



An Equity Profile of Rhode Island

DRAFT
February 19, 2013

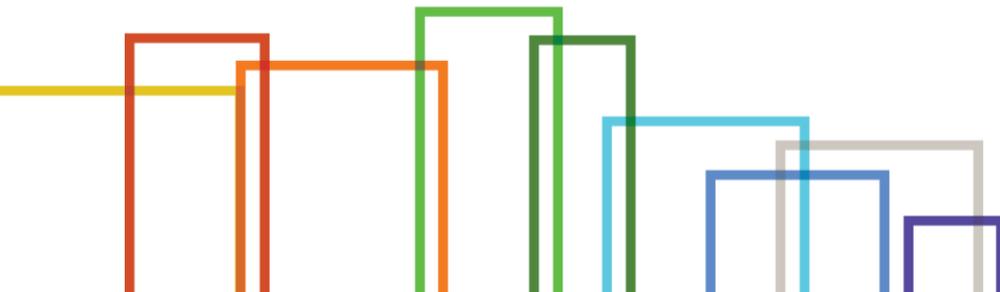


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Equity Profiles are products of a partnership between PolicyLink and PERE, the Program for Environmental and Regional Equity at the University of Southern California.

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Introduction to the Framework

Overview

Across the country, regional planning organizations, 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. Of these partnerships, 87 applied for and received grants from the Sustainable Communities Initiative, a partnership between the Department of Housing and Urban Development, the Department of Transportation, and the Environmental Protection Agency, to develop coordinated regional sustainable communities plans.

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

This equity profile of Rhode Island was developed to help the Rhode Island Sustainable Communities Initiative consortium effectively address equity issues throughout the planning process. As well, we hope this will be a useful tool for other equity-focused actors as they work to achieve equity for the state.

The Equity Indicators Framework

To plan for more equitable regions, communities first need to know how their region stands in terms of 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 indicators framework relies on a regional equity database maintained by our organizations that incorporates hundreds of data points from public and private data sources such as the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the Behavioral Risk Factor Surveillance Survey, and Woods and Poole Economics.

Why Equity Matters Now

The face of America is changing.

Our 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 2042, we will be a majority people-of-color nation.

The fate of the nation hinges on how we invest in communities of color.

As the country witnesses new extremes of inequality alongside the emergence of a new people-of-color majority, equity has become an economic imperative as well as a moral one.

Research shows that:

- More equitable nations and regions experience stronger growth
- Diverse companies achieve a better bottom-line
- A diverse population better connects to global markets

The way forward: an equity-driven growth model.

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

Regions are where this new growth model will be created.

Regions are the key competitive unit in the global economy, and the level where strategies are being incubated that bring about robust job growth that is linked to low-income communities and communities of color.

How Equitable is Your Region?

Regions are equitable when all residents—regardless of their race/ethnicity/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 **prepared 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.

Equity Indicator Framework

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

- Racial/Ethnic Diversity
- Demographic Change
- Population Growth
- Racial Generation Gap

Economic Vitality: *How is the region doing on measures of economic growth and well-being?*

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

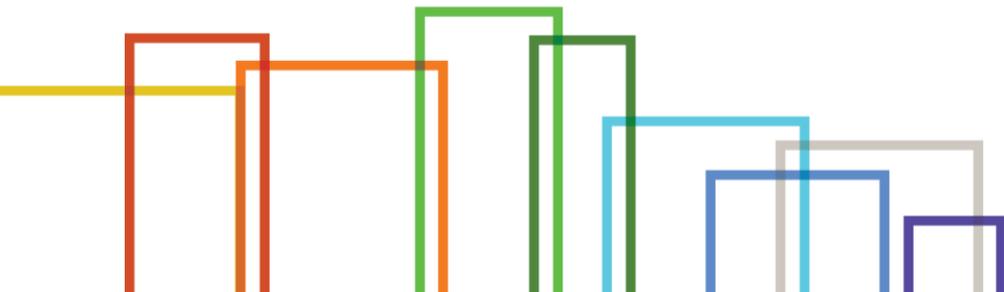
Readiness: *How prepared are the region's residents for the 21st century economy?*

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

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

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

Rhode Island



Defining the Region

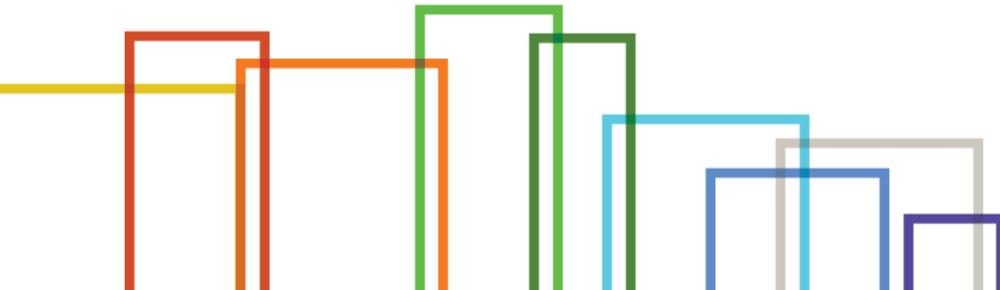
For the purposes of the equity profile and data analysis, the Rhode Island region is synonymous with the State of Rhode Island. All data for Rhode Island presented in the profile use this regional boundary.

An Overview of Rhode Island

Communities of color are the driving force in Rhode Island's population growth and essential to the state's economic success now and into the future. Despite the state's many economic strengths, wide racial gaps in income, education, health, and opportunity coupled with a shrinking middle class place the state's economic future at risk.

To secure a prosperous future, the state's leaders must take steps to build a more equitable and sustainable economy. Growing good jobs, connecting unemployed and low-wage workers to training, jobs and careers, and building communities of opportunity throughout the state are critical strategies for putting all of Rhode Island's residents on the path toward reaching their full potential.

Demographics



Demographics

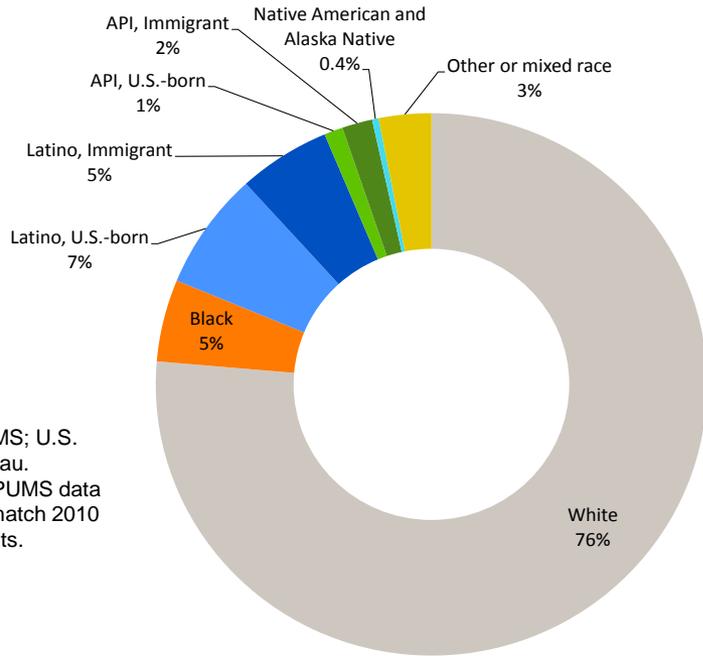
Summary

- Rhode Island has a growing representation from all major racial/ethnic groups, with the share of people of color increasing from seven percent to 24 percent between 1980-2010.
- The state continues to grow overall, but growth slowed dramatically in the last decade. All of the state's recent population growth is from communities of color.
- All of Rhode Island's largest cities are becoming more diverse, as well as throughout the state. By 2040, the state as a whole will be 41 percent people of color.
- The state experiences an above average and growing racial generation gap between the senior and youth populations, as the share of young people of color quickly increases and older populations tend to be white.

Demographics

A Predominantly White State with Growing Diversity

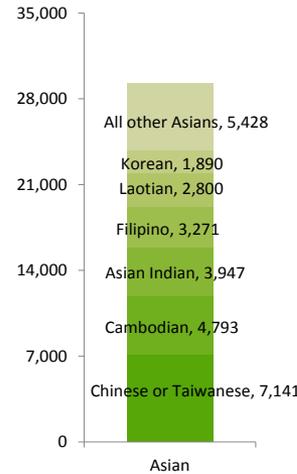
Race, Ethnicity, & Nativity, 2010



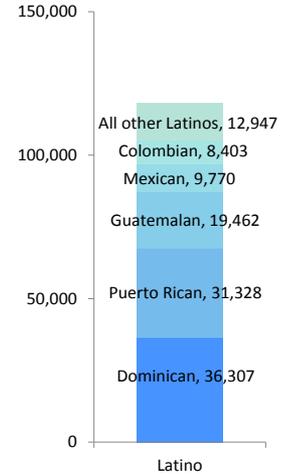
Source: IPUMS; U.S. Census Bureau. 2006-2010 IPUMS data adjusted to match 2010 Census results.

Out of the largest 150 metro areas, Rhode Island ranks 94th in diversity, with a population that is predominantly white. Twenty-four percent of residents are people of color, including several racial and ethnic groups. The Asian population is small but with a diversity of ethnic backgrounds, including Chinese/Taiwanese, Cambodian, Asian Indian, Filipino, Laotian, and Korean. The Latino population is mainly of Dominican and Puerto Rican background, followed by Guatemalan, Mexican, and Columbian.

Asian Population, 2006-2010



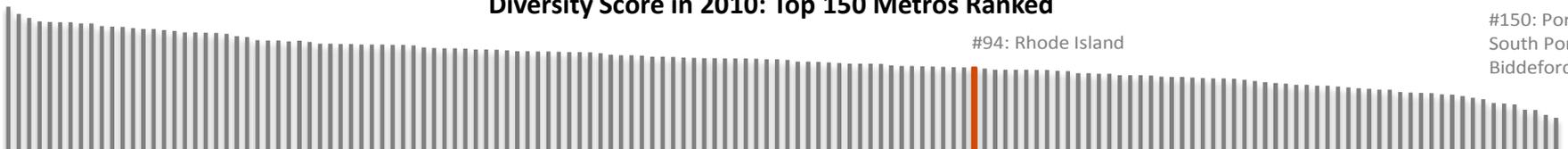
Latino Population, 2006-2010



Source: IPUMS

#1: Vallejo-Fairfield, CA

Diversity Score in 2010: Top 150 Metros Ranked



Source: U.S. Census Bureau
The Diversity Score is a measure of racial/ethnic diversity within each metropolitan area.

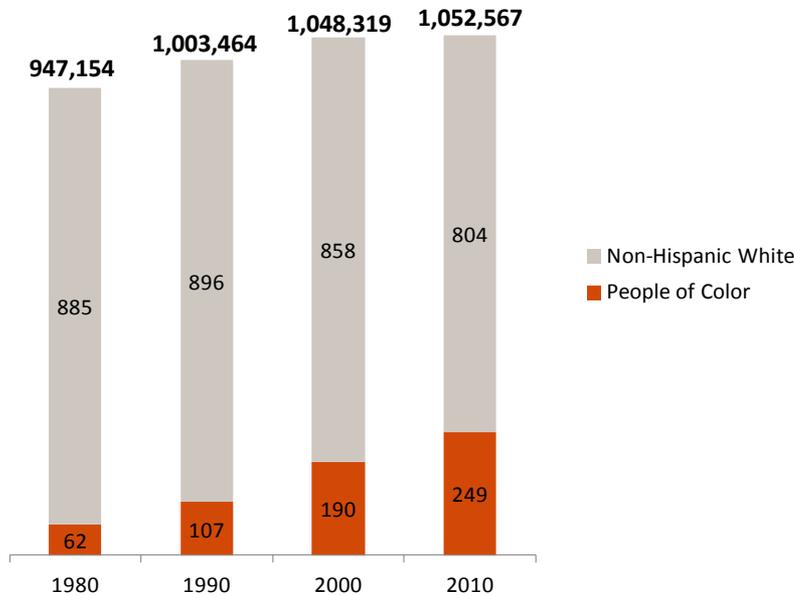
Demographics

People of Color Driving Growth and Change Over the Past Several Decades

Rhode Island grew by 11 percent since 1980, rising from a population of 947,000 to 1,053,000. The state experienced a relatively steady net population growth between 1980-2000, even as the white population decreased significantly beginning in the 1990s. For the last three decades, people of color are the clear drivers of population growth in Rhode Island.

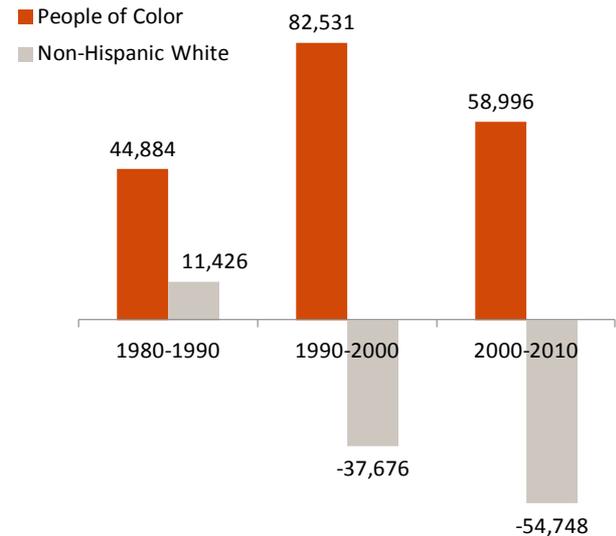
People of Color Sustaining the State's Growth Since 1980, Despite Slowed Growth

Total Population Growth by Decade, 1980-2010



Source: U.S. Census Bureau

Composition of Growth by Decade, 1980-2010



Source: U.S. Census Bureau

Demographics

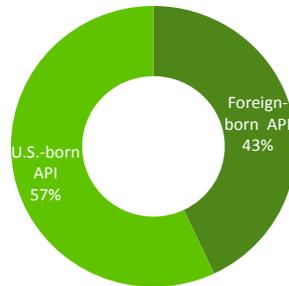
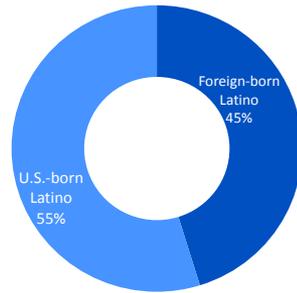
Latinos, Asians, and African Americans are Fastest Growing Populations

Over the last 30 years, the state has gone from being seven percent to 24 percent people of color. In just the last decade, Rhode Island's Latino population grew 44 percent, adding almost 40,000 residents. The Asian and African American populations also grew by 28 and 23 percent respectively. But, the non-Hispanic white population shrunk by six percent.

Most of the growth in the Latino and Asian populations is due to new births among U.S.-born residents.

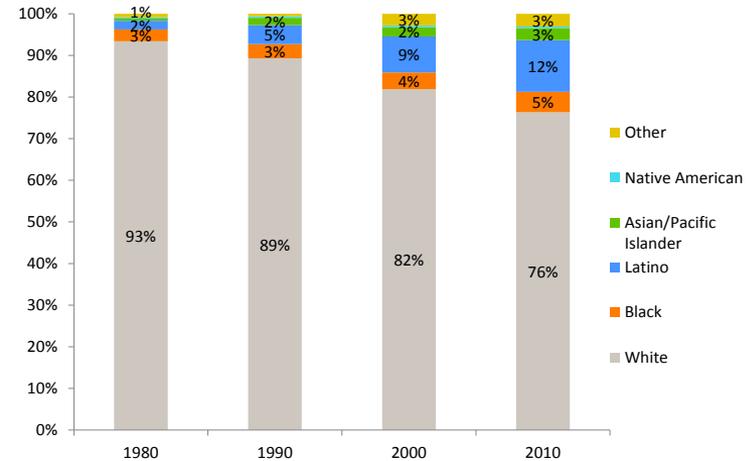
Latino and Asian Population Growth Mainly due to Births Among U.S.-Born Rather than Immigration

Nativity of the Latino and Asian Populations, 2006-2010

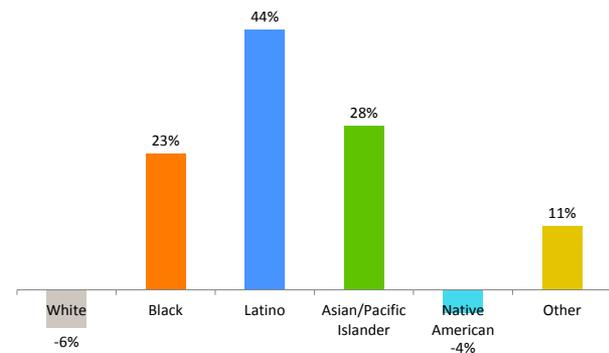


Source: U.S. Census Bureau

Rhode Island's Population Has Steadily Diversified Racial/Ethnic Composition, 1980-2010



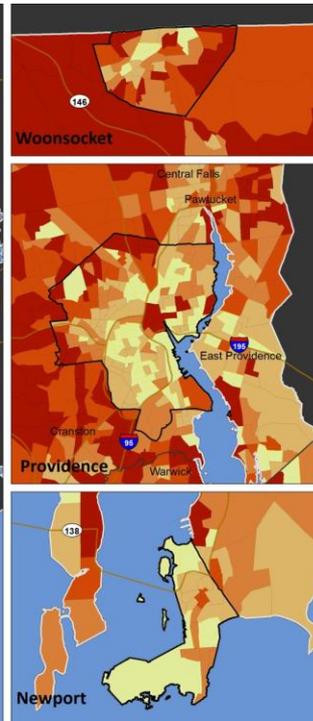
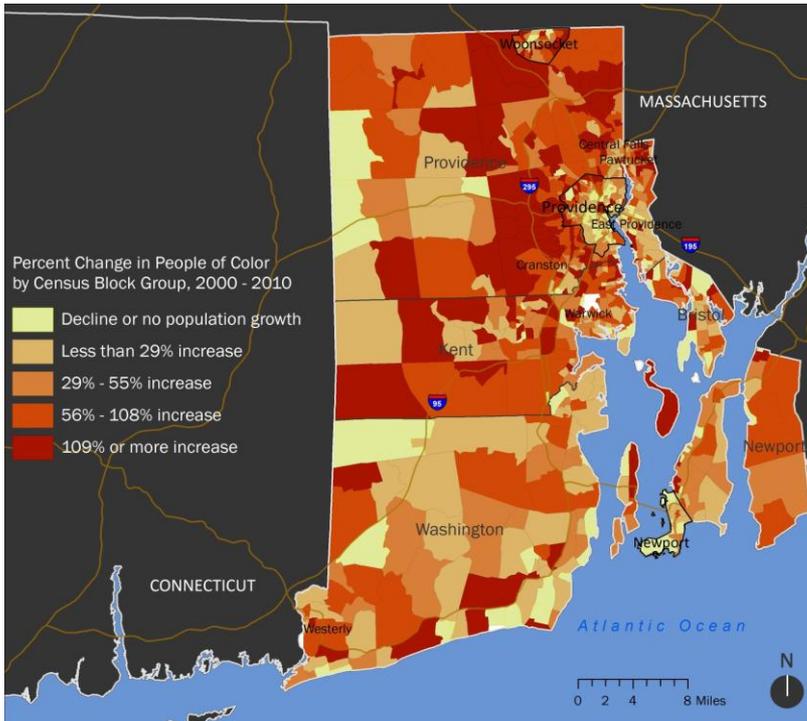
Latino, Asian, and Black Populations Grew the Most in the Past Decade Growth Rates of Major Racial/Ethnic Groups, 2000-2010



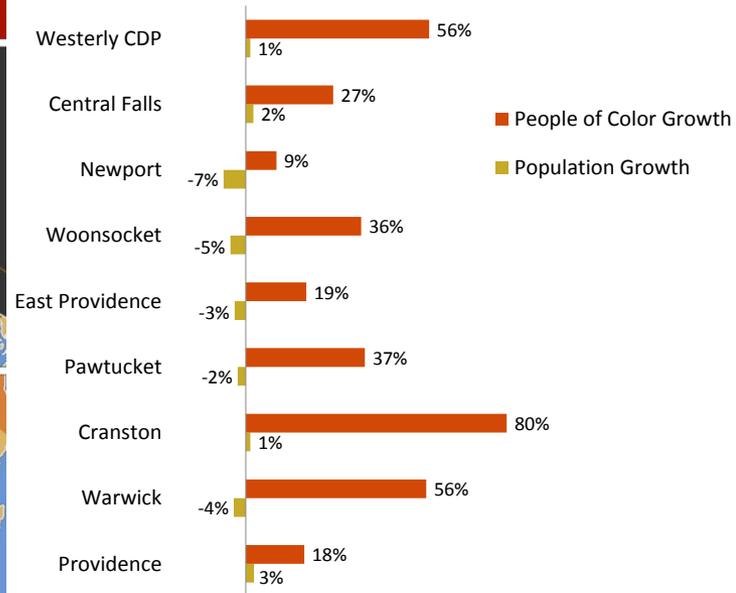
Demographics

Every Major City in the State is Becoming More Diverse

The number of people of color grew in all of Rhode Island’s nine largest cities. Cranston, Warwick, and Westerly had the highest percent increases in the number of people of color. At the Census block group level, many areas more than doubled the number of people of color, with many more showing significant increases throughout the state.



Over the Past Decade, the Number of People of Color Increased in All of Rhode Island’s Largest Cities
Net Population Growth, 2000-2010



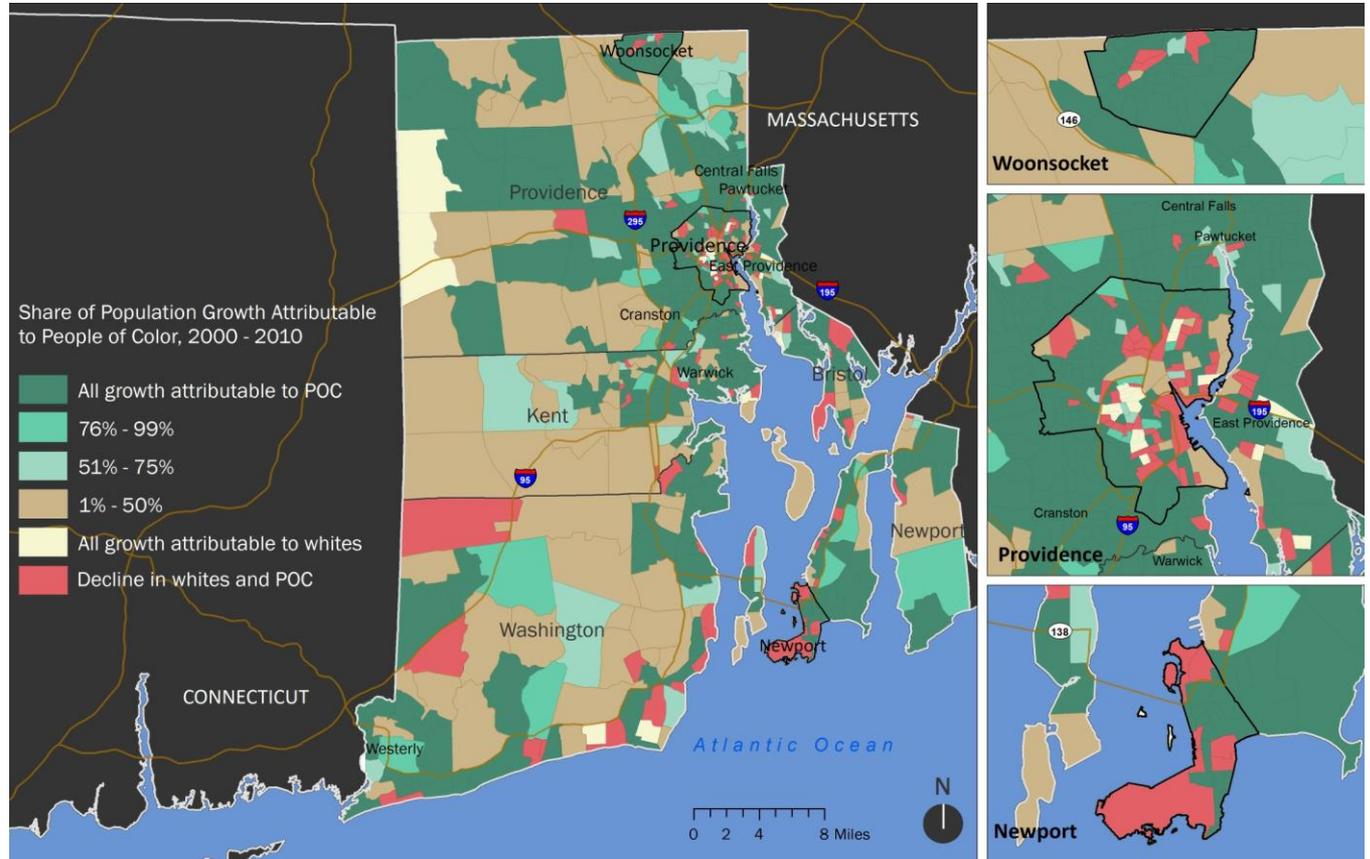
Sources: U.S. Census Bureau; Geolytics; TIGER/Line Areas in white are missing data.

