

An Equity Profile of the **Detroit Region**



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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

In the Detroit region, recent signs of growth and change provide a counterpoint to the population decline caused by Michigan's loss of hundreds of thousands of manufacturing jobs. The region lost approximately 156,000 in population between 2000 and 2010. The region is moderately diverse compared with the nation, with 32 percent of the residents being people of color. Historically one of the nation's most racially segregated regions, the suburbs of Detroit are gradually becoming more diverse with, for example, a 104 percent rate of growth among people of color in Macomb County between 2000 and 2010.

The region is fostering new entrepreneurship and job growth, but equitable development strategies will be essential if growth is to have an appreciable impact on poverty, inequality, and racial disparities. The region can implement policies for housing, transportation, and education, which will remove barriers and expand opportunities for all.

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Introduction



Introduction

Overview

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

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

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

This document presents an equity analysis of the Detroit region. It was developed by PolicyLink and the Program for Environmental and Regional Equity (PERE) to support advocacy groups, elected officials, planners, business leaders, funders, and others working to build a stronger and more equitable region.

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

Introduction

Defining the region

For the purposes of the equity profile and data analysis, the Detroit region is defined as the six-county metropolitan statistical area that encompasses the cities of Detroit, Warren, and Dearborn depicted in the map to the right.

All data presented in the profile use this regional boundary. Minor exceptions due to lack of data availability are noted in the “Data and methods” section beginning on page 89.



Introduction

Why equity matters now

The face of America is changing.

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

Yet racial and income inequality is high and persistent.

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

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

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

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

The way forward is an equity-driven growth model.

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

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

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

¹ Manuel Pastor, "Cohesion and Competitiveness: Business Leadership for Regional Growth and Social Equity," OECD Territorial Reviews, Competitive Cities in the Global Economy, Organisation For Economic Co-Operation And Development (OECD), 2006; Manuel Pastor and Chris Benner, "Been Down So Long: Weak-Market Cities and Regional Equity" in *Retooling for Growth: Building a 21st Century Economy in America's Older Industrial Areas* (New York: American Assembly and Columbia University, 2008); Randall Eberts, George Erickcek, and Jack Kleinhenz, "Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future" (Federal Reserve Bank of Cleveland: April 2006), <https://www.clevelandfed.org/Newsroom%20and%20Events/Publications/Working%20Papers/2006%20Working%20Papers/WP%2006-05%20Dashboard%20Indicators%20for%20the%20Northeast%20Ohio%20Economy>.

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

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

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

Introduction

What is an equitable region?

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

Strong, equitable regions:

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

Introduction

Equity indicators framework

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

Demographics:

Who lives in the region and how is this changing?

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

Economic vitality:

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

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

Readiness:

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

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

Connectedness:

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

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

Demographics



Demographics

Highlights

Who lives in the region and how is it changing?

- The Detroit region is a moderately diverse region with a growing share of people of color. In 2010, about one-third (32 percent) of residents were people of color.
- Overall, the region's population declined from 2000 and 2010, driven almost entirely by a loss of 240,000 in Wayne County (which includes the City of Detroit).
- The people-of-color population is growing quickly in nearly every county within the region, more than doubling in Macomb County in the last decade.
- Diverse groups, especially Asians, Latinos and Arab Americans, are driving growth and change in the region and will continue to do so over the next several decades.

Growth in the Asian population in the 2000s:

37%

Decline in overall population between 2000 and 2010:

-156,000

Share of net population growth attributable to communities of color since 1980:

100%

Demographics

A moderately diverse region

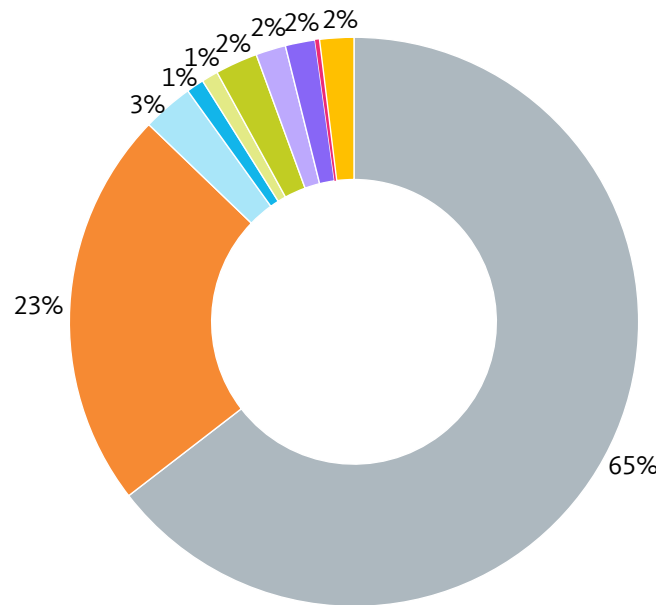
Thirty-two percent of the region’s residents are people of color, including a diverse mix of racial and ethnic groups. Blacks represent nearly a quarter of the region’s population. Latinos (mostly of Mexican ancestry) and a diverse group of Arab Americans represent about 4 percent of the population each, while Asians comprise about 3 percent, with Asian Indians representing the largest subgroup, followed by Chinese/Taiwanese and Filipino.

Michigan is home to one of the largest Arab American populations in the United States – the size of which is almost certainly understated by the estimates shown here as this population has been historically undercounted by the Census. The Arab American Institute (AAI) estimates that 80 percent of approximately [500,000](#) Arab American Michiganders live in Macomb, Oakland, and Wayne counties. [Data Driven Detroit](#) estimates 250,000 to 300,000 persons from the Middle East – including Chaldeans (Christian Iraqis) – live in the Detroit and Ann Arbor metro areas.

Detroit region’s population was nearly one- third people of color in 2008-2012

1. Race, Ethnicity, and Nativity, 2008-2012

- White
- Black
- Latino, U.S.-born
- Latino, Immigrant
- API, U.S.-born
- API, Immigrant
- Arab, U.S.-born
- Arab, Immigrant
- Native American
- Other



Source: IPUMS.

Diverse Asian and Arab population and predominantly Mexican-ancestry Latino population

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

| Latino | Population |
|-------------------|----------------|
| Mexican | 120,081 |
| Puerto Rican | 19,380 |
| All other Latinos | 28,717 |
| Total | 168,177 |

| Asian/Pacific Islander | Population |
|------------------------|----------------|
| Asian Indian | 57,364 |
| Chinese or Taiwanese | 22,316 |
| Filipino | 16,980 |
| Korean | 10,514 |
| Pakistani | 7,025 |
| Japanese | 6,899 |
| Vietnamese | 6,663 |
| All other Asians | 17,415 |
| Total | 145,176 |

| Arab | Population |
|--------------------------|----------------|
| Lebanese | 47,650 |
| Arab | 28,892 |
| Assyrian/Chaldean/Syriac | 24,048 |
| Iraqi | 19,799 |
| Yemeni | 10,052 |
| Syrian | 6,023 |
| All other Arab | 9,559 |
| Total | 146,023 |

Source: IPUMS.

Demographics

A moderately diverse region

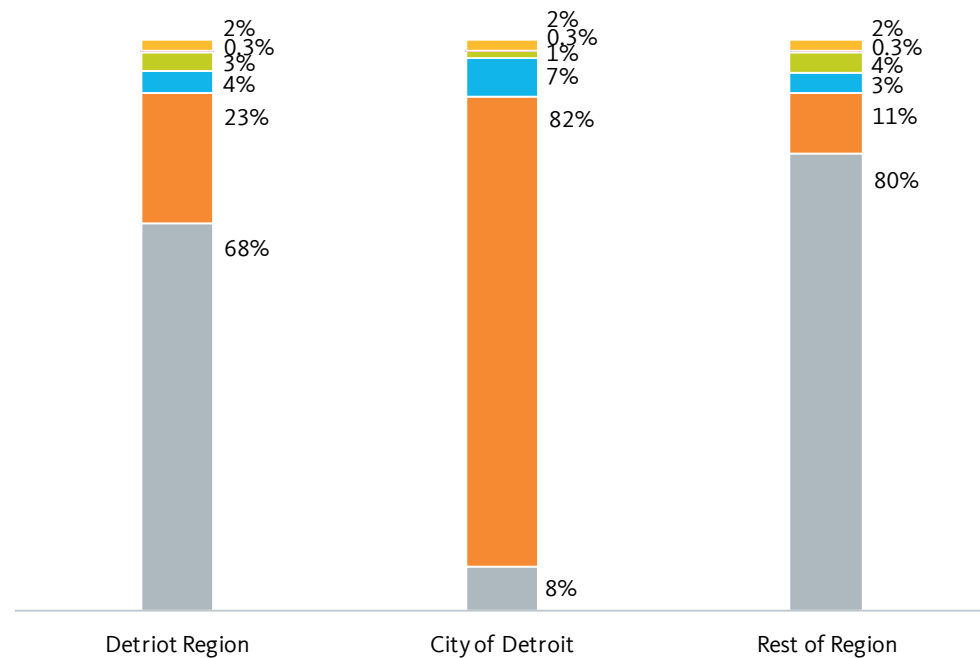
Much of the residential segregation by race that exists in the region can be summed up as a city-suburban divide between the Black and White populations. While the City of Detroit was 82 percent Black in 2010, the rest of the region was 80 percent White. The geographic split is largely the result of a World War II era population boom, with many Black and White Americans drawn into the City of Detroit by a vibrant defense and manufacturing industry, followed by a pattern of “White flight” to the suburbs alongside a steadily rising Black population ([Sugrue, 2005](#)).

The emerging Latino and Asian populations are more evenly distributed geographically, but with Latinos having a larger presence in the City of Detroit and Asians in the suburbs.

The region is marked by high levels of White-Black residential segregation between the city and suburbs

3. Race/Ethnicity in 2010, City of Detroit and the Rest of the Region

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



Source: U.S. Census Bureau.

Demographics

A moderately diverse region

(continued)

The Detroit region ranks 73rd on diversity among the largest 150 metropolitan regions in the country. The region has a diversity score of 0.93, making it more diverse than the similarly sized metro areas in the Midwest, including Cleveland (0.86) and Kansas City (0.88).

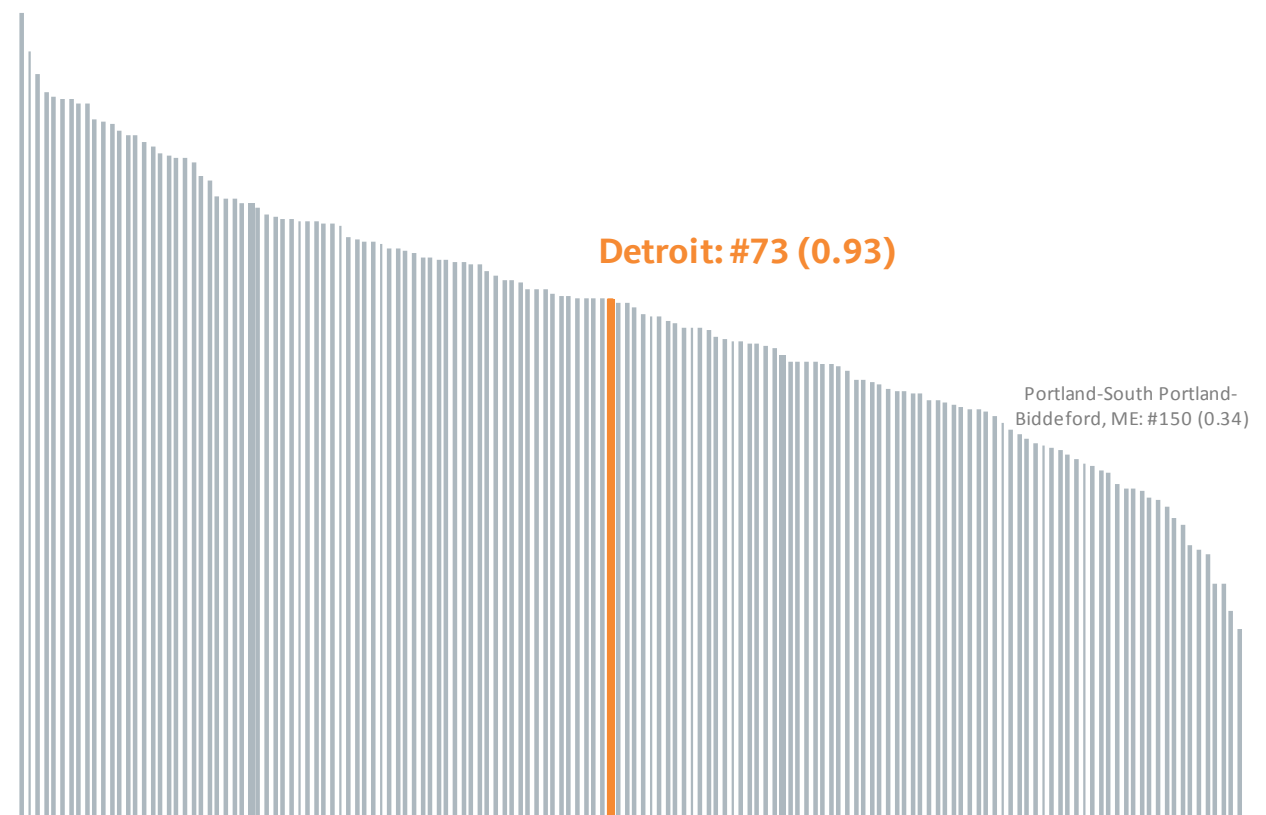
The diversity score is a measure of racial/ethnic diversity in a given area. It measures the representation of the six major racial/ethnic groups (White, Black, Latino, API, Native American, and Other/mixed race) in the population. The maximum possible diversity score (1.79) would occur if each group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

Note that the diversity score describes the region as a whole and does not measure racial segregation, or the extent to which different racial/ethnic groups live in different neighborhoods. Segregation measures can be found on pages 70 and 71.

Detroit is the 73rd most diverse region

4. Diversity Score in 2010: Largest 150 Metros Ranked

Vallejo-Fairfield, CA: #1 (1.45)



Source: U.S. Census Bureau.

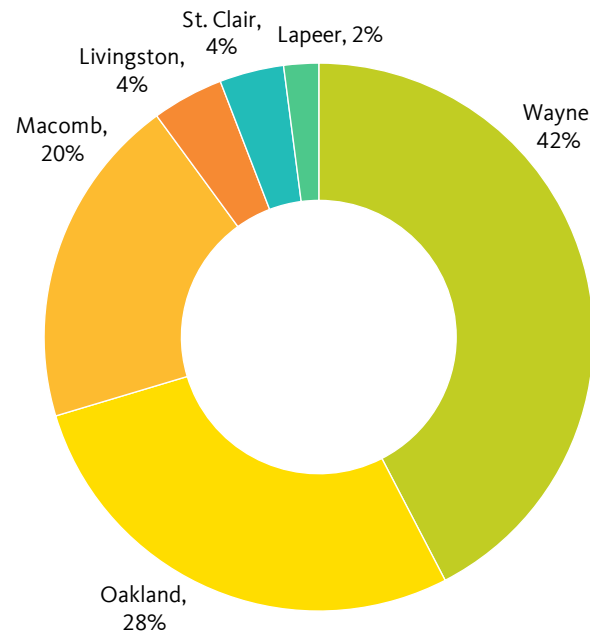
Demographics

Wayne County is experiencing the greatest population loss in the region

In 2010, Wayne County was home to 42 percent (1.8 million) of the region’s residents, down from 46 percent in 2000. While the region overall lost 156,000 residents between 2000 and 2010, almost all of the population loss occurred in Wayne County. St. Clair County also experienced a small net loss of 1,200 residents during this time period, while Macomb, Livingston, Oakland, and Lapeer Counties all experienced net population gains.

Two-fifths of the region’s population resides in Wayne County

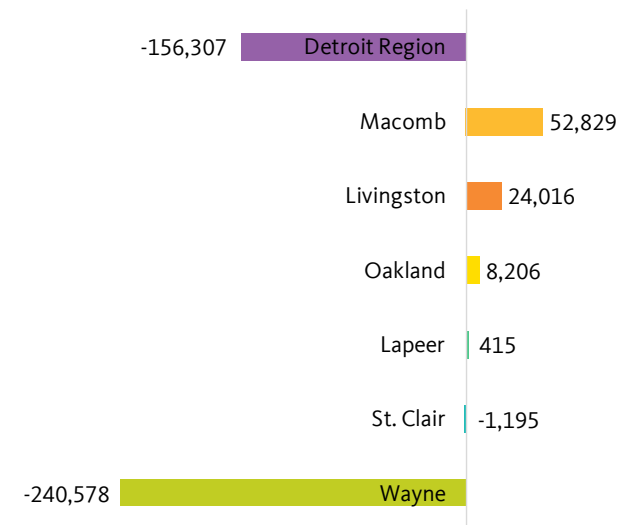
5. Population Distribution by County, 2010



Source: U.S. Census Bureau.

Population losses in St. Clair and Wayne Counties were offset by growth in the remaining four counties

6. Net Population Change by County, 2000 to 2010



Source: U.S. Census Bureau.

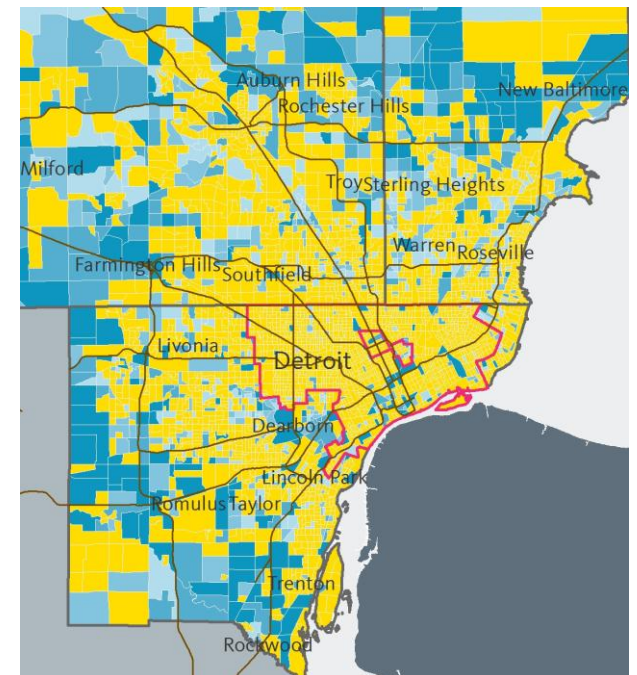
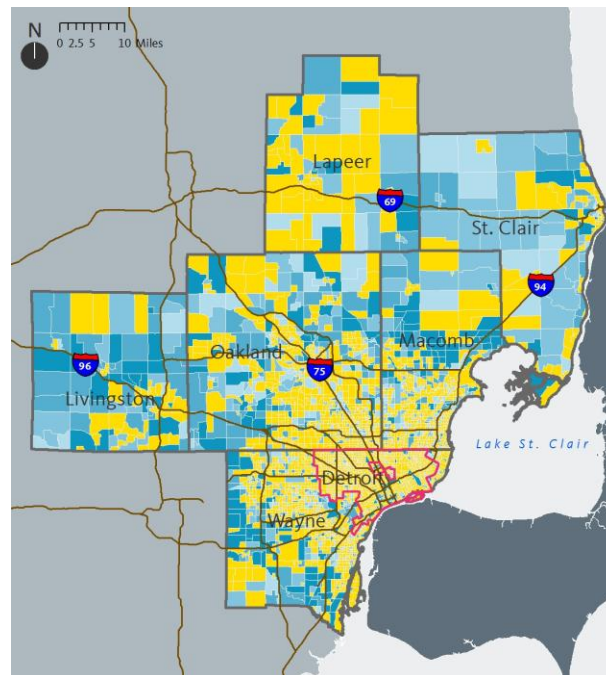
Demographics

Population decline throughout the region

Since 2000, the region’s overall population declined from 4.4 million to 4.3 million residents. While much of the population loss is spatially concentrated in and immediately around the City of Detroit, pockets of population loss can be found across all six counties.

There are pockets of population decline throughout the region

7. Percent Change in Total Population by Census Block Group, 2000 to 2010



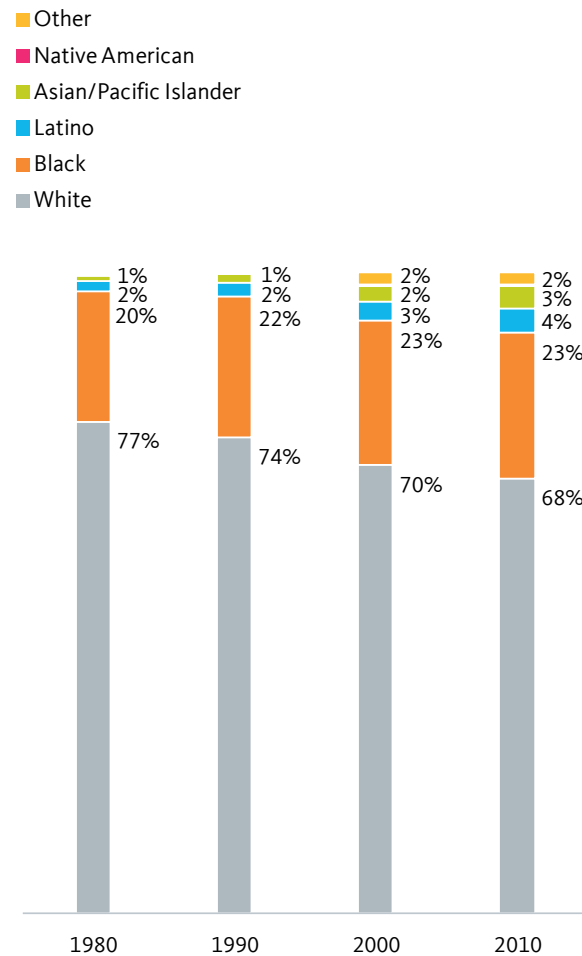
Sources: U.S. Census Bureau; Geolytics.

Demographics

Steady demographic change over the past several decades

Despite overall population decline and decline in the White population since 1980, the region's diverse communities of color have continued to grow at a steady pace. Over the last 30 years, the people-of-color population share increased from 23 percent to 32 percent. Growth of communities of color has played an important role in buffering overall population loss in the region.

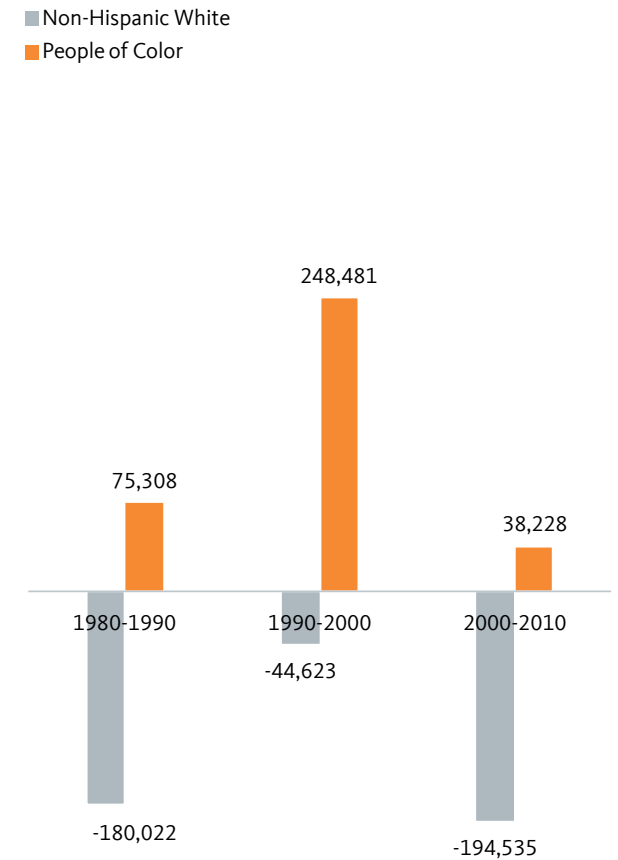
The population is steadily diversifying
8. Racial/Ethnic Composition, 1980 to 2010



Source: U.S. Census Bureau.

People-of-color population has grown since 1980, but the White population has significantly declined

9. Composition of Net Population Growth by Decade, 1980 to 2010



Source: U.S. Census Bureau.

Demographics

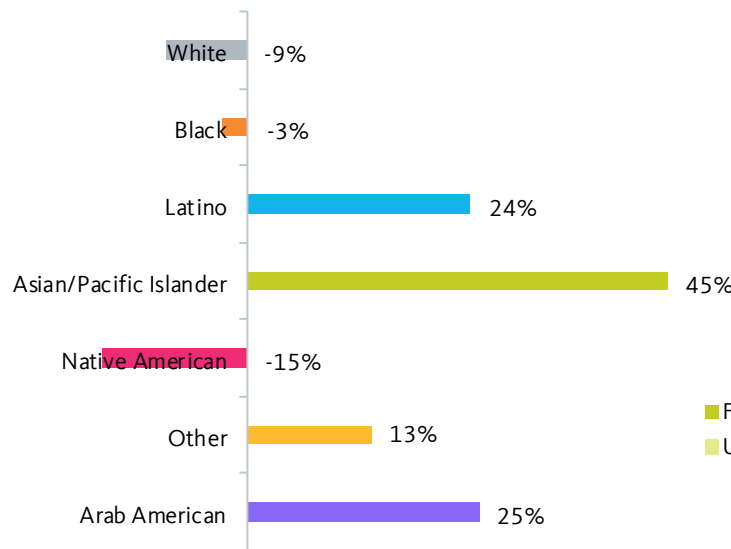
Latinos, Asians, and Arab Americans are driving demographic change in the region

Asians, Latinos, and Arab Americans were the only groups whose population grew in the past decade. Asians were the fastest growing group adding 38,000 residents, but Latinos had the largest increase of 41,000. The Arab American population grew by 28,000. The White population saw the largest decline, losing 194,000 residents. And although Detroit has historically been a destination for African American migration, the region lost 38,000 Black residents in the last decade.

Growth in the metro's Latino population is driven by increases in the U.S.-born population. Most of the growth in the Asian population (67 percent) came from immigration.

Asians, Latinos, and Arab Americans grew the most in the 2000s

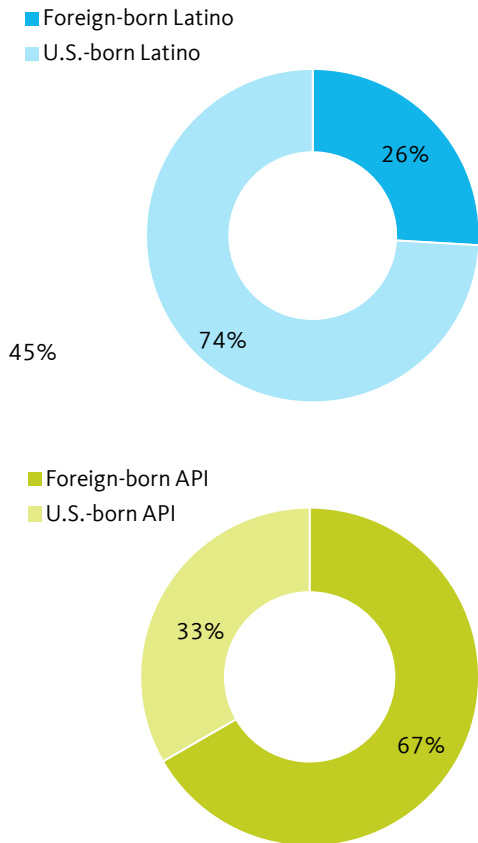
10. Growth Rates of Major Racial/Ethnic Groups, 2000 to 2008-2012



Source: IPUMS.

Latino population growth is driven by increases in U.S.-born Latinos, while Asian population growth was largely due to immigration

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



Source: IPUMS.

Demographics

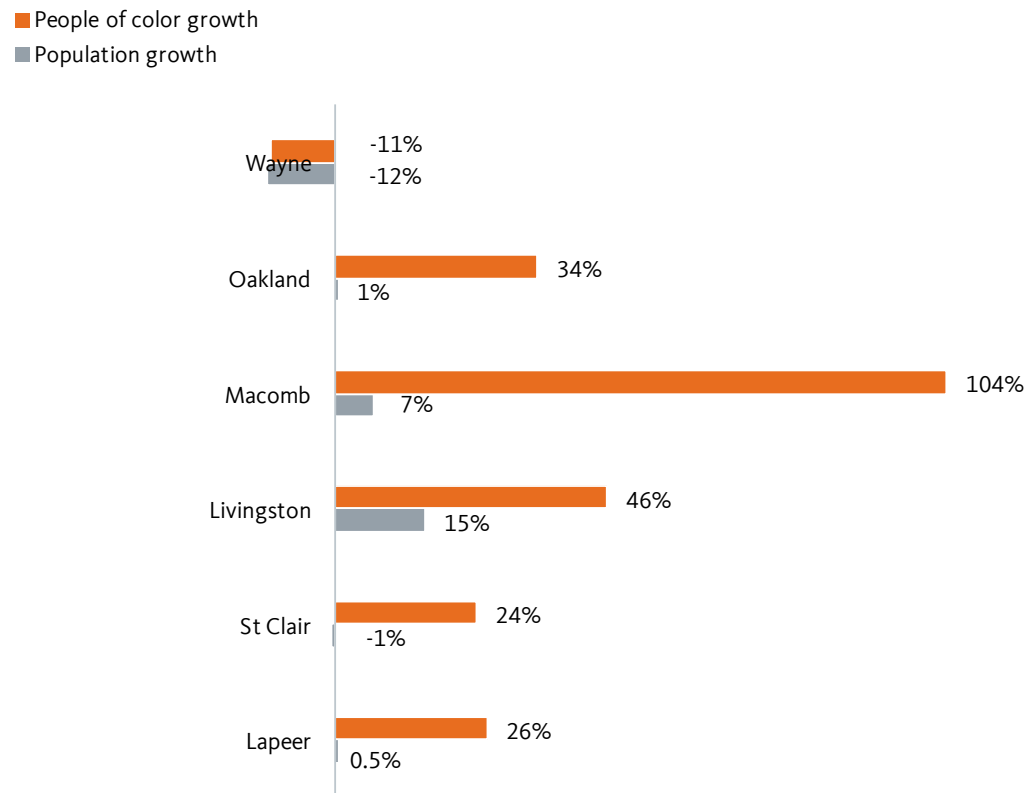
People of color are fueling population growth and stemming decline in suburban counties

In the last decade, Wayne County – home to over two-fifths of the region’s residents – was the only county with a decline in both its overall and people-of-color population. In all other counties, the people-of-color population grew quickly at rates between 24 percent and 104 percent.

