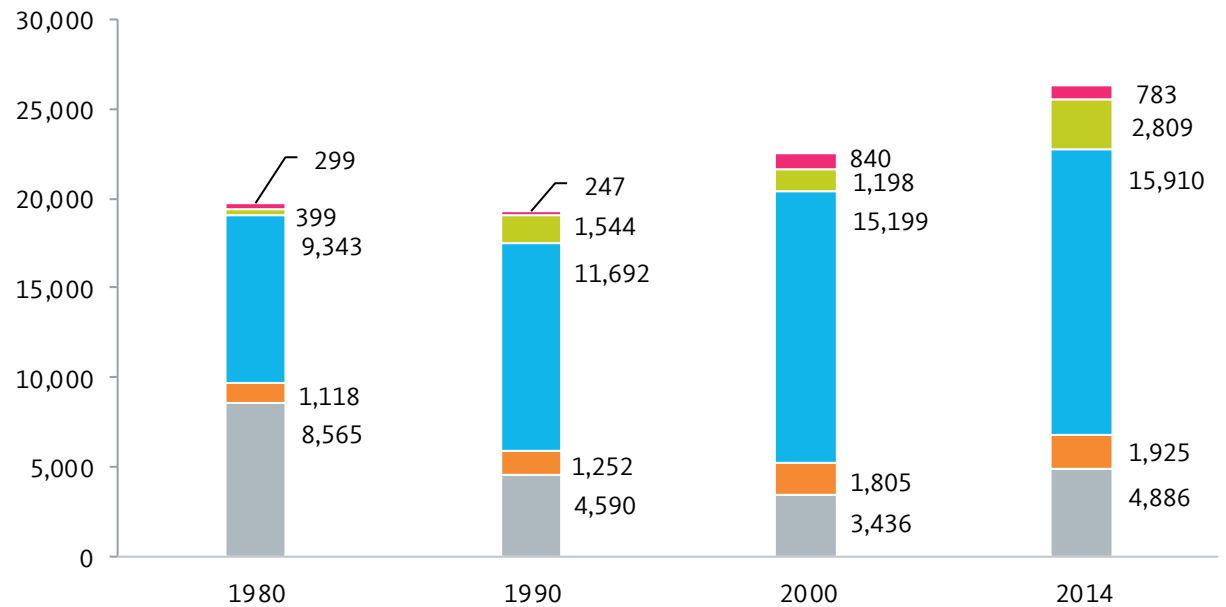Note: Data represent a 2010 through 2014 average.

Youth preparedness

Are youth ready to enter the workforce?

The number of disconnected youth has increased in each decade since 1990, and youth of color are disproportionately disconnected. Of the over 26,300 disconnected youth in 2014, three in five were Latino. Youth of color make up 81 percent of disconnected youth but 77 percent of all youth.

Disconnected Youth: 16- to 24-Year-Olds Not in School or Work by Race/Ethnicity, 1980 to 2014

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

Source: Integrated Public Use Microdata Series.
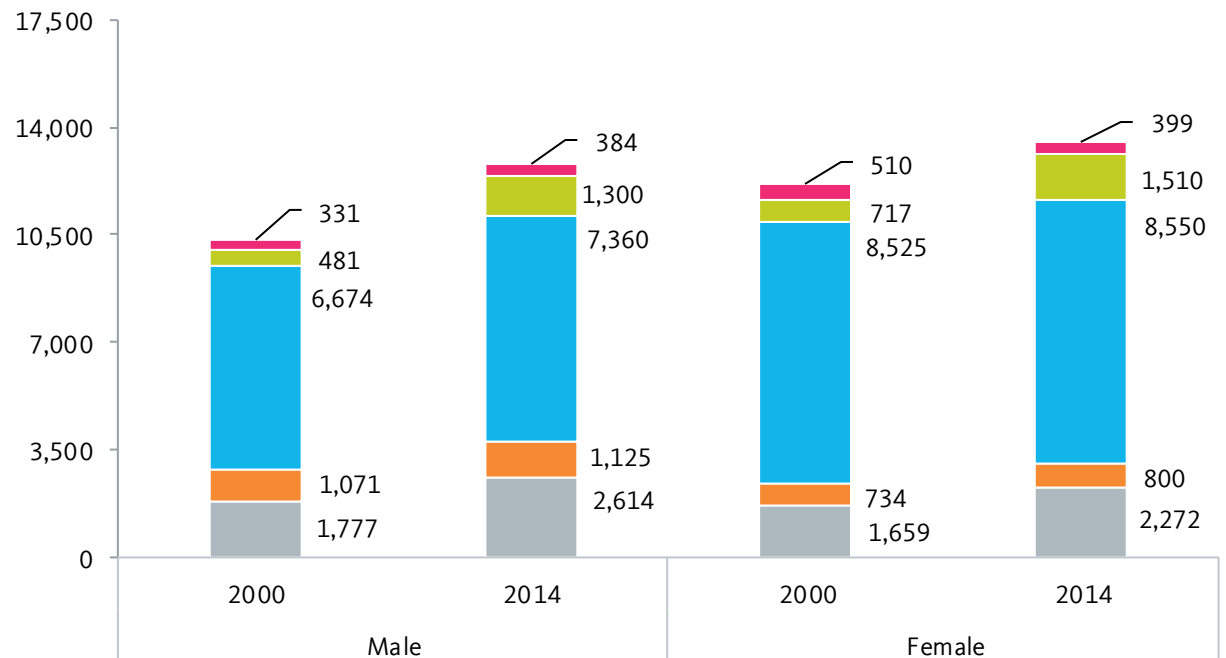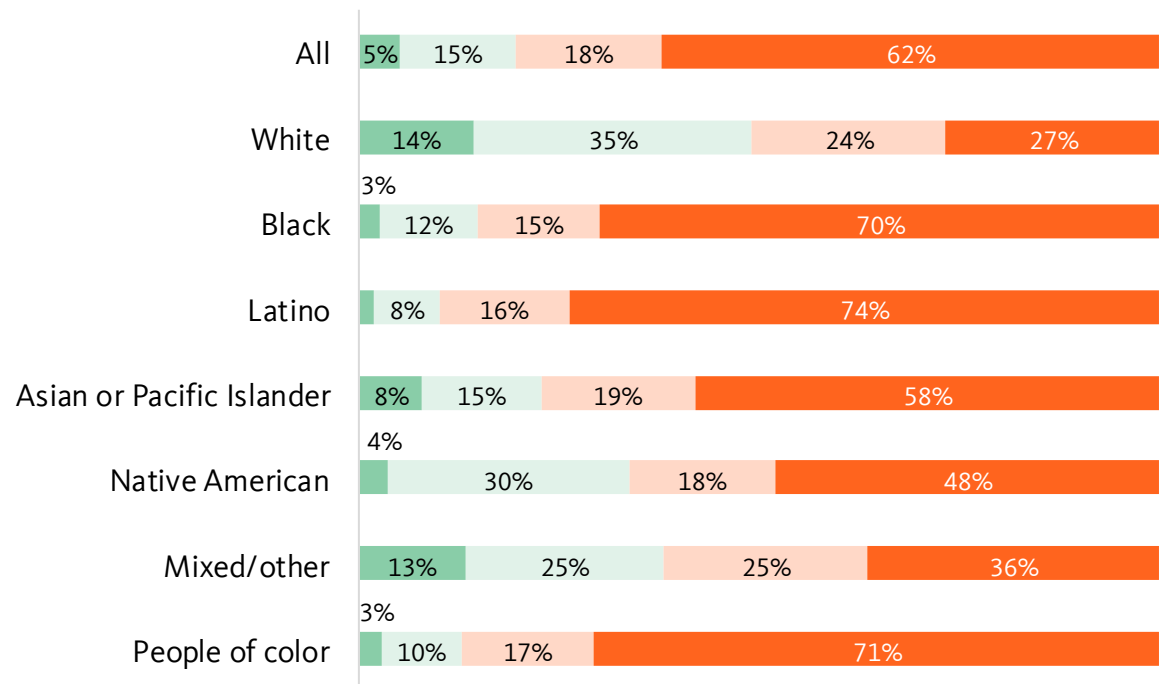Note: Data for 2014 represent a 2010 through 2014 average.

Youth preparedness

Are youth ready to enter the workforce?

There are slightly more disconnected Latina and Asian or Pacific Islander women than men. The opposite is true for young Black and White women. Young Latinos make up 58 percent of disconnected young men in Fresno while young Latinas make up 63 percent of disconnected young women.

Disconnected Youth: 16- to 24-Year-Olds Not in School or Work by Race/Ethnicity and Gender, 2000 to 2014

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

Male		Female	
2000	2014	2000	2014

Male 2000: 331, 481, 6,674, 1,071, 1,777
Male 2014: 384, 1,300, 7,360, 1,125, 2,614
Female 2000: 510, 717, 8,525, 734, 1,659
Female 2014: 399, 1,510, 8,550, 800, 2,272

Source: Integrated Public Use Microdata Series.
Note: Data for 2014 represent a 2010 through 2014 average.

Youth preparedness

Are youth ready to enter the workforce?

Latino, Black, and Asian or Pacific Islander youth in the county are most likely to attend schools where more than 75 percent of students are eligible for free or reduced price lunch (FRPL). While 71 percent of students of color attend high-poverty schools, only 27 percent of White students do.

Percent of Students by School Poverty Level, as Defined by the Share of Students Eligible for FRPL, 2014

- ■ Low (< 25% FRPL)
- ■ Mid-low (25-50% FRPL)
- ■ Mid-high (50-75% FRPL)
- ■ High (>75% FRPL)

Group	Low	Mid-low	Mid-high	High
All	5%	15%	18%	62%
White	14%	35%	24%	27%
Black	3%	12%	15%	70%
Latino		8%	16%	74%
Asian or Pacific Islander	8%	15%	19%	58%
Native American	4%	30%	18%	48%
Mixed/other	13%	25%	25%	36%
People of color	3%	10%	17%	71%

Source: National Center for Education Statistics. Universe includes all public elementary and secondary schools and school districts in Fresno County.
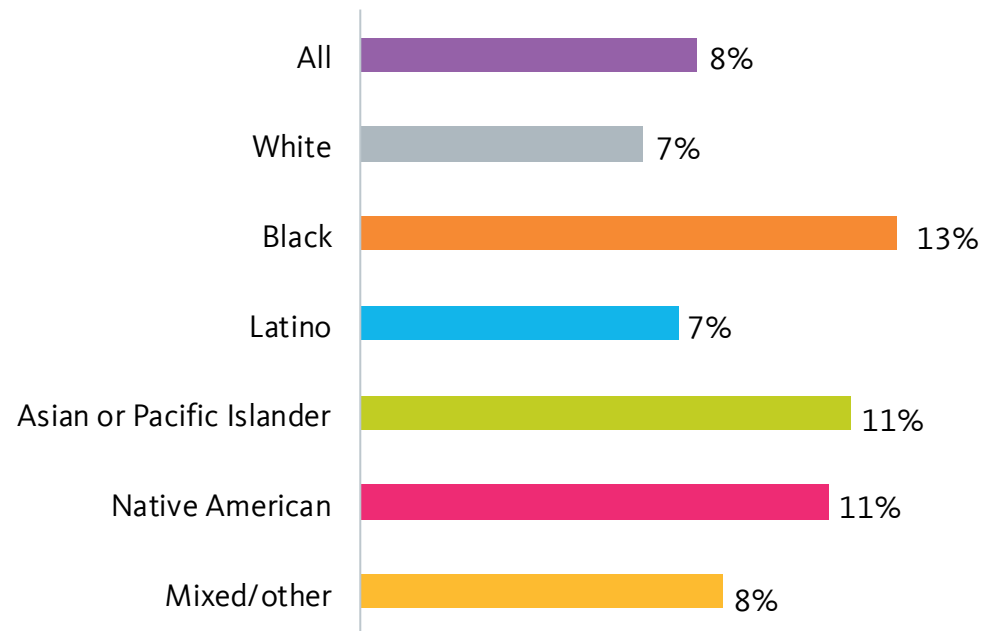
Health-promoting environments
Can all residents access healthy food?

Black residents of Fresno are the most likely to live in areas without adequate access to supermarkets. White and Latino residents are the least likely to live in these areas. Healthy food is a critical component of a healthy, thriving community.

Percent Living in Limited Supermarket Access Areas (LSAs) by Race/Ethnicity, 2014

LSAs are defined as areas where residents must travel significantly farther to reach a supermarket than the "comparatively acceptable" distance traveled by residents in well-served areas with similar population densities and car ownership rates.