Source: U.S. Census Bureau

Demographics

Diversity in Population Growth Throughout State

Not only are municipalities showing greater diversity, but people of color are also driving growth throughout the state. As shown by the share of net population growth attributable to people of color, much of the growth in Rhode Island—particularly in and around Westerly and the eastern and northeastern parts of the state—is entirely attributable to people of color.



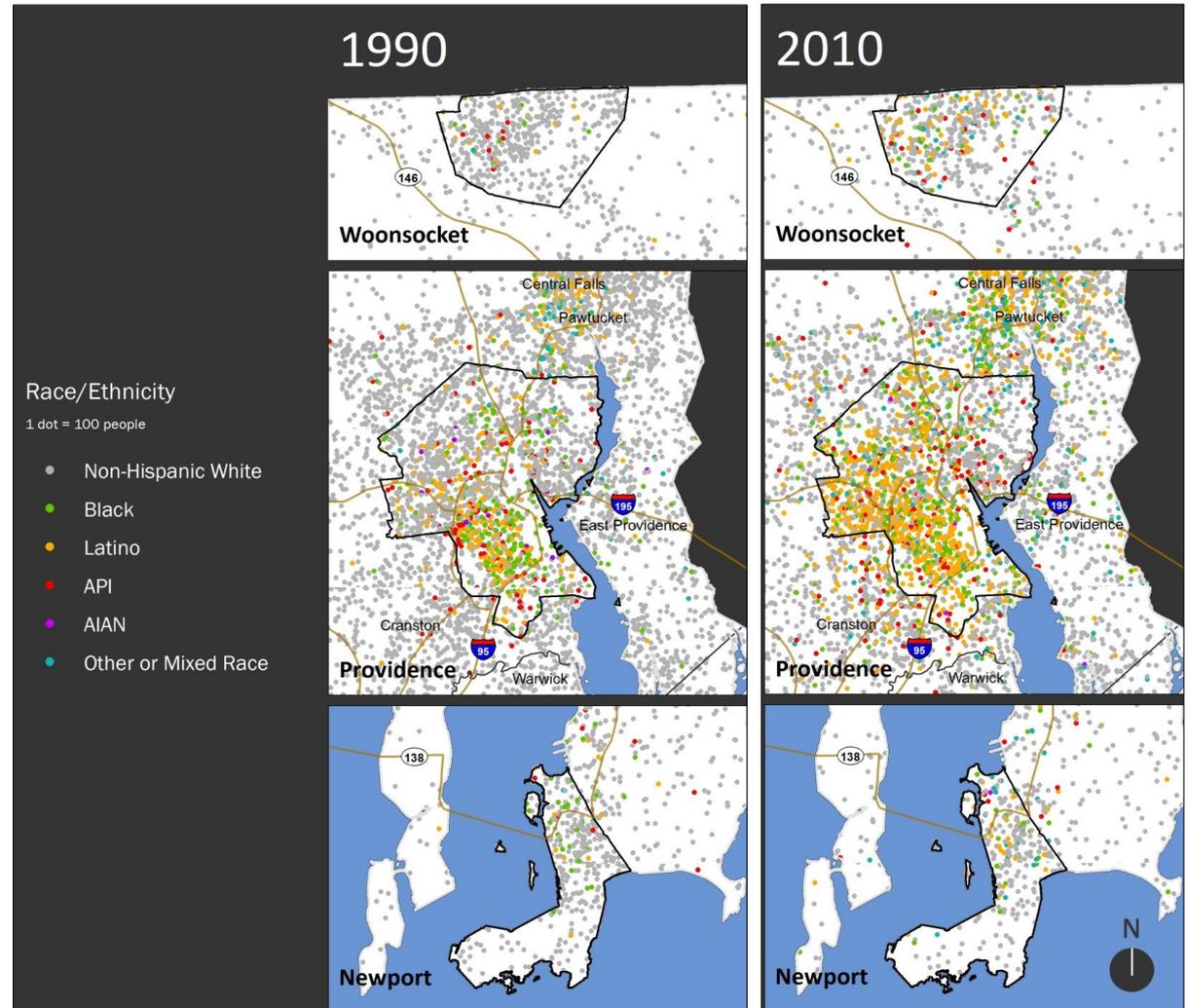
Sources: U.S. Census Bureau; Geolytics; TIGER/Line. Areas in white are missing data.

Demographics

Comparing Diversification Among the State's Cities

Although Providence had a moderate growth rate for people of color (18%) between 2000-2010, given its large population, the city experienced the vast majority of the net growth in people of color for the state overall (85%). Over the two decades between 1990-2010, this translates into a large increase in the number of people of color throughout the city.

Other cities, such as Woonsocket, experienced moderate diversification. On the other hand, Newport had the slowest rate of growth in the number of people of color among the state's nine largest cities.



Demographics

Rhode Island Will Continue to Diversify

By 2040, 41 percent of Rhode Island’s residents will likely be people of color, with Latinos reaching more than a quarter of the total population. The entire state will continue to diversify and it is expected that Providence will be majority people of color.

1980

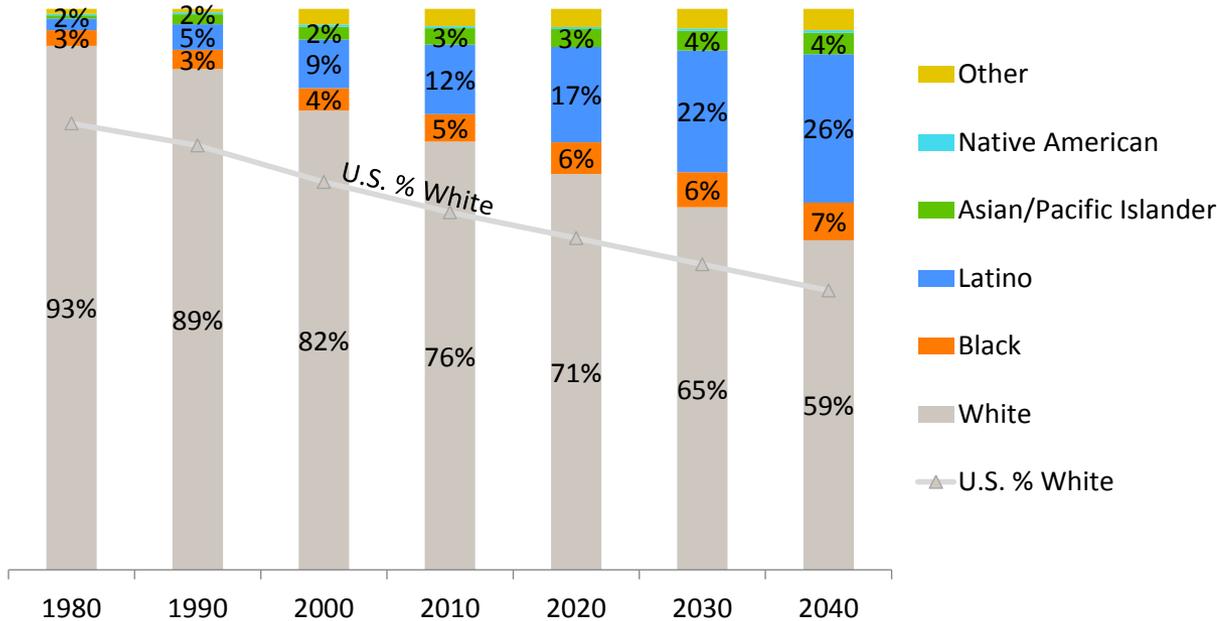
Percent People of Color by County

- Less than 30%
- 30% to 40%
- 40% to 50%
- Greater than 50%



The Population Will Continue to Grow More Diverse

Racial/Ethnic Composition, 1980-2040



2010



2040



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

Projected

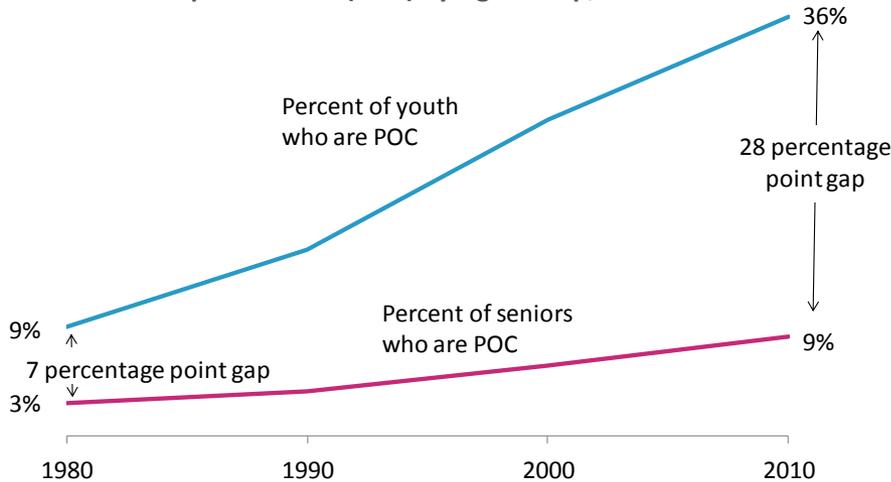
Demographics

A Growing Racial Generation Gap

Today, 36 percent of Rhode Island’s youth are people of color, while only 9 percent of the state’s seniors are—a racial generation gap of 28 percentage points. This gap widened over the last three decades as the share of young people of color quickly increased and older populations in the state tend to be white. This gap ranks 52nd among the largest 150 regions.

The Youth Population Has Diversified Much More Quickly than the Senior Population

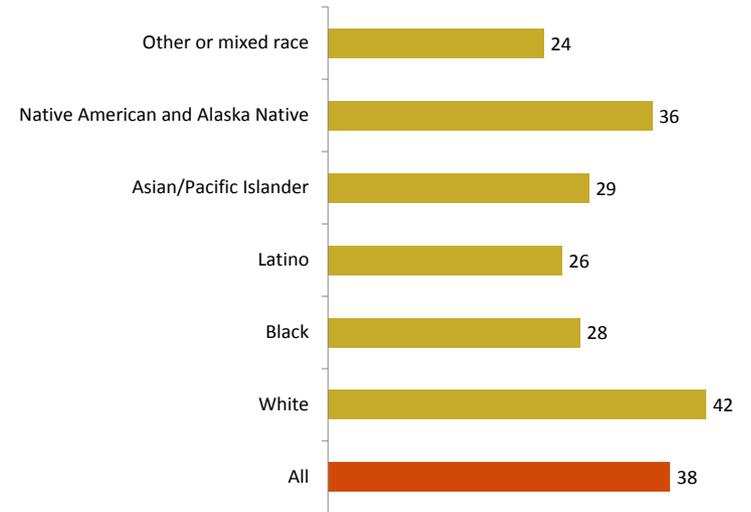
Percent People of Color (POC) by Age Group, 1980-2010



Source: U.S. Census Bureau

The State’s African Americans, Latinos, and People of Mixed Racial Backgrounds are Much Younger than Other Groups

Median Age by Race/Ethnicity/Nativity, 2006-2010



Source: IPUMS

#1: Naples-Marco Island, FL (48%)

The Racial Generation Gap in 2010: Top 150 Metros Ranked



Source: U.S. Census Bureau

Economic Vitality



Economic Vitality

Summary

- Although Rhode Island's economy has shown moderate GRP growth over the past few decades, the state has had relatively slow job growth since the early 1990s, and unemployment rates remain high after a sharp rise during the Great Recession.
- Income inequality in Rhode Island increased rapidly during the 1990s, but has improved slightly since 2000. Although wages have increased across the board for full-time workers since 1979, top earners have seen the highest increases and the state's middle-class is shrinking.
- Since 1990, poverty and working poverty in Rhode Island have remained below the national averages, but rates are much higher among people of color compared to whites.
- Although educational attainment is a leveler, economic gaps persist for communities of color, who have higher unemployment rates, lower wages, and less access to high-opportunity occupations than whites at nearly every education level.
- Gender gaps in economic opportunity exist as well, with white women and women of color earning lower wages than their male counterparts at every level of education examined.

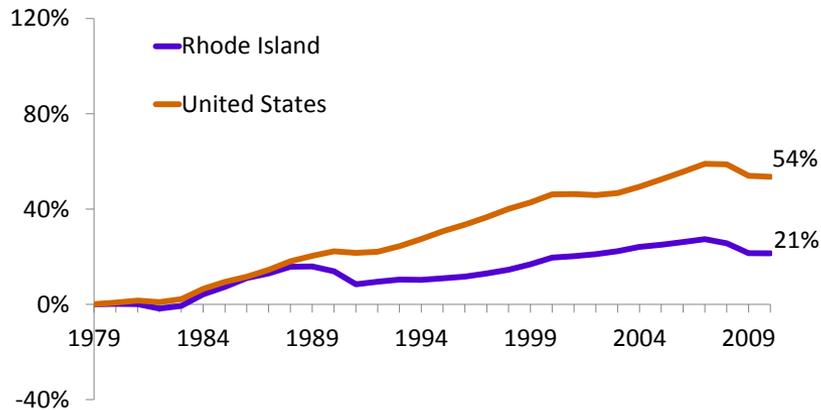
Economic Vitality

Growth is Producing Fewer Jobs

Economic growth, as measured by increases in jobs and Gross Regional Product (GRP) – which is the value of all goods and services produced – show mixed results for Rhode Island. While GRP has increased largely in line with national over the past several decades, job growth has lagged far behind the nation since 1988, with little gain between 2000 and 2007. Following the 2007 recession, the state experienced job losses similar to those of the nation.

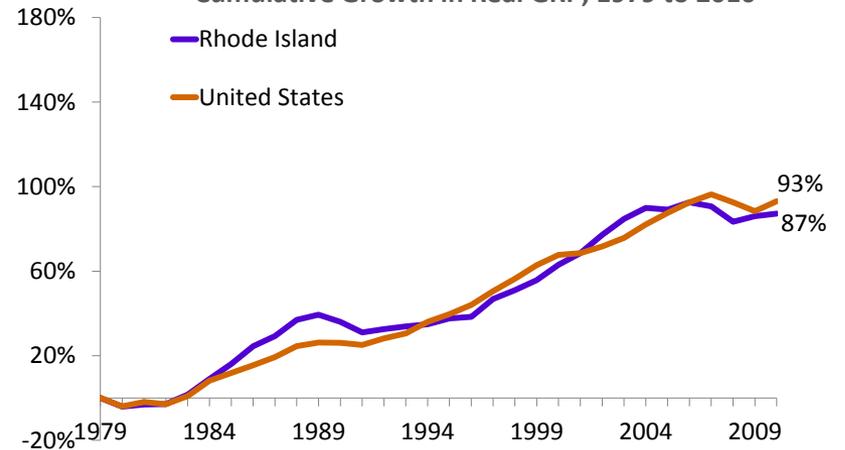
Job Growth Lagged Behind the National Average Since 1988

Cumulative Job Growth, 1979 to 2010



Gross Regional Product (GRP) Growth Keeping Pace with the Nation

Cumulative Growth in Real GRP, 1979 to 2010



Source: U.S. Bureau of Economic Analysis

Source: U.S. Bureau of Economic Analysis

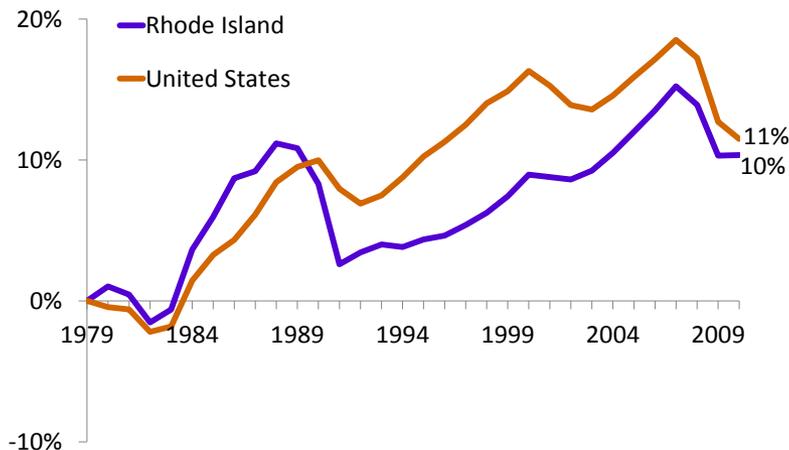
Economic Vitality

Job Growth Slow but Catching up Earnings on the Rise

Despite slow job growth in absolute terms, slow population growth has meant that the rise in jobs relative to the number of people has approached national average in recent years. However, this “catching up” in the last few years has coincided rapid decline in relative jobs during the Great Recession, so the trend is not entirely positive. While the job growth indicates the strength of the overall economy, it does not tell us about improvements in job quality. An additional indicator – earnings per job – helps us understand whether job growth is resulting in increased wages. Rhode Island has done well on this measure, consistently outpacing the nation since the early 1980s. Wages flattened in 2004 and declined following the Great Recession, erasing some earlier progress, but began to increase again in 2009.

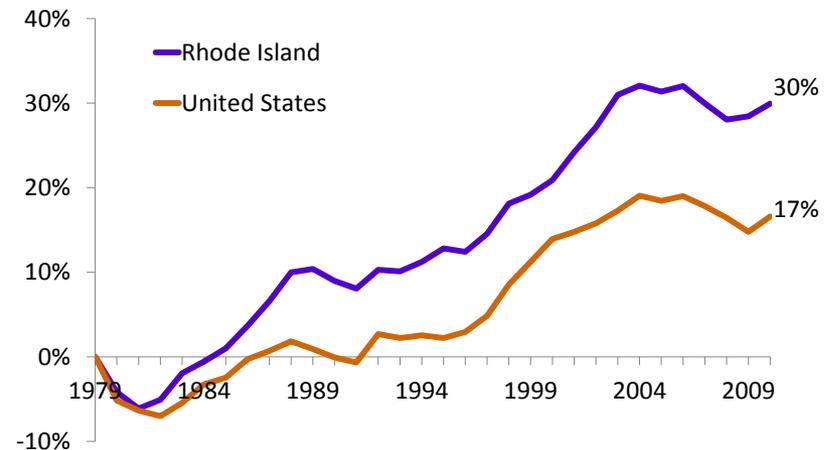
Growth in Jobs Relative to Population has been Lower than the National Average Since 1989

Cumulative Growth in Jobs-to-Population Ratio,
1979 to 2010



Earnings Growth Strong but Dipped during Recession

Cumulative Growth in Real Earnings-Per-Job,
1979 to 2010

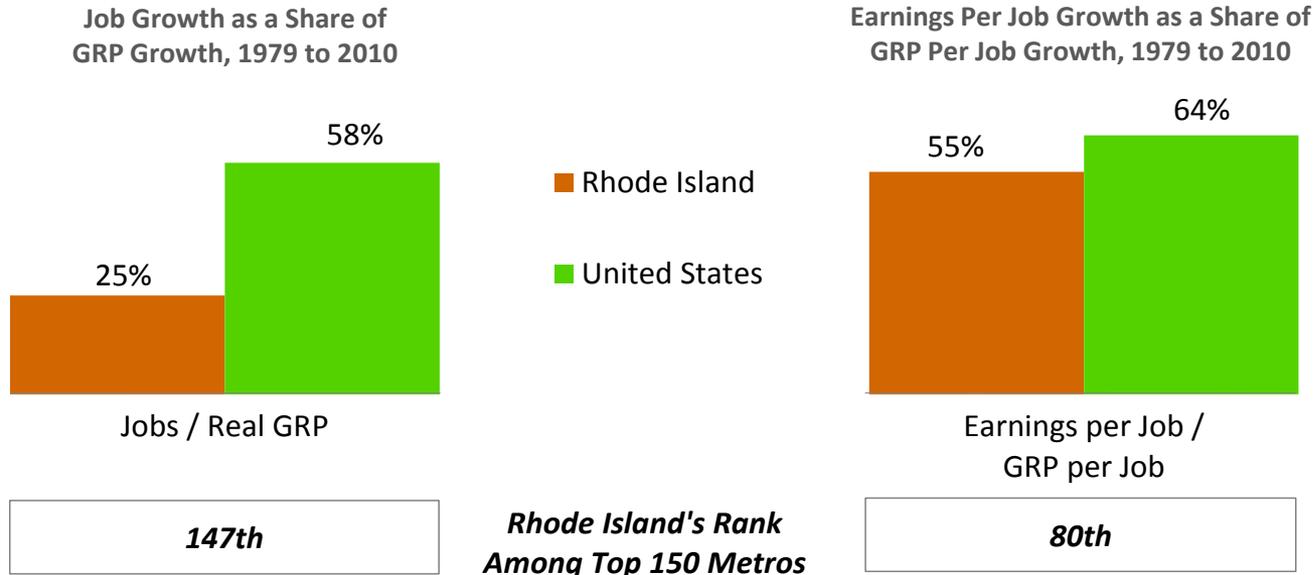


Economic Vitality

Weak Job Growth Relative to GRP

Another way to understand economic growth in Rhode Island is to consider how fast jobs have grown *relative* to GRP, and, similarly, how fast wages (earnings per job) have grown relative to output per job (GRP per job). Doing so provides a sense of how well economic growth is churning out new jobs and higher wages. Rhode Island has struggled on both fronts but particularly on job growth, which has only grown 25 percent as fast as GRP since 1979. This is substantially lower than job growth in the nation overall, and ranks Rhode Island toward the bottom of the 150 largest metro areas.

Weak Jobs and Earnings Growth Relative to GRP



Economic Vitality

Faltering Labor Market During the Downturn

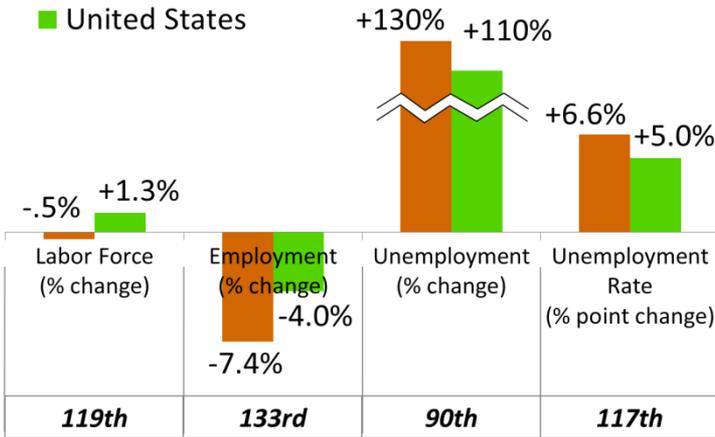
Rhode Island's labor market struggled during the labor market downturn caused by the Great Recession. As measured by rising unemployment rates, the downturn occurred in the region between 2006 and 2010. There was a sharp rise in the unemployment rate, exceeding that for the national overall, the overall labor force shrunk slightly and total employment declined faster than the national average during the downturn. According to data from the Brookings Institution, the region's faltering performance has continued since the recession ended, ranking 92nd among the 100 largest regions in its economic recovery. During the recovery, Rhode Island has done quite poorly in employment (98th) and GDP (90th), and only slightly better in housing prices (72nd) and unemployment (66th).

How Well Did the Labor Market Do During The Great Recession?

Changes in Labor Force Measures During the Downturn

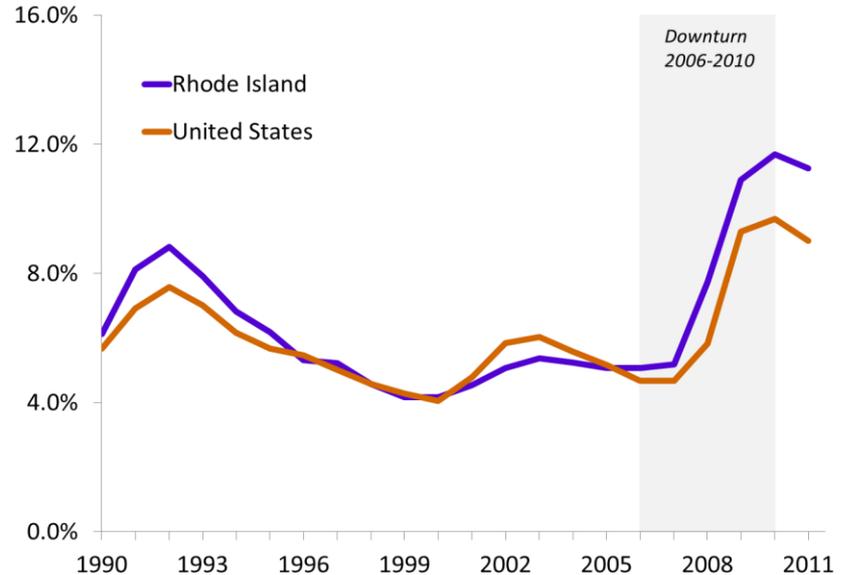
(Note: in all rankings 1st indicates best performing region)

- Rhode Island
- United States



Rhode Island's Rank Among Top 150 Metros

Unemployment Rate, 1990-2011



Unemployment Rate in 2011: Top 150 Metros Ranked

#1: Omaha-Council Bluffs, NE-IA (5%)

#150: Stockton, CA (17%)
#130: Rhode Island (11%)

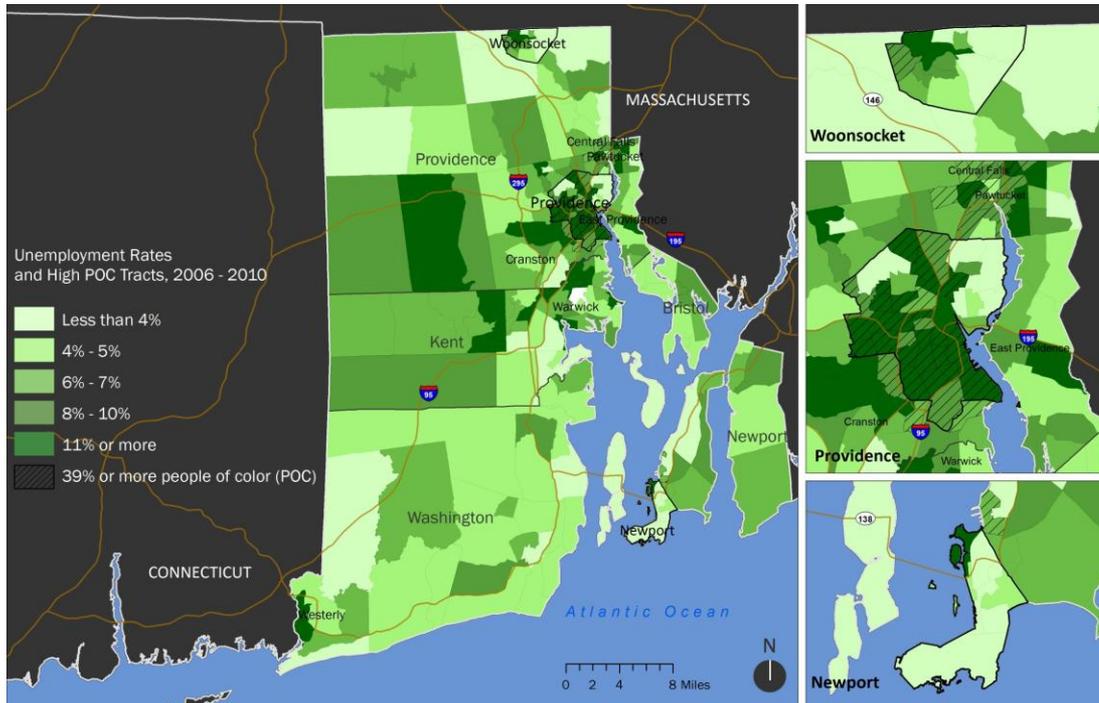


Sources: U.S. Bureau of Labor Statistics. Universe includes civilian non-institutional population ages 16 and older.

