

# An Equity Profile of **Albuquerque**

June 2018



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# Acknowledgments

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

The views expressed in this document are those of PolicyLink and PERE.

# Summary

While the nation is projected to become a people-of-color majority by the year 2044, Albuquerque reached that milestone in the 2000s. Since 1990, Albuquerque has experienced dramatic demographic growth and transformation – driven mostly by an increase in the Latino and Asian or Pacific Islander population. Today, these demographic shifts – including a decrease in the percentage of White residents – persist.

Albuquerque's diversity is a major asset in the global economy, but inequities and disparities are holding the region back. Albuquerque is the 59<sup>th</sup> most unequal among the largest 100 metro regions. Since 2000, poverty and working-poverty rates in the region have been consistently higher than the national averages. Racial and gender wage gaps persist in the labor market. Closing racial gaps in economic opportunity and outcomes will be key to the region's future.

Equitable growth is the path to sustained economic prosperity in Albuquerque. The region's economy could have been more than \$10 billion stronger in 2014 if its racial gaps in income had been closed: a nearly 20 percent increase. By growing good jobs, connecting younger generations with older ones, integrating immigrants into the economy, building communities of opportunity, and ensuring educational and career pathways to good jobs for all, Albuquerque can put all residents on the path toward reaching their full potential, and secure a bright future for the city and region.

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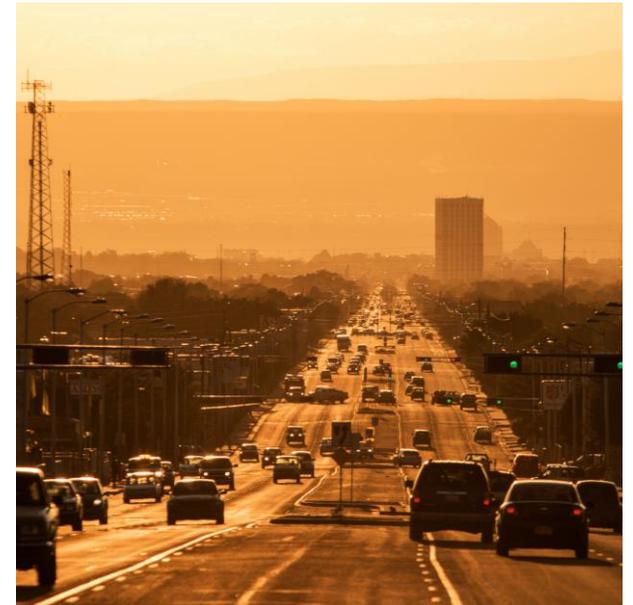
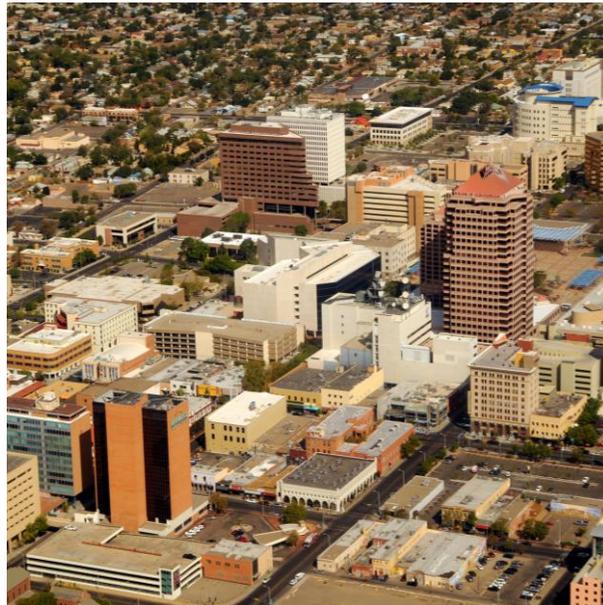
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# Introduction



# Introduction

## Overview

Across the country, community organizations and residents, local governments, business leaders, funders, and policymakers are striving to put plans, policies, and programs in place that build healthier, more equitable communities and foster inclusive growth.

These efforts recognize that equity – just and fair inclusion into a society in which all can participate, prosper, and reach their full potential – is fundamental to a brighter future for their communities.

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

This document presents an equity analysis of the city of Albuquerque. It was developed with the support of the W.K. Kellogg

Foundation to provide relevant data that helps community leaders build a stronger and more equitable city. The foundation is supporting the development of equity profiles in 10 of its priority communities across Louisiana, New Mexico, Michigan, and Mississippi.

The data in this profile are drawn from a regional equity database that includes data for the largest 100 cities and 150 regions in the United States, as well as all 50 states. This database incorporates hundreds of data points from public and private data sources including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the Behavioral Risk Factor Surveillance System, and Woods and Poole Economics. It also includes unique data on child and family well-being contributed by diversitydatakids.org, based at the Institute for Child, Youth and Family Policy in the Heller School for Social Policy and Management at Brandeis University. See the "Data and methods" section of this profile for a detailed list of data sources.

This profile uses a range of data sources to describe the state of equity in Albuquerque as comprehensively as possible, but there are limitations. Not all data collected by public and private sources is disaggregated by race/ethnicity and other demographic characteristics. And in some cases, even when disaggregated data is available, the sample size for a given population is too small to report with confidence. Local data sources and the lived experiences of diverse residents should supplement the data provided in this profile to more fully represent the state of equity in Albuquerque.

# Introduction

## What is an equitable city?

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

### Strong, equitable cities:

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

# Introduction

## Why equity matters now

### The face of America is changing.

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

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

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

### Racial, gender, and economic equity is necessary for the nation's economic growth and prosperity.

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

For example:

- More equitable regions experience stronger, more sustained growth.<sup>1</sup>
- Regions with less segregation (by race and income) and lower-income inequality have more upward mobility.<sup>2</sup>
- Researchers predict that health equity would lead to significant economic benefits from reductions in health care spending and lost productivity.<sup>3</sup>
- Companies with a diverse workforce achieve a better bottom line.<sup>4</sup>
- A diverse population more easily connects to global markets.<sup>5</sup>
- Lower economic inequality results in better health outcomes for everyone.<sup>6</sup>

### 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. Policies and investments must support equitable economic growth strategies, opportunity-rich neighborhoods, and "cradle-to-career" educational pathways.

### Cities play a critical role in building this new growth model.

Local communities are where strategies are being incubated that foster equitable growth: growing good jobs and new businesses while ensuring that all – including low-income people and people of color – can fully participate and prosper.

<sup>1</sup> Manuel Pastor, "Cohesion and Competitiveness: Business Leadership for Regional Growth and Social Equity," OECD Territorial Reviews, Competitive Cities in the Global Economy, Organisation For Economic Co-operation And Development (OECD), 2006; Manuel Pastor and Chris Benner, "Been Down So Long: Weak-Market Cities and Regional Equity" in *Retooling for Growth: Building a 21<sup>st</sup> Century Economy in America's Older Industrial Areas* (New York: American Assembly and Columbia University, 2008); Randall Eberts, George Erickcek, and Jack Kleinhenz, "Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future" (Federal Reserve Bank of Cleveland: April 2006), <http://www.clevelandfed.org/Research/workpaper/2006/wp06-05.pdf>.

<sup>2</sup> Raj Chetty, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez, "Where is the Land of Economic Opportunity? The Geography of Intergenerational Mobility in the U.S." <https://scholar.harvard.edu/hendren/publications/economic-impacts-tax-expenditures-evidence-spatial-variation-across-us>.

<sup>3</sup> Darrell Gaskin, Thomas LaVeist, and Patrick Richard, "The State of Urban Health: Eliminating Health Disparities to Save Lives and Cut Costs." National Urban League Policy Institute, 2012.

<sup>4</sup> Cedric Herring. "Does Diversity Pay?: Race, Gender, and the Business Case for Diversity." *American Sociological Review*, 74, no. 2 (2009): 208-22; Slater, Weigand and Zwirlein. "The Business Case for Commitment to Diversity." *Business Horizons* 51 (2008): 201-209.

<sup>5</sup> U.S. Census Bureau. "Ownership Characteristics of Classifiable U.S. Exporting Firms: 2007" Survey of Business Owners Special Report, June 2012, <https://www.census.gov/library/publications/2012/econ/2007-sbo-export-report.html>.

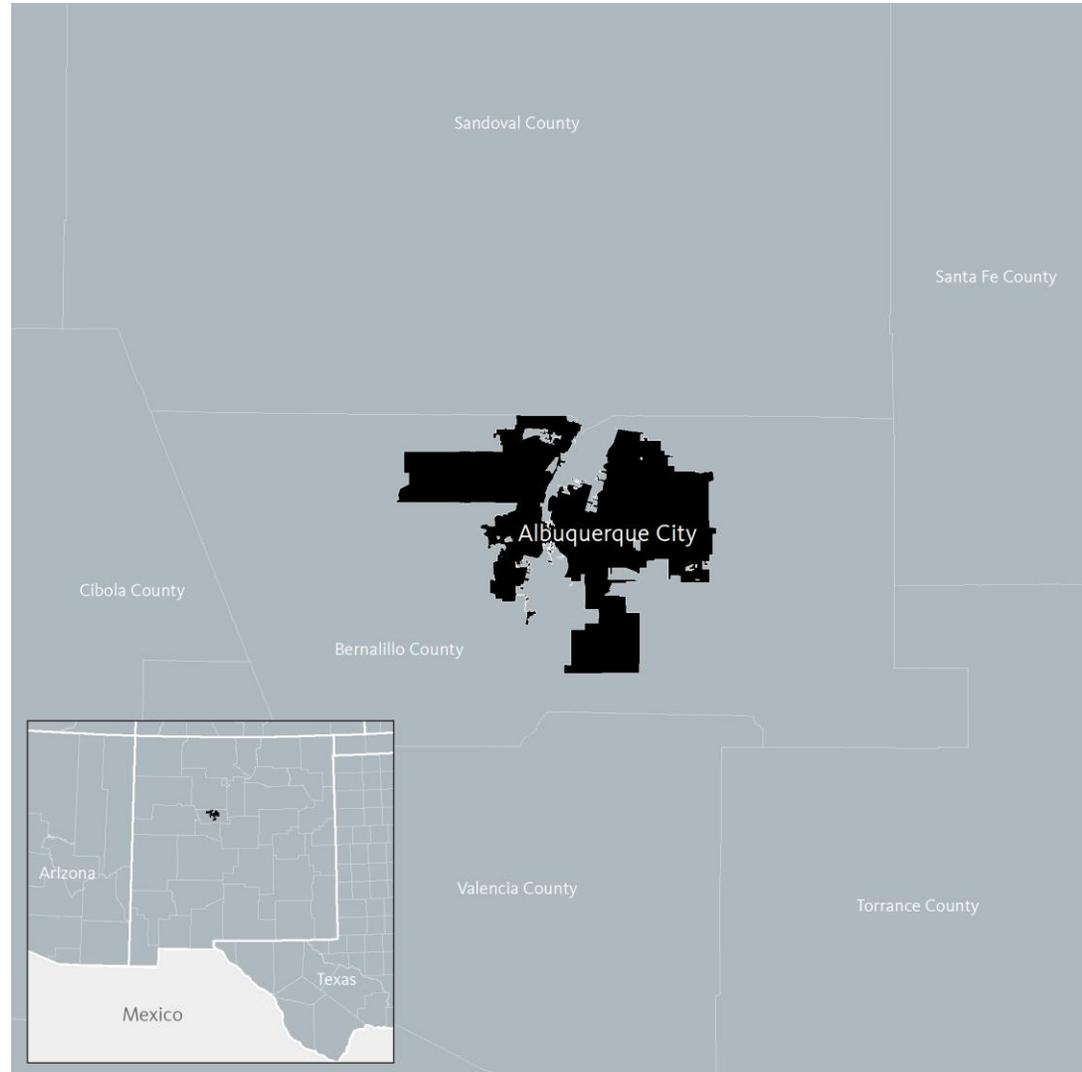
<sup>6</sup> Kate Pickett and Richard Wilkinson, "Income Inequality and Health: A Causal Review." *Social Science & Medicine*, 128 (2015): 316-326.

# Introduction

## Geography

This profile describes demographic, economic, and health conditions in the city of Albuquerque, portrayed in black on the map to the right. Albuquerque is situated within the Albuquerque metropolitan statistical area, which includes Bernalillo, Sandoval, Torrance, and Valencia counties.

Unless otherwise noted, all data follow the city geography, which is simply referred to as “Albuquerque.” 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 95.



# Introduction

## Equity indicators framework

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

### Demographics:

Who lives in the region and how is this changing?

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

### Economic vitality:

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

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

### Readiness:

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

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

### Connectedness:

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

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

### Economic benefits:

How would addressing racial inequities affect the regional economy?

- How would the region's gross domestic product be affected?
- How much would residents benefit from closing racial gaps in income and employment?

# Demographics



# Demographics

## Highlights

### Who lives in the city and how is it changing?

- By 2014, more than half of Albuquerque residents (59 percent) were people of color – up from 40 percent of residents in 1980.
- Of the more than 324,700 people of color in Albuquerque, 81 percent are Latino.
- There is a growing racial generation gap in the region: 74 percent of youth are people of color while only 37 percent of seniors are.
- Diverse groups, especially Latinos, Asian or Pacific Islanders, Native Americans, and those of mixed or other racial backgrounds are driving growth.

Share of population that are Latino residents:

47%

Increase in people of color population since 1980:

143%

Racial generation gap:

38 percentage points

# Demographics

## A majority people-of-color city

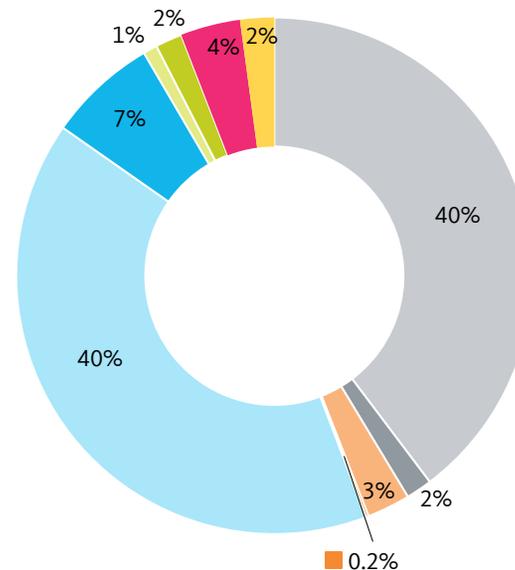
Fifty-nine percent of the city’s residents are people of color, including a diverse mix of racial and ethnic groups. Latinos make up 47 percent of Albuquerque with the largest subgroup listing their ancestry as “Mexican.”

Latinos are by far the largest racial/ethnic group among people of color, followed by Native Americans. Blacks, Native Americans, and Asian or Pacific Islanders collectively only make up approximately 10 percent of the population. Among the Native American population, the largest groups by ancestry are Navajo and Pueblo. Among Asian or Pacific Islanders, the largest groups are Vietnamese and Chinese.

**More than half of Albuquerque residents are people of color**

**Race, Ethnicity, and Nativity, 2014**

- White, U.S.-born
- White, Immigrant
- Black, U.S.-born
- Black, Immigrant
- Latino, U.S.-born
- Latino, Immigrant
- API, U.S.-born
- API, Immigrant
- Native American
- Mixed/other



Source: Integrated Public Use Microdata Series; U.S. Census Bureau.  
 Note: Data represent a 2010 through 2014 average. The Integrated Public Use Microdata Series American Community Survey (ACS) microdata was adjusted to match the ACS summary file percentages by race/ethnicity.

**Among Latinos, 36 percent are of Mexican ancestry**  
**Latino, Native American, and Asian or Pacific Islander Population by Ancestry, 2014**

Latino	Population
Mexican	87,117
All other Latinos	152,425
<b>Total</b>	<b>239,542</b>

Native American	Population
Navajo	5,196
Pueblo	3,519
Apache	928
All other Natives	12,782
<b>Total</b>	<b>22,426</b>

Asian or Pacific Islander	Population
Vietnamese	2,967
Chinese	2,360
Indian	1,561
Filipino	1,212
Korean	878
All other Asians	5,294
<b>Total</b>	<b>14,273</b>

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

# Demographics

## Growth in communities of color varies by neighborhood

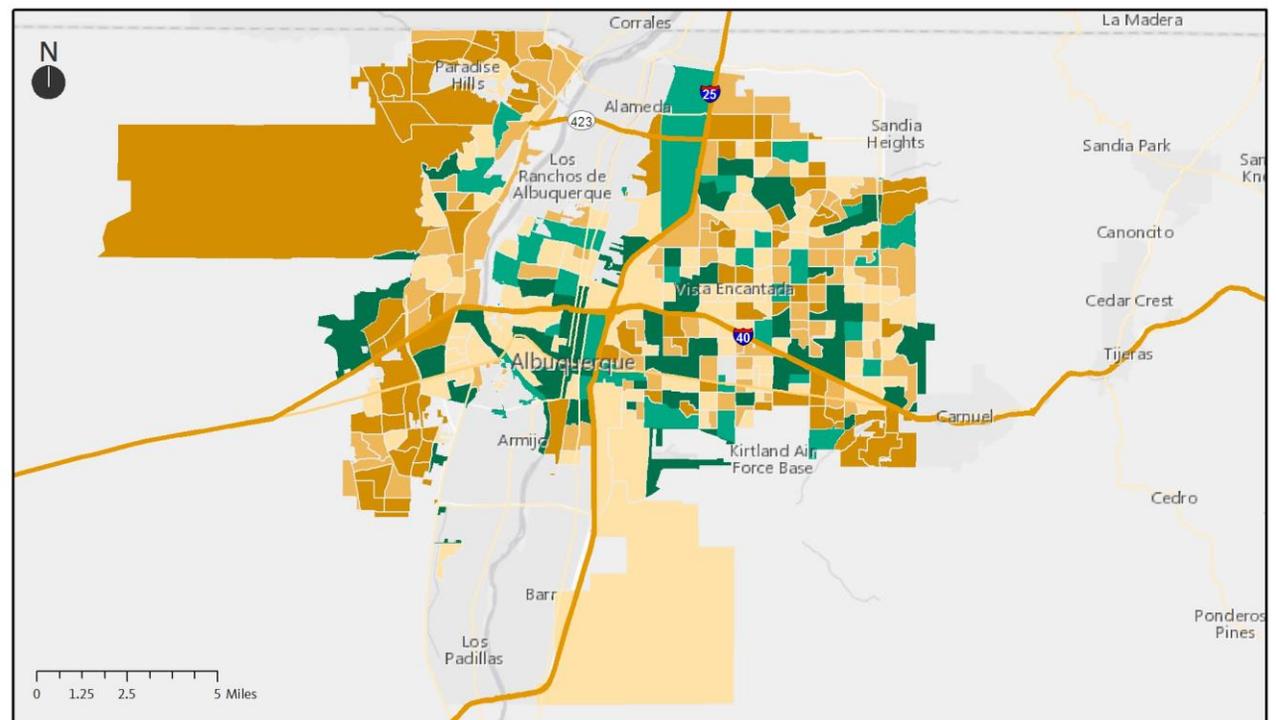
Mapping the growth in people of color by census block group illustrates variation in growth and decline in communities of color throughout the city. The map highlights how the population of color has grown most in the southwest and northwest parts of the city, while it has declined or experienced slower growth in central Albuquerque and in many neighborhoods on the east side of the city.

However, the east side of the city also includes neighborhoods that have seen rapid growth in people of color, in which the population has more than doubled since 2000.

### Significant variation in growth and decline in communities of color by neighborhood

#### Percent Change in People of Color by Census Block Group, 2000 to 2014

- Decline of 17% or more
- Decline of less than 17% or no growth
- Increase of less than 38%
- Increase of 38% to 99%
- Increase of 99% or more



Source: U.S. Census Bureau, GeoLytics, Inc.; TomTom, ESRI, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community.  
 Note: One should keep in mind when viewing this map, and others that display a share or rate, that while there is wide variation in the size (land area) of the census block groups in the region, each has a roughly similar number of people. Thus, care should be taken not to assign unwarranted attention to large block groups just because they are large. Data for 2014 represents a 2010 through 2014 average.

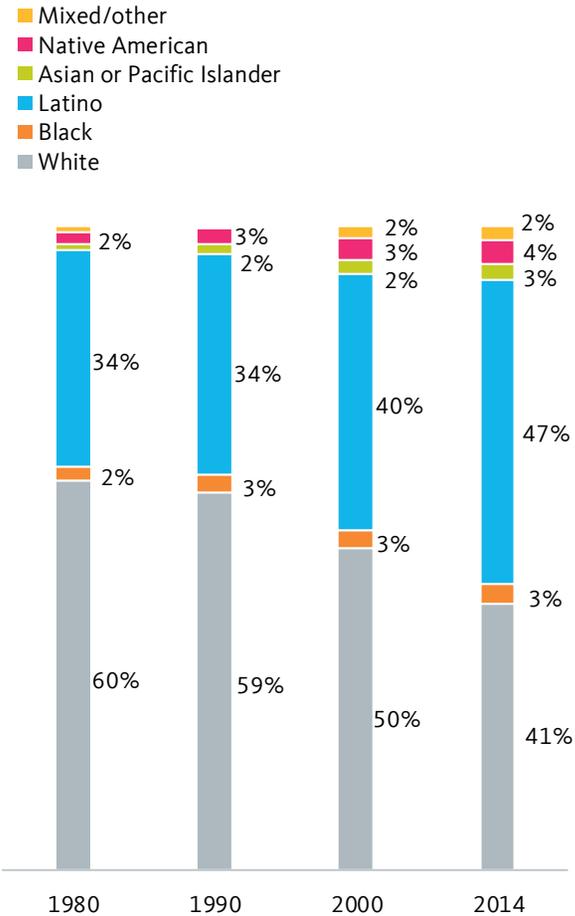
# Demographics

## Demographics have shifted over the past several decades

The overall population of Albuquerque is growing, increasing from roughly 546,000 to 554,000 between 2010 and 2014. People of color are driving this population growth. The White population is growing, but their share of the overall population is shrinking, from 60 to 41 percent between 1980 and 2014.

Between 1980 and 2014, the number of Whites increased from roughly 203,400 to 228,900. During the same time period the number of people of color grew from 133,500 to about 324,700.

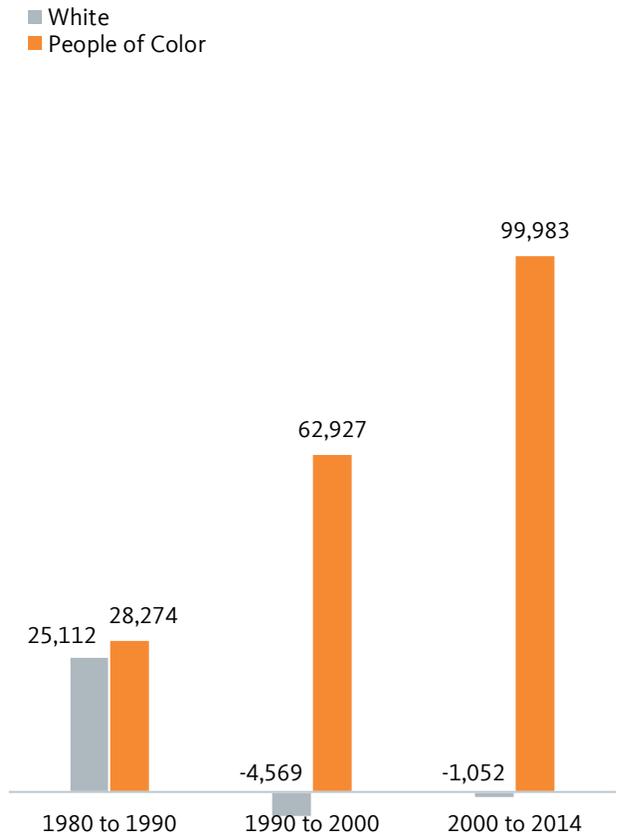
**The population is steadily diversifying**  
**Racial/Ethnic Composition, 1980 to 2014**



Source: U.S. Census Bureau.  
 Note: Data for 2014 represents a 2010 through 2014 average. Much of the increase in the Mixed/other population between 1990 and 2000 is due to a change in the survey question on race. Shares by race/ethnicity in 2014 may differ slightly from those reported on page 17 due to rounding.

**Growth of the White population is significantly less than it was 30 years ago**

**Composition of Net Population Growth by Decade, 1980 to 2014**



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

# Demographics

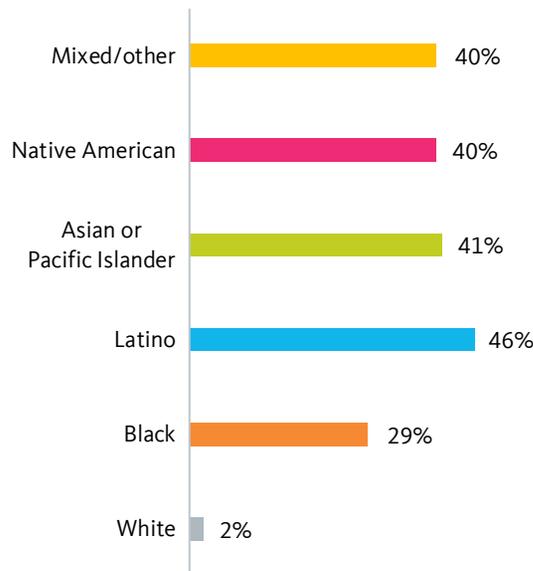
## All major subgroups are experiencing growth since 2000

Latinos are the fastest growing group and added the most in terms of net change in population, increasing by 83,000 residents between 2000 and 2014.

Asian or Pacific Islanders are the second fastest growing group (adding about 4,000 people), followed by Native Americans (adding about 6,000 people), and those of mixed or other races (adding about 3,400 people). The number of African American residents increased by 29 percent (adding about 3,600 residents), while the White population declined by 2 percent (or 5,000 residents).

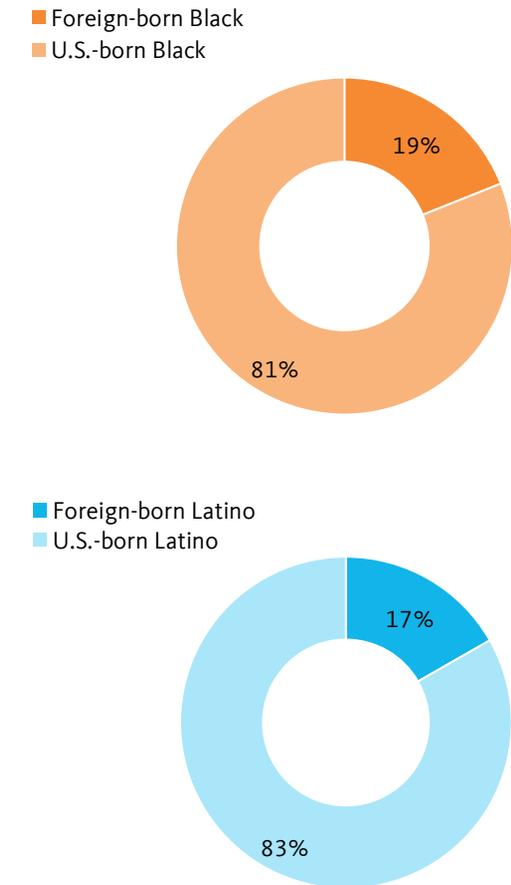
The majority of growth in the Latino population in Albuquerque (8%) can be attributed to U.S.-born residents rather than to foreign-born immigrants, and the same is true for the Black population.

**Latinos grew the most since 2000, followed by Asian or Pacific Islanders, Native Americans, and Mixed/other**  
**Growth Rates of Major Racial/Ethnic Groups, 2000 to 2014**



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

**Both Black and Latino population growth are largely driven by U.S. born populations**  
**Share of Net Growth in Black and Latino Population by Nativity, 2000 to 2014**



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

# Demographics

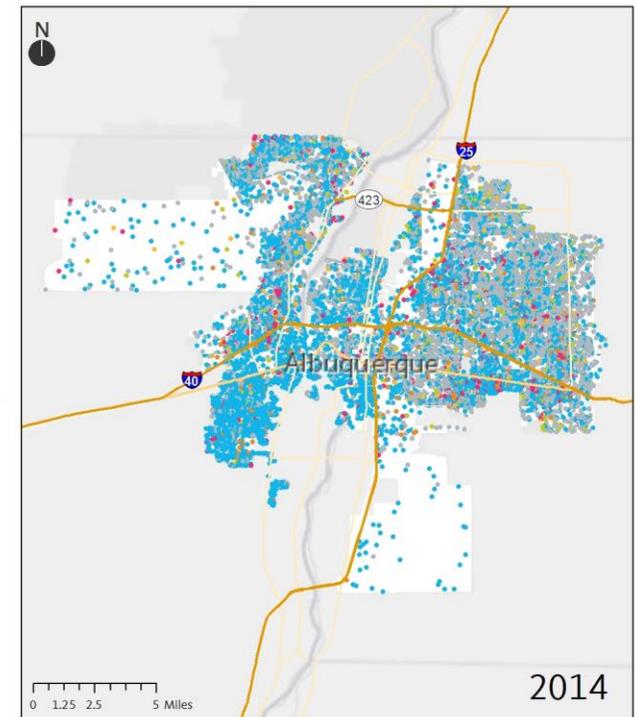
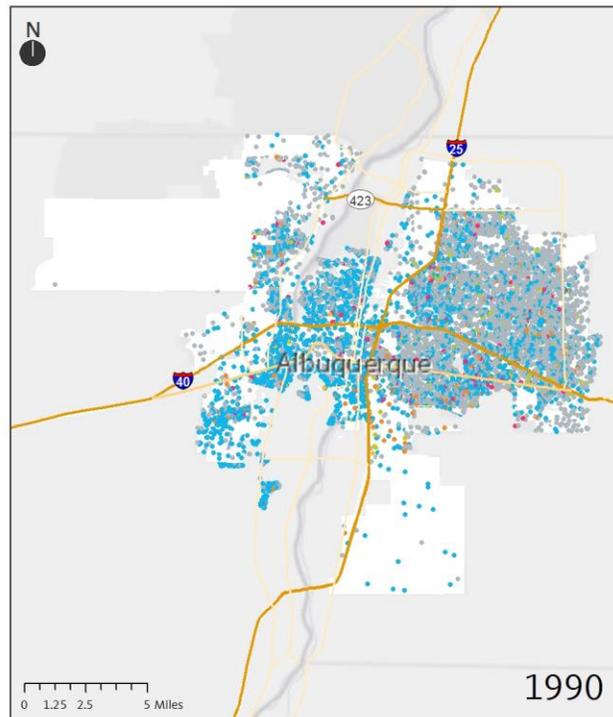
## Communities are becoming more diverse

Rapidly growing communities of color can be found across the city. Since 1990, the Latino population has grown significantly in the western half as well as many other parts of Albuquerque.

### Diversity is spreading outwards

#### Racial/Ethnic Composition by Census Block Group, 1990 and 2014

- Race/ethnicity  
 1 Dot = 50 people
- White
  - Black
  - Latino
  - Asian or Pacific Islander
  - Native American
  - Mixed/other



Source: U.S. Census Bureau, Geolytics, Inc.; TomTom, ESRI, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community.  
 Note: Data for 2014 represent a 2010 through 2014 average.

# Demographics

## The Latino population will continue to grow

Because of lack of data on demographic projections for the city of Albuquerque, here we examine projections for Bernalillo county instead.