All	8%
White	7%
Black	13%
Latino	7%
Asian or Pacific Islander	11%
Native American	11%
Mixed/other	8%

Sources: The Reinvestment Fund, 2014 LSA analysis; U.S. Census Bureau.
Note: Data on population by race/ethnicity reflects a 2010 through 2014 average.
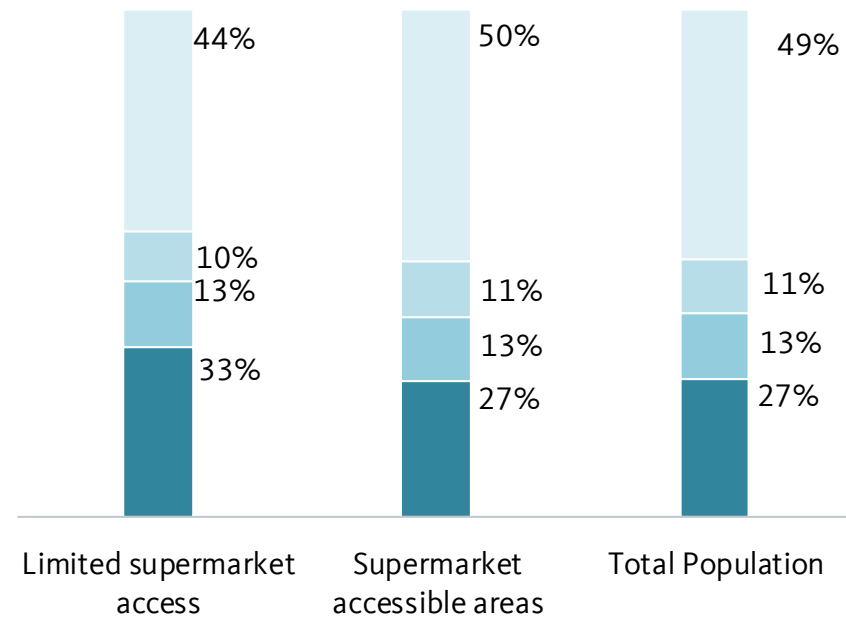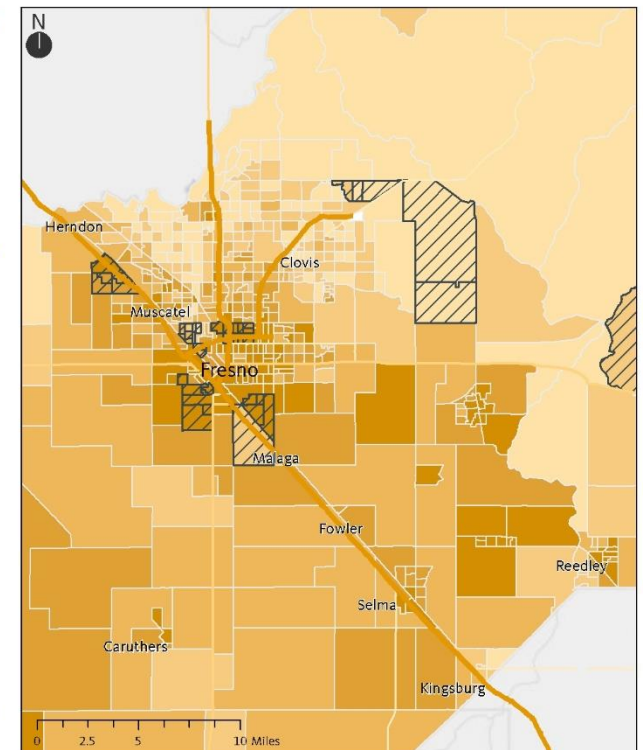
Health-promoting environments
Can all residents access healthy food?

The population below poverty and close to poverty is also disproportionately located in LSAs. Those living below poverty make up 27 percent of the county but account for one in three residents of LSAs.

Percent Population by Federal Poverty Level (FPL) and Food Environment, 2014

- 200% poverty or above
- 150-199% poverty
- 100-149% poverty
- Below poverty

LSAs are defined as areas where residents must travel significantly farther to reach a supermarket than the "comparatively acceptable" distance traveled by residents in well-served areas with similar population densities and car ownership rates.

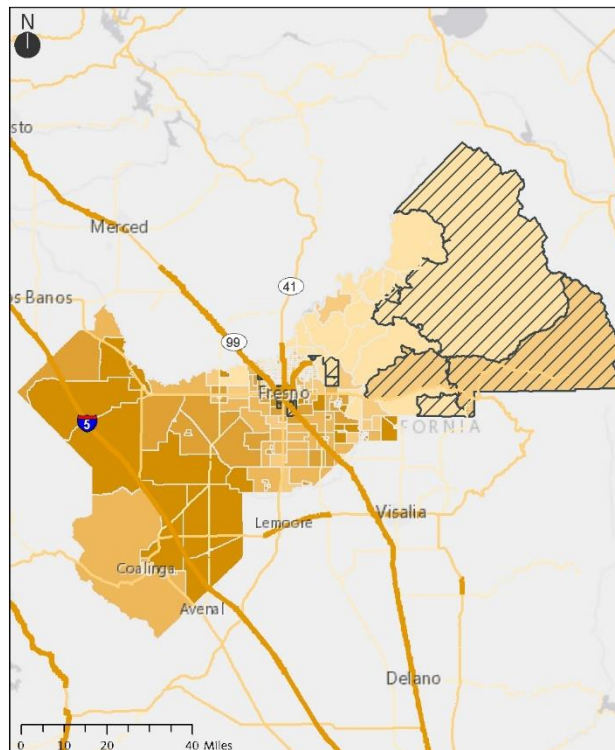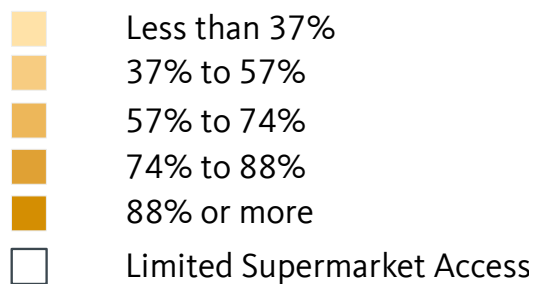|	Limited supermarket access	Supermarket accessible areas	Total Population
200% poverty or above	44%	50%	49%
150-199% poverty	10%	11%	11%
100-149% poverty	13%	13%	13%
Below poverty	33%	27%	27%

Sources: The Reinvestment Fund, 2014 LSA analysis; U.S. Census Bureau. Universe includes all persons not in groups quarters.
Note: Data on population by poverty status reflects a 2010 through 2014 average.

Health-promoting environments
Can all residents access healthy food?

The most visible LSAs are located on the eastern edge of the county and the southwestern part of the city of Fresno. Block groups are drawn, however, based on population not land area. The large block groups on the eastern edge likely have a comparable number of people as smaller block groups.

Percent People of Color by Census Block Group and Limited Supermarket Access (LSA) Block Groups, 2014

Less than 37%

37% to 57%

57% to 74%

74% to 88%

88% or more

Limited Supermarket Access

Health-promoting environments
Do all residents live in areas with clean air?

The average Fresno resident has more exposure to air pollution than nearly 70 percent of census tracts in the United States. Black and Asian or Pacific Islander residents have the higher exposure than other groups.

Air Pollution: Exposure Index
by Race/Ethnicity, 2014

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 U.S. and taking the averaging ranking for each Atlas geography and demographic group.

All	69.7
White	67.2
Black	78.5
Latino	69.3
Asian or Pacific Islander	75.6
Native American	59.6
Mixed/other	70.1
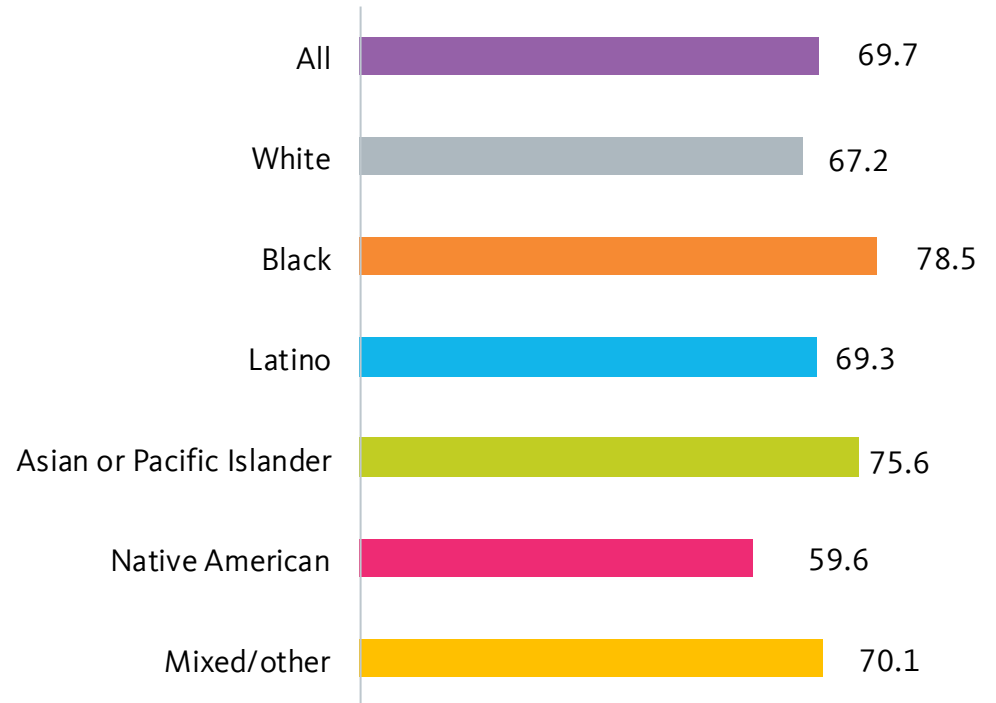
Sources: U.S. EPA, 2011 National-Scale Air Toxics Assessment; U.S. Census Bureau.
Note: Data on population by race/ethnicity represent a 2010 through 2014 average.

Health-promoting environments
Do all residents live in areas with clean air?

Both race and class impact exposure to pollutants. In Fresno, White residents above poverty have the lowest rates of exposure to air pollution while residents below poverty have the highest exposure.

Air Pollution: Exposure Index
by Poverty Status, 2014

■ White
■ People of color

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 U.S. and taking the averaging ranking for each Atlas geography and demographic group.

Below 100%
federal poverty level
73.4
73.3

100% or above
federal poverty level
66.4
69.9
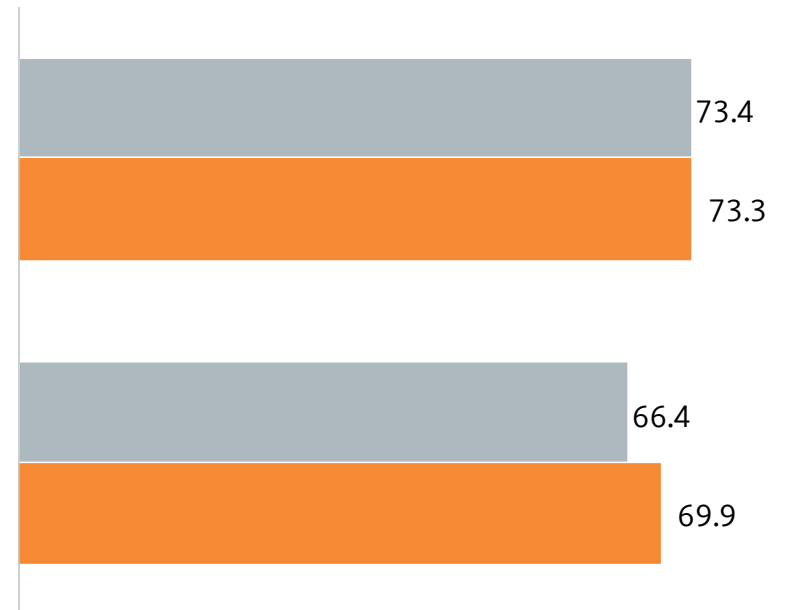
Sources: U.S. EPA, 2011 National-Scale Air Toxics Assessment; U.S. Census Bureau. Universe includes all persons not in group quarters.
Note: Data on population by poverty status represent a 2010 through 2014 average.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

Obesity rates are higher in Fresno County than in both California and the United States overall. Two in three Fresno residents are overweight or obese compared with 61 percent of adults statewide.

Adult Overweight and Obesity
by Geography, 2012
- Overweight
- Obese

	Overweight	Obese
United States	36%	27%
California	36%	25%
Fresno	35%	31%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
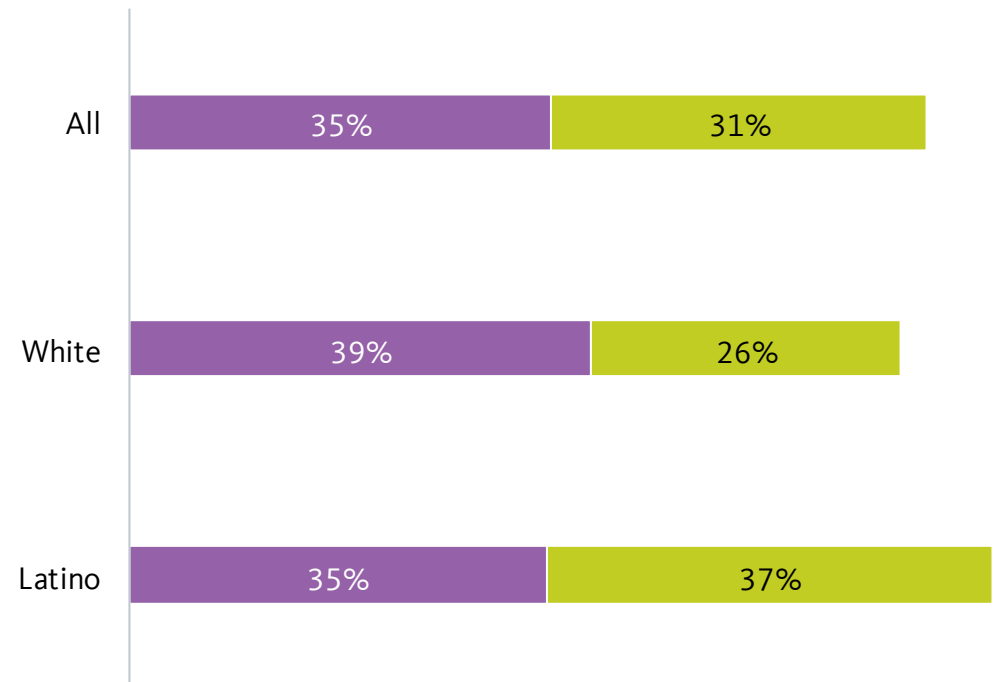Note: Data represent a 2008 through 2012 average.

Health of residents
Do all residents have the opportunity to live long and healthy lives?

Latinos face higher obesity rates than Whites. More than one-third of Latino adults are obese compared with roughly one in four White adults. While genetics matter, research shows there are other important social and environmental factors that influence obesity, including toxic stress, income, and education.