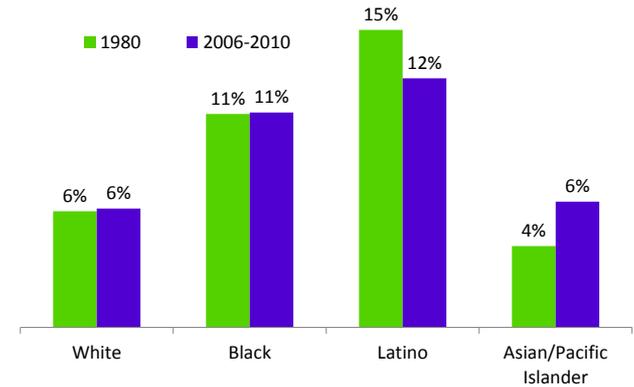
Economic Vitality

Unemployment Higher for Communities of Color

Latinos suffer from the highest unemployment rates, but the state's black population also has a disproportionately high rate. The 2007 recession had less of an effect on the Latino population than unemployment conditions in the early 80s, and vice versa for the Asian/Pacific Islanders. For black and White populations, unemployment is consistent with 30 years ago. High unemployment rates are mainly concentrated in Providence, Pawtucket, and Woonsocket, with a large portion of tracts also having a large population of people of color (+39%).



Unemployment by Race/Ethnicity



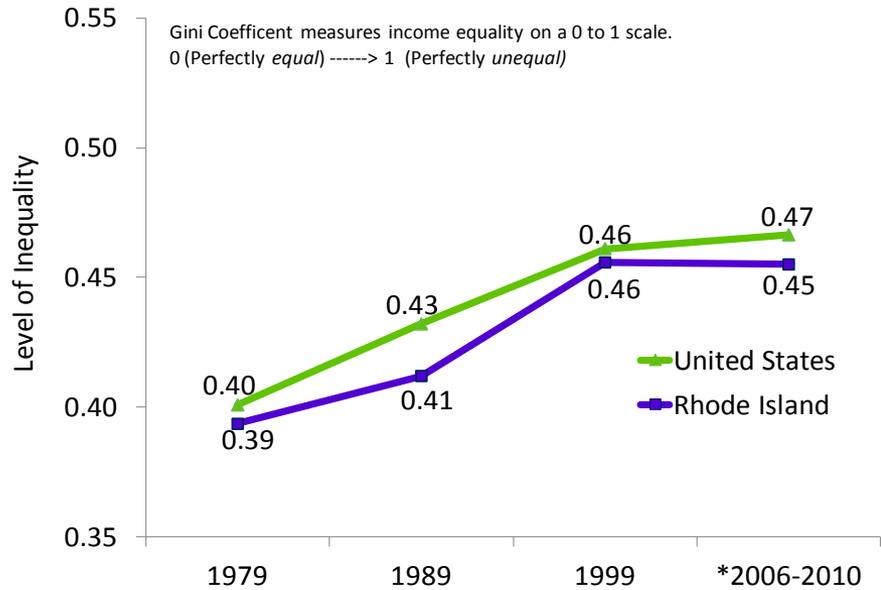
Source: IPUMS. Universe includes civilian population ages 25 through 64 not in group quarters.

Economic Vitality

Slightly Decreasing Inequality

Income inequality grew sharply in the U.S. over the past 30 years. Although Rhode Island's rate of inequality increased quickly in the 1990s to match the Nation in 2000, the rate has since decreased. Rhode Island ranks 59th in income inequality among the largest 150 regions, right in between Nashville (58th) and Kalamazoo (60th).

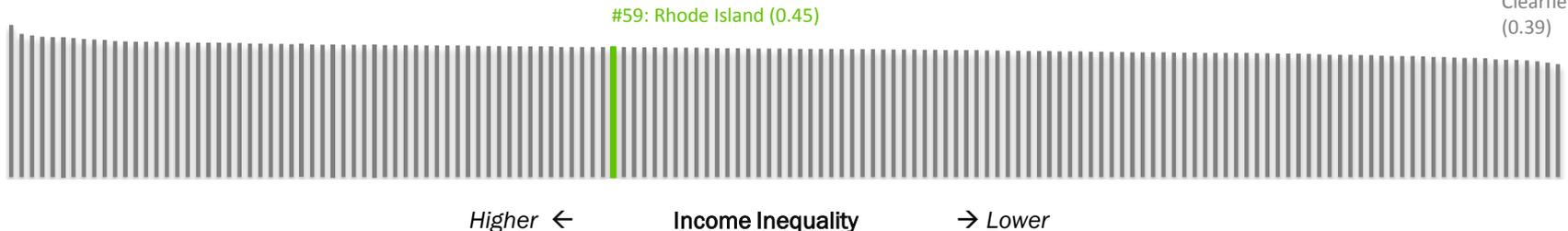
Household Income Inequality has Increased Sharply Since 1979
Gini Coefficient, 1979 to 2006-2010



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

The Gini Coefficient in 2006-2010: Top 150 Metros Ranked

#150: Ogden-Clearfield, UT (0.39)



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

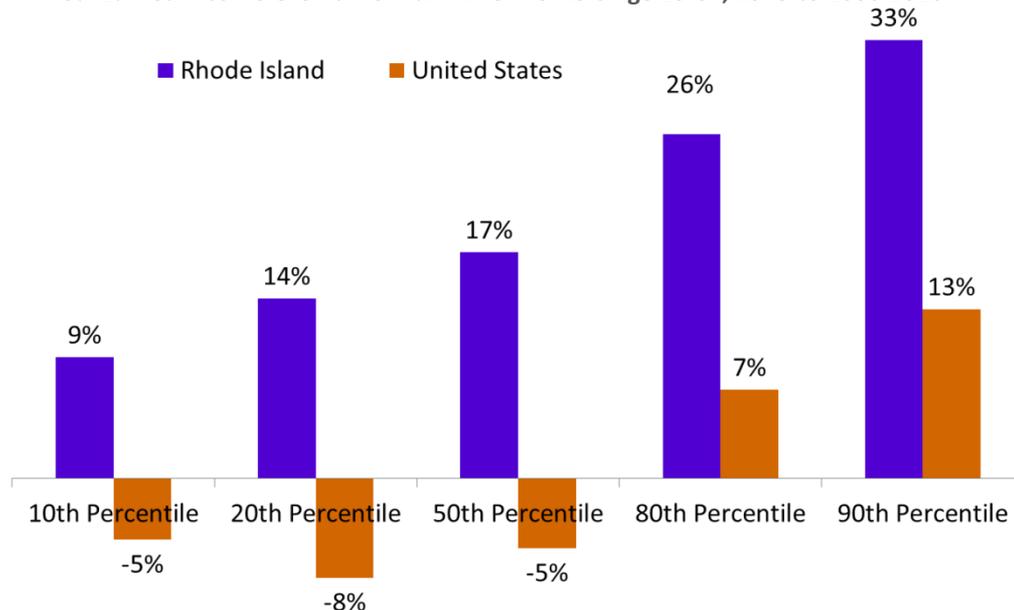
Economic Vitality

All Wages are Increasing, But Highest Gains to Top Earners

The *increasing* wages for all categories play a role in moderating Rhode Island’s economic inequality. After adjusting for inflation, incomes have *reversed* the national trend for the lower percentiles and shown increases for all income levels. Despite these positive signs for the low-to moderate-income workers, the largest income gains are with the highest earners—far outpacing the national rates.

As of 2006-2010, the level of inequality was similar throughout the wage distribution: the top percentile (90th) earned 2.2 times the middle (50th), which in turn earned 2.2 times the bottom (10th).

Income Gains are Highest for Those at the Top
Real Earned Income Growth for Full-Time Workers Age 25-64, 1979 to 2006-2010



Earned Income Percentiles and Ratios, 2006-2010

| | Earned Income Percentiles (\$2010) Full-Time Workers Ages 25-64 | | | | | Earned Income Ratios and Rankings (Top 150 Metros) | | | | | |
|---------------|--|----------|----------|----------|-----------|---|------|-----------|------|-----------|------|
| | 10th | 20th | 50th | 80th | 90th | 90th/50th | | 80th/20th | | 50th/10th | |
| | | | | | | Ratio | Rank | Ratio | Rank | Ratio | Rank |
| Rhode Island | \$21,000 | \$28,100 | \$45,738 | \$75,714 | \$100,000 | 2.2 | 104 | 2.7 | 102 | 2.2 | 85 |
| United States | \$18,905 | \$25,000 | \$42,673 | \$74,996 | \$101,636 | 2.4 | -- | 3.0 | -- | 2.3 | -- |

Sources: IPUMS.
Universe includes civilian noninstitutional full-time workers ages 25 through 64.

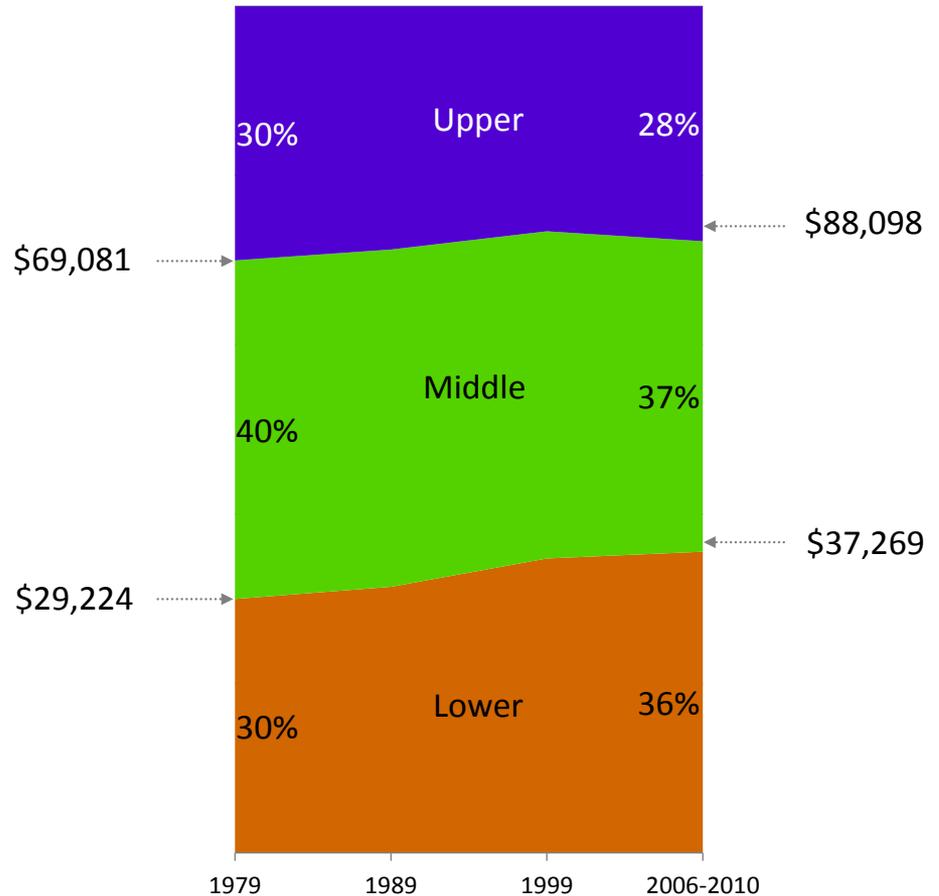
Economic Vitality

Shrinking Middle Class

Since 1980, the share of households with middle-class incomes decreased from 40 to 37 percent. The share of upper-income households also declined, from 30 to 28 percent. And the greatest changes have been at the bottom of the income distribution, with lower-income households growing from 30 to 36 percent.

Middle income households are defined here as the middle 40 percent of household income distribution. In 1979, those household incomes ranged from \$29,224 to \$69,081. To assess change in the middle class and corresponding income ranges, we calculated what the income ranges would be today if incomes had increased at the same rate as average household income overall. Today's middle class incomes would be \$37,269 to \$88,098, and 37 percent of households fall in that income range.

The Share of Middle Class Households Declined Since 1979
Household by Income Level, 1979 to 2006-2010
(all figures in 2010 dollars)

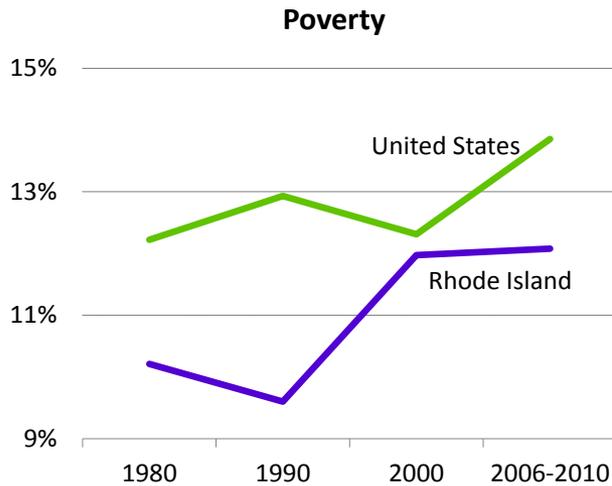


Source: IPUMS.
Universe includes all households (no group quarters).

Economic Vitality

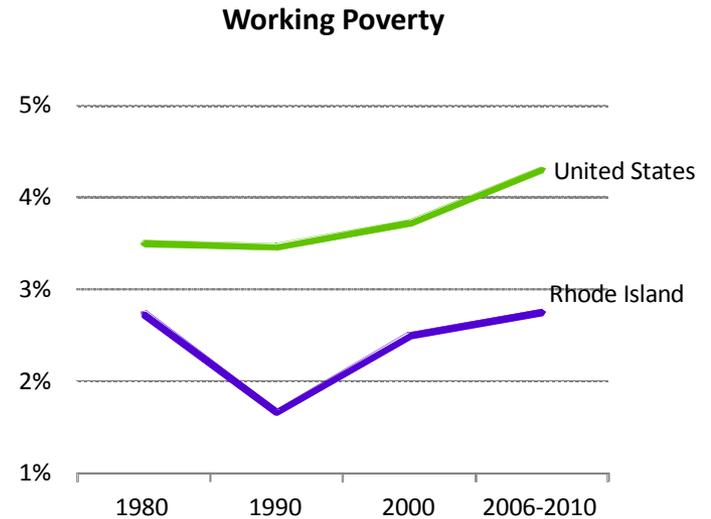
Below Average Poverty, and a Low Share of Working Poor

Rhode Island's poverty rates show an opposite trend when compared to the U.S. over the past 30 years. In the 1990s, the state experienced a surge in poverty rates to meet the national average at 12%, but then leveled off in the past decade—appearing to stay consistent through the current recession. In addition, Rhode Island's working poverty rate stayed consistently below average for three decades. Rhode Island ranks 124th for its working poverty rate (3%) among 150 metros, and is 101st when ranked for poverty (12%).



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

#1: Brownsville-Harlingen, TX (16%)



Source: IPUMS.
Universe includes civilian non-institutional population ages 25 through 64 not in group quarters.

Working Poverty Rate in 2006-2010: Top 150 Metros Ranked

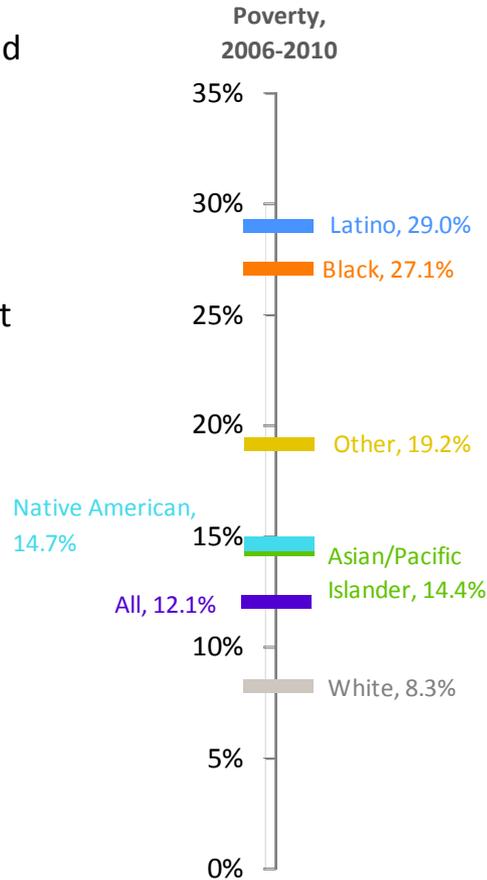


Source: IPUMS.
Universe includes civilian non-institutional population ages 25 through 64 not in group quarters.

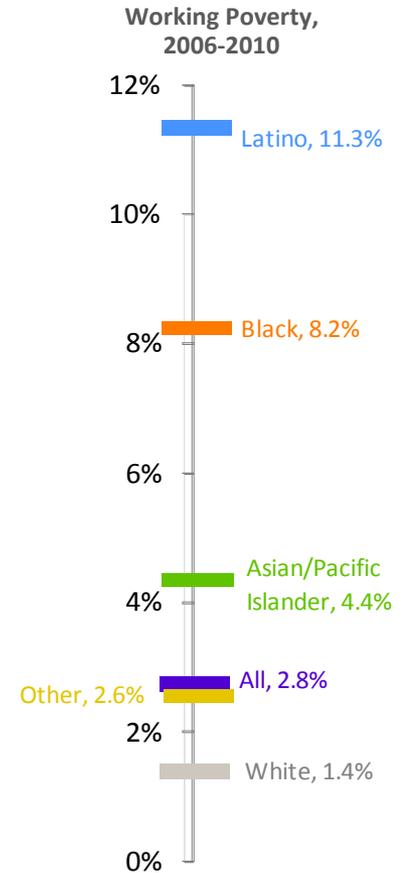
Economic Vitality

Racial Differences in Poverty and Working Poverty

More than a quarter of the state’s Latinos and blacks live below the poverty level—more than triple the rate of whites. Although Rhode Island as a whole maintains a low working poverty rate, Latinos have rates (11.3%) far above the regional and national averages. Whites in the state have the lowest numbers for poverty (8.3%) and working poverty (1.4%).



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



Source: IPUMS. Universe includes civilian non-institutional population ages 25 through 64 not in group quarters.

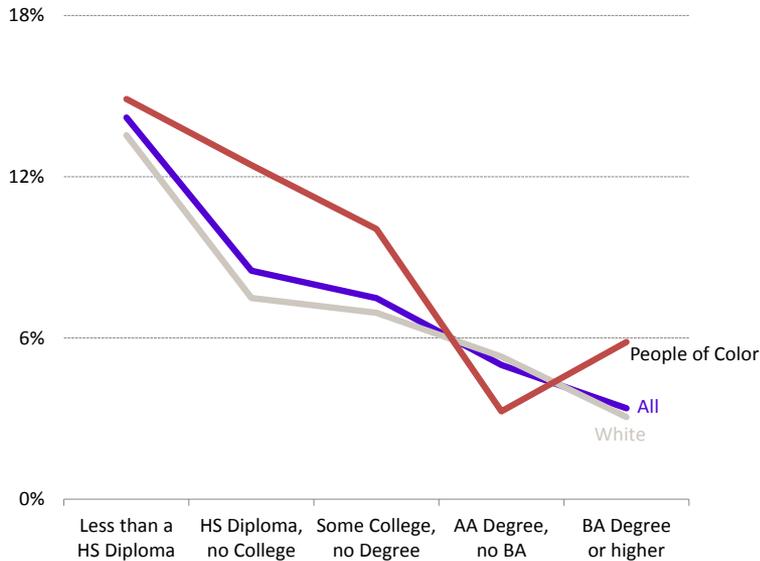
Economic Vitality

Education is a Leveler—But Racial Economic Gaps Persist

Unemployment decreases and wages increase with higher educational attainment—but at nearly every education level, communities of color have worse outcomes than whites. The one exception is among people with an Associates degree, in which case people of color have lower unemployment rates than whites. Among college graduates, hourly wages are \$6 lower for Rhode Island’s people of color compared to whites.

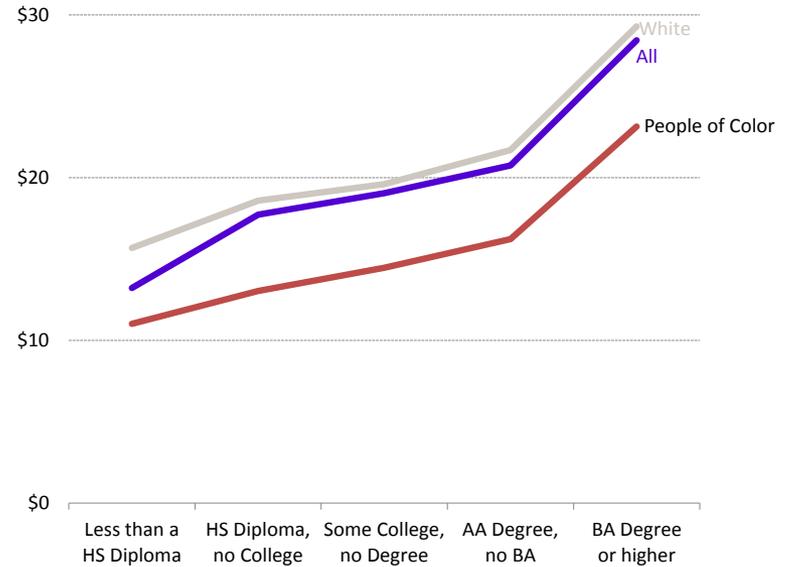
Whites Have Higher Wages and Lower Unemployment at Nearly Every Educational Attainment Level

Unemployment Rate by Educational Attainment and Race/Ethnicity, 2006-2010



Source: IPUMS.
Universe includes civilian non-institutional population ages 25 through 64 not in group quarters.

