

METRO ATLANTA REGIONAL ECONOMIC COMPETITIVENESS STRATEGY

Chapter 1: Summary Background and SWOT Analysis

August 22, 2017

About CATLYST

In May, 2017 the Atlanta Regional Commission (ARC) initiated a Regional Competitiveness Strategy to improve regional competitiveness and collaboration throughout Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale counties. ARC selected Avalanche Consulting, a national economic development consultancy, to facilitate the preparation of the competitiveness strategy. The Regional Economic Competitiveness Strategy also serves as Comprehensive Economic Development Strategy (CEDS) in accordance with the U.S. Economic Development Administration's requirements. The 2017 Regional Competitiveness Strategy follows a previously completed five-year CEDS conducted in 2012.

The metro Atlanta Regional Competitiveness Strategy, CATLYST, will serve as a guide for policies, programs, and investments that ensure the region's continued economic dynamism. CATLYST is designed to provide information, tools, and specific actions to the ARC, partner organizations, local economic development and community development practitioners, elected leaders, and private businesses. Once complete, CATLYST will have two chapters and an executive summary.

Chapter 1: Summary Background and SWOT Analysis

The first chapter of CATLYST includes a SWOT Analysis (strengths, weaknesses, opportunities, and threats) summary. The SWOT summary is based on an evaluation of metro Atlanta's current competitive position that examines a broad array of metrics related to the region's evolving economy and demographics. In addition to quantitative analysis, the chapter includes qualitative information collected through a series of focus groups and interviews that included more than **150 stakeholders, the first three (of five) 2-hour workshops with a 65-member regional Strategy Committee, an online survey of more than 2,000 area residents, and four 2-hour community open houses in Gwinnett, Douglas, and Clayton Counties and the City of Atlanta.**

Chapter 2: Strategic Action Plan and Evaluation Framework

CATLYST's second chapter includes a five-year program of work to enhance metro Atlanta's economy, resiliency, and quality of life for all residents. The recommended actions build on findings from the SWOT analysis and incorporate activities from current regional efforts that support the vision and goals of CATLYST. This Chapter also suggests the stakeholder(s) responsible for implementation, implementation timetables, potential funding sources, and performance metrics to evaluate CATLYST's progress and impact on the region's economy.

Project Partners

The metro Atlanta Regional Economic Competitiveness Strategy was developed by the Atlanta Regional Commission in partnership with Avalanche Consulting and hundreds of local residents, public organizations, nonprofits, and private businesses.

Atlanta Regional Commission

The Atlanta Regional Commission is the regional planning and intergovernmental coordination agency for the 10-county Atlanta region. Since 1947, ARC and its predecessor agencies have helped focus the region's leadership, attention and resources on critical issues. The agency serves as a regional convener, bringing diverse stakeholders to the table to address the most important issues facing metro Atlanta. ARC also offers leadership development programs to residents who want to make a difference in the Atlanta region. ARC's member governments are Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale counties, and the city of Atlanta.

Metro Atlanta Residents & Businesses

Development of the metro Atlanta Regional Competitiveness Strategy involved face-to-face discussions with business leaders, representatives of philanthropic organizations, economic development and community development professionals, and other civic champions. Additionally, more than 2,000 residents completed an online survey as part of the strategic planning process.

Avalanche Consulting

Avalanche Consulting is the nation's premier economic development strategist. The firm is deeply driven to make a positive impact and seek clients who are equally inspired to energize their economies. Since it was established in 2005, Avalanche Consulting has provided research, strategic planning, and marketing assistance to more than 200 communities throughout the US.

Strategy Committee Members

The Atlanta Regional Commission (ARC) staff and board and Avalanche Consulting sincerey thank the members of CATLYST's Strategy Committee for helping inform and guide the development of this strategic plan. This group of civic leaders were critical in ensuring that CATLYST reflects a broad diversity of perspectives from across the entire 10-county metro Atlanta region.