Adult Overweight and Obesity
Rates by Race/Ethnicity, 2012
- Overweight
- Obese

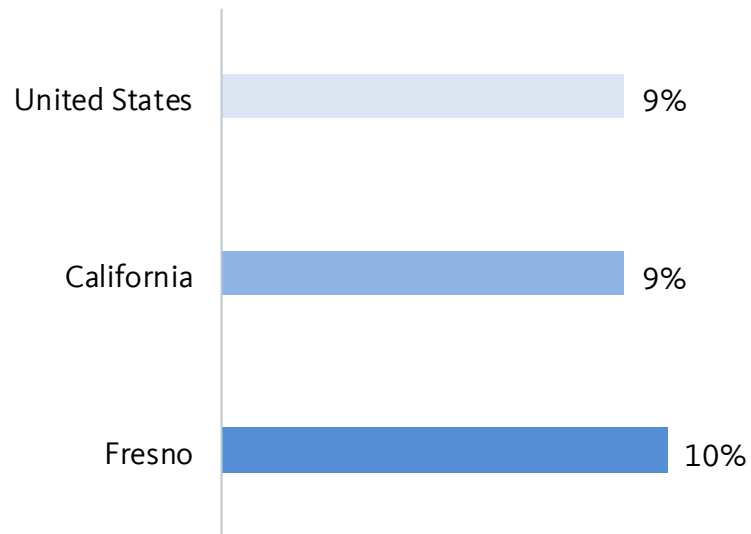|	Overweight	Obese
All	35%	31%
White	39%	26%
Latino	35%	37%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average. Data for some racial/ethnic groups are excluded due to small sample size.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

When compared to the state and nation overall, Fresno also has a slightly higher rate of adult diabetes. One in 10 adults in the county has diabetes, compared with 9 percent in the state and country overall.

Adult Diabetes Rates by
Geography, 2012
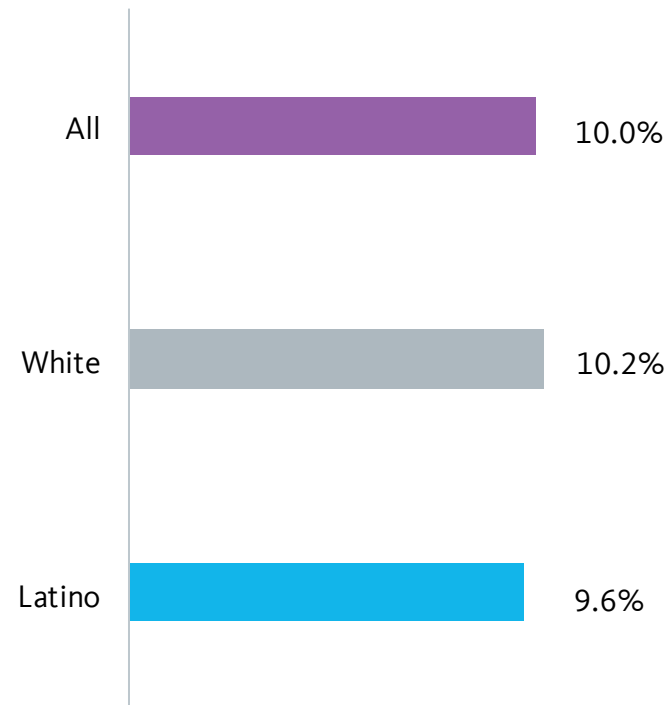
United States   9%

California   9%

Fresno   10%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

Even though the adult diabetes rate is slightly higher in Fresno, there are no apparent racial inequities in adult diabetes. The social determinants of health, where people live, work, and age are increasingly recognized as influencing growing rates of chronic diseases, including diabetes.

Adult Diabetes Rates by
Race/Ethnicity, 2012

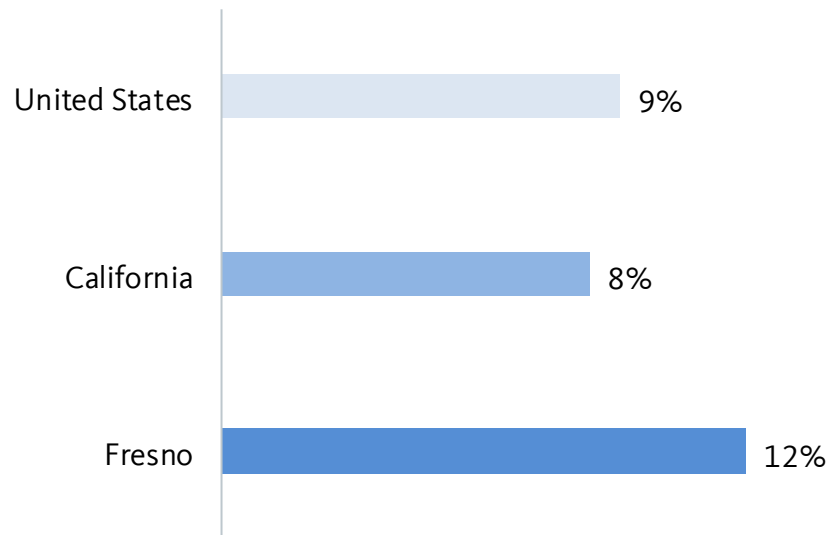|	
All	10.0%
White	10.2%
Latino	9.6%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average for Fresno County, CA. Data for some racial/ethnic groups are excluded due to small sample size.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

The share of adults living with asthma is lower in California than for the nation overall, but it is higher in Fresno. Twelve percent of adults in the county have asthma, compared with 8 percent of adults statewide.

Adult Asthma Rates by Geography, 2012

Geography	Rate
United States	9%
California	8%
Fresno	12%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
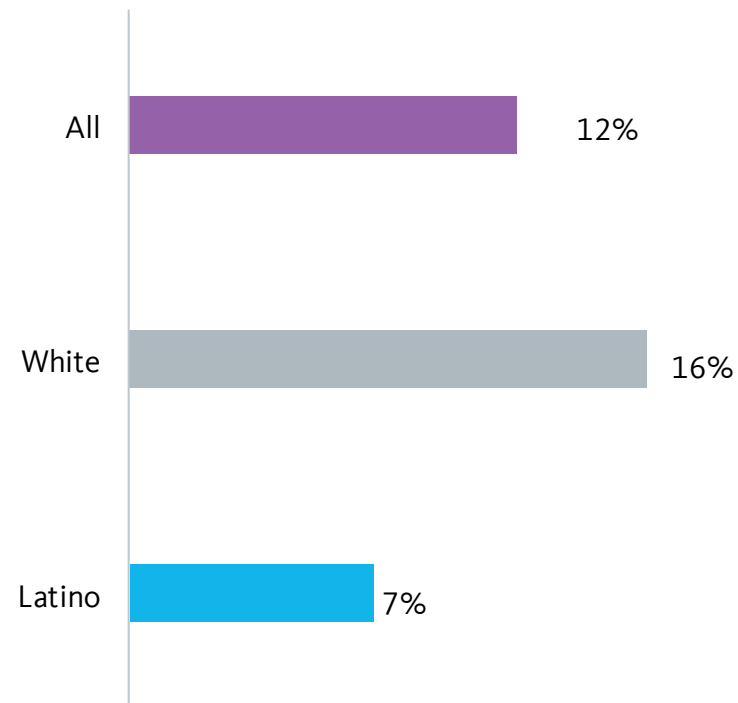Note: Data represent a 2008 through 2012 average.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

While the adult asthma rate is 12 percent overall, White adults are twice as likely as Latinos to have asthma in Fresno. Importantly, these numbers are based on diagnoses, so people without access to care are less likely to be both diagnosed and subsequently treated.

Adult Asthma Rates by
Race/Ethnicity, 2012

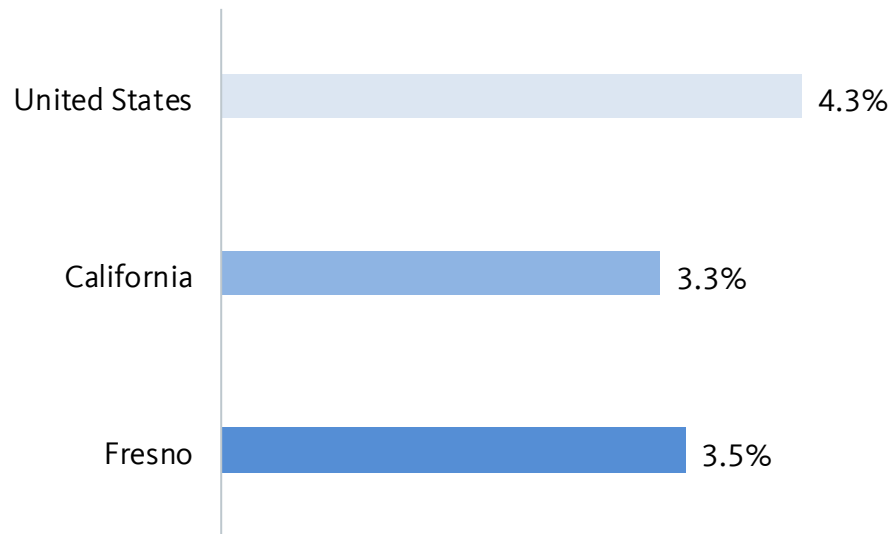|	
All	12%
White	16%
Latino	7%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average for Fresno County, CA. Data for some racial/ethnic groups are excluded due to small sample size.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

The share of adults who have had a heart attack is lower in Fresno than the nation overall. Roughly 3.5 percent of adults have had a heart attack in the county, compared to 4.3 of adults nationwide.

Share of Adults Who Have
Had a Heart Attack by
Geography, 2012

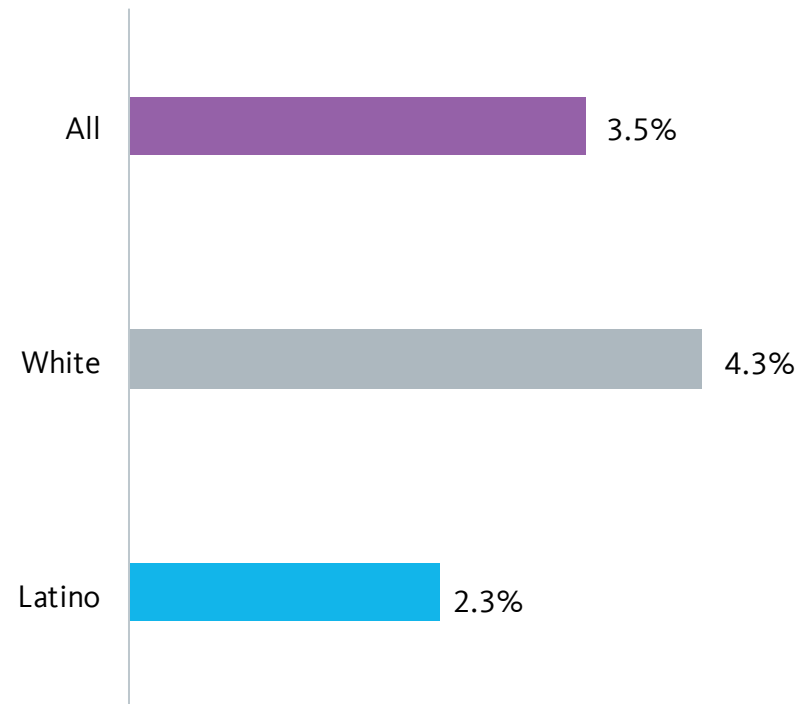| Geography	Share
United States	4.3%
California	3.3%
Fresno	3.5%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

White adults in the county are more likely than their Latino counterparts to have had a heart attack. About 4 percent of White adults have had a heart attack, compared with 2 percent of Latino adults.

Share of Adults Who Have
Had a Heart Attack by
Race/Ethnicity, 2012

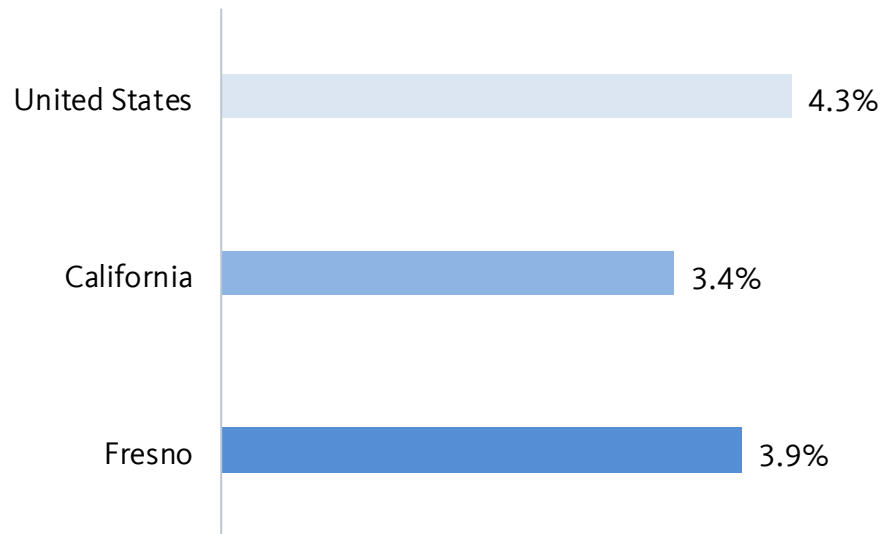|	
All	3.5%
White	4.3%
Latino	2.3%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average. Data for some racial/ethnic groups are excluded due to small sample size.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

Heart disease is the leading cause of death in the United States, and adults in Fresno County are slightly more likely than adults statewide to have angina or coronary heart disease (CHD). In the state overall, 3.4 percent of adults have CHD. In Fresno, 3.9 percent adults do.

Share of Adults with Angina or
Coronary Heart Disease by
Geography, 2012

Geography	Percent
United States	4.3%
California	3.4%
Fresno	3.9%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2008 through 2012 average.

Health of residents

Do all residents have the opportunity to live long and healthy lives?

White adults are also more likely than Latinos to have CHD.
About 5.6 percent of White adults have CHD compared with 2.3
percent of Latino adults. Because Latino adults are less likely to
have health insurance than their White counterparts, it is
possible that some Latinos go undiagnosed.