Four of the metro’s counties (Livingston, Macomb, Oakland, and Lapeer) experienced some population growth. Macomb and Oakland counties would have also experienced population losses were it not for growing communities of color.

The people-of-color population is growing in almost every county

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



Source: U.S. Census Bureau.

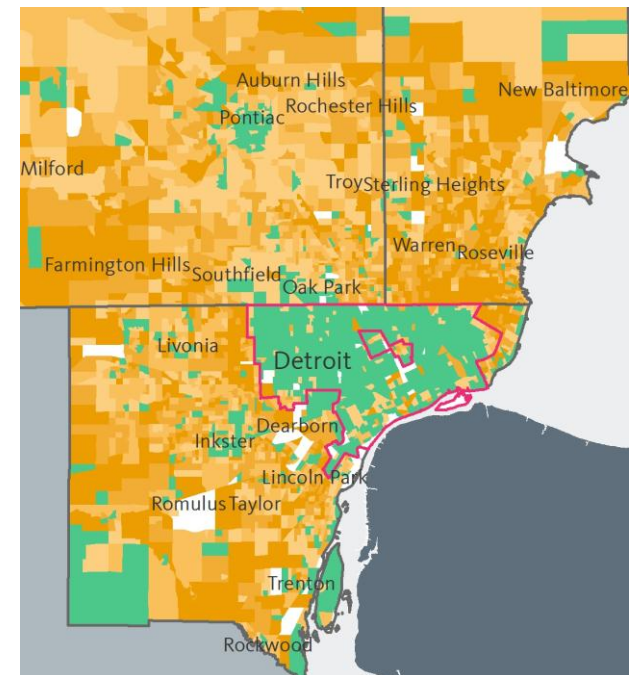
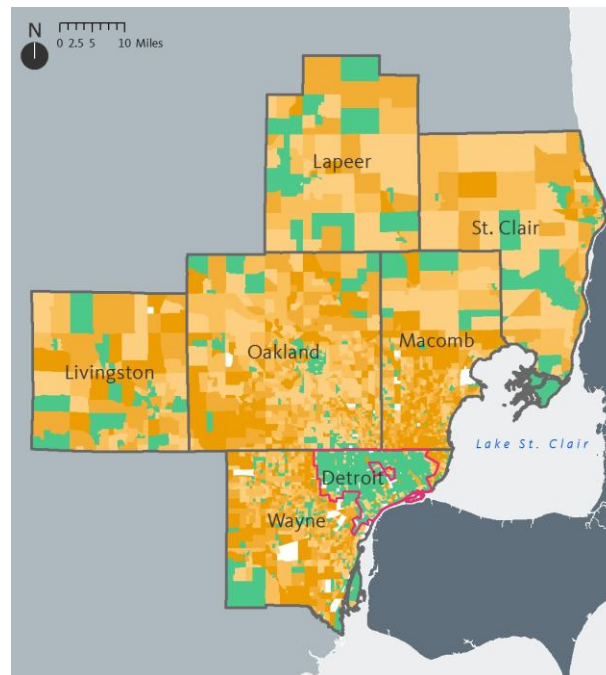
Demographics

Communities of color are growing throughout the region

Even with pockets of population decline throughout the metro, rapidly growing communities of color can be found in all six counties. Macomb County's people-of-color population grew the fastest in the 2000s, but most of that growth was concentrated in the lower half of the county.

Wayne County's population declined by 11 percent in the last decade, but as the map illustrates, the loss of residents was heavily concentrated in the City of Detroit while communities of color continued to grow in the southwest region of the county.

Significant growth in communities of color throughout the region
13. Percent Change in People of Color by Census Block Group, 2000 to 2010



Sources: U.S. Census Bureau; Geolytics.

Note: To more accurately visualize change, block groups with a small populations (50 or fewer people in either 2000 or 2010) were excluded from the analysis. Excluded block groups are shaded in white.

Demographics

Diversity is increasing in the suburbs

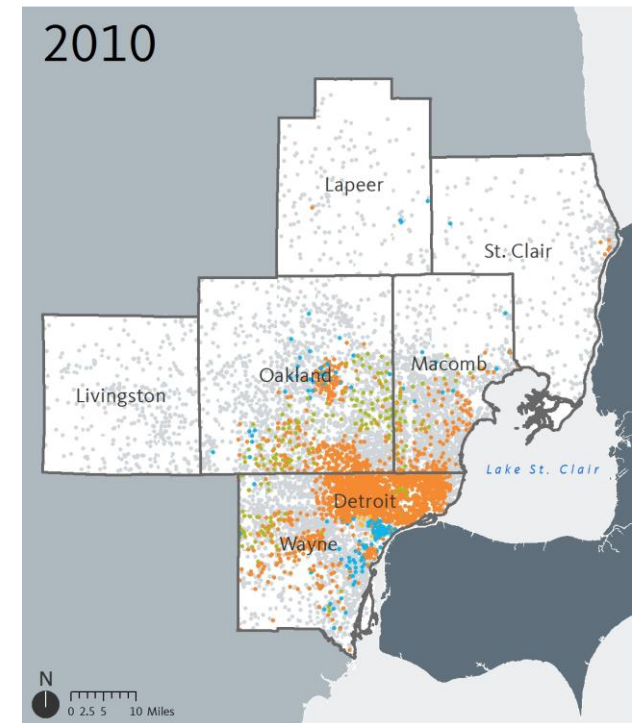
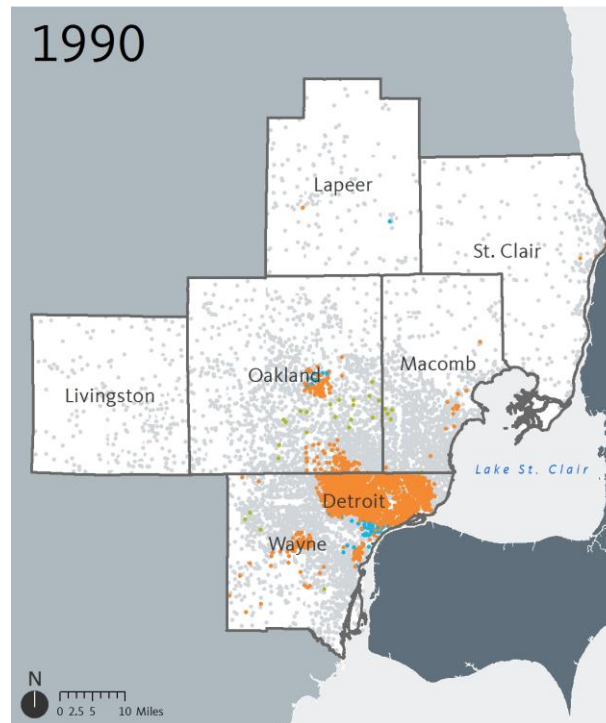
In 1990, people of color particularly African Americans – were heavily concentrated in Wayne County, particularly in the cities of Detroit and Inkster. Over the past three decades, diversity has increased throughout the City of Detroit and its surrounding suburbs.

The African American community continues to predominantly reside in the City of Detroit, but has also grown in southern Oakland County in and around the cities of Southfield and Oak Park. Latinos live throughout the region but are most densely concentrated in south Detroit. The region’s Asian population is more widely dispersed than its Latino population, with many Asians living throughout western Wayne County and in Macomb and Oakland counties.

Detroit’s suburbs are increasing in diversity

14. Racial and Ethnic Composition by Census Tracts, 1990 and 2010

- Race/Ethnicity
1 dot = 500
- Non-Hispanic White
 - Black
 - Latino
 - Asian/Pacific Islander
 - American Indian or Alaska Native
 - Other or Mixed Race



Sources: U.S. Census Bureau; Geolytics.

Demographics

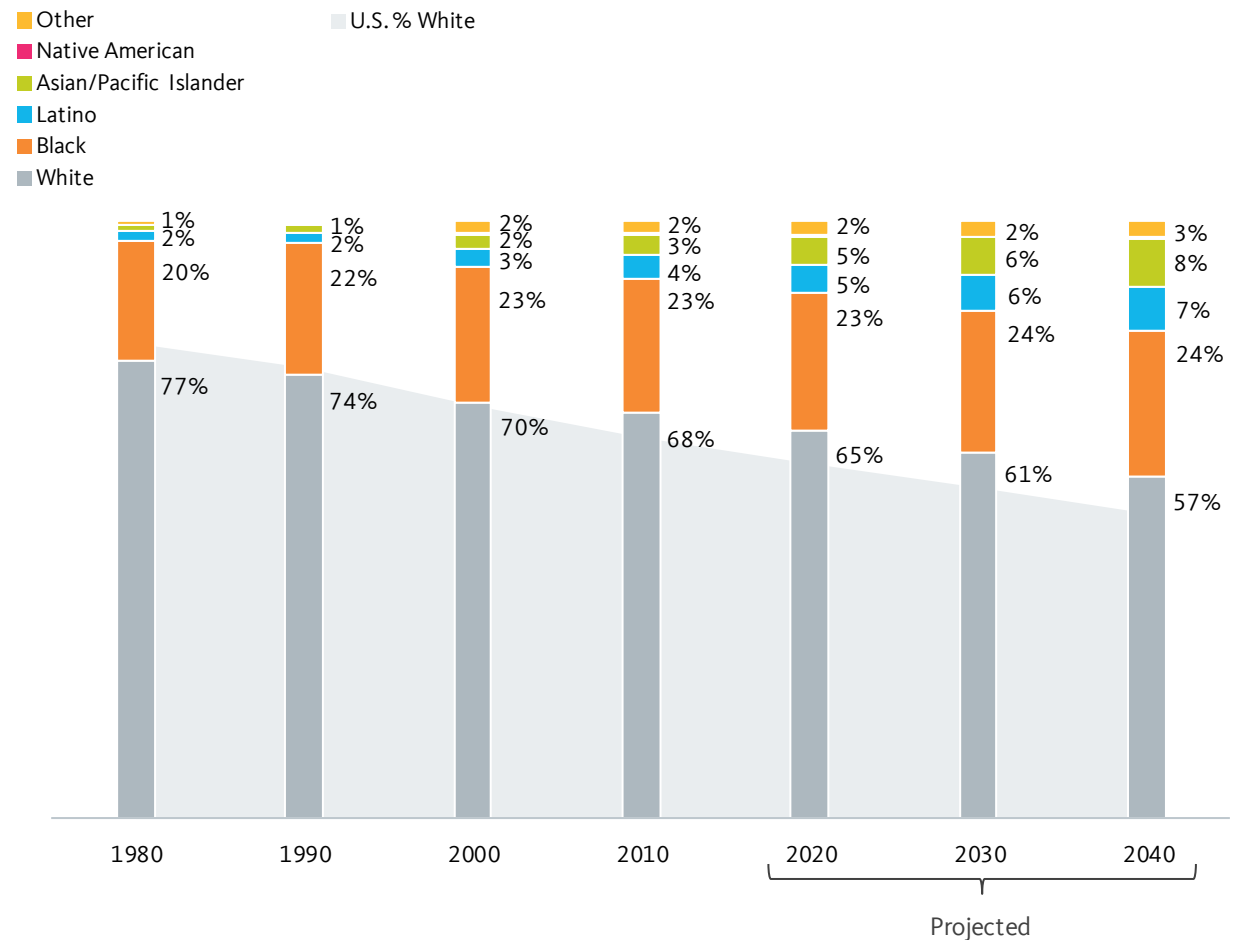
The region will continue to diversify

The Detroit region is projected to steadily diversify into the future. When the nation becomes majority people of color around the year 2044, about 43 percent of the Detroit region’s residents will be people of color. The region’s population growth is projected to be significantly slower than the U.S. overall. The region will only grow 5 percent over the next 30 years (adding 200,000 residents), while the U.S. population will increase by 31 percent.

Detroit’s demographic change will largely be driven by growth in the Asian and Latino populations, each of which will represent roughly equal shares of the region’s population in the years to come. The Black population will continue to comprise 24 percent of the total population.

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

15. Racial/Ethnic Composition, 1980 to 2040



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

Demographics

The region will continue to diversify

(continued)

In 1980, the Detroit region did not have a single county that was majority people of color. Now, Wayne County is majority people of color and by 2040, Oakland County will also be nearing that milestone.

Oakland County will be near majority people of color by 2040

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

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



Demographics

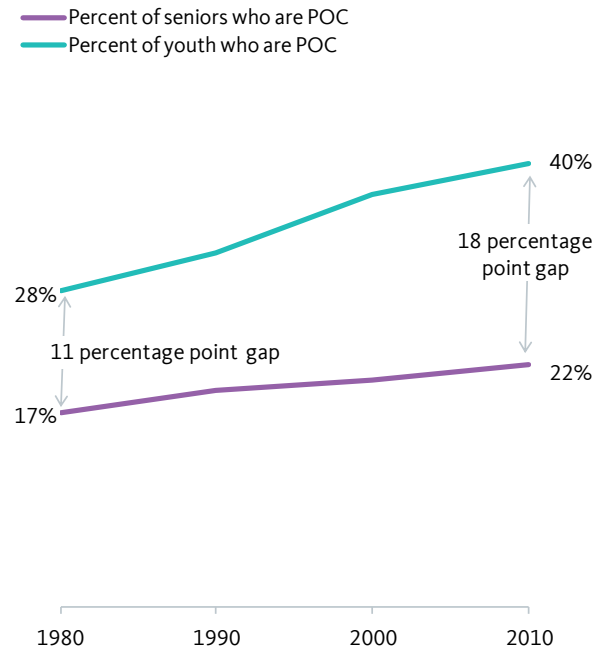
A growing racial generation gap

Youth are leading the demographic shift in the region. Today, 40 percent of Detroit's youth (under age 18) are people of color, compared to 22 percent of the region's seniors (over age 64) that are people of color. This 18 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 a youth population that is more racially diverse.

The region's communities of color are much more youthful than its White population. Latinos, for example, have a median age of 25, while the median age of Whites is 42, a 17-year difference.

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

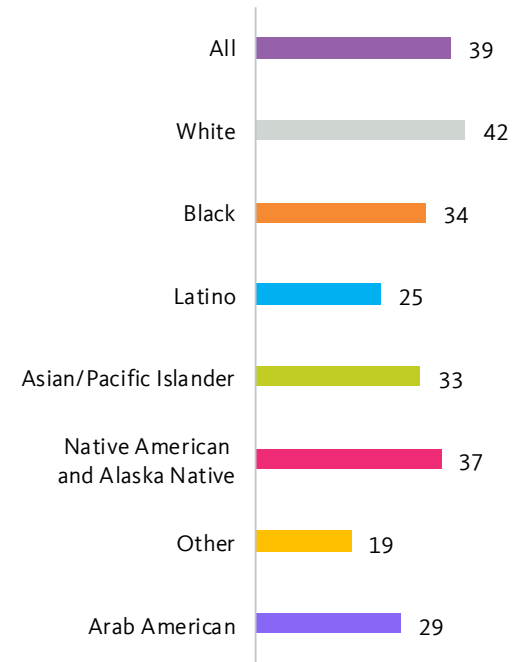
17. Percent People of Color (POC) by Age Group, 1980 to 2010



Source: U.S. Census Bureau.

The region's communities of color are more youthful than its White population

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



Source: IPUMS.

Demographics

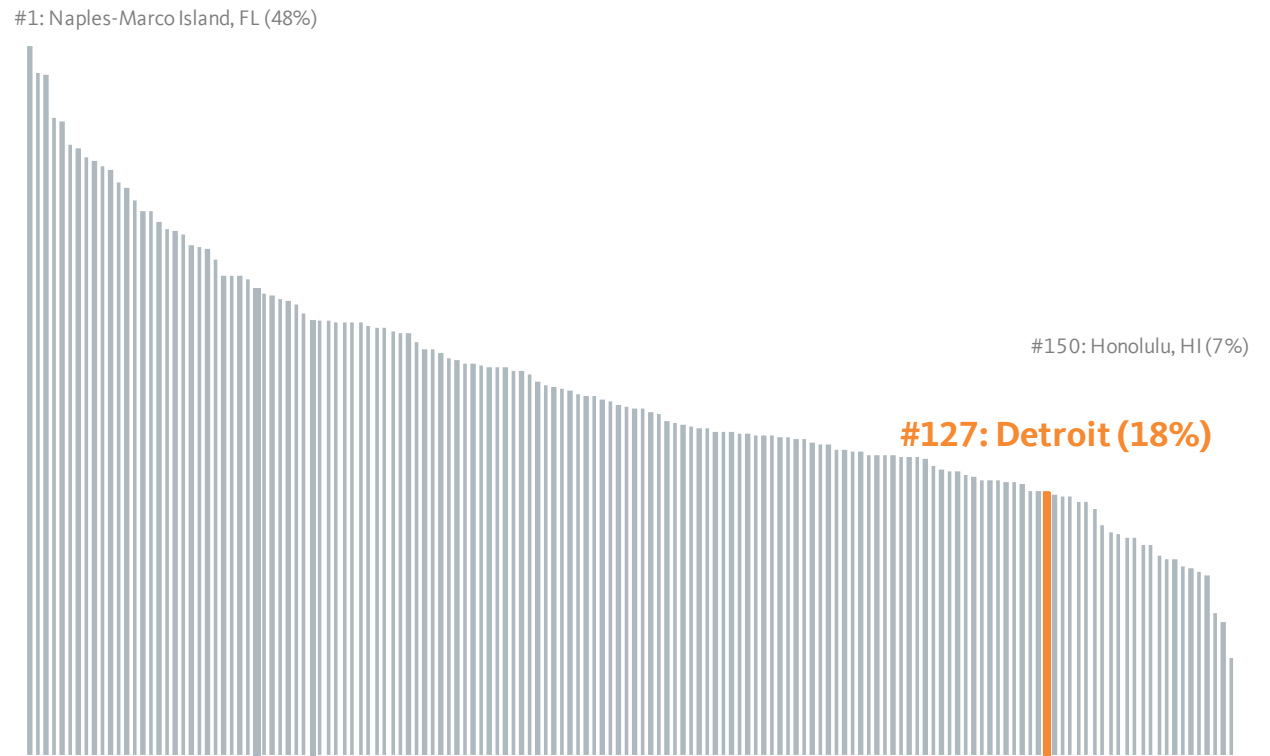
A growing racial generation gap

(continued)

Although Detroit's racial generation gap grew by seven percentage points over the last 30 years, it is much smaller than the national average of 26 percentage points. The region ranks 127th among the largest 150 regions on this measure.

Detroit's racial generation gap is relatively low compared to other regions

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



Source: U.S. Census Bureau.

Economic vitality



Economic vitality

Highlights

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

- The Detroit region's economy has lagged behind the nation since 1979 and continues to experience slow growth.
- Income inequality is increasing in the region, and nearly all workers have seen their wages fall or stagnate since 1979.
- The regional poverty rate surpassed national averages in the 2000s, and rates are highest for African Americans, Latinos, and Arab Americans.
- Although education is a leveler, racial and gender gaps persist in the labor market. People of color face higher rates of joblessness and lower wages at all education levels compared with Whites.
- Growth of middle-wage jobs over the last twenty years is a strength of the regional economy.

Wage growth for the bottom 10 percent of workers since 1979:

-28%

Share of African Americans living in poverty:

32%

Wage gap between college-educated Blacks and Whites:

\$6.77

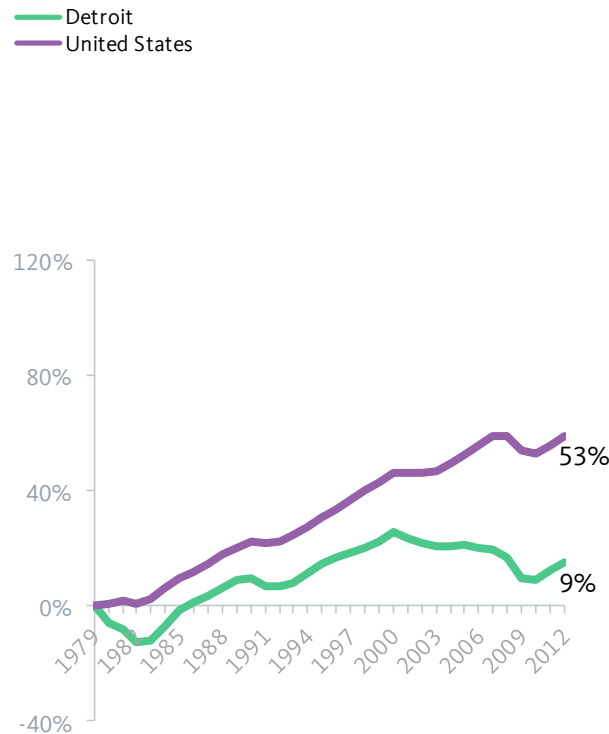
Economic vitality

Sluggish long-term economic growth

Economic growth, as measured by increases in jobs and gross regional product (GRP) – the value of all goods and services produced within the region – has been sluggish over the past several decades. Both GRP and job growth have lagged far behind the national average since 1979.

Job growth has lagged behind the national average since 1979

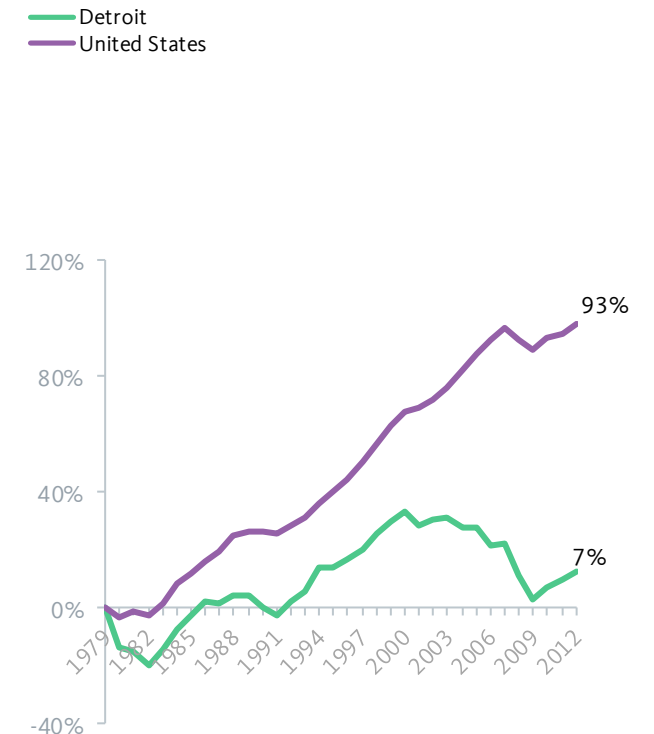
20. Cumulative Job Growth, 1979 to 2012



Source: U.S. Bureau of Economic Analysis.

Gross Regional Product (GRP) growth was seven times below the national average in 2010

21. Cumulative Growth in Real GRP, 1979 to 2012



Source: U.S. Bureau of Economic Analysis.

Economic vitality

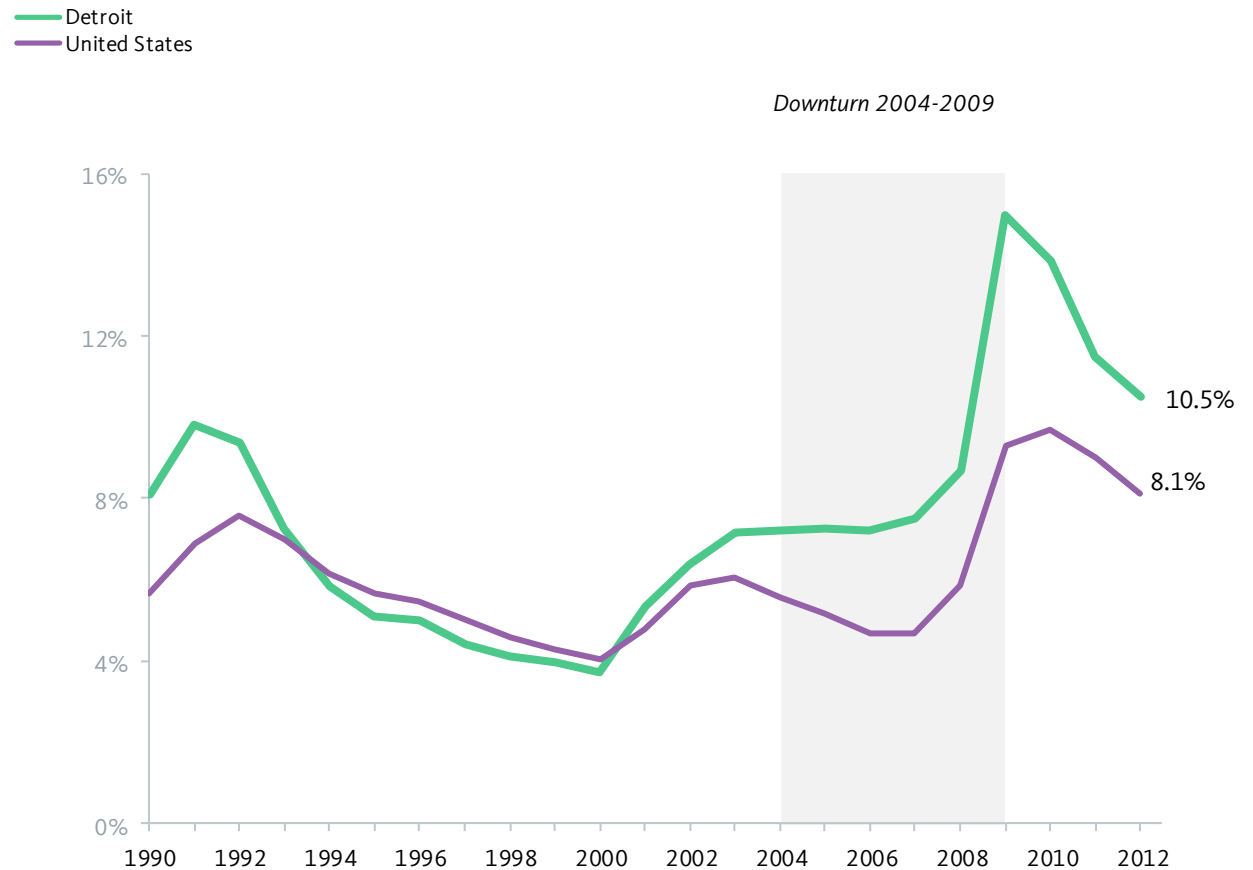
Economic resilience after the downturn

The regional economy struggled during the economic downturn. Unemployment spiked between 2004 and 2009, rising well above the national average. In 2012, the unemployment rate was 10.5 percent, ranking 12th highest among the largest 150 regions.

However, according to recent data from the Brookings Metro Monitor, the region has rebounded relatively well since the economic downturn. As of March 2015, the Detroit metro ranked eighth among the 100 largest regions in its economic recovery, based on measures of employment, unemployment, GRP, and housing prices.

Unemployment has dropped quickly since 2009, but remains above the national average

22. Unemployment Rate, 1990 to 2012



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

Economic vitality

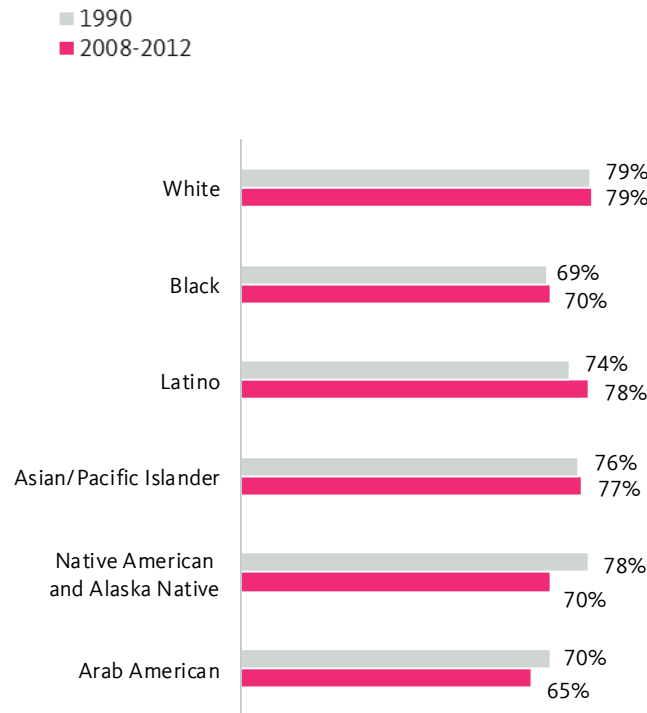
Unemployment higher for people of color

Despite progress over the past two decades, racial employment gaps persist. African American workers face the most challenging employment situation, with consistently lower rates of labor force participation (defined as either working or actively seeking employment) and the highest unemployment rates compared with other groups.