Mike Alexander - Director, Center for Livable Communities, Atlanta Regional Commission Kim Anderson - Former CEO, Families First Chris Appleton - Co-Founder and Executive Director, Wonderroot Kerry Armstrong - Chair, ARC Board; Managing Director/Development Partner, Pope & Land Real Estate Kali Boatright – President & CEO, Douglas County Chamber of Commerce Bill Bolling – Chairman, Foodwell Alliance Jennifer Bonnett - General Manager, Advanced Technology Development Center Frank Brown - CEO, Communities in Schools of Atlanta Chris Burke - Director Community Relations, Office of Government and Community Relations Taifa Butler – Executive Director, Georgia Budget & Policy Institute Mike Carnathan - Manager, Research and Analytics, Atlanta Regional Commission Stephen Causby - Manager, Community Partnerships, Atlanta Regional Commission Susan Chana - Director, Center for Strategic Relations, Atlanta Regional Commission Nelson Chu - Managing Director, Kinetic Ventures Ann Cramer - Senior Consultant, Coxe Curry & Assoc. Christina Cummings - Economic Development Manager, City of Atlanta Jim Durrett - Executive Director, Buckhead CID James Franklin – *CEO*, *TechBridge* David Gill – President & CEO, Henry County Chamber of Commerce Ray Gilley – President, Decide Dekalb Development Authority Todd Greene - Vice President, Community and Economic Development, Federal Reserve Bank of Atlanta Ben Hames – Deputy Commissioner, Workforce Georgia Department of Economic Development David Hartnett - Chief Economic Development Officer, Metro Atlanta Chamber Cinda Herndon-King - Director, Atlanta CareerRise Doug Hooker - Executive Director, Atlanta Regional Commission Tim Hynes – President, Clayton State University Sally Jamara – Executive Practice Leader, Traversa Consulting Marty Jones - Executive Director, Conyers Rockdale Economic Development Council Anne Kaiser - Vice President, Community and Economic Development, Georgia Power; CATLYST Co-Chair Sarah Kirsch - Executive Director, ULI Atlanta Eloisa Klementich - President and CEO, Invest Atlanta Becky Kurtz – Manager, Aging and Health Services, ARC Shelley Lamar – Executive Director, Aerotropolis Atlanta Alliance Rob Lebeau - Manager, Workforce Development, Atlanta Regional Commission Craig Lesser - Managing Partner, Pendleton Consulting

Andy Macke - Regional Vice President, Comcast Rohit Malhotra - Executive Director & Founder, Center for Civic Innovation Misti Martin - President, Cherokee Office of Economic Development Nick Masino - Senior Vice President, Economic Development, Partnership Gwinnett Sharon Mason - COO, Cobb Chamber Brooks Mathis - Executive Director, Cobb EDGE Amol Naik - Director of Special Projects, MailChimp; CATLYST Co-Chair Al Nash – Executive Director, Development Authority of Fulton County John O'Callaghan – President & CEO, Atlanta Neighborhood Development Partnership John Orr - Manager, Transportation Access, Atlanta Regional Commission Keith Parker - CEO, Goodwill Industries of North Georgia; Former General Manager/CEO, MARTA Alicia Philipp - President, Community Foundation Greater Atlanta Courtney Pogue – Director of Economic Development, Clayton County Chetan Prakash - Consultant Chris Pumphrey - Executive Director, Douglas Development Authority Comm. Russell McMurry - Commissioner, Georgia Department of Transportation Rodney Sampson – Partner Inclusion + Equity, Tech Square Labs Meaghan Shannon-Vlkovic - Vice President, Enterprise Community Partners Sam Shenbaga - Manager, Community Development, ARC Jennifer Sherer - Vice President, Innovation and Entrepreneurship, Metro Atlanta Chamber Neil Shorthouse – Founder, Communities in Schools Gregg Simon - Vice President, Economic Development, Metro Atlanta Chamber Nathaniel Smith – CEO & Founder, Partnership for Southern Equity Detrick Stanford - COO, Clayton County Commission Reid Stewart – Director, InProp USA Bentina Terry - Senior Vice President, Metro Atlanta Region, Georgia Power Tene Traylor - Fund Advisor, The Kendeda Fund Carlotta Ungaro - President & CEO, Fayette County Chamber of Commerce Bethany Usry - Vice President, Greater North Fulton Chamber of Commerce Stephen Vault - Vice President - Business Development and Strategic Planning, Wellstar Larry Williams - President, Technology Association of Georgia Janelle Williams - Senior Associate - Family Economic Success, Annie E. Casey Foundation Joan Young - President & CEO, Fayette County Development Authority Ken Zeff - Executive Director, Learn4Life Metro Atlanta

Table of Contents



The Context & Drivers Section distills the findings of the Competitive Assessment into a brief, graphicdriven summary. The Context & Drivers section highlights significant contributors to metro Atlanta's economy.



The SWOT Analysis summarizes metro Atlanta's strengths, weaknesses, opportunities and threats. It represents the intersection of the data analysis and qualitative input collected through focus groups, interviews, Strategy Committee workshops, and resident survey.