Median Hourly Wage by Educational Attainment and Race/Ethnicity, 2006-2010



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

Economic Vitality

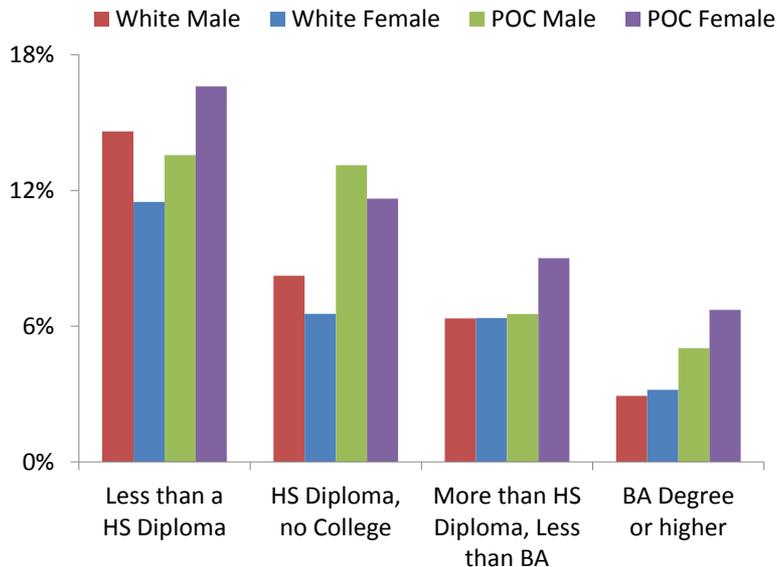
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Wage Gaps by Gender Exist Across Education Levels Unemployment Affects Women of Color Most

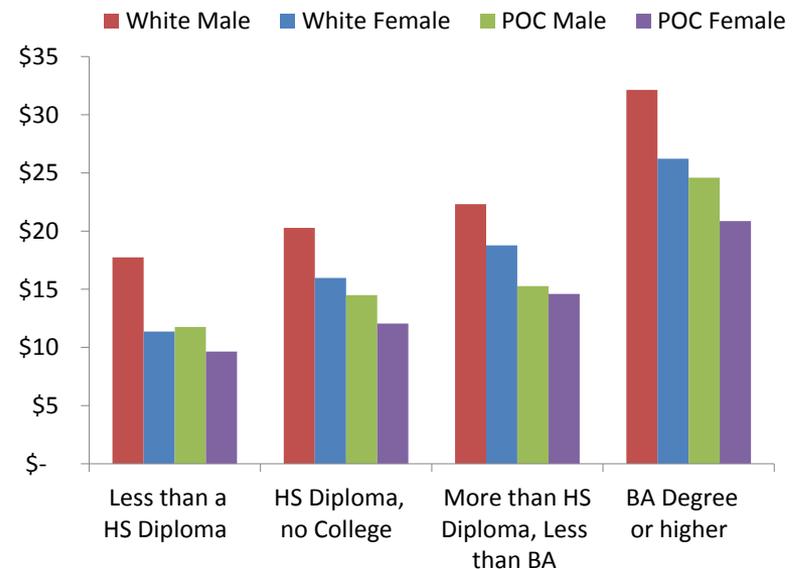
Both white women and women of color earn lower wages than their male counterparts at every level of education examined, with gaps tending to be highest at the lower and upper end of the education spectrum. However, the pattern for unemployment is different: while less educated white women actually have lower unemployment rates than their male counterparts, which converge as education rises, women of color tend to have higher unemployment rates across all education levels. One exception is among people with a high school degree but less than a BA, for which men of color have slightly higher unemployment rates than their female counterparts.

Gender Gap in Wages Exists for White Women and Women of Color at Every Educational Attainment Level

Unemployment Rate by Educational Attainment, Race/Ethnicity, and Gender
2006-2010



Median Hourly Wage by Educational Attainment, Race/Ethnicity, and Gender
2006-2010



Source: IPUMS.

Universe includes civilian non-institutional population ages 25 through 64 not in group quarters.

Source: IPUMS.

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

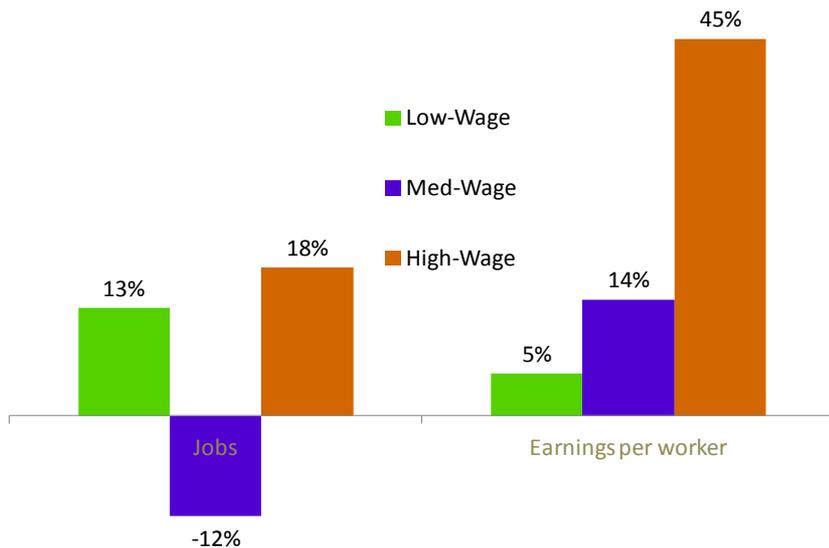
Economic Vitality

Growing Low- and High- Wage Jobs—But Losing Middle-Wage Ones

Since 1990, Rhode Island grew jobs in low-wage industries at nearly the same pace as it purged those in middle-wage industries. The hit to middle-wage industries is a weak point, because these jobs are often accessible to workers without four-year college degrees. Wage growth is substantially higher for jobs in already high-wage industries, while job in low-wage industries have seen very little wage growth. Note that all high-wage industries Rhode Island pay less than \$60,000 annually, on average.

The Fastest Job Growth is in Low- and High-Wage Jobs, with dramatic losses in Middle-Wage Jobs

Growth in Jobs and Earnings by Wage Level, 1990-2010



Industries by Wage Level

| Industry | Average Annual Earnings in 1990 (\$2010) | Wage Category | Share of Jobs, 1990 | Share of Jobs, 2010 |
|--|--|---------------|---------------------|---------------------|
| Utilities | \$58,779 | High | 16% | 18% |
| Professional, Scientific, and Technical Services | \$50,406 | | | |
| Management of Companies and Enterprises | \$49,791 | | | |
| Mining | \$49,624 | | | |
| Finance and Insurance | \$48,861 | | | |
| Wholesale Trade | \$48,837 | Medium | 53% | 46% |
| Construction | \$48,122 | | | |
| Information | \$46,698 | | | |
| Manufacturing | \$40,686 | | | |
| Health Care and Social Assistance | \$36,165 | | | |
| Transportation and Warehousing | \$35,348 | Low | 32% | 36% |
| Education Services | \$33,383 | | | |
| Real Estate and Rental and Leasing | \$31,819 | | | |
| Agriculture, Forestry, Fishing and Hunting | \$28,457 | | | |
| Other Services (except Public Administration) | \$26,461 | | | |
| Retail Trade | \$25,929 | | | |
| Administrative and Support and Waste Manage | \$24,709 | | | |
| Arts, Entertainment, and Recreation | \$20,881 | | | |
| Accommodation and Food Services | \$15,050 | | | |

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

Economic Vitality

Rhode Island's Large and Growing Industries

Largest (40,000+ employees)

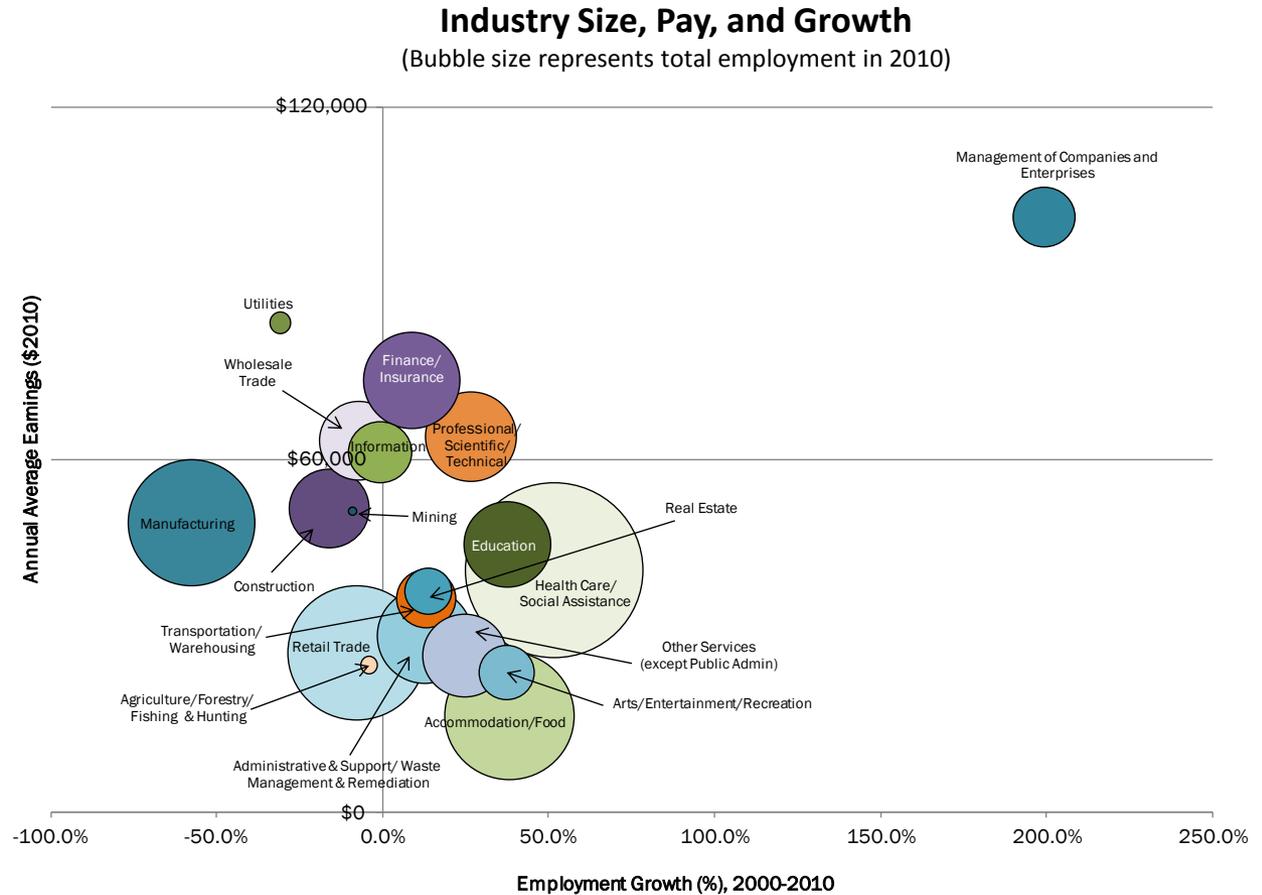
- Health Care and Social Assistance
- Retail
- Accommodation and Food Services
- Manufacturing

Fastest Growing (with 20%+ growth, 2000-2010)

- Management of Companies and Enterprises
- Education
- Health Care and Social Assistance

Highest Wages (\$70,000+/year)

- Management of Companies and Enterprises
- Utilities
- Finance and Insurance



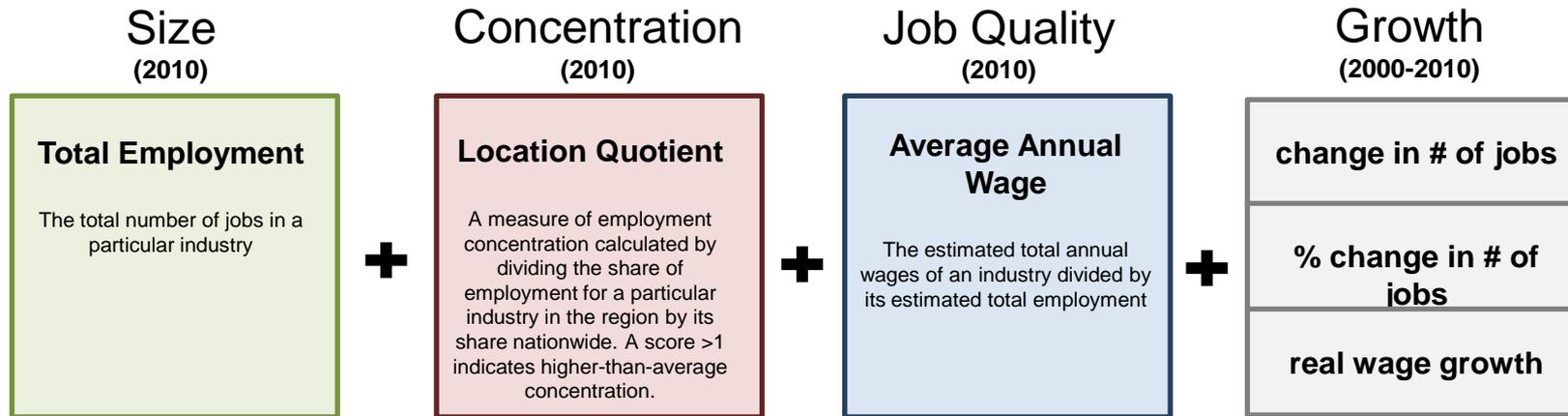
Source: U.S. Bureau of Labor Statistics; Woods & Poole Economics
Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

Economic Vitality

Strong Industries

To identify strong industries in Rhode Island, we examined 19 industry sectors and developed a “**industry strength index**” based on four industry characteristics:

Industry Strength Index =



**Size, concentration, and job quality all have equal weighting (25% each) in the final index value for each industry. The remaining 25% for growth is divided equally by the three values listed below the “Growth” category.*

Economic Vitality

Strong Industries

The strongest industries—based on measures of size, concentration, job quality, and growth—are **Health Care and Social Assistance, Management of Companies and Enterprises, Education Services, and Finance and Insurance**. Although the Industry Strength Index contains some high-paying industries, the three largest industries in Rhode Island fall into low- to medium-wage categories, including: Health Care and Social Assistance, Accommodation and Food Services, and Retail Trade.

| Industry | Size | Concentration | Job Quality | Growth | | | Industry Strength Index |
|--|-------------------|--------------------------|-----------------------|----------------------------|------------------------------|------------------------------|-------------------------|
| | Employment (2010) | Location Quotient (2010) | Avg. Ann. Wage (2010) | Change in Emp. (2000-2010) | % Change in Emp. (2000-2010) | Real Wage Growth (2000-2010) | |
| Health Care and Social Assistance | 78,216 | 1.4 | \$41,117 | 13,273 | 20% | 9% | 113 |
| Management of Companies and Enterprises | 9,325 | 1.4 | \$101,299 | 3,312 | 55% | 12% | 105 |
| Education Services | 19,199 | 2.2 | \$45,530 | 4,321 | 29% | 10% | 86 |
| Finance and Insurance | 23,406 | 1.2 | \$73,450 | 189 | 1% | 26% | 66 |
| Professional, Scientific, and Technical Services | 20,878 | 0.8 | \$63,865 | 2,284 | 12% | 5% | 15 |
| Wholesale Trade | 15,809 | 0.8 | \$63,222 | -685 | -4% | 9% | 3 |
| Accommodation and Food Services | 41,964 | 1.1 | \$16,243 | 2,555 | 6% | 0% | -4 |
| Information | 10,010 | 1.1 | \$61,212 | -874 | -8% | -1% | -5 |
| Retail Trade | 46,881 | 0.9 | \$27,058 | -5,171 | -10% | 1% | -9 |
| Other Services (except Public Administration) | 17,946 | 1.2 | \$26,614 | 1,146 | 7% | 1% | -18 |
| Administrative and Support and Waste Management and Remediation Services | 23,171 | 0.9 | \$30,045 | -2,857 | -11% | 18% | -18 |
| Construction | 15,928 | 0.8 | \$51,597 | -2,094 | -12% | 4% | -20 |
| Manufacturing | 40,328 | 1.0 | \$49,219 | -30,731 | -43% | 8% | -22 |
| Utilities | 1,131 | 0.6 | \$83,249 | -241 | -18% | -6% | -27 |
| Arts, Entertainment, and Recreation | 7,547 | 1.1 | \$23,738 | 900 | 14% | 1% | -34 |
| Real Estate and Rental and Leasing | 5,644 | 0.8 | \$37,574 | -341 | -6% | 0% | -48 |
| Transportation and Warehousing | 8,711 | 0.6 | \$36,394 | -435 | -5% | -2% | -59 |
| Mining | 181 | 0.1 | \$51,086 | -43 | -19% | 14% | -74 |
| Agriculture, Forestry, Fishing and Hunting | 729 | 0.2 | \$25,024 | -101 | -12% | -5% | -112 |

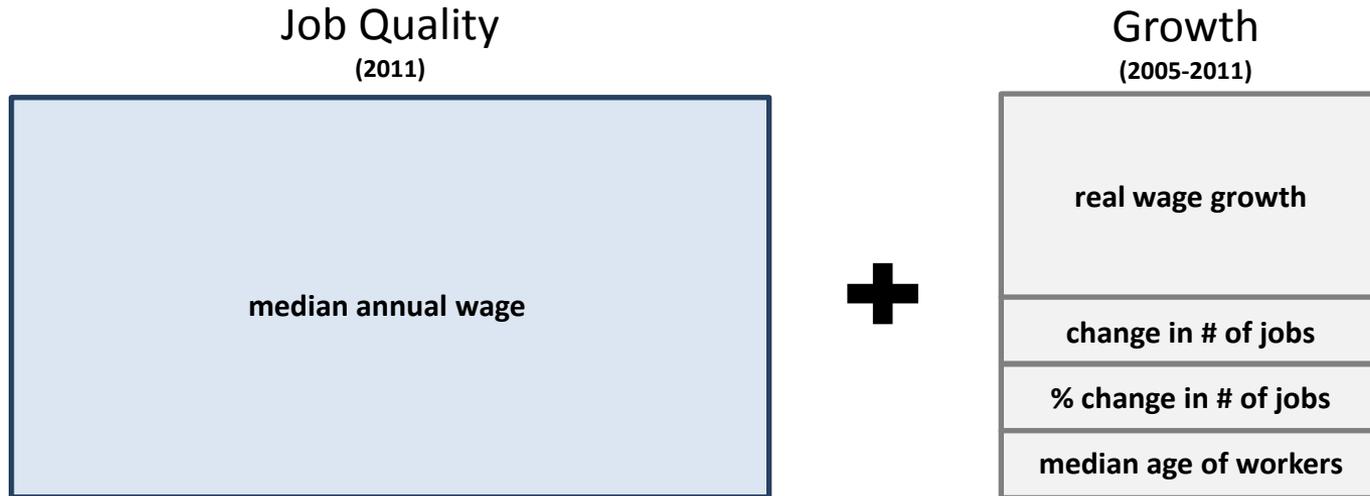
Source: U.S. Bureau of Labor Statistics; Woods & Poole Economics
 Universe includes all jobs covered by the federal Unemployment Insurance (UI) program.

Economic Vitality

High-Opportunity Occupations

To identify “high-opportunity” occupations in Rhode Island, we examined many detailed occupations and developed a “**occupation opportunity index**” based on measures of job quality and growth. Among the growth measures is median age. While not an indicator of growth per se, this measure is indicative of potential job openings due to replacements – that is, older workers retiring and making room for new workers.

Occupation Opportunity Index =

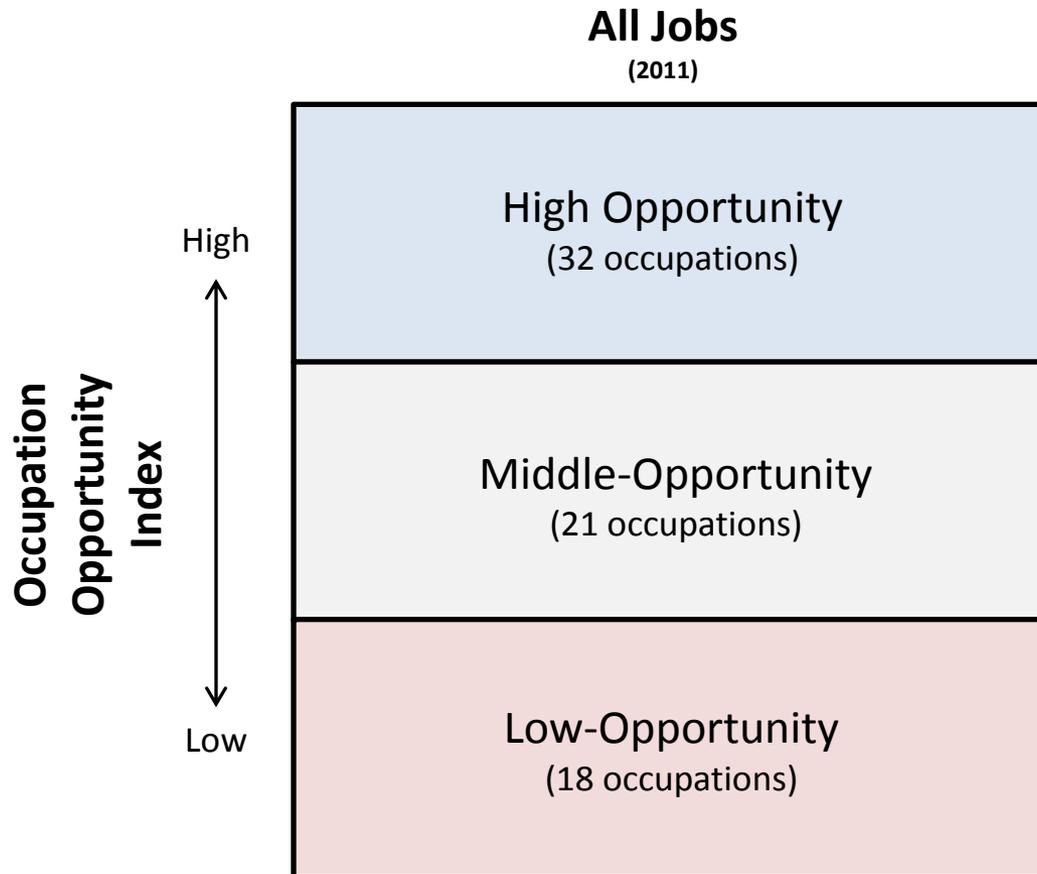


**Job quality weighting in the Occupation Opportunity Index is 2/3 (66.67%). Half of the remaining 1/3 weighting for growth is for “real wage growth” and the other half is divided equally by the three bottom values listed below the “Growth” category.*

Economic Vitality

High-Opportunity Occupations

Occupations were then ranked into three categories by the **Occupation Opportunity Index**, such that roughly one-third of all jobs in the region fell in each category:



Economic Vitality

All High-Opportunity Occupations

| Occupation | Employment, 2011 | Quality | | Growth | | | Occupation Opportunity Index |
|--|---------------------|----------------------------|----------------------------------|-------------------------------------|---------------------------------------|------------------------|------------------------------------|
| | | Med. Ann. Wage, 2011 | Real Wage Growth, 2005- | Change in Emp., 2005- 2011 | % Change in Emp., 2005- 2011 | Median Age, 2010 | |
| Top Executives | 5,540 | \$129,737 | 21% | -2,520 | -31.3% | 48 | 2.59 |
| Operations Specialties Managers | 5,800 | \$107,910 | 13% | 660 | 12.8% | 44 | 2.00 |
| Advertising, Marketing, Promotions, Public Relations, and Sales Managers | 1,800 | \$106,348 | 21% | -700 | -28.0% | 41 | 1.93 |
| Health Diagnosing and Treating Practitioners | 20,120 | \$89,637 | 15% | 3,690 | 22.5% | 46 | 1.65 |
| Engineers | 4,760 | \$93,824 | 11% | 870 | 22.4% | 42 | 1.55 |
| Other Management Occupations | 6,640 | \$92,313 | 15% | 30 | 0.5% | 46 | 1.54 |
| Lawyers, Judges, and Related Workers | 1,820 | \$87,930 | -7% | -10 | -0.5% | 47 | 1.10 |
| Physical Scientists | 760 | \$79,196 | 4% | 50 | 7.0% | 40 | 0.95 |
| Postsecondary Teachers | 5,620 | \$77,487 | -7% | 1,790 | 46.7% | 46 | 0.93 |
| Computer Occupations | 10,930 | \$75,435 | 3% | 1,460 | 15.4% | 41 | 0.91 |
| Social Scientists and Related Workers | 890 | \$74,672 | 7% | -320 | -26.4% | 45 | 0.86 |
| Supervisors of Protective Service Workers | 1,340 | \$65,814 | 1% | 760 | 131.0% | 47 | 0.76 |
| Sales Representatives, Services | 3,510 | \$56,175 | 21% | 1,460 | 71.2% | 42 | 0.67 |
| Business Operations Specialists | 11,030 | \$62,670 | 3% | 3,110 | 39.3% | 44 | 0.66 |
| Sales Representatives, Wholesale and Manufacturing | 5,580 | \$65,504 | 10% | -100 | -1.8% | 43 | 0.65 |
| Supervisors of Installation, Maintenance, and Repair Workers | 1,230 | \$66,540 | 6% | 50 | 4.2% | 41 | 0.62 |
| Other Sales and Related Workers | 1,850 | \$46,680 | 47% | -490 | -20.9% | 43 | 0.57 |
| Preschool, Primary, Secondary, and Special Education School Teachers | 14,370 | \$66,597 | 4% | -650 | -4.3% | 43 | 0.56 |
| Drafters, Engineering Technicians, and Mapping Technicians | 2,000 | \$55,385 | 11% | 820 | 69.5% | 47 | 0.53 |
| Supervisors of Construction and Extraction Workers | 1,210 | \$66,720 | 1% | -800 | -39.8% | 47 | 0.52 |
| Other Teachers and Instructors | 3,990 | \$53,147 | 24% | -60 | -1.5% | 40 | 0.46 |
| Other Healthcare Practitioners and Technical Occupations | 760 | \$50,749 | 25% | 110 | 16.9% | 41 | 0.44 |
| Supervisors of Office and Administrative Support Workers | 5,680 | \$55,610 | 9% | 850 | 17.6% | 45 | 0.43 |
| Financial Specialists | 7,640 | \$63,259 | 2% | -1,960 | -20.4% | 44 | 0.38 |
| Supervisors of Production Workers | 2,240 | \$58,740 | 4% | -62000% | -22% | 44 | 0.33 |
| Plant and System Operators | 720 | \$52,523 | 11% | -60 | -7.7% | 46 | 0.29 |
| Life Scientists | 680 | \$58,860 | -21% | 480 | 240.0% | 36 | 0.24 |
| Law Enforcement Workers | 2,160 | \$56,105 | 7% | -920 | -29.9% | 41 | 0.24 |
| Supervisors of Transportation and Material Moving Workers | 930 | \$54,035 | 4% | -180 | -16.2% | 43 | 0.20 |
| Supervisors of Sales Workers | 4,580 | \$50,395 | 7% | -40 | -0.9% | 43 | 0.16 |
| Fire Fighting and Prevention Workers | 1,790 | \$51,239 | 4% | -100 | -5.3% | 40 | 0.11 |
| Other Installation, Maintenance, and Repair Occupations | 7,990 | \$43,899 | 13% | 600 | 8.1% | 44 | 0.10 |

Source: U.S. Bureau of Labor Statistics; IPUMS
Universe includes all nonfarm wage and salary jobs.