Latinos also face much higher levels of unemployment, and Arab Americans have the lowest rates of labor force participation.

Arab Americans have the lowest rates of labor market participation

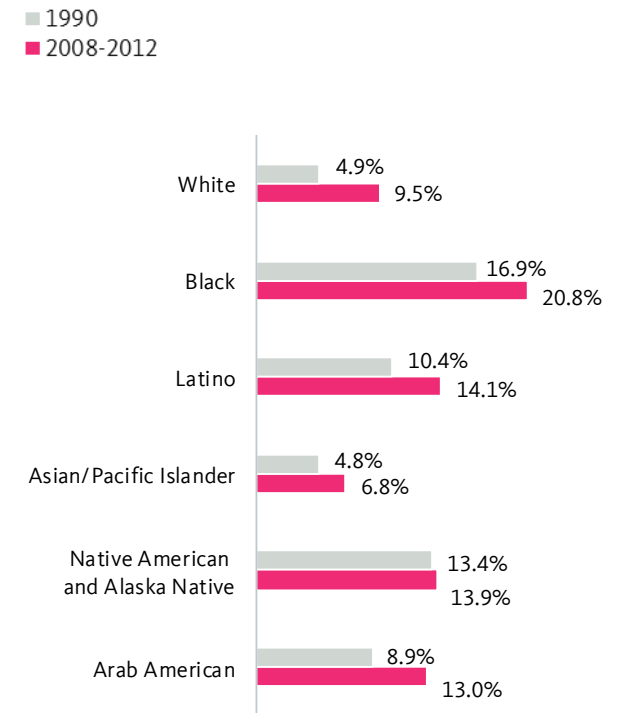
23. Labor Force Participation Rate by Race/Ethnicity, 1990 and 2008-2012



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

African Americans and Latinos have much higher unemployment rates than Whites

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



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

Economic vitality

High unemployment in communities of color

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

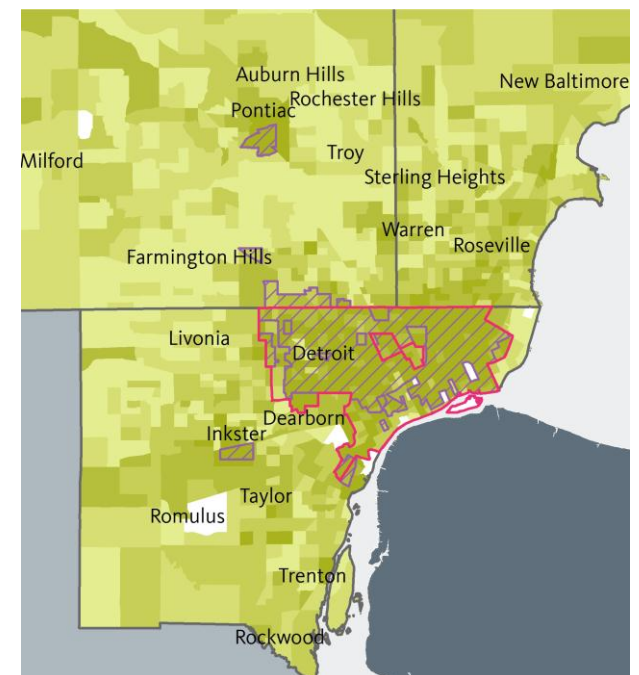
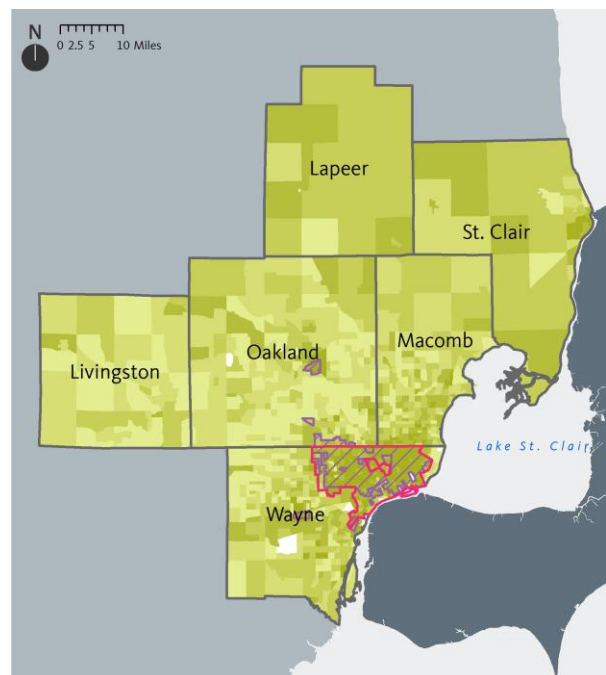
Unemployment tends to be concentrated in the region's communities of color. One in four of unemployed residents live in the 20 percent of neighborhoods where at least 86 percent of residents are people of color.

These communities of color are mainly in Wayne County, but Oakland County, Pontiac and Rochester Hills also have pockets of high-unemployment communities of color. Clusters of higher unemployment are also found in the outer edges of the region in St. Clair, Lapeer, and Macomb counties.

Clusters of high unemployment are mostly in Wayne County in large communities of color

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

- Less than 8%
- 8% to 11%
- 12% to 15%
- 16% to 23%
- 24% or more
- 86% or more people of color
- Detroit city boundaries



Source: U.S. Census Bureau. Areas in white are missing data.

Note: While the size (land area) of the census tracts in the region varies widely, each has a roughly similar number of people. A large tract on the region's periphery likely contains a similar number of people as a seemingly tiny tract in the urban core. Care should be taken not to pay an unwarranted amount of attention to large tracts just because they are large.

Economic vitality

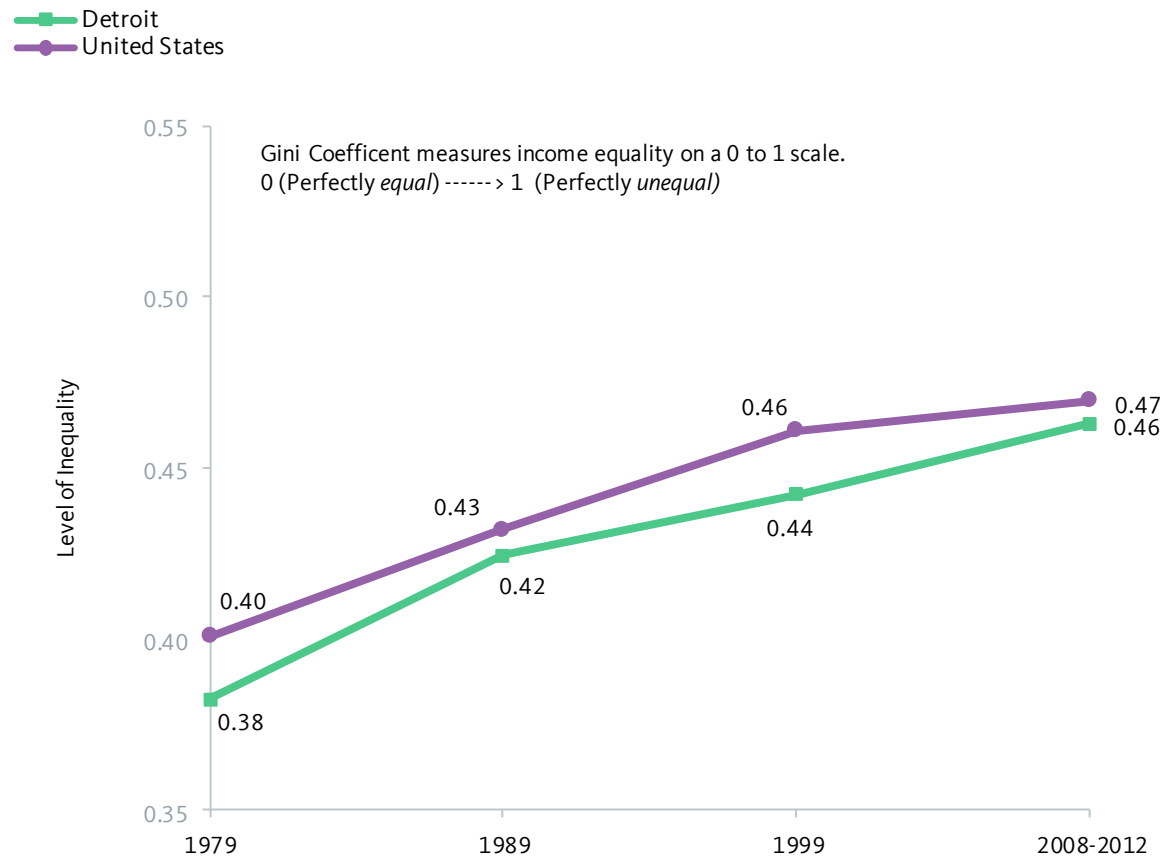
Increasing income inequality

Income inequality has steadily grown in the region over the past 30 years, and at a slightly faster rate than the nation as a whole.

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

Household income inequality has steadily increased since 1979

26. Gini Coefficient, 1979 to 2008-2012



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

Economic vitality

Increasing inequality

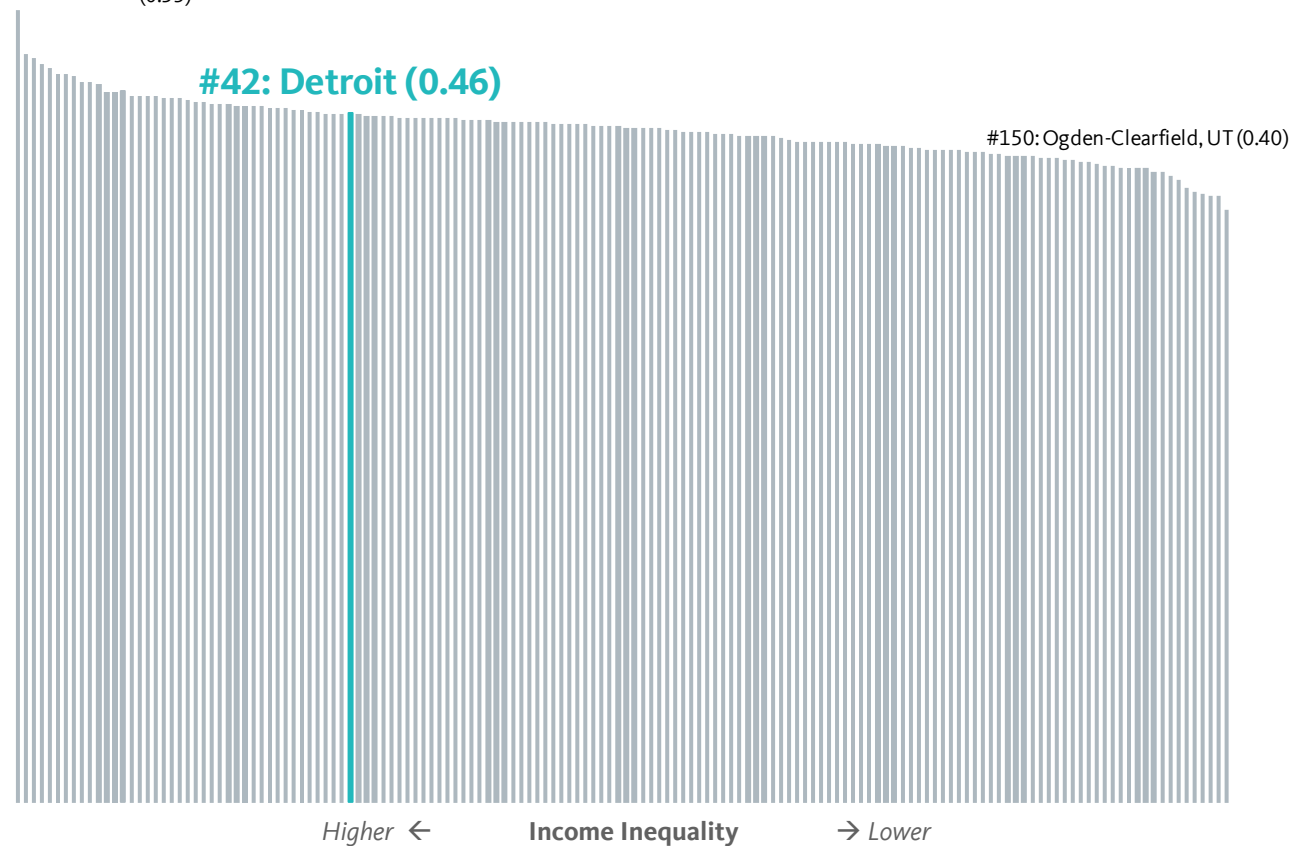
(continued)

In 1979, the Detroit region ranked 90th out of the largest 150 regions in terms of income inequality, with the first ranked region having the highest inequality. Today, it ranks 42nd, leaving it between Tucson, AZ (41st) and Kalamazoo, MI (43rd). This represents the 24th largest increase among the largest 150 metros. Compared to other similarly sized metros in the Midwest, Detroit's level of inequality is slightly lower than Cleveland's (33rd) but higher than Minneapolis' (120th).

Detroit ranks 42nd in income inequality

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

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



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

Economic vitality

Declining or stagnant wages for most workers

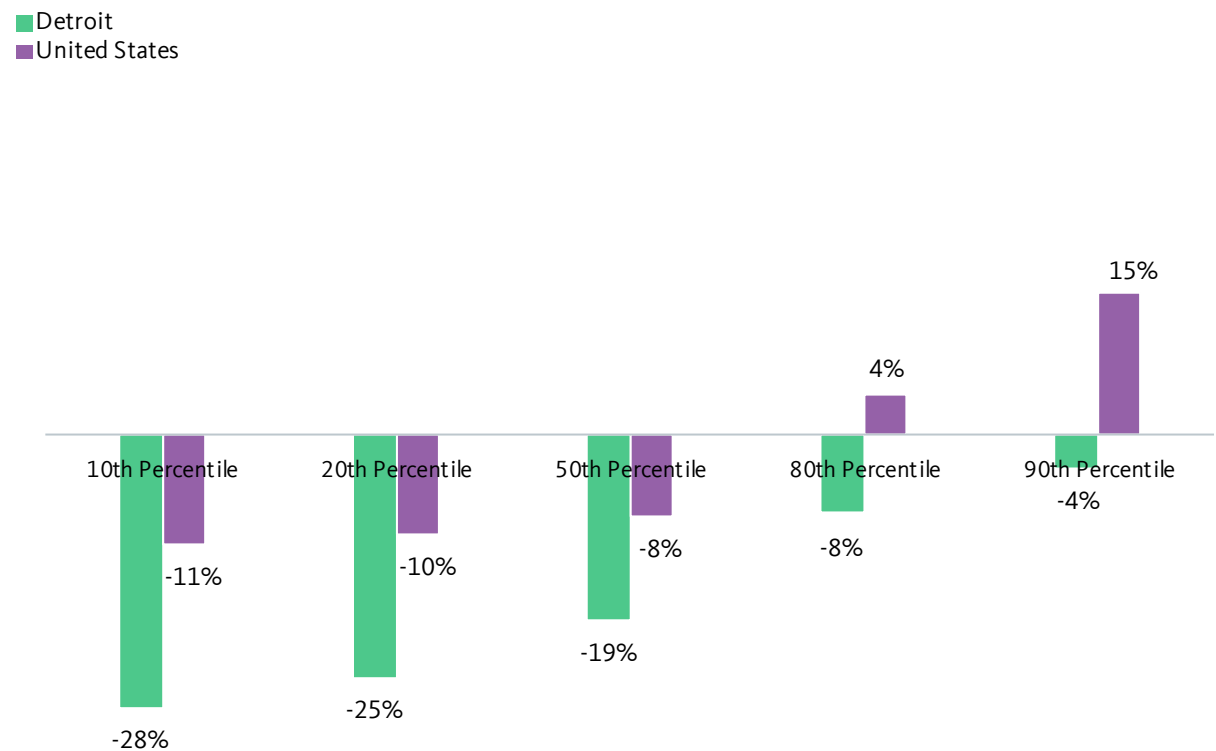
Declining wages play an important role in the region’s increasing inequality. After adjusting for inflation, wages have declined or stagnated for nearly all of the region’s workers over the past three decades.

Wage decline has been much more severe in the region than it has been nationwide, and it has been steepest for the lowest-paid workers. One way to see this is to look at changes in wages at various percentiles of the wage distribution. Put simply, a worker at the 20th percentile, for example, earns more than about 20 percent of all workers and less than 80 percent of all workers.

In the Detroit region, wages fell by at least 25 percent for workers at the 10th and 20th percentiles, and by 19 percent for the median worker (at the 50th percentile). Only workers near the top experienced any wage growth, with wages increasing by 15 percent for workers at the 90th percentile.

Wages have dropped or stagnated for nearly all full-time workers

28. Real Earned Income Growth for Full-Time Wage and Salary Workers Ages 25-64, 1979 to 2008-2012



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

Economic vitality

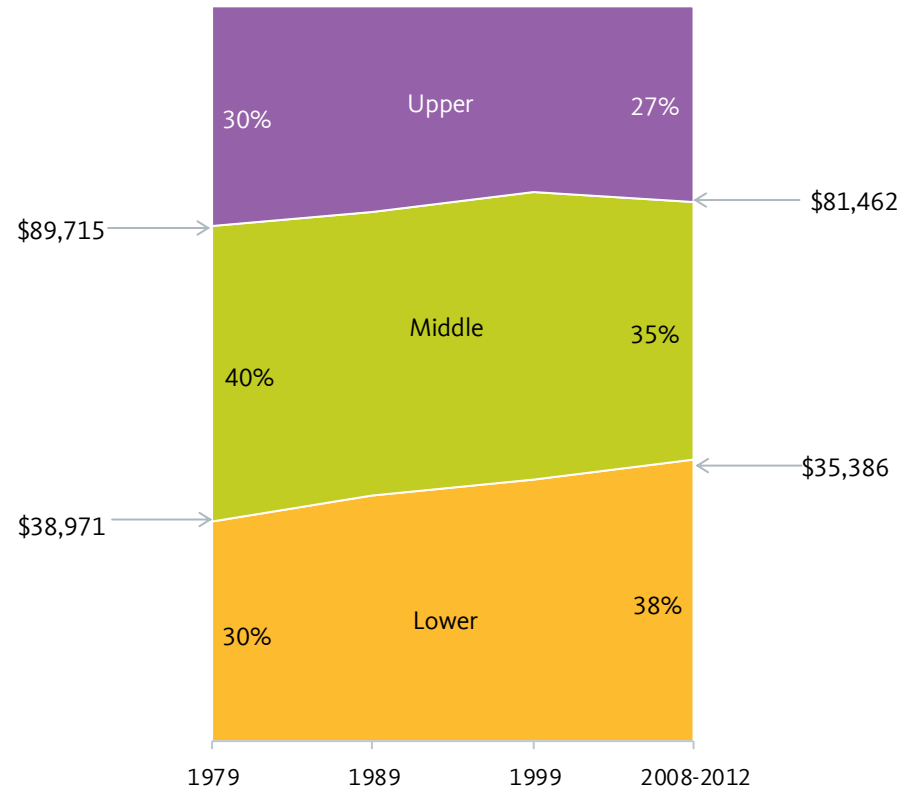
A shrinking middle class

The region's middle class is shrinking: 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 27 percent, while the share of lower-income households grew from 30 to 38 percent.

In this analysis, middle-income households are defined as having incomes in the middle 40 percent of household income distribution. In 1979, those household incomes ranged from \$38,971 to \$89,715. 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 actually declined over the last three decades, ranging from \$35,386 to \$81,462. Thirty-five percent of households fall in that income range.

The share of middle-class households declined since 1979

29. Household by Income Level, 1979 and 2008-2012 (all figures in 2010 dollars)



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

Economic vitality

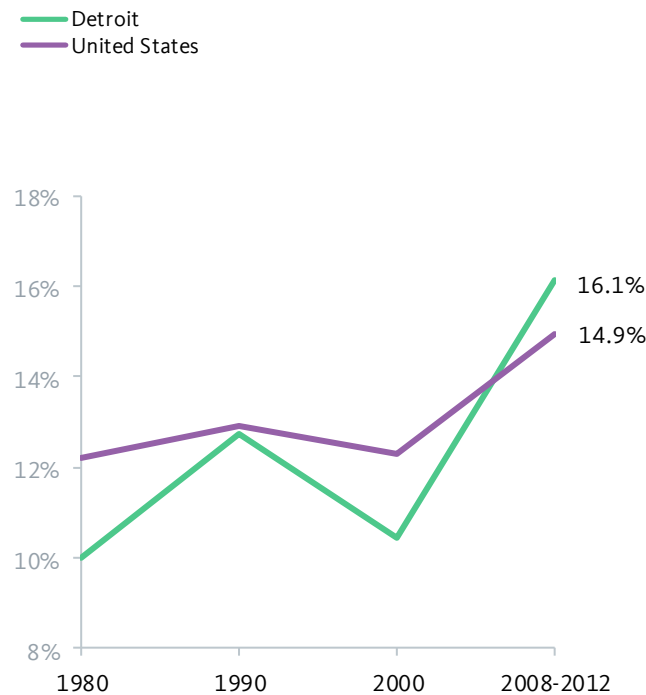
Growing poverty and working poverty

While the poverty and working poverty rates have generally stayed below national averages, both have been increasing since the 1980s and the region's poverty rate surpassed the national average in the 2000s.

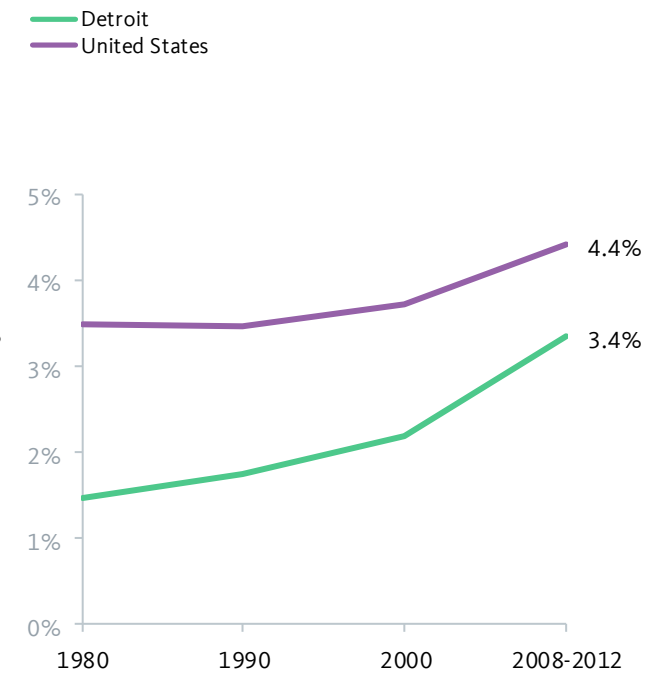
Today, about one in six residents in the Detroit region (16.1 percent) live below the poverty line, which is about \$22,000 a year for a family of four.

Working poverty, defined as working fulltime with an income below 150 percent of the poverty level, has also risen. One in 30 (3.4 percent) of the region's 25 to 64-year-olds 64 year olds are working poor.

Poverty is on the rise
30. Poverty Rate, 1980 to 2008-2012



Working poverty is also increasing
31. Working Poverty Rate, 1980 to 2008-2012



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

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

Economic vitality

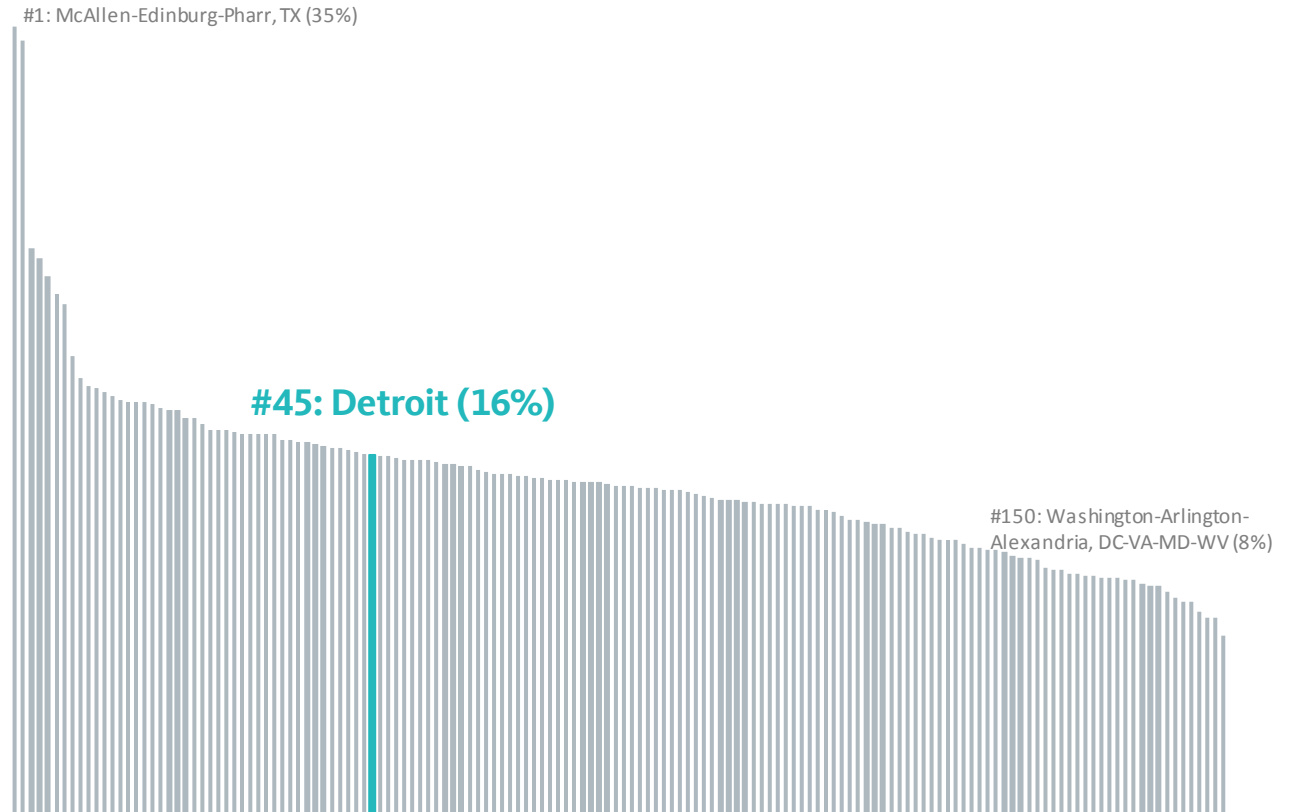
Growing poverty and working poverty

(continued)

Detroit’s regional poverty rate of 16 percent is the 45th highest among the largest 150 metro regions. Compared with other similarly sized metros in the Midwest, Detroit’s rate of poverty is 3 percentage points higher than St. Louis (13 percent), and 6 percentage points higher than in Minneapolis (10 percent).

Detroit has a relatively high poverty rate

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



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

Economic vitality

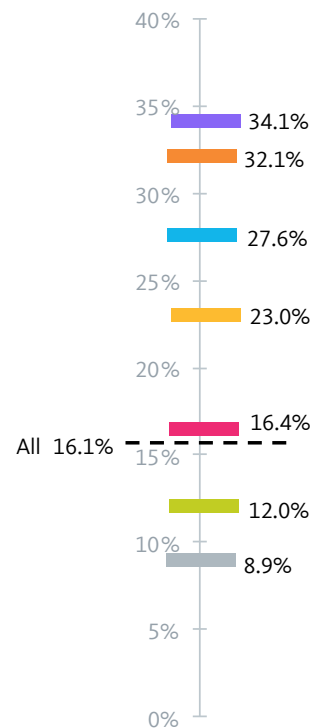
Higher poverty and working poverty for people of color

People of color have higher poverty and working poverty rates than Whites in the region. Approximately three in every 10 African and Arab Americans, and one in every four Latinos, live below the poverty level – compared to about one in 12 Whites.

Latinos have the highest rate of working poverty, at 9.9 percent, and Arab Americans and Blacks also have working poverty rates that are well above average (8.6 percent and 6.4 percent, respectively). Whites have the lowest rate of working poverty at about 2 percent.