Share of Adults with Angina or
Coronary Heart Disease by
Race/Ethnicity, 2012

All	3.9%
White	5.6%
Latino	2.3%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
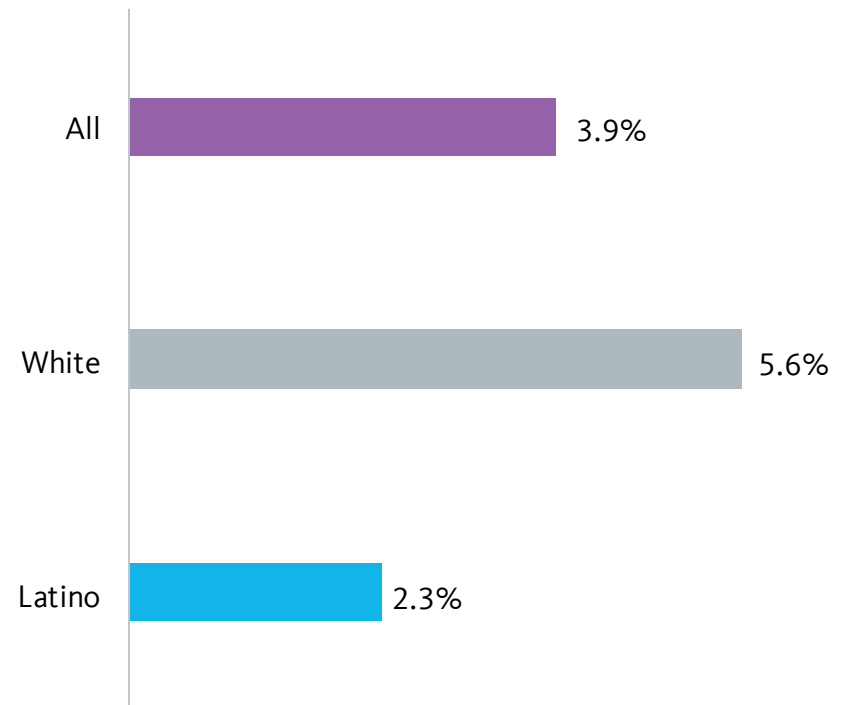Note: Data represent a 2008 through 2012 average. Data for some racial/ethnic groups are excluded due to small sample size.

Health of residents

Do residents have access to health insurance and health-care services?

The adult health insurance rate is lower in Fresno than in the state and U.S. overall. People without health insurance have worse access to care than those who do. Without health insurance, many people go without needed medical treatment and are less likely to access preventative care.

Health Insurance Rates by Geography, 2014
- 18-64 years
- 0-17 years

	18-64 years	0-17 years
United States	80%	93%
California State	77%	92%
Fresno City	73%	94%
Fresno Metro Area	72%	93%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2010 through 2014 average. Data for some racial/ethnic groups are excluded due to small sample size.
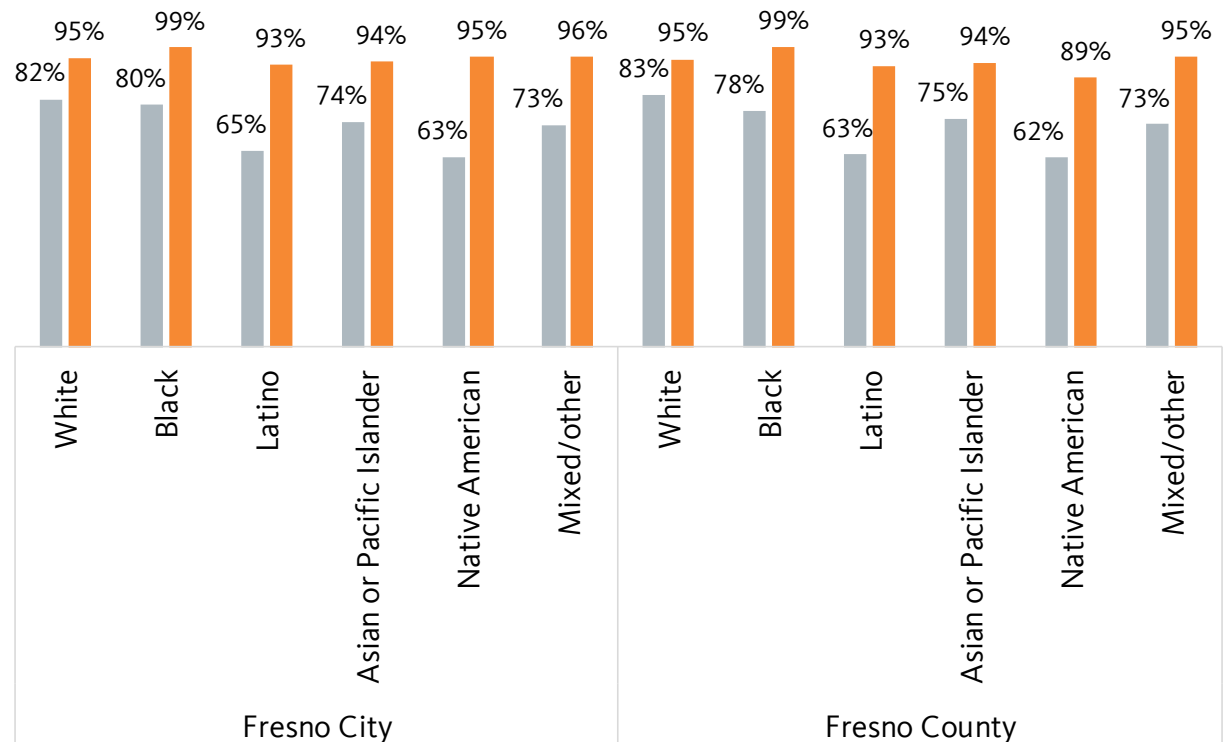
Health of residents

Do residents have access to health insurance and health-care services?

Latino adults and those of mixed/other races in the city and the county of Fresno are the least likely to have health insurance. Just 63 percent of Latino adults and 62 percent of Native American adults have health insurance in the county.

Health Insurance Rates by Race/Ethnicity, 2014

- ■ 18-64 years
- ■ 0-17 years

Fresno City

Race/Ethnicity	18-64 years	0-17 years
White	82%	95%
Black	80%	99%
Latino	65%	93%
Asian or Pacific Islander	74%	94%
Native American	63%	95%
Mixed/other	73%	96%

Fresno County

Race/Ethnicity	18-64 years	0-17 years
White	83%	95%
Black	78%	99%
Latino	63%	93%
Asian or Pacific Islander	75%	94%
Native American	62%	89%
Mixed/other	73%	95%

Source: Centers for Disease Control and Prevention (BRFSS). Universe includes all persons age 18 or older.
Note: Data represent a 2010 through 2014 average. Data for some racial/ethnic groups are excluded due to small sample size.

Connectedness
Highlights

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

- To build a culture of health – where every person, no matter where they live, has an equal opportunity to live the healthiest life possible – we must improve people's opportunities to be healthier in the places where they live, learn, work, and play.

- Low-income Black workers are the most likely to rely on public transit to get to work.

- Black and Latino renters and Southeast Asian and Latino homeowners are the most likely to be paying more than 30 percent of their incomes on housing costs.

Share of cost-burdened renter households:

58%

Share of very low-income Black workers who rely on public transit:

12%

Share of Latinos living in high-poverty neighborhoods:

34%

Connectedness

Can all residents access affordable, quality housing?

Housing is more affordable in Fresno than for the state as a whole. Across the region, 30 percent of jobs are low wage (paying $1,250 per month or less) and 33 percent of rental units are affordable (with rent less than $750 per month, which is about 30 percent of the combined income of two low-wage workers).

Share of Affordable Rental
Housing Units, 2014

- Share of jobs that are low wage
- Share of rental housing units that are affordable
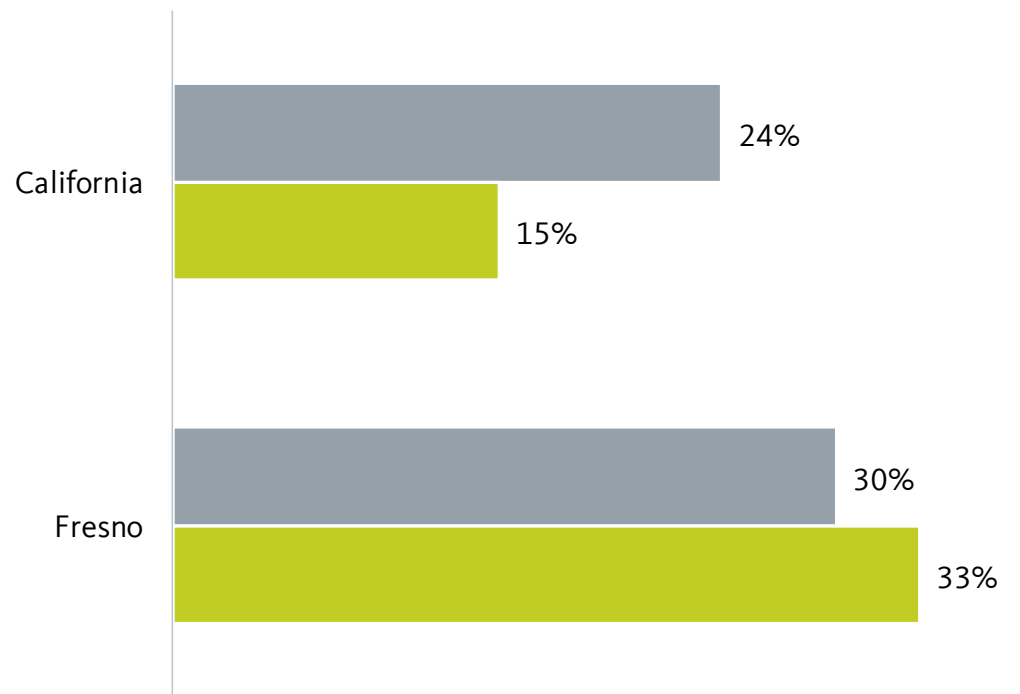
California
24%
15%

Fresno
30%
33%

Source: Housing data from the U.S. Census Bureau and jobs data from the 2012 Longitudinal-Employer Household Dynamics.
Note: Data represent a 2010 through 2014 average.

Connectedness

Can all residents access affordable, quality housing?

But there are still more than twice as many low-wage jobs as affordable rental housing units in Fresno. A county with a high ratio of low-wage jobs to affordable rental housing units has lower availability of affordable rental housing for low-wage workers.

Low-Wage Jobs, Affordable
Rental Housing, and Jobs-
Housing Ratio, 2014

	Jobs (2012)		Housing (2010-14)			Jobs-Housing Ratios	
	All	Low-wage	All	Rental*	Affordable Rental*	All Jobs: All Housing	Low-wage Jobs-Affordable Rentals
Fresno	320,437	94,838	292,550	131,226	43,719	1.1	2.2
California	14,709,292	3,602,887	12,617,280	5,526,560	805,647	1.2	4.5

*Includes only those units paid for in cash rent.

Source: Housing data from the U.S. Census Bureau and jobs data from the 2012 Longitudinal-Employer Household Dynamics.
Note: Housing data represent a 2010 through 2014 average.

Connectedness

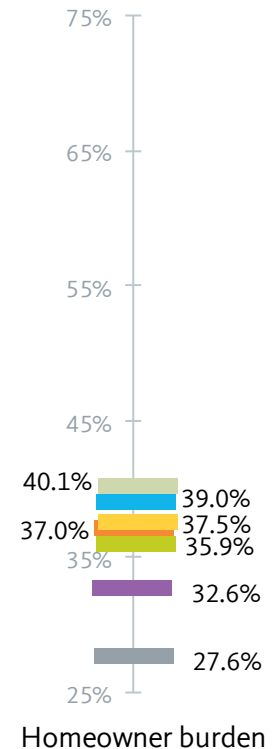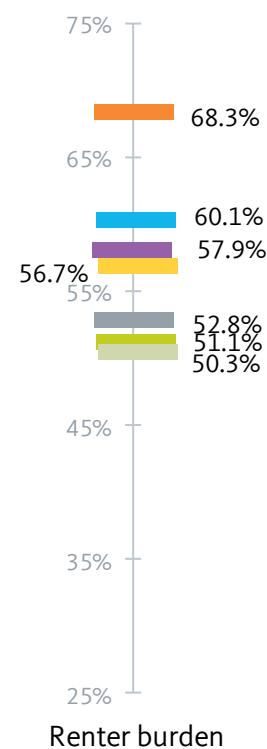## Can all residents access affordable, quality housing?

More than half of renter households are rent burdened and one-third of homeowner households are cost burdened (spending more than 30 percent of income on housing costs). Black households are the most likely to be cost burdened among renters while Southeast Asian and Latino households are most likely among homeowners.