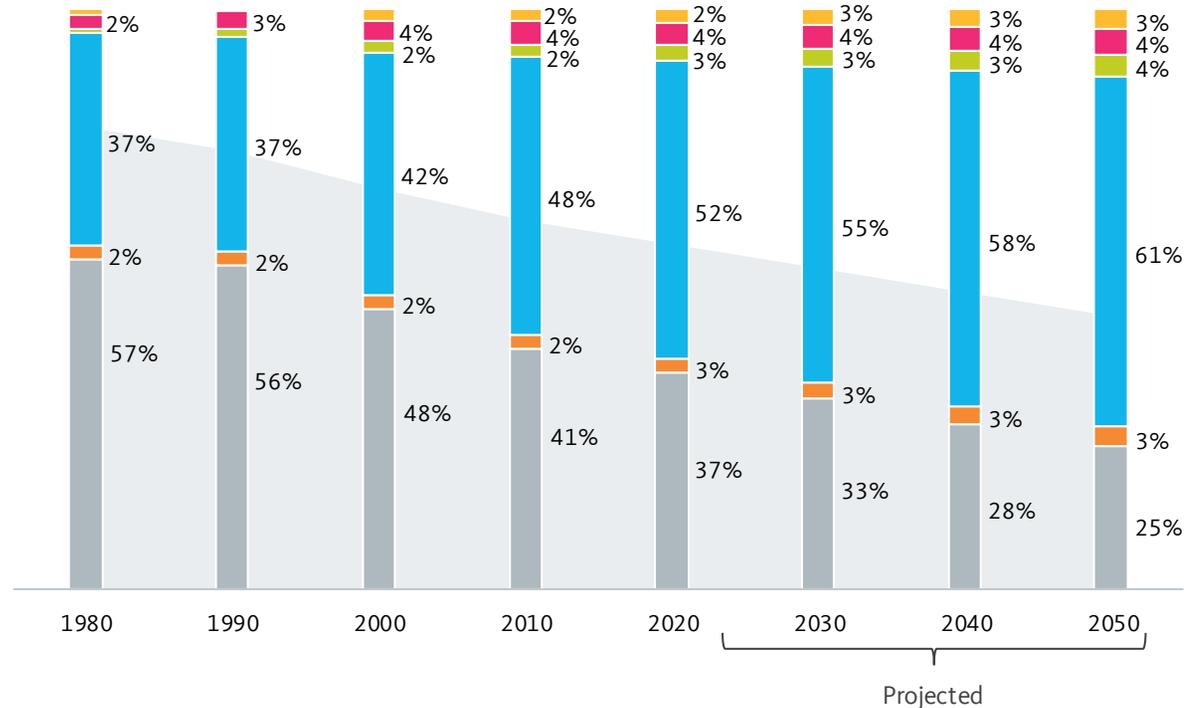
Demographic change has occurred much more quickly in Bernalillo County than in the nation as a whole, and this trend will only continue. In 1980, Bernalillo County was 37 percent Latino – significantly more than the U.S. overall (6 percent). In fact, the region became majority people of color during the 1990s. By 2000, 52 percent of the population was people of color.

In Bernalillo County, however, the share of the White population decreased from 57 percent in 1980 to 41 percent in 2010. It is projected to continue decreasing to 25 percent by 2050.

The share of people of color is projected to steadily increase through 2050

### Racial/Ethnic Composition, 1980 to 2050

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



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

Note: Data is for Bernalillo County, NM. 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

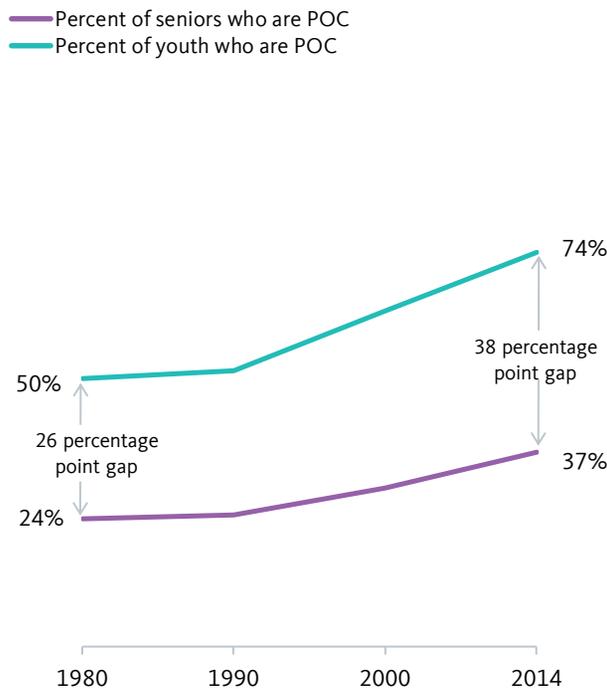
## A growing racial generation gap

Young people are leading the demographic shift in the region. Today, 74 percent of Albuquerque’s youth (under age 18) are people of color, compared with 37 percent of the region’s seniors (65 and older) who are people of color. This 38 percentage point difference between the share of people of color among young and old can be measured as the racial generation gap. The racial generation gap may negatively affect the region if seniors do not invest in the educational systems and community infrastructure needed to support the youth population that is more racially diverse.

The city’s communities of color are also more youthful than its White population. People of mixed or other racial backgrounds, for example, have a median age of 25, while the median age of Whites is 47, a 22-year difference. Latino Albuquerqueans have a median age of 30 years old – 17 years younger than that of Whites.

The racial generation gap between youth and seniors continues to grow larger

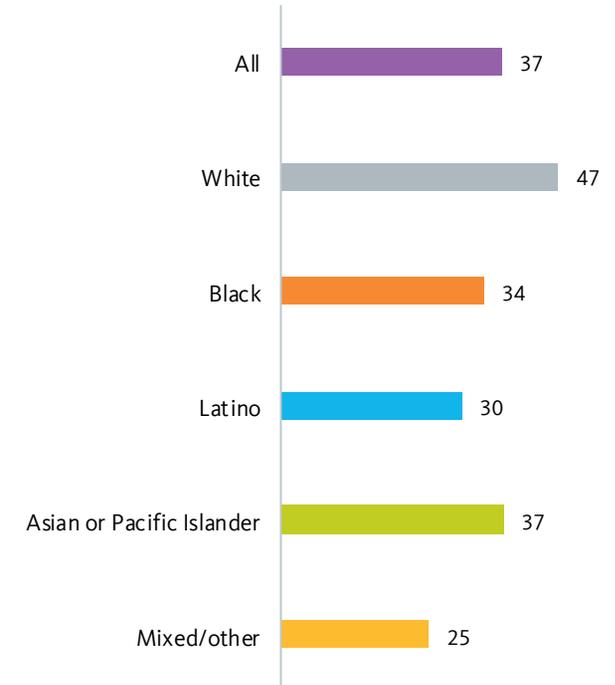
Percent People of Color (POC) by Age Group, 1980 to 2014



Source: U.S. Census Bureau.  
 Note: Data for 2014 represents a 2010 through 2014 average. Gap value may not equal difference in percentages shown due to rounding.

The city’s communities of color are more youthful than its White population

Median Age by Race/Ethnicity, 2014



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

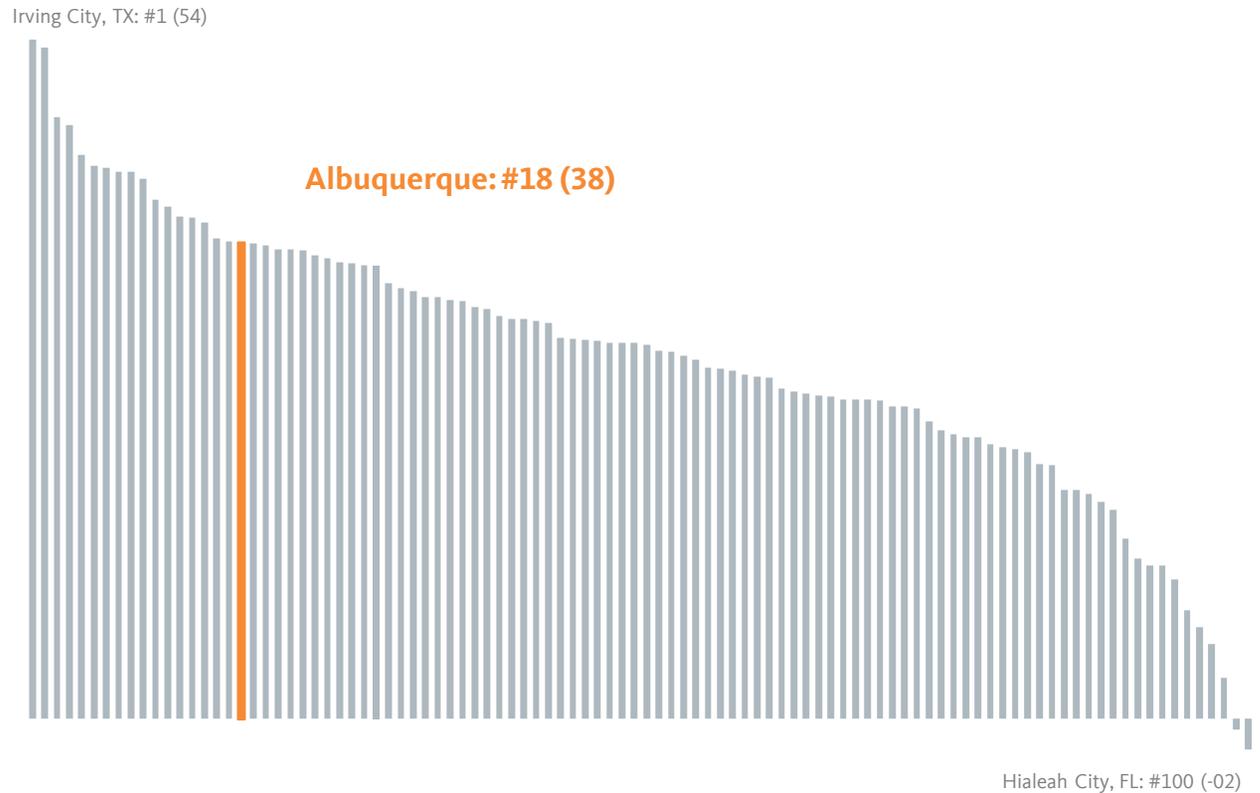
# Demographics

## A growing racial generation gap

(continued)

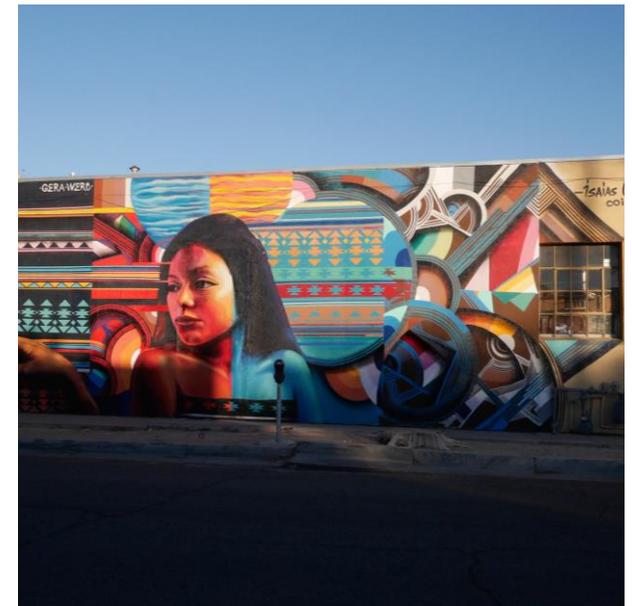
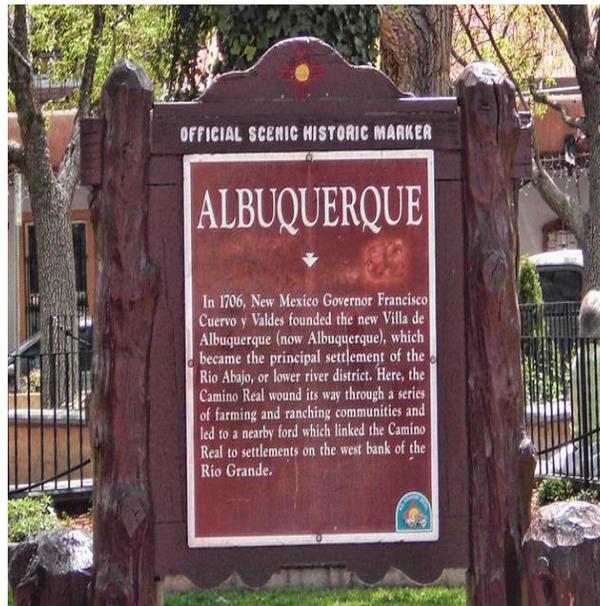
Albuquerque's 38 percentage-point racial generation gap is among the highest in the nation. The city ranks 18<sup>th</sup> among the 100 largest U.S. cities on this measure.

**Albuquerque has a relatively large racial generation gap**  
**The Racial Generation Gap in 2014: 100 Largest Cities, Ranked**



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

# Economic vitality



# Economic vitality

## Highlights

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

- Income inequality is also increasing in the region, and workers at the 50th percentile have seen their wages fall since 1979.
- There are large differences in unemployment rates by race/ethnicity, with nearly one in 10 Native Americans unemployed.
- Wages have declined since 1979 for the bottom half of workers, while those at the top have seen modest increases.
- Although education is a leveler, racial and gender gaps persist in the labor market. Workers of color in Albuquerque face lower wages at all education levels compared with Whites.

Wage growth for workers at the 10<sup>th</sup> percentile since 1979:

-11%

Share of Native Americans living in poverty:

32%

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

\$4/hour

# Economic vitality

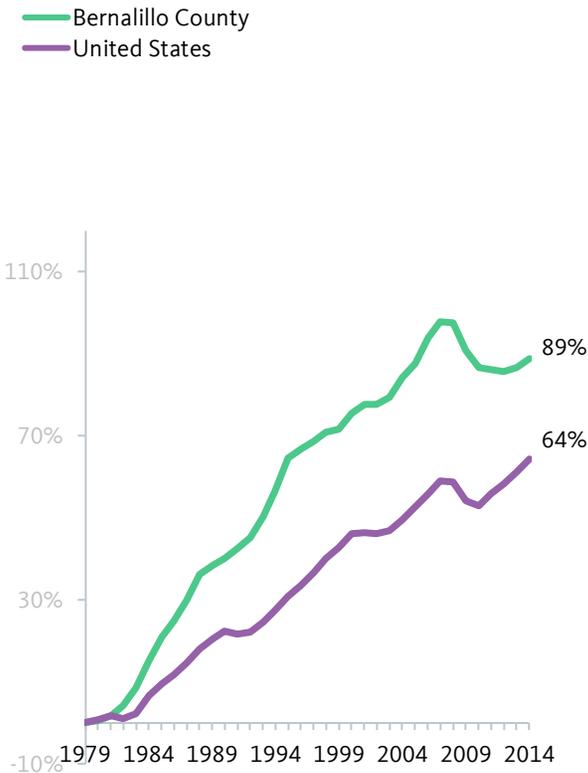
## Impressive long-term job growth

Economic growth, as measured by increases in jobs and gross regional product (GRP) – the value of all goods and services produced within the region – has increased over the past several decades. Job growth in the region has outpaced that of the nation since 1982. For the past couple of decades, job growth in Albuquerque has followed a considerably more positive growth pattern compared to the nation.

Similarly, growth in GRP outpaced the national average since 1991, until 2014. In 2014, Bernalillo County's GRP was one percentage point lower than the national average.

**Job growth has outpaced the national average since 1982**

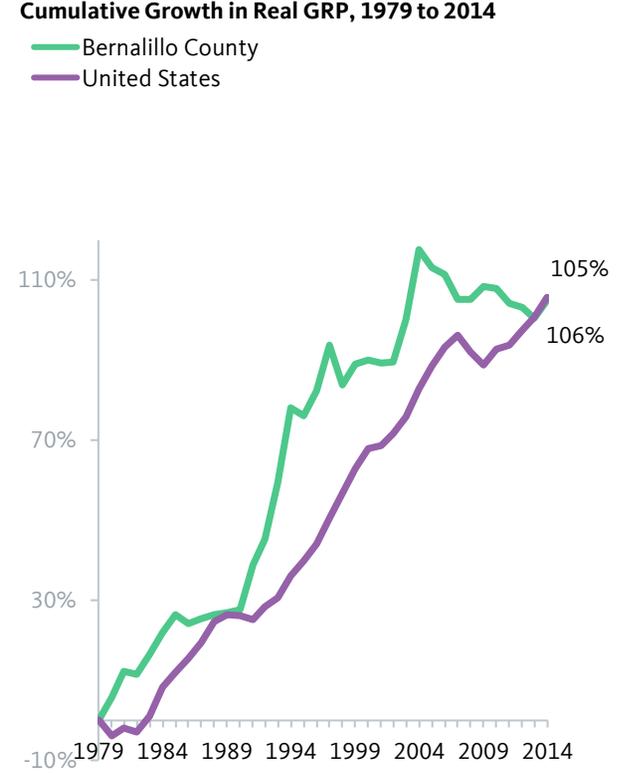
**Cumulative Job Growth, 1979 to 2014**



Source: U.S. Bureau of Economic Analysis.

**Gross Regional Product (GRP) growth remained higher than the national average, until 2014**

**Cumulative Growth in Real GRP, 1979 to 2014**



Source: U.S. Bureau of Economic Analysis.

# Economic vitality

## A slow recovery post-recession

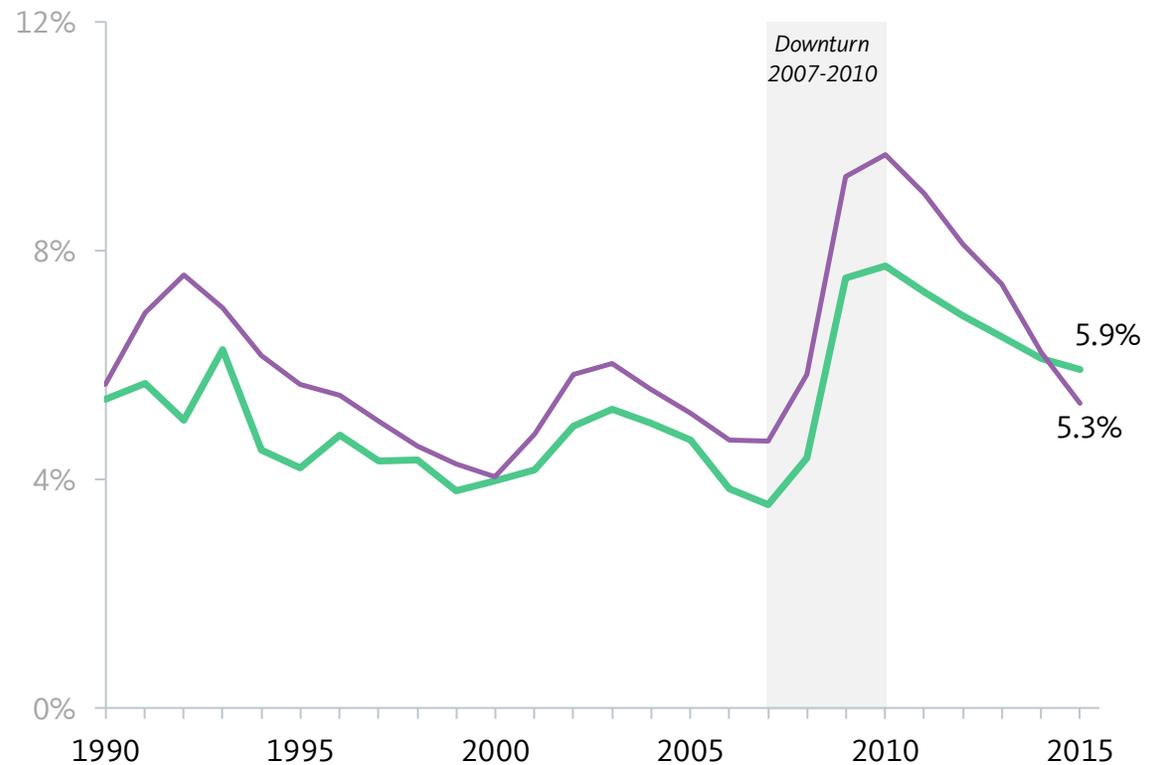
Unemployment has decreased steadily since 2011, but the economic recovery in Bernalillo County has occurred at a slower rate than the nation as whole.

By 2015, the overall unemployment rate was 5.9 percent, which is higher than the national average, but still lower than the rate for the state of New Mexico at 6.6 percent. This is the first time that the Bernalillo County unemployment rate has exceeded the national average in at least the last 25 years.

Unemployment began to fall consistently in 2011, but at a slower pace than the national average

Unemployment Rate, 1990 to 2015

— Bernalillo County  
— United States



Source: U.S. Bureau of Labor Statistics.

Note: Universe includes the civilian non-institutional population ages 16 and older.

# Economic vitality

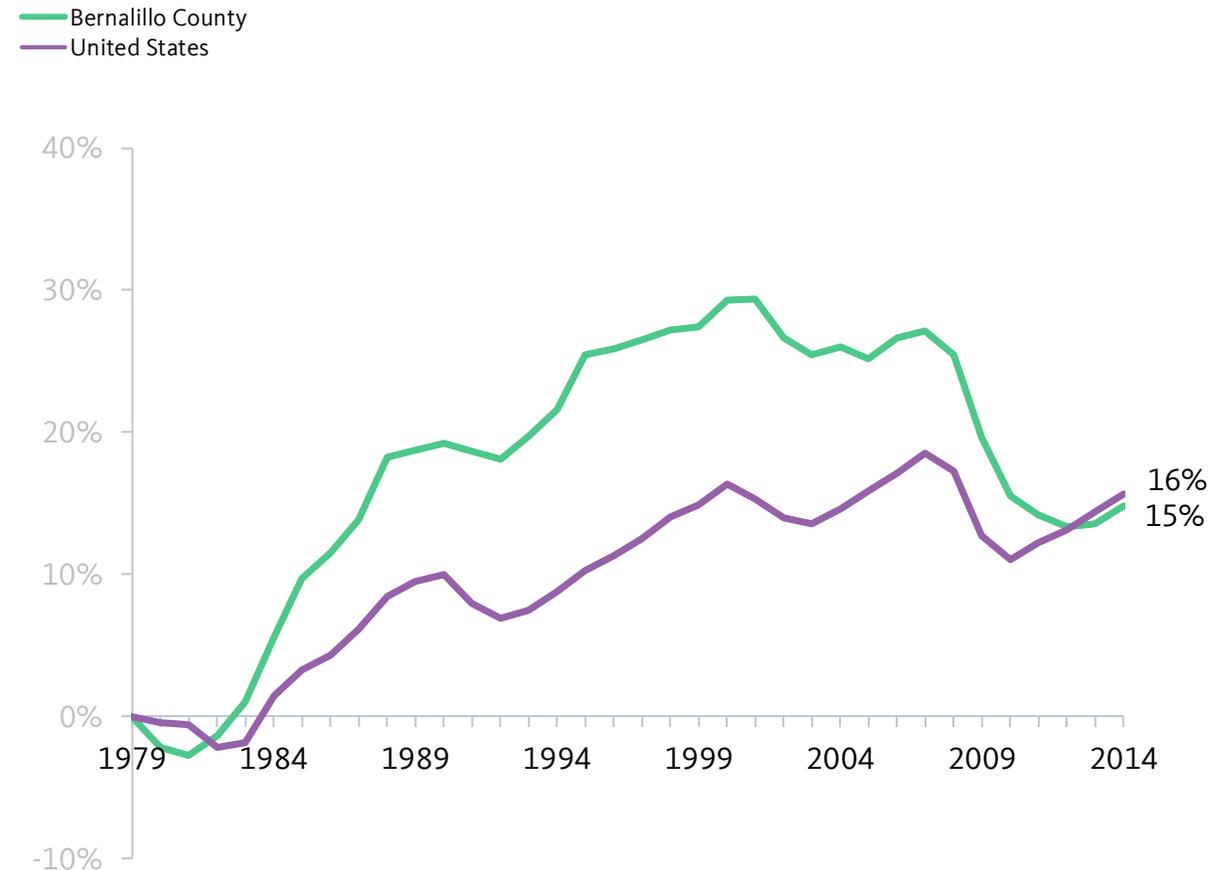
## Job growth is keeping up with population growth

While overall job growth is essential, it's important to consider whether jobs are growing at a fast enough pace to keep up with population growth. Bernalillo County's job growth per person has been higher than the national average since 1982. The number of jobs per person in Bernalillo County has increased notably since it's nadir in 1981, but the rate in 2014 was less than half of what it was at its peak in 2001.

While an increase in the jobs to population ratio is good, it does not explain whether workers with barriers to employment have access to those jobs.

Job growth relative to population growth was higher than the national average until 2012

Cumulative Growth in Jobs-to-Population Ratio, 1979 to 2014



Source: U.S. Bureau of Economic Analysis.

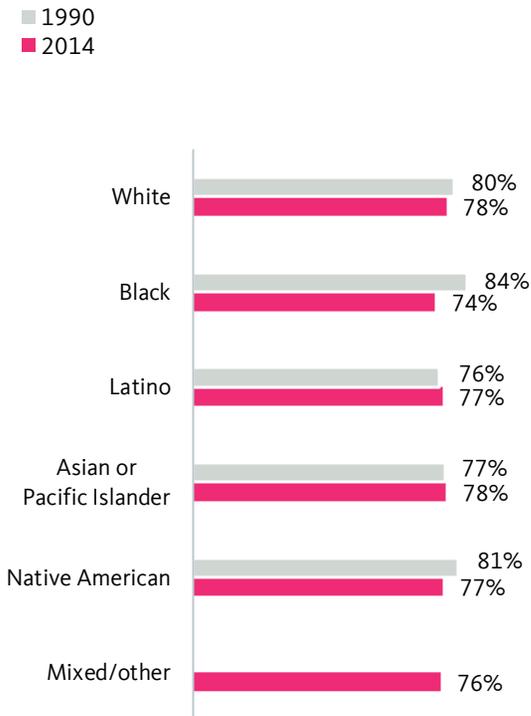
# Economic vitality

## Unemployment highest for Native Americans

Despite some progress over the past two decades, racial employment gaps persist. Workers of color face the most challenging employment situation. In Albuquerque, both Native Americans and Latinos have demonstrably high rates of labor force participation (defined as either working or actively seeking employment), but still face the highest unemployment rates.

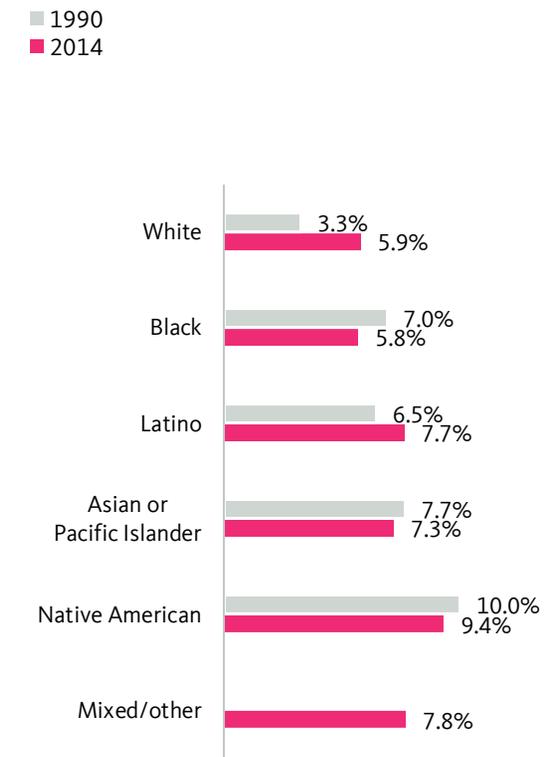
Black and White workers had the lowest unemployment rate in 2014.

**African Americans have the lowest rates of labor force participation**  
**Labor Force Participation Rate by Race/Ethnicity, 1990 and 2014**



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutional population ages 25 through 64. Note: Data for 2014 represents a 2010 through 2014 average. Data for some racial/ethnic groups in some years are excluded due to small sample size.

**Native Americans have the highest unemployment rate**  
**Unemployment Rate by Race/Ethnicity, 1990 and 2014**



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutional population ages 25 through 64. Note: Data for 2014 represents a 2010 through 2014 average. Data for some racial/ethnic groups in some years are excluded due to small sample size.

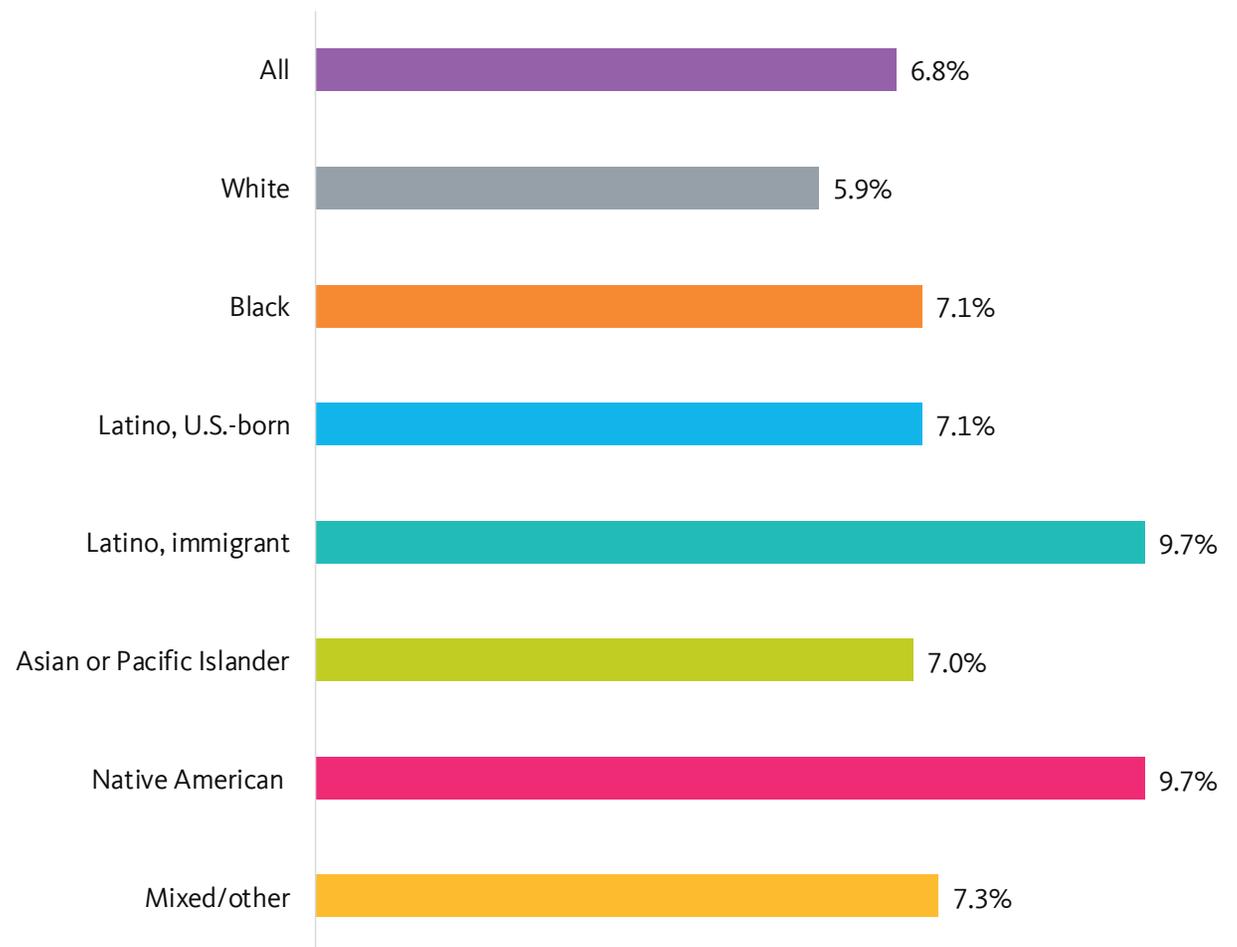
# Economic vitality

## Unemployment highest for Native Americans and Latino immigrants

Native Americans and Latino immigrants are more likely than all other racial/ethnic groups in Albuquerque to be unemployed and actively in search of work. Almost 10 percent of Native American and Latino immigrant adults ages 25 to 64 are unemployed. Those identifying as mixed or other race and Latinos have the second highest unemployment rates at slightly over 7 percent.