Poverty is highest for African and Arab Americans

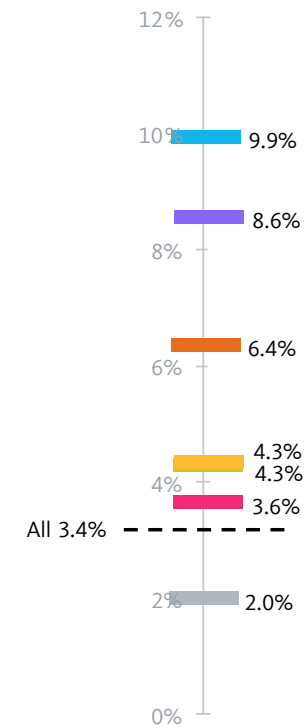
33. Poverty Rate by Race/Ethnicity, 2008-2012



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

Working poverty is highest for Latinos

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



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

Economic vitality

Racial economic gaps persist at every educational level

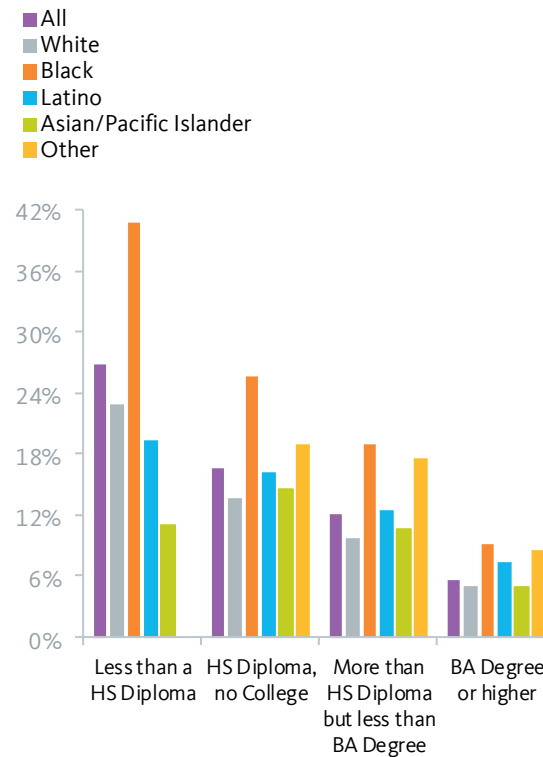
In general, unemployment decreases and wages increase with higher educational attainment. Most people of color face higher rates of joblessness and have lower wages at all education levels.

In particular, African Americans consistently have higher unemployment and lower wages compared with their White counterparts. For African Americans without a high school diploma, their unemployment rate is 41 percent compared to 23 percent for Whites. Even for those with a college degree, there is still a 4 percentage point employment gap between African Americans and Whites.

Blacks and Latinos have the lowest median hourly wage at every educational level, maintaining about a \$4 gap with Whites before a post-secondary degree and then a \$7 gap after.

African Americans have higher unemployment and lower wages than Whites at every education level

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



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

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



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

Economic vitality

There is also a gender gap in work and pay

At every level of education, men and women of color have higher unemployment rates than Whites. Women of color consistently earn the lowest wages and face higher unemployment rates than both White men and women.

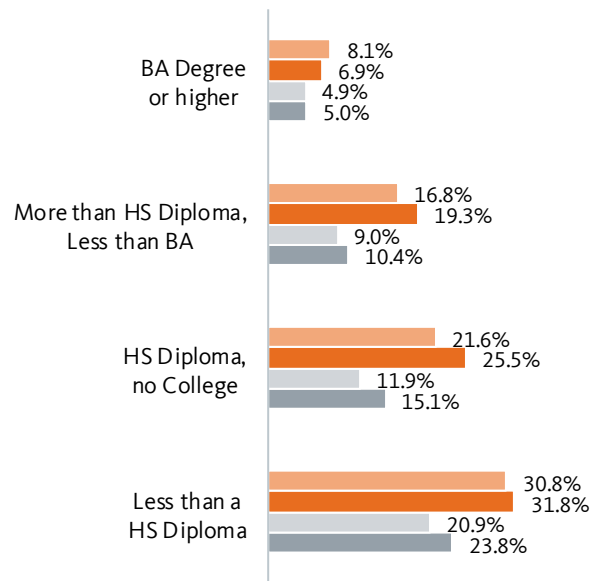
Women and men of color have similarly high rates of unemployment; however, men of color consistently earn more than women of color at all educational levels. At the college-educated level, men earn substantially higher wages than their female counterparts.

For those with only high school diplomas or less, unemployment rates tend to be higher for men and women of color. Almost a third (32 percent) of men of color with less than a high school diploma are unemployed compared to about a quarter (24 percent) of White men.

Women of color at all education levels earn less than Whites and are more likely to be unemployed than Whites

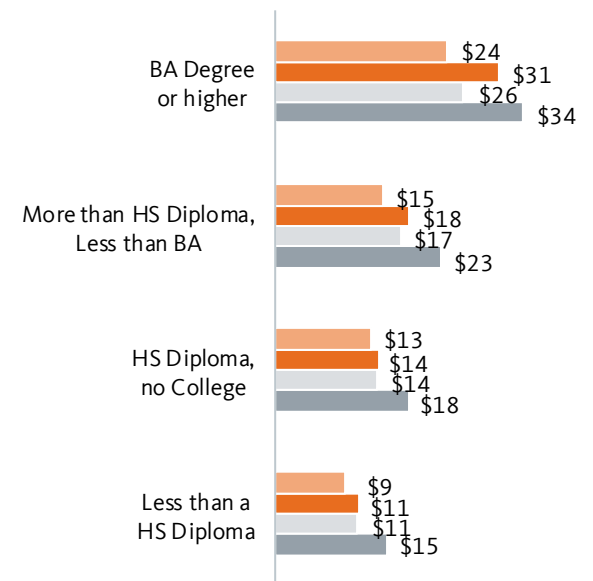
37. Unemployment Rate by Educational Attainment, Race/Ethnicity, and Gender, 2008-2012

- Women of color
- Men of color
- White women
- White men



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

- Women of color
- Men of color
- White women
- White men



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

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

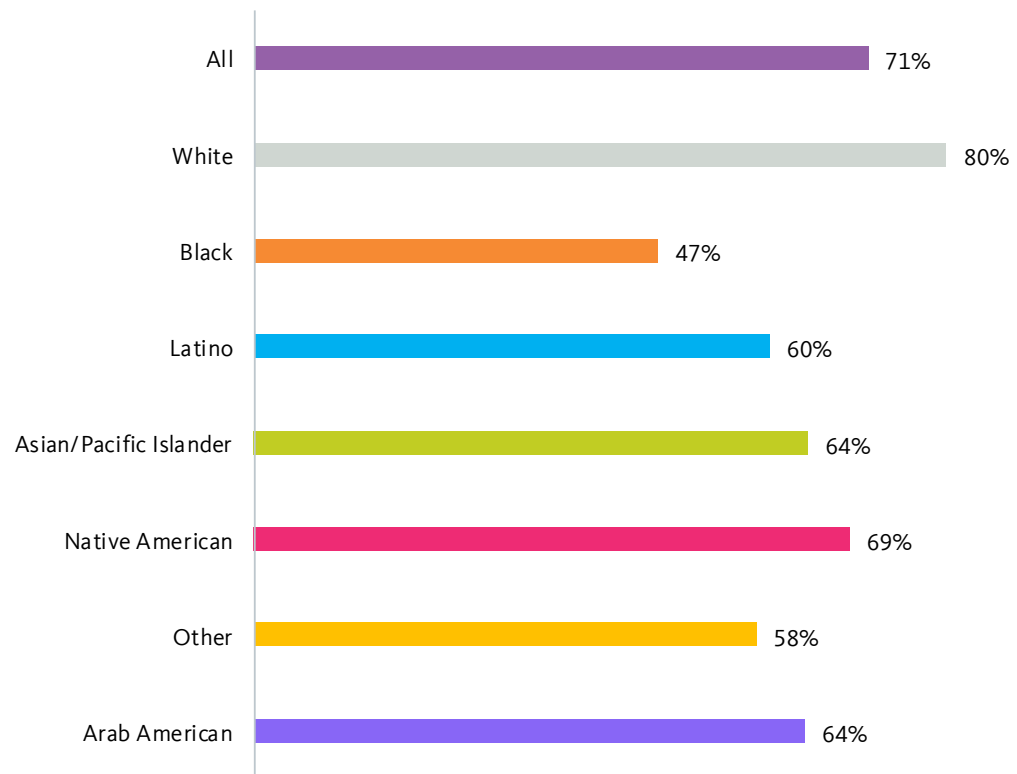
Economic vitality

Lower rates of homeownership for people of color

All households of color – especially African Americans – are far less likely to be homeowners than Whites in the region. Only 47 percent of Black households, 58 percent of Other/mixed race households, 60 percent of Latino households, and 64 percent of Asian households are owner-occupied compared to 80 percent of White households.

Less than half of Black households in the Detroit region are homeowners compared to four-fifths of Whites

39. Homeownership Rate by Race/Ethnicity of Householder, 2008-2012



Source: IPUMS. Universe includes all households (excludes group quarters).

Economic vitality

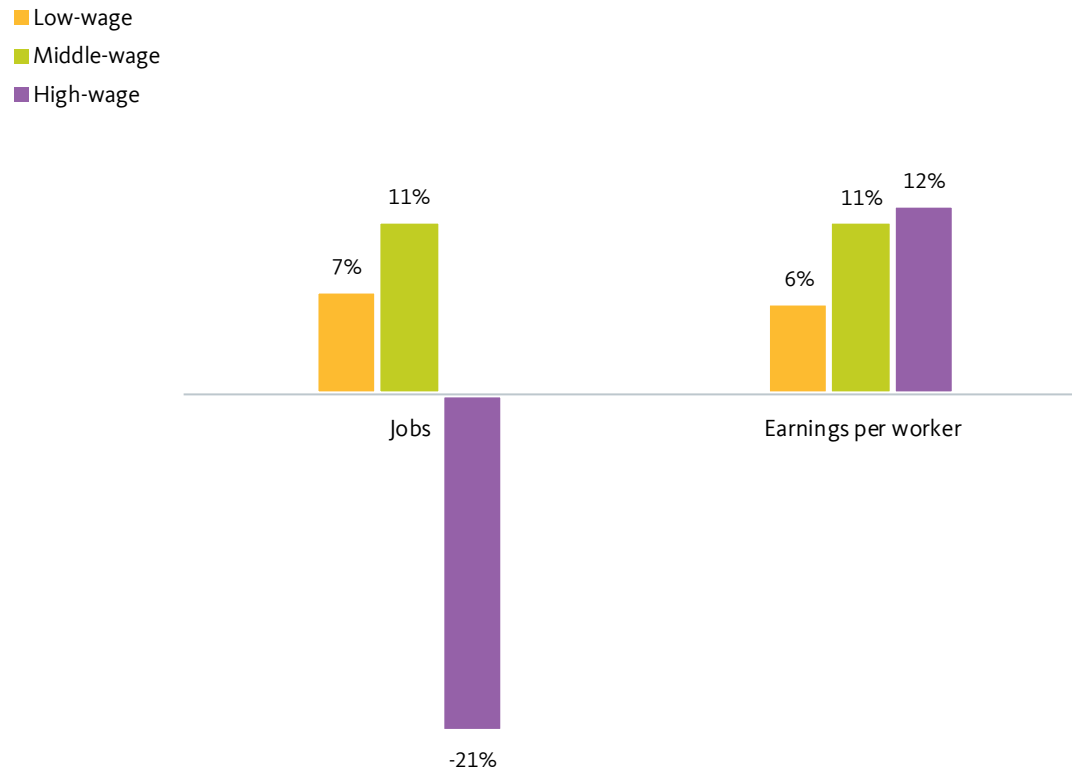
Growing middle-wage jobs

While the U.S. economy as a whole is mainly growing low- and high-wage jobs, the Detroit region has actually seen growth in middle-wage jobs. This growth is a strong point for the region because these jobs are often accessible to workers without four-year college degrees. However, on the negative side the region has also experienced a sharp loss in high-wage jobs – driven by declines in the manufacturing sector.

Wages have increased across the board for all workers, but low-wage workers had the smallest increase in earnings (6 percent).

Middle-wage jobs grew the most quickly and had the largest earnings growth

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



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

Economic vitality

Uneven wage growth across industry sectors

Wage growth in the region has been uneven across industry sectors. Middle and high-wage industries like management, wholesale trade, and finance and insurance had substantial increases in earnings. However, the largest of the high- and middle-wage industries (professional, scientific and technical services, manufacturing, health care) had only modest increases in their average annual earnings, from 3 to 7 percent.

Among the largest low-wage industries, only workers in administration saw decent wage growth. The salaries of the region’s 196,000 retail workers dropped from about \$30,000 to \$28,000 (a 5 percent decline). And the region’s 153,000 restaurant and food service workers are still paid less than \$17,000 per year – below poverty level for a family of three.

Slow to moderate wage growth for workers in many of the region’s largest industries

41. Industries by Wage Level Category in 1990

| Wage Category | Industry | Average Annual Earnings | Average Annual Earnings | Percent Change in Earnings | Number of Jobs |
|---------------|--|-------------------------|-------------------------|----------------------------|----------------|
| | | 1990 (\$2012) | 2012 (\$2012) | 1990-2012 | 2012 |
| High | Utilities | \$96,849 | \$106,041 | 9% | 6,018 |
| | Management of Companies and Enterprises | \$90,826 | \$123,676 | 36% | 37,892 |
| | Professional, Scientific, and Technical Services | \$77,570 | \$79,840 | 3% | 161,787 |
| | Manufacturing | \$67,366 | \$70,910 | 5% | 216,802 |
| | Wholesale Trade | \$65,219 | \$74,810 | 15% | 77,787 |
| | Mining | \$65,044 | \$43,268 | -33% | 1,234 |
| Middle | Information | \$59,678 | \$68,864 | 15% | 25,134 |
| | Transportation and Warehousing | \$55,368 | \$53,127 | -4% | 50,721 |
| | Finance and Insurance | \$54,466 | \$77,071 | 42% | 64,579 |
| | Construction | \$54,149 | \$59,194 | 9% | 53,749 |
| | Health Care and Social Assistance | \$44,022 | \$46,936 | 7% | 260,104 |
| | Real Estate and Rental and Leasing | \$37,022 | \$41,566 | 12% | 26,907 |
| | Arts, Entertainment, and Recreation | \$33,612 | \$43,690 | 30% | 21,669 |
| Low | Education Services | \$32,799 | \$36,716 | 12% | 25,615 |
| | Other Services (except Public Administration) | \$30,947 | \$29,851 | -4% | 55,553 |
| | Retail Trade | \$29,687 | \$28,196 | -5% | 196,197 |
| | Administrative and Support and Waste Management and Remediation Services | \$28,286 | \$35,728 | 26% | 130,164 |
| | Agriculture, Forestry, Fishing and Hunting | \$28,170 | \$45,478 | 61% | 2,200 |
| | Accommodation and Food Services | \$15,012 | \$16,418 | 9% | 153,018 |

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

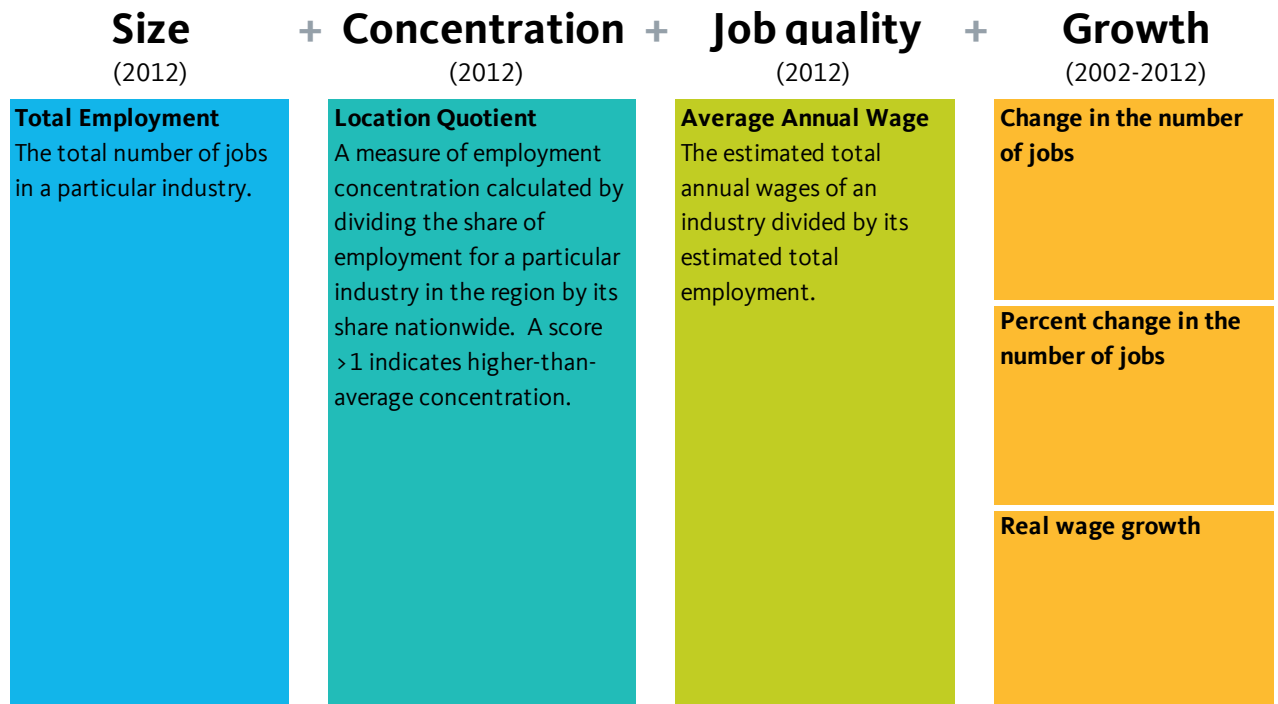
Economic vitality

Identifying the region’s strong industries

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

Professional services, health care, and management dominate

According to the industry strength index, the region’s strongest industries are **professional services, health care, and management**. Professional services ranks first due to its relatively large employment base and strong concentration of jobs in the region. Health care has a strong Industry Strength Index because of its sizeable employment

base and strong regional concentration and employment growth. Management ranks third because of its high wages and concentration.

Health care is strong and expanding in the region

42. Industry Strength Index

| Industry | Size | Concentration | Job Quality | Growth | | | Industry Strength Index |
|--|----------------------------|-----------------------------|-------------------------------|-----------------------------------|-------------------------------------|-------------------------------|-------------------------|
| | Total employment (2012) | Location quotient (2012) | Average annual wage (2012) | Change in employment (2002-12) | % Change in employment (2002-12) | Real wage growth (2002-12) | |
| Professional, Scientific, and Technical Services | 161,787 | 1.5 | \$79,840 | -3,089 | -2% | -5% | 94.5 |
| Health Care and Social Assistance | 260,104 | 1.2 | \$46,936 | 38,483 | 17% | -1% | 91.8 |
| Management of Companies and Enterprises | 37,892 | 1.4 | \$123,676 | -5,626 | -13% | 11% | 90.1 |
| Manufacturing | 216,802 | 1.4 | \$70,910 | -114,393 | -35% | -4% | 44.0 |
| Utilities | 6,018 | 0.8 | \$106,041 | -707 | -11% | 10% | 23.1 |
| Wholesale Trade | 77,787 | 1.0 | \$74,810 | -11,497 | -13% | 2% | 22.9 |
| Administrative and Support and Waste Management and Remediation Services | 130,164 | 1.2 | \$35,728 | -11,965 | -8% | -7% | 13.6 |
| Finance and Insurance | 64,579 | 0.9 | \$77,071 | -16,186 | -20% | 11% | 8.9 |
| Retail Trade | 196,197 | 1.0 | \$28,196 | -24,310 | -11% | -9% | 5.1 |
| Accommodation and Food Services | 153,018 | 1.0 | \$16,418 | 10,987 | 8% | 0% | 2.8 |
| Transportation and Warehousing | 50,721 | 0.9 | \$53,127 | -7,208 | -12% | -10% | -19.0 |
| Real Estate and Rental and Leasing | 26,907 | 1.0 | \$41,566 | -3,193 | -11% | -3% | -23.4 |
| Education Services | 25,615 | 0.7 | \$36,716 | 5,679 | 28% | -5% | -29.8 |
| Information | 25,134 | 0.7 | \$68,864 | -11,802 | -32% | -1% | -33.4 |
| Other Services (except Public Administration) | 55,553 | 0.9 | \$29,851 | -6,134 | -10% | -13% | -39.7 |
| Construction | 53,749 | 0.7 | \$59,194 | -32,398 | -38% | -6% | -43.2 |
| Arts, Entertainment, and Recreation | 21,669 | 0.8 | \$43,690 | -12,320 | -36% | 10% | -46.9 |
| Agriculture, Forestry, Fishing and Hunting | 2,200 | 0.1 | \$45,478 | 193 | 10% | 64% | -48.0 |
| Mining | 1,234 | 0.1 | \$43,268 | 104 | 9% | -25% | -95.7 |

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

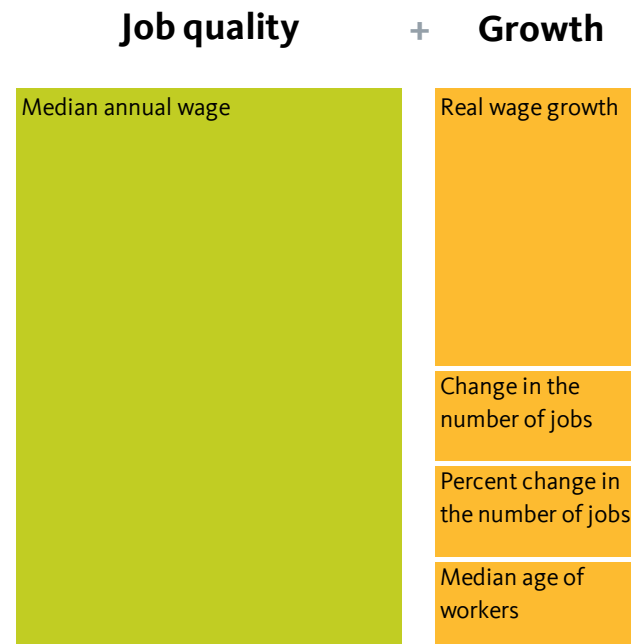
Economic vitality

Identifying high-opportunity occupations

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

Job quality, measured by the median annual wage, accounted for two-thirds of the occupation opportunity index, and growth accounted for the other one third. Within the growth category, half was determined by wage growth and the other half was divided equally between the change in number of jobs, percent change in 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 three educational attainment levels: workers with a high school degree or less, workers with more than a high-school degree but less than a BA, and workers with a BA or higher.

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

(2012)



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

Economic vitality

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

Supervisors of construction and extraction workers, supervisors of production workers, and assemblers and fabricators are high-opportunity jobs for workers without postsecondary education

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

| Occupation | Employment | Job Quality | Growth | | | Occupation Opportunity Index | |
|---|------------|---------------------------|----------------------------|--------------------------------|----------------------------------|------------------------------|--------------------------|
| | (2011) | Median Annual Wage (2011) | Real Wage Growth (2005-11) | Change in Employment (2005-11) | % Change in Employment (2005-11) | | Median Age (2006-10 avg) |
| High-Opportunity | | | | | | | |
| Supervisors of Construction and Extraction Workers | 4,040 | \$67,890 | -9.8% | -2,770 | -40.7% | 45 | 0.52 |
| Supervisors of Production Workers | 9,220 | \$63,050 | -6.7% | -3,800 | -29.2% | 45 | 0.43 |
| Assemblers and Fabricators | 38,490 | \$37,107 | 15.9% | 16,550 | 75.4% | 41 | 0.22 |
| Supervisors of Transportation and Material Moving Workers | 3,860 | \$50,109 | -13.9% | -1,580 | -29.0% | 44 | -0.01 |
| Middle-Opportunity | | | | | | | |
| Supervisors of Building and Grounds Cleaning and Maintenance Workers | 2,950 | \$41,290 | -2.9% | -1,040 | -26.1% | 44 | -0.11 |
| Grounds Maintenance Workers | 9,880 | \$26,670 | 5.3% | -3,300 | -25.0% | 34 | -0.52 |
| Construction Trades Workers | 35,350 | \$51,491 | -9.1% | -23,020 | -39.4% | 40 | -0.13 |
| Other Construction and Related Workers | 2,220 | \$45,174 | -12.7% | -2,770 | -55.5% | 43 | -0.18 |
| Vehicle and Mobile Equipment Mechanics, Installers, and Repairers | 17,790 | \$41,912 | -16.4% | -1,010 | -5.4% | 42 | -0.27 |
| Other Installation, Maintenance, and Repair Occupations | 31,180 | \$40,874 | -16.9% | -6,240 | -16.7% | 43 | -0.34 |
| Metal Workers and Plastic Workers | 44,880 | \$42,175 | -4.7% | -12,240 | -21.4% | 45 | -0.18 |
| Printing Workers | 2,280 | \$33,446 | -9.8% | -1,010 | -30.7% | 45 | -0.41 |
| Textile, Apparel, and Furnishings Workers | 5,640 | \$24,623 | -2.9% | 130 | 2.4% | 48 | -0.49 |
| Motor Vehicle Operators | 46,180 | \$32,289 | -13.4% | -10,560 | -18.6% | 46 | -0.54 |
| Low-Opportunity | | | | | | | |
| Nursing, Psychiatric, and Home Health Aides | 39,170 | \$23,681 | -7.9% | 8,530 | 27.8% | 38 | -0.60 |
| Other Protective Service Workers | 17,420 | \$25,942 | -7.1% | -4,560 | -20.7% | 41 | -0.64 |
| Supervisors of Food Preparation and Serving Workers | 13,260 | \$30,595 | -14.5% | 1,420 | 12.0% | 36 | -0.58 |
| Cooks and Food Preparation Workers | 34,930 | \$21,859 | 1.3% | -5,420 | -13.4% | 27 | -0.79 |
| Food and Beverage Serving Workers | 77,170 | \$18,565 | 6.2% | -11,290 | -12.8% | 25 | -0.88 |
| Other Food Preparation and Serving Related Workers | 19,490 | \$18,538 | 3.8% | 3,980 | 25.7% | 21 | -0.80 |
| Building Cleaning and Pest Control Workers | 38,000 | \$22,868 | -15.7% | -3,590 | -8.6% | 45 | -0.78 |
| Animal Care and Service Workers | 2,200 | \$19,944 | -8.1% | 970 | 78.9% | 31 | -0.78 |
| Personal Appearance Workers | 7,240 | \$21,124 | -9.5% | 60 | 0.8% | 39 | -0.77 |
| Other Personal Care and Service Workers | 22,760 | \$21,325 | -9.3% | -1,600 | -6.6% | 39 | -0.78 |
| Retail Sales Workers | 105,290 | \$21,026 | -1.8% | -22,270 | -17.5% | 32 | -0.93 |
| Material Recording, Scheduling, Dispatching, and Distributing Workers | 53,480 | \$31,568 | -10.3% | -9,050 | -14.5% | 41 | -0.55 |
| Food Processing Workers | 5,340 | \$24,543 | -15.3% | 470 | 9.7% | 44 | -0.69 |
| Other Production Occupations | 25,960 | \$32,718 | -13.4% | -9,800 | -27.4% | 42 | -0.57 |
| Other Transportation Workers | 3,010 | \$24,282 | -4.6% | -1,280 | -29.8% | 31 | -0.74 |
| Material Moving Workers | 46,090 | \$25,471 | -17.4% | -20,060 | -30.3% | 38 | -0.95 |

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

Economic vitality

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

Supervisors of protective service workers and installation workers, and fire fighting and prevention workers are high-opportunity jobs for workers with more than a high school degree but less than a BA

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

| Occupation | Employment (2011) | Job Quality Median Annual Wage (2011) | Growth | | | Occupation Opportunity Index | |
|--|----------------------|---|-------------------------------|-----------------------------------|-------------------------------------|------------------------------|-----------------------------|
| | | | Real Wage Growth (2005-11) | Change in Employment (2005-11) | % Change in Employment (2005-11) | | Median Age (2006-10 avg) |
| High-Opportunity | | | | | | | |
| Supervisors of Protective Service Workers | 2,920 | \$65,559 | 23.8% | 1,390 | 90.8% | 45 | 1.05 |
| Supervisors of Installation, Maintenance, and Repair Workers | 4,550 | \$62,670 | -15.3% | -2,360 | -34.2% | 48 | 0.35 |
| Legal Support Workers | 3,980 | \$50,756 | 8.0% | 300 | 8.2% | 42 | 0.32 |
| Fire Fighting and Prevention Workers | 2,810 | \$53,058 | 7.5% | -1,270 | -31.1% | 40 | 0.31 |
| Law Enforcement Workers | 9,190 | \$57,272 | -1.9% | -2,250 | -19.7% | 39 | 0.30 |
| Electrical and Electronic Equipment Mechanics, Installers, and Repairers | 5,220 | \$48,695 | 2.8% | 1,160 | 28.6% | 43 | 0.23 |
| Drafters, Engineering Technicians, and Mapping Technicians | 16,760 | \$51,297 | -5.0% | 1,600 | 10.6% | 43 | 0.19 |
| Plant and System Operators | 2,670 | \$47,679 | -17.2% | 1,540 | 136.3% | 49 | 0.11 |
| Supervisors of Office and Administrative Support Workers | 13,170 | \$49,770 | -6.2% | -3,980 | -23.2% | 45 | 0.08 |
| Middle-Opportunity | | | | | | | |
| Health Technologists and Technicians | 39,220 | \$42,759 | -5.3% | 6,830 | 21.1% | 41 | -0.02 |
| Occupational Therapy and Physical Therapist Assistants and Aides | 1,900 | \$39,553 | 3.7% | 50 | 2.7% | 36 | -0.11 |
| Supervisors of Personal Care and Service Workers | 2,140 | \$38,805 | -1.8% | 40 | 1.9% | 42 | -0.15 |
| Supervisors of Sales Workers | 19,160 | \$43,434 | -14.7% | -2,050 | -9.7% | 42 | -0.21 |
| Financial Clerks | 37,230 | \$34,194 | -8.4% | 6,020 | 19.3% | 43 | -0.29 |
| Secretaries and Administrative Assistants | 34,970 | \$38,039 | -2.9% | -17,230 | -33.0% | 47 | -0.30 |
| Life, Physical, and Social Science Technicians | 2,020 | \$38,615 | -23.4% | -470 | -18.9% | 41 | -0.47 |
| Information and Record Clerks | 66,110 | \$31,157 | -8.2% | -5,870 | -8.2% | 40 | -0.52 |
| Other Office and Administrative Support Workers | 57,700 | \$29,078 | -6.4% | -7,170 | -11.1% | 44 | -0.52 |
| Low-Opportunity | | | | | | | |
| Other Healthcare Support Occupations | 21,770 | \$28,507 | -13.1% | 2,900 | 15.4% | 38 | -0.58 |
| Entertainment Attendants and Related Workers | 6,300 | \$20,304 | 6.2% | -190 | -2.9% | 34 | -0.64 |
| Other Education, Training, and Library Occupations | 15,620 | \$28,009 | -15.7% | -6,120 | -28.2% | 45 | -0.67 |