Renter Housing Burden and
Homeowner Housing Burden
by Race/Ethnicity, 2014

- All
- White
- Black
- Latino
- Asian or Pacific Islander
- Southeast Asian
- Mixed/other

Renter burden

68.3%
60.1%
57.9%
56.7%
52.8%
51.1%
50.3%

Homeowner burden

40.1%
39.0%
37.5%
37.0%
35.9%
32.6%
27.6%

Source: Integrated Public Use Microdata Series. Universe includes all renter-occupied households with cash rent.
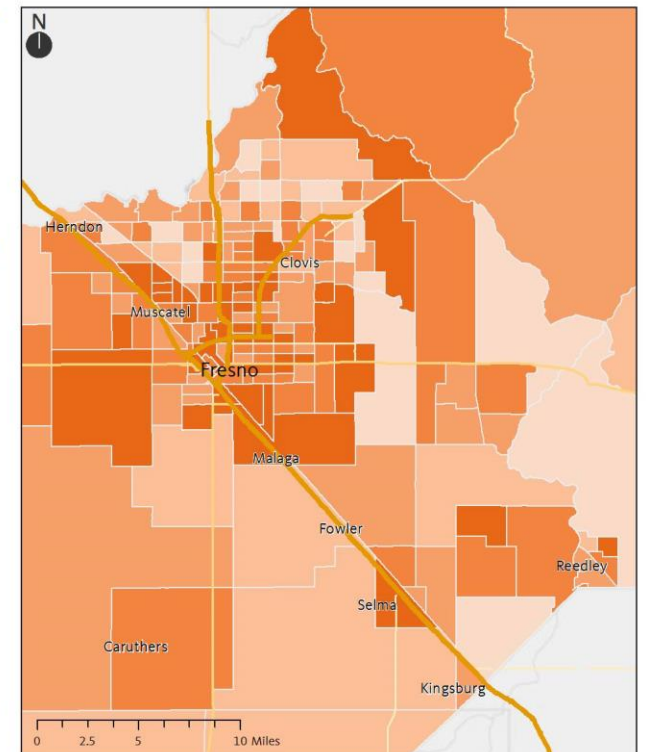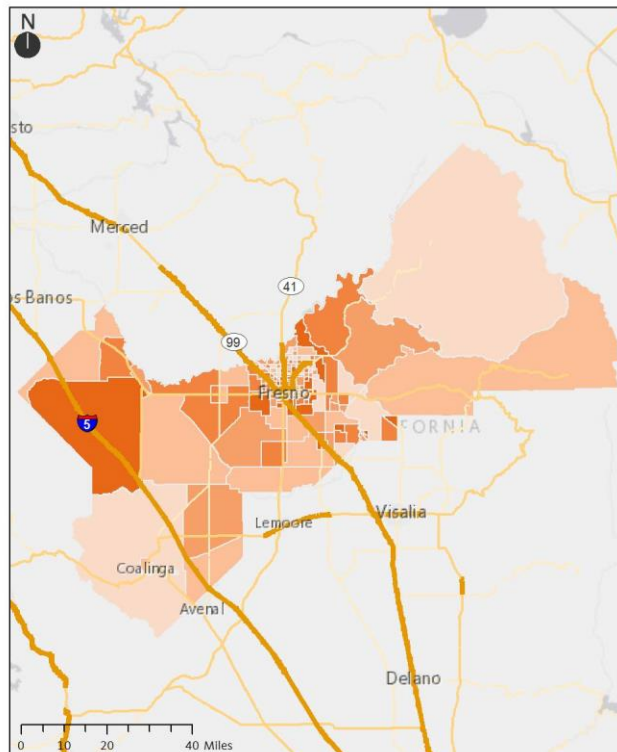Note: Data represent a 2010 through 2014 average.

Connectedness

Can all residents access affordable, quality housing?

There are rent-burdened households throughout the county.

The darkest orange census tracts represent areas where more than two in three renter households are rent-burdened.

Percent Rent-Burdened Households by Census Tract, 2014

Less than 35%
35% to 48%
48% to 58%
58% to 67%
67% or more

Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all renter-occupied households with cash rent.
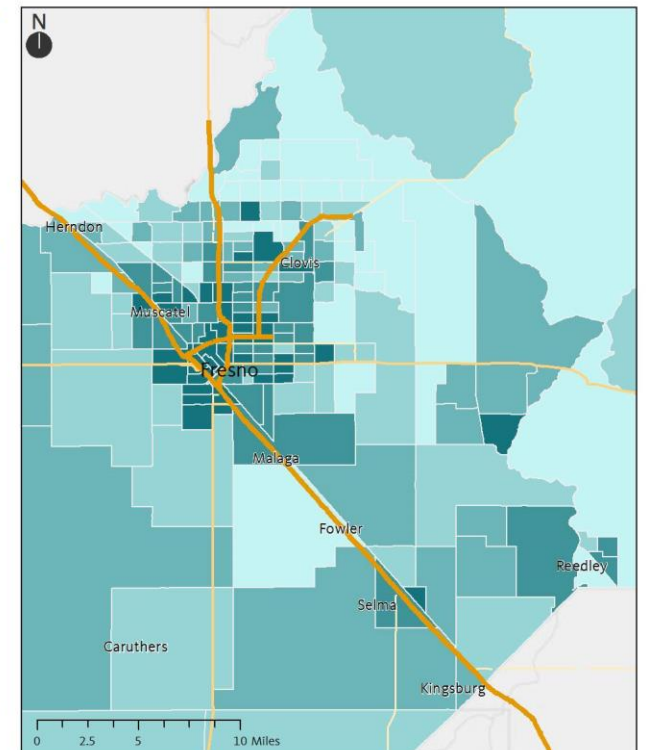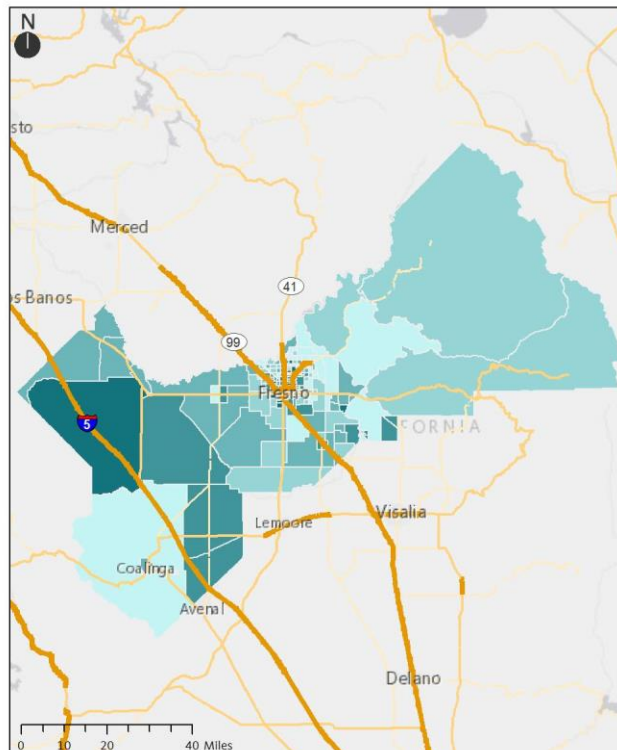Note: Data represent a 2010 through 2014 average.

Connectedness

Do residents have transportation choices?

Car access also varies across the region but is lowest in a few pockets in the city of Fresno and in the western part of the county. Given the limited public transportation options in the region, low car access is a serious barrier to employment and health-care services.

Percent Households without a
Vehicle by Census Tract, 2014

- Less than 3%
- 3% to 5%
- 5% to 10%
- 10% to 16%
- 16% or more

Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all households (excludes group quarters).
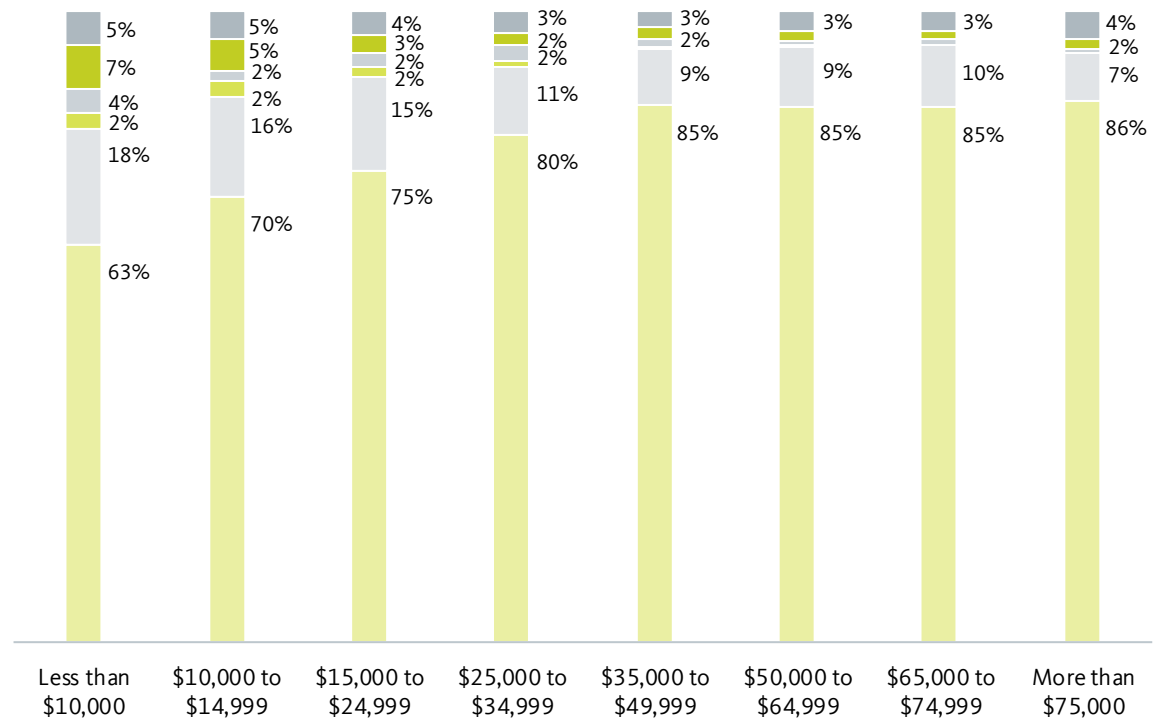Note: Data represent a 2010 through 2014 average.

Connectedness

Do residents have transportation choices?

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

While 77 percent of all residents drive alone to work, single-driver commuting varies by income with 63 percent of workers earning under $10,000 a year driving alone, compared to 86 percent of workers earning more than $75,000 a year.

Means of Transportation to Work
by Annual Earnings, 2014

- Worked at home
- Other
- Walked
- Public transportation
- Auto-carpool
- Auto-alone

Less than $10,000

$10,000 to $14,999

$15,000 to $24,999

$25,000 to $34,999

$35,000 to $49,999

$50,000 to $64,999

$65,000 to $74,999

More than $75,000

Source: U.S. Census Bureau. Universe includes workers ages 16 and older with earnings.
Note: Data represent a 2010 through 2014 average. Dollar values are in 2014 dollars.
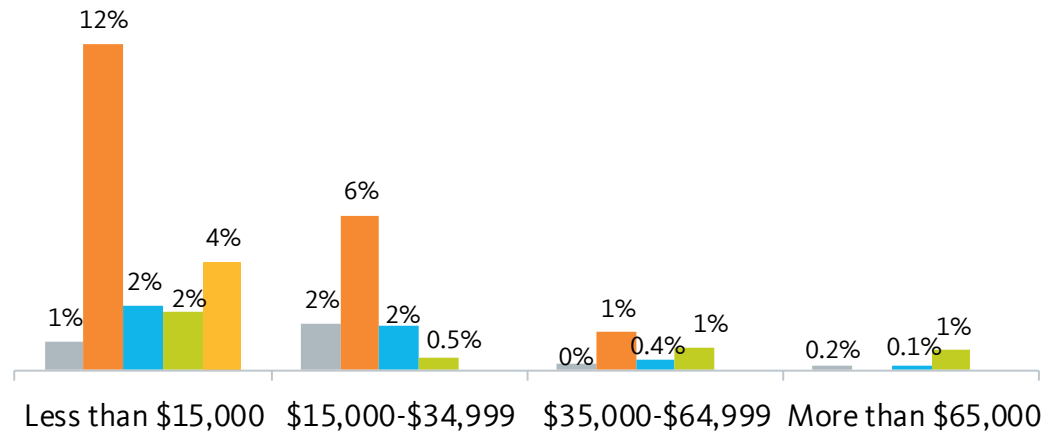
Connectedness

Do residents have transportation choices?

Low-income Black residents are the most likely to rely on the regional transit system to get to work. Very low-income African Americans are six times as likely as very low-income Latinos to use public transit.

Percent Using Public Transit by
Annual Earnings and
Race/Ethnicity, 2014

- White
- Black
- Latino
- Asian/Pacific Islander
- Mixed/other

	Less than $15,000	$15,000-$34,999	$35,000-$64,999	More than $65,000
White	1%	2%	0%	0.2%
Black	12%	6%	1%	
Latino	2%	2%	0.4%	0.1%
Asian/Pacific Islander	2%	0.5%	1%	1%
Mixed/other	4%			

Source: Integrated Public Use Microdata Series. Universe includes workers ages 16 and older with earnings.
Note: Data represent a 2010 through 2014 average. Data for some racial/ethnic groups in some earnings categories are excluded due to small sample size. Dollar values are in 2014 dollars.

Connectedness

Do residents have transportation choices?

Neighborhoods with the highest commute times are scattered throughout the region. A cluster of eastside neighborhoods have commute times that are 25 minutes or longer.