**Latino Immigrants and Native Americans have the highest unemployment rates in the city**

**Unemployment Rate by Race/Ethnicity, 2015**



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutionalized population ages 25 through 64.  
 Note: Data represent a 2010 through 2015 average.

# Economic vitality

## Unemployment concentrated southwest of downtown and in other areas throughout the city

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

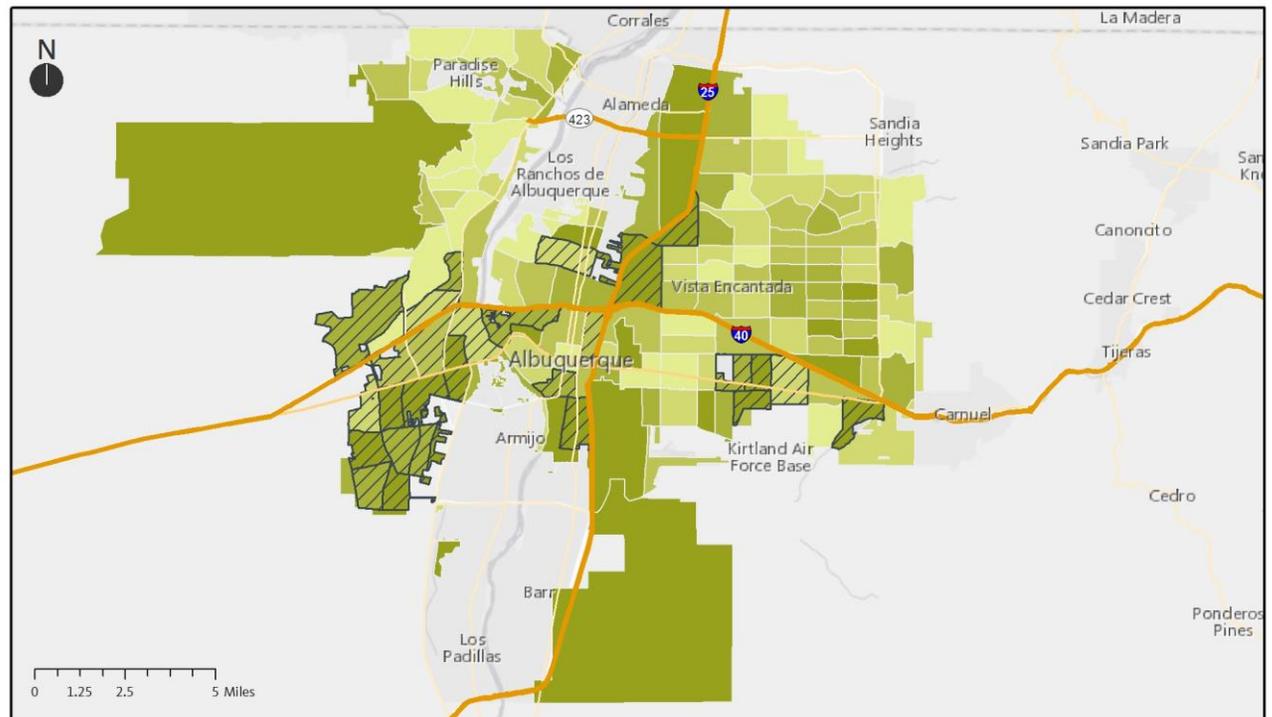
Unemployment tends to be concentrated southwest of downtown and other parts of the city, where 12 percent or more of residents are unemployed. There is a sizable population of color that is unemployed in the southwest area of the city, as well as just west of Vista Encantada near Interstate 25, and just north of the Kirtland Air Force Base.

About one-fifth of census tracts in the city are 70 percent people of color or more, and these neighborhoods tend to have higher rates of unemployment.

### Clusters of high unemployment exist across the city

#### Unemployment Rate by Census Tract, 2014

- Less than 5%
  - 5% to 7%
  - 7% to 9%
  - 9% to 12%
  - 12% or more
- 70% or more people of color



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.  
 Note: Universe includes the civilian non-institutional labor force age 16 and older. Note: Data represent a 2010 through 2014 average.

# Economic vitality

## Increasing income inequality

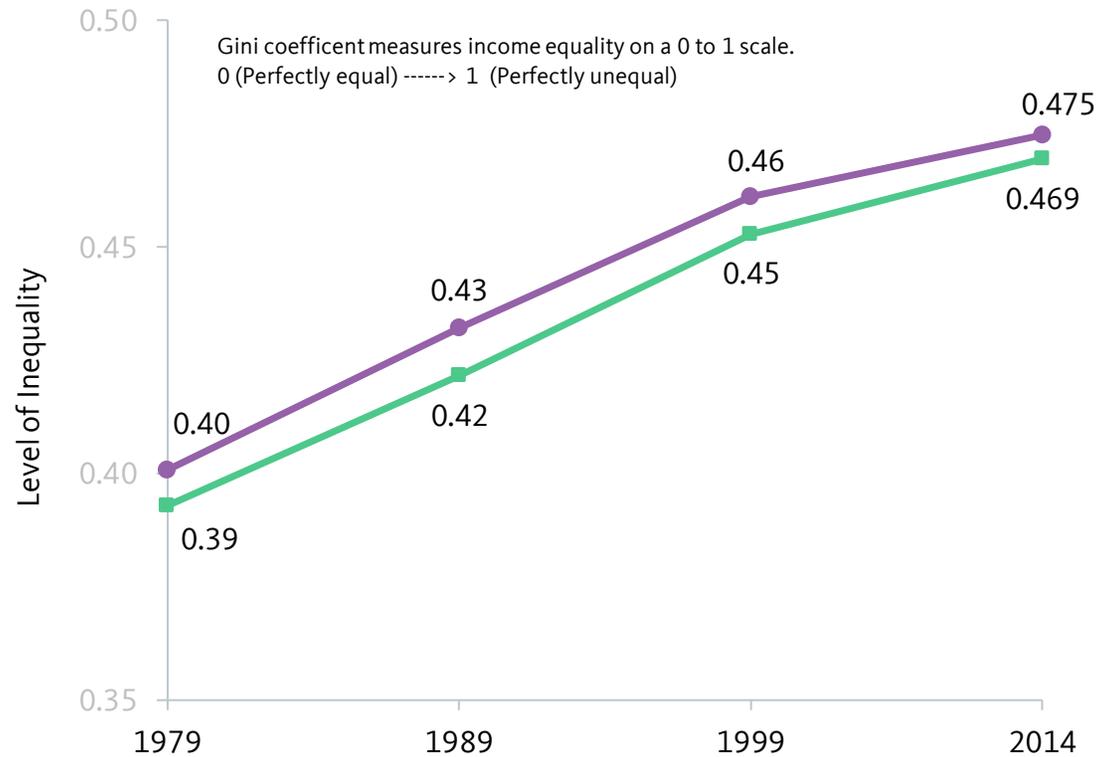
Income inequality has steadily grown in the region over the past 30 years at about the same rate as the nation as a whole through the 1980s and 1990s. The city ranks 59<sup>th</sup> among the largest 100 cities in the U.S. in terms of income inequality.

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

Household income inequality has steadily increased since 1979

Gini Coefficient, 1979 to 2014

Albuquerque  
United States



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).  
Note: Data for 2014 represents a 2010 through 2014 average.

# Economic vitality

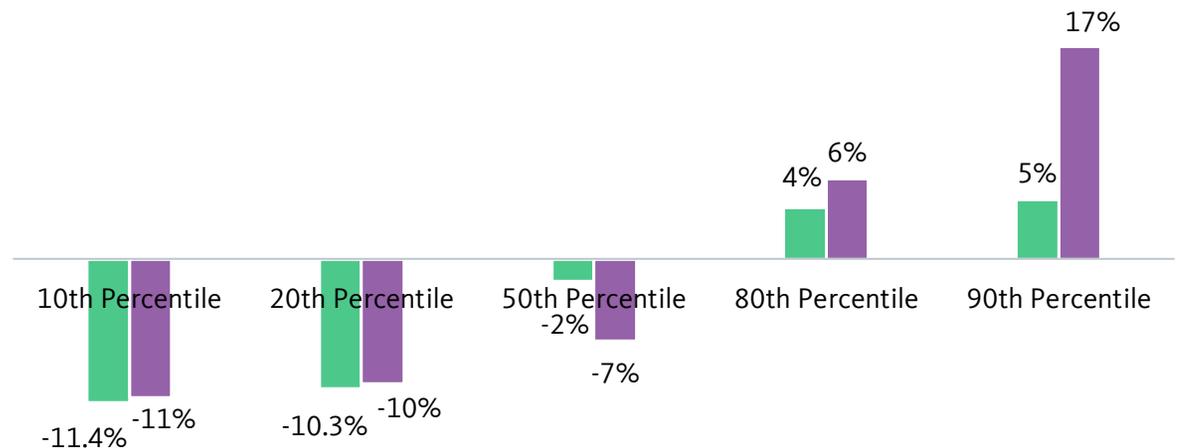
## Declining or stagnant wages for the bottom half of workers

Declining wages play an important role in the region’s increasing inequality. After adjusting for inflation, wages have declined or stagnated for the bottom half of the city’s workers over the past three decades.

Wage decline has been less severe for the median worker in the city than nationwide, but it has been a bit steeper for the lowest-paid workers. One way to see this is to examine wage growth by percentile of the wage distribution. A percentile is a measure used in statistics indicating the value below which a given percentage of observations in a group of observations fall. Put simply, a worker at the 20<sup>th</sup> percentile, for example, earns more than 20 percent of all workers and less than 80 percent of all workers.

In Albuquerque, wages fell by 11 percent and 10 percent for workers at the 10<sup>th</sup> and 20<sup>th</sup> percentiles, and 2 percent for the median worker (at the 50<sup>th</sup> percentile). Only workers near the top experienced wage growth, with wages increasing by 5 percent for workers at the 90<sup>th</sup> percentile.

**Wages have declined for the bottom half of workers, with modest increases at the top**  
**Real Earned Income Growth for Full-Time Wage and Salary Workers Ages 25-64, 1979 to 2014**  
 ■ Albuquerque  
 ■ United States



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

# Economic vitality

## Modest wage growth

All major racial/ethnic groups over the past decade have experienced modest wage growth in Albuquerque since 2000 except for Asian or Pacific Islanders and those workers that identify as mixed or other race. Workers of color saw much smaller growth in wages in comparison to Whites.

Despite the growth, no racial/ethnic group has a median wage high enough to be called a “living wage” for a family of one adult and two children in Bernalillo County. According to the MIT Living Wage Calculator, the living wage for a family of three with one adult is \$28/hour in Bernalillo County.

Real median hourly wages for Asian or Pacific Islander and Mixed/other workers have declined since 2000

Median Hourly Wage by Race/Ethnicity, 2000 and 2014



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

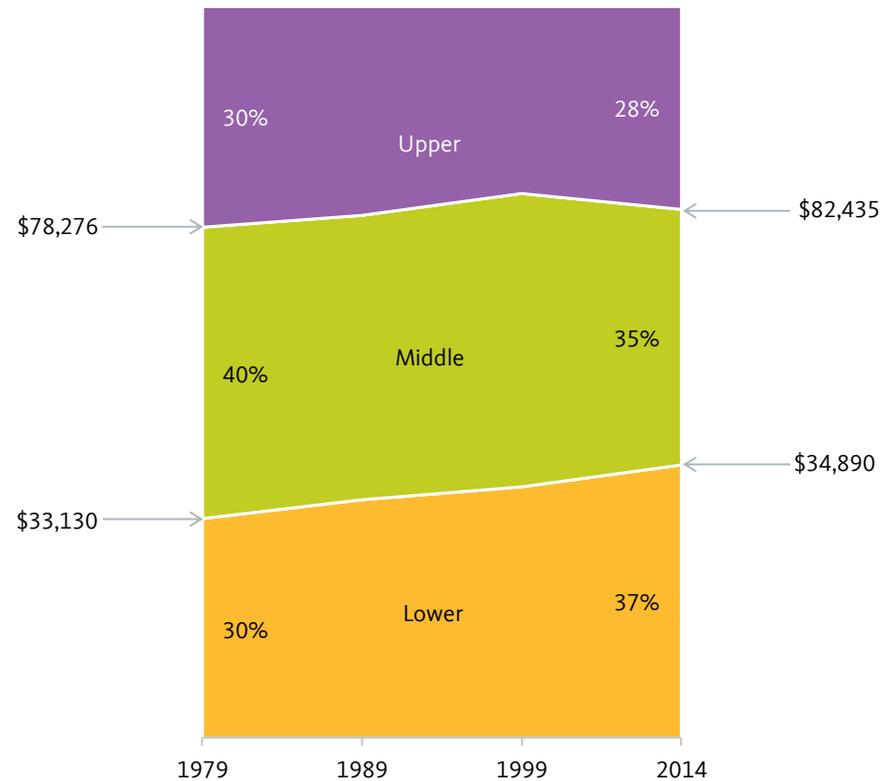
# Economic vitality

## Growing lower-income class and shrinking middle class

The city’s middle class is shrinking while the lower-income class is increasing: since 1979, the share of households with middle-class incomes decreased from 40 to 35 percent. The share of upper-income households also declined, from 30 to 28 percent, while the share of lower-income households grew from 30 to 37 percent.

In this analysis, middle-income households are defined as having incomes in the middle 40 percent of household income distribution. In 1979, those household incomes ranged from \$33,130 to \$78,276. To assess change in the middle class and the other income ranges, we calculated what the income range would be today if incomes had increased at the same rate as average household income growth. Today’s middle-class incomes would be \$34,890 to \$82,435, and 35 percent of households fall within that range.

The share of middle-class households declined from 40 to 35 percent since 1979  
Households by Income Level, 1979 to 2014



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).  
Note: Data for 2014 represents a 2010 through 2014 average. Dollar values are in 2014 dollars.

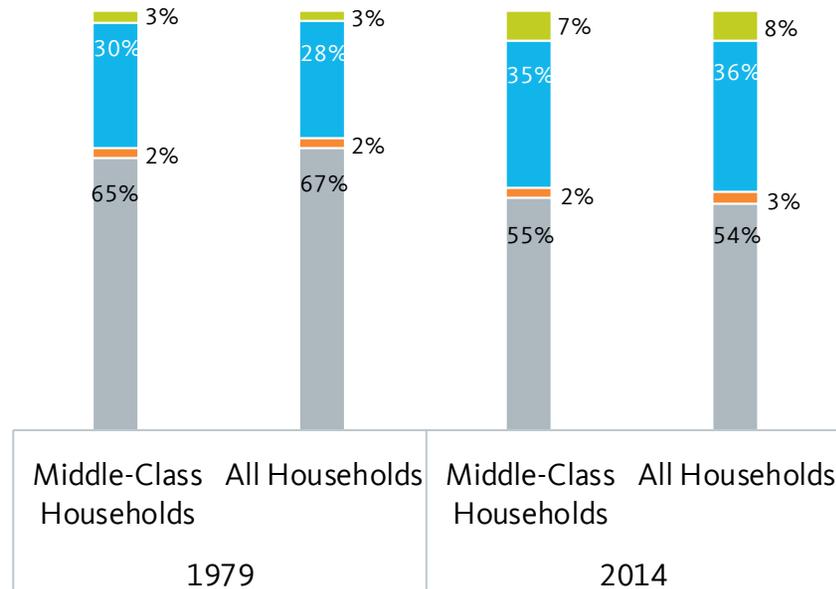
# Economic vitality

## Households, and middle class households, in Albuquerque are becoming more diverse

The demographics of the middle class reflect the city’s changing demographics. While the share of households with middle-class incomes has declined since 1979, middle-class households have become more racially and ethnically diverse. The share of middle class households that are people of color increased from 35 percent in 1979 to 45 percent in 2014.

**The middle class reflects the racial/ethnic composition of all households**  
**Racial Composition of Middle-Class Households and All Households, 1979 and 2014**

- Asian, Native American or Other
- Latino
- Black
- White



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).  
 Note: Data for 2014 represents a 2010 through 2014 average.

# Economic vitality

## Rising rates of poverty and working poor

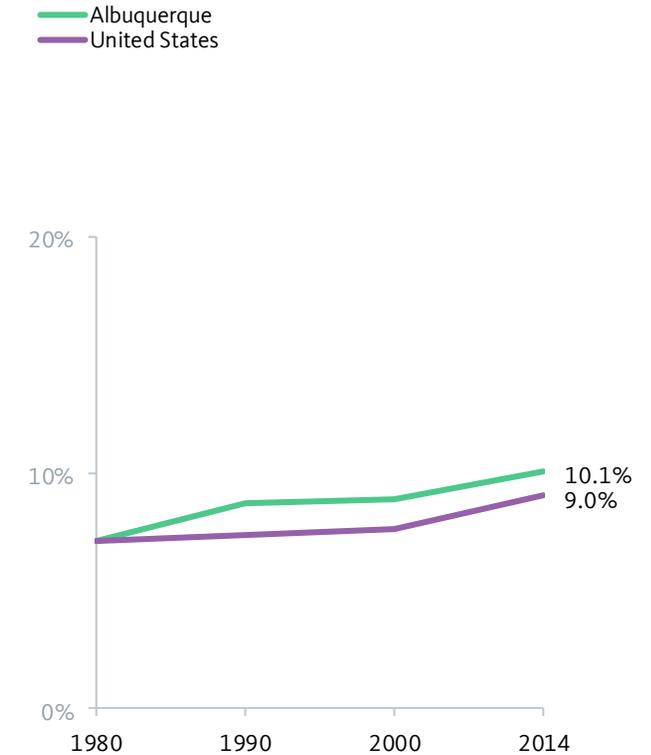
The poverty rate in Albuquerque was similar to the national average between 1980 and 2000. However, since 2000 the share of residents in the city living in poverty has spiked. Today, nearly 19 percent of Albuquerqueans live below the federal poverty line, which is just \$24,000 a year for a family of four.

Working poverty, defined as working full-time with an income below 200 percent of the poverty level (roughly \$48,000 for a family of four), has also risen. In 2014, about 10 percent of the city's 25 to 64-year-olds were working poor.

**Poverty is on the rise**  
Poverty Rate, 1980 to 2014



**Working poverty is also increasing**  
Working-Poverty Rate, 1980 to 2014



Source: Integrated Public Use Microdata Series. Universe includes all persons not in group quarters.  
Note: Data for 2014 represents a 2010 through 2014 average.

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

# Economic vitality

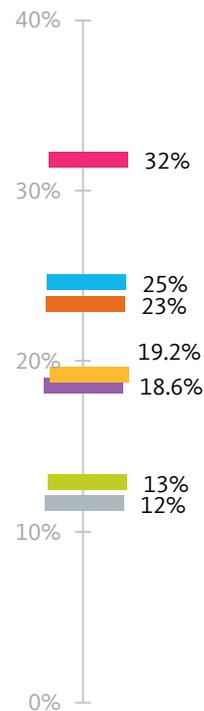
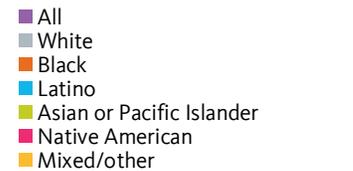
## High levels of poverty and working poverty among Native Americans

People of color have higher levels of poverty and working poverty than Whites in the city. Native Americans have the highest poverty rate at 32 percent. About one in four Latinos and African Americans live below the federal poverty level compared with about one in 10 Whites.

Native Americans also have the highest rate of working poverty, at 20 percent. African Americans, Latinos, people of mixed or other races, and Asian or Pacific Islanders all have working-poverty rates that at least double that of their White counterparts.

Poverty is highest for Native Americans

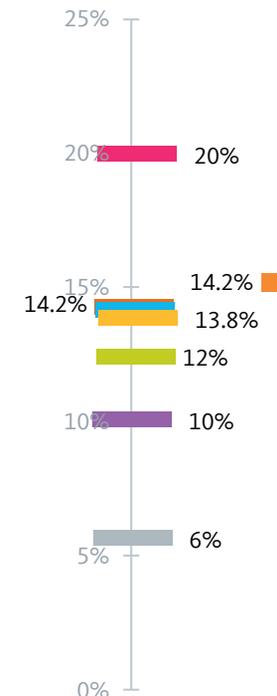
Poverty Rate by Race/Ethnicity, 2014



Source: Integrated Public Use Microdata Series. Universe includes all persons not in group quarters. Note: Data represent a 2010 through 2014 average.

Working poverty is highest for Native Americans

Working-Poverty Rate by Race/Ethnicity, 2014



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

# Economic vitality

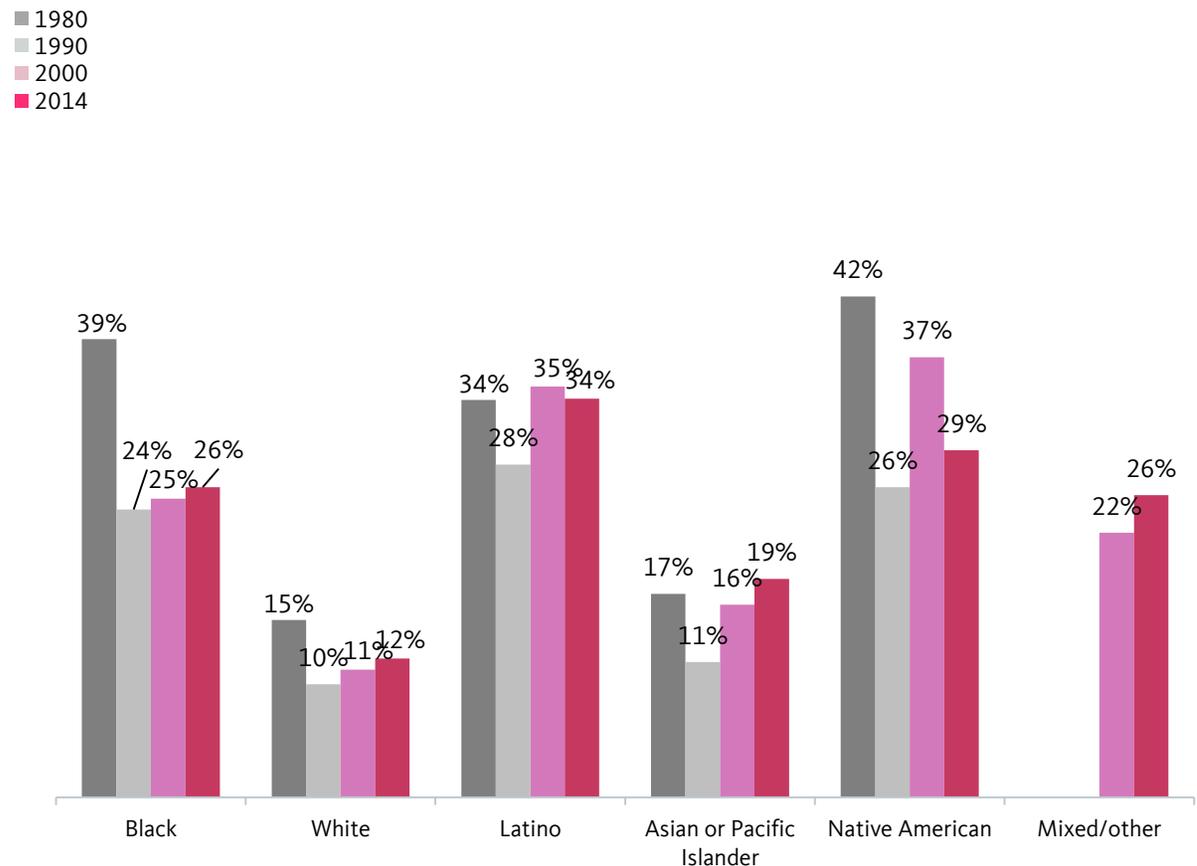
## Economic insecurity persists among communities of color

Because the federal poverty level is so low, it's helpful to look at the share of the population living below 200 percent of poverty. In 2014, double the poverty line was \$48,000 a year for a family of four – which is still well below a living wage.

In 2014, about 38 percent of Albuquerque residents lived below 200 percent of poverty, but this number ranged from 26 percent among Whites to about 47 percent among Blacks and Latinos.

Despite a sizable drop for many groups between 1990 and 2000, economic insecurity has increased even more since 2000

Percent of the Population Below 200 Percent of Poverty, 1980 to 2014



Source: Integrated Public Use Microdata Series. Universe includes all persons not in group quarters.  
 Note: Data for 2014 represents a 2010 through 2014 average. Data for some racial/ethnic groups in some years are excluded due to small sample size.

# Economic vitality

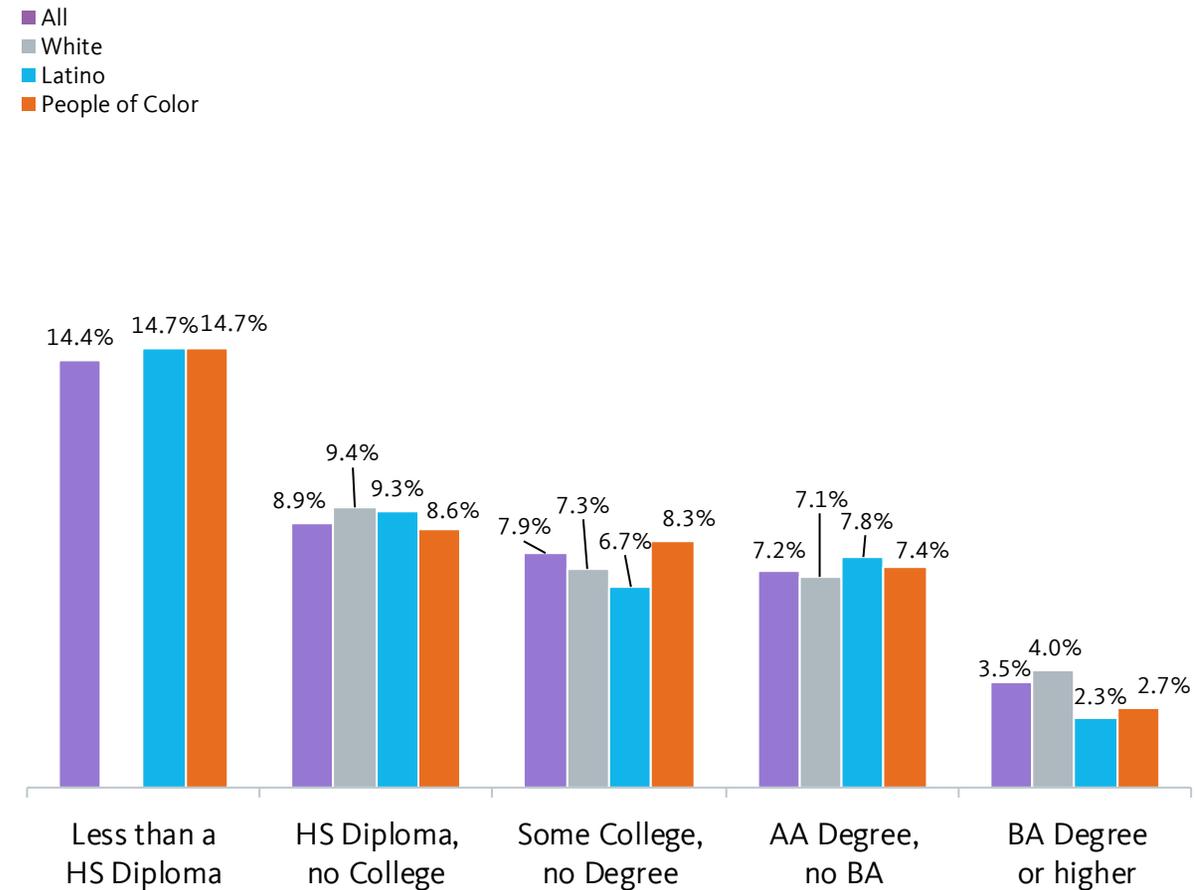
## Unemployment rates in Albuquerque vary with education

In general, unemployment decreases as educational attainment increases. However, Latinos in Albuquerque with some post-secondary education, but not a BA face higher rates of joblessness than those with some college, but no degree. On the other hand, Latinos with a BA degree or higher have very low unemployment – even lower than their White counterparts.

This chart suggests that many of the differences in unemployment by race/ethnicity seen on page 31 are at least partly explained by differences in education. In other words, when we examine difference in unemployment by race/ethnicity among people with the same education level, we find that the differences tend to be smaller.

Latinos with some postsecondary education have higher unemployment rates than Whites

Unemployment Rate by Educational Attainment and Race/Ethnicity, 2014



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutional labor force ages 25 through 64. Note: Data represent a 2010 through 2014 average. Data for some racial/ethnic groups are excluded due to small sample size.