Economic Vitality

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High- to Low-Opportunity Occupations for Workers with a High School Degree or Less

| | Occupation | Employment, 2011 | Quality | | Growth | | | Occupation Opportunity Index |
|--|---|---------------------|-------------------------------|----------------------------------|-------------------------------------|---------------------------------------|------------------------|------------------------------------|
| | | | Med. Ann. Wage, 2011 | Wage Growth, 2005- 2011 | Change in Emp., 2005- 2011 | % Change in Emp., 2005- 2011 | Median Age, 2010 | |
| High Opportunity | Supervisors of Construction and Extraction Workers | 1,210 | \$66,720 | 1.4% | -800 | -39.8% | 47 | 0.52 |
| | Supervisors of Production Workers | 2,240 | \$58,740 | 4.0% | -620 | -21.7% | 44 | 0.33 |
| | Supervisors of Transportation and Material Moving Workers | 930 | \$54,035 | 3.6% | -180 | -16.2% | 43 | 0.20 |
| | Other Installation, Maintenance, and Repair Occupations | 7,990 | \$43,899 | 12.8% | 600 | 8.1% | 44 | 0.10 |
| Middle Opportunity | Woodworkers | 610 | \$33,653 | 12.4% | 410 | 205.0% | 42 | -0.01 |
| | Supervisors of Building and Grounds Cleaning and Maintenance Workers | 720 | \$45,058 | 6.4% | -300 | -29.4% | 43 | -0.05 |
| | Printing Workers | 750 | \$37,596 | 4.3% | -140 | -15.7% | 47 | -0.23 |
| | Other Construction and Related Workers | 1,290 | \$38,302 | -11.6% | 460 | 55.4% | 49 | -0.31 |
| | Construction Trades Workers | 9,980 | \$45,357 | -3.3% | -5,230 | -34.4% | 41 | -0.42 |
| | Metal Workers and Plastic Workers | 7,200 | \$35,183 | 0.1% | -2,280 | -24.1% | 44 | -0.50 |
| | Supervisors of Food Preparation and Serving Workers | 3,030 | \$35,617 | -6.2% | 10 | 0.3% | 38 | -0.50 |
| | Vehicle and Mobile Equipment Mechanics, Installers, and Repairers | 4,520 | \$37,270 | -11.7% | 70 | 1.6% | 39 | -0.51 |
| | Nursing, Psychiatric, and Home Health Aides | 14,420 | \$27,149 | -3.2% | 2,540 | 21.4% | 39 | -0.56 |
| Low Opportunity | Material Recording, Scheduling, Dispatching, and Distributing Workers | 13,060 | \$31,605 | -6.8% | -780 | -5.6% | 43 | -0.62 |
| | Building Cleaning and Pest Control Workers | 10,410 | \$24,086 | -9.2% | 2,600 | 33.3% | 47 | -0.64 |
| | Motor Vehicle Operators | 10,300 | \$30,797 | -5.6% | -1,630 | -13.7% | 44 | -0.67 |
| | Textile, Apparel, and Furnishings Workers | 2,540 | \$23,606 | 0.4% | -850 | -25.1% | 46 | -0.75 |
| | Assemblers and Fabricators | 5,290 | \$25,447 | -2.3% | -710 | -11.8% | 41 | -0.76 |
| | Personal Appearance Workers | 1,560 | \$24,365 | 0.2% | -290 | -15.7% | 39 | -0.76 |
| | Other Protective Service Workers | 3,950 | \$25,566 | -1.0% | -580 | -12.8% | 38 | -0.76 |
| | Other Personal Care and Service Workers | 8,300 | \$23,801 | -4.6% | 620 | 8.1% | 37 | -0.80 |
| | Cooks and Food Preparation Workers | 9,480 | \$24,976 | 8.1% | -1,840 | -16.3% | 28 | -0.81 |
| | Other Production Occupations | 6,840 | \$26,777 | -6.4% | -2,220 | -24.5% | 45 | -0.82 |
| | Material Moving Workers | 9,900 | \$26,412 | 2.2% | -2,920 | -22.8% | 35 | -0.84 |
| | Grounds Maintenance Workers | 3,430 | \$24,990 | -9.1% | 130 | 3.9% | 35 | -0.87 |
| | Food Processing Workers | 1,500 | \$24,898 | -14.7% | -350 | -18.9% | 37 | -0.98 |
| | Other Transportation Workers | 790 | \$21,666 | -7.3% | -210 | -21.0% | 34 | -0.99 |
| | Retail Sales Workers | 28,420 | \$21,678 | -2.8% | -1,500 | -5.0% | 28 | -1.03 |
| | Food and Beverage Serving Workers | 24,710 | \$18,552 | -3.5% | -720 | -2.8% | 23 | -1.14 |
| Other Food Preparation and Serving Related Workers | 4,310 | \$18,477 | -2.9% | -690 | -13.8% | 20 | -1.17 | |

Source: U.S. Bureau of Labor Statistics; IPUMS

Universe includes all nonfarm wage and salary jobs in which the typical worker is estimated to have less than a high school degree.

Economic Vitality

High- to Low-Opportunity Occupations for Workers with More than a High School Degree but Less than a BA

| | Occupation | Employment, 2011 | Quality | Growth | | | Occupation Opportunity Index | |
|-------------------------------|--|---------------------|-------------------------------|----------------------------------|-------------------------------------|---------------------------------------|------------------------------------|------------------------|
| | | | Med. Ann. Wage, 2011 | Wage Growth, 2005- 2011 | Change in Emp., 2005- 2011 | % Change in Emp., 2005- 2011 | | Median Age, 2010 |
| High Opportunity | Supervisors of Protective Service Workers | 1,340 | \$65,814 | 1.2% | 760 | 131.0% | 47 | 0.76 |
| | Supervisors of Installation, Maintenance, and Repair Workers | 1,230 | \$66,540 | 6.2% | 50 | 4.2% | 41 | 0.62 |
| | Drafters, Engineering Technicians, and Mapping Technicians | 2,000 | \$55,385 | 11.4% | 820 | 69.5% | 47 | 0.53 |
| | Supervisors of Office and Administrative Support Workers | 5,680 | \$55,610 | 9.4% | 850 | 17.6% | 45 | 0.43 |
| | Plant and System Operators | 720 | \$52,523 | 10.5% | -60 | -7.7% | 46 | 0.29 |
| | Law Enforcement Workers | 2,160 | \$56,105 | 6.8% | -920 | -29.9% | 41 | 0.24 |
| | Supervisors of Sales Workers | 4,580 | \$50,395 | 6.6% | -40 | -0.9% | 43 | 0.16 |
| | Fire Fighting and Prevention Workers | 1,790 | \$51,239 | 3.9% | -100 | -5.3% | 40 | 0.11 |
| Middle Opportunity | Health Technologists and Technicians | 9,300 | \$49,373 | 3.8% | -670 | -6.7% | 42 | 0.04 |
| | Electrical and Electronic Equipment Mechanics, Installers, and Repairers | 1,050 | \$46,451 | -7.7% | -170 | -13.9% | 39 | -0.22 |
| | Other Education, Training, and Library Occupations | 6,510 | \$34,858 | 11.4% | -350 | -5.1% | 45 | -0.23 |
| | Other Healthcare Support Occupations | 5,130 | \$34,447 | 5.4% | 1,260 | 32.6% | 37 | -0.29 |
| | Secretaries and Administrative Assistants | 13,270 | \$39,069 | 1.9% | -1,580 | -10.6% | 45 | -0.30 |
| | Media and Communication Equipment Workers | 540 | \$38,961 | -2.6% | 90 | 20.0% | 39 | -0.31 |
| | Supervisors of Personal Care and Service Workers | 630 | \$38,350 | -4.0% | 100 | 18.9% | 40 | -0.34 |
| | Life, Physical, and Social Science Technicians | 570 | \$43,215 | -1.7% | -150 | -20.8% | 27 | -0.35 |
| | Financial Clerks | 12,600 | \$35,305 | 0.3% | -250 | -1.9% | 46 | -0.36 |
| | Other Office and Administrative Support Workers | 13,440 | \$30,955 | 7.0% | 330 | 2.5% | 43 | -0.39 |
| | Communications Equipment Operators | 640 | \$28,218 | 2.5% | 80 | 14.3% | 41 | -0.55 |
| | Information and Record Clerks | 18,280 | \$32,129 | -0.9% | -1,330 | -6.8% | 39 | -0.59 |
| Low Opportunity | Entertainment Attendants and Related Workers | 830 | \$19,122 | -10.5% | 370 | 80.4% | 24 | -1.07 |

Source: U.S. Bureau of Labor Statistics; IPUMS

Universe includes all nonfarm wage and salary jobs in which the typical worker is estimated to have at least a high school degree but less than a BA.

Economic Vitality

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High-Opportunity Occupations for Workers with a BA Degree or Higher

| Occupation | Employment, 2011 | Quality | | Growth | | | Occupation Opportunity Index |
|--|---------------------|-------------------------------|----------------------------------|-------------------------------------|---------------------------------------|------------------------|------------------------------------|
| | | Med. Ann. Wage, 2011 | Wage Growth, 2005- 2011 | Change in Emp., 2005- 2011 | % Change in Emp., 2005- 2011 | Median Age, 2010 | |
| Top Executives | 5,540 | \$129,737 | 21.5% | -2,520 | -31.3% | 48 | 2.59 |
| Operations Specialties Managers | 5,800 | \$107,910 | 13.4% | 660 | 12.8% | 44 | 2.00 |
| Advertising, Marketing, Promotions, Public Relations, and Sales | 1,800 | \$106,348 | 21.3% | -700 | -28.0% | 41 | 1.93 |
| Health Diagnosing and Treating Practitioners | 20,120 | \$89,637 | 14.9% | 3,690 | 22.5% | 46 | 1.65 |
| Engineers | 4,760 | \$93,824 | 10.7% | 870 | 22.4% | 42 | 1.55 |
| Other Management Occupations | 6,640 | \$92,313 | 15.5% | 30 | 0.5% | 46 | 1.54 |
| Lawyers, Judges, and Related Workers | 1,820 | \$87,930 | -7.5% | -10 | -0.5% | 47 | 1.10 |
| Physical Scientists | 760 | \$79,196 | 4.3% | 50 | 7.0% | 40 | 0.95 |
| Postsecondary Teachers | 5,620 | \$77,487 | -6.6% | 1,790 | 46.7% | 46 | 0.93 |
| Computer Occupations | 10,930 | \$75,435 | 3.3% | 1,460 | 15.4% | 41 | 0.91 |
| Social Scientists and Related Workers | 890 | \$74,672 | 7.5% | -320 | -26.4% | 45 | 0.86 |
| Sales Representatives, Services | 3,510 | \$56,175 | 21.4% | 1,460 | 71.2% | 42 | 0.67 |
| Business Operations Specialists | 11,030 | \$62,670 | 2.7% | 3,110 | 39.3% | 44 | 0.66 |
| Sales Representatives, Wholesale and Manufacturing | 5,580 | \$65,504 | 10.3% | -100 | -1.8% | 43 | 0.65 |
| Other Sales and Related Workers | 1,850 | \$46,680 | 47.2% | -490 | -20.9% | 43 | 0.57 |
| Preschool, Primary, Secondary, and Special Education School | 14,370 | \$66,597 | 4.0% | -650 | -4.3% | 43 | 0.56 |
| Other Teachers and Instructors | 3,990 | \$53,147 | 24.4% | -60 | -1.5% | 40 | 0.46 |
| Other Healthcare Practitioners and Technical Occupations | 760 | \$50,749 | 25.2% | 110 | 16.9% | 41 | 0.44 |
| Financial Specialists | 7,640 | \$63,259 | 2.4% | -1,960 | -20.4% | 44 | 0.38 |
| Life Scientists | 680 | \$58,860 | -21.5% | 480 | 240.0% | 36 | 0.24 |
| Librarians, Curators, and Archivists | 1,200 | \$51,173 | 5.4% | -330 | -21.6% | 40 | 0.10 |
| Media and Communication Workers | 1,970 | \$50,725 | -11.7% | 140 | 7.7% | 43 | -0.07 |
| Entertainers and Performers, Sports and Related Workers | 1,450 | \$42,633 | -3.0% | 780 | 116.4% | 39 | -0.07 |
| Counselors, Social Workers, and Other Community and Social Service | 9,160 | \$43,974 | 2.9% | 150 | 1.7% | 41 | -0.09 |
| Legal Support Workers | 1,020 | \$45,848 | -0.3% | -40 | -3.8% | 40 | -0.10 |
| Art and Design Workers | 1,460 | \$45,731 | -1.2% | -970 | -39.9% | 41 | -0.19 |

Source: U.S. Bureau of Labor Statistics; IPUMS

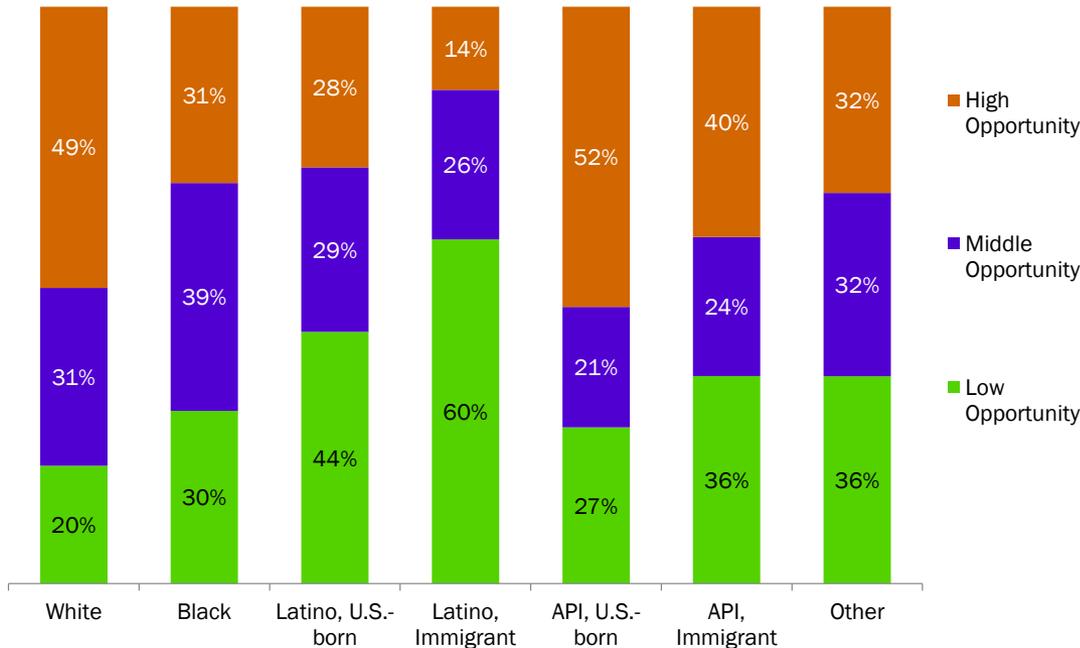
Universe includes all nonfarm wage and salary jobs in which the typical worker is estimated to have a BA degree or higher.

Economic Vitality

Access to High-Opportunity Jobs by Race/Ethnicity/Nativity

To gauge the extent to which different racial/ethnic groups are able to access high opportunity occupations in Rhode Island, we examined the opportunity profile of jobs by race/ethnicity/nativity. Overall, U.S.-born Asian/Pacific Islanders (APIs) and whites are most likely to be in high-opportunity occupations. Latino immigrants are by far least likely, followed by U.S.-born Latinos, blacks, and people of other/mixed racial background.

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



These differences in job opportunity are partly due to differences in education levels.

Next we restrict to workers with similar education levels to better understand differences in access to high-opportunity occupations.

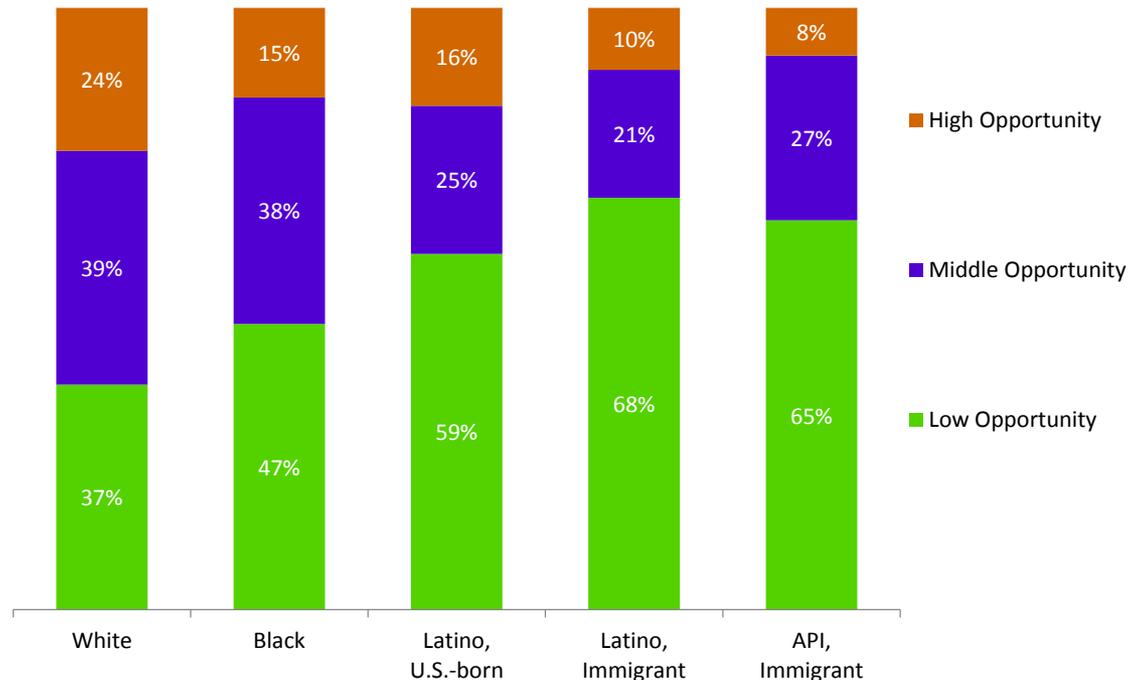
Source: U.S. Bureau of Labor Statistics; IPUMS
Universe includes employed civilian noninstitutional population ages 25 through 64.

Economic Vitality

Access to High-Opportunity Jobs for Workers with a High School Degree or Less

Among workers with low education levels, whites are most likely to be in the highest-opportunity occupations and least likely to be in the lowest-opportunity occupations. Occupational opportunity is lowest for Latino and API immigrants. Although blacks are nearly as likely to be in middle-opportunity occupations as whites, they are much less likely to have higher-opportunity jobs.

Opportunity Ranking of Occupations by Race/Ethnicity
Low-Education Workers

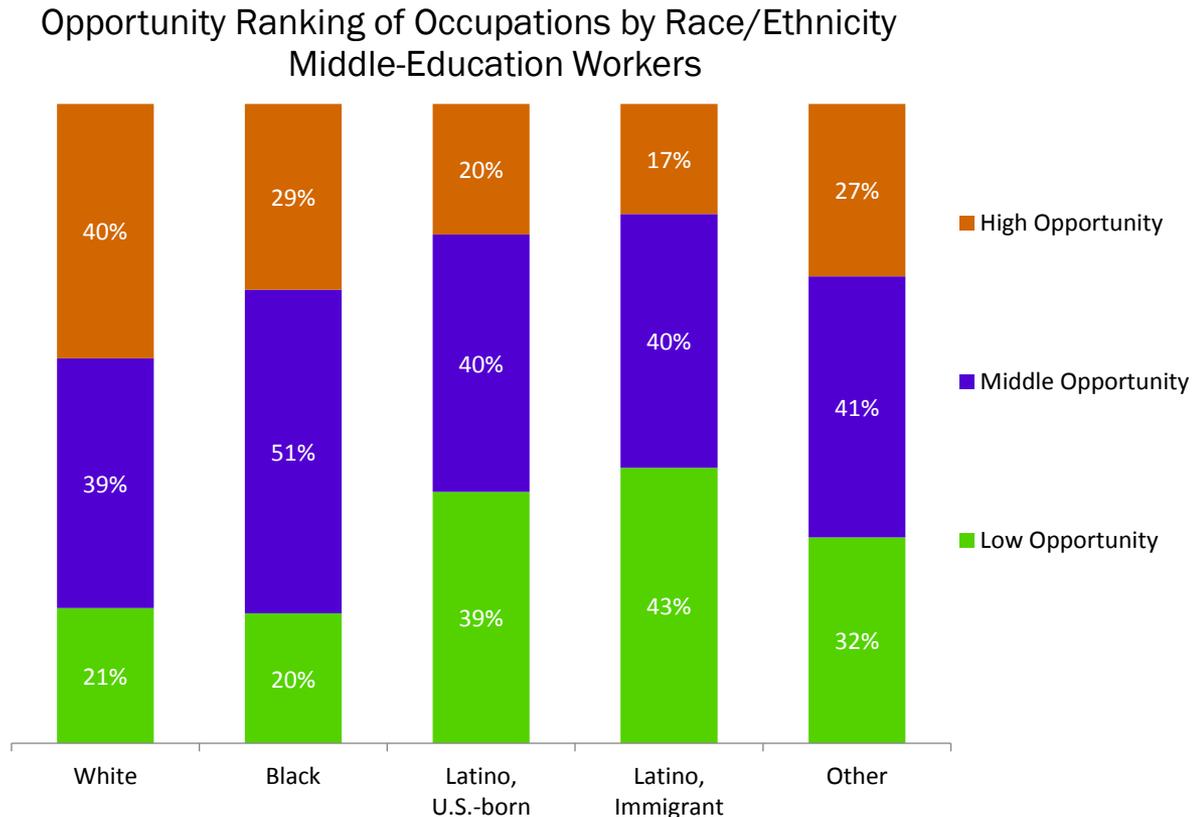


Source: U.S. Bureau of Labor Statistics; IPUMS
Universe includes employed civilian noninstitutional population ages 25 through 64 with less than a high school degree.

Economic Vitality

Access to High-Opportunity Jobs for Workers with More than a High School Degree but Less than a BA

Among workers with middle education levels, we find similar differences in job opportunity, but with blacks less likely to be in low-opportunity occupations, leaving Latinos – both U.S.-born and immigrant – as the group most likely to be in such occupations, along with Others. Blacks are notable for their concentration in middle-opportunity occupations.



Source: U.S. Bureau of Labor Statistics; IPUMS

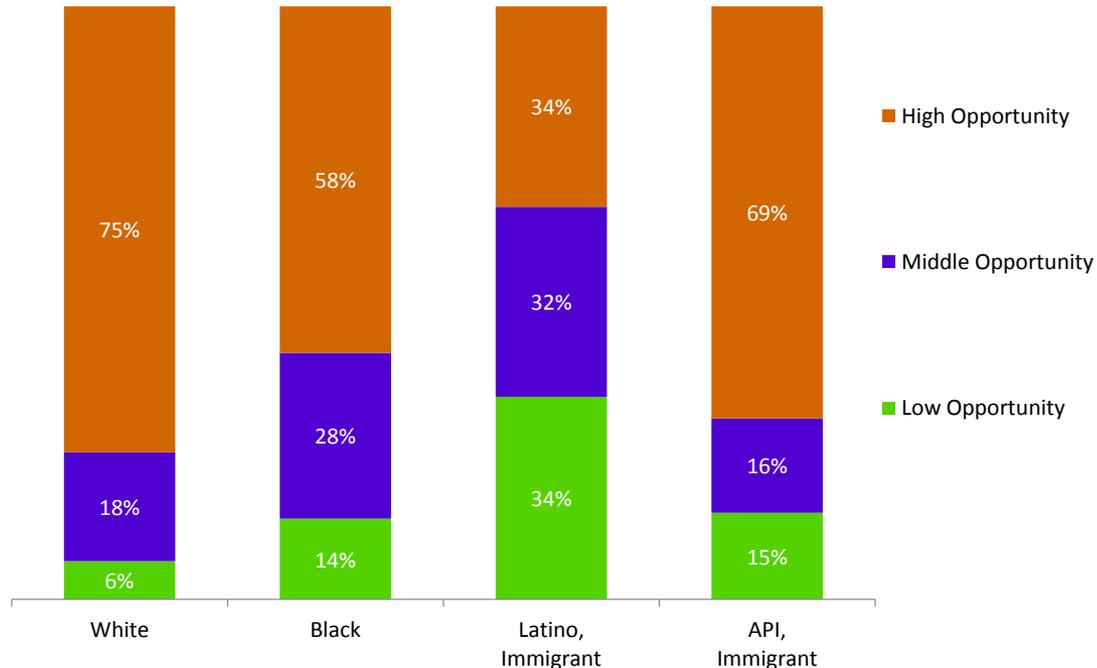
Universe includes employed civilian noninstitutional population ages 25 through 64 with at least a high school degree but less than a BA.