Average Travel Time to Work in Minutes by Census Tract, 2014

- Less than 20 minutes
- 20 to 21 minutes
- 21 to 23 minutes
- 23 to 25 minutes
- 25 minutes or more
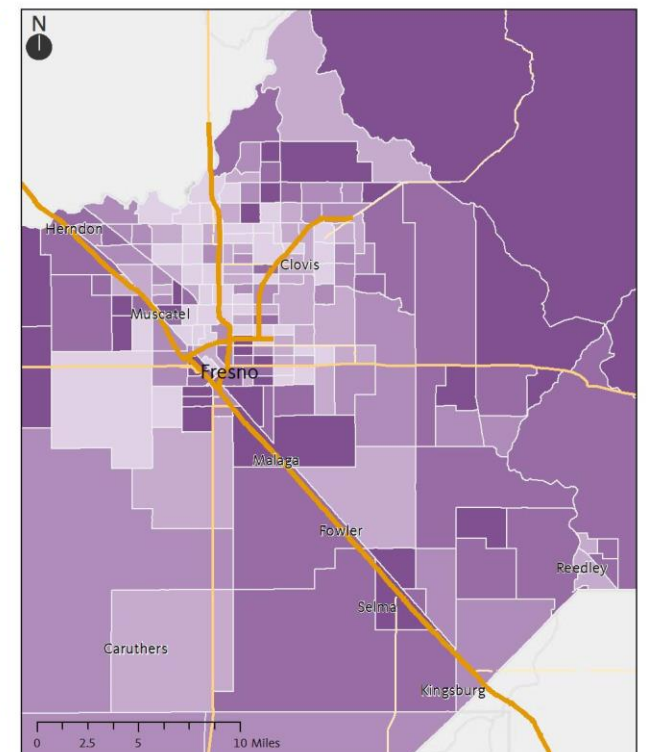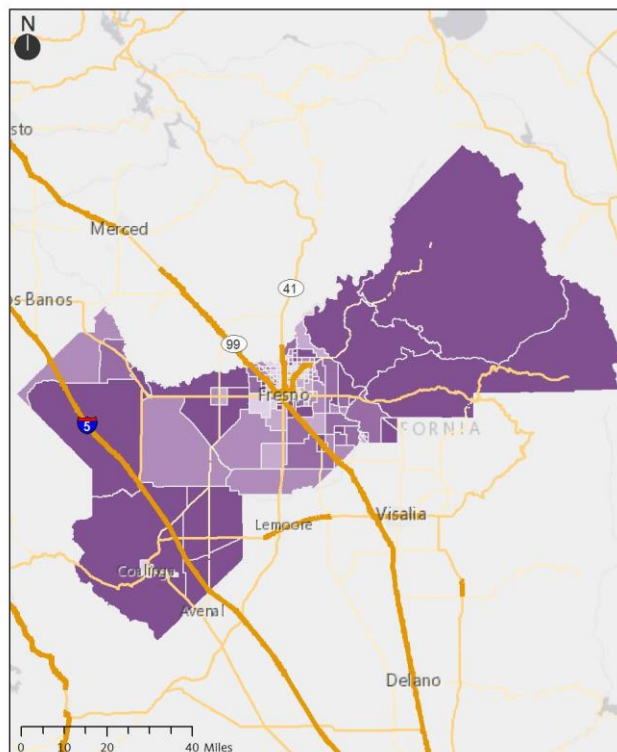
Sources: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all persons ages 16 or older who work outside of home.
Note: Data represent a 2010 through 2014 average.

Connectedness
Do neighborhoods reflect the region's diversity?

Segregation, as measured by the multi-group entropy index, is lower in Fresno than the nation overall. The entropy index ranges from 0, if all census tracts had the same racial/ethnic composition as the entire metro area (fully integrated), to 1, if all census tracts contained one group only (fully segregated).

Residential Segregation, 1980 to 2014

—■— Fresno
—●— United States
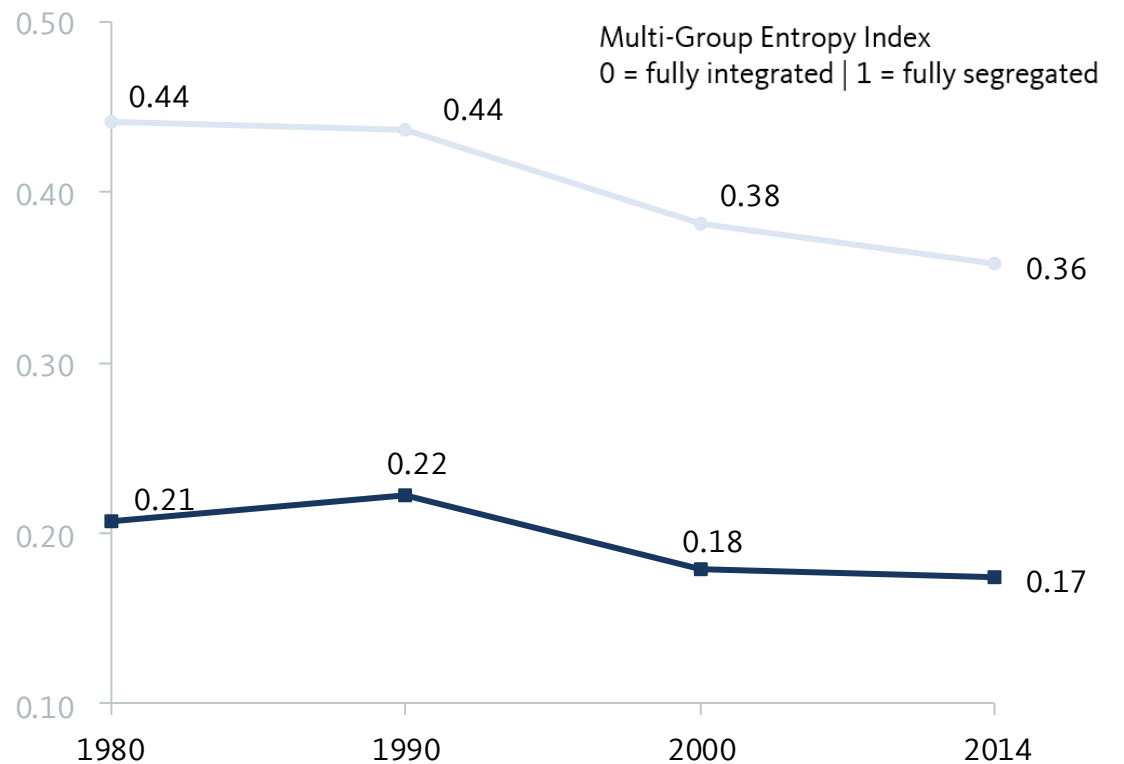
Multi-Group Entropy Index
0 = fully integrated | 1 = fully segregated

United States: 0.44 (1980), 0.44 (1990), 0.38 (2000), 0.36 (2014)

Fresno: 0.21 (1980), 0.22 (1990), 0.18 (2000), 0.17 (2014)

Source: U.S. Census Bureau.
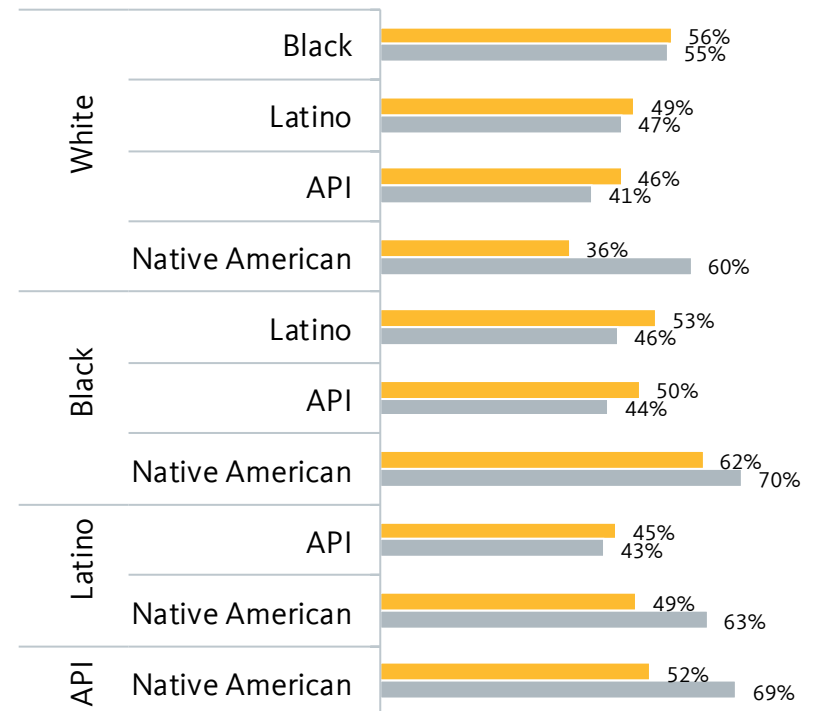Note: Data for 2014 represent a 2010 through 2014 average.

Connectedness

Do neighborhoods reflect the region's diversity?

Segregation, as measured by the dissimilarity index, has decreased for all groups since 1990. Still, 55 percent of White residents would have to move to achieve Black-White integration, and 47 percent of White residents would have to move to achieve Latino-White integration.

Residential Segregation, 1990 and 2014, Measured by the Dissimilarity Index

■ 1990
■ 2014

		1990	2014
White	Black	56%	55%
	Latino	49%	47%
	API	46%	41%
	Native American	36%	60%
Black	Latino	53%	46%
	API	50%	44%
	Native American	62%	70%
Latino	API	45%	43%
	Native American	49%	63%
API	Native American	52%	69%

Source: U.S. Census Bureau.
Note: Data for 2014 represent a 2010 through 2014 average.
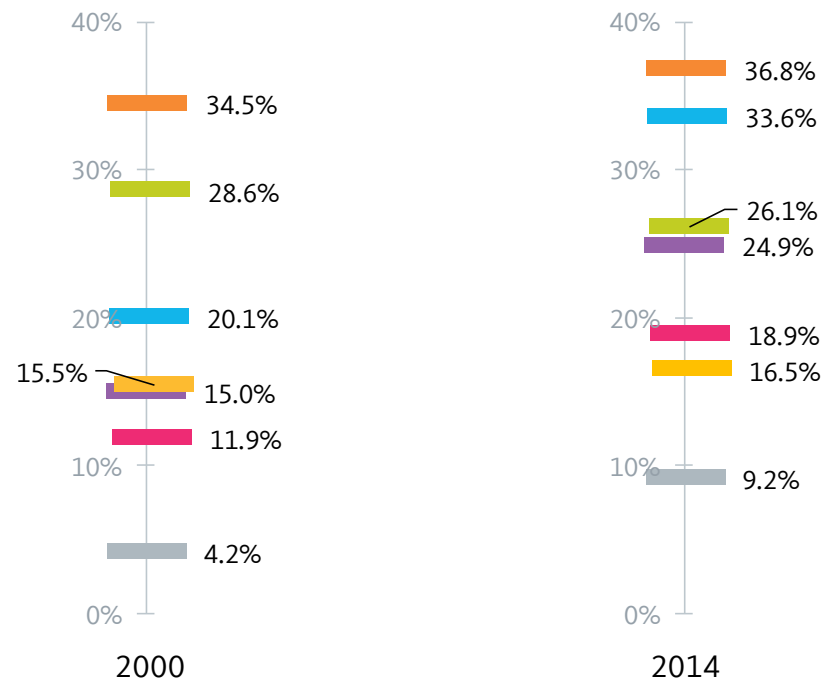
Connectedness

Do neighborhoods reflect the region's diversity?

Though segregation has decreased, neighborhood poverty has increased for nearly all race/ethnic groups since 2000.
Black and Latino residents are the most likely to live in high-poverty neighborhoods – defined as census tracts with a poverty rate of 40 percent or higher.

Neighborhood Poverty, 2000 and 2014

- **■** All
- **■** White
- **■** Black
- **■** Latino
- **■** Asian or Pacific Islander
- **■** Native American
- **■** Mixed/other

2000

- 34.5%
- 28.6%
- 20.1%
- 15.5%
- 15.0%
- 11.9%
- 4.2%

2014

- 36.8%
- 33.6%
- 26.1%
- 24.9%
- 18.9%
- 16.5%
- 9.2%

Source: U.S. Census Bureau. GeoLytics, Inc.
Note: Data for 2014 represent a 2010 through 2014 average.

Economic benefits
Highlights

What are the benefits of racial economic inclusion to the broader economy?

- The region's economy could have been over $17 billion stronger in 2014 if its racial gaps in income had been closed.

- Latinos would see a 114 percent gain in average annual income with racial equity in the county and a 108 percent gain in the city of Fresno.

- For Latinos, the vast majority of these income gains would come from closing the racial wage gap with Whites.

Potential gain in GDP with racial equity:

$17B

Percentage gain in average Latino income with racial equity:

114%

Economic benefits

What are the economic benefits of inclusion?

Fresno's GDP would have been $17.1 billion higher in 2014 if racial gaps in income were closed: **a 46 percent increase.** This equity dividend is more than six times the entire county budget for 2016-2017.

Actual GDP and Estimated GDP without Racial Gaps in Income, 2014

- GDP in 2014 (billions)

- GDP if racial gaps in income were eliminated (billions)
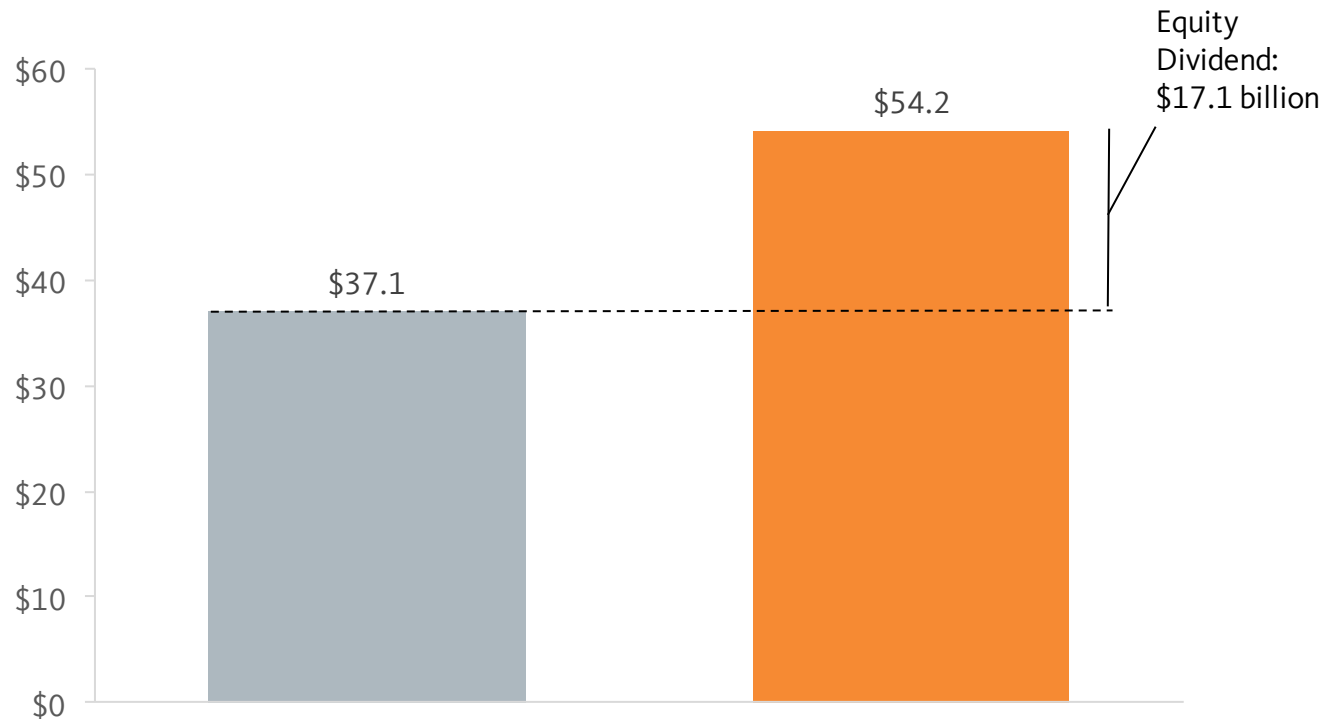
Equity Dividend: $17.1 billion

$54.2

$37.1

Sources: U.S. Bureau of Economic Analysis; Integrated Public Use Microdata Series; U.S. Bureau of Labor Statistics.