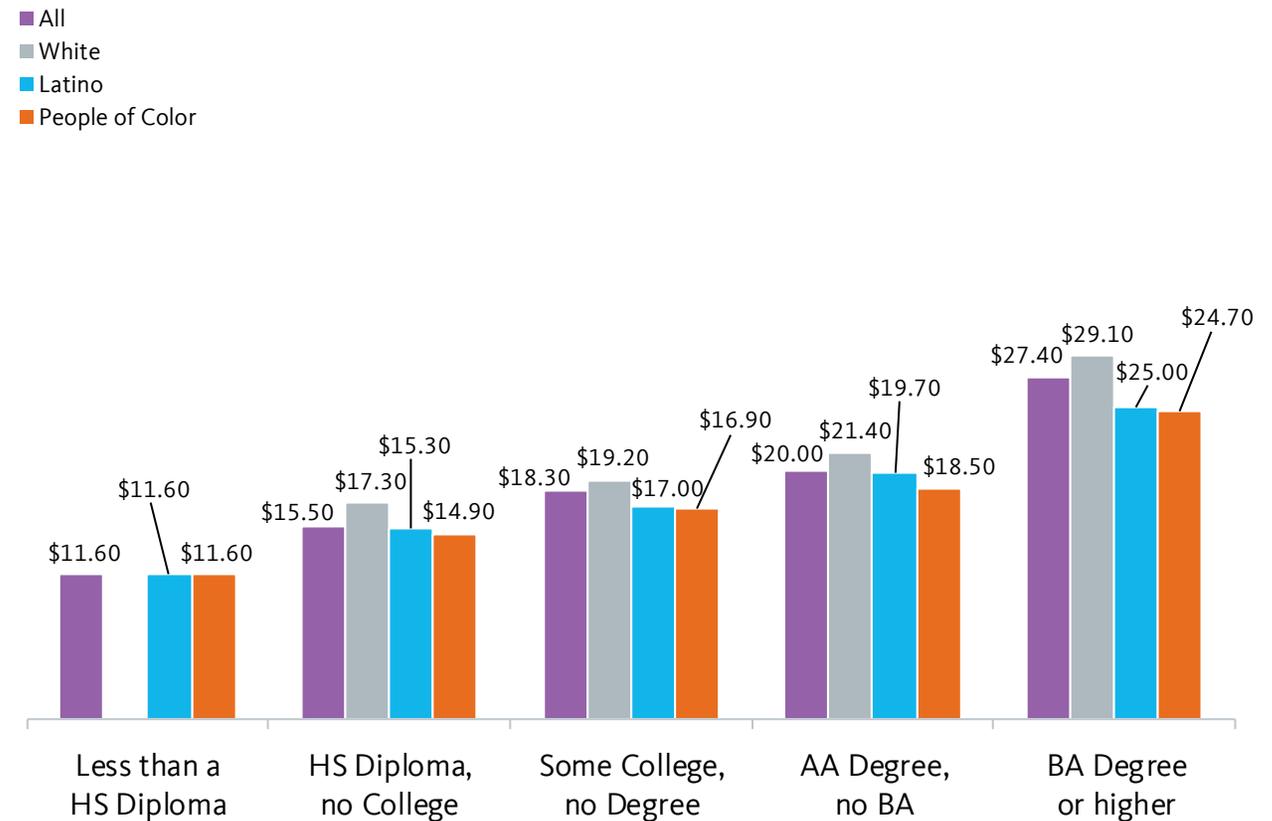
# Economic vitality

## People of color in Albuquerque earn less than Whites at all levels of education

Wages also tend to increase with higher educational attainment, but people of color have lower median hourly wages at virtually every educational level compared to their White counterparts. White workers with some college but no degree earn more than workers of color with an Associate’s degree.

The racial wage gap persists even at the highest education levels. The median wage of Albuquerque people of color with a BA degree or higher is \$25/hour compared with \$29/hour for their White peers.

**Wages rise with education but racial gaps persist**  
**Median Wages by Educational Attainment and Race/Ethnicity, 2014**



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

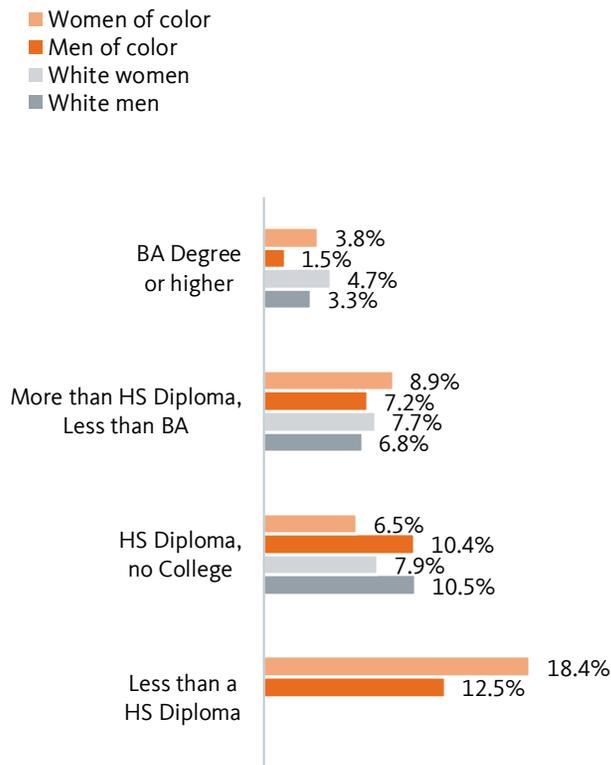
# Economic vitality

## Women of color earn lowest wages at every education level

Women of color consistently earn the lowest wages at every level of education. White men have among the highest unemployment rates among the population with a high school diploma but no college, but those who are employed make \$2/hour more on average than men of color and \$5/hour more than women of color.

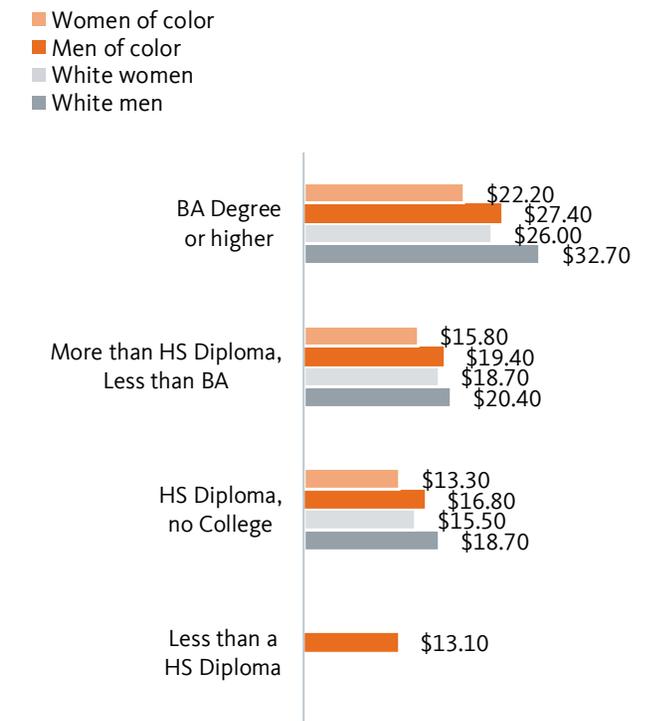
The wage gaps persist even among those with high levels of education. Women of color with a Bachelor’s degree or higher earn about \$10.50/hour less than White men and about \$4/hour less than White women.

**Unemployment is higher for those with less education**  
**Unemployment Rate by Educational Attainment, Race/Ethnicity, and Gender, 2014**



Source: Integrated Public Use Microdata Series. Universe includes the civilian non-institutional labor force ages 25 through 64.  
 Note: Data represent a 2010 through 2014 average. Data for some racial/ethnic and gender groups are excluded due to small sample size.

**College educated women of color earn more than \$11 less per hour than their white male counterparts**  
**Median Hourly Wage by Educational Attainment, Race/Ethnicity, and Gender, 2014**



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

# Economic vitality

## Growing low-wage jobs

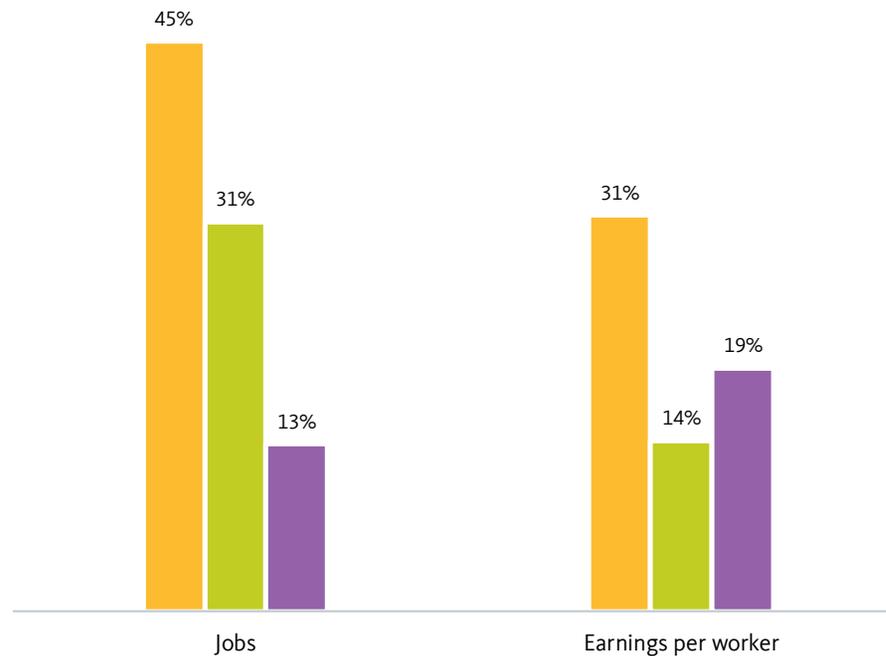
Job growth in Bernalillo County has been primarily in low-wage jobs. Growth in low-wage jobs has been more than three times that of high-wage jobs since 1990.

Earnings have increased across the board for all workers. Earnings increased by 19 percent for high-wage workers, despite high-wage jobs growing at a slower pace compared to low- and middle-wage jobs. Middle-wage jobs experienced the lowest growth in earnings, at 14 percent.

### Low-wage jobs grew the most and had the largest growth in earnings in Bernalillo County

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

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



Source: U.S. Bureau of Labor Statistics; Woods & Poole Economics, Inc.

Note: Universe includes all private sector jobs covered by the federal Unemployment Insurance (UI) program. Data is for Bernalillo County, NM.

# Economic vitality

## Growth in earnings across most industries

Wage growth in Bernalillo County has been positive across all industries, with the exception of mining and arts, entertainment, and recreation.

Administrative and support, and waste management and remediation services, finance and insurance, and real estate have the highest growth in earnings since 1990.

Among low-wage industries, all sectors except arts, entertainment, and recreation experienced 20 percent or higher changes in earnings compared to 1990.

**Slow to moderate wage growth for workers in many of the county's largest industries since 1990**

**Industries by Wage Level Category in 1990 and 2015**

Wage Category	Industry	Average Annual Earnings	Average Annual Earnings	Percent Change in Earnings	Share of Jobs
		1990	2015	1990-2015	2015
<b>High</b>	Utilities	\$73,938	\$89,536	21%	<b>20%</b>
	Mining	\$71,800	\$54,514	-24%	
	Professional, Scientific, and Technical Services	\$66,421	\$78,988	19%	
	Management of Companies and Enterprises	\$61,381	\$69,218	13%	
	Information	\$48,270	\$52,533	9%	
	Wholesale Trade	\$44,209	\$53,321	21%	
<b>Middle</b>	Finance and Insurance	\$43,402	\$62,214	43%	<b>51%</b>
	Transportation and Warehousing	\$42,707	\$43,573	2%	
	Health Care and Social Assistance	\$42,047	\$44,104	5%	
	Manufacturing	\$41,722	\$49,943	20%	
	Construction	\$37,414	\$44,212	18%	
	Agriculture, Forestry, Fishing and Hunting	\$27,948	\$33,463	20%	
	Retail Trade	\$26,566	\$28,918	9%	
<b>Low</b>	Education Services	\$26,200	\$35,278	35%	<b>29%</b>
	Real Estate and Rental and Leasing	\$25,693	\$36,244	41%	
	Other Services (except Public Administration)	\$23,666	\$31,594	33%	
	Arts, Entertainment, and Recreation	\$20,887	\$18,357	-12%	
	Administrative and Support and Waste Management and Remediation Services	\$20,631	\$29,752	44%	
	Accommodation and Food Services	\$14,169	\$17,401	23%	

Source: 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: Data is for Bernalillo County, NM. Dollar values are in 2015 dollars.

# Strong industries and occupations

## Which industries are projected to grow?

Health care and social assistance, and accommodation and food services industries, will see the most growth by 2024

### Industry Employment Projections, 2014-2024

Industry	2014 Estimated Employment	2024 Projected Employment	Total 2014-2024 Employment Change	Annual Avg. Percent Change	Total Percent Change
Agriculture, Forestry, Fishing & Hunting	468	465	-3	-0.1%	-1%
Mining, Quarrying & Oil & Gas Extraction	N/A	N/A	N/A	N/A	N/A
Utilities	N/A	N/A	N/A	N/A	N/A
Construction	19,682	21,292	1,610	1%	8%
Manufacturing	16,445	15,606	-839	-1%	-5%
Wholesale Trade	11,617	12,105	488	0%	4%
Retail Trade	41,492	43,241	1,749	0%	4%
Transportation & Warehousing	8,665	9,291	626	1%	7%
Information	7,610	7,179	-431	-1%	-6%
Finance & Insurance	11,239	12,158	919	1%	8%
Real Estate & Rental & Leasing	5,082	5,119	37	0%	1%
Professional, Scientific & Technical Services	28,496	29,792	1,296	0%	5%
Management of Companies & Enterprises	3,337	3,364	27	0%	1%
Administrative & Support & Waste Management & Remediation Services	23,894	24,268	374	0%	2%
Educational Services	31,970	34,799	2,829	1%	9%
Health Care & Social Assistance	60,361	73,992	13,631	2%	23%
Arts, Entertainment & Recreation	N/A	N/A	N/A	N/A	7%
Accommodation & Food Services	38,892	44,893	6,001	1%	15%
Other Services (Ex. Public Administration)	9,559	9,895	336	0%	4%
Federal Government	11,494	11,596	102	0%	1%
State Government, Excl. Education & Hospitals	6,319	6,371	52	0%	1%
Local Government, Excl. Education & Hospitals	16,361	16,495	134	0%	1%
Self-Employment & Unpaid Family Workers	22,188	23,510	1,322	1%	6%
All Industries	382,678	413,334	30,656	1%	8%

Source: New Mexico Department of Workforce Solutions.

Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. "N/A" means data are suppressed.

# Strong industries and occupations

## Which occupations are projected to grow?

Personal care and service, healthcare support, and healthcare practitioner jobs will see the most growth by 2024

### Industry Employment Projections, 2014-2024

Occupation	2014 Estimated Employment	2024 Projected Employment	Total 2014-2024 Employment Change	Annual Avg. Percent Change	Total Percent Change
Management Occupations	21,284	22,693	1,409	0.6%	7%
Business & Financial Operations Occupations	18,876	20,155	1,279	0.7%	7%
Computer & Mathematical Occupations	9,034	9,619	585	0.6%	6%
Architecture & Engineering Occupations	12,430	12,550	120	0.1%	1%
Life, Physical & Social Science Occupations	4,144	4,429	285	0.7%	7%
Community & Social Service Occupations	6,621	7,423	802	1.1%	12%
Legal Occupations	3,600	3,630	30	0.1%	1%
Education, Training & Library Occupations	22,319	24,666	2,347	1.0%	11%
Arts, Design, Entertainment, Sports & Media Occupations	5,355	5,617	262	0.5%	5%
Healthcare Practitioners & Technical Occupations	25,398	29,770	4,372	1.6%	17%
Healthcare Support Occupations	12,993	15,582	2,589	1.8%	20%
Protective Service Occupations	9,185	9,421	236	0.3%	3%
Food Preparation & Serving Related Occupations	36,198	41,439	5,241	1.4%	14%
Building & Grounds Cleaning & Maintenance Occupations	13,649	14,302	653	0.5%	5%
Personal Care & Service Occupations	17,968	22,458	4,490	2.3%	25%
Sales & Related Occupations	39,855	41,669	1,814	0.4%	5%
Office & Administrative Support Occupations	57,394	58,469	1,075	0.2%	2%
Farming, Fishing & Forestry Occupations	478	463	-15	-0.3%	-3%
Construction & Extraction Occupations	21,185	22,587	1,402	0.6%	7%
Installation, Maintenance & Repair Occupations	13,559	14,089	530	0.4%	4%
Production Occupations	11,108	11,003	-105	-0.1%	-1%
Transportation & Material Moving Occupations	20,045	21,300	1,255	0.6%	6%
All Occupations	382,678	413,334	30,656	0.8%	8%

Source: New Mexico Department of Workforce Solutions.

Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget.

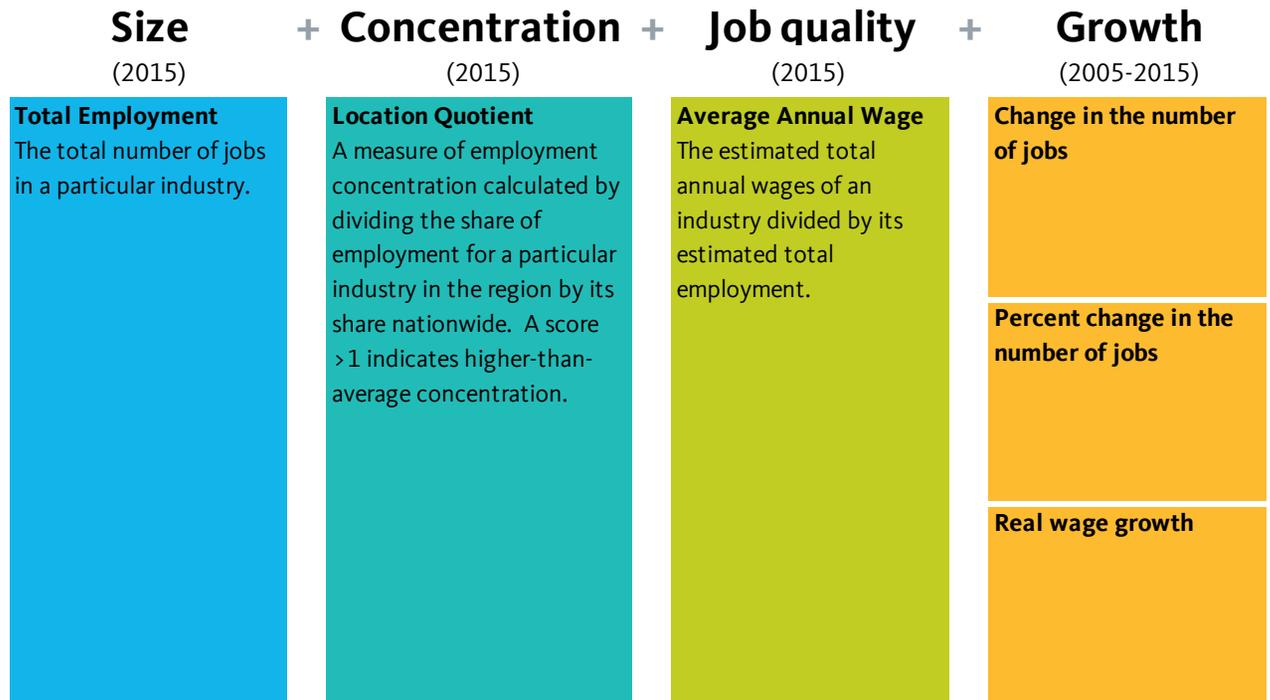
# Economic vitality

## Identifying the region’s strong industries

Understanding which industries are strong and competitive in the region is critical for developing effective strategies to attract and grow businesses. To identify strong industries in the region, 19 industry sectors were categorized according to an “**industry strength index**” that measures four characteristics: size, concentration, job quality, and growth. Each characteristic was given an equal weight (25 percent each) in determining the index value. “Growth” was an average of three indicators of growth (change in the number of jobs, percent change in the number of jobs, and 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 widespread employment decline in almost all 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 =



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

# Economic vitality

## Health care and professional services dominate

According to the industry strength index, the region's strongest industries are health care and professional services. Health care had a 34 percent increase in employment between 2005 and 2015. Professional services ranks second due to its high average annual wage and relatively strong concentration of jobs in the region.

### Health care is strong and expanding in the region

#### Industry Strength Index

Industry	Size	Concentration	Job Quality	Growth			Industry Strength Index
	Total employment (2015)	Location Quotient (2015)	Average annual wage (2015)	Change in employment (2005 to 2015)	% Change in employment (2005 to 2015)	Real wage growth (2005 to 2015)	
Health Care and Social Assistance	47,018	1.1	\$44,104	11,932	34%	-1%	92.4
Professional, Scientific, and Technical Services	27,530	1.4	\$78,988	-1,195	-4%	4%	83.4
Utilities	789	0.6	\$89,536	289	58%	8%	38
Accommodation and Food Services	32,683	1.1	\$17,401	3,195	11%	5%	12.9
Information	7,234	1.1	\$52,533	-480	-6%	12%	11.7
Finance and Insurance	10,773	0.8	\$62,214	-391	-4%	10%	10.1
Retail Trade	36,210	1.0	\$28,918	-2,337	-6%	-5%	-0.2
Management of Companies and Enterprises	3,330	0.7	\$69,218	-250	-7%	6%	-6.4
Education Services	4,869	0.8	\$35,278	1,853	61%	4%	-14.7
Construction	17,369	1.2	\$44,212	-7,554	-30%	1%	-16.3
Wholesale Trade	10,879	0.8	\$53,321	-1,472	-12%	-2%	-20
Administrative and Support and Waste Management and Remediation Services	20,011	1.0	\$29,752	-4,897	-20%	0%	-32.7
Other Services (except Public Administration)	8,578	0.9	\$31,594	-496	-5%	4%	-36.9
Real Estate and Rental and Leasing	4,610	1.0	\$36,244	-429	-9%	0%	-37.5
Manufacturing	12,421	0.4	\$49,943	-3,167	-20%	0%	-45.8
Transportation and Warehousing	6,811	0.6	\$43,573	-972	-12%	-6%	-51.4
Arts, Entertainment, and Recreation	3,990	0.8	\$18,357	971	32%	-2%	-54.9
Agriculture, Forestry, Fishing and Hunting	185	0.1	\$33,463	12	7%	31%	-59
Mining	98	0.1	\$54,514	17	21%	0%	-61.5

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

Note: Data is for Bernalillo County, NM. Dollar values are in 2015 dollars.

# Economic vitality

## Identifying high-opportunity occupations

Understanding which occupations are strong and competitive in the region can help leaders develop strategies to connect and prepare workers for good jobs. A quality job is one that provides living wages and predictable schedules, benefits (such as health insurance, paid leave, and retirement savings), opportunities for professional development and career advancement, and workplaces that are safe and healthy, engage worker voice, and are free from discrimination and exploitation.

To identify “high-opportunity” occupations in the region, we developed an “**occupation opportunity index**” based on certain aspects of job quality and growth, including median annual wage, real wage growth, job growth, and median age of workers. A high median age of workers indicates that there will be replacement job openings as older workers retire. For the purposes of this analysis, job quality is measured by median annual wage. Growth is determined by wage growth, the change in number of jobs, percent change in jobs, and median age of workers.

### Occupation opportunity index =



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

# Economic vitality

## Identifying high-opportunity occupations

(continued)

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

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

Given that the regional economy has experienced widespread employment decline across many occupation groups, it is important to note that this index is only meant to provide general guidance on the strength of various occupations. Its interpretation should be informed by examining all metrics of job quality and growth.

### All jobs

(2011)



Note: The occupation opportunity index and the three broad categories drawn from it are only meant to provide general guidance on the level of opportunity associated with various occupations in the region, and its interpretation should be informed by an examination of individual metrics used in its calculation, which are presented in the tables on the following pages. Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget.

# Economic vitality

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

Supervisors of construction and extraction workers, supervisors of production workers, and other construction and related workers 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 (2011)	Job Quality Median Annual Wage (2011)	Growth			Occupation Opportunity Index	
			Real Wage Growth (2011)	Change in Employment (2005-11)	% Change in Employment (2005-11)		Median Age (2010)
<b>High-Opportunity</b>							
Supervisors of Construction and Extraction Workers	1,920	\$54,710	4.4%	-80	-4.0%	41	0.43
Other Construction and Related Workers	600	\$45,023	19.2%	30	5.3%	43	0.25
Supervisors of Production Workers	1,200	\$47,510	-6.3%	150	14.3%	42	0.11
<b>Middle-Opportunity</b>							
Metal Workers and Plastic Workers	1,350	\$40,458	-1.3%	-100	-6.9%	43	-0.11
Supervisors of Transportation and Material Moving Workers	980	\$42,641	-15.0%	0	0.0%	46	-0.12
Assemblers and Fabricators	4,070	\$29,649	15.6%	1,730	73.9%	41	-0.20
Other Transportation Workers	870	\$23,497	27.2%	580	200.0%	39	-0.26
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	3,760	\$37,298	-3.0%	-260	-6.5%	40	-0.26
Supervisors of Food Preparation and Serving Workers	2,670	\$29,502	24.3%	-830	-23.7%	36	-0.36
Other Installation, Maintenance, and Repair Occupations	4,880	\$35,170	1.1%	-2,080	-29.9%	43	-0.37
Construction Trades Workers	14,300	\$35,729	10.8%	-3,560	-19.9%	36	-0.37
Other Production Occupations	3,240	\$31,699	11.1%	-1,720	-34.7%	44	-0.38
Supervisors of Building and Grounds Cleaning and Maintenance Workers	950	\$31,167	-4.4%	-70	-6.9%	44	-0.45
Material Recording, Scheduling, Dispatching, and Distributing Workers	9,580	\$29,610	-4.7%	1,200	14.3%	39	-0.48
<b>Low-Opportunity</b>							
Motor Vehicle Operators	8,950	\$29,829	-7.4%	-840	-8.6%	43	-0.56
Other Personal Care and Service Workers	11,100	\$20,254	-7.4%	5,870	112.2%	37	-0.58
Personal Appearance Workers	830	\$22,820	6.8%	140	20.3%	44	-0.60
Nursing, Psychiatric, and Home Health Aides	6,560	\$22,656	-1.1%	1,840	39.0%	41	-0.63
Other Protective Service Workers	4,960	\$23,916	6.5%	110	2.3%	39	-0.63
Material Moving Workers	8,270	\$23,725	12.2%	510	6.6%	31	-0.64
Helpers, Construction Trades	1,870	\$27,689	1.1%	-620	-24.9%	29	-0.69
Cooks and Food Preparation Workers	9,060	\$20,034	10.7%	690	8.2%	32	-0.77
Grounds Maintenance Workers	2,020	\$20,895	17.1%	-1,030	-33.8%	33	-0.77
Textile, Apparel, and Furnishings Workers	680	\$19,278	9.4%	-240	-26.1%	42	-0.78
Food and Beverage Serving Workers	17,740	\$18,371	20.6%	760	4.5%	23	-0.82
Retail Sales Workers	23,700	\$20,998	5.1%	-100	-0.4%	31	-0.83
Building Cleaning and Pest Control Workers	8,320	\$19,718	3.9%	-1,370	-14.1%	43	-0.84
Animal Care and Service Workers	490	\$19,580	-0.1%	210	75.0%	31	-0.85
Other Food Preparation and Serving Related Workers	4,000	\$18,053	14.0%	-300	-7.0%	21	-0.96
Food Processing Workers	400	\$23,141	-28.4%	-630	-61.2%	32	-1.13

Source: 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 degree or less.

Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Dollar values are in 2011 dollars.

# Economic vitality

## High-opportunity occupations for workers with more than a high school diploma but less than a Bachelor's degree

Science technicians, engineering technicians, and supervision of repair workers are high-opportunity jobs for workers with more than a high school degree but less than a BA

Occupation Opportunity Index: Occupations by Opportunity Level for Workers with More Than a High School Diploma but Less Than a Bachelor's degree

Occupation	Employment (2011)	Job Quality Median Annual Wage (2011)	Growth			Occupation Opportunity Index		
			Real Wage Growth (2011)	Change in Employment (2005-11)	% Change in Employment (2005-11)		Median Age (2010)	
<b>High-Opportunity</b>	Life, Physical, and Social Science Technicians	660	\$51,506	39.5%	-290	-30.5%	31	0.51
	Drafters, Engineering Technicians, and Mapping Technicians	3,940	\$52,699	3.8%	-680	-14.7%	46	0.37
	Supervisors of Installation, Maintenance, and Repair Workers	1,230	\$53,390	-6.9%	-120	-8.9%	45	0.31
	Supervisors of Office and Administrative Support Workers	4,660	\$44,920	6.0%	1,730	59.0%	44	0.25
	Supervisors of Protective Service Workers	690	\$48,291	-15.5%	-120	-14.8%	47	0.07
	Health Technologists and Technicians	7,990	\$42,516	2.1%	1,690	26.8%	37	0.04
<b>Middle-Opportunity</b>	Electrical and Electronic Equipment Mechanics, Installers, and Repairers	2,230	\$43,664	-19.3%	1,040	87.4%	41	-0.05
	Law Enforcement Workers	2,940	\$42,368	1.1%	200	7.3%	36	-0.06
	Legal Support Workers	1,650	\$42,384	-6.5%	-250	-13.2%	43	-0.10
	Financial Clerks	9,860	\$32,499	7.5%	2,620	36.2%	43	-0.16
	Supervisors of Sales Workers	3,960	\$36,880	-2.3%	-290	-6.8%	41	-0.27
	Fire Fighting and Prevention Workers	970	\$37,137	-14.8%	530	120.5%	35	-0.28
	Supervisors of Personal Care and Service Workers	660	\$31,515	8.5%	110	20.0%	41	-0.31
	Plant and System Operators	410	\$30,370	-6.8%	200	95.2%	46	-0.38
	Other Healthcare Support Occupations	5,130	\$29,751	5.3%	1,700	49.6%	32	-0.40
	Information and Record Clerks	17,640	\$28,844	4.2%	2,350	15.4%	33	-0.44
	Other Education, Training, and Library Occupations	4,880	\$20,469	-2.3%	3,300	208.9%	45	-0.47
Secretaries and Administrative Assistants	11,930	\$30,746	-3.8%	-1,500	-11.2%	43	-0.53	
<b>Low-Opportunity</b>	Other Office and Administrative Support Workers	7,890	\$26,292	2.5%	-1,320	-14.3%	43	-0.62
	Communications Equipment Operators	700	\$22,660	-3.9%	290	70.7%	41	-0.68
	Entertainment Attendants and Related Workers	1,230	\$18,816	12.3%	410	50.0%	28	-0.80

Source: 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 degree but less than a BA. Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Dollar values are in 2011 dollars.

# Economic vitality

## High-opportunity occupations for workers with a Bachelor's degree or higher

Physical scientists, engineers, and other health practitioners are high-opportunity occupations for workers with a BA degree or higher

Occupation Opportunity Index: All Levels of Opportunity for Workers with a Bachelor's Degree or Higher

Occupation	Employment	Job Quality	Growth				Occupation Opportunity Index
	(2011)	Median Annual Wage (2011)	Real Wage Growth (2011)	Change in Employment (2005-11)	% Change in Employment (2005-11)	Median Age (2010)	
<b>High-Opportunity</b>							
Physical Scientists	1,320	\$92,879	42.9%	690	109.5%	47	2.30
Engineers	7,130	\$93,569	6.6%	1,840	34.8%	44	1.94
Other Healthcare Practitioners and Technical Occupations	550	\$62,573	106.5%	-1,190	-68.4%	40	1.52
Health Diagnosing and Treating Practitioners	13,170	\$82,179	1.3%	2,370	21.9%	45	1.51
Other Management Occupations	6,200	\$83,434	7.7%	-200	-3.1%	46	1.50
Top Executives	7,290	\$81,562	-2.0%	2,020	38.3%	48	1.49
Lawyers, Judges, and Related Workers	2,240	\$84,874	-13.4%	930	71.0%	48	1.49
Operations Specialties Managers	3,560	\$82,252	10.9%	-300	-7.8%	42	1.45
Computer Occupations	9,100	\$71,401	18.0%	4,190	85.3%	41	1.38
Advertising, Marketing, Promotions, Public Relations, and Sales Managers	1,190	\$81,353	6.1%	-380	-24.2%	42	1.35
Business Operations Specialists	10,720	\$59,975	12.9%	4,050	60.7%	45	0.94
Social Scientists and Related Workers	1,100	\$60,602	10.2%	260	31.0%	47	0.79
Architects, Surveyors, and Cartographers	760	\$58,758	-6.0%	110	16.9%	45	0.54
Financial Specialists	5,810	\$53,961	0.3%	1,460	33.6%	45	0.49
Postsecondary Teachers	980	\$56,451	-4.5%	70	7.7%	41	0.42
Sales Representatives, Wholesale and Manufacturing	4,110	\$52,319	5.7%	-1,250	-23.3%	46	0.34
Media and Communication Workers	1,290	\$48,558	5.4%	320	33.0%	47	0.33
Life Scientists	440	\$54,850	-17.7%	10	2.3%	46	0.28
Sales Representatives, Services	2,510	\$47,842	3.2%	780	45.1%	41	0.26
Librarians, Curators, and Archivists	600	\$43,387	18.9%	-180	-23.1%	51	0.24
Preschool, Primary, Secondary, and Special Education School Teachers	10,890	\$45,686	11.1%	-2,340	-17.7%	46	0.12
Entertainers and Performers, Sports and Related Workers	590	\$37,421	36.4%	-70	-10.6%	40	0.10
Specialists	6,120	\$39,756	15.2%	730	13.5%	45	0.09
<b>Middle-Opportunity</b>							
Art and Design Workers	910	\$35,610	12.6%	90	11.0%	46	-0.10
Other Sales and Related Workers	910	\$37,473	15.5%	-3,200	-77.9%	47	-0.20
Media and Communication Equipment Workers	720	\$31,396	-8.9%	480	200.0%	28	-0.42
<b>Low-Opportunity</b>							
Other Teachers and Instructors	2,360	\$24,782	-51.5%	1,700	257.6%	34	-0.89

Source: 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: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Dollar values are in 2011 dollars.