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

Economic vitality

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

Health practitioners, business operation specialists, and computer occupations are high-opportunity occupations for workers with a BA degree or higher

45. Occupation Opportunity Index: All Levels of Opportunity for Workers with a BA Degree or Higher

| Occupation | Employment | Job Quality | Growth | | | | Occupation Opportunity Index |
|--|------------|---------------------------|----------------------------|--------------------------------|----------------------------------|--------------------------|------------------------------|
| | (2011) | Median Annual Wage (2011) | Real Wage Growth (2005-11) | Change in Employment (2005-11) | % Change in Employment (2005-11) | Median Age (2006-10 avg) | |
| High-Opportunity | | | | | | | |
| Top Executives | 26,490 | \$112,621 | -7.1% | -1,390 | -5.0% | 47 | 1.87 |
| Advertising, Marketing, Promotions, Public Relations, and Sales Managers | 7,730 | \$106,235 | 1.6% | -880 | -10.2% | 43 | 1.76 |
| Operations Specialties Managers | 20,060 | \$100,956 | -1.0% | -2,810 | -12.3% | 44 | 1.57 |
| Other Management Occupations | 27,470 | \$84,149 | -7.1% | 5,930 | 27.5% | 45 | 1.14 |
| Business Operations Specialists | 54,530 | \$67,383 | 5.6% | 30,950 | 131.3% | 44 | 1.12 |
| Financial Specialists | 33,360 | \$58,169 | -7.7% | 200 | 0.6% | 43 | 0.32 |
| Computer Occupations | 47,590 | \$68,012 | 1.1% | 15,050 | 46.3% | 40 | 0.84 |
| Engineers | 29,130 | \$82,048 | -0.4% | -5,570 | -16.1% | 42 | 1.01 |
| Physical Scientists | 1,730 | \$66,434 | -3.8% | 220 | 14.6% | 41 | 0.60 |
| Social Scientists and Related Workers | 1,900 | \$56,748 | -19.7% | 90 | 5.0% | 45 | 0.15 |
| Lawyers, Judges, and Related Workers | 9,230 | \$91,291 | -14.1% | -220 | -2.3% | 48 | 1.20 |
| Postsecondary Teachers | 4,900 | \$66,300 | 14.6% | 1,030 | 26.6% | 47 | 0.91 |
| Preschool, Primary, Secondary, and Special Education School Teachers | 37,560 | \$58,251 | -10.0% | -40 | -0.1% | 42 | 0.28 |
| Art and Design Workers | 8,570 | \$56,912 | -6.0% | -3,000 | -25.9% | 42 | 0.25 |
| Media and Communication Workers | 5,490 | \$50,906 | -8.2% | -2,260 | -29.2% | 44 | 0.08 |
| Health Diagnosing and Treating Practitioners | 72,890 | \$84,501 | -3.0% | 7,850 | 12.1% | 44 | 1.20 |
| Sales Representatives, Wholesale and Manufacturing | 33,170 | \$61,853 | -1.4% | 2,980 | 9.9% | 45 | 0.56 |
| Middle-Opportunity | | | | | | | |
| Specialists | 19,670 | \$42,000 | -12.3% | -310 | -1.6% | 45 | -0.17 |
| Religious Workers | 1,720 | \$32,152 | -11.7% | 880 | 104.8% | 53 | -0.24 |
| Other Teachers and Instructors | 14,870 | \$32,456 | -8.1% | 6,110 | 69.7% | 43 | -0.28 |
| Librarians, Curators, and Archivists | 2,620 | \$41,648 | -- | -- | -- | 49 | -0.07 |
| Entertainers and Performers, Sports and Related Workers | 4,220 | \$38,725 | 2.6% | 1,440 | 51.8% | 36 | -0.09 |
| Media and Communication Equipment Workers | 2,190 | \$38,888 | -8.2% | 270 | 14.1% | 41 | -0.22 |
| Sales Representatives, Services | 10,630 | \$46,332 | -17.8% | -2,370 | -18.2% | 42 | -0.18 |
| Other Sales and Related Workers | 7,190 | \$34,616 | -17.8% | -8,090 | -52.9% | 46 | -0.51 |

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

Economic vitality

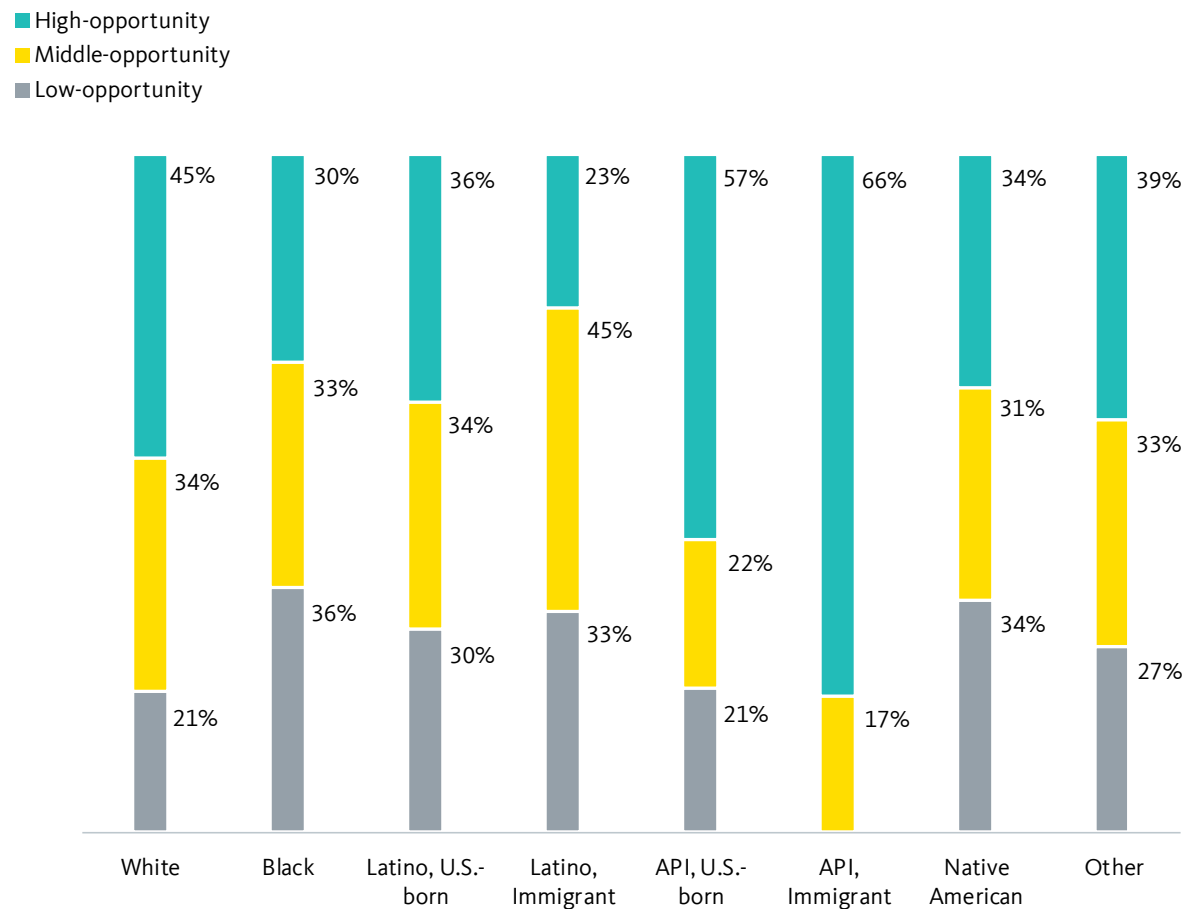
Access to high-opportunity jobs by race/ethnicity/nativity

Examining access to high-opportunity jobs by race/ethnicity and nativity, we find that Asian/Pacific Islanders (APIs), both U.S.-born and immigrants, and Whites are most likely to be employed in high-opportunity occupations. Latino immigrants are the least likely to be in these occupations. Native Americans and African Americans are most likely to be in low-opportunity 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.

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

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



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

Economic vitality

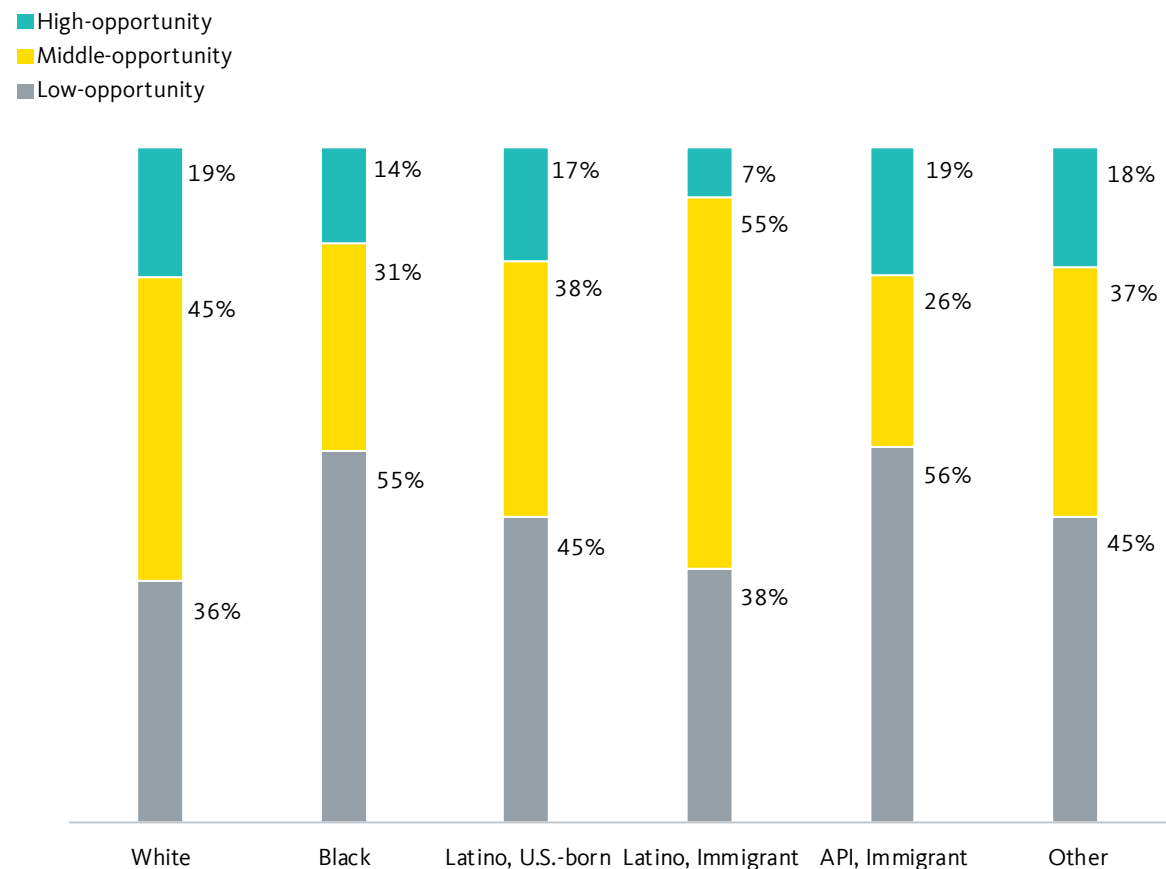
Access to high-opportunity jobs for workers with a high school degree or less

Among workers with a high school degree or less, Whites, API immigrants, those of Other/mixed race, and U.S.-born Latinos are most likely to be in the high-opportunity occupations, while Latino immigrants are the least likely to be in these jobs.

Latino immigrants with low levels of education are most often in middle-opportunity jobs, and Blacks and API immigrants are likely to be in low-opportunity jobs.

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

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



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

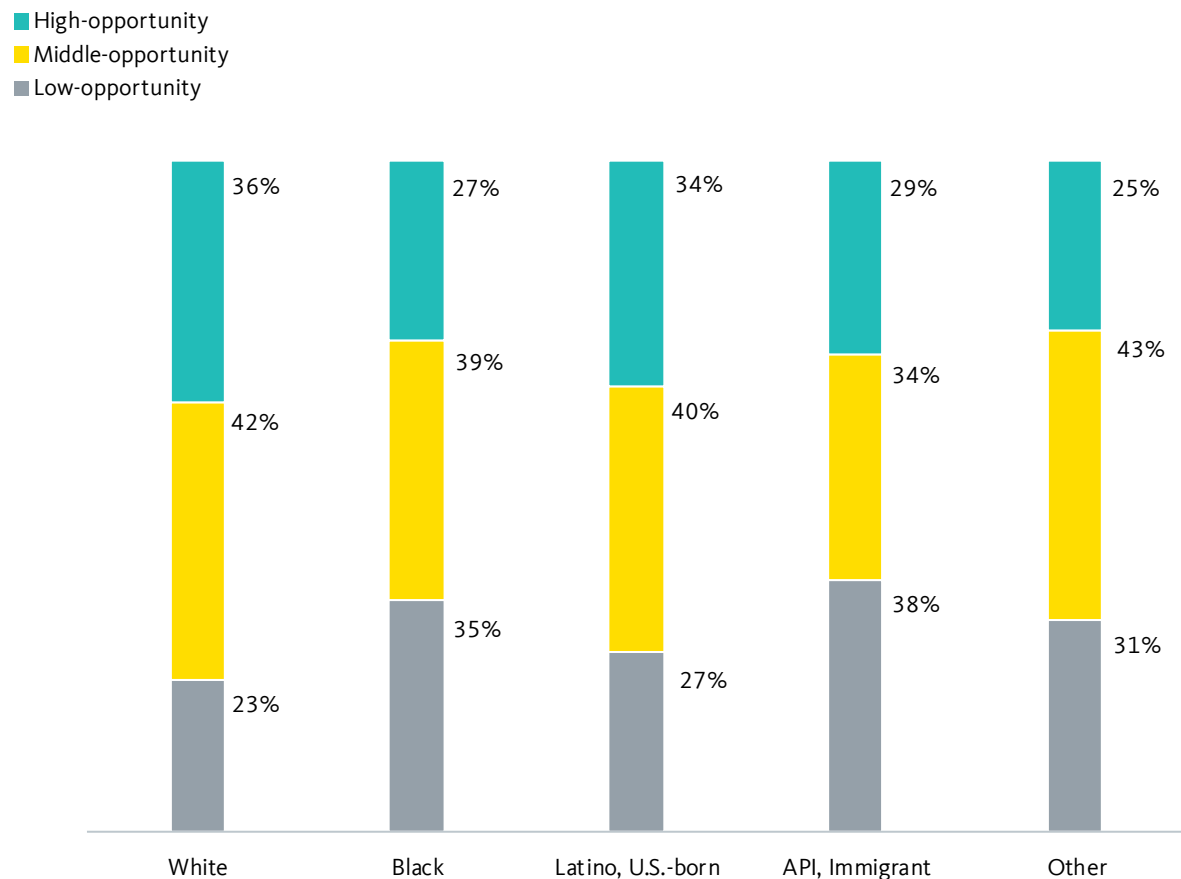
Economic vitality

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

Differences in job opportunity are generally smaller for workers with middle education levels. Whites and U.S.-born Latinos are most likely to be found in high- and middle-opportunity jobs. API immigrants and Blacks are the most likely to be found in low-opportunity jobs. And people of Other or mixed race and Whites have greater access to middle-opportunity jobs.

Of those with middle education levels, API immigrants, African Americans, and those of Other/mixed race are least likely to access high-opportunity jobs

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



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

Economic vitality

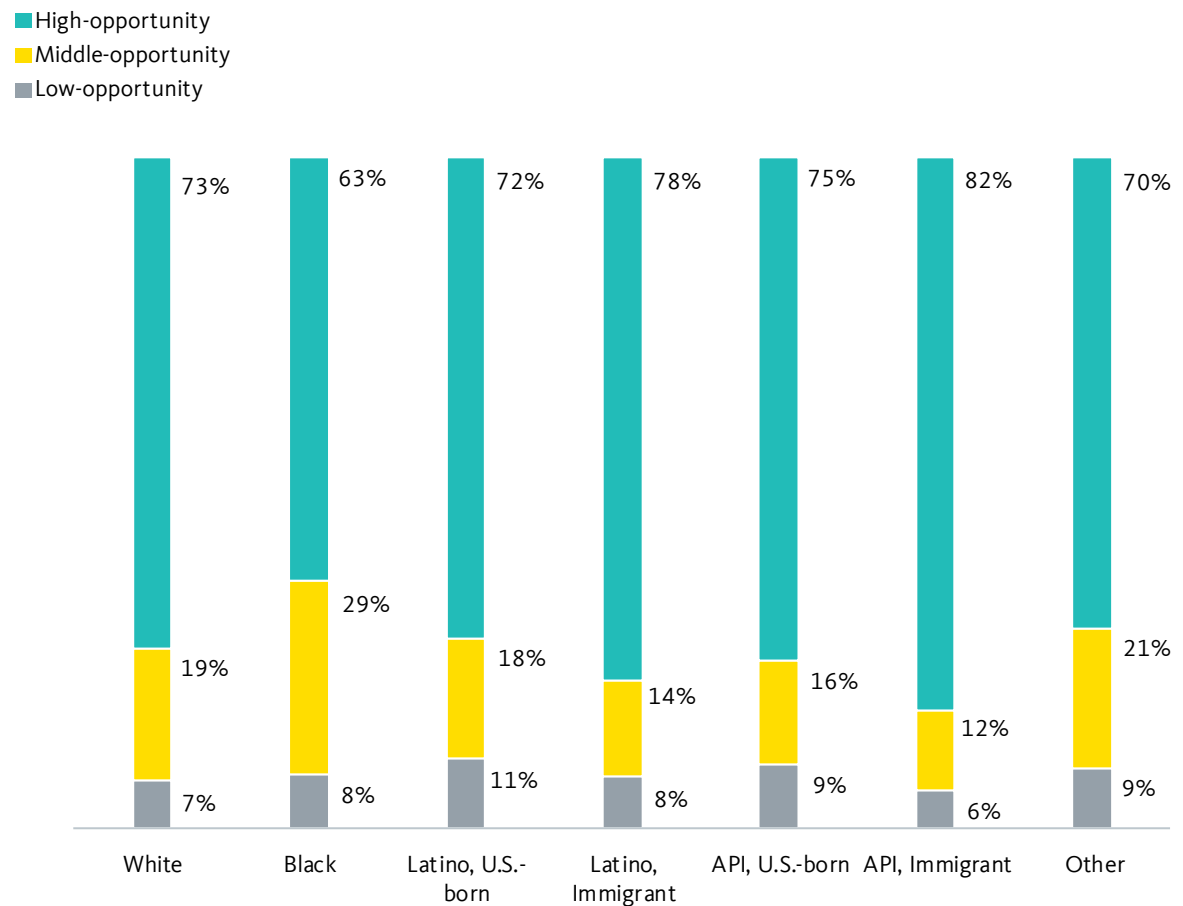
Access to high-opportunity jobs for workers with a BA or higher

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

Among the most educated workers, API immigrants are the most likely to be in high-opportunity occupations, followed by Latino immigrants. African Americans with college degrees have by far the least access to high-opportunity jobs and the highest representation in middle-opportunity occupations.

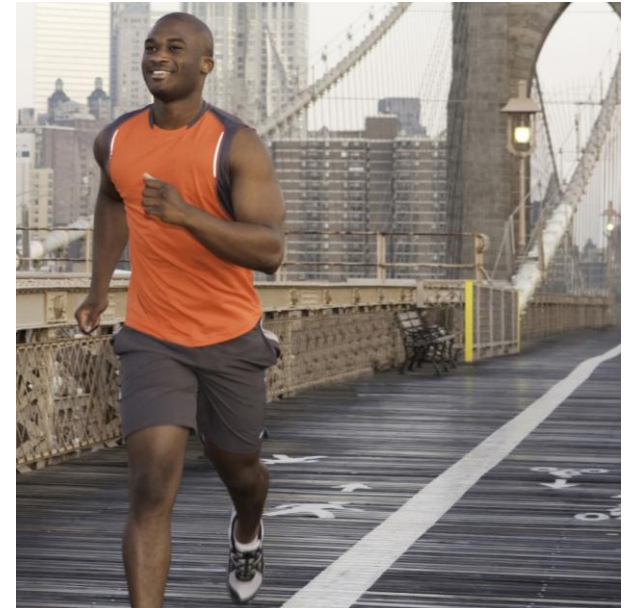
Smaller differences in occupational opportunity by race/ethnicity and nativity for college-educated workers

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



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

Readiness



Readiness

Highlights

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

- There is a looming skills and education gap for African Americans and Latinos, 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 two decades, but Latino immigrants are more likely to be behind.
- The number of disconnected youth who are not working or in school is on the rise, and a majority (56 percent) of disconnected youth are youth of color.
- Communities of color face greater health challenges, with higher rates of overweight/obesity and diabetes for African Americans.

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

18%

Number of youth who are disconnected:

81,787

Percent of adults who are overweight or obese:

64%

Readiness

An education and skills gap for people of color

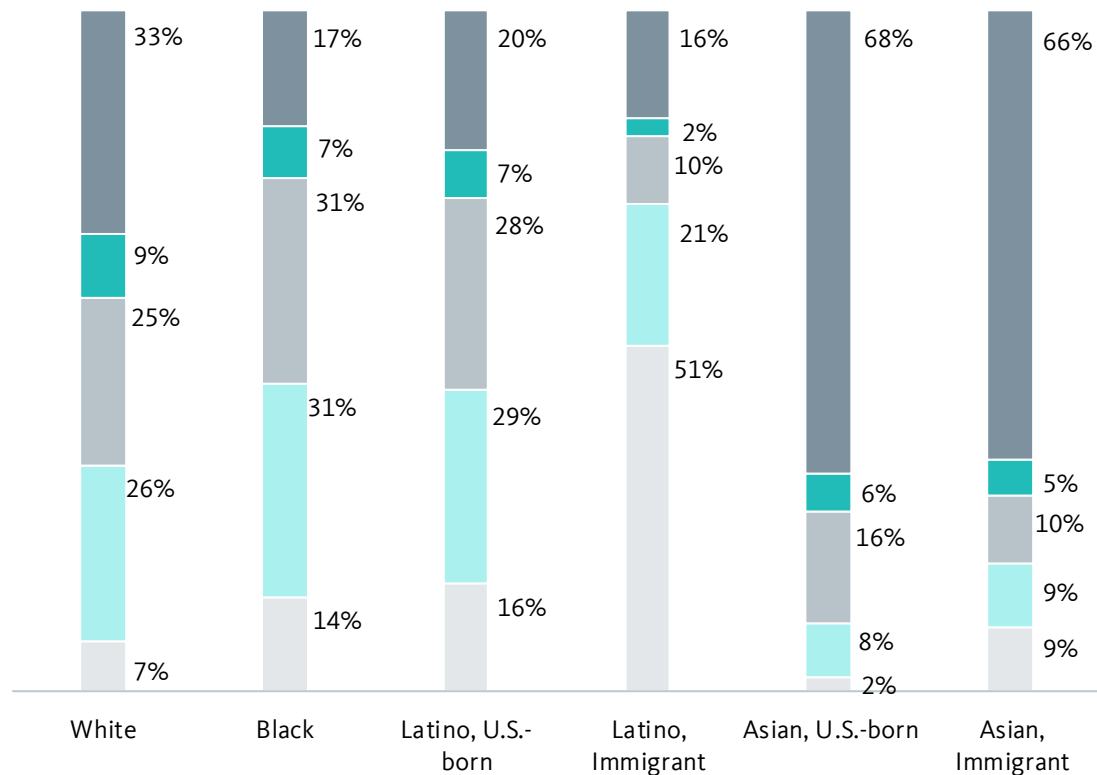
There are wide gaps in educational attainment among racial/ethnic groups. Both U.S.-born and immigrant Asians as well as Whites have the highest education levels. Comparatively, Latino immigrants have the lowest levels – over half (51 percent) have less than a high school diploma.

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

There are wide gaps in educational attainment

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

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



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

Readiness

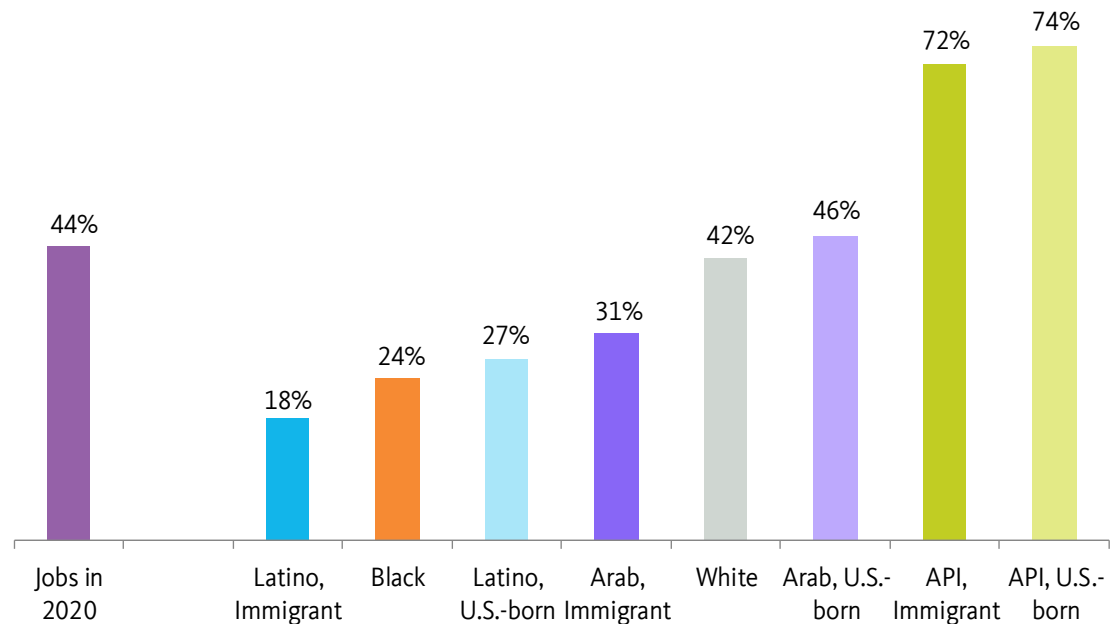
An education and skills gap for people of color

(continued)

According to the [Georgetown Center on Education and the Workforce](#), in five years 43 percent of Michigan’s jobs will require an associate’s degree or higher. While 39 percent of the region’s workers currently have that level of education, there are large differences in educational attainment by race/ethnicity and nativity. Only 18 percent of Latino immigrants, 24 percent of African Americans, 27 percent of U.S.-born Latinos, and 31 percent of Arab immigrants have an associate’s degree or higher.

Detroit will face a skills gap unless education levels increase

51. Share of Working-Age Population with an Associate’s Degree or Higher by Race/Ethnicity and Nativity, 2008-2012 and Projected Share of Jobs that Require an Associate’s Degree or Higher, 2020



Sources: Georgetown Center for Education and the Workforce; IPUMS. Universe for education levels of workers includes all persons ages 25 through 64. Note: While data on educational attainment for the working age population is for the Detroit region, for projected jobs in 2020 it is for the state of Michigan.