Economic benefits

What are the economic benefits of inclusion?
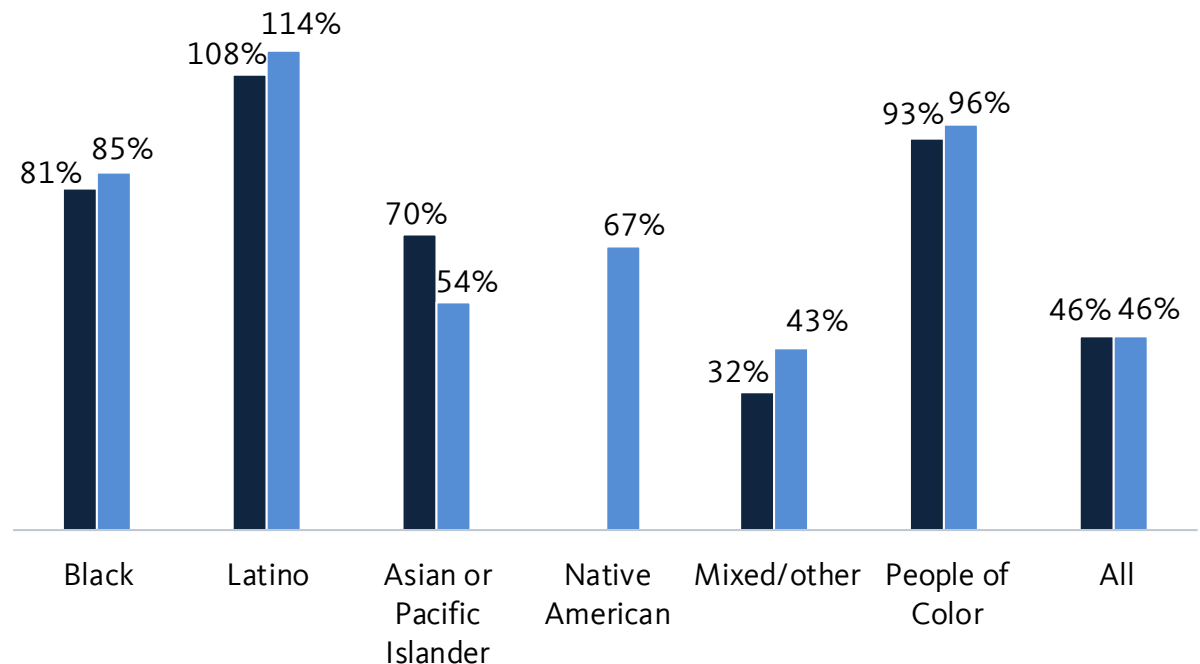
In the city and county, Latinos would experience the largest gain in average income with racial equity: a 108 percent increase in the city and a 114 percent increase in the county. Black residents of the city and county would also see average incomes rise by 81 percent and 85 percent, respectively.

Percentage Gain in Income with Racial Equity, 2014

■ Fresno City
■ Fresno County

	Black	Latino	Asian or Pacific Islander	Native American	Mixed/other	People of Color	All
Fresno City	81%	108%	70%		32%	93%	46%
Fresno County	85%	114%	54%	67%	43%	96%	46%

Sources: U.S. Bureau of Economic Analysis; Integrated Public Use Microdata Series; U.S. Bureau of Labor Statistics.
Note: Data for some racial/ethnic groups are excluded due to small sample size.
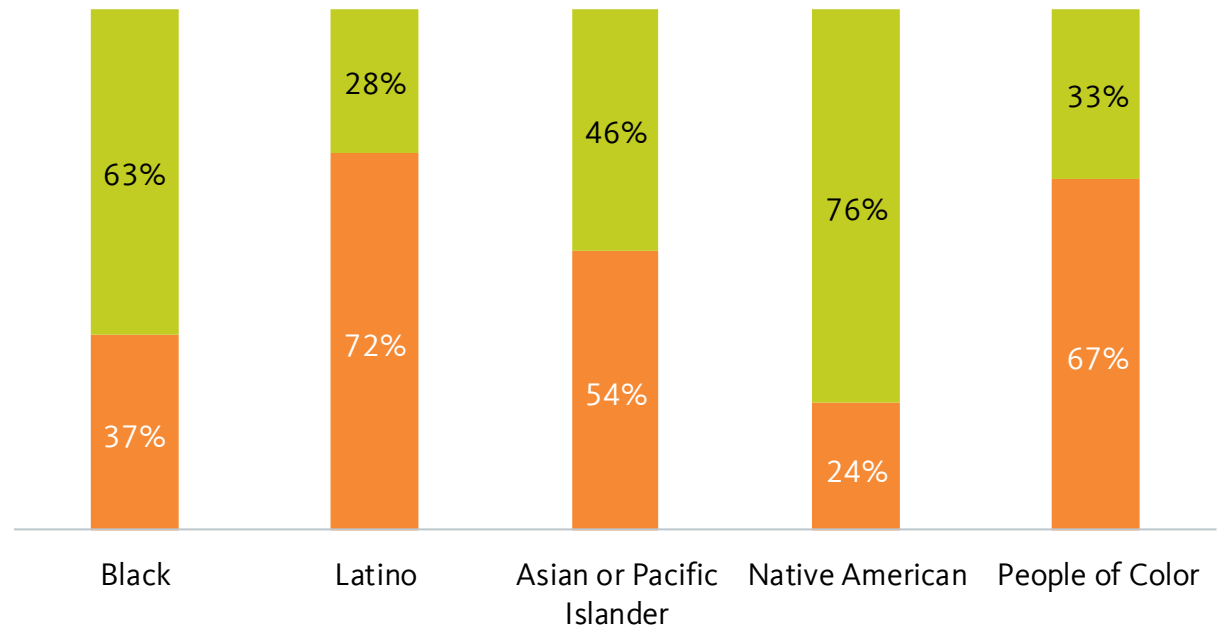
Economic benefits

What are the economic benefits of inclusion?

For Latinos, the vast majority of these income gains would come from closing the racial wage gap with Whites. For Black residents, most of the gains would come from closing employment differences between Black and White workers.

Source of Income Gains, 2014

■ Employment
■ Wages

	Black	Latino	Asian or Pacific Islander	Native American	People of Color
Employment	63%	28%	46%	76%	33%
Wages	37%	72%	54%	24%	67%

Sources: U.S. Bureau of Economic Analysis; Integrated Public Use Microdata Series; U.S. Bureau of Labor Statistics.

Data and methods

Data source summary and geography

Selected terms and general notes
Broad racial/ethnic origin
Nativity
Detailed racial/ethnic ancestry
Other selected terms
General notes on analyses

Summary measures from IPUMS microdata

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

Adjustments made to demographic projections
National projections
County and regional projections

Estimates and adjustments made to BEA data on GDP
Adjustments at the state and national levels
County and metropolitan area estimates

Middle-class analysis

Assembling a complete dataset on employment and wages by industry

Growth in jobs and earnings by industry wage level, 1990 to 2015

Analysis of occupations by opportunity level

Health data and analysis

Analysis of access to healthy food

Air pollution data and analysis

Analysis of school poverty

Measures of diversity and segregation

Estimates of GDP without racial gaps in income

Data and methods
Data source summary and geography

Unless otherwise noted, all of the data and analyses presented in this profile are the product of PolicyLink and USC Program for Environmental and Regional Equity (PERE), and reflect Fresno county. The specific data sources are listed in the table shown here.

While much of the data and analysis presented in this profile are fairly intuitive, in the following pages we describe some of the estimation techniques and adjustments made in creating the underlying database, and provide more detail on terms and methodology used. Finally, the reader should bear in mind that while only a single region is profiled here, many of the analytical choices in generating the underlying data and analyses were made with an eye toward replicating the analyses in other regions and the ability to update them over time. Thus, while more regionally specific data may be available for some indicators, the data in this profile draws from our regional equity indicators database that provides data that are comparable and replicable over time.

Source	Dataset
Integrated Public Use Microdata Series (IPUMS)	1980 5% State Sample
	1990 5% Sample
	2000 5% Sample
	2010 American Community Survey, 5-year microdata sample
	2010 American Community Survey
	2014 American Community Survey, 5-year microdata sample
U.S. Census Bureau	1980 Summary Tape File 1 (STF1)
	1980 Summary Tape File 2 (STF2)
	1980 Summary Tape File 3 (STF3)
	1990 Summary Tape File 2A (STF2A)
	1990 Modified Age/Race, Sex and Hispanic Origin File (MARS)
	1990 Summary Tape File 4 (STF4)
	2000 Summary File 1 (SF1)
	2010 Summary File 1 (SF1)
	2014 ACS 5-year Summary File (2014 5-year ACS)
	2012 Local Employment Dynamics, LODES 7
	2010 TIGER/Line Shapefiles, 2010 Census Block Groups
	2014 TIGER/Line Shapefiles, 2014 Census Tracts
	2010 TIGER/Line Shapefiles, 2010 Counties
Geolytics	1980 Long Form in 2010 Boundaries
	1990 Long Form in 2010 Boundaries
	2000 Long Form in 2010 Boundaries
Woods & Poole Economics, Inc.	2016 Complete Economic and Demographic Data Source
U.S. Bureau of Economic Analysis	Gross Domestic Product by State
	Gross Domestic Product by Metropolitan Area
	Local Area Personal Income Accounts, CA30: Regional Economic Profile
U.S. Bureau of Labor Statistics	Quarterly Census of Employment and Wages
	Local Area Unemployment Statistics
	Occupational Employment Statistics
Centers for Disease Control and Prevention	Behavioral Risk Factor Surveillance System (BRFSS)
The Reinvestment Fund	2014 Analysis of Limited Supermarket Access (LSA)
U.S. Environmental Protection Agency	2011 National-Scale Air Toxics Assessment (NATA)
Core of Data (CCD) Public Elementary/ Secondary School Universe Survey	School Year 2013-14
State of California Employment Development Department	2012-2022 Occupational Employment Projections
	2012-2022 Industry Employment Projections
Georgetown University Center on Education and the Workforce	Updated projections of education requirements of jobs in 2020, originally appearing in: Recovery: Job Growth And Education Requirements Through 2020; State Report
The diversitydatakids.org project and the Kirwin Institute for the Study of Race and Ethnicity	Child Opportunity Index Maps

Data and methods
Selected terms and general notes

Broad racial/ethnic origin

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

• "White" and "non-Hispanic White" are used to refer to all people who identify as White alone and do not identify as being of Hispanic origin.

• "Black" and "African American" are used to refer to all people who identify as Black or African American alone and do not identify as being of Hispanic origin.

• "Latino" refers to all people who identify as being of Hispanic origin, regardless of racial identification.

• "Asian American and Pacific Islander," "Asian or Pacific Islander," "Asian," 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.

• "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 and Asian populations, we sometimes present data for more detailed racial/ethnic categories within these groups. In order to maintain consistency with the broad racial/ethnic categories, and to enable the examination of second-and-higher generation immigrants, these more detailed categories (referred to as "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 Filipinos among the Asian population or Salvadorans among the Latino population, it could only do so for immigrants, leaving only the broad "Asian" and "Latino" racial/ethnic categories for the U.S.-born population. While this methodological choice makes little difference in the numbers of immigrants by 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.

Data and methods
Selected terms and general notes
(continued)

Other selected terms

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

- The terms "region," "metropolitan area," "metro area," and "metro" are used interchangeably to refer to the geographic areas defined as Metropolitan Statistical Areas under the OMB's December 2003 definitions.
- The term "neighborhood" is used at various points throughout the profile. While in the introductory portion of the profile this term is meant to be interpreted in the colloquial sense, in relation to any data analysis it refers to census tracts.
- The term "communities of color" generally refers to distinct groups defined by race/ethnicity among people of color.
- The term "high school diploma" refers to both an actual high school diploma as well as high school equivalency or a General Educational Development (GED) certificate.
- The term "full-time" workers refers to all persons in the IPUMS microdata who reported working at least 45 or 50 weeks

(depending on the year of the data) and usually worked at least 35 hours per week during the year prior to the survey. A change in the "weeks worked" question in the 2008 ACS, as compared with prior years of the ACS and the long form of the decennial census, caused a dramatic rise in the share of respondents indicating that they worked at least 50 weeks during the year prior to the survey. To make our data on full-time workers more comparable over time, we applied a slightly different definition in 2008 and later than in earlier years: in 2008 and later, the "weeks worked" cutoff is at least 50 weeks while in 2007 and earlier it is 45 weeks. The 45-week cutoff was found to produce a national trend in the incidence of full-time work over the 2005-2010 period that was most consistent with that found using data from the March Supplement of the Current Population Survey, which did not experience a change to the relevant survey questions. For more information, see: https://www.census.gov/content/dam/Census /library/working-papers/2012/demo/Gottsch alck_2012FCSM_VII-B.pdf.