# Economic vitality

## Black, Latino, and Native American workers among the least likely to have high-opportunity jobs

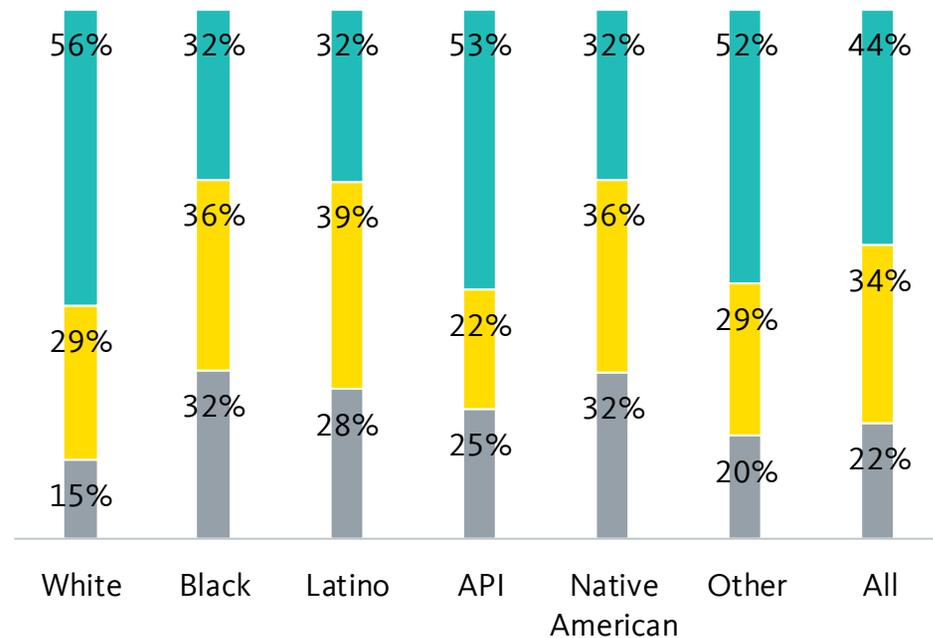
Examining access to high-opportunity jobs in Albuquerque Metro area by race/ethnicity, we find that Asian/Pacific Islanders (APIs) and Whites are most likely to be employed in high-opportunity occupations. Blacks, Latinos, and Native Americans are the least likely to be in these occupations.

Differences in education levels play a large role in determining access to high-opportunity jobs (and this is examined next), but racial discrimination; work experience; social networks; and, for immigrants, legal status and English language ability are also contributing factors.

**Blacks, Latino and Native American workers are least likely to access high-opportunity jobs**

**Opportunity Ranking of Occupations by Race/Ethnicity, All Workers**

- High Opportunity
- Middle Opportunity
- Low Opportunity



Source: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian non-institutional population ages 25 through 64.

Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget.

# Economic vitality

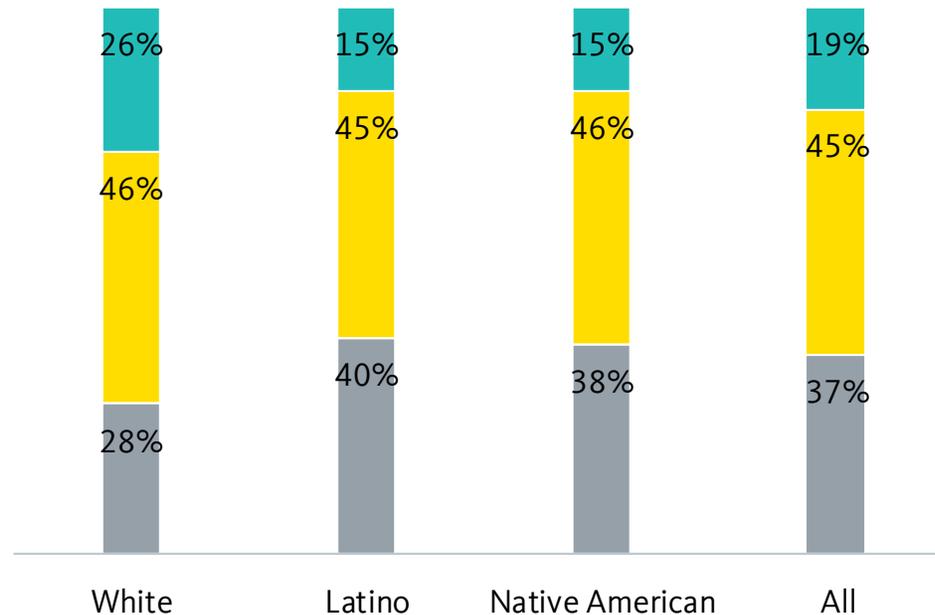
## Latino and Native American workers with a HS diploma or less among most likely to have low-opportunity jobs

Among workers with a high school degree or less, Whites are most likely to be in the high-opportunity occupations, while Latinos and Native Americans are the least likely to be in these jobs.

Of those with low education levels, Latinos and Native Americans are least likely to hold high-opportunity jobs

**Opportunity Ranking of Occupations by Race/Ethnicity, Workers with Low Educational Attainment**

- High Opportunity
- Middle Opportunity
- Low Opportunity



Source: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian non-institutional population ages 25 through 64 with a high school degree or less. Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Data for some racial/ethnic groups are excluded due to small sample size. Figures may not sum to total due to rounding.

# Economic vitality

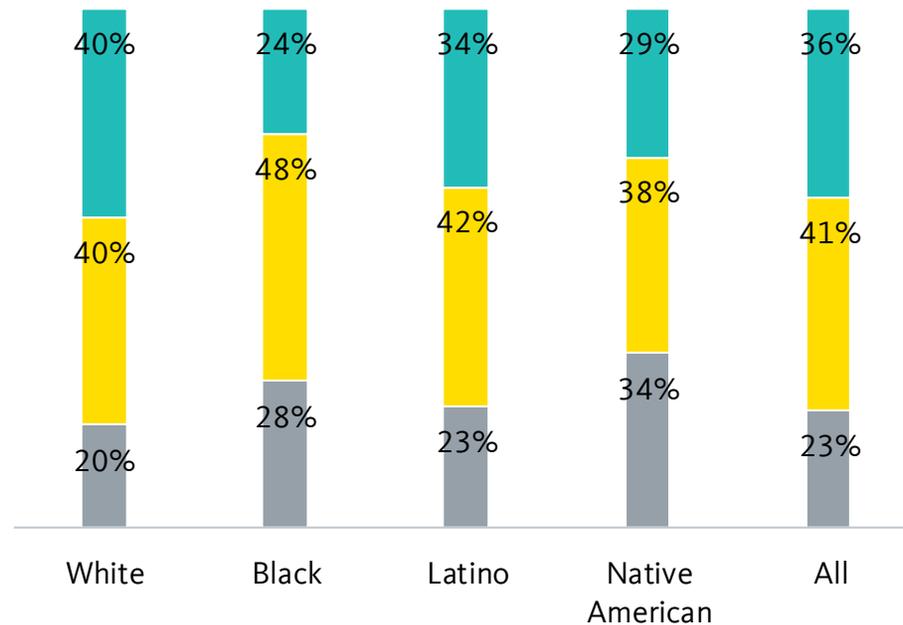
## Native American workers with some higher education among most likely to have low-opportunity jobs

Among workers with more than a high school degree but less than a BA, White workers are most likely to be found in high-opportunity jobs. African Americans are most likely to be in middle-opportunity jobs, and Native Americans are most heavily represented in low-opportunity jobs.

Of those with middle education levels, African Americans and Natives are least likely to access high-opportunity jobs

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

- High Opportunity
- Middle Opportunity
- Low Opportunity



Source: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian non-institutional population ages 25 through 64 with more than a high school degree but less than a BA. Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Data for some racial/ethnic groups are excluded due to small sample size. Figures may not sum to total due to rounding.

# Economic vitality

## Smaller differences in occupational opportunity by race/ethnicity for college-educated workers

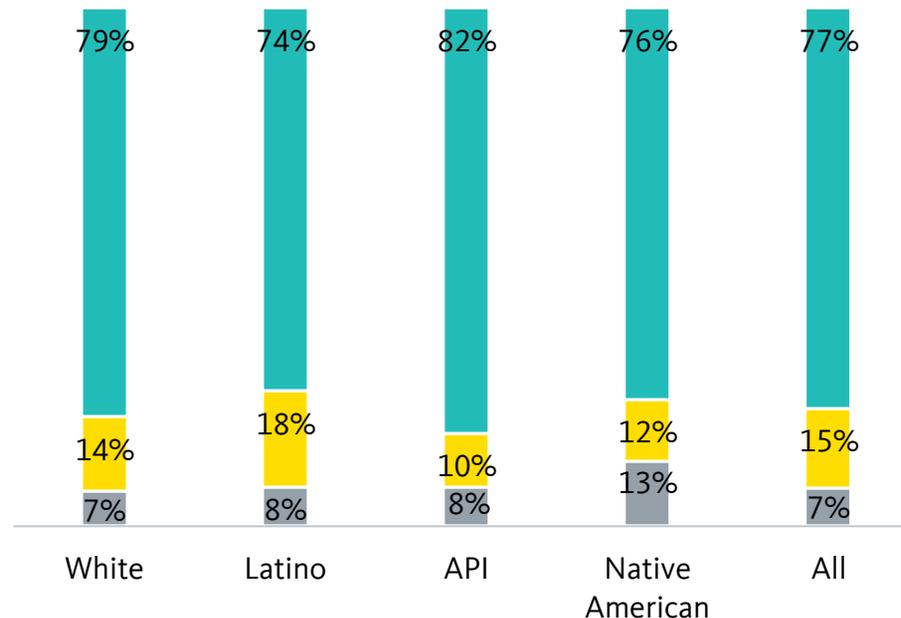
Differences in access to high-opportunity occupations tend to decrease for workers with college degrees, though gaps between groups remain.

Among the most educated workers, Asian or Pacific Islanders are the most likely to be in high-opportunity occupations, followed by Whites. Latinos and Native Americans with college degrees have the least access to high-opportunity jobs and the highest representation in middle- and low-opportunity occupations.

White and Asian or Pacific Islander workers most likely to be in high-opportunity occupations among college-educated workers, but differences by race/ethnicity are smaller

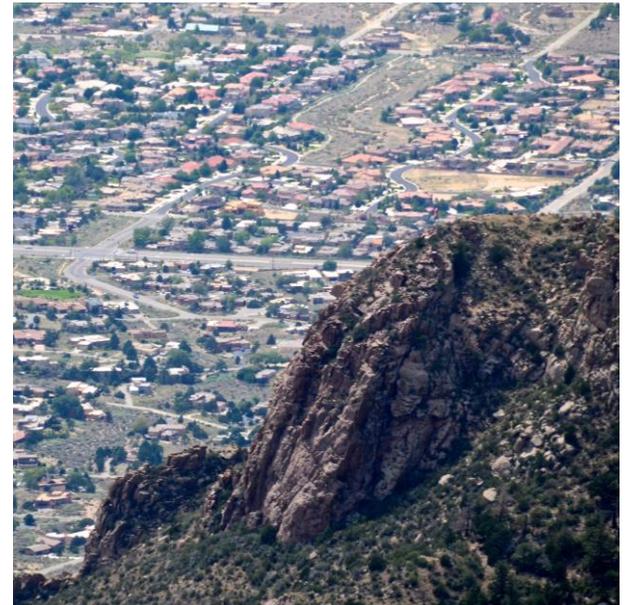
**Opportunity Ranking of Occupations by Race/Ethnicity, Workers with High Educational Attainment**

- High Opportunity
- Middle Opportunity
- Low Opportunity



Source: U.S. Bureau of Labor Statistics; Integrated Public Use Microdata Series. Universe includes the employed civilian non-institutional population ages 25 through 64 with a BA degree or higher. Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Data for some racial/ethnic groups are excluded due to small sample size. Figures may not sum to total due to rounding.

# Readiness



# Readiness

## Highlights

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

- There is a looming education gap for Black, Latino, and Native Americans whose rates of postsecondary education (having at least an Associate's degree) are lower than the share of future jobs that will require that level of education.
- Educational attainment for youth of color has increased significantly over the past decade. Youth of color, however, still have lower educational attainments than their White counterparts.
- Black, Latino, and Native American Albuquerqueans face multiple health challenges, with higher rates of overweight/obesity and diabetes. Black and Native American residents also have higher rates of asthma.

Percent of Latinos with an Associate's degree or higher:

27%

Number of youth who are disconnected:

9,600

Jobs in 2020 requiring an Associate's degree or higher, statewide:

36%

# Readiness

## Latinos have lowest education levels among racial/ethnic groups

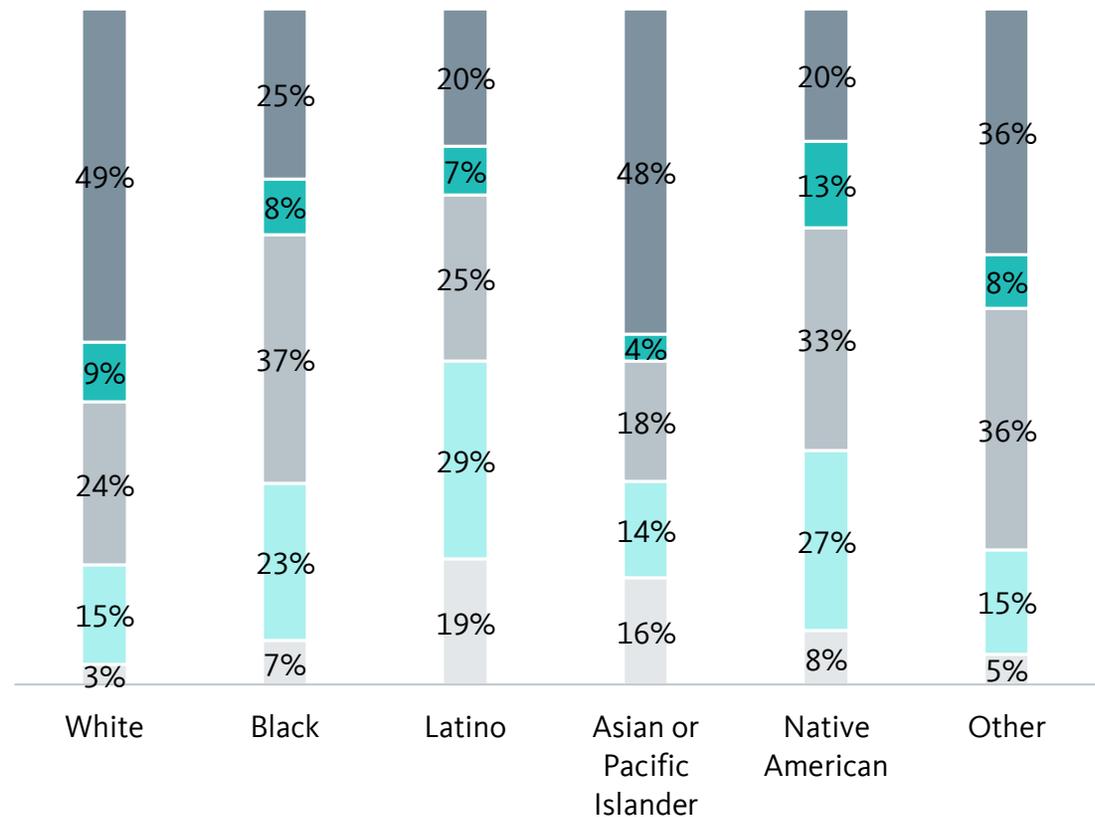
There are wide gaps in educational attainment among racial/ethnic groups. The educational attainment of Black and Native American Albuquerqueans are very similar. Seven percent of Black residents ages 25 to 64 have less than a high school diploma as do eight percent of Native Americans. Latinos have the lowest levels of educational attainment, with 19 percent of the Latino population having less than a high school diploma. Asian or Pacific Islanders are almost as likely as Whites to have a Bachelor's degree but more likely to have less than a high school diploma – suggesting an hourglass-type educational distribution among Asian or Pacific Islanders.

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

### There are wide gaps in educational attainment

**Educational Attainment by Race/Ethnicity, 2014**

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



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64.  
 Note: Data represent a 2010 through 2014 average. Figures may not sum to total due to rounding.

# Readiness

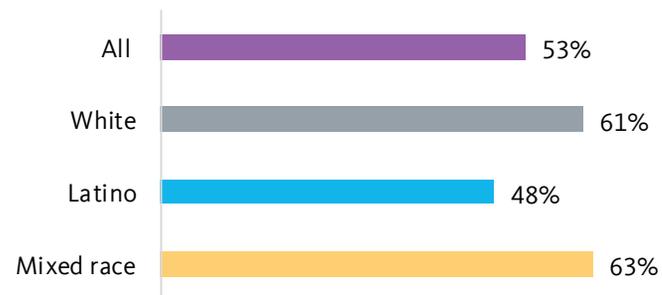
## Racial inequities in the early years of learning

Racial disparities in education appear early for children living in Albuquerque. Latino children living in the city attend Pre-Kindergarten or Kindergarten at lower levels than other students. Less than half of Latino children access the critical formal early learning foundation provided by Pre-Kindergarten and Kindergarten.

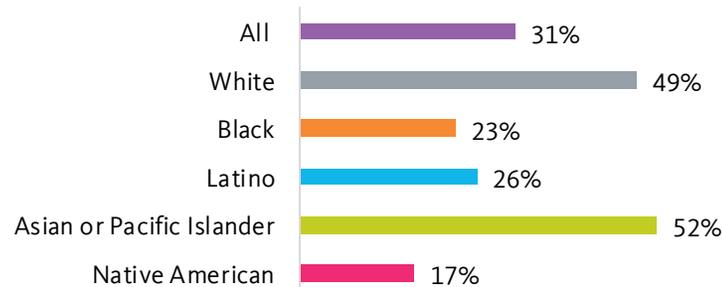
Research by Robert Balfanz of Johns Hopkins University stresses the importance of key transitions and academic behaviors that predict whether or not students will be academically successful and graduating from high school on time. Among them are reading proficiency and attendance. Third grade reading proficiency levels are low for all students in Albuquerque. These rates are especially low for Black, Latino, and Native American students: only 17 percent of Native American, 23 percent of Black, and 26 percent of Latino students read with sufficient proficiency at the end of third grade.

**There are stark racial disparities across indicators of early childhood learning**

**Public or Private Pre-Kindergarten or Kindergarten Attendance, 2010-2014**



**46. Share Achieving 3rd Grade Reading Proficiency, 2015**



Source: The diversitydatakids.org Project.

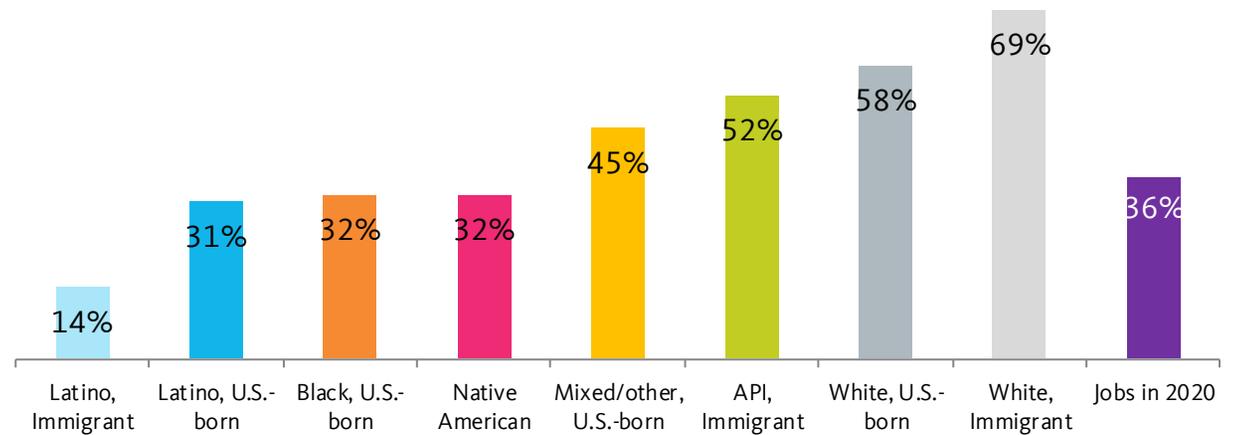
Note: Data is for Bernalillo County. Data for some racial/ethnic groups are excluded due to data availability. Estimates for Pre-Kindergarten and Kindergarten attendance are derived from survey data and subject to sampling variability; please interpret accordingly. Estimates based on survey data are not reported if the margin of error at the 95 percent confidence interval is one-third of the estimate value or more.

# Readiness

## Not all groups have education needed for jobs of the future

According to the [Georgetown Center on Education and the Workforce](#), in 2020, 36 percent of New Mexico’s jobs will require an Associate’s degree or higher. While many of the region’s workers currently have that level of education, there are large differences in educational attainment by race/ethnicity and nativity. Only 14 percent of Latino immigrants, 31 percent of U.S.-born Latinos, and 32 percent of Native Americans have an Associate’s degree or higher. While obtaining some postsecondary training or credential is often critical to accessing quality jobs, data are not available to track this at the city level.

**People of color in Albuquerque will face a skills gap based on current education levels**  
**Share of Working-Age Population with an Associate’s Degree or Higher by Race/Ethnicity and Nativity, 2014 and Projected Share of Jobs that Require an Associate’s Degree or Higher, 2020**



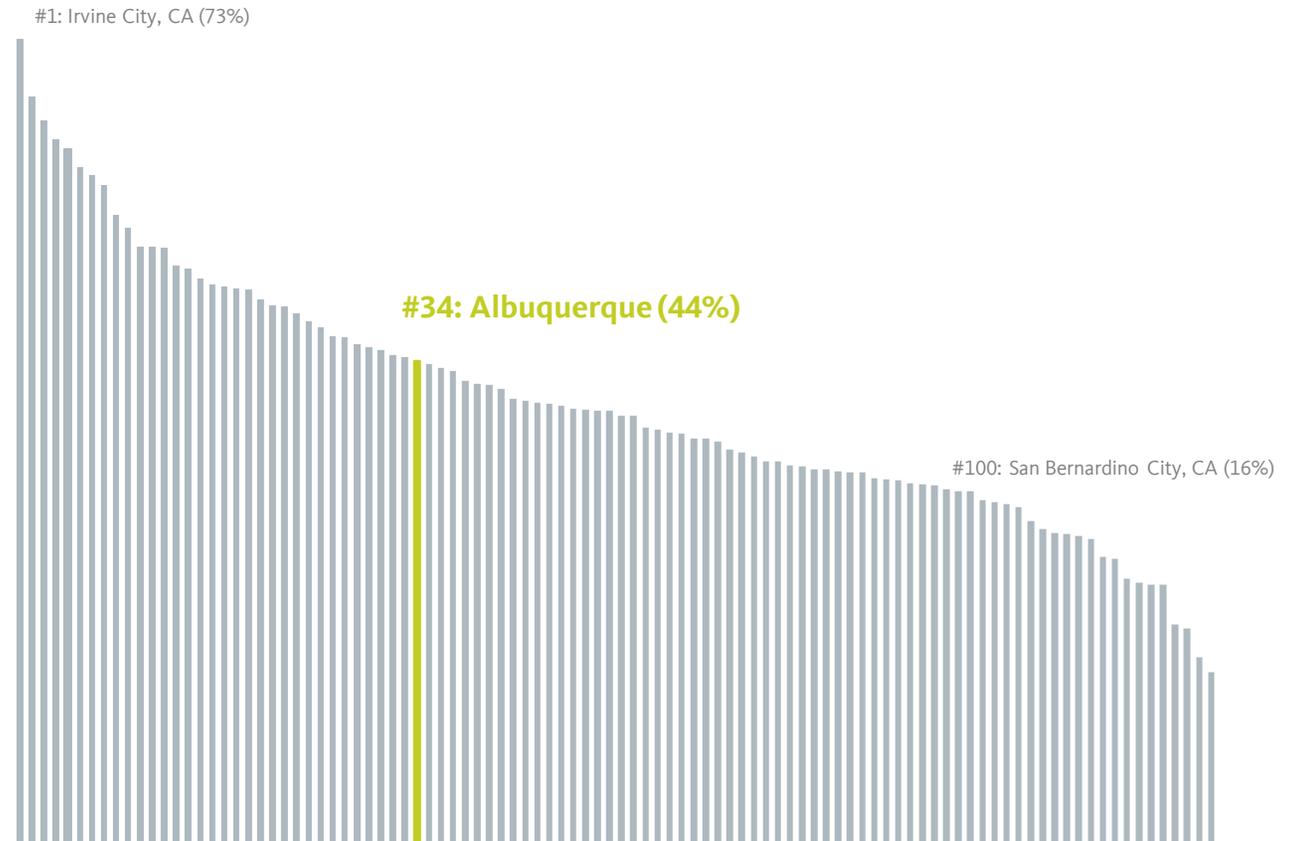
Source: Georgetown Center on Education and the Workforce; Integrated Public Use Microdata Series. Universe for education levels of workers includes all persons ages 25 through 64. Note: Data for 2014 by race/ethnicity and nativity represent a 2010 through 2014 average for the city of Albuquerque; data on jobs in 2020 represent a state-level projection for New Mexico.

# Readiness

## Relatively high education levels

Albuquerque ranks 34<sup>th</sup> of the largest 100 cities in the share of residents with an Associate's degree or higher. Compared to other cities in neighboring states, Albuquerque's education levels are relatively high. Albuquerque's 44 percent of residents with an Associate's degree or higher is greater than Tucson, AZ and El Paso, TX – both of which are at 32 percent.

The region is among the top half of the largest 100 cities for residents with an Associate's degree or higher  
**Percent of the Population with an Associate's Degree or Higher in 2014: Largest 100 Cities Ranked**



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64.  
Note: Data represent a 2010 through 2014 average.

# Readiness

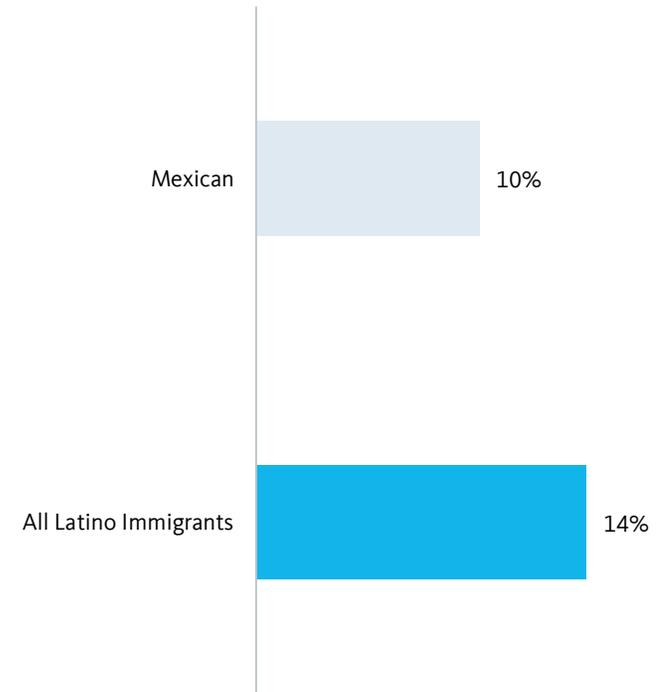
## Education levels vary among immigrant groups

Among the region’s Latino immigrant communities, immigrants from Mexico have lower education levels compared with Latino immigrants overall. Conversely, among Asian immigrants, East Asian immigrants tend to have higher education levels than the overall Asian or Pacific Islander immigrant population.

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

**Asian Immigrants, Percent with an Associate’s Degree or Higher by Origin, 2014**

**Latino Immigrants, Percent with an Associate’s Degree or Higher by Origin, 2014**



Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64. Note: Data represent a 2010 through 2014 average.

Source: Integrated Public Use Microdata Series. Universe includes all persons ages 25 through 64. Note: Data represent a 2010 through 2014 average.

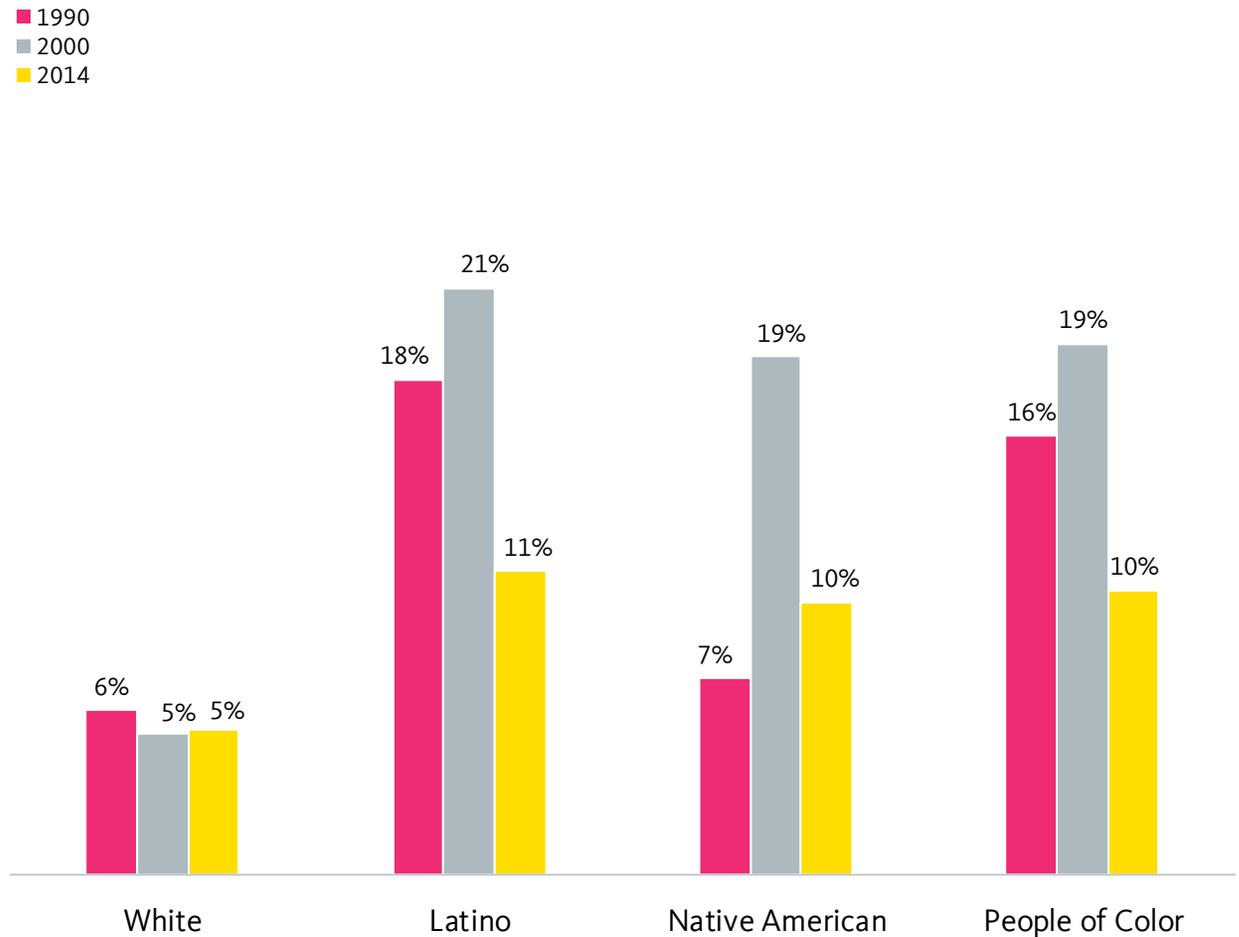
# Readiness

## More youth are getting high school diplomas

The share of youth who do not have a high school education and are not pursuing one has declined considerably since 2000 for all racial/ethnic groups except Whites, for whom it remained flat. Despite the progress, people of color are still far less likely to finish high school than Whites.