Economic Vitality

Access to High-Opportunity Jobs for Workers with a BA or Higher

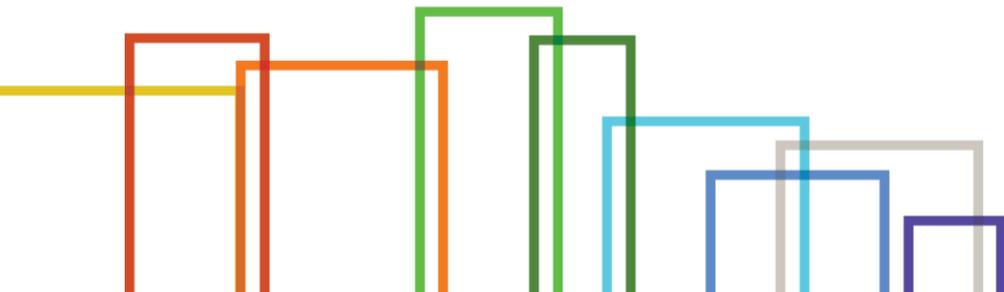
Among workers with college degrees, whites show a predominance in high-opportunity occupations, closely followed by API immigrants – a group that also has a sizable number in low-opportunity occupations, reflecting the diversity of opportunity in within this group (even among those with college degrees). The occupational opportunity profile of blacks with college degrees is similar to that of API immigrants, but with a larger share in middle-opportunity and smaller share in high-opportunity occupations. Latino immigrants are most likely to be in low-opportunity occupations.

Opportunity Ranking of Occupations by Race/Ethnicity
High-Education Workers



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

Readiness



Readiness

Summary

- There is a significant skills and education gap in Rhode Island, with a larger portion of jobs requiring Associate Degrees or higher and not enough people with the requisite education level, especially among people of color.
- Education levels differ dramatically among immigrant groups. For example, Asian immigrants have high education levels, followed by South American immigrants, whereas Central American immigrants have low education levels.
- Educational attainment for youth of color has increased substantially and the number of youth not in school or work has decreased. Latino immigrants still face major hurdles in secondary and post-secondary education.
- Communities of color are facing health challenges, with 60 to 70 percent of the state's African Americans, Latinos, and Native American obese or overweight. Rhode Island's residents also suffer from high asthma rates, with the region ranking 16th out of 150 metros.

Readiness

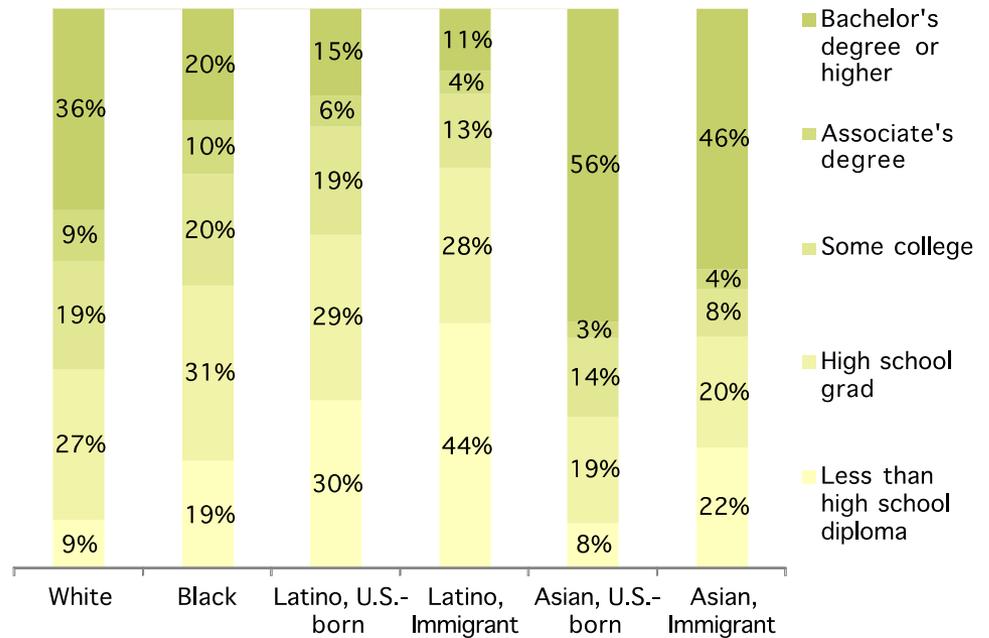
An Education and Skills Gap for People of Color

There are Wide Gaps in Educational Attainment

Educational Attainment by Race/Ethnicity/Nativity, 2006-2010

Rhode Island ranks in the top third of regions on the share of residents with an Associate's Degree or higher (41%).

According to the Georgetown Center for Education and the Workforce, by 2018 42 percent of Rhode Island's jobs will require an Associate's Degree or above. Yet only 30 percent of African Americans, 21 percent of US-born Latinos, and 15 percent of Latino immigrants have at least that level of education.



#1: Ann Arbor, MI (60%)

Percent of the Population with an Associate's Degree or Higher in 2006-2010: Top 150 Metros Ranked



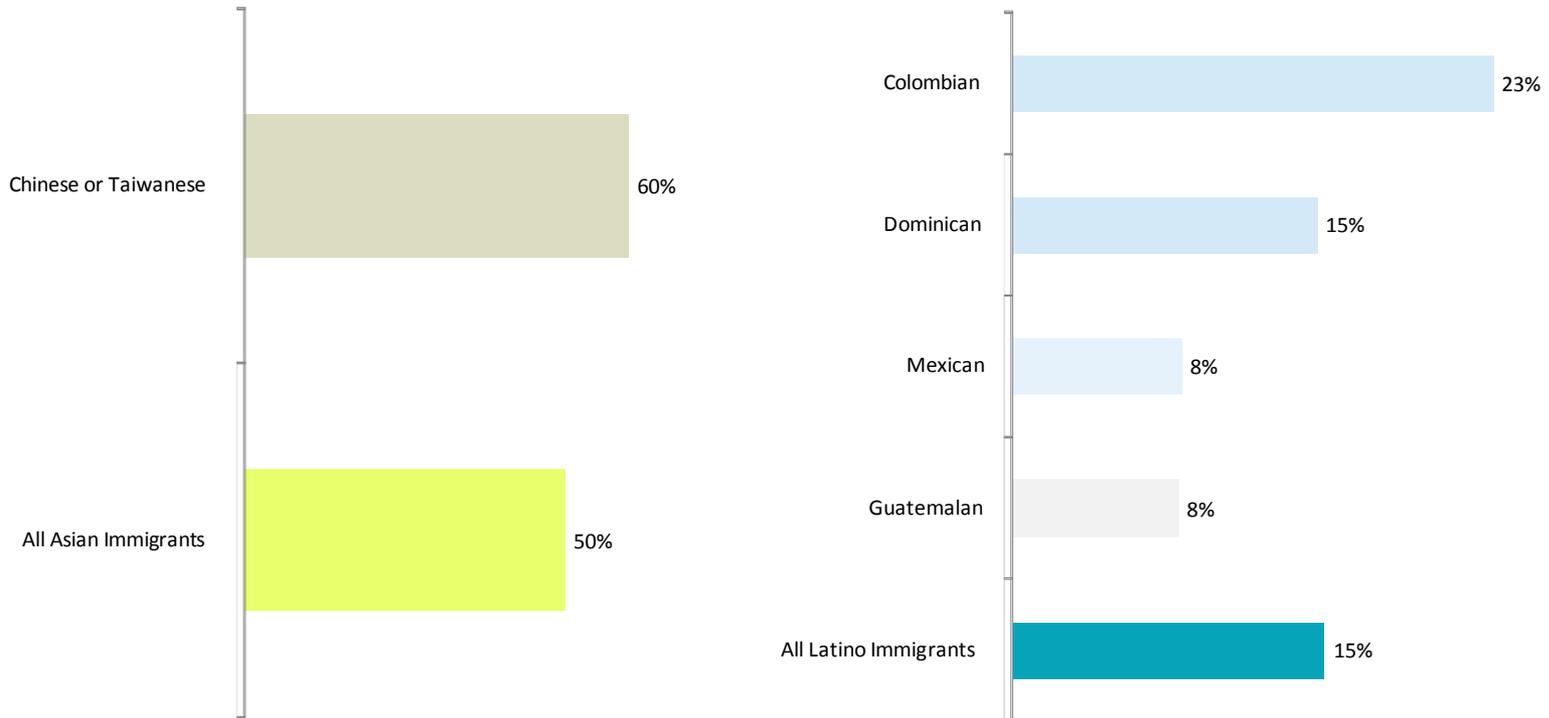
Sources: IPUMS.
Universe includes all persons ages 25 through 64.

Readiness

Major Differences in Educational Attainment Among Immigrants

Immigrants from Central America and Mexico tend to have very low education levels while those from South America and the Caribbean tend to have low to moderate education levels (e.g. 23 percent of immigrants from Columbia and 15 percent of Dominicans have at least an associate’s degree). Overall, education rates are higher among Asian immigrants, especially for Chinese or Taiwanese immigrants.

Asian and Latino Immigrants with an Associate’s Degree or Higher, 2006-2010



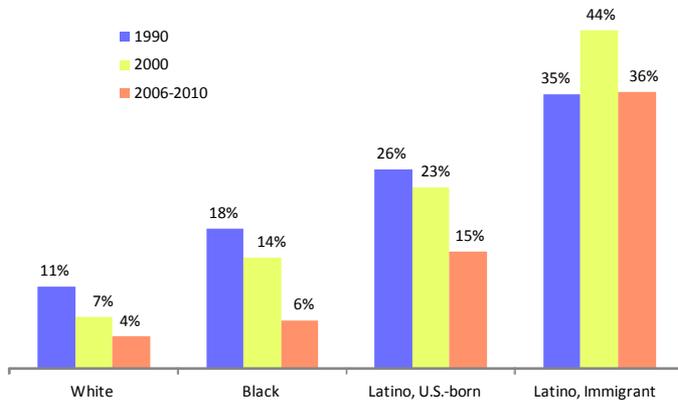
Sources: IPUMS.
Universe includes all persons ages 25 through 64.

Readiness

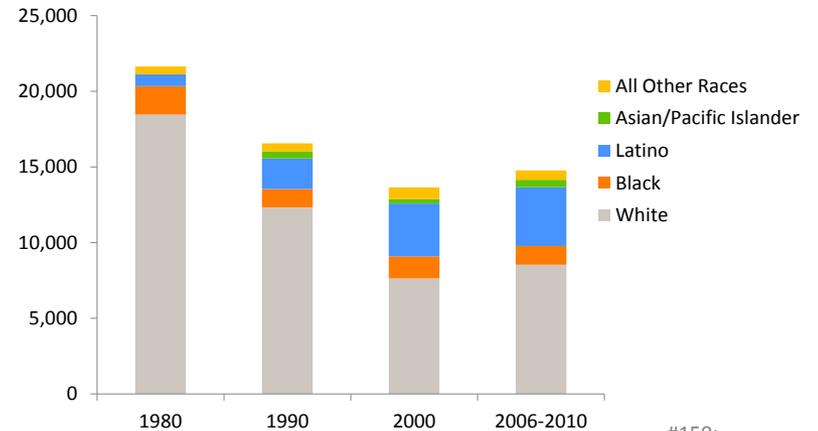
Educational Attainment for Youth of Color has Increased, Yet Challenges Remain for Latino Immigrants

The share of youth of all U.S.-born racial/ethnic groups without a high school education decreased since 1990. However, educational attainment for Latino immigrant youth worsened during the 90s and still remains worse than 1980 levels. Under 15,000 youth in the state (11%) are not in work or school, ranking Rhode Island 128th out of 150 metros.

Percent of 16-24 Year Olds Not Enrolled in School and without a Diploma, 1990 to 2006--2010

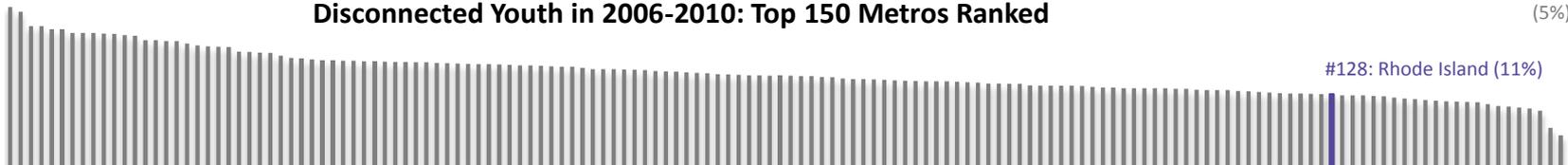


Disconnected Youth: 16-24 Year Olds Not in Work or School, 1980 to 2006-2010



#1: Bakersfield, CA (23%)

Disconnected Youth in 2006-2010: Top 150 Metros Ranked



Readiness

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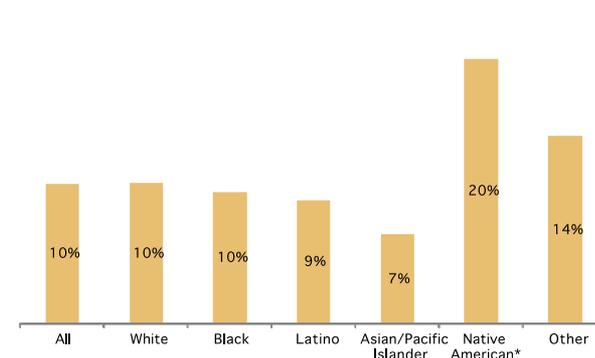
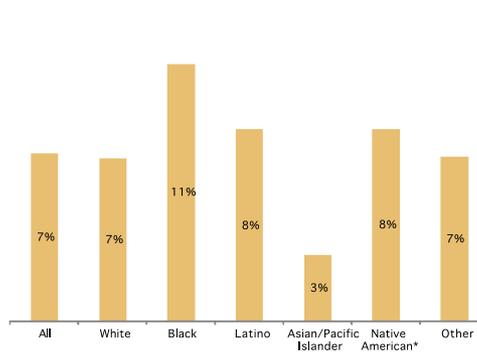
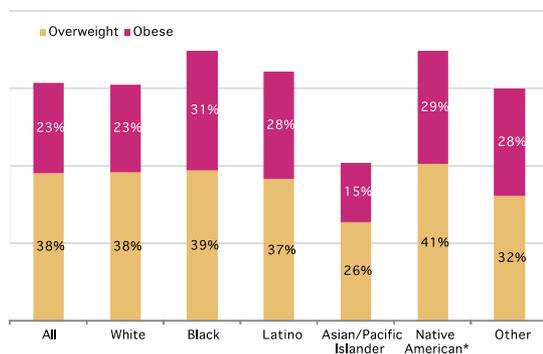
Health Challenges Among Communities of Color

Overweight and obesity rates in Rhode Island are relatively low by ranked metro areas (109th), but rates still exceed 60% for most people of color and whites. African Americans and Native Americans have particularly high rates (70%). African Americans have the highest diabetes rates in the state (11%), followed by Latinos and Native Americans with 8%. Asthma rates are alarmingly high (10%) and rank Rhode Island 16th in the nation by metro area.

**Overweight and Obese
by Race/Ethnicity, 2006-2010**

**Diabetes Rates
by Race/Ethnicity, 2006-2010**

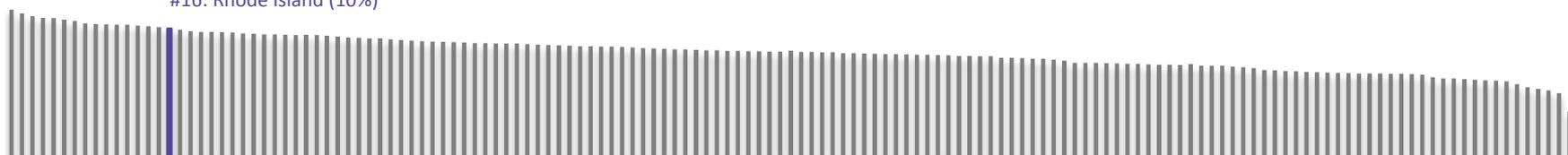
**Asthma Rates
by Race/Ethnicity, 2006-2010**



#1: Ann Arbor, MI
(12%)

#16: Rhode Island (10%)

Percent of Adults with Asthma in 2006-2010: Top 150 Metros Ranked



#149:
Brownsville-
Harlingen, TX
(4%)

Sources: BRFSS. Data not available for all of the top 150 metros. Only metros with data among the top 150 are shown. Estimates for Native Americans are subject to error due to a small sample size.

Connectedness



Connectedness

Summary

- Like much of the nation, Rhode Island is overwhelming auto dependent, with 81 percent of residents driving alone to work. People of color are more likely to use transit in lower and higher income levels.
- Communities of color are experiencing concentrated poverty. Twenty percent of people of color live in high poverty tracts compared to only 5 percent of whites.
- Although affordable housing exists in certain communities, more than half of Latino and African American renters and homeowners are burdened by their housing costs.
- Residential segregation is declining for both adults and youth, which coincides with neighborhood diversity increasing for most groups.
- Food deserts are clustered in the City of Providence and in the southern part of the state, and are predominantly in communities of color and areas of concentrated white poverty.

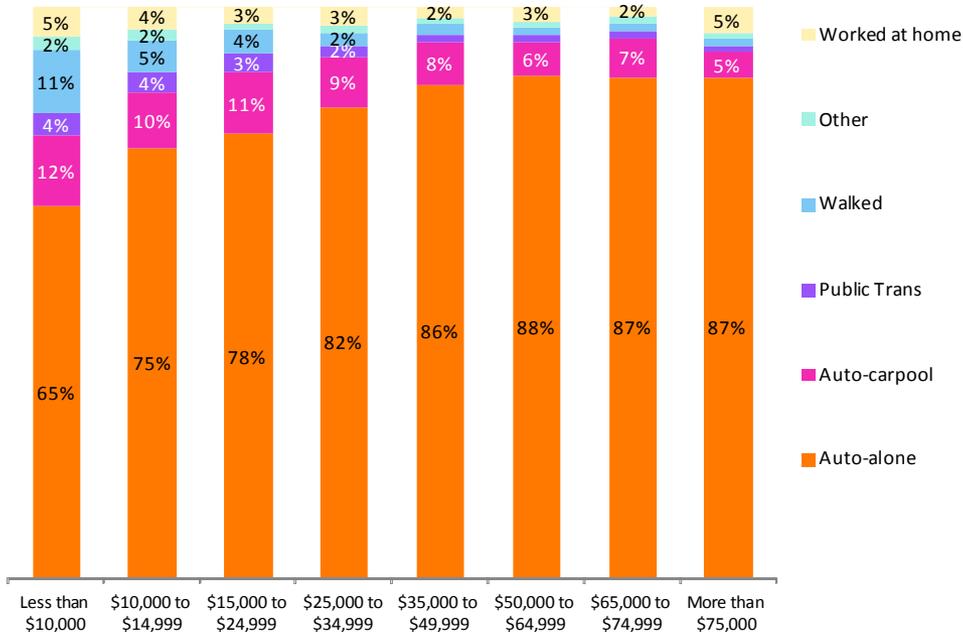
Connectedness

How Residents Commute Varies by Race and Income

Most residents in the state—81 percent—drive alone to work. In terms of auto dependency, Rhode Island ranks 62 out of the top 150 metros. But single-driver commuting varies by income. Only 65 percent of very low-income workers (earning under \$10,000 per year) drive alone to work, compared to 87 percent of workers that make over \$65,000 a year. Low-income people of color are most likely to get to work using transit, but transit use also increases for people of color who earn above \$65,000.

Lower Income Residents Are Less Likely to Drive Alone to Work

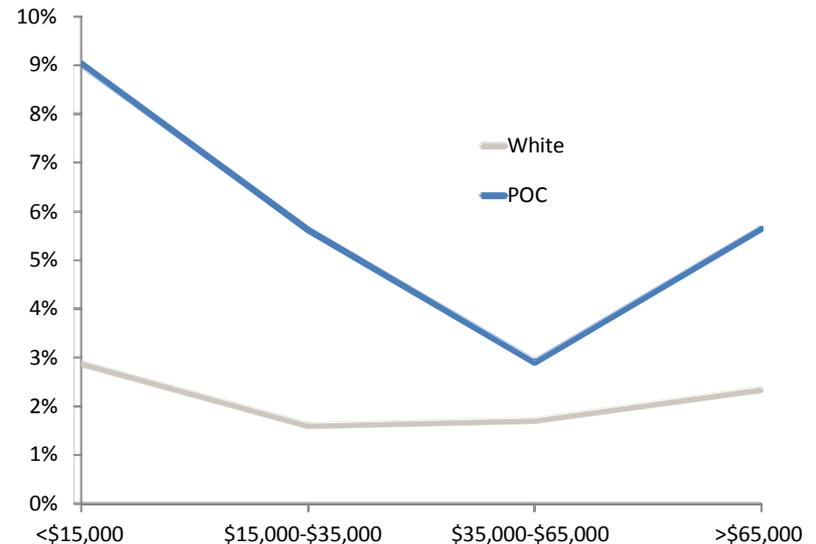
Means of Transportation to Work by Annual Earnings, 2006-2010



Source: U.S. Census Bureau
Universe is workers in the state ages 16 and older.

Transit Use Varies by Income and Race

Percent Using Public Transit by Earnings and Race/Ethnicity/Nativity, 2006-2010



Source: IPUMS
Universe is population ages 16 and older who worked during week prior to survey.

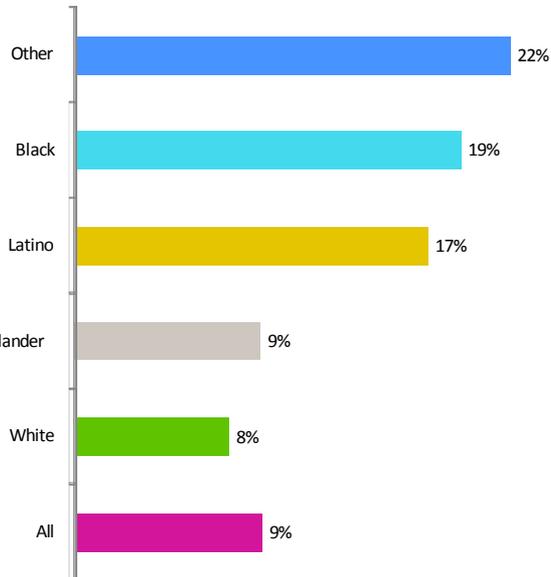
Connectedness

Communities of Color are More Likely to Rely on Transit

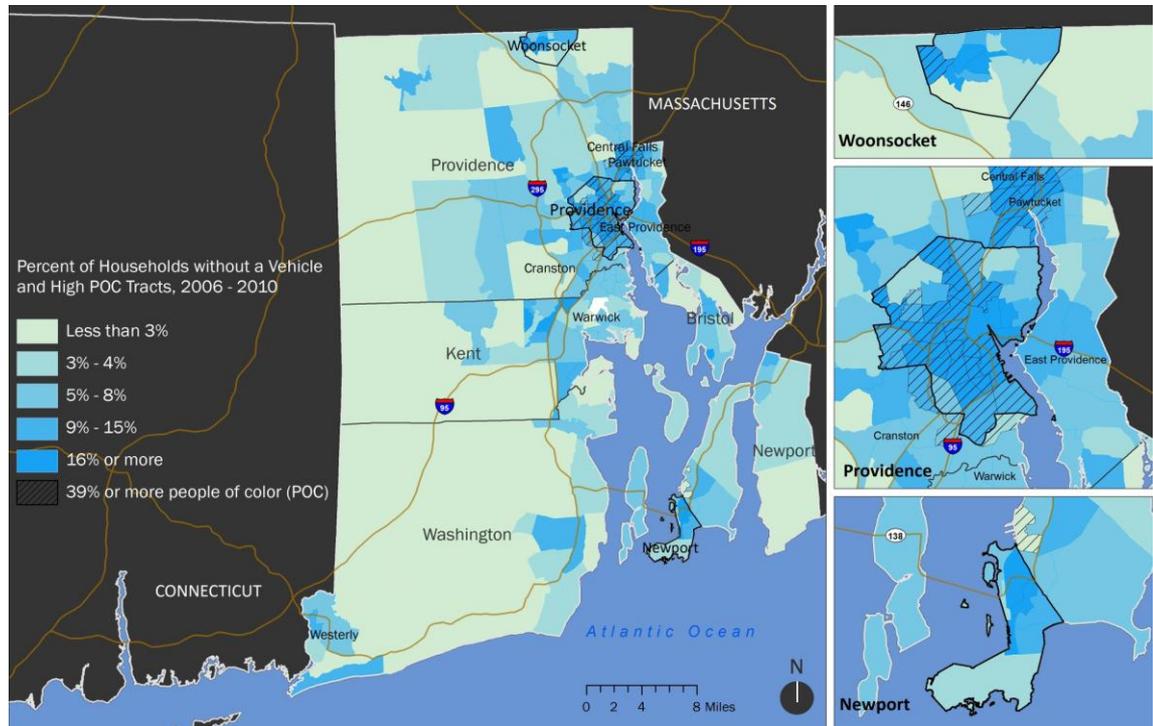
Across the state, 91 percent of households have at least one car. People of color are the most likely to lack a vehicle, reaching as high as one out of five people of other/mixed racial background, and nearly that for African Americans and Latinos. Neighborhoods with high rates of zero-vehicle households are found primarily in the city centers of Providence and Pawtucket.