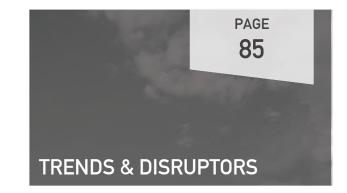
The Economic Characteristics Section distills metro Atlanta's historic and recent economic performance within the context of the US, state, and benchmark regional averages.



The Demographic Characteristics Section examines metro Atlanta's people, such as their educational attainment, income, and commuting patterns.



Avalanche Consulting surveyed more than 2,000 residents as part of the Competitive Assessment. The Survey Results section includes the survey results.



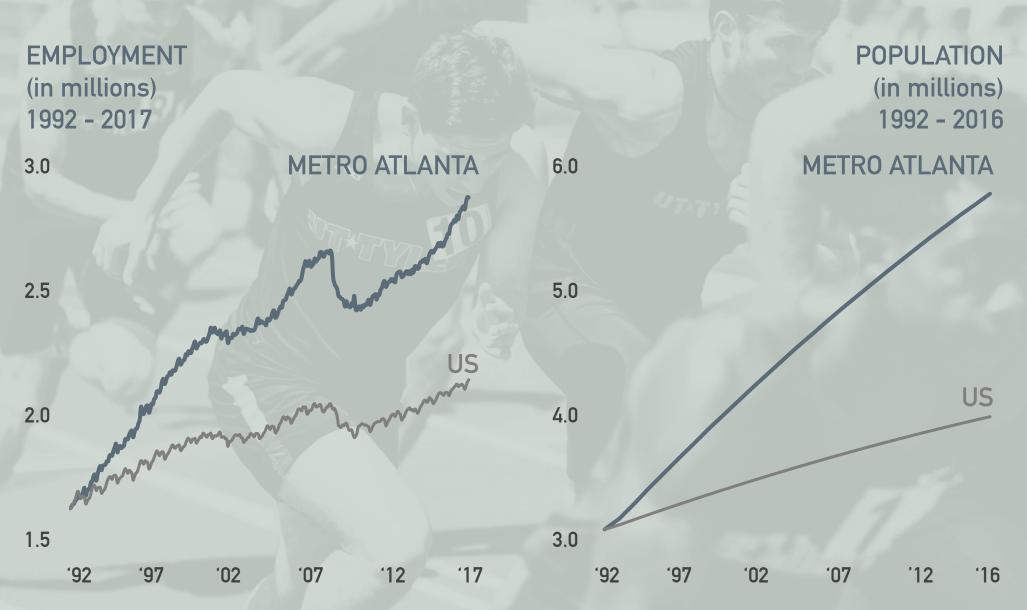
The future of metropolitan areas will be greatly influenced by a several powerful trends and disruptors that promise to transform consumer and business behavior.

01 Context & Drivers

The Context & Drivers section provides a snapshot of key statistics and trends in metro Atlanta. This summary highlights some of the main trends that tell metro Atlanta's story today and sheds light on what that story might be in the future.



Historically, population and employment gains in metro Atlanta far outperformed the US average.



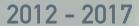
SOURCE: BUREAU OF LABOR STATISTICS; US CENSUS BUREAU; AVALANCHE CONSULTING

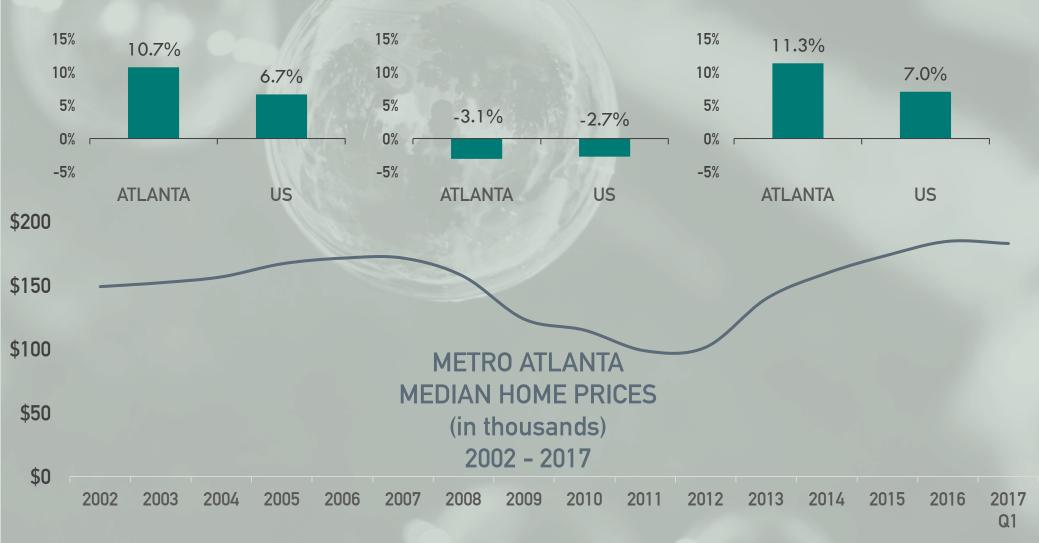
The housing collapse caused significant loss of jobs in metro Atlanta.