Educational attainment and enrollment among youth has improved dramatically for all groups except Whites since 2000

Percent of 16 to 24-Year-Olds Not Enrolled in School and Without a High School Diploma, 1990 to 2014



Source: Integrated Public Use Microdata Series.

Note: Data for some racial/ethnic groups are excluded due to small sample size. Data for 2014 represents a 2010 through 2014 average.

# Readiness

## The number of youth disconnected from work or school is on the rise in the city

While trends in the pursuit of education have been positive for youth of color, the number of “disconnected youth” who are neither in school nor working remains high. Of the city’s nearly 9,500 disconnected youth in 2014, a majority (53 percent) are Latino.

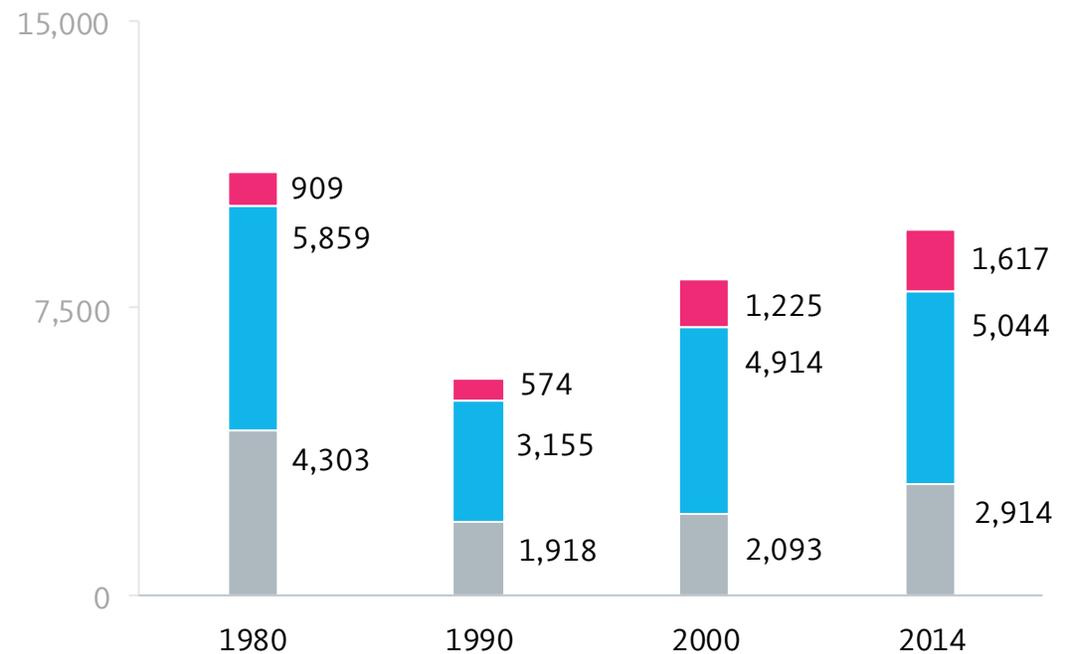
The number of disconnected youth has increased since 2000. While there were declines between 1980 and 1990, the number of disconnected youth has increased each decade since. By 2014, more than 5,000 Latino young people were not in school or working. The number of White and all other disconnected youth has also increased steadily since 1990.

Youth of color are far more likely to be disconnected than White youth, but the gap has gotten smaller with time. In 2014, 12 percent of White youth were disconnected, compared with 15 percent of youth of color. Compare this to 1980, when 12 percent of White youth were disconnected, compared with 23 percent of youth of color.

**There are over 9,500 disconnected youth in the city**

**Disconnected Youth: 16-24-Year-Olds Not in Work or School, 1980 to 2014**

- Asian, Native American, Black or Mixed/other
- Latino
- White



Source: Integrated Public Use Microdata Series.

Note: Data for some racial/ethnic groups are excluded due to small sample size. Data for 2014 represents a 2010 through 2014 average.

# Readiness

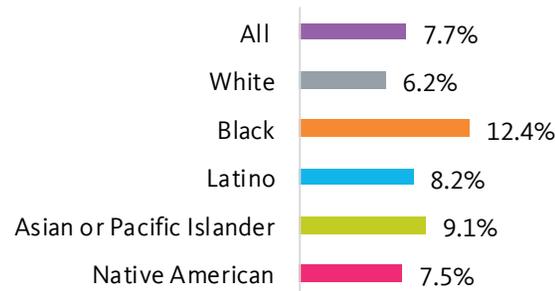
## Racial inequities in early years

While children born in the city tend to be born healthy and live past their first birthday, the vast majority are not breastfed – the nutrition option for infants recommended most by health professionals. According to the [National Institutes of Health](#), breastfeeding offers critical health benefits for both mother and child, including critical immunological and anti-inflammatory properties that protect both from illness and disease. Additionally, breastfeeding offers important economic benefits for a mother and her family: On average, a breastfeeding-mother could save between \$1,200 and \$1,500 in formula expenses in the first year alone.

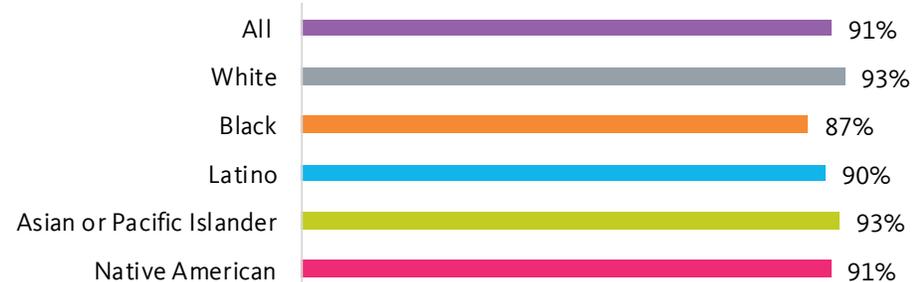
Black infants in Albuquerque are twice as likely as White infants to be born with a low-birth weight. Similarly, the infant mortality rate for Black children is at least twice as high as every other racial/ethnic group.

### Black children face some of the greatest health challenges

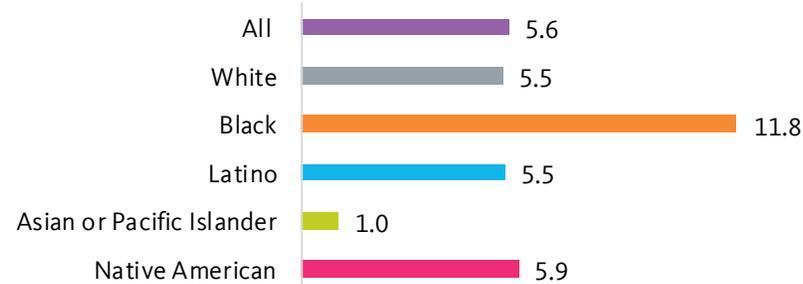
Share of Low Birth Weight Rate, 2011-2013



Share of Babies Breastfed at Hospital Discharge, 2011-2013



Infant Mortality Under Age 1 (per 1,000 live births), 2012-2014



Source: The diversitydatakids.org Project.

Note: Individuals reporting multiple or other races were recoded to one of four single races by the National Center for Health Statistics. Low birth weight is defined as weighing less than 2.5kg and plural births are excluded. Data for some racial/ethnic groups are excluded.

# Readiness

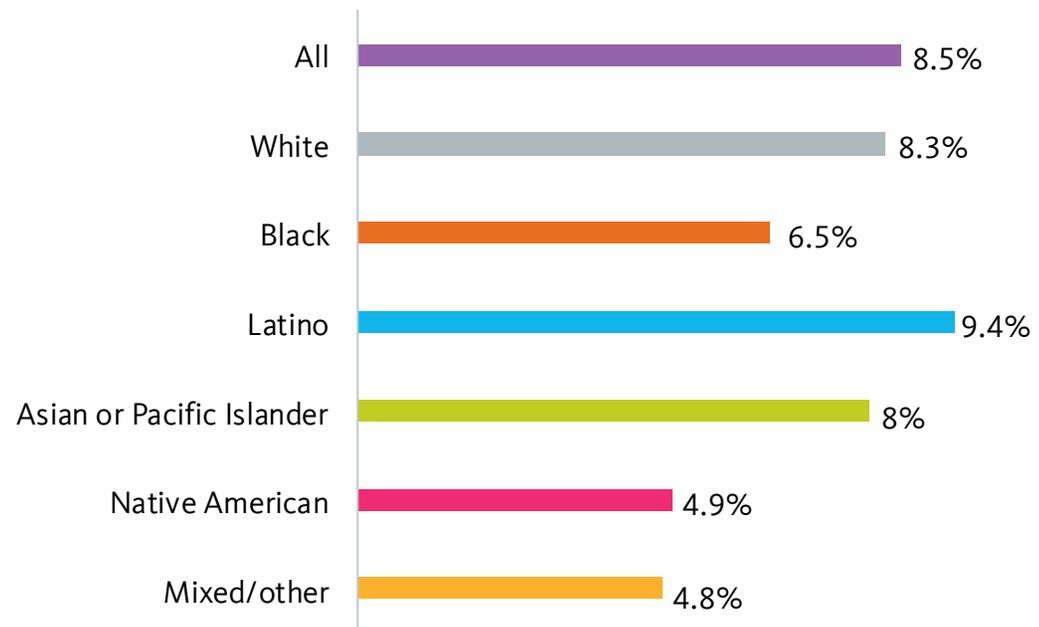
## Latinos are the most likely to live in neighborhoods with below average access to healthy food

Limited Supermarket Access areas (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.

Latinos are the most likely to live in LSAs in Albuquerque. Lack of access to supermarkets and healthier food options can lead to obesity, diabetes, and a number of other negative health outcomes.

### Access to supermarkets in the city varies by race/ethnicity

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



# Readiness

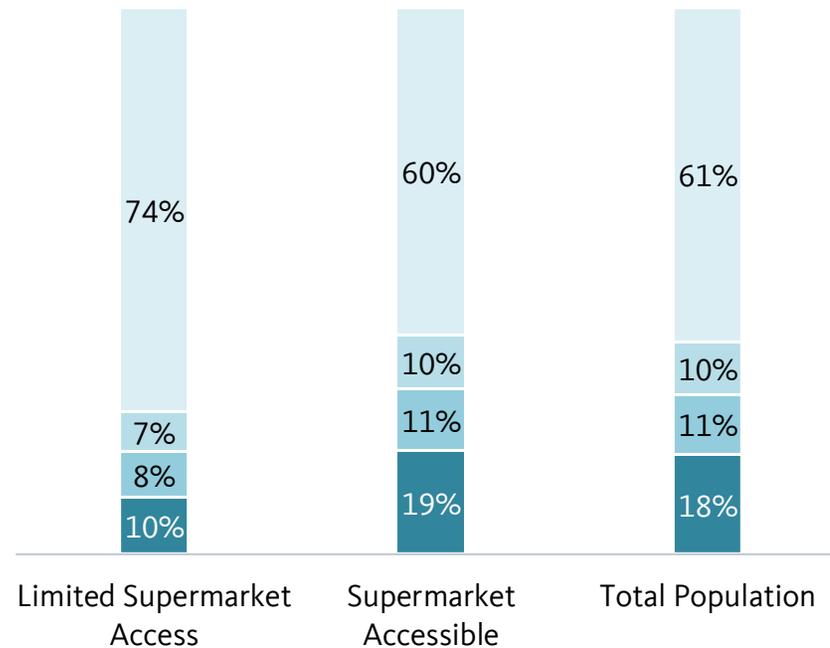
## Access to healthy food varies by income

Opposite to the trend seen in other cities, the economically insecure population (those living below 200 percent of poverty) are actually more likely to live in areas with adequate supermarket access than the economically secure population (those living at or above 200 percent of poverty).

**In Albuquerque, the economically insecure actually have better access to supermarkets than the economically secure**

**Poverty Composition of Food Environments, 2014**

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



Source: U.S. Census Bureau; The Reinvestment Fund. See the Data and Methods section for details.  
 Note: Data represent a 2010 through 2014 average.

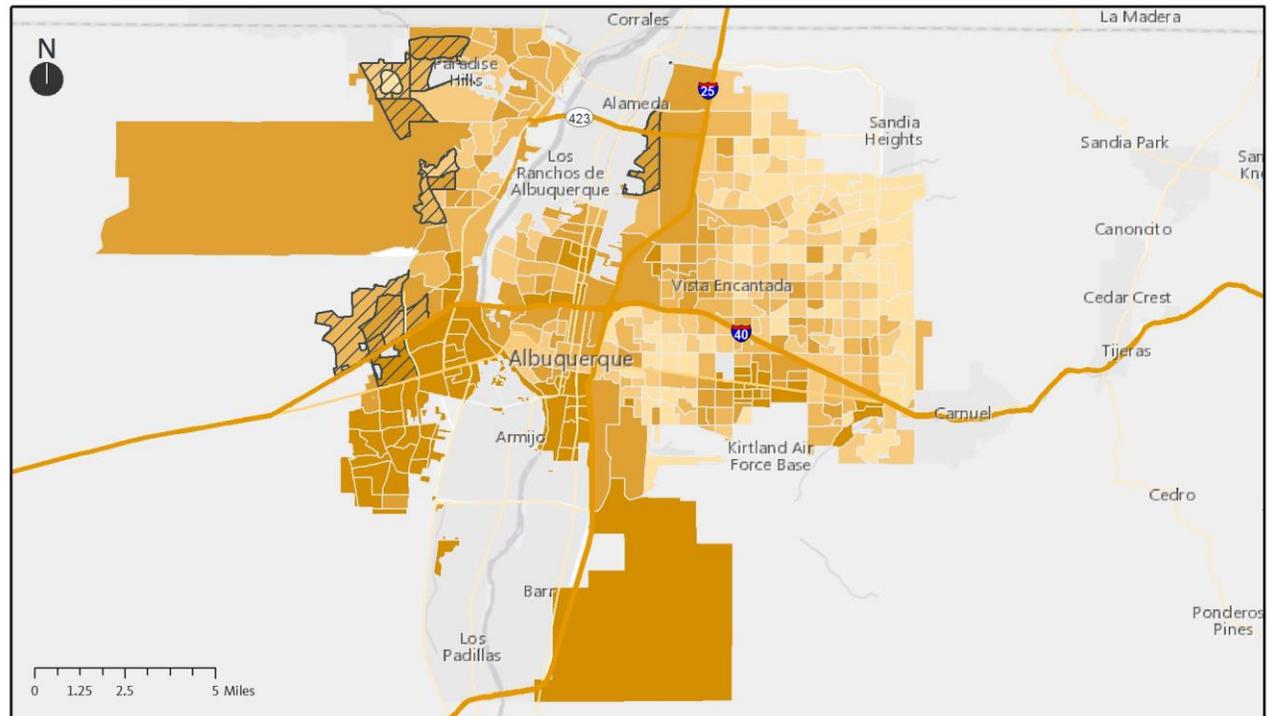
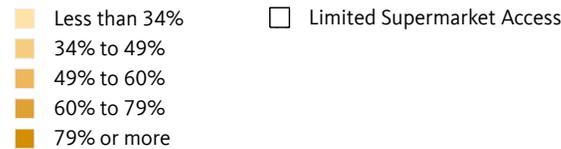
# Readiness

## Healthy food access varies by neighborhood demographics

For the most part, Limited Supermarket Access areas (LSAs) in Albuquerque are found in the west and northwest portions of the city and tend to coincide with neighborhoods that have higher shares of people of color.

**LSAs are more likely to be located in neighborhoods of color**

**Percent People of Color by Census Block Group and Low Supermarket Access Block Groups, 2014**



Source: The Reinvestment Fund, 2014 LSA analysis; U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.

Note: Data on population by race/ethnicity represent a 2010 through 2014 average. Areas in white are missing data.

# Readiness

## Health challenges among communities of color

Black and Native American adults have high rates of obesity, diabetes, and asthma in Bernalillo County. Approximately 11 percent of Black and Native American adults have diabetes, compared with 6 percent of White adults. Ten percent of White adults have asthma compared with 14 percent of Black adults, who have the highest rate by race/ethnicity.

The social determinants of health – where people live, learn, work, and age – are increasingly recognized as influencing growing rates of chronic diseases such as obesity, diabetes, and asthma.

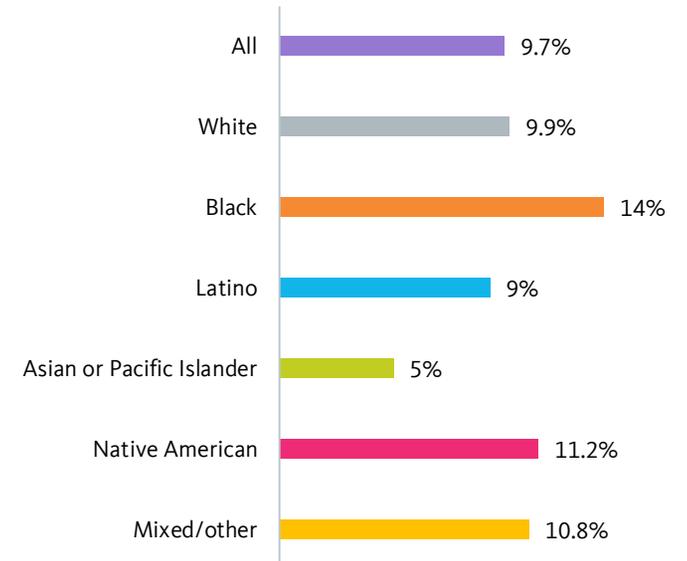
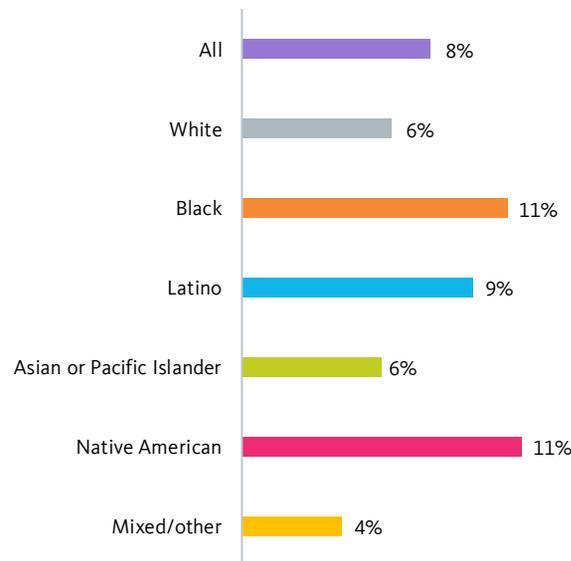
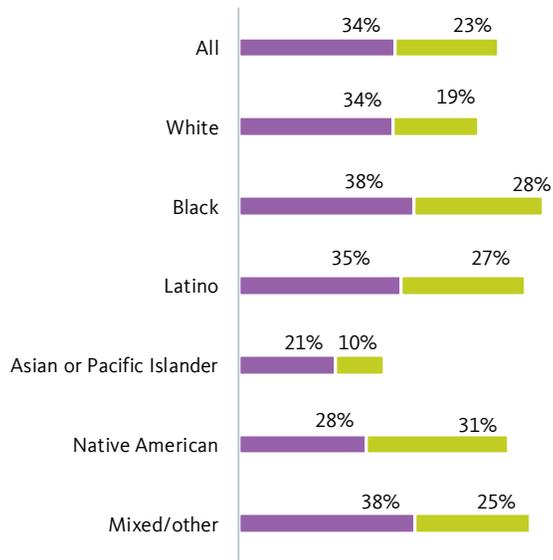
### African Americans face above average obesity, diabetes, and asthma rates

**Adult Overweight and Obesity Rates by Race/Ethnicity, 2012**

**Adult Diabetes Rates by Race/Ethnicity, 2012**

**Adult Asthma Rates by Race/Ethnicity, 2012**

■ Overweight  
■ Obese



Source: Centers for Disease Control and Prevention. Universe includes adults ages 18 and older. Note: Data is for Bernalillo County, NM. Data represent a 2008 through 2012 average.

Source: Centers for Disease Control and Prevention. Universe includes adults ages 18 and older. Note: Data is for Bernalillo County, NM. Data represent a 2008 through 2012 average.

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# Readiness

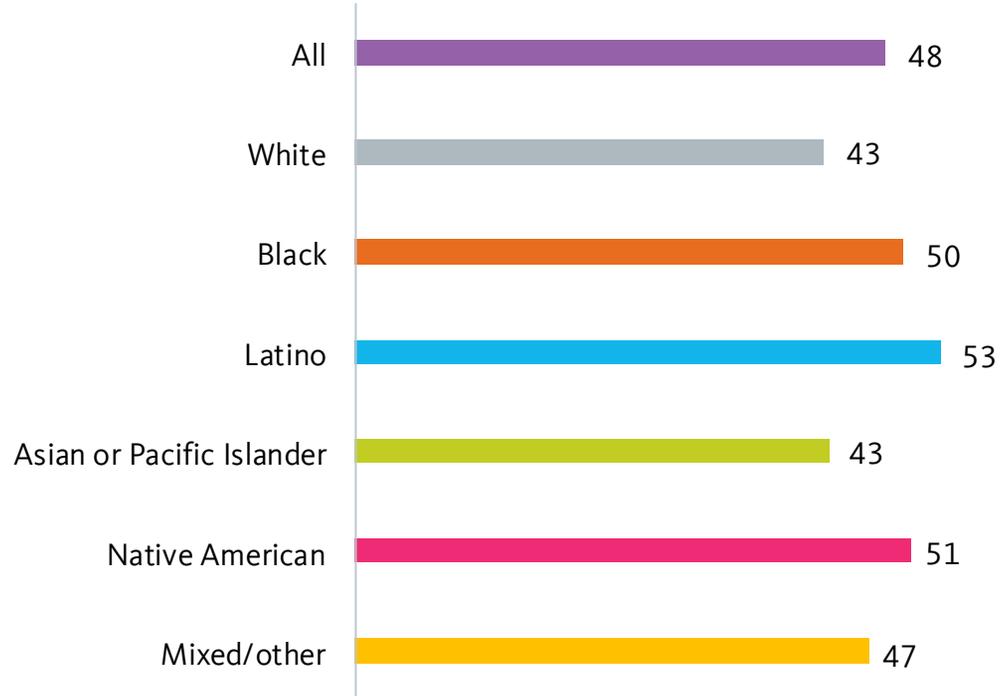
## Air pollution is more of a concern for people of color

On average, Albuquerque residents have a higher exposure to air pollution than 48 percent of neighborhoods in the United States. Exposure rates are fairly comparable across most racial groups, but are definitively lower for Whites and Asian or Pacific Islanders, who have an exposure rate of 43. This is 10 points lower than that for Latino residents.

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

**Latino, Native American, and Black residents in Albuquerque have the greatest exposure to air pollution**

**Air Pollution: Exposure Index by Race/Ethnicity, 2014**



Source: U.S. EPA, 2011 National Air Toxics Assessment; U.S. Census Bureau.  
 Note: Data on population by race/ethnicity represent a 2010 through 2014 average.

# Readiness

## Exposure to air pollution varies by income as well as race

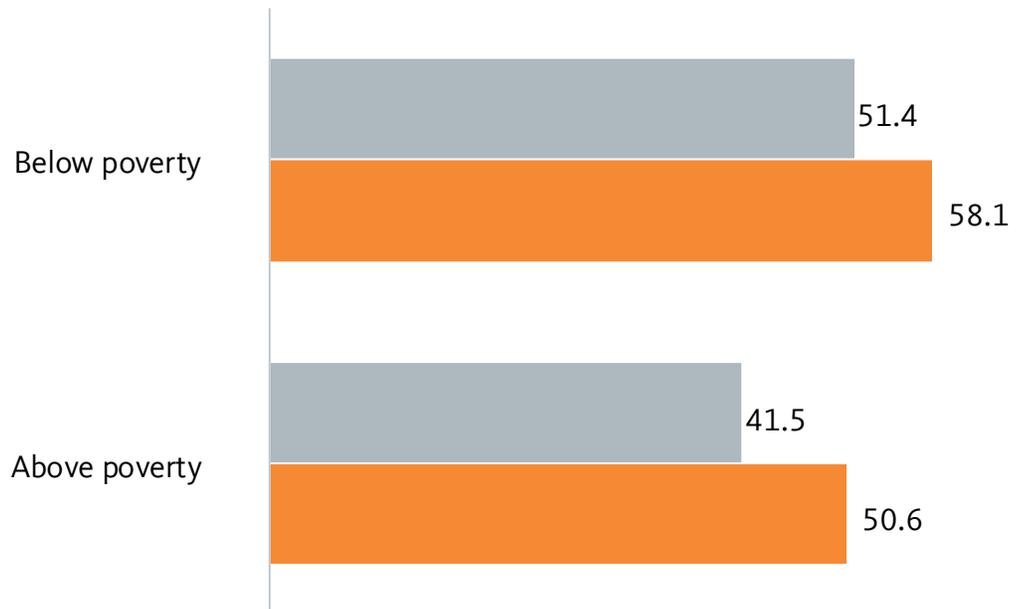
Both race and socioeconomic status impact exposure to pollutants. Albuquerque residents living below poverty have higher exposure rates than those living above poverty. People of color in each socioeconomic class have higher rates of exposure than their White peers.

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

**Low-income people of color have greatest exposure to air pollution**

**Air Pollution: Exposure Index by Poverty Status, 2014**

■ White  
 ■ People of color



Source: U.S. EPA, 2011 National Air Toxics Assessment; U.S. Census Bureau. Universe includes all persons not in group quarters.  
 Note: Data on population by race/ethnicity represent a 2010 through 2014 average.

# Connectedness



# Connectedness

## Highlights

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

- Although segregation is relatively low overall, it is quite high for Native Americans and Asian or Pacific Islanders.
- Native American, Mixed/other, and Black households are most likely to be carless.
- Low-income Native American workers are more likely to rely on public transit than other low-income workers.
- Black and Latino renters are most likely to be paying more than 30 percent of their incomes on rent.

Percent of Native American households without a car:

13%

Share of Whites who would need to move to achieve integration with Blacks:

41%

Percent of Black renters who pay too much for housing:

58%

# Connectedness

## Relatively low levels of segregation

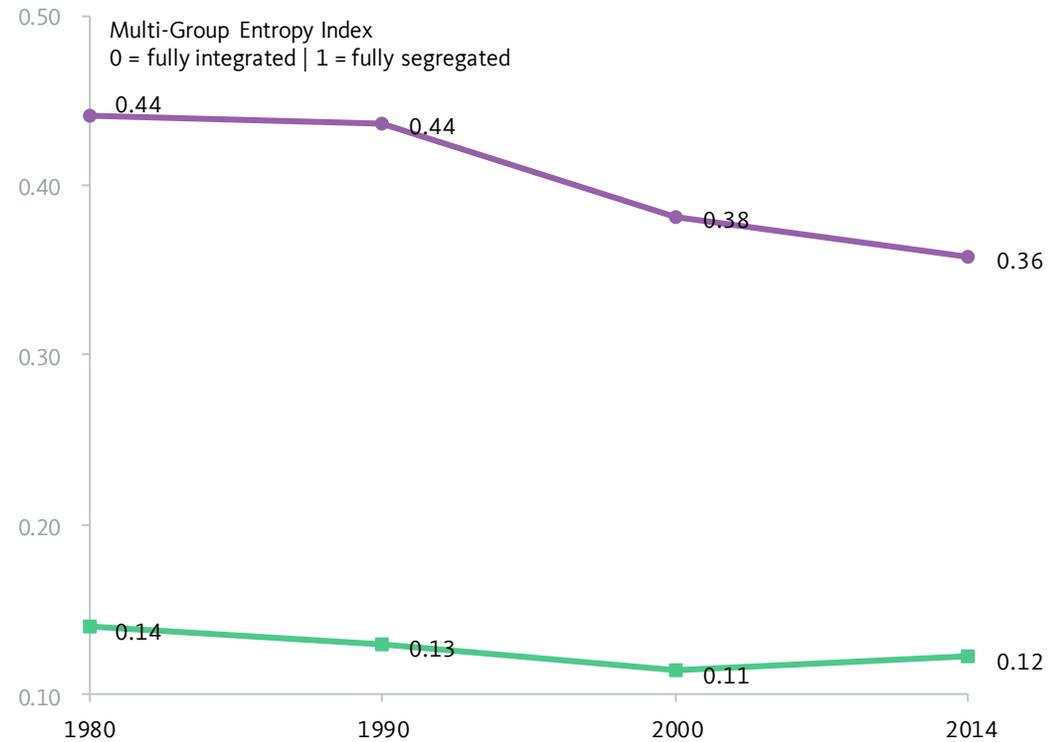
Based on the multi-group entropy index, Albuquerque is less segregated by race/ethnicity than the nation overall. However, segregation is increasing in the city while it is falling nationwide.

The entropy index, which ranges from a value of 0, meaning that all census tracts have the same racial/ethnic composition as the region overall (maximum integration), to a high of 1, if all census tracts contained one group only (maximum segregation).

**Residential segregation in Albuquerque is lower than the national average, but has increased since 2000**

**Residential Segregation, 1980 to 2014**

—■— Albuquerque  
—●— United States



Source: U.S. Census Bureau; Geolytics. See the “Data and methods” section for details of the residential segregation index calculations.  
Note: Data for 2014 represents a 2010 through 2014 average.