Readiness

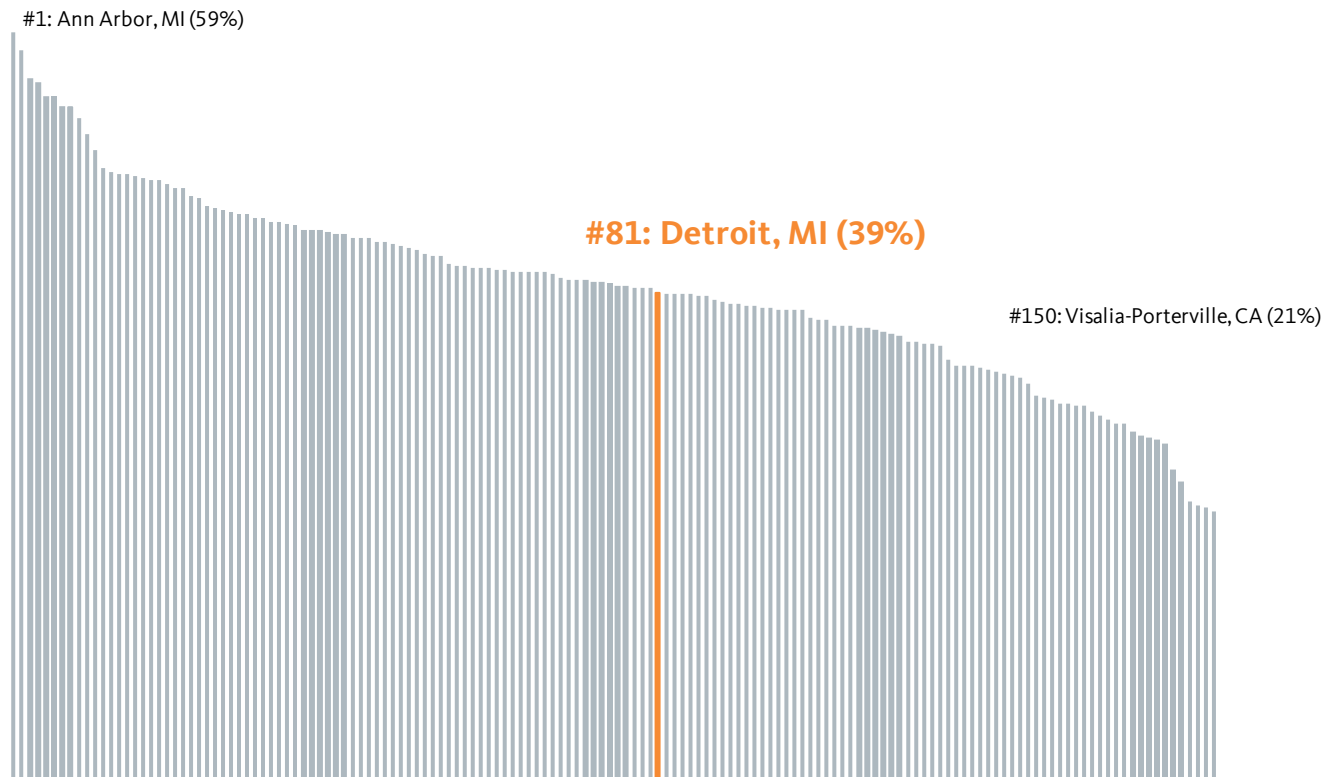
Relatively low education levels

The Detroit region ranks just below the middle of the largest 150 metro regions in the share of residents with an associate's degree or higher. Compared to other similarly sized metros in the Midwest, Detroit's 39 percent of residents with an associate's degree or higher is far lower than in Minneapolis (51 percent) and a bit below St. Louis (42 percent) as well.

The region ranks similarly (91st highest) among the largest 150 metros in the share of residents with less than a high school education (10 percent). Minneapolis and St. Louis are both better off by this measure at 6 percent and 8 percent, respectively.

The region is among the bottom half of the largest 150 regions for residents with an associate's degree or higher

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



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

Readiness

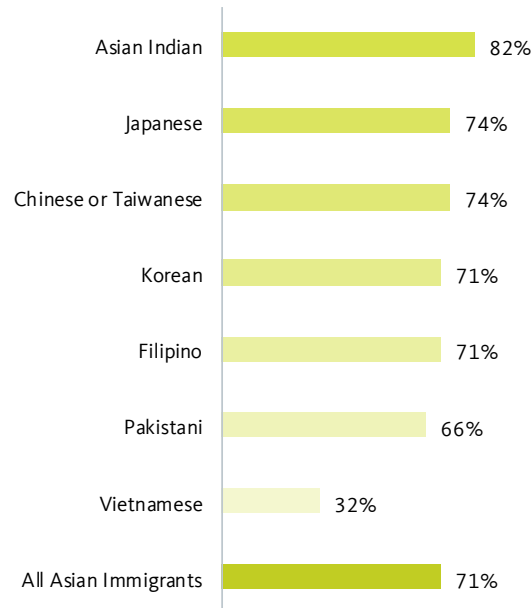
Education levels vary among immigrant groups

Among the region’s immigrant communities, immigrants from Mexico have lower education levels. Education levels are much higher among Asian immigrants overall but there is still variation. For example, only 32 percent of Vietnamese immigrants have an associate’s degree or higher compared with almost three-quarters or more of Asian Indians,

Japanese, and Chinese/Taiwanese immigrants. There is also some variation Among Arab immigrants – 36 percent of immigrants from Lebanon have an associate’s degree or higher compared to a quarter of Assyrian/Chaldean/Syriac and Iraqi immigrants.

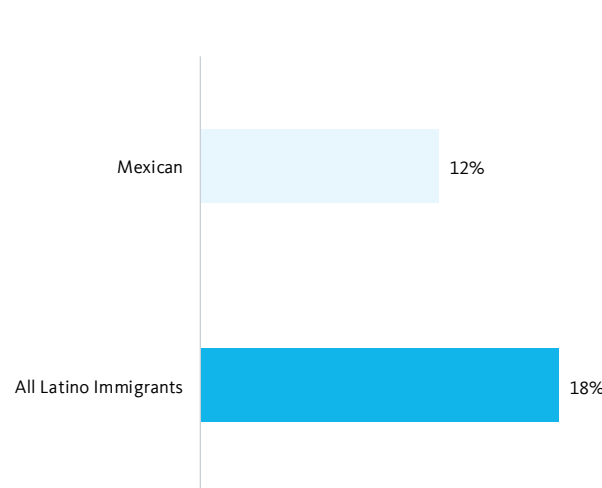
Asian immigrants tend to have higher education levels compared to Latino and Arab immigrants, but there are differences in educational attainment among immigrants by country of origin

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



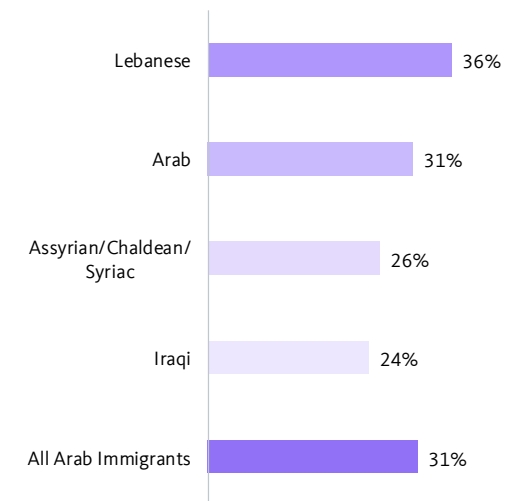
Source: IPUMS. Universe includes all persons ages 25 through 64.

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



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

55. Arab Immigrants, Percent with an Associate’s Degree or Higher by Origin, 2008-2012



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

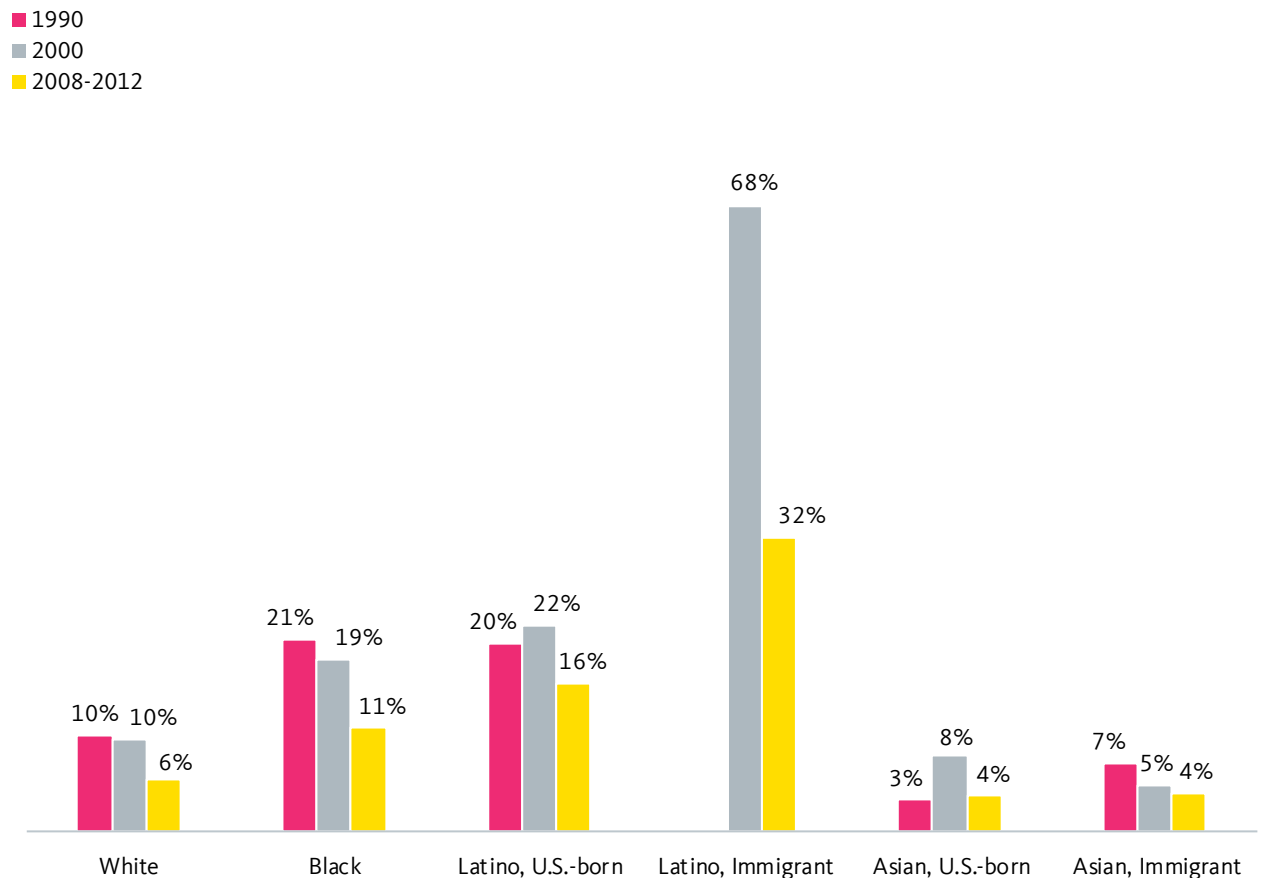
Readiness

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

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

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

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



Source: IPUMS.

Readiness

Many youth remain disconnected from work or school

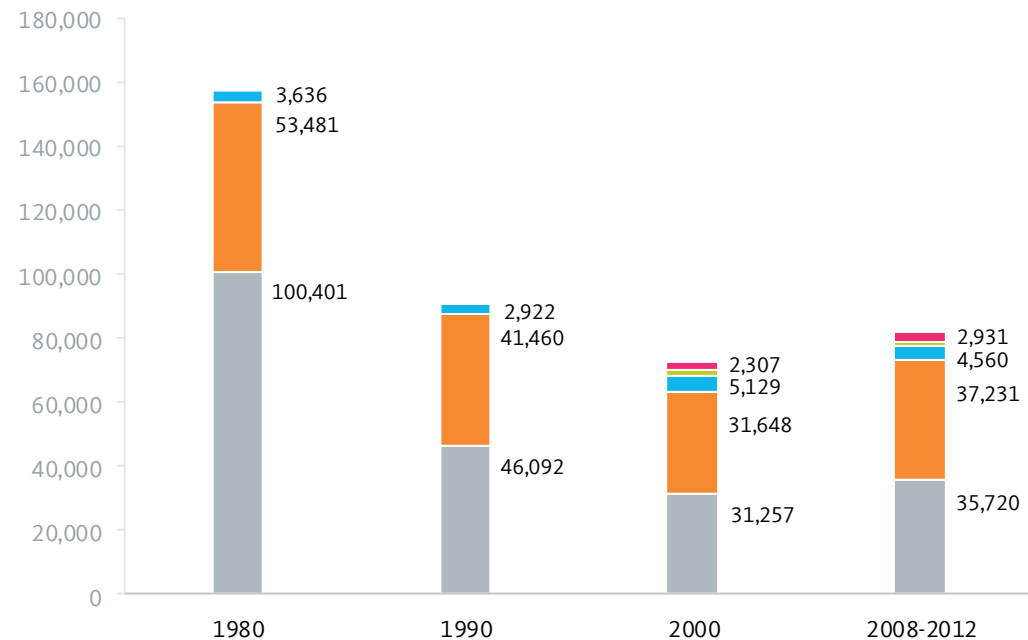
While trends in the pursuit of education have been positive for youth of color, the number of “disconnected youth” who are neither in school nor working remains high. Of the region’s 81,787 disconnected youth, a majority (56 percent) are youth of color.

The number of disconnected youth has increased since 2000. While API and Latino youth saw slight decreases, the number of disconnected African American and White youth has grown.

There are over 81,700 disconnected youth in the region

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

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



Source: IPUMS.

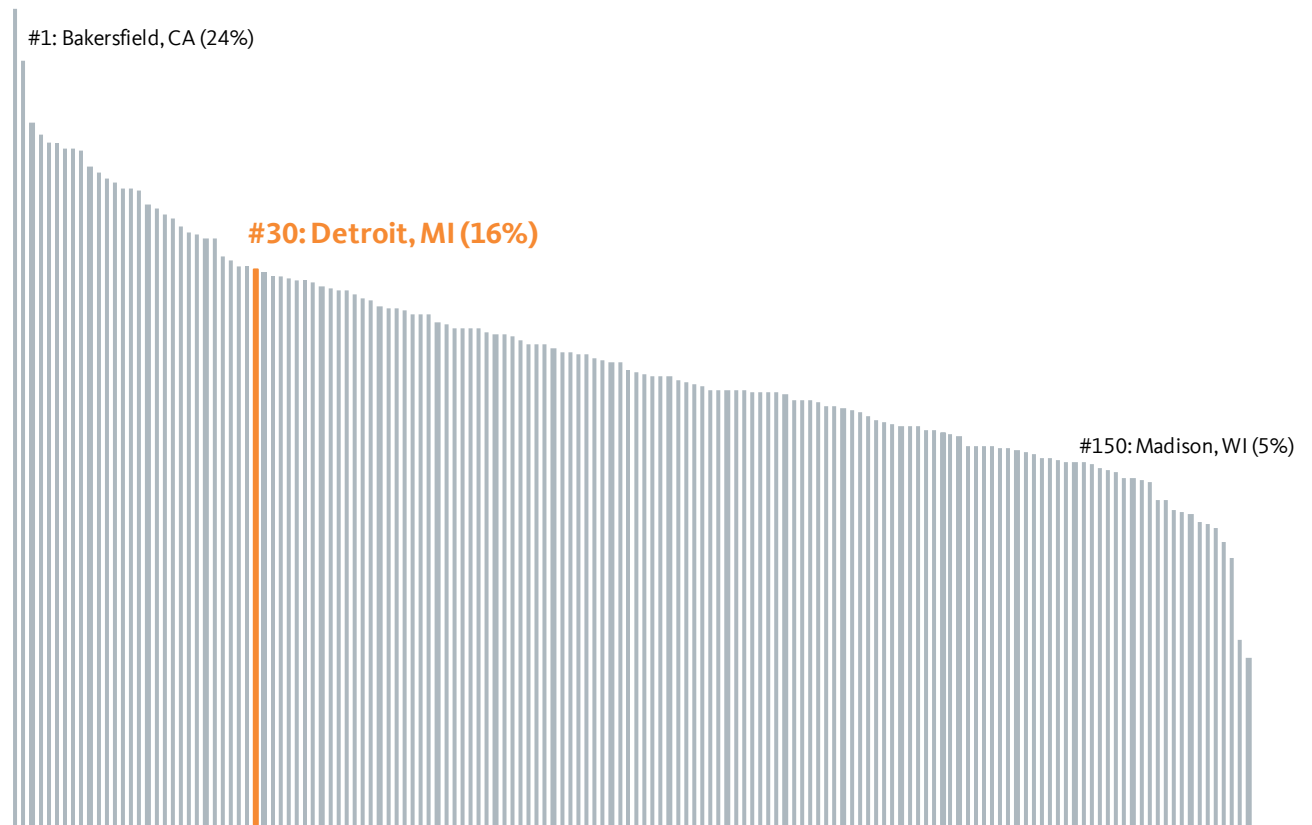
Readiness

Many youth remain disconnected from work or school

(continued)

Currently, nearly one in six youth are not in work or school. This places the region at 30th out of the largest 150 metro areas, with the first-ranked region having the highest rate of youth disconnection. Compared with other similarly sized metros in the Midwest, the share of disconnected youth in Detroit is higher than in both Minneapolis (9 percent) and St. Louis (13 percent).

The Detroit region ranks among the top third of regions in its share of disconnected youth
58. Percent of 16-24-Year-Olds Not in Work or School, 2008-2012: Largest 150 Metros Ranked



Source: IPUMS.

Readiness

Health challenges among communities of color

The region’s adult obesity rate of 64 percent is comparable to the U.S. rate overall (64 percent). African Americans in the region have a higher prevalence of obesity and diabetes compared to other racial/ ethnic groups. Seventy-one percent of Blacks are overweight or obese. Those of Other or mixed race also suffer from high rates of diabetes and

asthma. Latinos also have slightly higher than average asthma rates. Whites fare on average across all measures, while Asians show below average marks across all three indicators.

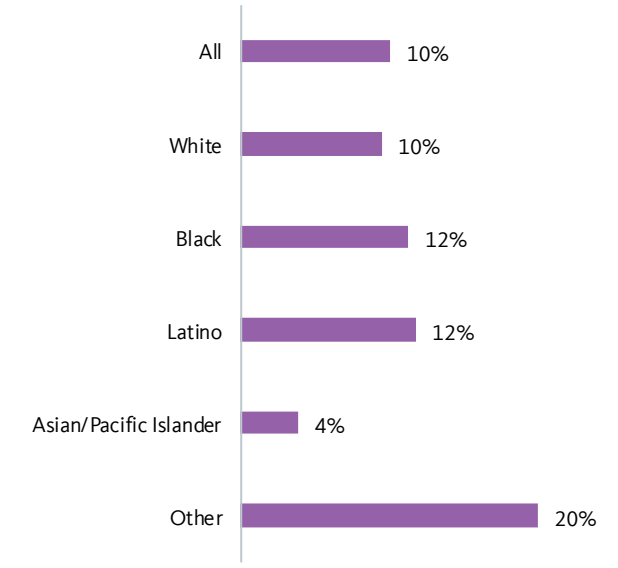
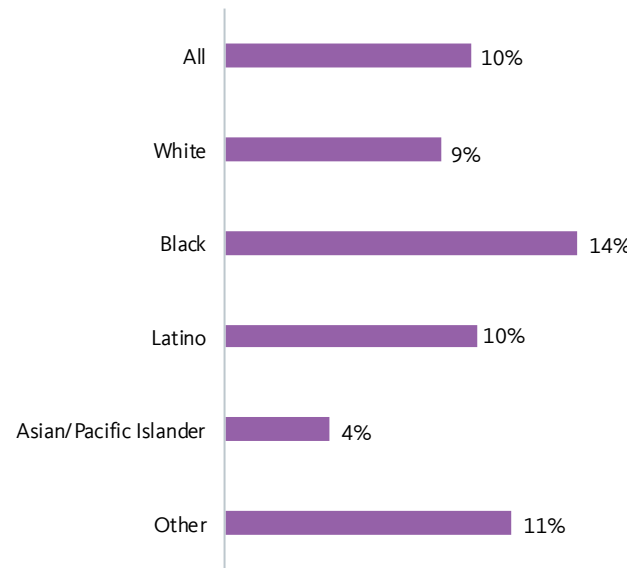
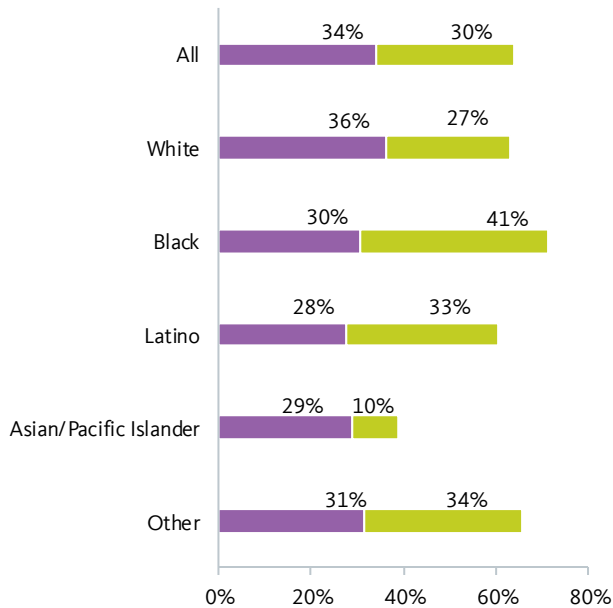
African Americans face above average obesity and diabetes rates while Latinos and people of mixed/other races and ethnicity have high rates of adult asthma

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

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

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

Overweight
Obese

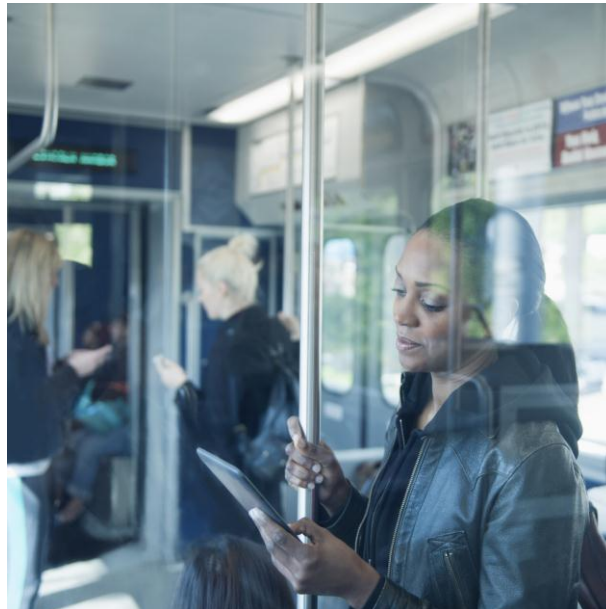


Source: Centers for Disease Control and Prevention. Universe includes adults ages 18 and older.

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

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

Connectedness



Connectedness

Highlights

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

- Although segregation has declined over time, the region is more segregated by race/ethnicity than the state of Michigan and the nation overall.
- The share of people living in high-poverty neighborhoods (those with poverty rates 40 percent or higher) has tripled since 1980.
- The Detroit region is overwhelmingly auto dependent, with 84 percent of residents driving alone to work. Many of the neighborhoods with the highest shares of people of color have long commutes.
- Communities of color have higher housing burdens, especially for those who are renters.
- People of color make up the majority (52 percent) of residents who live in food deserts.

Percent of people of color living in high-poverty tracts:

23%

Percent of Whites living in high-poverty tracts:

3%

Percent of Black renters who pay too much for housing:

63%

Connectedness

Segregation is decreasing

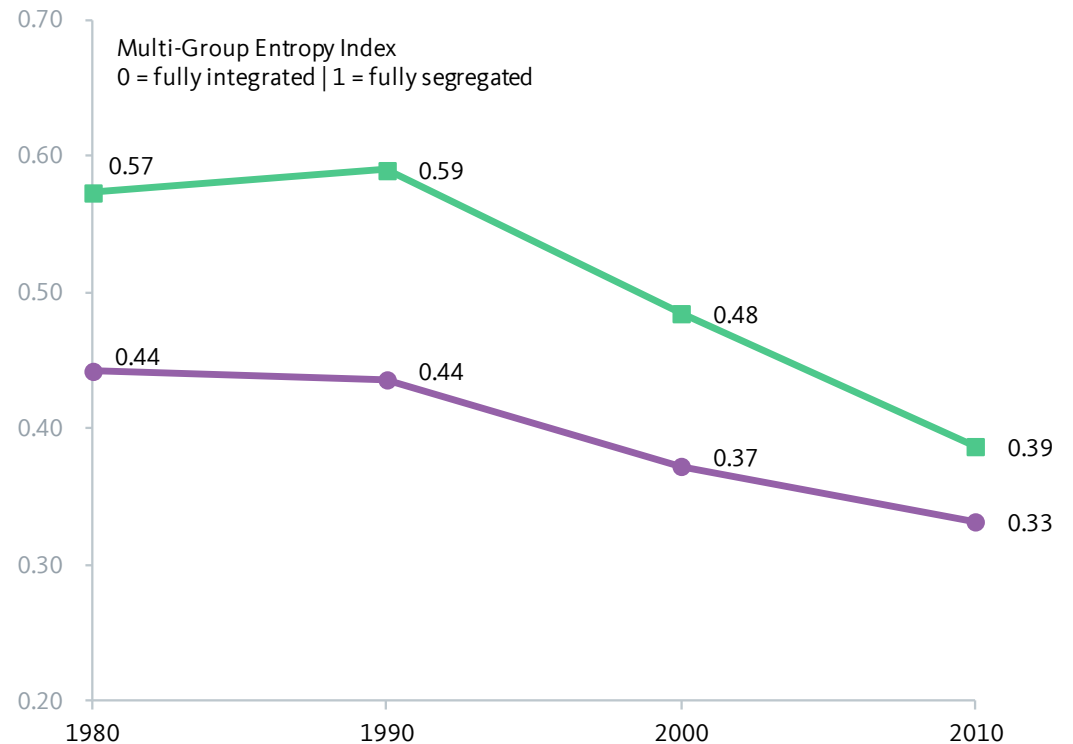
The Detroit region is more segregated by race/ethnicity than Michigan and the nation overall, but segregation has declined over time as the region has become more diverse.

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

Residential segregation in the region is higher than the national average, but has decreased over time

62. Residential Segregation, 1980 to 2010

—■— Detroit
—●— United States



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

Connectedness

Increased integration among people of color

Declining racial segregation in the region is due more to increased integration among communities of color than to integration between Whites and people of color.

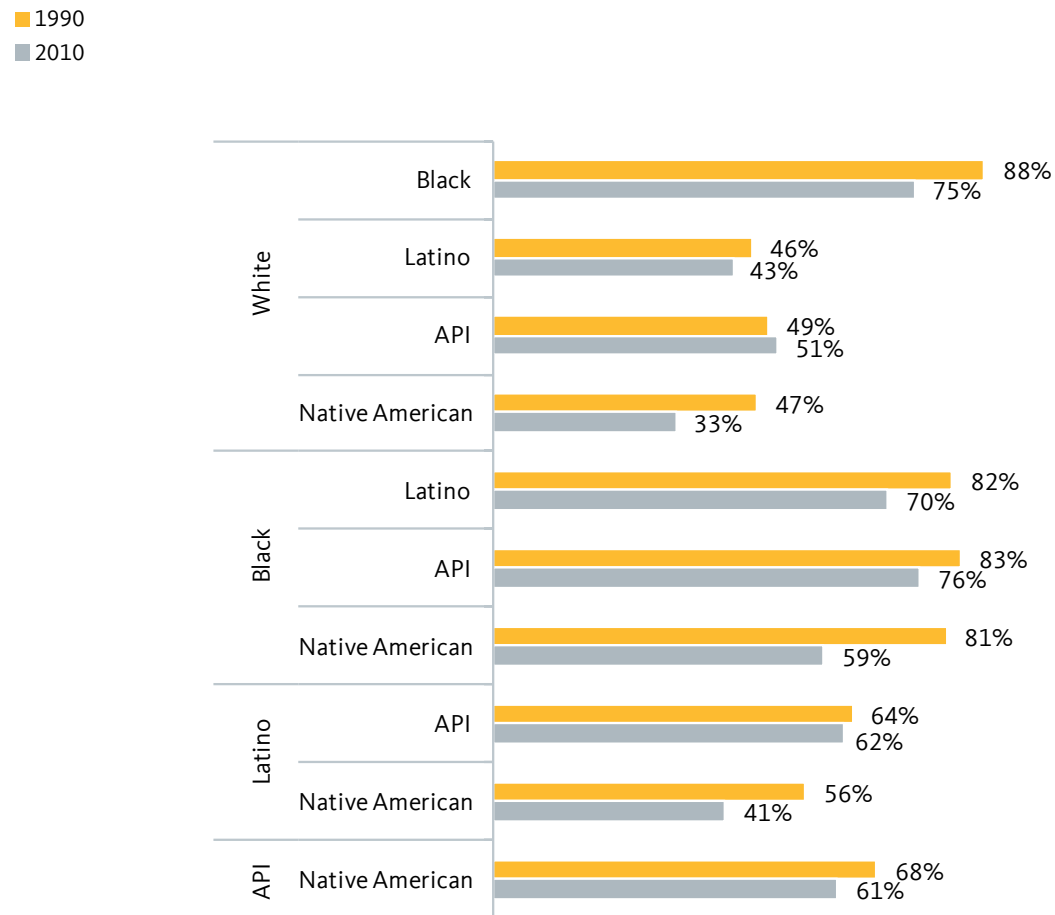
The dissimilarity index estimates the share of a given racial/ethnic group that would need to move to a new neighborhood to achieve complete integration. Using this measure, segregation between all groups has lessened since 1990, with the exception of Whites and Asians, who only experienced a slight increase in segregation. The largest decrease in segregation was between Blacks with Latinos, Whites, and Asians.

And although segregation between Blacks and Whites has declined, the Detroit region still [ranks first](#) in Black-White segregation among the 50 metro areas with the largest African American populations in 2010.

Segregation between all groups and Native Americans declined substantially, but this is attributable to the very small size of the Native American population.