EMPLOYMENT GROWTH

2002 - 2007

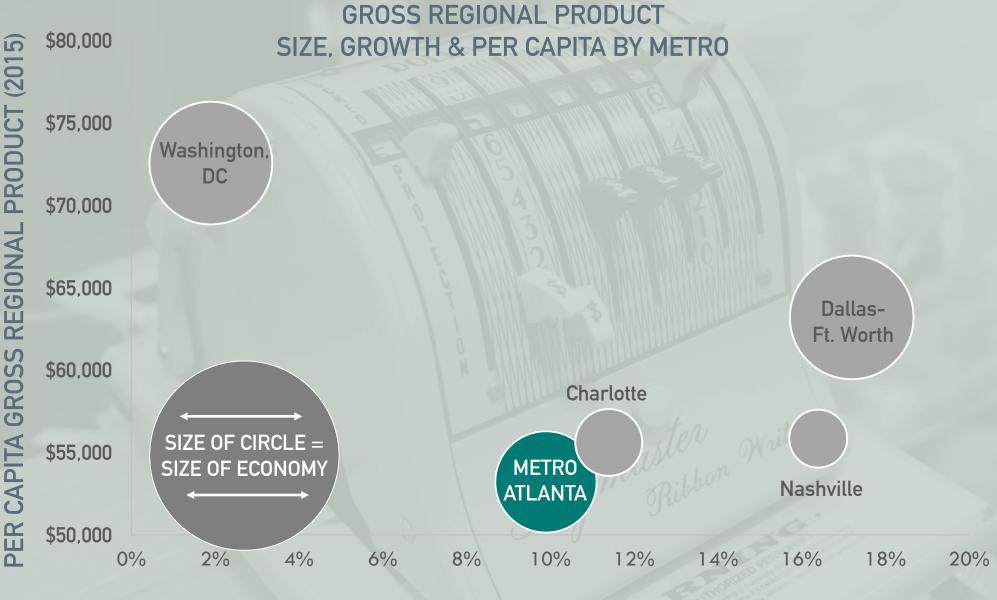
2007 - 2012





SOURCE: BUREAU OF LABOR STATISTICS; NATIONAL ASSOCIATION OF REALTORS; AVALANCHE CONSULTING

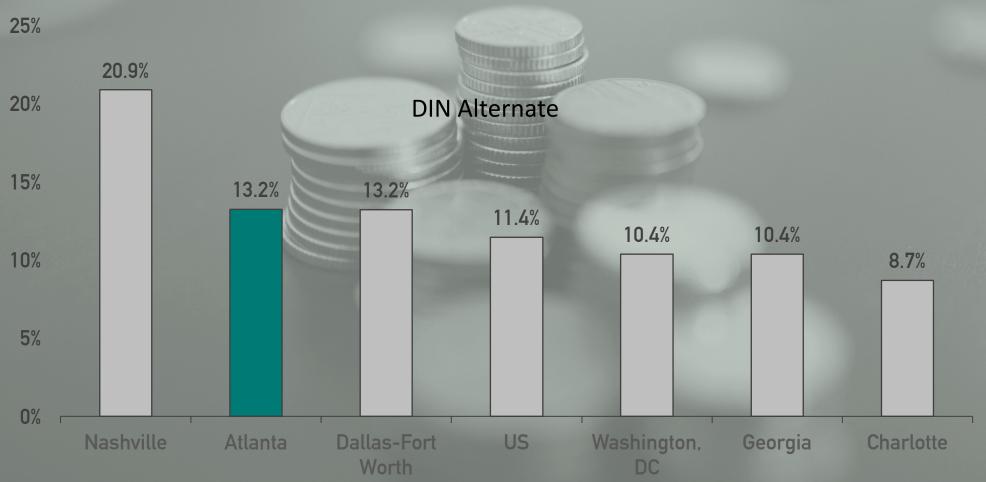
Metro Atlanta's gross regional product has increased only modestly since 2010.