# Connectedness

## Increased segregation among people of color

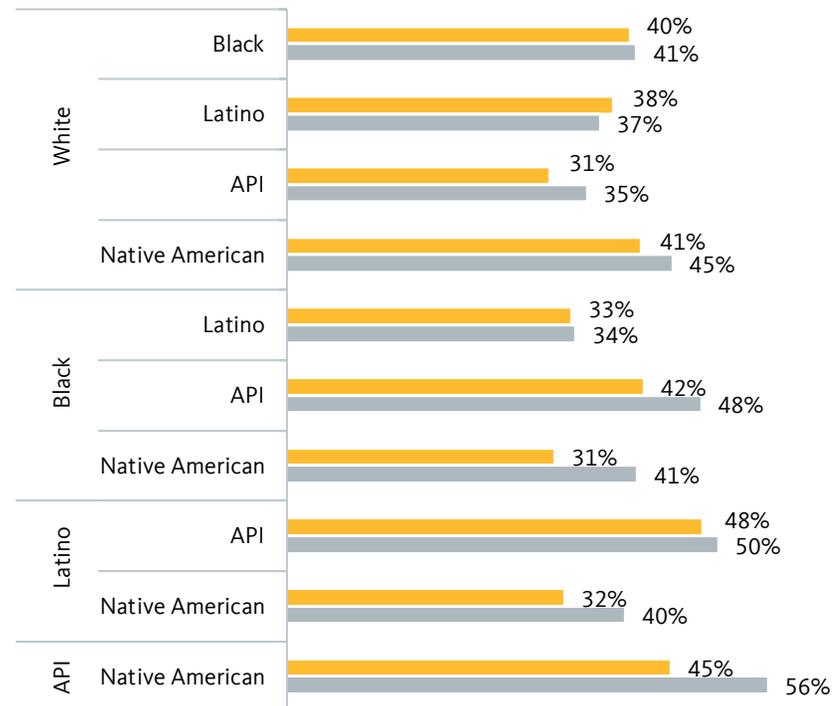
The dissimilarity index estimates the share of a given racial/ethnic group that would need to move to a new neighborhood to achieve complete integration with another group. Using this measure, segregation between Whites and Latinos has lessened since 1990, but it has increased between most other groups.

In particular, segregation between all groups and Asian or Pacific Islanders as well as Native Americans has increased the most since 1990, and Native Americans have the highest rates of segregation compared with other groups.

Asian-Pacific Islander-Native American segregation is the highest of all race/ethnic combinations: 56 percent of Native American residents would have to move to achieve Asian-Pacific Islander-Native American integration.

**Segregation has increased among almost all groups but White-Latino**  
**Residential Segregation, 1990 and 2014, measured by the Dissimilarity Index**

■ 1990  
 ■ 2014



Source: U.S. Census Bureau; Geolytics, Inc.

Note: Data reported is the dissimilarity index for each combination of racial/ethnic groups. See the “Data and methods” section for details of the residential segregation index calculations. Data for 2014 represents a 2010 through 2014 average.

# Connectedness

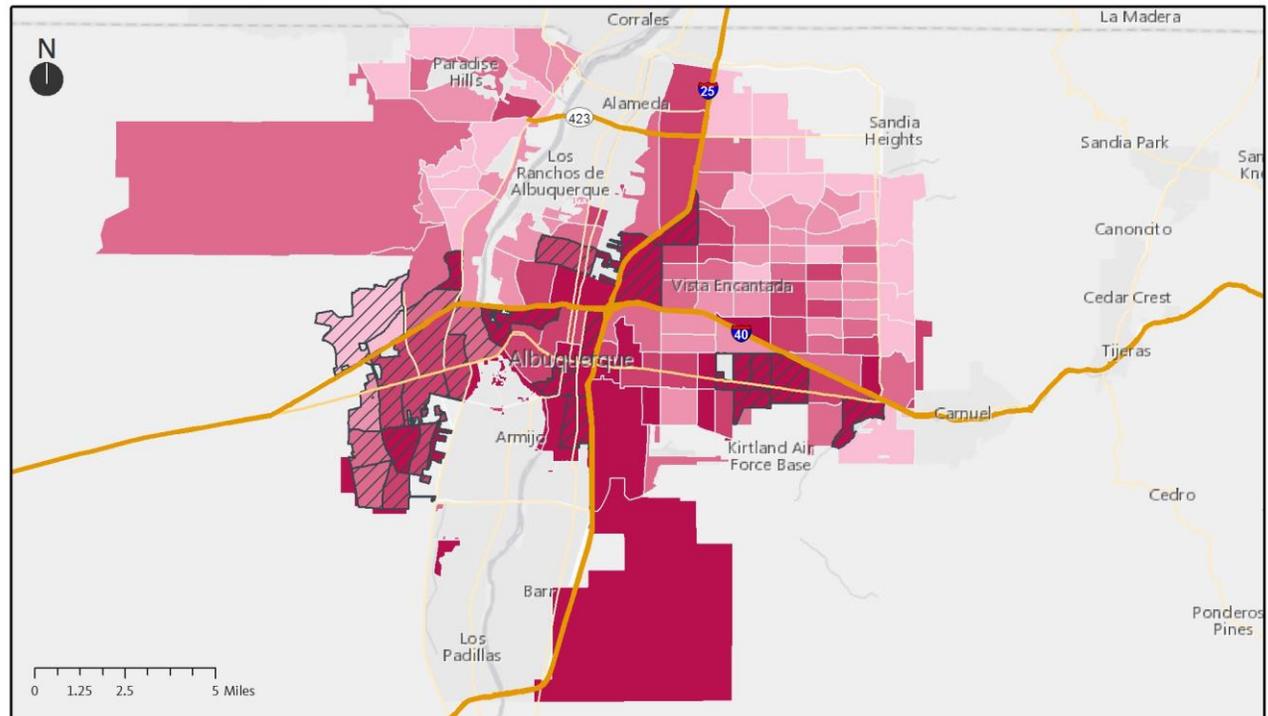
## Concentrated poverty, a challenge for communities of color

Poverty rates are relatively high in many neighborhoods in Albuquerque. The highest poverty rates are seen in the central part of the city.

Aside from the tracts on the western side of the city, most of the tracts with 70 percent or more people of color are also among those with the highest rates of poverty.

**Many communities of color are also areas of high poverty**  
**Percent Population Below the Poverty Level by Census Tract, 2014**

- Less than 8%
- 8% to 14%
- 14% to 19%
- 19% to 28%
- 28% or more
- 70% or more people of color



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community. Universe includes all persons not in group quarters.  
 Note: Data represent a 2010 through 2014 average. Areas in white have missing data.

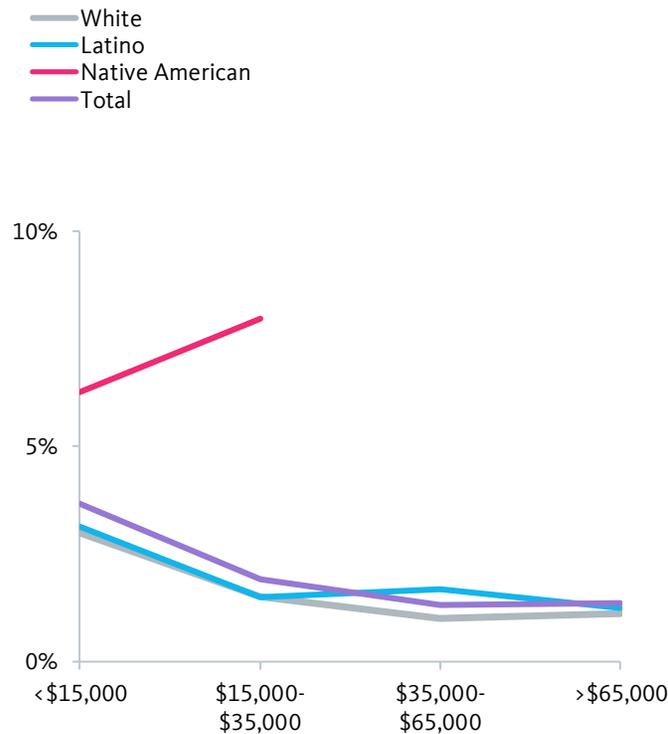
# Connectedness

## Black, Mixed or other race, and Native American workers are most likely to rely on the city's transit system

Income and race both play a role in determining who uses the city's public transit system to get to work. Households of color are the most likely to be dependent on public transit. Among very low-income Native Americans, 6 percent get to work using public transit, while closer to 8 percent do among those earning \$15k-35k per year.

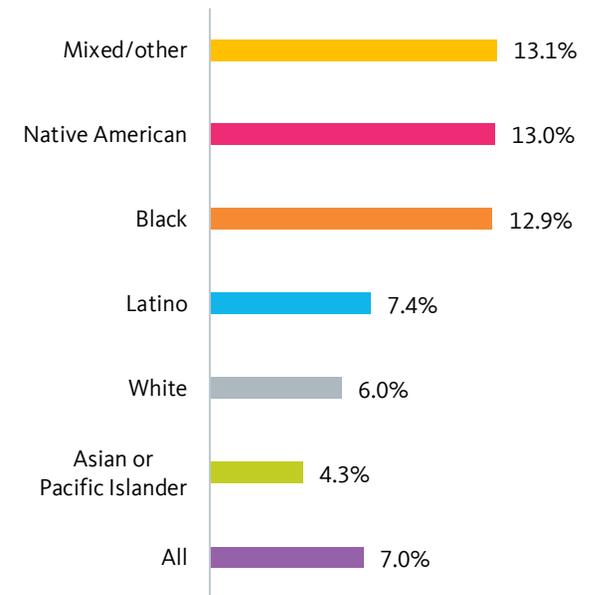
Households of color, with the exception for Asian or Pacific Islanders, are also much less likely to own cars than Whites. Whereas 6 percent of White households do not have a vehicle, about 13 percent of Black, Mixed or other race, and Native American households lack access to a vehicle.

**Transit use varies by income and race**  
**Percent Using Public Transit by Annual Earnings and Race/Ethnicity, 2014**



Source: Integrated Public Use Microdata Series. Universe includes workers ages 16 and older with earnings.  
 Note: Data represent a 2010 through 2014 average.

**Black, Mixed/other, and Native American households are least likely to have a car**  
**Percent of Households without a Vehicle by Race/Ethnicity, 2014**



Source: Integrated Public Use Microdata Series. Universe includes all households (no group quarters).  
 Note: Data for 2014 represents a 2010 through 2014 average.

# Connectedness

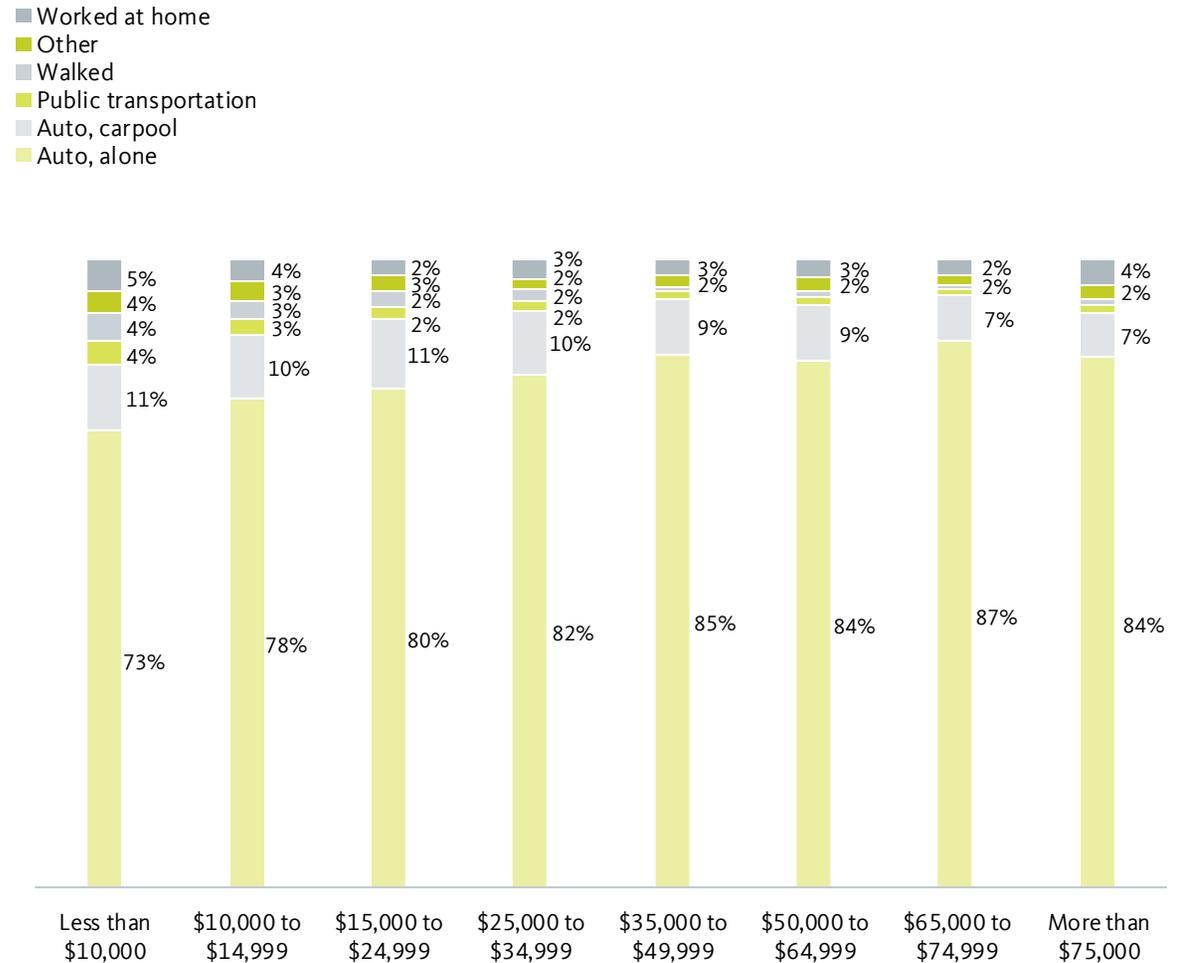
## How residents commute varies by income

The vast majority – roughly 81 percent – of Albuquerque residents drive alone to work, followed by approximately 9 percent who carpool.

Single-driver commuting, however, fluctuates with income. Just under three in four very low-income workers (earning under \$10k per year) drive alone to work, compared to 84 percent of workers who make over \$75k a year.

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

**Means of Transportation to Work by Annual Earnings, 2014**



Source: Integrated Public Use Microdata Series. Universe includes workers ages 16 and older with earnings.  
 Note: Data represent a 2010 through 2014 average. Dollar values are in 2014 dollars.

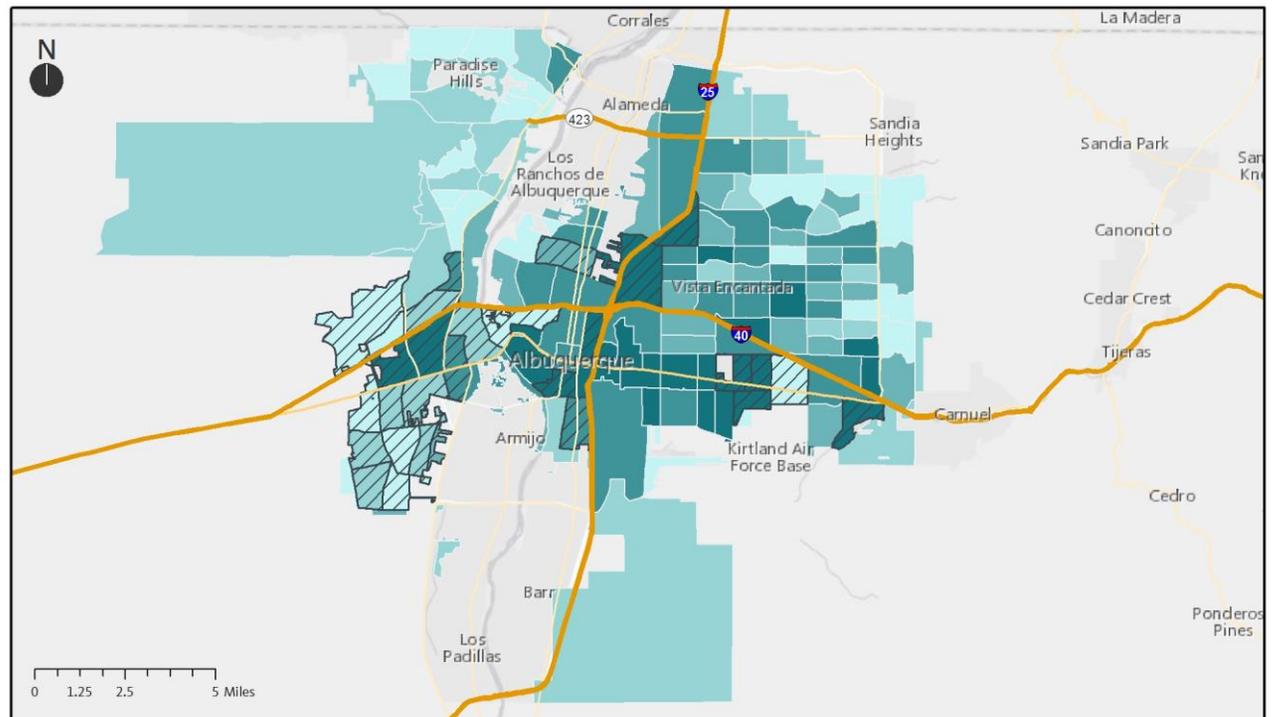
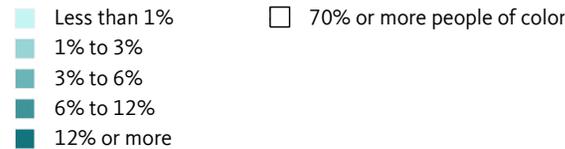
# Connectedness

## Communities of color are more likely to be carless

In a city where people still rely heavily on driving, the vast majority of households (93 percent) have access to at least one vehicle. But access to a vehicle remains a challenge for households in many areas of Albuquerque, with a particular concentration of carless households in the center of the city. Areas farther away from the center are more likely to have access to a vehicle.

While many of the neighborhoods that are at least 70 percent people of color have among the highest rates of carlessness, that is not always the case in the western part of Albuquerque.

**Carless households are concentrated closer to the city center**  
**Percent of Households Without a Vehicle by Census Tract, 2014**



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MaymyIndia, © OpenStreetMap contributors, and the GIS user community.  
 Note: Universe includes all households (no group quarters). Note: Data represent a 2010 through 2014 average.

# Connectedness

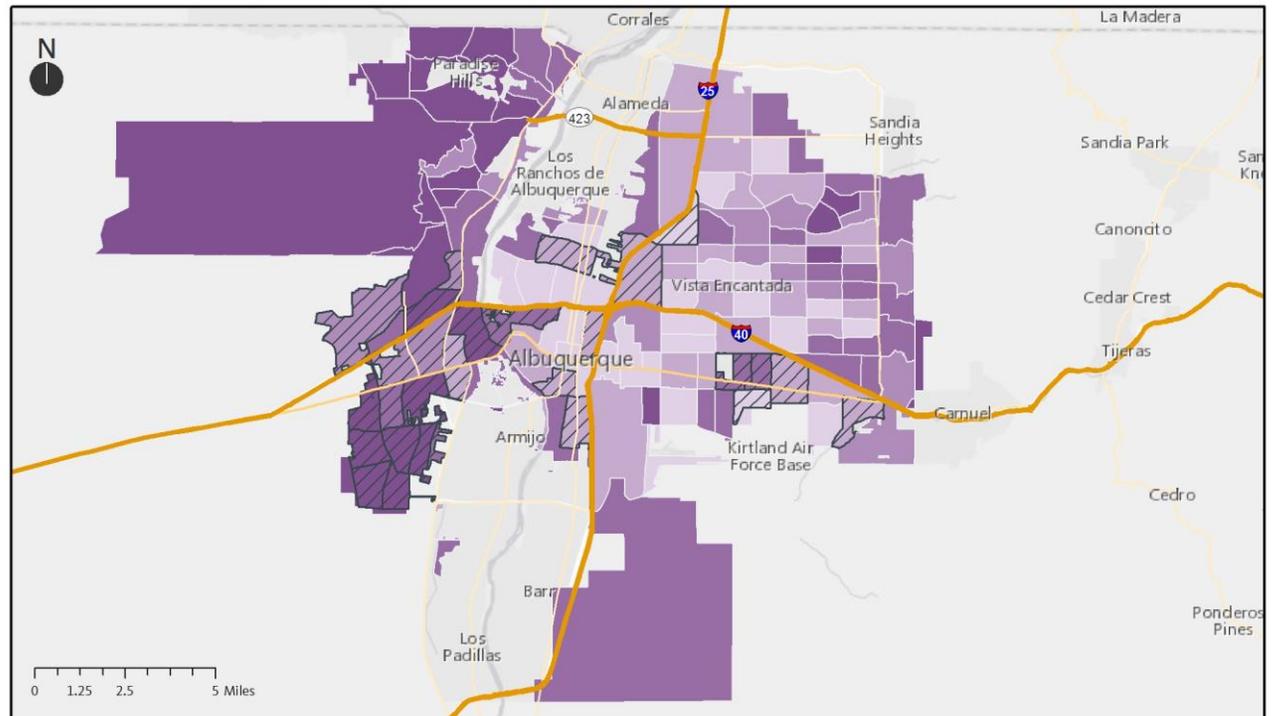
## Longer commutes for residents in northwest and southwest

Workers throughout Albuquerque have long commute times, with an average travel time of 21 minutes for workers in the city compared with 26 minutes for the United States overall. Workers with the longest commute times tend to live away from the urban core in the northwest and southwest areas of the city.

**Workers living in western part of the city have the longest commute times**

**Average Travel Time to Work by Census Tract, 2014**

- Less than 18 minutes
- 18 to 20 minutes
- 20 to 21 minutes
- 21 to 24 minutes
- 24 minutes or more
- 70% or more people of color



Source: U.S. Census Bureau; TomTom, ESRI, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community.  
 Note: Universe includes all persons ages 16 or older who work outside of home. Note: Data represent a 2010 through 2014 average.

# Connectedness

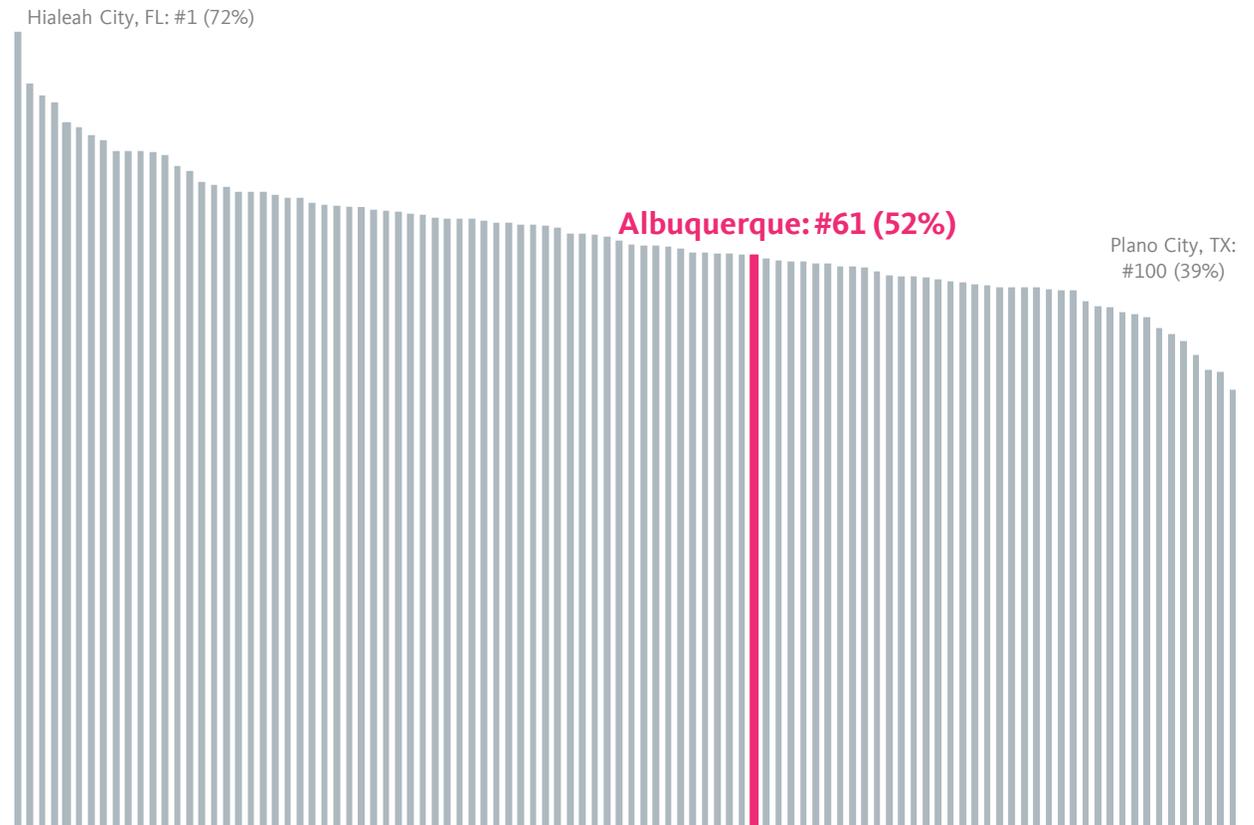
## A relatively low level of rent burden overall

The region ranks below average among the largest 100 cities in the U.S. in the share of households (both owners and renters) that are burdened by housing costs, defined as spending more than 30 percent of income on housing. Albuquerque ranks 61<sup>st</sup> among the largest 100 cities in terms of renter burden (52 percent).

Compared to the 100 largest cities in the country, Albuquerque has a lower renter burden than Tucson, AZ (56 percent) and a higher renter burden than El Paso, TX (49 percent).

**Albuquerque has a slightly below average ranking for rent-burdened households**

**Share of Households that Are Rent Burdened, 2014: Largest 100 Cities Ranked**



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

# Connectedness

## Blacks, Latinos, and Asian or Pacific Islanders face higher housing burden

In Albuquerque, about 52 percent of renter-occupied households and 26 percent of owner-occupied households are cost-burdened – defined as paying more than 30 percent of their incomes on housing costs.

People of color in Albuquerque are most likely to pay too much for housing, whether they rent or own. More than half of Black and Latino renter-occupied households pay more than 30 percent of their incomes in rent, and these groups also have above average rates of homeowner housing burden.

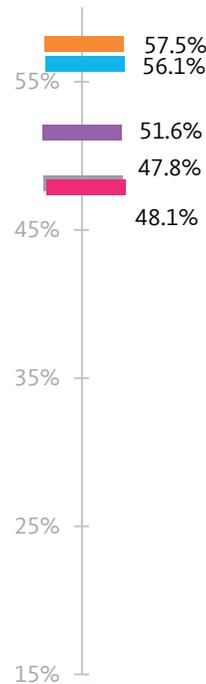
Asian or Pacific Islanders have the highest rate of homeowner housing burden; they may also have high rates of renter housing burden but that data is not available.

Native American and White households have the lowest rates of housing burden – both among renters and owners.

### Well over half of African American and Latino renters are burdened by housing costs

Renter Housing Burden by Race/Ethnicity, 2014

- All
- White
- Black
- Latino
- Native American

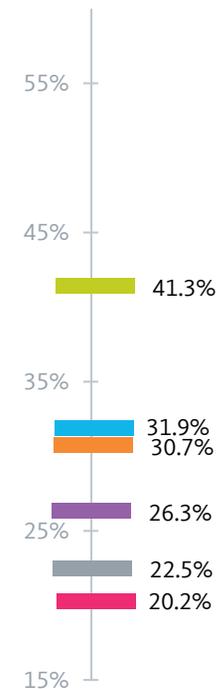


Source: Integrated Public Use Microdata Series. Universe includes renter-occupied households with cash rent (excludes group quarters).  
 Note: Data represent a 2010 through 2014 average.

### Asian or Pacific Islander homeowners have the highest housing burden

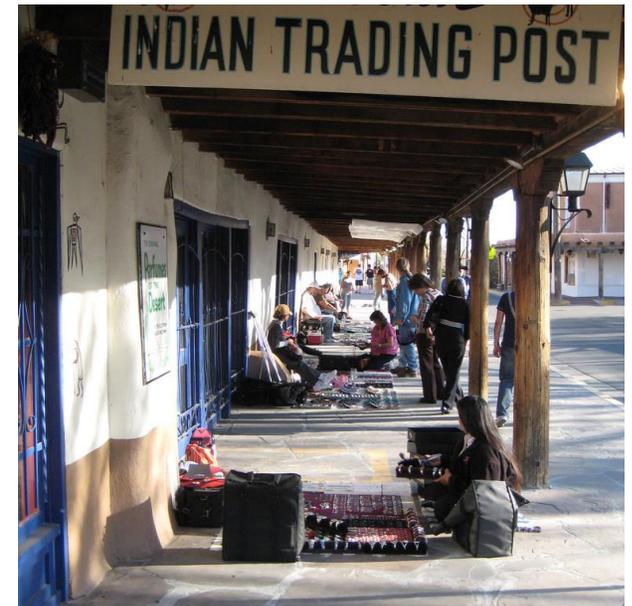
Homeowner Housing Burden by Race/Ethnicity, 2014

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



Source: Integrated Public Use Microdata Series. Universe includes owner-occupied households (excludes group quarters).  
 Note: Data represent a 2010 through 2014 average.

# Economic benefits



## Economic Benefits

# Highlights

**Increasing equity in the region will have significant positive implications**

- The Albuquerque region's economy could have been nearly \$11 billion stronger in 2014 if its racial gaps in income had been closed: a 26 percent increase.
- People of color as a whole in the city of Albuquerque are projected to see their incomes grow by 56 percent with racial equity.
- Native American Albuquerqueans would see an increase in average income of over \$20k, growing from about \$22,300 a year to \$42,500 a year.