Residents of Color Are Less Likely to Own Cars

Percent of Households Without a Vehicle by Race/Ethnicity, 2006-2010



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



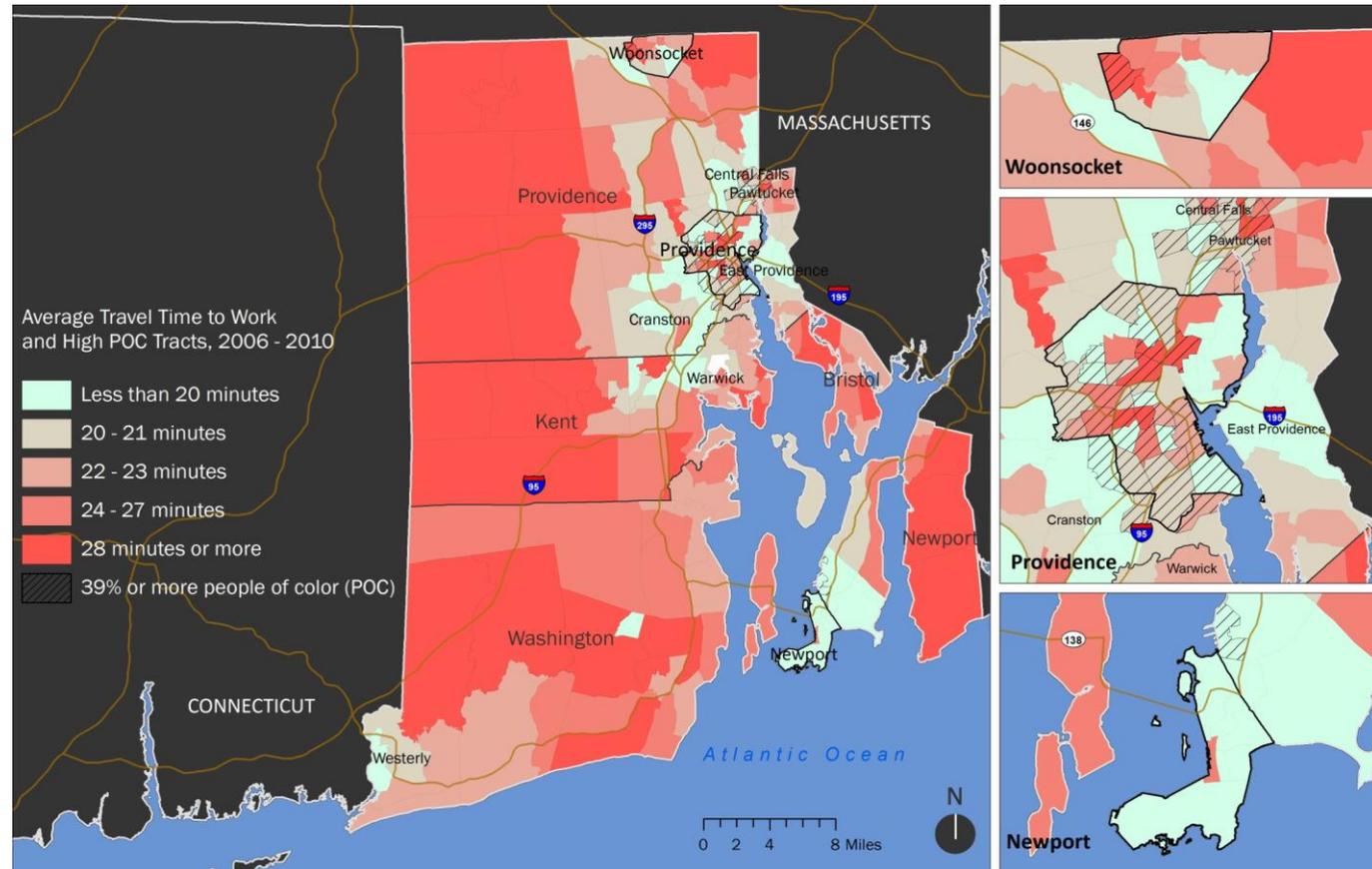
Source: U.S. Census Bureau; TIGER/Line
Areas in white are missing data.

Connectedness

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Long Commutes for Inner-city Communities of Color and Suburban Residents

In areas with more than 39% people of color, there is a wide range of commute times. Commute times are particularly long for inner-city people of color in Providence and Pawtucket. Throughout the state, much of the population commutes for more than 28 minutes, particularly for residents in the western portion of Rhode Island.



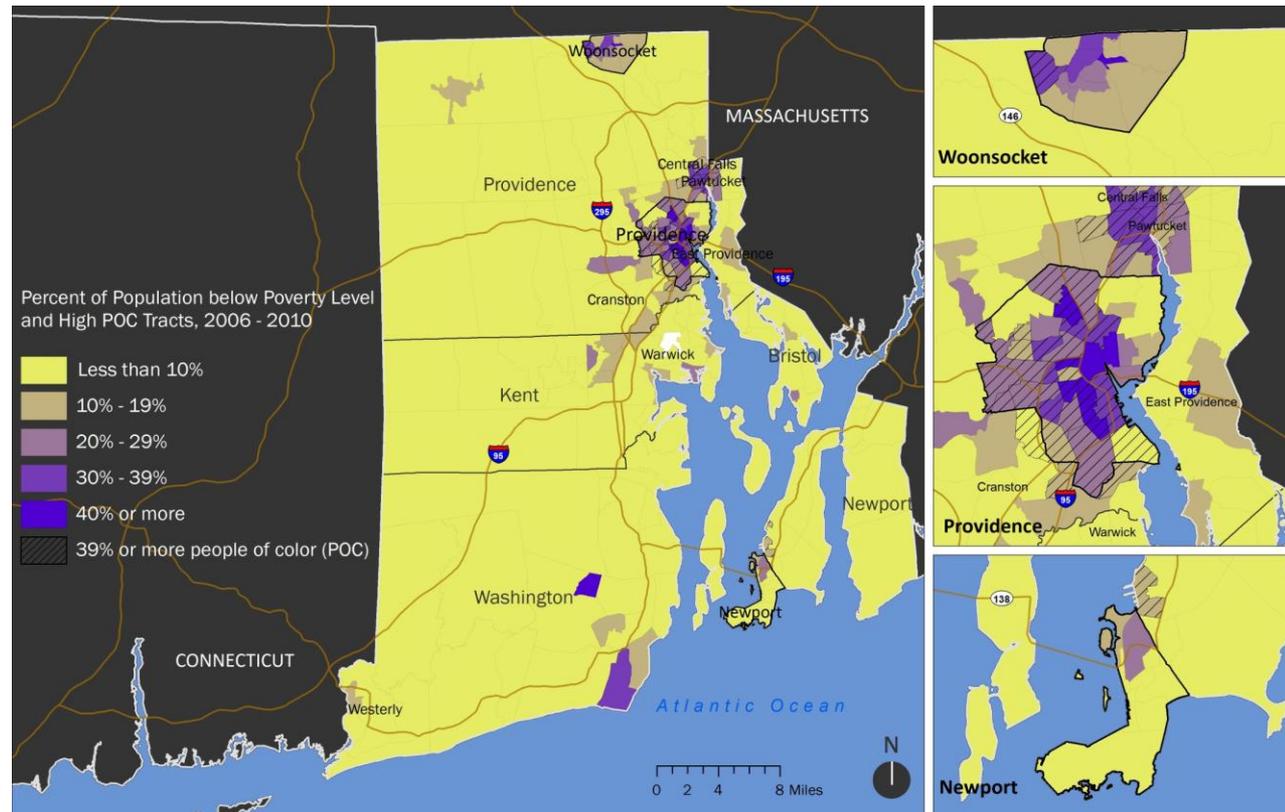
Source: U.S. Census Bureau; TIGER/Line
Areas in white are missing data.

Connectedness

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Concentrated Poverty a Challenge for Communities of Color

In Rhode Island, the share of people living in high poverty neighborhoods (those with poverty rates 22 percent or higher) has quadrupled since 1980, rising from 2 to 8 percent. Not only is poverty increasing, but it is also becoming more concentrated in communities of color. Twenty percent of people of color live in high-poverty tracts compared to only 5 percent of whites. As these maps show, large portions of Providence and Pawtucket consist of neighborhoods with very high poverty rates. Pockets of white poverty are also found in the southern part of the state.



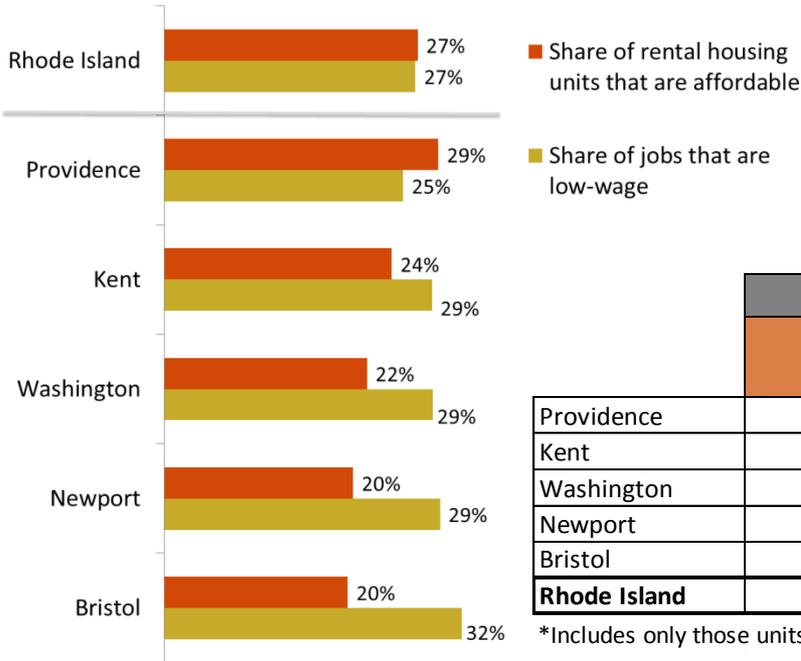
Connectedness

Jobs-Housing Mismatch for Low-wage Workers in Some Parts of the State

Low-wage workers in the state are likely to find affordable housing—but it may not be close to work. Across Rhode Island, both the share of jobs that are low-wage (paying \$1,250 per month or less) and rental units that are affordable for low-wage workers is 27 percent. A low-wage – affordable homes ratio higher than the state average indicates a lack of sufficient affordable homes for workers. While Providence has a relatively higher share of affordable rental housing relative to low-wage jobs, areas in southern and eastern Rhode Island lack affordable homes for low-wage workers.

Some Counties Have a Low-wage Jobs - Affordable Housing Gap

Low-wage Jobs and Affordable Rental Housing by County



| | Jobs, 2010 | | Housing, 2006-2010 | | | Jobs-Housing Ratios | |
|---------------------|----------------|----------------|--------------------|----------------|--------------------|-------------------------|-----------------------|
| | All | Low-wage | All | Rental* | Affordable Rental* | All Jobs - Rental Units | Low-wage - Affordable |
| Providence | 273,546 | 69,641 | 238,059 | 102,790 | 30,019 | 2.7 | 2.3 |
| Kent | 70,782 | 20,180 | 69,109 | 17,589 | 4,265 | 4.0 | 4.7 |
| Washington | 46,073 | 13,183 | 49,130 | 10,856 | 2,344 | 4.2 | 5.6 |
| Newport | 31,138 | 9,143 | 34,771 | 12,104 | 2,436 | 2.6 | 3.8 |
| Bristol | 13,813 | 4,378 | 19,236 | 5,078 | 993 | 2.7 | 4.4 |
| Rhode Island | 435,352 | 116,525 | 410,305 | 148,417 | 40,057 | 2.9 | 2.9 |

*Includes only those units paid for in cash rent.

Connectedness

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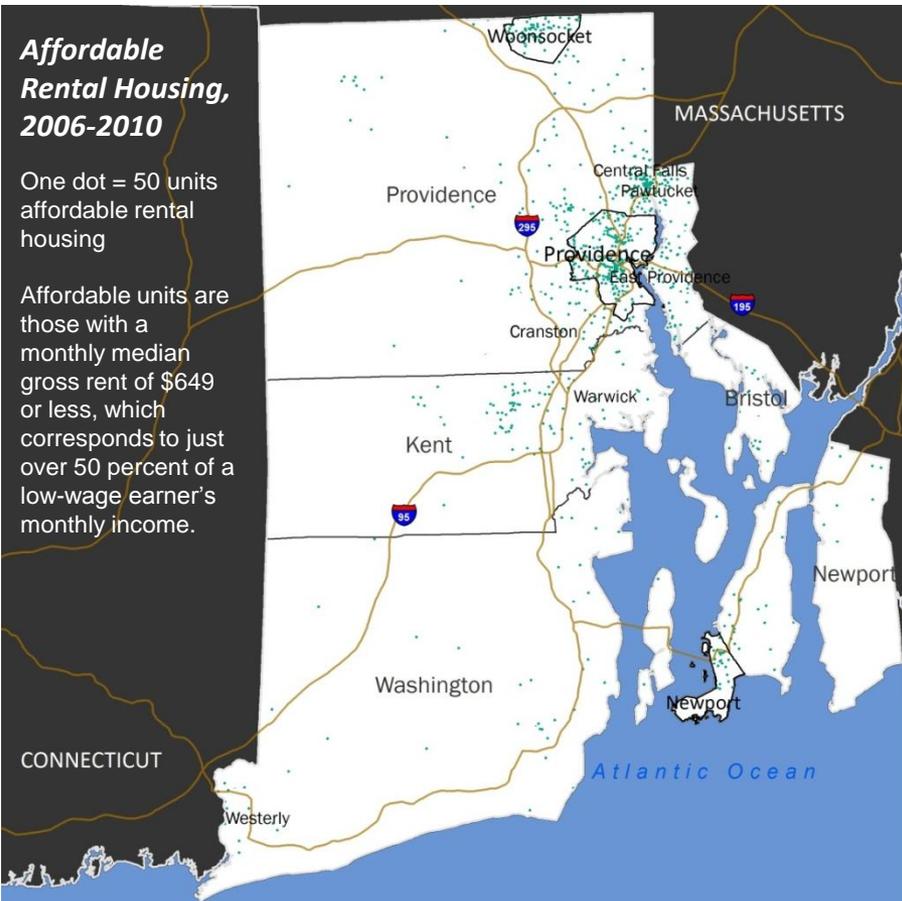
Jobs-Housing Mismatch for Low-wage Workers in Some Parts of the State

Mapping low-wage jobs and affordable rental housing at the neighborhood level reveals additional patterns. For instance, in the northern part of the state, affordable housing and low-wage jobs are clustered in Woonsocket, Pawtucket, and the City of Providence. However, low-wage workers employed outside of these clusters may have to travel longer distances between home and work.

Affordable Rental Housing, 2006-2010

One dot = 50 units affordable rental housing

Affordable units are those with a monthly median gross rent of \$649 or less, which corresponds to just over 50 percent of a low-wage earner's monthly income.



Low-wage Jobs, 2010

One dot = 100 low-wage jobs

Low-wage jobs are those in which a worker's average monthly earnings are \$1,250 or less. The dot refers to the job site, not the worker's home address.



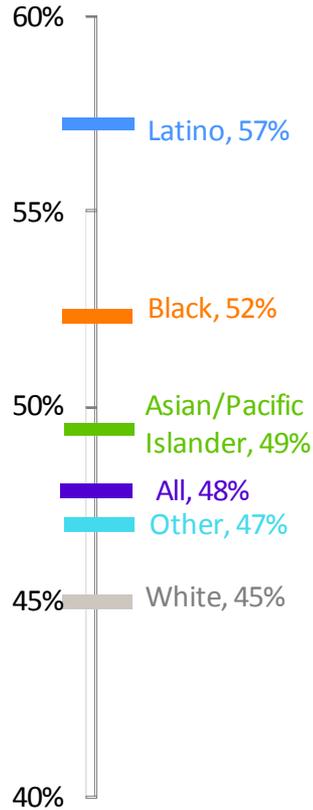
Connectedness

Communities of Color Have Higher Housing Burdens

Rhode Island has below average housing costs, ranking 100th among the largest 150 metros in rent burden. Still, nearly half of the state's renters and more than a third of homeowners are housing burdened, defined as paying more than 30 percent of their income on housing. Latino renters and homeowners are the most burdened by their housing costs.

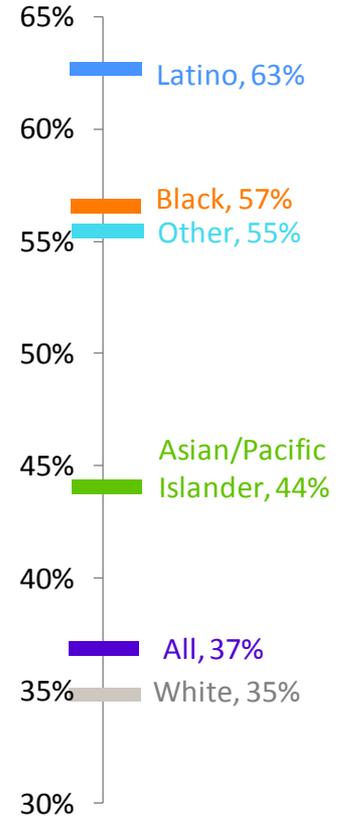
African Americans, Latinos, and people of mixed race have much higher housing burdens than whites. White renters and homeowners are less housing burdened than the regional average and all racial/ethnic categories.

Renter Housing Burden by Race/Ethnicity, 2006-2010



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

Homeowner Housing Burden by Race/Ethnicity, 2006-2010

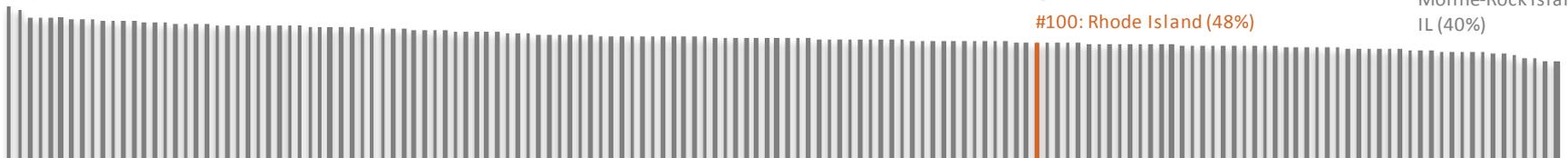


Source: IPUMS
Universe is owner-occupied households (excludes group quarters).

#1: Miami-Fort Lauderdale-Miami Beach, FL (62%)

Share of Households that are Rent Burdened, 2006-2010: Top 150 Metros Ranked

#150: Davenport-Moline-Rock Island, IA-IL (40%)



#100: Rhode Island (48%)

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

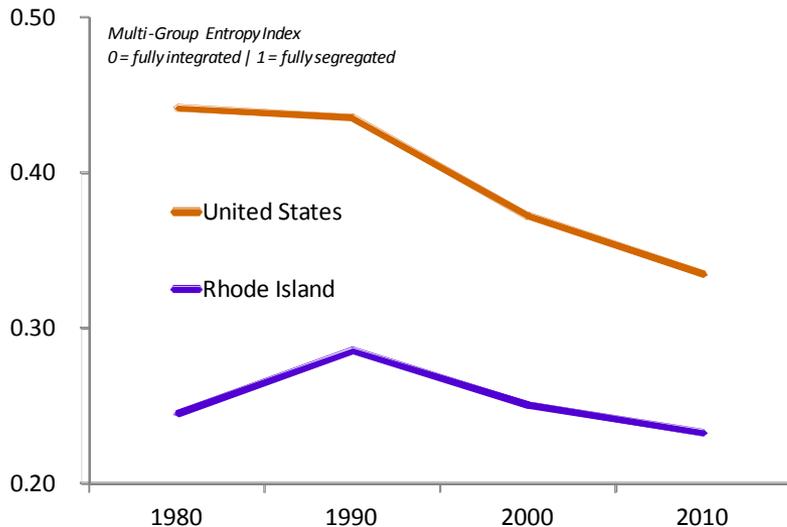
Connectedness

Segregation is Decreasing for Adults and Youth

Rhode Island is much less residentially segregated by race/ethnicity than the U.S. as a whole. Although segregation increased into the 1990s, it has since declined as the state diversified. Youth tend to be more segregated than the overall population, but segregation among youth is also declining over time. We measured segregation using the entropy index, which ranges from a value of 0, meaning that all census tracts have the same racial/ethnic composition as the entire state (maximum integration), to a high of 1, if all census tracts contained one group only (maximum segregation).

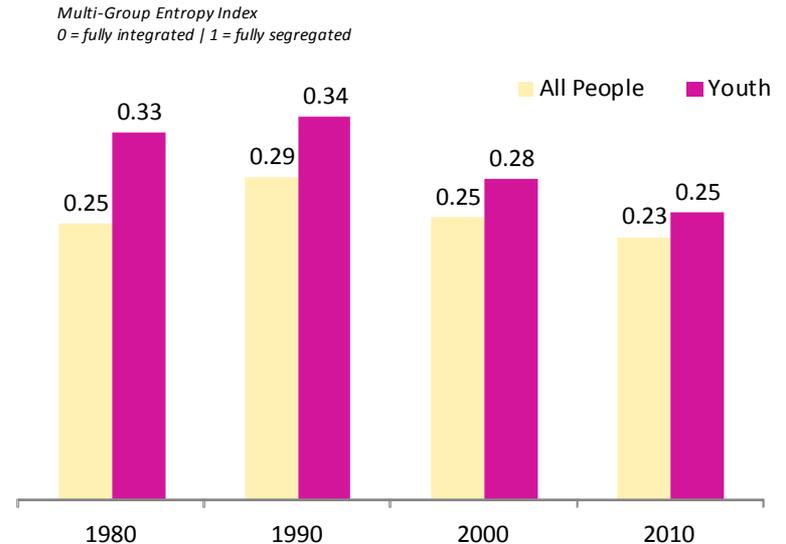
Residential Segregation is Decreasing Over Time

Change in Residential Segregation, 1980-2010



Segregation is Decreasing for Adults and Youth

Change in Residential Segregation by Age, 1980-2010

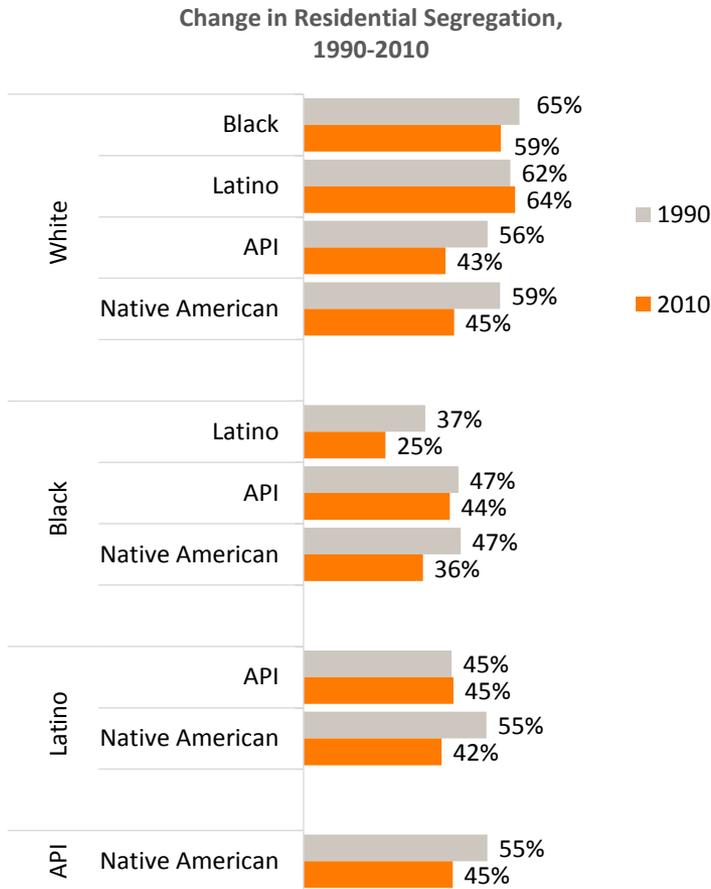


Sources: U.S. Census Bureau; Geolytics
See methodology for details of residential segregation index calculations.

Connectedness

Broad Decline in Segregation

Segregation Decreased across Majority of Groups



Overall, racial segregation has declined in Rhode Island between 1990-2010. As measured by the dissimilarity index which, when calculated for any two racial/ethnic groups, estimates the share of *either* group that would have to move to a new neighborhood (census tract) to achieve perfect residential integration in the state, segregation between all groups has declined since 1990 – with the exception of Latinos and Whites and Latinos and Asians, the former who experienced a slight increase and the latter who remained stagnant at 45 percent.

Some groups also experienced larger decreases than others – for example, segregation between Whites and Asians dropped by 13 percent but only by six percent between Whites and Blacks. Segregation between Blacks and Latinos, on the other hand, decreased by 12 percent.