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

63. Residential Segregation, 1990 and 2010, measured by the Dissimilarity Index



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

Connectedness

Concentrated poverty a challenge for communities of color

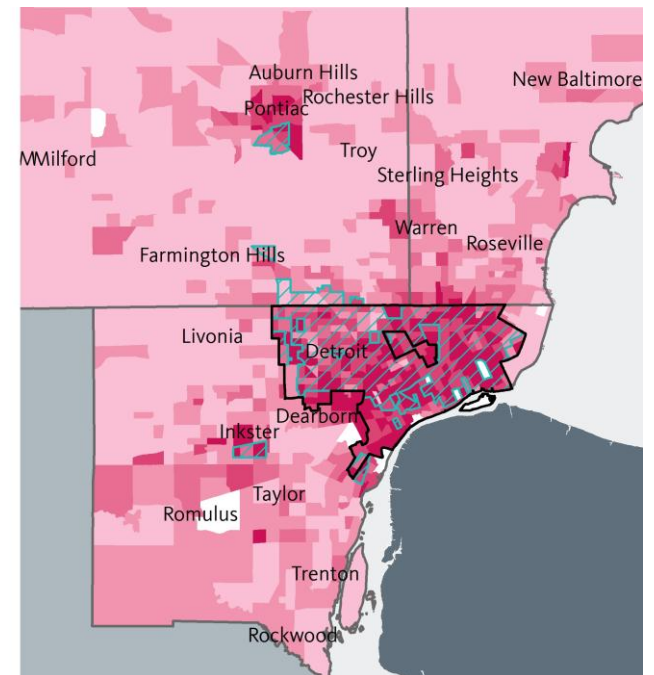
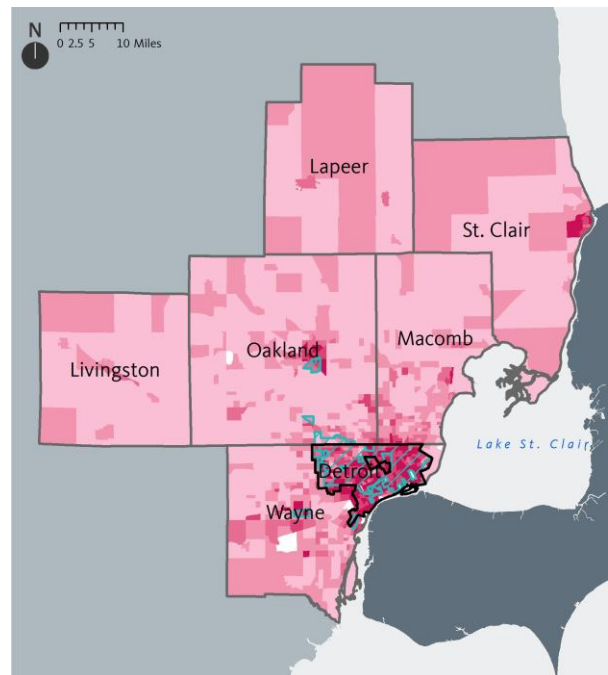
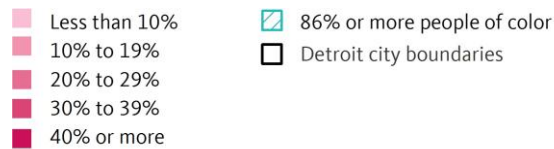
The share of people living in high-poverty neighborhoods (those with poverty rates 40 percent or higher) has more than tripled since 1980, rising from 2.5 percent to 9.5 percent.

People of color are much more likely to live in these neighborhoods than Whites: 23 percent of people of color live in high-poverty tracts compared to 3 percent of Whites. In neighborhoods with the highest shares of people of color (86 percent or more), the average poverty rate is about 36 percent or more, compared to about 16 percent for the region overall.

As these maps show, very high-poverty neighborhoods are mostly concentrated in Wayne County in the Cities of Detroit, Inkster, Romulus, and Taylor. In Oakland County, the highest poverty community is in Pontiac.

Areas of high poverty (40 percent or higher) are found primarily in areas with high populations of people of color

64. Percent Population Below the Poverty Level by Census Tract and High People-of-Color Tracts, 2008-2012



Source: U.S. Census Bureau. Areas in white are missing data.

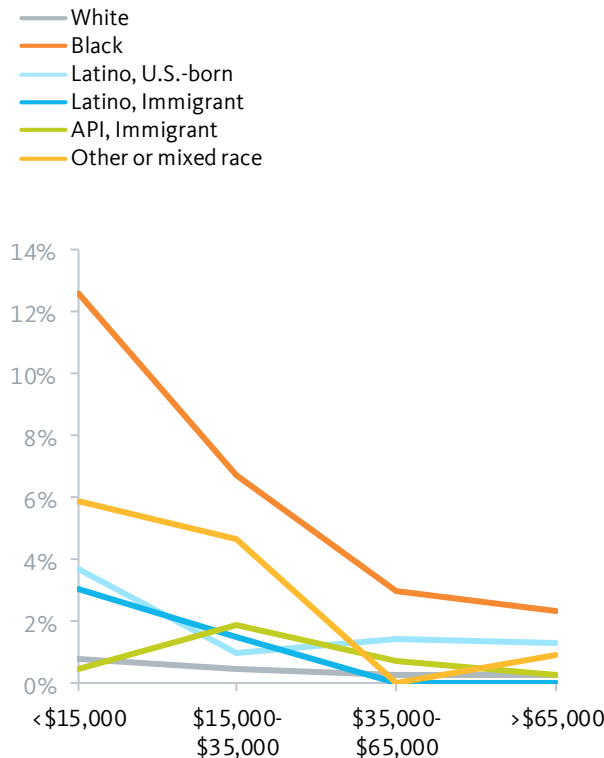
Connectedness

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

Income and race both play a role in determining who uses the region's public transit system to get to work. Households of color are the most likely to be dependent on public transit. Very low-income African Americans are most likely to get to work using public transit, but transit use declines rapidly for all groups as incomes increase.

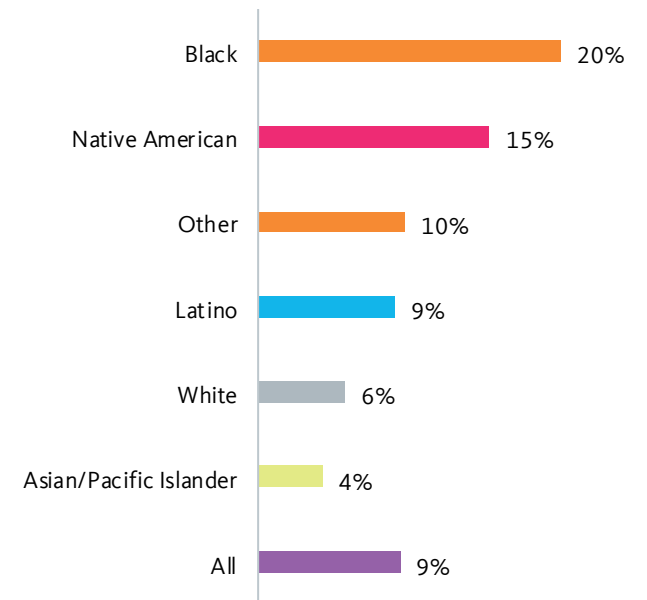
Households of color, except for APIs, are much less likely to own cars than Whites. African American and Native American households are the most likely to be carless.

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



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

Most households of color are less likely to own cars than Whites
66. Percent of Households without a Vehicle by Race/Ethnicity, 2008-2012



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

Connectedness

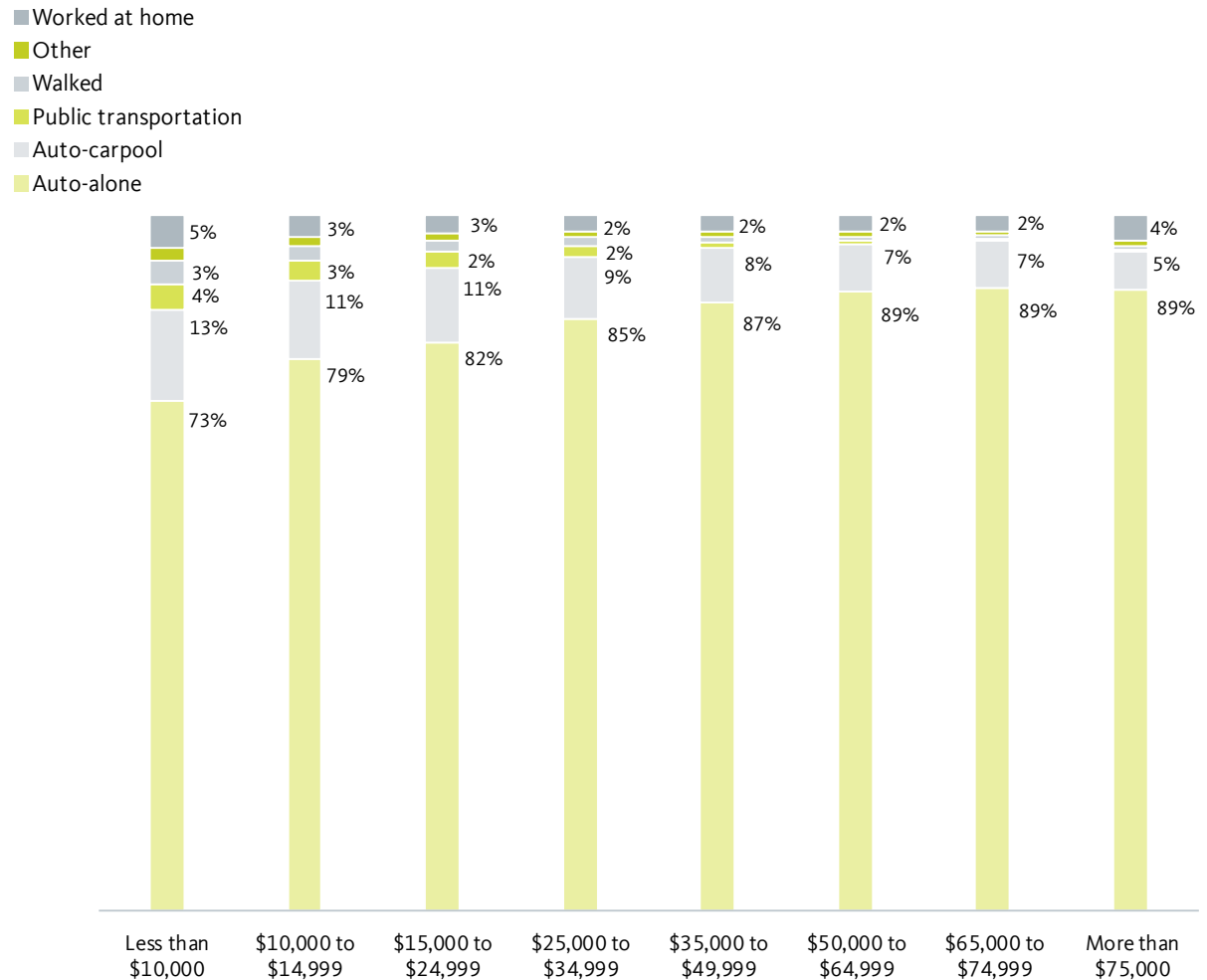
How residents commute varies by income

The vast majority – 84 percent – of residents drive alone to work, placing the region 19th highest among the largest 150 metros in the share of lone commuters.

However single-driver commuting varies by income. Only 73 percent of very low-income workers (earning under \$10,000 per year) drive alone to work, compared to 89 percent of workers who make over \$65,000 a year.

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

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



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

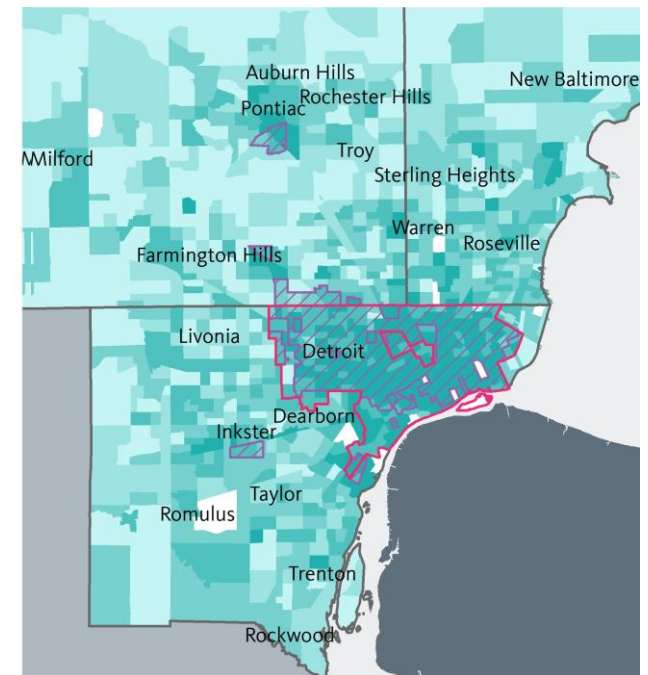
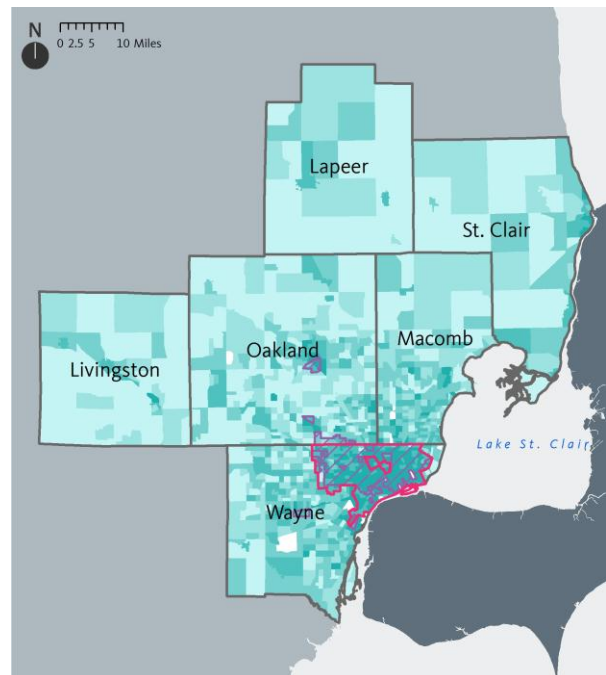
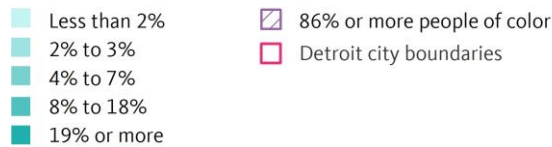
Connectedness

Communities of color are more likely to be carless

The vast majority of households have access to at least one vehicle, but vehicle access varies across the region. The percent of households without a vehicle is particularly high, often 18 percent or more, in areas with high concentrations of people of color, which are mostly located in the City of Detroit and its surrounding areas.

Carless households are concentrated in and around the City of Detroit

68. Percent of Households Without a Vehicle by Census Tract and High People-of-Color Tracts, 2008-2012



Source: U.S. Census Bureau. Areas in white are missing data.

Connectedness

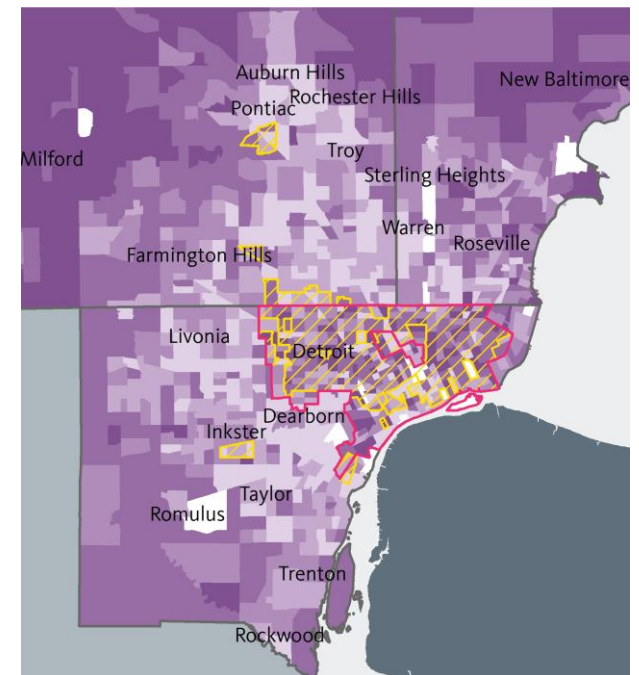
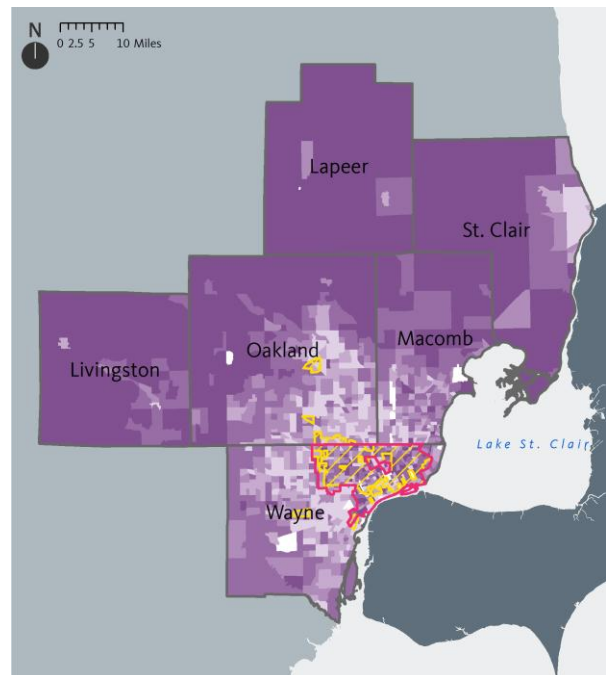
Long commutes for some counties and inner-city communities of color

Workers living in the areas directly surrounding the City of Detroit have the shortest commutes. Many, though not all, of the neighborhoods with the highest shares of people of color have medium to long commutes. Workers living in the City of Detroit have a mix of short to medium commutes, while workers living in Livingston, Lapeer, St. Clair and Macomb counties spend the most time getting to work.

Workers living in Lapeer, St. Clair, and Livingston counties have the longest commute times

69. Average Travel Time to Work by Census Tract and High People-of-Color Tracts, 2008-2012

- Less than 22 minutes
- 22 to 23 minutes
- 24 to 25 minutes
- 26 to 29 minutes
- 30 minutes or more
- 86% or more people of color
- Detroit city boundaries



Source: U.S. Census Bureau. Areas in white are missing data.

Connectedness

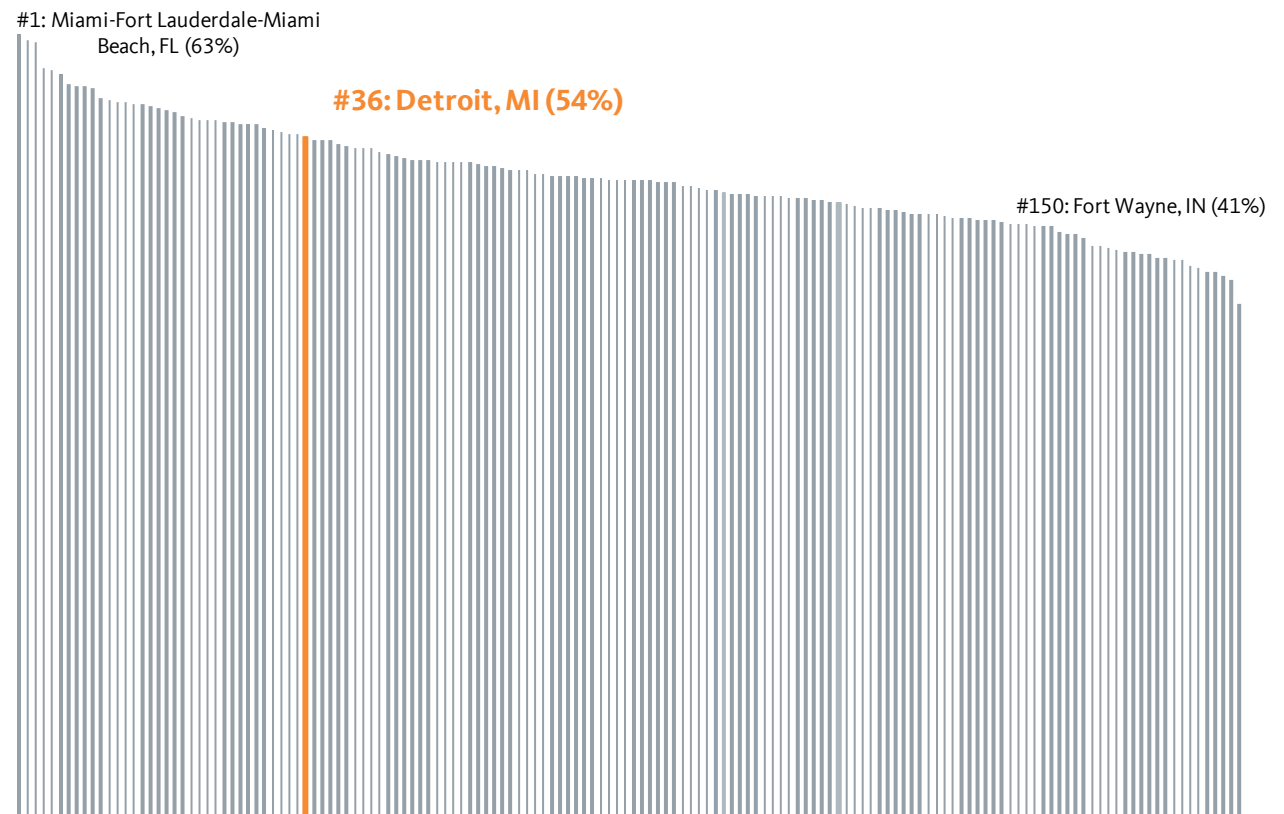
A high-cost housing market

The region ranks relatively high 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. Detroit ranks 36th among the largest 150 regions in terms of renter burden (54 percent), and 56th in terms of homeowner housing burden (32 percent).

Compared to other similarly sized metros in the Midwest, the region has higher renter burden than Minneapolis (50 percent) or St. Louis (49 percent). Detroit's level of homeowner burden is also higher than St. Louis (24 percent) and slightly higher than Minneapolis (27 percent).

The Detroit region has a relatively high ranking for rent-burdened households

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



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

Connectedness

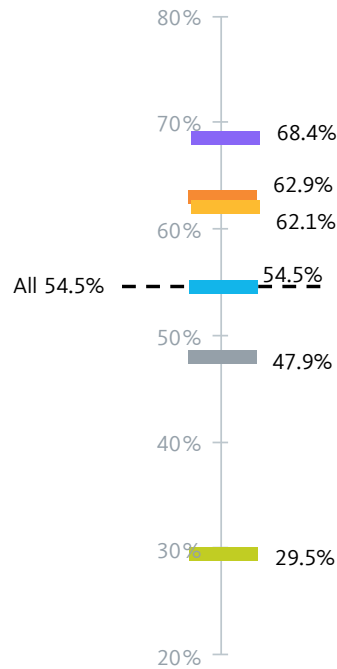
People of color face higher housing burdens

The region's Arab Americans, African Americans, and people of Other/mixed race are most likely to pay too much for housing, whether they rent or own. Latinos also have an above average rate of homeowner housing burden. Asian renters have the lowest housing burden at 30 percent, but this could be due to the fact that Asian Americans are [more likely](#) to live in multigenerational households and share household expenses across generations.

Over two-thirds of Arab Americans and nearly two-thirds of African Americans are rent burdened

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

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

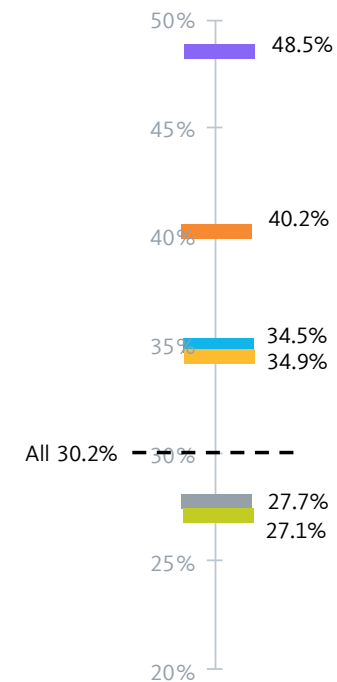


Source: IPUMS. Universe includes renter-occupied households with cash rent (excludes group quarters).

Arab Americans have the highest homeowner housing burden

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

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



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

Connectedness

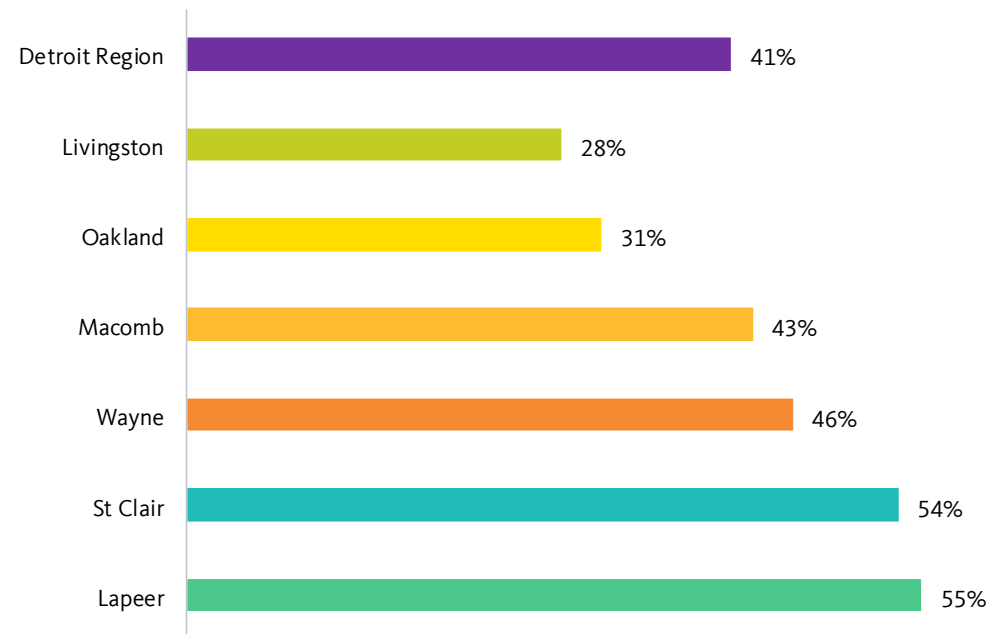
Varying levels of affordable housing throughout the region

Across the region, 41 percent of rental units are affordable (defined as having rent of \$749 per month or less, which would be 30 percent or less of two low-wage workers' incomes). Thus, the relatively high rates of housing cost burden shown earlier are likely more due to high rates of joblessness and single-earner households than to expensive housing.

The majority of rental housing units in St. Clair and Lapeer counties are affordable units.

There is significant variation in the share of affordable rental housing units by county

73. Share of Affordable Rental Housing Units by County, 2008-2012



Connectedness

Low levels of jobs-housing mismatch for low-wage workers

(continued)

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

Livingston and Oakland have significantly higher ratios than the regional average, indicating a potential shortage of affordable units in these counties. Livingston’s ratio is particularly high, at more than twice the regional average.

Wide range of jobs-housing ratios throughout the region, with Livingston having the highest affordability mismatch

74. Low-Wage Jobs, Affordable Rental Housing, and Jobs-Housing Ratio by County

| | Jobs (2010) | | Housing (2008-12 avg) | | | Jobs-Housing Ratios | |
|-----------------------|------------------|----------------|--------------------------|----------------|--------------------|--------------------------|--|
| | All | Low-wage | All | Rental* | Affordable Rental* | All Jobs: All Housing | Low-wage Jobs: Affordable Rentals |
| Wayne | 655,457 | 153,677 | 674,263 | 218,990 | 99,903 | 1.0 | 1.5 |
| Oakland | 630,493 | 153,099 | 482,978 | 128,529 | 40,243 | 1.3 | 3.8 |
| Macomb | 267,058 | 76,821 | 330,596 | 74,043 | 31,548 | 0.8 | 2.4 |
| Livingston | 46,658 | 14,119 | 67,399 | 8,762 | 2,479 | 0.7 | 5.7 |
| St Clair | 40,778 | 13,010 | 64,083 | 13,471 | 7,210 | 0.6 | 1.8 |
| Lapeer | 16,610 | 4,805 | 32,783 | 4,696 | 2,596 | 0.5 | 1.9 |
| Detroit Region | 1,657,054 | 415,531 | 1,652,102 | 448,491 | 183,979 | 1.0 | 2.3 |

*Includes only those units paid for in cash rent.