Equity dividend in broader region:

**\$11 billion**

Average gain in income for Native Americans with racial equity:

**91%**

Percent of racial income gap attributable to wages for People of color:

**66%**

# Economic benefits of inclusion

## A potential \$11 billion GDP boost from racial equity

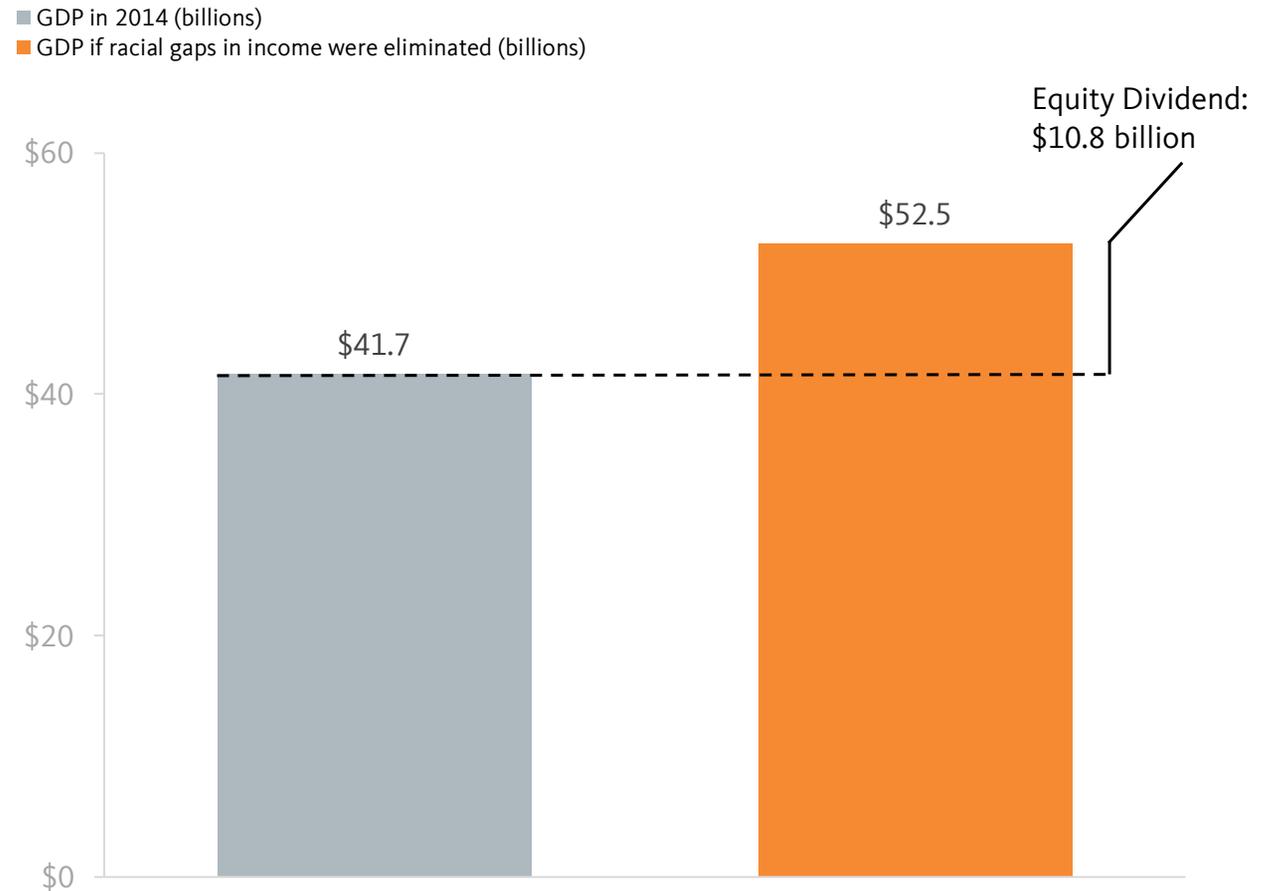
The Albuquerque region stands to gain a great deal from addressing racial inequities. The region’s economy could have been nearly \$11 billion stronger in 2014 if its racial gaps in income had been closed: a 26 percent increase.

Using data on income by race, we calculated how much higher total economic output would have been in 2014 if all racial groups who currently earn less than Whites had earned similar average incomes as their White counterparts, controlling for age.

Nationally, 36 percent of the racial income gap between all people of color and Whites is due to differences in employment. In the Albuquerque region, that share is 35 percent, with the remaining 65 percent due to differences in hourly wages.

**Albuquerque region’s GDP would have been almost \$11 billion higher if there were no racial gaps in income**

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



Source: Integrated Public Use Microdata Series; Bureau of Economic Analysis.

Note: Analysis reflects the Albuquerque, NM Metropolitan Statistical Area as defined by the U.S. Office of Management and Budget. Data represent a 2010 through 2014 average. Values are in 2014 dollars.

# Economic benefits of inclusion

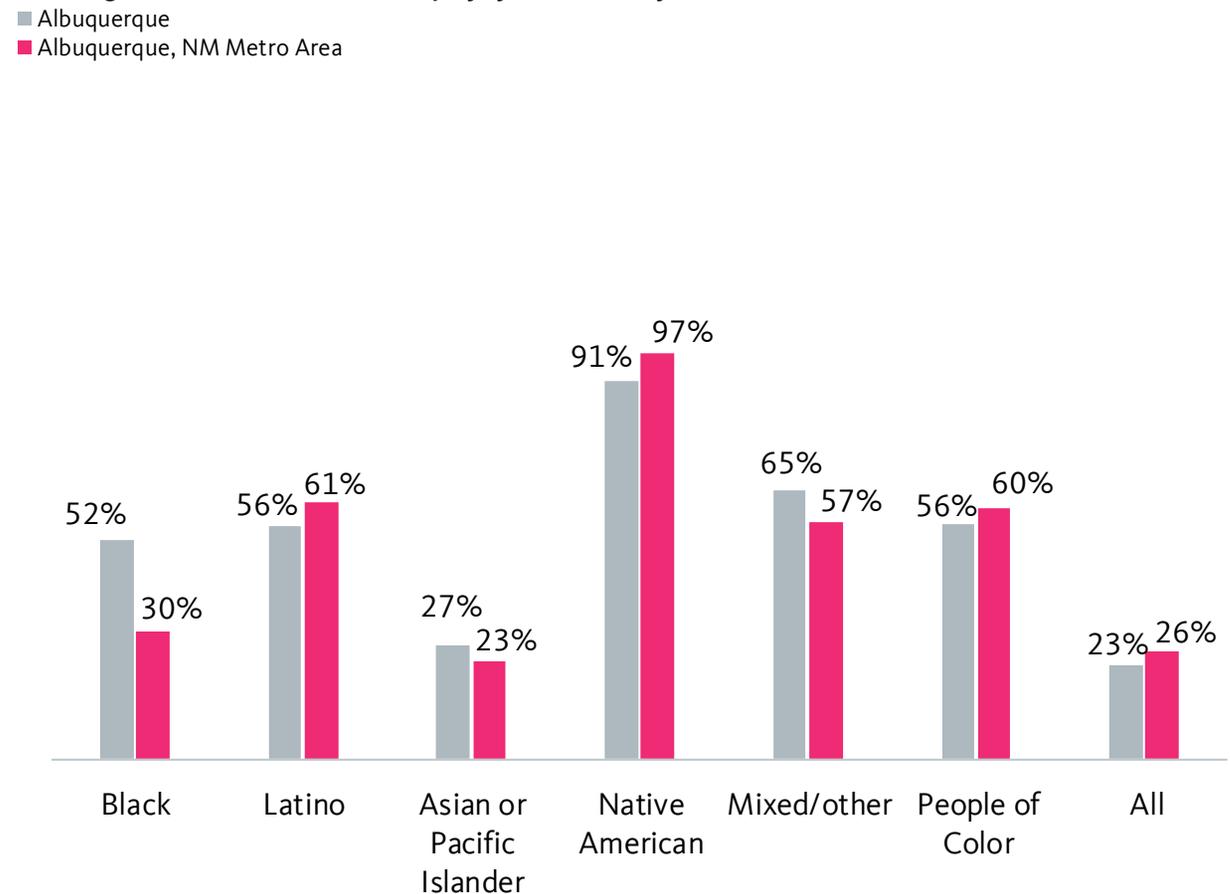
## Average Native American income would increase by over 90 percent with racial equity

People of color as a whole are projected to see their incomes grow by more than 50 percent with racial equity. Native American Albuquerqueans would see a 91 percent gain in average annual income while Latinos would see a 56 percent gain.

Income gains were estimated by calculating the percentage increase in income for each racial/ethnic group if they had the same average annual income (and income distribution) and hours of work as non-Hispanic whites, controlling for age.

Asian or Pacific Islanders will experience the smallest income increase with racial equity

Percentage Gain in Income with Racial Equity by Race/Ethnicity, 2014



Source: Integrated Public Use Microdata Series.

Note: Data represent a 2010 through 2014 average. Data for some racial/ethnic groups are excluded due to small sample size.

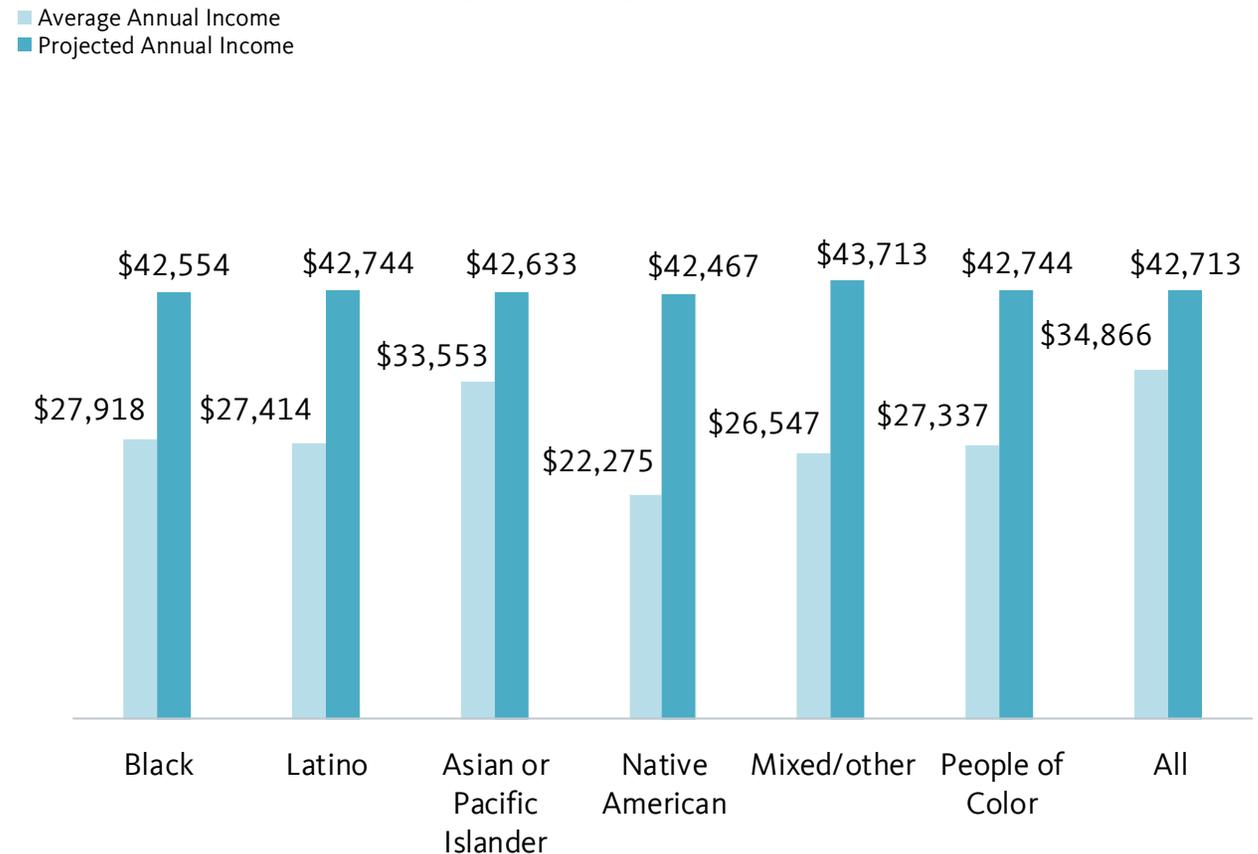
# Economic benefits of inclusion

## Average Native American income would increase by over \$20k

People of color as a whole in the city of Albuquerque are projected to see their incomes grow by roughly 56 percent with racial equity which translates to an over \$15k increase in average income. Native American Albuquerqueans would see an increase in average income of over \$20k – growing from about \$22,300 to \$42,500 a year.

People of color would see an increase in average income of over \$15k with racial equity

Gain in Average Income with Racial Equity by Race/Ethnicity, 2014



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

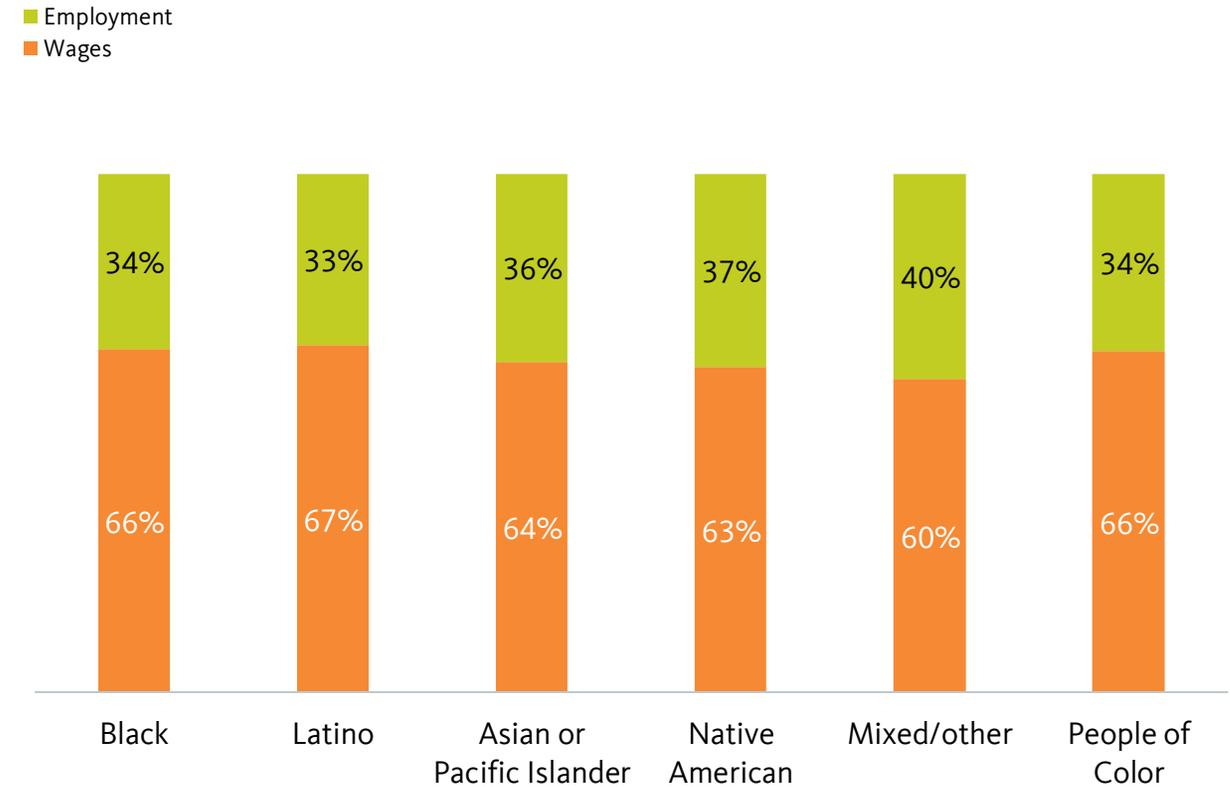
# Economic benefits of inclusion

## Most of the potential income gains would come from closing the racial wage gap

We also examined how much of the city’s racial income gap was due to differences in wages and how much was due to differences in employment (measured by hours worked). In Albuquerque, most of the racial income gap is due to differences in wages. For all racial/ethnic groups, wages account for the majority of the income gap.

Closing wage and employment gaps by eliminating discrimination in pay and hiring, boosting education attainment, and ensuring strong and rising wages for low-wage workers is good for families, good for communities, and good for the economy. Rising wages and incomes, particularly for low-income households, leads to more consumer spending, which is a key driver of economic growth and job creation.

**Most of the racial income gap is due to differences in wages**  
**Source of Gains in Income with Racial Equity By Race/Ethnicity, 2014**



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

# Implications



# Implications

## Advancing equity and racial inclusion

Albuquerque's growing, diverse population is a major economic asset that will help the city compete in the global economy, if the city's leaders invest in ensuring all of its residents can connect to good jobs and contribute their talent and creativity to building a strong next economy. Business, community, and political leaders must work together to connect communities of color to jobs, business opportunities, quality education and career training. Tremendous work is already underway, which can be strengthened and built upon. PolicyLink and PERE suggest the following areas of focus to ensure all residents – particularly low-income residents and communities of color – contribute to and benefit from the region's vibrant, equitable economic future.

### Grow good jobs

Job growth in the Bernalillo County is significantly higher than the nation overall, and the Gross Regional Product remains higher than the national average. However, job growth is not keeping up with population growth and unemployment among people of color in the city is higher than the national average. Albuquerque needs to create a significant number of new, well-paying jobs –

and ensure that the city's labor force (particularly women and youth of color) are connected to those jobs. This entails a two-pronged approach. First, economic and workforce development efforts should focus on entrepreneurship and business development in industries that are growing and tend to pay good wages such as construction and life, physical, and social science technicians.

Second, the jobs that are being created need to be good jobs. Wages have declined more than 10 percent for Albuquerque's lowest income workers since 1979, and the rate of working poverty has been increasing, particularly for workers of color. Advocates and policymakers should consider efforts that will raise wages and provide important worker benefits, such as those outlined by Family Friendly New Mexico.

### Connect unemployed and low-wage workers to careers in high-growth industries

In tandem with job creation efforts, it is vital for Albuquerque to connect its workforce with jobs that pay good wages and offer career opportunities. Communities of color face the

highest unemployment and higher rates of poverty than their White peers. Our analysis of strong industries and high-opportunity occupations reinforces the importance of current workforce training. Partnerships between employers and workforce agencies have proven track records connecting workers to good careers. In addition, leverage the economic power of large anchor institutions, like hospitals and universities. These anchors can develop intentional strategies to hire jobseekers facing barriers to employment, create on-the-job training opportunities, and purchase more goods and services from local- and minority-owned businesses who provide local jobs.

### Strengthen educational pathways

Educational attainment for Latino, Black, and Native American residents is a critical issue for the long-term economic strength of the city. While 36 percent of all jobs in New Mexico by 2020 will require an Associate's degree or higher, less than one third of residents in these groups have attained that level of

# Implications

## Advancing equity and racial inclusion

(continued)

education or higher. The city's rate of disconnected youth – those not in school or working – should be prioritized. Scholarships for programs leading to a postsecondary vocational certificate or Associate's degree can reduce financial barriers to higher education and can encourage high school students to stay connected to school, addressing the high rate of disconnected youth in the city. Programs like these should be strengthened and expanded to increase graduation rates for high school, Associate's degrees, and vocational certification programs throughout the city. Educational supports should begin even earlier, with middle-school and high-school curricula that introduce important 21<sup>st</sup> century skills, like coding and app and website development.

### **Build communities of opportunity throughout the city**

All neighborhoods located throughout the city should provide their residents with the ingredients they need to thrive and also open

up opportunities for low-income residents and people of color to live in neighborhoods that are already rich with opportunity (and from which they've historically been excluded).

Coordinating transportation, housing, and economic development investments over the long term will foster more equitable development patterns and healthier neighborhoods across the city. Policymakers should align planning efforts and resources to promote more affordable transit oriented development, which is both environmentally sustainable and a useful vehicle for linking residents to economic opportunity.

Addressing lingering racially discriminatory housing and lending practices, and enforcing fair housing laws, are also critical to expand opportunity for all.

### **Conclusion**

Community leaders in the public, private, and nonprofit sectors are already taking steps to connect its more vulnerable communities to educational and economic opportunities, and these efforts must continue. To secure a prosperous future, Albuquerque needs to implement a growth model that is driven by equity – just and fair inclusion into a society in which everyone can participate and prosper. Concerted investments and policies for, and developed from within, communities of color will also be essential to ensure the city's fastest-growing populations are ready to lead it into the next economy.

# Data and methods

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# Data and methods

## Data source summary and regional geography

Unless otherwise noted, all of the data and analyses presented in this profile are the product of PolicyLink and the USC Program for Environmental and Regional Equity (PERE), and reflect the city of Albuquerque, New Mexico. 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 city 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 cities and 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, 1-year microdata sample
U.S. Census Bureau	2014 American Community Survey, 5-year microdata sample
	1980 Summary Tape File 1 (STF1)
	1980 Summary Tape File 2 (STF2)
	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 American Community Survey, 5-year summary file
	2010 TIGER/Line Shapefiles, 2010 Census Block Groups
Geolytics	2014 TIGER/Line Shapefiles, 2014 Census Tracts
	2010 TIGER/Line Shapefiles, 2010 Counties
	1980 Long Form in 2010 Boundaries
Woods & Poole Economics, Inc.	1990 Long Form in 2010 Boundaries
	2000 Long Form in 2010 Boundaries
	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)
The diversitydatakids.org Project	W.K. Kellogg Foundation Priority Communities Dashboard Database
New Mexico Department of Workforce Solutions	2014-2024 Industry Employment Projections
	2014-2024 Occupation 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

# 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 Integrated Public Use Microdata Series (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 do so only 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 definitions and clarification for some of the terms used in the profile:

- The term “region” may refer to a city but typically refers to metropolitan areas or other large urban areas (e.g. large cities and counties). The terms “metropolitan area,” “metro area,” and “metro” are used interchangeably to refer to the geographic areas defined as Metropolitan Statistical Areas under the December 2003 definitions of the U.S. Office of Management and Budget (OMB).
- 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 a 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 who 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 American Community Survey (ACS), as compared with prior years of the ACS and the long form of the decennial census, caused a dramatic rise in the share of respondents indicating that they worked at least 50 weeks during the year prior to the survey. To make our data on full-time workers more comparable over time, we applied a slightly different definition in 2008 and later than in earlier years: in 2008 and later, the “weeks worked” cutoff is at least 50 weeks while in 2007 and earlier it is 45 weeks. The 45-week cutoff was found to produce a national trend in the incidence of full-time work over the 2005-2010 period that was most consistent with that found using data from

the March Supplement of the Current Population Survey, which did not experience a change to the relevant survey questions. For more information, see:

[https://www.census.gov/content/dam/Census/library/working-papers/2012/demo/Gottschalck\\_2012FCSM\\_VII-B.pdf](https://www.census.gov/content/dam/Census/library/working-papers/2012/demo/Gottschalck_2012FCSM_VII-B.pdf).

### General notes on analyses

Below, we provide some general notes about the analysis conducted:

- With 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.

# 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 2010-2014 pooled together. While the 1980 through 2000 files are based on the decennial census and each cover about 5 percent of the U.S. population, the 2010-2014 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 2010-2014 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 for various geographies in 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) for years 1990 and later, or the County Group in 1980. PUMAs are generally drawn to contain a population of about 100,000, and vary greatly in geographic size

from being fairly small in densely populated urban areas, to very large in rural areas, often with one or more counties contained in a single PUMA.

The major challenge for our purposes is that PUMAs do not neatly align with the boundaries of cities and metro areas, often with several PUMAs entirely contained within the core of the city or metro areas but several other, more peripheral PUMAs, straddling the boundary.

Because PUMAs do not neatly align with the boundaries of cities and metro areas, we created a geographic crosswalk between PUMAs and each geography for the 1980, 1990, 2000, and 2010-2014 microdata. For simplicity, the description below refers only to the PUMA-to-city crosswalk but the same procedure was used to generate the PUMA-to-metro area crosswalk.

We first estimated the share of each PUMA’s population that fell inside each city using population information specific to each year

# Data and methods

## Summary measures from IPUMS microdata

(continued)

from Geolytics, Inc. at the 2000 census block group level of geography (2010 population information was used for the 2010-2014 geographic crosswalk). If the share was at least 50 percent, then the PUMAs were assigned to the city and included in generating our city summary measures. For most PUMAs assigned to a city, the share was 100 percent.

For the remaining PUMAs, however, the share was somewhere between 50 and 100 percent, and this share was used as the “PUMA adjustment factor” to adjust downward the survey weights for individuals included in such PUMAs when estimating regional summary measures. Last, we made one final adjustment to the individual survey weights in all PUMAs assigned to a city: we applied a “regional adjustment factor” to ensure that the weighted sum of the population from the PUMAs assigned to a city matched the total population reported in the official census summary files for each year/period. The final adjusted survey weight used to make all city estimates was, thus, equal to the product of

the original survey weight in the IPUMS microdata, the PUMA adjustment factor, and the regional adjustment factor.

To measure geographic fit, we calculated three measures: the share of the city population in each year that was derived from PUMAs that were 80 percent, 90 percent, and 100 percent contained in the city (based on population counts in each year). For example, a city with perfect geographic fit would be one in which 100 percent of the population was derived from PUMAs for which 100 percent of the PUMA population was contained in that city. A city of dubious geographic fit thus might be one in which zero percent of its population was from 80-percent-contained PUMAs (indicating that all of the PUMAs assigned to it were somewhere between 50 and 80 percent contained, since a PUMA must be at least 50 percent to be assigned to a city in the first place).

The table shown below provides the above measures of fit for the city of Albuquerque, along with the regional adjustment factor that

was applied (which again, gives a sense of how much the population from PUMAs allocated to the city had to be adjusted to match the actual city population in each year).

<b>Percentage of city population from:</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010-2014</b>
completely contained PUMAs	0.00	1.00	0.63	0.58
90% contained PUMAs	1.00	1.00	1.00	1.00
80% contained PUMAs	1.00	1.00	1.00	1.00
<b>Regional adjustment factor:</b>	1.00	1.01	1.00	1.01

As can be seen, the entire city population from which estimates are drawn is based on PUMAs that are at least 90 percent contained in the city boundaries for each year/period. Moreover, a comparison of the percentage people of color, the poverty rate, and the percentage of immigrants calculated from the IPUMS microdata and the ACS summary file shows that they are reasonably very similar. The percentage people of color calculated from the IPUMS microdata came out to be 3.7 percentage points lower than the percentage calculated from the ACS summary file while the other two variables differed by less than one percentage point.

# 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 2010-2014 average), at the city and county levels, which were 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, with the latter group only appearing in 2000 and later due to a change in the survey question). While for 2000 and later years, this information is readily available in SF1 and in the ACS, 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 city and county

levels for all the requisite groups in STF2, for race/ethnicity by age group we had to look to STF1, 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 or Pacific Islanders, non-Hispanic Native Americans, and non-Hispanic Others among the remainder for each age group, we applied the distribution of these three groups from the overall city and county populations (across all ages) to that remainder.

For 1990, the level of detail available in the underlying data differed at the city and county levels, calling for different estimation strategies. At the county level, data by race/ethnicity was taken from STF2A, while data by race/ethnicity and age was taken from the 1990 MARS file—a special tabulation of people by age, race, sex, and Hispanic origin. However, to be consistent with the way race is categorized by the OMB’s Directive 15, the MARS file allocates all persons identifying as “other race alone” or multiracial to a specific race. After confirming that population totals

by county (across all ages) were consistent between the MARS file and STF2A, we calculated the number of “other race alone” or multiracial people who had been added to each racial/ethnic group in each county by subtracting the number who were reported in STF2A for the corresponding group. We then derived the share of each racial/ethnic group in the MARS file (across all ages) that was made up of “other race alone” or multiracial people and applied it to estimate the number of people by race/ethnicity and age group exclusive of “other race alone” or multiracial people and the total number of “other race alone” or multiracial people in each age group.

For the 1990 city-level estimates, all data were from STF1, which provided counts of the total population for the six broad racial/ethnic groups required but not counts by age. Rather, age counts were only available for people by single race alone (including those of Hispanic origin) as well as for all people of Hispanic origin combined. To estimate the number of people by race/ethnicity and age for the six

## Data and methods

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

(continued)

broad racial/ethnic groups that are detailed in the profile, we first calculated the share of each single-race alone group that was Hispanic based on the overall population (across all ages). We then applied it to the population counts by age and race alone to generate an initial estimate of the number of Hispanic and non-Hispanic people in each age/race alone category. This initial estimate was multiplied by an adjustment factor (specific to each age group) to ensure that the sum of the estimated number of Hispanic people across the race alone categories within each age group equated to the “actual” number of Hispanic origin by age as reported in STF1. Finally, an Iterative Proportional Fitting (IPF) procedure was applied to ensure that our final estimate of the number of people by race/ ethnicity and age was consistent with the total population by race/ethnicity (across all ages) and total population by age group (across all racial/ethnic categories) as reported in STF1.

# 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 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 or 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 or 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 regional, 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 prevent 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 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. The resulting county-level estimates were then aggregated to the regional and metro area levels.

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.

We should note that BEA does not provide

# 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 within 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 44-45, and 48-49, is based on an industry-level dataset constructed using two-digit NAICS industries from the U.S. 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.)

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. Another adjustment made was to aggregate data for some 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.

The same above procedure was applied at the county and state levels. To assemble data at for regions and metro areas, we aggregated the county-level results.

## Data and methods

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

The analysis on pages 44-45 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 all broad private sector 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 by Jennifer S. Vey, *Building From Strength: Creating Opportunity in Greater Baltimore's Next Economy* (Washington D.C.: Brookings Institution, 2012).

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 occupations on pages 50-58 seeks to classify occupations in the region by opportunity level. To identify “high-opportunity” occupations, we developed an “occupation opportunity index” based on measures of job quality and growth, including median annual wage, wage growth, job growth (in number and share), and median age of workers (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.

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 pages 55-58 possible.

Fourth, while most of the data used in the analysis are regionally specific, information on the education level of “typical workers” in each occupation, which is used to divide occupations in the region into the three groups by education level (as presented on pages 52-54), was estimated using national 2010 IPUMS ACS microdata (for the employed civilian noninstitutional population

# Data and methods

## Analysis of occupations by opportunity level

(continued)

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, it is not a terrible assumption, and a similar approach was used in a Brookings Institution report by Jonathan Rothwell and Alan Berube, *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 52-54, and the charts depicting the opportunity level associated with jobs held by workers with different education levels and backgrounds by race/ethnicity, presented on pages 56-58. While the former are based on the national estimates of typical education levels by occupation, with each occupation assigned to one of the three broad education levels

described, the latter are based on actual education levels of workers in the region (as estimated using 2010 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 broad, with three categories applied to each. For the categorization of occupations, this was done so that each occupation could be more justifiably assigned to a single typical education level; even with the three broad categories some occupations had a fairly even distribution of workers across them nationally, but, for the most part, a large majority fell in one of the three categories. In regard to the three broad categories of opportunity level and education levels of workers, this was done to ensure reasonably large sample sizes in the 2010 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 country.

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 2008-2012. 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](https://www.cdc.gov/brfss/annual_data/2012/pdf/Compare_2012.pdf)). Even with this sample size restriction, county and 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 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 nonmetro state median for nonmetropolitan 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.

An 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 an 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](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 the 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 (noncancer 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 noncancer 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:

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

Where  $c$  indicates cancer risk,  $r$  indicates respiratory risk,  $i$  indexes census tracts, and  $\mu$  and  $\sigma$  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

## Measures of diversity and segregation

In the profile, we refer to measures of residential segregation by race/ethnicity (the “multi-group entropy index” on page 77 and the “dissimilarity index” on page 78). 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.

Both measures are based on census-tract-level data for 1980, 1990, and 2000 from Geolytics, and for 2014 (which reflects a 2010-2014 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 of 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 or Pacific Islanders in that year. For this reason, we set 1990 as the base year (rather than 1980) in the chart on page 78, but keep the 1980 data in the chart on page 77 as this minor inconsistency in the data is not likely to affect the analysis.

The formula for the multi-group entropy index was 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 multi-group entropy index (referred to as the “entropy index” in the report) appears on page 8.

The formula for 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: White, Black, Latino, Asian or Pacific Islander, Native American, and Mixed/other (with all defined non-Hispanic except for Latinos, of course). 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 hours of work would reflect both more hours for the those currently working and an increased share of workers – an important factor to consider given 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 thus notably lower than those reported in Lynch and Oakford. Another is that our estimated income gains are relatively larger as they presume increased employment rates.

## Data and methods

# Estimates of GDP without racial gaps in income

(continued)

Note that because no GDP data is available at the city level (partly because economies tend to operate at well beyond city boundaries), our estimates of gains in GDP with racial equity are only reported at the regional level. Estimates of income gains and the source of gains by race/ethnicity, however, are reported for the profiled geography.

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