*Measured by the Dissimilarity Index

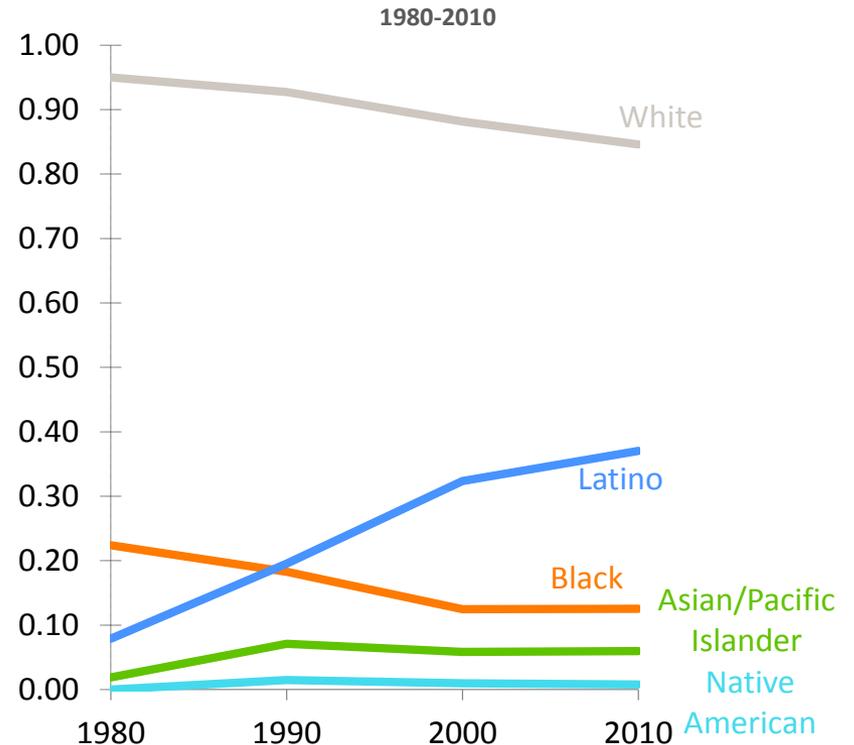
Sources: U.S. Census Bureau; Geolytics
 Figures reported are dissimilarity indices for each combination of racial/ethnic groups.
 See methodology for details of residential segregation index calculations.

Connectedness

Racial Isolation Falling for Whites and Blacks, Rising for Latinos

Another measure of racial segregation is the isolation index, which approximates the likelihood that a resident will see a member of their own race/ethnicity in their neighborhood (census tract). Neighborhood racial isolation by this measure has decreased for Whites and Blacks over the past two decades, while it has increased for Latinos. The Latino population in Rhode Island has grown rapidly over the past few decades, however, which may account for some of the rise in “isolation.”

Probability that Each Group Will Meet Members of Their Own Group in Their Census Tract*



*Measured by the Isolation Index

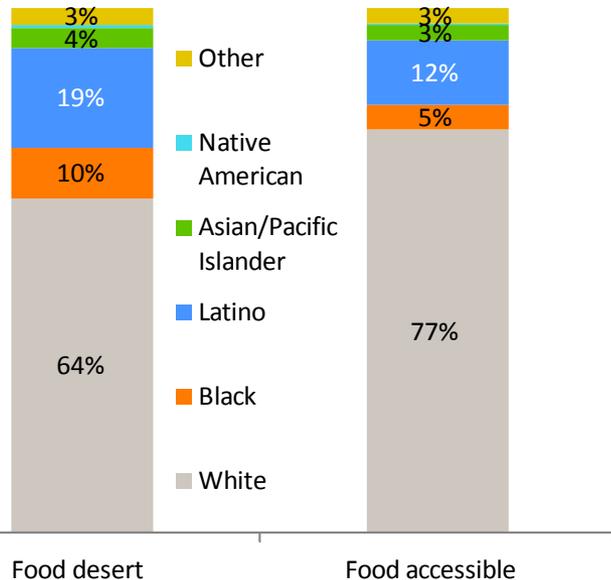
Sources: U.S. Census Bureau; Geolytics
Figures reported are dissimilarity indices for each combination of racial/ethnic groups. See methodology for details of residential segregation index calculations.

Connectedness

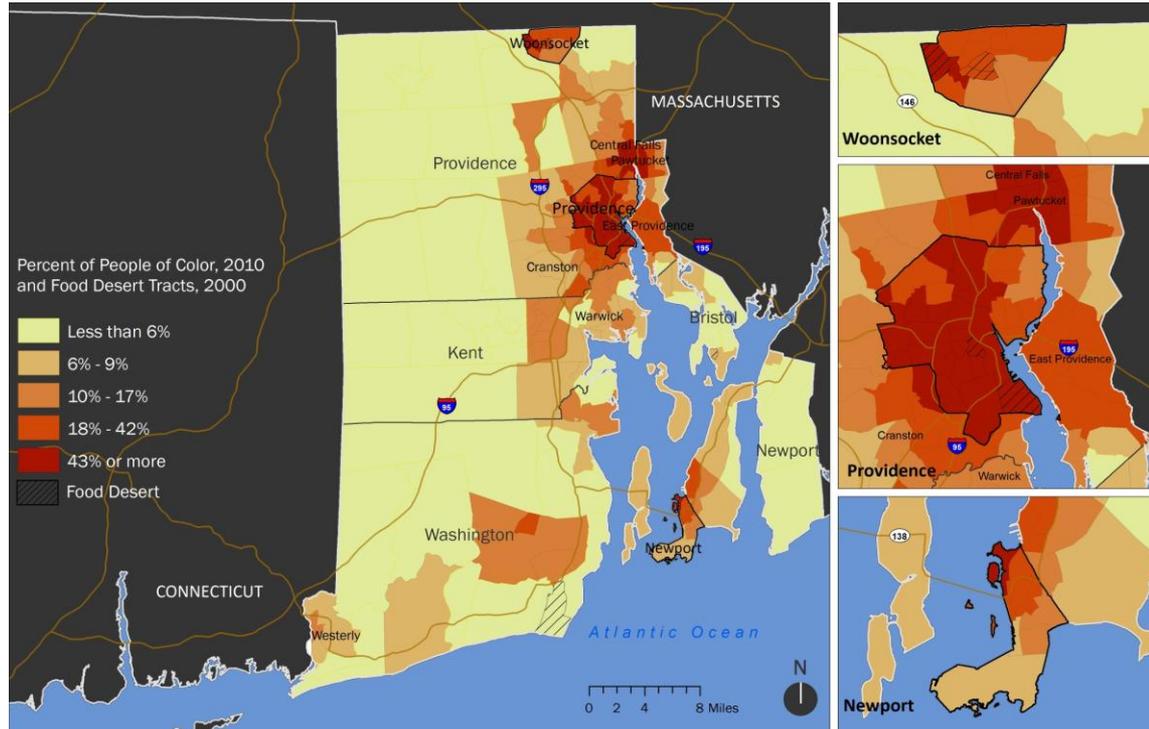
Food Deserts are Primarily in Urban Communities of Color

The state’s food deserts are primarily in Providence, though some exist in the southern portion of the state as well. The majority of Rhode Island’s food deserts are in and around neighborhoods with significant people-of-color populations, especially for African Americans and Latinos. Although white populations still experience a majority of the food deserts—due mostly to a large food desert in the southern part of the state in an area of concentrated white poverty—overall whites have significantly higher food accessibility than people of color.

Race/Ethnicity of Food Environments, 2010



Source: U.S. Census Bureau; USDA
See methodology for details.



Source: Geolytics; USDA
Areas in white are missing data. See methodology for details.

Implications

To build a more equitable and sustainable economy in Rhode Island, we suggest the following areas of focus:

- **Bridge the Racial Generation Gap.** The divergent trends in population by age and race highlight the need to support strong public schools for all children and to otherwise commit to ensuring that the next generation of workers is well equipped to succeed. To address the rapidly increasing racial generation gap, Rhode Island must plan for complete, multigenerational communities, which are accessible, safe, and inclusive for all ages and racial groups. This will allow the elderly to age in place at the same time as provide safe and healthy environments for families to raise children. By identifying infrastructure investments that suit these needs, Rhode Island can create built environments with appropriate community facilities and public spaces.
- **Grow Good Jobs.** With historically slow job growth, Rhode Island must focus its workforce development toward growing jobs in high-opportunity sectors. By identifying quality jobs and economic development strategies to grow wages—wage contracting, minimum wage increases, among other strategies—the state’s economy will be both robust and equitable. Additionally, public infrastructure investments throughout the state present an opportunity to build bridges out of poverty.
- **Connect Unemployed and Low-Wage Workers to Careers in High-Growth Industries.** It is vital for Rhode Island to connect its strong industries with middle-skills jobs that pay good wages and could provide economic mobility for workers without college degrees, while also ensuring that all workers—including those who face high barriers to employment—can get the advanced training or education they need to succeed.
- **Identify Educational Pathways.** Education attainment for African Americans and Latinos is a critical issue, even as progress has been made over the last few decades to close racial gaps. The persistently high number of Latino youth not in school or work highlights the importance of increasing access to quality secondary education throughout the state.
- **Create Healthier Communities.** By making neighborhoods healthier—with complete streets, access to healthy food, and community design—the state can create a supportive built environment for reducing persistent health gaps.
- **Expand Transportation Choices and Mobility.** Rhode Island must focus its public transportation investments to connect employment centers with housing for all incomes, ensuring affordable housing development and preservation is co-located with multi-modal transportation investments. To create a sustainable state, Rhode Island must coordinate transportation, housing, and economic development investments to address concentrated poverty, segregation, housing and transportation burdens—all of which have disproportionately negative effects on communities of color.

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Data Source Summary & Regional Geography

Unless otherwise noted, all of the data and analysis 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. For the purposes of the equity profile and data analysis, the Rhode Island region is synonymous with the State of Rhode Island. All data presented in the profile use this regional boundary, and any exceptions due to lack of data availability are noted in the Data and Methods section of the complete profile.

While much of the data and analyses presented in this Equity Profile are fairly intuitive, in the following pages we describe some of the estimation techniques and adjustments made in creating the underlying database, and provide more detail on terms and methodology used. Finally, the reader should bear in mind that while only a single region is profiled here, many of the analytical 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 there may be regionally-specific data available that is more recent and/or illuminating than what is presented here, a necessary and often painful choice was made (given our love of all data!) to disregard such sources to serve the higher purpose of comparability and replicability over time.

| Source: | Dataset: |
|--|--|
| Integrated Public Use Microdata System (IPUMS) | 1980 5% State Sample |
| | 1990 5% Sample |
| | 2000 5% Sample |
| | 2006 through 2010 American Community Survey, pooled single-year, 1%, samples (2006-2010 ACS) |
| U.S. Census Bureau | 2010 American Community Survey |
| | 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) |
| | 2000 Summary File 3 (SF3) |
| | 2010 ACS 5-year Summary File (2010 5-year ACS) |
| Geolytics | 2010 Summary File 1 (SF1) |
| | 2010 Local Employment Dynamics, LODES 6 (LED) |
| | 2008 National Population Projections (2008 NPP) |
| | Cartographic Boundary Files, 2000 Census Block Groups (2000 Block Groups) |
| | 2010 TIGER/Line Shapefiles, 2010 Census Tracts (2010 Tracts) |
| U.S. Department of Agriculture (USDA) | 2010 TIGER/Line Shapefiles, 2010 Counties (2010 Counties) |
| | 1980 Long Form in 2000 Boundaries (CensusCD 1980) |
| | 1990 Long Form in 2000 Boundaries (CensusCD 1990) |
| Woods & Poole Economics, Inc. (W&P) | 2010 Summary File 1 (SF1) in 2000 Boundaries (CensusCD 2010) |
| | Food Desert Locator |
| U.S. Bureau of Economic Analysis (BEA) | 2011 Complete Economic and Demographic Data Source (CEDDS) |
| | Gross Domestic Product (GDP) by State |
| U.S. Bureau of Labor Statistics (BLS) | Gross Domestic Product (GDP) by Metropolitan Area (Metro) |
| | Local Area Personal Income Accounts, CA30: regional economic profile (LAPIA) |
| | Quarterly Census of Employment and Wages (QCEW) |
| | Local Area Unemployment Statistics (LAUS) |
| Centers for Disease Control and Prevention (CDC) | Occupational Employment Statistics (OES) |
| | Behavioral Risk Factor Surveillance System (BRFSS) |

Selected Terms and General Notes

Broad Racial/Ethnic Origin

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

- “White” and “non-Hispanic White” are used interchangeably and refer to all people who identify as white and do not identify as being of Hispanic origin.
- “Black” and “African American” are used interchangeably and refer to all people who identify as Black or African American 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 interchangeably and refer to all people who identify as Asian or Pacific Islander and do not identify as being of Hispanic origin.
- “Native American” and “Native American and Alaska Native” are used interchangeably and refer to all people who identify as Native American or Alaskan Native and do not identify as being of Hispanic origin.
- “People of Color” or “POC” is used to refer to all people who do not identify as non-Hispanic White.

Nativity

The term “U.S.-born” refers to all people who identify as being born in the U.S. (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, not of American parents.

Detailed Racial/Ethnic Origin

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

Selected Terms and General Notes

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 by the U.S. Office of Management and Budget, as well as to the region that is the subject of this profile as defined above.
- 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 all 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 30 percent.
- The term “high POC tracts” refers to census tracts in which people of color account for 90 percent of the population or more.
- The term “full-time” workers refers to all persons in the IPUMS microdata who reported working at least 45 or 50 weeks (depending on the year of the data) and usually worked at least 35 hours per week during the year prior to the survey. A change in the “weeks worked” question in the 2008 ACS, as compared to 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.

Selected Terms and General Notes

General Notes on Analysis

Below we provide some general notes about the analysis conducted.

- In regard to monetary measures (income, earnings, wages, etc.) the term “real” indicates the data has been adjusted for inflation. All inflation adjustments are based on the Consumer Price Index for all Urban Consumers (CPI-U) from the U.S. Bureau of Labor Statistics, available at:
<ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt>
- Some may wonder why the graph on page 27 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 30 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.

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 2006 through 2010 “pooled” together. While the 1980 through 2000 files are based on the decennial census and cover about 5% of the U.S. population each, the 2006 through 2010 files are from the American Community Survey (ACS) and cover only about 1% 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 2006 through 2010 period.

Compared to the more commonly used census “summary files,” which includes a limited set of summary tabulations of population and housing characteristics, use of the microdata samples allows for the flexibility to create more illuminating metrics of equity and inclusion, and provide a more nuanced view of groups defined by age, race/ethnicity, and nativity in each region of the U.S.

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 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 (i.e. unweighted $N < 100$).

Adjustments Made to Census Summary Data on Race/Ethnicity by Age

Demographic change and what is referred to as the “racial generation gap” (pages 12-19) 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/Alaskan 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 insure consistency over time, drawing on two different summary files for each year.

For 1980, while information on total population by race/ethnicity 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/Alaskan Natives, and non-Hispanic Others among the remainder for each age group, we applied the distribution of these three groups from the overall county population (of all ages) from STF1.

For 1990, population by race/ethnicity at the county level was taken from STF2A, while population by race/ethnicity taken from the 1990 MARS file – a special tabulation of people by age, race, sex, and Hispanic origin. However, to be consistent with the way race is categorized by the Office of Management and Budget’s (OMB) Directive 15, the MARS file allocates all persons identifying as “Other race” or multiracial to a specific race. After confirming that population totals by county were consistent between the MARS file and STF2A, we calculated the number of “Other race” or multiracial that had been added to each racial/ethnic group in each county (for *all ages* combined) by subtracting the number that is reported in STF2A for the corresponding group. We then derived the share of each racial/ethnic group in the MARS file that was made up of “Other 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 “Others race” and multiracial by age group.

Adjustments Made to Demographic Projections Using 2010 Census Results

National Projections

On page 18, national projections of the non-Hispanic white share of the population are shown. These are based on the latest national projections from the U.S. Census Bureau at the time of the analysis (the 2008 National Population Projections) of the population by race/ethnicity. However, because those projections are based on the 2000 Census and the 2010 Census has since been released, we made some minor adjustments to incorporate the recently released 2010 Census results and to insure consistency in the racial/ethnic categories included in our historical analysis of demographic change.

As noted above, while our categorization of race/ethnicity includes a non-Hispanic Other category (including Other single race alone and those identifying as multiracial), the 2008 National Population Projections follow OMB 1997 guidelines and essentially distribute the non-Hispanic other single race alone group across the other defined racial ethnic categories. Specifically, we compared the percentage of the total population composed of each racial/ethnic group in the projected data for 2010 to the actual percentage reported by the 2010 Census. We subtracted the projected percentage from the actual percentage for each group to derive an adjustment factor, and carried this adjustment factor forward by adding it to the projected percentage for each group in each projection year.

Finally, we applied the adjusted population distribution by race/ethnicity to the total projected population from the 2008 National Population Projections to get the projected number of people by race/ethnicity.

Adjustments Made to Demographic Projections Using 2010 Census Results

County and Regional Projections

On page 18, projections of the racial/ethnic composition by county and region are also presented. These are based on initial county-level projections from Woods & Poole Economics, Inc. However, given that they were made prior to the release of the 2010 Census, and they use a different categorization of race than we use, a careful set of adjustments were made to incorporate the recently released 2010 Census results and to insure consistency with the racial/ethnic categories included in our historical analysis of demographic change. Once all adjustments were made at the county level, the results were aggregated to produce a final set of projections at the regional and state levels.

Similar to the 1990 MARS file described above, the Woods & Poole projection follow the OMB Directive 15 race categorization, assigning all persons identifying as “Other race” or multiracial to one of the 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 and multiracial group from each of these five categories. This was done by comparing the Woods & Poole projections for 2010 to the actual 2010 Census results, figuring out the share of each racial ethnic group in the Woods & Poole data that was composed of Others and multiracials 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 the five groups (White, Black, Latino, Asian/Pacific Islander, and Native American), exclusive of Others and multiracials.

To estimate the county-level Other and multiracial share of the population in each projection year, we then generation a simple straight-line projection of this share using information from SF1 of the 2000 and 2010 Census. Keeping the projected Other and 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.

The result was a set of adjusted projections for the six-group racial/ethnic *distribution* in each county, which was 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, these county-level projections were adjusted to match our adjusted national projections by race/ethnicity using a simple Iterative Proportional Fitting (IPF) procedure.

Estimates and Adjustments Made to BEA Data on GDP, GRP, and GSP

The data presented on pages 22 and 24 on national Gross Domestic Product (GDP) and its analogous regional measure, Gross Regional Product (GRP) – both referred to as GRP in the text – is based on data from the U.S. Bureau of Economic Analysis (BEA). However, due to changes in the estimation procedure used for the national (and state level) data in 1997, a lack of metropolitan area estimates prior to 2001, and no available county-level estimates for any year, a variety of adjustments and estimates were made to produce a consistent series at the national, state, metropolitan area, and county levels from 1969 to 2010. Because the regional definition used for this particular Equity Profile does not match the official metropolitan area definition used by BEA, the GRP data reported is an aggregation of our final county-level estimate of gross product across the counties contained in the region.

Adjustments at the State and National Levels

While data on Gross State Product (GSP) is not reported directly in the Equity Profile, it was 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 it 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 SIC basis to a NAICS basis in 1997, data prior to 1997 was adjusted to avoid any erratic shifts in gross product in that year. While the change to NAICS basis occurred in 1997, BEA also provides estimates under a SIC basis in that year. Our

adjustment involved figuring the 1997 ratio of NAICS-based gross product to SIC-based gross product for each state and the nation, and multiplying it by the SIC-based gross product in all years prior to 1997 to get our final estimate of gross product at the state and national levels.

County and Metropolitan Area Estimates

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

Estimates and Adjustments Made to BEA Data on GDP, GRP, and GSP

County and Metropolitan Area Estimates (cont.)

We then generated a second iteration of county-level estimates – just for counties included in metropolitan areas – by taking the final metropolitan-area-level estimates and allocating gross product to the counties in each metropolitan area in proportion to total earnings of employees working in each 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 non-metropolitan gross product by state, was then allocated to the non-metropolitan 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 insure 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.

Middle Class Analysis

Page 29 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 income 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 examines the share of households enjoying the same *relative* standard of living in each year as the middle 40 percent of households did in 1979.

Assembling a Complete Dataset on Employment and Wages by Industry

We report analysis of jobs and wages by industry on pages 34-37. This analysis is based on a industry-level dataset constructed using 2-digit NAICS industries from the Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW). Due to some missing (or non-disclosed) data at the county and regional levels, we supplemented our dataset using information from Woods & Poole Economics' Complete Economic and Demographic Data Source (CEDDS), which contains complete jobs and wages data for broad, 2-digit NAICS industries at multiple geographic levels. (Proprietary issues barred us from using CEDDS directly, so we instead used it to complete the QCEW dataset.) While we refer to counties in describing the process for "filling in" missing QCEW data below, the same process was used for the regional and state levels of geography.

Given differences in the methodology underlying the two data sources (in addition to the proprietary issue), it would not be appropriate to simply "plug in" corresponding CEDDS data directly to fill in the QCEW data for non-disclosed industries. Therefore, our approach was to first calculate the number of jobs and total wages from non-disclosed industries in each county, and then distribute those amounts across the non-disclosed industries in proportion to their reported numbers in the CEDDS data.

To make for a more accurate application of the CEDDS, we made some adjustments to it to better align it with the QCEW. One of the challenges of using CEDDS as a "filler dataset" is that it includes all workers, while QCEW includes only wage and salary workers. To normalize the CEDDS 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 CEDDS is available on a decadal basis until 1995, at which point it becomes available on an annual basis. For the 1990-1995 period, we estimated the CEDDS annual jobs and wages figures using a straight-line approach. Finally, we standardized the CEDDS 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 2-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 is 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.

Change in Jobs and Wages by Industry/Wage Level, 1990-2010

The analysis presented on page 34 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 2-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, see: <http://www.brookings.edu/research/reports/2012/04/26-baltimore-economy-vey>.

While we initially sought to conduct the analysis at a more detailed NAICS level, the large amount of missing data at the 3 to 6-digit NAICS levels (which could not be resolved the method that was applied to generate our filled-in 2-digit QCEW dataset) prevented us from doing so.

Analysis of Occupations by Opportunity Level

Pages 38-47 of the Equity Profile presents 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/nativity are examined, in effort to better understand differences in access to high-opportunity occupations in the region while holding broad level of educational attainment constant.

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 growth measures, which are calculated over a relatively short period (2005-2011). For example, an increase from \$6 per hour to \$12 per hour is fantastic wage growth (100 percent), but most would not consider a \$12-per-hour job as a “high opportunity” occupation.

Second, all measures used to calculate the “Occupation Opportunity Index” are based on data for Metropolitan Statistical Areas from the Occupational Employment Statistics (OES) program of the U.S. Bureau of Labor Statistics (BLS), with one exception: median age by occupation. This measure, included among the growth metrics because it indicates the potential for job openings due to replacements as older workers retire, is estimated for each occupation from the same pooled 2006-2010 IPUMS American Community Survey (ACS) microdata file that is used for many other analyses (for the employed civilian noninstitutional population ages 16 and older). The median age measure is also based on data for Metropolitan Statistical Areas (to be consistent with the geography of the OES data), except in cases for which there were fewer than 30 individual survey respondents (i.e. unweighted $N < 30$) 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 is reported, is the 3-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 3-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. Given differences in between the two datasets in the way occupations are coded, the 3-digit SOC level was the most detailed level at which consistent crosswalk could be established.

Analysis of Occupations by Opportunity Level

Fourth, while most of the data used in the analysis is 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 40-43), 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 was chosen given its 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 to 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 40-43, 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 44-47. 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 2006-2010 IPUMS ACS microdata), who may be employed in any occupation, regardless of its associated “typical” education level.

Lastly, it should be noted that for all of the occupational analysis, it was an intentional decision to keep the categorizations by education and opportunity level fairly broad, with three categories applied to each. For the categorization of occupations, this was done so that each occupation could be more justifiably assigned to a *single* typical education level; even with the three broad categories some occupations had a fairly even 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 45-47, this was kept broad to ensure reasonably large sample sizes in the 2006-2010 IPUMS ACS microdata that was used for the analysis.

Measures of Diversity and Segregation

In the Equity Profile we refer to a measure of racial/ethnic diversity (the “Diversity Score” on page 12) and several measures of residential segregation by race/ethnicity (the “Multi-Group Entropy Index” on page 63, the “Dissimilarity Index” on page 64, and the “Isolation Index” on page 65). 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 originates from the decennial censuses of each year, an advantage of the Geolytics data we use is that (with the exception of 2000) it has been “re-shaped” to be expressed in 2000 census tracts boundaries, and so the underlying geography for our calculations is consistent over time; the census tract boundaries of the original decennial census data change with each release, which could potentially cause a change in the value of residential segregation indices even if no actual change in residential segregation occurred. In addition, while most all the racial/ethnic categories for which indices are calculated are consistent with all other analysis presented in this profile, there is one exception. Given limitations of the tract-level data released in the 1980 Census, Native Americans and 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 64, but keep the 1980 data other analysis of residential segregation as this minor inconsistency in the data is not likely to affect the analysis.

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/hhes/www/housing/housing_patterns/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 formulas for the other two measures of residential segregation, the Dissimilarity Index and the Isolation Index, are well established, and are made available by the U.S. Census Bureau at: http://www.census.gov/hhes/www/housing/housing_patterns/app_b.html.