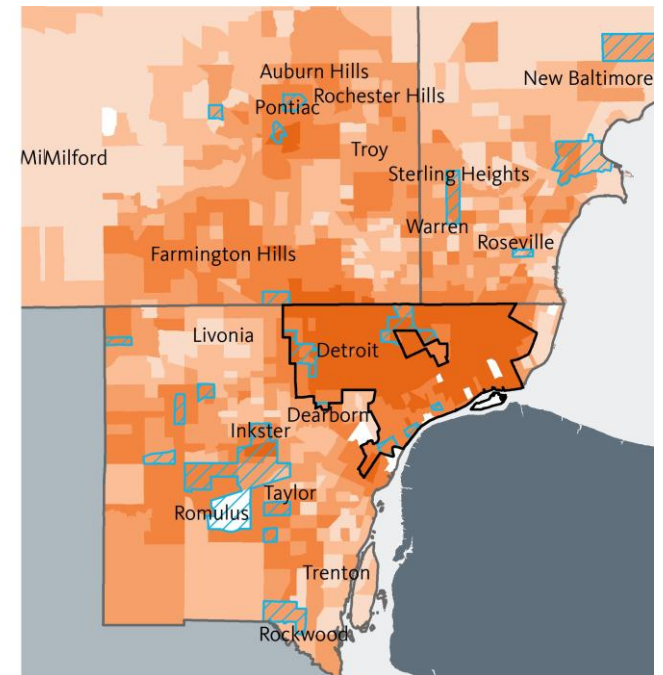
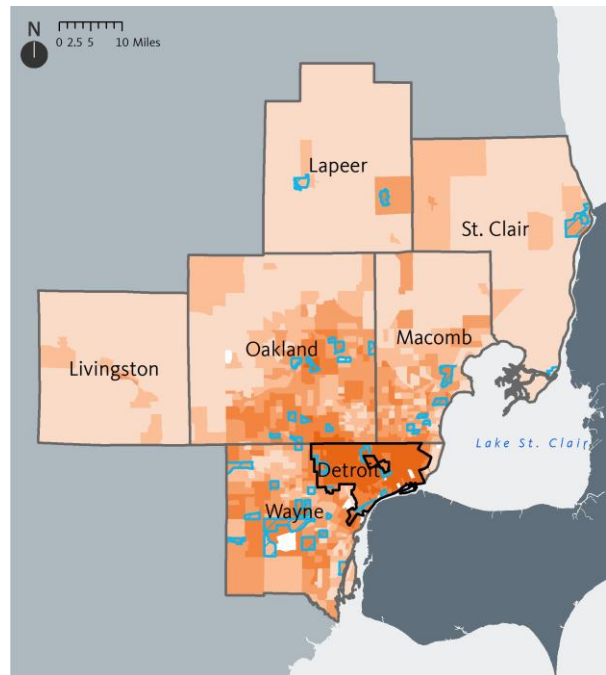
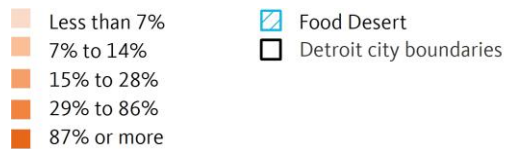
Connectedness

Food deserts are primarily in urban communities of color

The region's food deserts, defined as a low-income census tract where a substantial number or share of residents have low access to a supermarket or large grocery store, are primarily found in neighborhoods that have high shares of people of color. Most are located in the City of Detroit and other smaller nearby cities, such as Romulus, Taylor, Inkster, Trenton, and Auburn Hills.

Food deserts are concentrated in the City of Detroit and in communities of color

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



Sources: Geolytics; U.S. Department of Agriculture. See the Data and Methods section for details. Areas in white are missing data.

Connectedness

Food deserts are primarily in urban communities of color

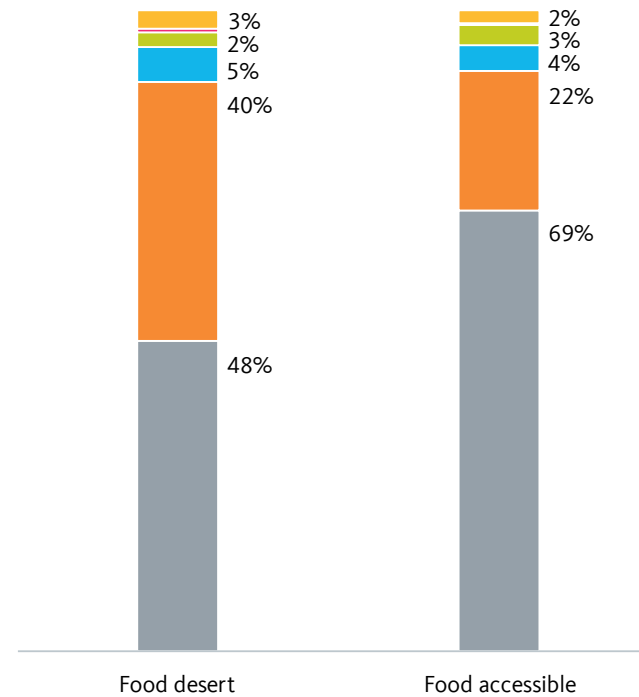
(continued)

The region's food deserts are home to higher shares of people of color compared with neighborhoods that are not food deserts. People of color – particularly African Americans – make up two-fifths of residents living in areas with food deserts. Comparatively, nearly seven in every ten residents living in food accessible communities are White.

People of color are more likely to live in food deserts

76. Racial/Ethnic Composition of Food Environments, 2010

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



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

Economic benefits of inclusion

A potential \$26 billion per year GDP boost from racial equity

The Detroit region stands to gain a great deal from addressing racial inequities. The region's economy could have been \$26 billion stronger in 2012 if its racial gaps in income had been closed: a 12 percent increase.

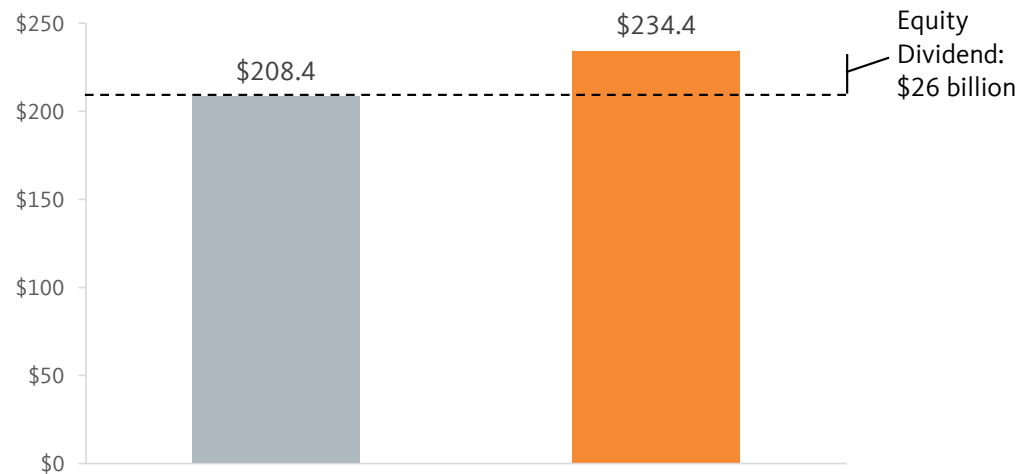
Using data on income by race, we calculated how much higher total economic output would have been in 2012 if all racial groups who currently earn less than Whites had earned similar average incomes as their White counterparts, controlling for age.

We also examined how much of the region's racial income gap was due to differences in wages and how much was due to differences in employment (measured by hours worked). Nationally, 34 percent of the racial income gap is due to differences in employment. In the Detroit region, the share of the gap attributable to employment is even higher, at 58 percent.

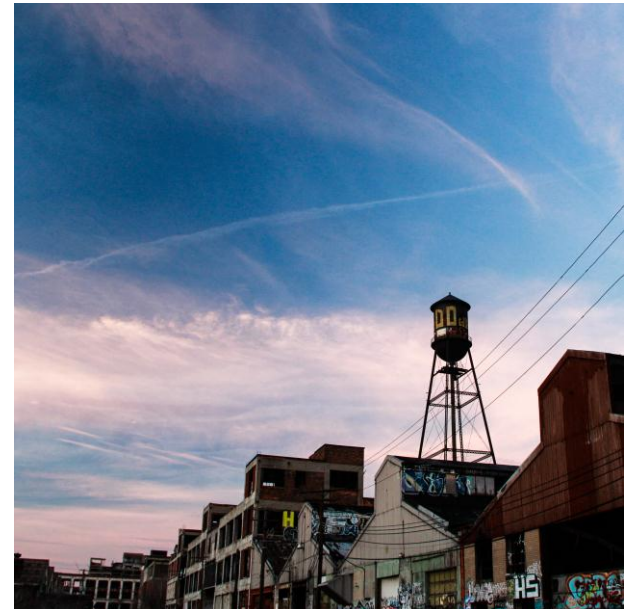
The Detroit region's GDP would have been \$26 billion higher if there were no racial gaps in income

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

- GDP in 2012 (billions)
- GDP if racial gaps in income were eliminated (billions)



Implications



Implications

Building a more equitable region

After decades of job and population loss, the Detroit region has shown recent signs of growth. The City of Detroit's recently approved bankruptcy plan, along with major new public and private investments in and around the Detroit downtown area in infrastructure, new development, and business activity, signal a growing momentum toward what some have called a Detroit Renaissance. However, deep racial disparities, regional political fractures, declining wages, and loss of high-wage manufacturing jobs threaten the economic viability of the region.

As the region undergoes a demographic transition and starts on a path toward economic recovery, business, community, and political leaders must work together to connect communities of color to jobs, business opportunities, quality education and career training, and healthy homes and neighborhoods. 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 region has accelerated since the end of the recession, growing faster than the state and nation from 2009 to 2012.¹ However, unemployment and poverty – particularly in communities of color – are still above the national averages, and wages have been declining in many industries. The Detroit region needs to create a significant number of new, well-paying 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. Detroit has several major hospitals and universities that are growing, making business-to-business (B-to-B) services involving these anchor institutions a potentially lucrative area for enterprise development. The Detroit Economic Growth Corporation (DEGC), for

example, began a program called **D2D** to connect Detroit companies with local small businesses for contracts and services. In 2013, D2D was able to shift \$170 million of dollars that would have otherwise been spent outside the region to local businesses. Broader entrepreneurship and business development initiatives, such as the New Economy Initiative (NEI), have launched hundreds of new firms and created thousands of new jobs by investing in business support organizations around the region. Both D2D and NEI have a focus on supporting minority-owned businesses and job creation in communities of color. The new American Lightweight Materials Manufacturing Innovation Institute in Detroit, which was selected to be part of a highly competitive federal initiative to accelerate manufacturing technologies, may eventually contribute to job creation in manufacturing in the region.

Second, the jobs that are being created need to be good jobs. Wages have declined more than 20 percent for Detroit's lowest income workers since 1979, and the rate of working

Implications

Building a more equitable region

(continued)

poverty has been increasing, particularly for workers of color. In 2014, the state passed legislation to increase the minimum wage to \$9.25 by 2018. Additional efforts can build on this momentum to raise wages even further and to provide important worker benefits, such as guaranteed sick days, which recently passed in Massachusetts. As new real estate investments come to Detroit, development projects that receive public subsidy should meet requirements to provide good jobs to local residents, contract opportunities for local businesses, and other such community benefits that will deepen the local job creation impact of these investments. The currently proposed citywide [Community Benefits Ordinance](#) is one such policy tool to ensure that existing residents are able to participate in the decisions of how new investments come into their neighborhoods and that the region's growth contributes to economic opportunities for all.

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

In tandem with job creation efforts, it is vital for Detroit to connect its workers who have suffered from job losses with jobs that pay good wages and offer career opportunities. Communities of color, particularly in cities like Detroit, Pontiac, and Rochester Hills, face the highest unemployment in the region and earn significantly lower wages than their White counterparts with the same educational attainment.

Our analysis of strong industries and high-opportunity occupations reinforces the importance of current workforce training efforts in industries like health care and information technology. Partnerships between employers and workforce agencies – such as [ExperiencIT](#) and [Michigan Earn and Learn](#) – have proven track records connecting workers to good careers. ExperiencIT provides eight weeks of job training in informational technology; the first class of 43 students graduated in fall 2014, and over half

the graduates obtained full-time positions with partner companies. Launched in 2011, Michigan Earn and Learn served nearly 1,300 unemployed residents during its first 18 months, 44 percent of whom had a high school diploma or less of education and over a third of whom had criminal records. Working with 80 employers, training providers were able to place nearly 900 participants in transitional jobs primarily in manufacturing, retail, and health care.² Earn and Learn has proven to be a national model for providing residents who have significant barriers to employment with the skills training and job experience they need to develop longer-term careers.

Strengthen educational pathways

Educational attainment for Black and Latino residents is a critical issue for the long-term economic strength of the region; while 43 percent of all jobs in Michigan by 2020 will require an associate's degree or higher, only 17 percent of Latino immigrants, 24 percent of Black residents, and 25 percent of U.S.-born Latinos have attained that level of

Implications

Building a more equitable region

(continued)

education or higher. The region's rate of disconnected youth – those not in school or working – is 15 percent, higher than most Midwestern regions. Programs like the [Detroit Scholarship Fund](#), administered by the Detroit Regional Chamber, grants free tuition for any Detroit-resident high school graduate for an associate's degree or technical certification at five local community colleges. Scholarships like these 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 region. Programs like these should be strengthened and expanded to increase high school and associate degree graduation rates throughout the region. Educational supports should begin even earlier, with middle-school and high-school curricula that introduce important 21st century skills, like coding and app and website development.

Expand transportation choices and mobility

Transportation is one of the largest barriers faced by low-income residents accessing

school, a job, day care, and other daily necessities. Nearly one in five Black households in Detroit do not own a car, but with limited transit service in the city, a resident's commute to the job-rich Downtown and Midtown areas is nearly four times longer by transit than by car.³ New investments in the M-1 light rail line in Downtown and Midtown Detroit and plans to launch bike-sharing in the city will increase mobility for some residents. But with many job and housing opportunities outside of Detroit, the newly created Regional Transit Authority has an important role to play in developing a robust, safe, and affordable transit system, including expanded bus services between cities and suburbs and across the region.

Create healthier and safer communities

Investments in healthy communities could reduce health gaps for people of color, create more vibrant places, and strengthen economic productivity. Many low-income neighborhoods face significant infrastructure needs that impact their health, including

blight removal, working streetlights, guaranteed affordable access to water, and safe streets. Grass-roots initiatives such as [Healthy Neighborhoods for a Healthy Detroit](#), a partnership with the University of Michigan's School of Public Health, are identifying the potential health and equity effects of redistributing city service and infrastructure investments toward more populated parts of the city, as proposed in the [Detroit Future City](#) framework. The city is also home to scores of innovative urban agriculture projects, food justice activists and social entrepreneurs who are providing healthy alternatives for low-income residents. Although the region has faced considerable population loss, there is a lack of quality affordable housing for low-income residents. As the City of Detroit emerges from bankruptcy, strong policies need to be in place to ensure resident participation in decisions impacting their neighborhoods, from blight mitigation to new development, and to direct new investments toward building healthy communities.

Implications

Building a more equitable region

(continued)

Ensure diverse civic participation and leadership to advance regional equity

Although residential segregation has been declining, the Detroit region still ranks first in Black-White segregation. Extreme differences in resident demographics, unemployment, and poverty rates across geography underlines the importance of broad civic participation and diverse leadership to ensure all communities are involved in regional decision making. Public, private, and philanthropic partners should support leadership development and capacity-building efforts focused on historically underrepresented communities to build the region's multicultural and multiracial regional leadership. The [Michigan Roundtable for Diversity and Inclusion](#), for example, has led a number of important initiatives to develop leadership to advance regional equity and inclusion. The regional Fair Housing Equity Assessment completed recently under a grant from the U.S. Department of Housing and Urban Development (HUD) to Southeast Michigan Council of Governments (SEMCOG), when combined with the new

HUD rule to Affirmatively Further Fair Housing, could be a basis for further dialogue and action to increase access to communities of opportunity.

¹ National Equity Atlas, Job and GDP growth indicator from U.S. Bureau of Economic Analysis data, <http://nationalequityatlas.org/indicators?ind=7206>.

² Margaret Schultz, Michigan Earn and Learn: An Outcome & Implementation Evaluation of a Transitional Job and Training Program (Chicago, IL: Social Impact Research Center, 2014), http://socialimpactresearchcenter.issuelab.org/resource/michigan_earn_and_learn_an_outcome_and_implementation_evaluation_of_a_transitional_job_and_training_program.

³ Mass Economics, Presentation to the Innovation Districts Advisory Group at Brookings Institution, Washington, D.C. October 9, 2014.

Data and methods

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Data source summary and regional geography

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

The specific data sources are listed in the table on the right. Unless otherwise noted, the data used to represent the region were assembled to match the six-county region defined as a metropolitan statistical areas by the U.S. Office of Management and Budget, and includes the following counties: Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne.

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

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

Data source summary and regional geography

(continued)

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

Data and methods

Selected terms and general notes

Broad racial/ethnic origin

In the analyses presented, two different racial/ethnic categorizations are used depending on whether or not the Arab American population is broken out. All categorization of people by race/ethnicity and nativity is based on individual responses to various census surveys.

For all analyses that *do not* break out the Arab American population all people were first assigned to one of six mutually exclusive racial/ethnic categories, depending on their response to two separate questions on race and Hispanic origin as follows:

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

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

For all analyses that *do* break out the Arab American population, we followed the methodology described in a report on Michigan’s Arab American population by the Arab American Institute of Washington, D.C. (see http://b.3cdn.net/aai/dfab1c90e9a819c9c1_tkm6iyilb.pdf). We began with the racial/ethnic categorization described above

and re-categorized all people into a new “Arab American” category based on their response(s) to the census questions on ancestry and/or language spoken at home (virtually all of those we ultimately categorized as Arab American identify racially as non-Hispanic White and were thus removed from the White category). The census reports up to two responses to the question on ancestry, and people were re-categorized if any response identified a country/region, or country/region and language combination defined in the aforementioned report as Arab American.

Nativity

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

Detailed racial/ethnic ancestry

Given the diversity of ethnic origin and

Data and methods

Selected terms and general notes

(continued)

substantial presence of immigrants among the Latino, Asian, and Arab American populations, we sometimes present data for more detailed racial/ethnic categories within these groups. In order to maintain consistency with the broad racial/ethnic categories, and to enable the examination of second- and higher-generation immigrants, these more detailed categories (referred to as “origin” or “ancestry”) are drawn from the same two questions on race and Hispanic origin. For example, while country-of-origin information could have been used to identify Filipinos among the Asian population or Salvadorans among the Latino population, it could only do so for immigrants and not the U.S.-born population. For the Arab American population, however, responses to the question on race do not provide sufficient detail to identify subgroups so we utilize the responses to the question on ancestry.

Other selected terms

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

- The terms “region,” “metropolitan area,” “metro area,” and “metro,” are used interchangeably to refer to the geographic areas defined as Metropolitan Statistical Areas under the OMB’s December 2003 definitions.
- The term “neighborhood” is used at various points throughout the equity profile. While in the introductory portion of the profile this term is meant to be interpreted in the colloquial sense, in relation to any data analysis it refers to census tracts.
- The term “communities of color” generally refers to distinct groups defined by race/ethnicity among people of color.
- The term “high-poverty neighborhood” refers to census tracts with a poverty rate of greater than or equal to 40 percent.
- The term “high POC tracts” (or “high people-of-color tracts”) refers to census tracts in which people of color account for 86 percent of the population or more.
- The term “full-time” workers refers to all persons in the IPUMS microdata who reported working at least 45 or 50 weeks (depending on the year of the data) and

usually worked at least 35 hours per week during the year prior to the survey. A change in the “weeks worked” question in the 2008 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 http://www.census.gov/acs/www/Downloads/methodology/content_test/P6b_Weeks_Worked_Final_Report.pdf.

Data and methods

Selected terms and general notes

(continued)

General notes on analyses

Below we provide some general notes about the analysis conducted:

- At several points in the profile we present rankings comparing the profiled region to the “largest 150 metros” or “largest 150 regions,” and refer in the text to how the profiled region compares with these metros. In all such instances, we are referring to the largest 150 metropolitan statistical areas in terms of 2010 population, based on the OMB’s December 2003 definitions.
- In regard to monetary measures (income, earnings, wages, etc.) the term “real” indicates the data has been adjusted for inflation. All inflation adjustments are based on the Consumer Price Index for all Urban Consumers (CPI-U) from the U.S. Bureau of Labor Statistics, available at <http://www.bls.gov/cpi/cpifiles/cpai.txt>.
- Some may wonder why the graph on page 35 indicates the years 1979, 1989, and 1999 rather than the actual survey years from which the information is drawn (1980, 1990, and 2000, respectively). This is because income information in the

decennial census for those years is reported for the year prior to the survey. While seemingly inconsistent, the actual survey years are indicated in the graphs on page 41 depicting rates of poverty and working poverty, as these measures are partly based on family composition and work efforts at the time of the survey, in addition to income from the year prior to the survey.

Data and methods

Summary measures from IPUMS microdata

About IPUMS microdata

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

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

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

A note on sample size

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

Geography of IPUMS microdata

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

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

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

Data and methods

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

Demographic change and what is referred to as the “racial generation gap” (pages 27-28) are important elements of the equity profile. Due to their centrality, care was taken to generate consistent estimates of people by race/ethnicity and age group (under 18, 18-64, and over 64) for the years 1980, 1990, 2000, and 2010, at the county level, which was then aggregated to the regional level and higher. The racial/ethnic groups include non-Hispanic White, non-Hispanic Black, Hispanic/Latino, non-Hispanic Asian and Pacific Islander, non-Hispanic Native American/Alaska Native, and non-Hispanic Other (including other single race alone and those identifying as multiracial). While for 2000 and 2010, this information is readily available in SF1 of each year, for 1980 and 1990, estimates had to be made to ensure consistency over time, drawing on two different summary files for each year.

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

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

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

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

Data and methods

Adjustments made to demographic projections

On page 25, national projections of the non-Hispanic White share of the population are based on the U.S. Census Bureau's 2014 National Population Projections. However, because these projections follow the OMB 1997 guidelines on racial classification and essentially distribute the other single-race alone group across the other defined racial/ethnic categories, adjustments were made to be consistent with the six broad racial/ethnic groups used in our analysis.

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

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

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

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

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

Data and methods

Adjustments made to demographic projections

(continued)

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

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

Data and methods

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

The data presented on page 31 on national gross domestic product (GDP) and its analogous regional measure, gross regional product (GRP) are based on data from the U.S. Bureau of Economic Analysis (BEA). However, due to changes in the estimation procedure used for the national (and state-level) data in 1997, a lack of metropolitan area estimates prior to 2001, and no available county-level estimates for any year, a variety of adjustments and estimates were made to produce a consistent series at the national, state, metropolitan area, and county levels from 1969 to 2012.

Adjustments at the state and national levels

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

to a North American Industry Classification System (NAICS) basis in 1997, data prior to 1997 were adjusted to avoid any erratic shifts in gross product in that year. While the change to NAICS basis occurred in 1997, BEA also provides estimates under 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 the metropolitan-area level, and were compared with BEA's official metropolitan area estimates for 2001 and later. They were found to be very close, with a correlation coefficient very close to one (0.9997). Despite the near-perfect correlation, we still used the official BEA estimates in our final data series for 2001 and later. However, to avoid any erratic shifts in gross product during the years up until 2001, we made the same sort of adjustment to our estimates of gross product at the metropolitan-area level that was made to the state and national data – we figured the 2001 ratio of the official BEA estimate to our initial estimate, and multiplied it by our initial estimates for 2000 and earlier to get our final estimate of gross product at the metropolitan-area level.

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

Data and methods

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

(continued)

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

Data and methods

Middle class analysis

Page 38 of the equity profile shows a decline in the share of households falling in the middle class in the region over the past four decades. To analyze middle class decline, we began with the regional household income distribution in 1979 – the year for which income is reported in the 1980 Census (and the 1980 IPUMS microdata). The middle 40 percent of households were defined as “middle class,” and the upper and lower bounds in terms of household income (adjusted for inflation to be in 2010 dollars) that contained the middle 40 percent of households were identified. We then adjusted these bounds over time to increase (or decrease) at the same rate as real average household income growth, identifying the share of households falling above, below, and in between the adjusted bounds as the upper, lower, and middle class, respectively, for each year shown. Thus, the analysis of the size of the middle class examined the share of households enjoying the same relative standard of living in each year as the middle 40 percent of households did in 1979.

Data and methods

Assembling a complete dataset on employment and wages by industry

We report analyses of jobs and wages by industry on pages 45 through 48. These are based on an industry-level dataset constructed using two-digit NAICS industry data from the Quarterly Census of Employment and Wages (QCEW) of the Bureau of Labor Statistics (BLS). Due to some missing (or nondisclosed) data at the county and regional levels, we supplemented our dataset using information from Woods & Poole Economics, Inc., which contains complete jobs and wages data for broad, two-digit NAICS industries at multiple geographic levels. (Proprietary issues barred us from using the Woods & Poole data directly, so we instead used it to complete the QCEW dataset.) While we refer to counties in describing the process for “filling in” missing QCEW data below, the same process was used for the metro area and state levels of geography.

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

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

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

in the 1990 to 1995 period, we estimated the Woods & Poole jobs and wages figures using a simple straight-line approach. We then standardized the Woods & Poole industry codes to match the NAICS codes used in the QCEW.

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

Data and methods

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

The analysis presented on page 45 uses our filled-in QCEW dataset (for more on the creation of this dataset, see the previous page, “Assembling a complete dataset on employment and wages by industry”), and seeks to track shifts in regional industrial job composition and wage growth over time by industry wage level.

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

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

This approach was adapted from a method used in a Brookings Institution report, *Building From Strength: Creating Opportunity in Greater Baltimore's Next Economy*. For more information, see http://www.brookings.edu/~media/research/files/reports/2012/4/26%20baltimore%20economy%20vey/0426_baltimore_economy_vey.pdf.

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

Data and methods

Analysis of occupations by opportunity level

Pages 49-57 of the equity profile present an analysis of “occupational opportunity.” The analysis seeks to identify occupations in the region that are of “high opportunity” for workers, but also to associate each occupation with a “typical” level of education that is held by workers in that occupation, so that specific occupations can be examined by their associated opportunity level for workers with different levels of educational attainment. In addition, once each occupation in the region is defined as being of either high, medium, or low opportunity, based on the “occupation opportunity index,” this general level of opportunity associated with jobs held by workers with different education levels and backgrounds by race/ethnicity and nativity is examined, in an effort to better understand differences in access to high-opportunity occupations in the region while holding broad levels of educational attainment constant. For that analysis, which appears on pages 54-57, data on workers is from the 2010 IPUMS 5-year ACS, while data on occupations is mostly from 2011 (as described below).

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

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

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

Third, the level of occupational detail at which the analysis was conducted, and at which the lists of occupations are reported, is the three-digit standard occupational classification (SOC) level. While data of considerably more detail is available in the OES, it was necessary to aggregate the OES data to the three-digit SOC level in order to associate education levels with the occupations. This information is not available in the OES data, and was estimated using 2010 IPUMS ACS microdata.

Data and methods

Analysis of occupations by opportunity level

(continued)

Given differences in between the two datasets in the way occupations are coded, the three-digit SOC level was the most detailed level at which a consistent crosswalk could be established.

Fourth, while most of the data used in the analysis are regionally specific, information on the education level of “typical workers” in each occupation, which is used to divide occupations in the region into the three groups by education level (as presented on pages 54-57), was estimated using national 2010 IPUMS ACS microdata (for the employed civilian noninstitutional population ages 16 and older). Although regionally specific data would seem to be the better choice, given the level of occupational detail at which the analysis is conducted, the sample sizes for many occupations would be too small for statistical reliability. And, while using pooled 2006-2010 data would increase the sample size, it would still not be sufficient for many regions, so national 2010 data were chosen given the balance of currency and sample size for each occupation. The implicit

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

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

candidate – even if the typical requirement for entry is lower.

Fifth, it is worthwhile to clarify an important distinction between the lists of occupations by typical education of workers and opportunity level, presented on pages 51-53, and the charts depicting the opportunity level associated with jobs held by workers with different education levels and backgrounds by race/ethnicity/nativity, presented on pages 54-57. While the former are based on the national estimates of typical education levels by occupation, with each occupation assigned to one of the three broad education levels described, the latter are based on actual education levels of workers in the region (as estimated using 2010 IPUMS ACS five-year microdata), who may be employed in any occupation, regardless of its associated “typical” education level.

Lastly, it should be noted that for all of the occupational analysis, it was an intentional decision to keep the categorizations by education and opportunity level fairly broad,

Data and methods

Analysis of occupations by opportunity level

(continued)

with three categories applied to each. For the categorization of occupations, this was done so that each occupation could be more justifiably assigned to a single typical education level; even with the three broad categories some occupations had a fairly even distribution of workers across them nationally, but, for the most part, a large majority fell in one of the three categories. In regard to the three broad categories of opportunity level, and education levels of workers shown on pages 55-57, this was kept broad to ensure reasonably large sample sizes in the 2010 IPUMS ACS five-year microdata that was used for the analysis.

Data and methods

Health data and analysis

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

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

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

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

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

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

Data and methods

Measures of diversity and segregation

In the equity profile we refer to a measure of racial/ethnic diversity (the “diversity score” on page 17) and several measures of residential segregation by race/ethnicity (the “multi-group entropy index” on page 70 and the “dissimilarity index” on page 71). While the common interpretation of these measures is included in the text of the profile, the data used to calculate them, and the sources of the specific formulas that were applied, are described below.

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

segregation occurred. In addition, while almost all the racial/ethnic categories for which indices are calculated are consistent with all other analyses presented in this profile, there is one exception. Given limitations of the tract-level data released in the 1980 Census, Native Americans are combined with Asians and Pacific Islanders in that year. For this reason, we set 1990 as the base year (rather than 1980) in the chart on page 71, but keep the 1980 data in other analyses of residential segregation as this minor inconsistency in the data is not likely to affect the analyses.

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

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

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

Data and methods

Food desert analysis

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

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

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

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

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

separate 2010 lists of supermarkets, supercenters, and large grocery stores (food stores selling all major categories of food and having annual sales of at least \$2 million).

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

Data and methods

Estimates of GDP gains without racial gaps in income

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

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

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

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

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

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

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