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 has been adjusted for inflation. All inflation adjustments are based on the Consumer Price Index for all Urban Consumers (CPI-U) from the U.S. Bureau of Labor Statistics, available at: https://www.bls.gov/cpi/cpid1612.pdf (see table 24).

Data and methods
Summary measures from 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 2010 through 2014 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 2010 through 2014 files are from the ACS and cover only about 1 percent of the U.S. population each. Five years of ACS data were pooled together to improve the statistical reliability and to achieve a sample size that is comparable to that available in previous years. Survey weights were adjusted as necessary to produce estimates that represent an average over the 2010 through 2014 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 allows for the flexibility to create more illuminating metrics

of equity and inclusion, and provides a more nuanced view of groups defined by age, race/ethnicity, and nativity in each region of the United States.

The IPUMS microdata allows for the tabulation of detailed population characteristics, but 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.

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) or "county groups." PUMAs are drawn to contain a population of about 100,000, and vary greatly in 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.

Because PUMAs do not always neatly align with the boundaries of cities, counties, and metropolitan areas, the geography of the IPUMS microdata can pose a challenge for the creation of regional summary measures. This was not the case for the Fresno region, however, as the geography of Fresno 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

For the racial generation gap indicator, we generated consistent estimates of populations by race/ethnicity and age group (under 18, 18-64, and over 64 years of age) for the years 1980, 1990, 2000, and 2014 (which reflects a 2010 through 2014 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 and Pacific Islander, non-Hispanic Native American/Alaska Native, and non-Hispanic Other (including other single race alone and those identifying as multiracial). While for 2000, 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 of non-Hispanic Asian and Pacific Islanders, non-Hispanic Native Americans/Alaskan Natives, and non-Hispanic Others among the remainder for each age group, we applied the distribution of these three groups from the overall county population (of all ages) from STF1.

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

ages combined) by subtracting the number that is reported in STF2A for the corresponding group. We then derived the share of each racial/ethnic group in the MARS file that was made up of other 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 the number of the other or mixed race people by age group.

For 2014 (which, again, reflects a 2010 through 2014 average), population by race/ethnicity and age was taken from the 2014 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

National projections

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 2015 (which follows the OMB 1997 guidelines) to the percentage reported in the 2015 ACS 1-year Summary File (which follows the 2000 Census classification). We subtracted the percentage derived using the 2015 Population Estimates program from the percentage derived using the 2015 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.

County and regional projections

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

Poole projections that removed the other or multiracial group from each of these five categories. This was done by comparing the Woods & Poole projections for 2010 to the actual results from SF1 of the 2010 Census, figuring out the share of each racial/ethnic group in the Woods & Poole data that was composed of other or 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/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

Data and methods
Adjustments made to demographic projections
(continued)

by our adjusted Woods & Poole projections 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

The data on national gross domestic product (GDP) and its analogous regional measure, gross regional product (GRP) – both referred to as GDP in the text – 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, and a lack of metropolitan area estimates prior to 2001, 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 2014.

Adjustments at the state and national levels
While data on gross state product (GSP) are not reported directly in the 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 a NAICS basis occurred in 1997, BEA also provides estimates under an 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 earnings of employees working in each

Data and methods
Estimates and adjustments made to BEA data on GDP
(continued)

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.

We should note that BEA does not provide data for all counties in the United States, but rather groups some counties that have had boundary changes since 1969 into county

groups to maintain consistency with historical data. Any such county groups were treated the same as other counties in the estimate techniques described above.

Data and methods
Middle-class analysis

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

Data and methods
Assembling a complete dataset on employment and wages by industry

Analysis of jobs and wages by industry, reported on pages 34 and 54, is based on an industry-level dataset constructed using two-digit NAICS industries from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW). 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 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 regional and state levels of geography.

Given differences in the methodology underlying the two data sources (in addition to the proprietary issue), 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 accurate application of the Woods & Poole data, we made some adjustments to it to better align it with the QCEW. One of the challenges of using 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 decadal basis until 1995, at which point they become available on an annual basis. For the 1990-1995 period, we estimated the Woods & Poole annual jobs and wages figures using a straight-line approach. Finally, we standardized the Woods & Poole industry codes to match the NAICS codes used in the QCEW.

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

Data and methods
Growth in jobs and earnings by industry wage level, 1990 to 2015

The analysis on page 34 uses our filled-in QCEW dataset (see the previous page) and seeks to track shifts in regional job composition and wage growth by industry wage level.

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

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

The analysis of strong occupations on page 56 and jobs by opportunity level on pages 58-60 are related and based on an analysis that seeks to classify occupations in the region by opportunity level. Industries and occupations with high concentrations in the region, strong growth potential, and decent and growing wages are considered strong.

To identify "high-opportunity" occupations, we developed an "occcupation opportunity index" based on measures of job quality and growth, including median annual wage, wage growth, job growth (in number and share), and median age of workers (which represents potential job openings due to retirements).

Once the "occupation opportunity index" score was calculated for each occupation, they were sorted into three categories (high, middle, and low opportunity). Occupations were evenly distributed into the categories based on employment. The strong occupations shown on page 56 are those found in the top, or high category (though not all occupations may be listed due to limited

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

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

among the growth metrics because it indicates the potential for job openings due to replacements as older workers retire, is estimated for each occupation from the 2010 5-year IPUMS ACS microdata file (for the employed civilian noninstitutional population ages 16 and older). It is calculated at the metropolitan statistical area level (to be consistent with the geography of the OES data), except in cases for which there were fewer than 30 individual survey respondents in an occupation; in these cases, the median age estimate is based on national data.

Third, the level of occupational detail at which the analysis was conducted, and at which the lists of occupations are reported, is the three-digit standard occupational classification (SOC) level. While considerably more detailed data is available in the OES, it was necessary to aggregate to the three-digit SOC level in order to align closely with the occupation codes reported for workers in the ACS microdata, making the analysis reported on page 56 possible.

Data and methods
Analysis of occupations by opportunity level
(continued)

Fourth, while most of the data used in the analysis are regionally specific, information on the education level of "typical workers" in each occupation, which is used to divide occupations in the region into the three groups by education level (as presented on pages 58-60), was estimated using national 2010 IPUMS ACS microdata (for the employed civilian noninstitutional population ages 16 and older). Although regionally specific data would seem to be the better choice, given the level of occupational detail at which the analysis is conducted, the sample sizes for many occupations would be too small for statistical reliability. And, while using pooled 2006-2010 data would increase the sample size, it would still not be sufficient for many regions, so national 2010 data were chosen given the balance of currency and sample size for each occupation. The implicit assumption in using national data is that the occupations examined are of sufficient detail that there is not great variation in the typical educational level of workers in any given occupation from region to region. While this may not hold true in reality, we would note

that a similar approach was used by Jonathan Rothwell and Alan Berube of the Brookings Institution in *Education, Demand, and Unemployment in Metropolitan America* (Washington D.C.: Brookings Institution, September 2011).

We should also note that the BLS does publish national information on typical education needed for entry by occupation. However, in comparing these data with the typical education levels of actual workers by occupation that were estimated using ACS data, there were important differences, with the BLS levels notably lower (as expected). The levels estimated from the ACS were determined to be the appropriate choice for our analysis as they provide a more realistic measure of the level of educational attainment necessary to be a viable job candidate – even if the typical requirement for entry is lower.

Fifth, it is worthwhile to clarify an important distinction between the lists of occupations by typical education of workers and

opportunity level, presented on pages 58-60, and the charts depicting the opportunity level associated with jobs held by workers with different education levels and backgrounds by race/ethnicity/nativity, presented on pages 62-64. While the former are based on the national estimates of typical education levels by occupation, with each occupation assigned to one of the three broad education levels described, the latter are based on actual education levels of workers in the region (as estimated using 2014 5-year IPUMS ACS microdata), who may be employed in any occupation, regardless of its associated "typical" education level.

Lastly, it should be noted that for all of the occupational analysis, it was an intentional decision to keep the categorizations by education and opportunity level fairly broad, with three categories applied to each. For the categorization of occupations, this was done so that each occupation could be more justifiably assigned to a single typical education level; even with the three broad categories some occupations had a fairly even

Data and methods
Analysis of occupations by opportunity level
(continued)

distribution of workers across them nationally, but, for the most part, a large majority fell in one of the three categories. In regard to the three broad categories of opportunity level, and education levels of workers shown on pages 62-64, this was kept broad to ensure reasonably large sample sizes in the 2014 5-year IPUMS ACS microdata that was used for the analysis.

Data and methods
Health data and analysis

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

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

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

While the data allow for the tabulation of

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

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

For more information and access to the BRFSS database, see: http://www.cdc.gov/brfss/index.html.

Data and methods
Analysis of access to healthy food

Analysis of access to healthy food access is based on the 2014 Analysis of Limited Supermarket Access (LSA) from the The Reinvestment Fund (TRF). LSA areas are defined as one or more contiguous census block groups (with a collective population of at least 5,000) where residents must travel significantly farther to reach a supermarket than the "comparatively acceptable" distance traveled by residents in well-served areas with similar population densities and car ownership rates.

The methodology's key assumption is that block groups with a median household income greater than 120 percent of their respective metropolitan area's median (or non-metro state median for non-metropolitan areas) are adequately served by supermarkets and thus travel an appropriate distance to access food. Thus, higher-income block groups establish the benchmark to which all block groups are compared controlling for population density and car ownership rates.

A LSA score is calculated as the percentage by

which the distance to the nearest supermarket would have to be reduced to make a block group's access equal to the access observed for adequately served areas. Block groups with a LSA score greater than 45 were subjected to a spatial connectivity analysis, with 45 chosen as the minimum threshold because it was roughly equal to the average LSA score for all LSA block groups in the 2011 TRF analysis.

Block groups with contiguous spatial connectivity of high LSA scores are referred to as LSA areas. They represent areas with the strongest need for increased access to supermarkets. Our analysis of the percent of people living in LSA areas by race/ethnicity and poverty level was done by merging data from the 2014 5-year ACS summary file with LSA areas at the block group level and aggregating up to the city, county, and higher levels of geography.

For more information on the 2014 LSA analysis, see:
https://www.reinvestment.com/wp-content/uploads/2015/12/2014_Limited_Supermarket_Access_Analysis-Brief_2015.pdf.

Data and methods
Air pollution data and analysis

The air pollution exposure index 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 U.S. 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 2014 5-year ACS summary file.

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

Data and methods
Analysis of school poverty

The school poverty data are derived from the National Center for Education Statistics (NCES) Common Core of Data (CCD) Public Elementary/Secondary School Universe Survey. Survey responses are submitted annually to NCES by state education agencies in the 50 states, the District of Columbia, and other U.S. territories and outlying areas. The data is then cleaned and standardized by CCD survey staff and made available to the public. All public elementary and secondary schools from pre-kindergarten through 12th grade with a positive total student count (based on the NCES variable *MEMBER*) in each year were included in our analysis of school poverty. This includes both regular schools as well as special education, vocational education, alternative, charter, magnet, and Title 1-eligible schools.

The share of students eligible for free or reduced price lunch (FRPL) was calculated at the school level by dividing the count of students eligible for FRPL (NCES variable *TOTFRL*) by the total student count (NCES variable *MEMBER*). Schools were then classified into four groups – school poverty level categories – based on this share (low, mid-low, mid-high, and high), and the number and shares of students by school poverty level category were aggregated to the city, county, and higher levels of geography for each racial/ethnic group.

For the vast majority of schools, the total student count is consistent with the sum of the counts by race/ethnicity. For a small number of schools, however, it is slightly higher given that the latter excludes any students belonging to an unknown or non-CCD race category. For this reason, data for all racial/ethnic groups combined (the "All" category) is based on the sum of student counts by race/ethnicity.

It is important to note that the measure of school poverty used, the share of students eligible for FRPL, is not always reported and is subject to some degree of error at the school level. The reasons for this include the fact that the count of students deemed FRPL-eligible may be taken at a different time than the total student count, and in some states, a single school may administer the free lunch program for a group of schools (in which case its count and share of FRPL-eligible students would be overstated). However, it is likely that any bias caused by these inconsistencies in reporting at the school level are largely mitigated once the data is aggregated across many schools in a given geography.

It is also important to note that the Healthy, Hunger-Free Kids Act of 2010 changed eligibility requirements and this can impact the consistency of data collection and thus the estimates of the share of students eligible for FRPL.

Data and methods
Measures of diversity and segregation

In the profile we refer to several measures of residential segregation by race/ethnicity (the "multi-group entropy index" on page 99 and the "dissimilarity index" on page 100). 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 2014 (which reflects a 2010 through 2014 average) from the 2014 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 Asians and Pacific Islanders in that year. For this reason, we set 1990 as the base year (rather than 1980) in the chart on page 100, 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 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 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 without racial gaps in income

Estimates of the gains in average annual income and GDP under a hypothetical scenario in which there is no income inequality by race/ethnicity are based on the 2014 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). As in the Lynch and Oakford analysis, once the percentage increase in overall average annual income was estimated, 2014 GDP was assumed to rise by the same percentage.

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

were higher than the average for non-Hispanic Whites. Also, to avoid excluding subgroups based on unreliable average income estimates due to small sample sizes, we added the restriction that a subgroup had to have at least 100 individual survey respondents in order to be included.

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.

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

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Headquarters:
1438 Webster Street
Suite 303
Oakland, CA 94612
t 510 663-2333
f 510 663-9684

University of Southern California
950 W. Jefferson Boulevard
JEF 102
Los Angeles, CA 90089
t 213 821-1325
f 213 740-5680

Communications:
55 West 39th Street
11th Floor
New York, NY 10018
t 212 629-9570
f 212 763-2350

http://dornsife.usc.edu/pere

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