GROSS REGIONAL PRODUCT GROWTH (2011 – 2016)

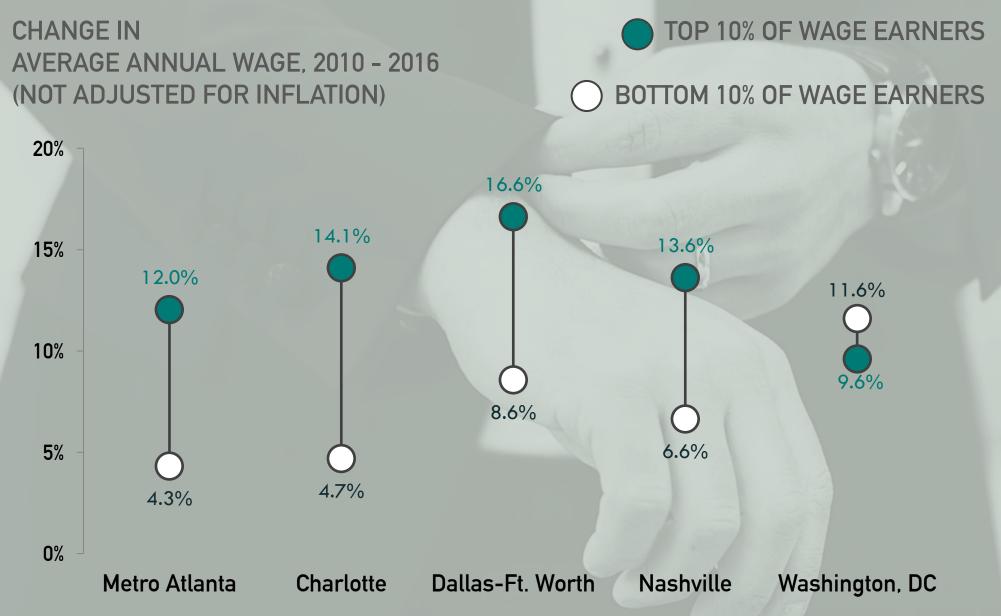
Median household income gains have been comparatively strong.

CHANGE IN MEDIAN HOUSEHOLD INCOME 2010 – 2015 (NOT ADJUSTED FOR INFLATION)



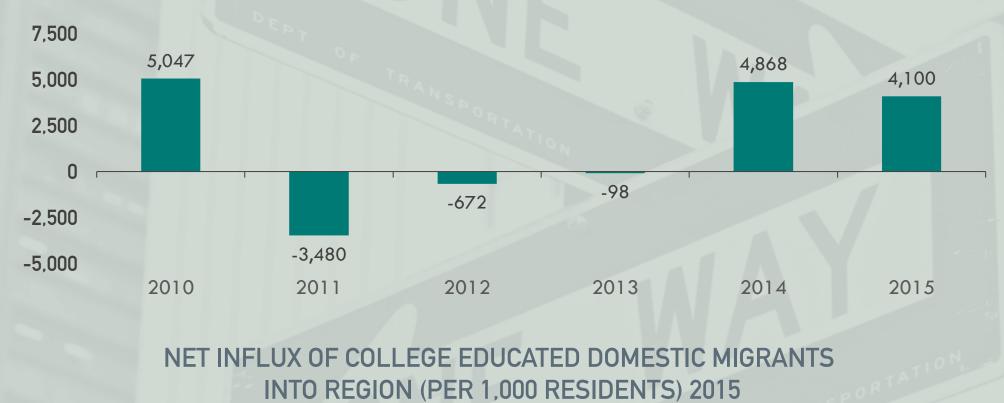
SOURCE: US CENSUS BUREAU; AVALANCHE CONSULTING

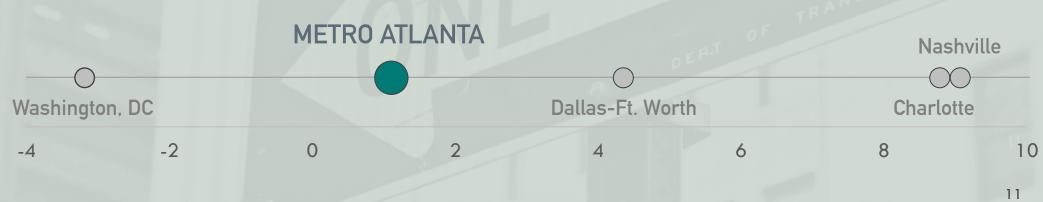
Wage gains in metro Atlanta trail many peer regions and income disparities are greater.



Talent attraction in metro Atlanta, however, has been uneven in recent years and trails its peers.

NET INFLUX OF COLLEGE EDUCATED MIGRANTS INTO METRO ATLANTA





Metro Atlanta suffers tremendous disparities among poverty rates for racial and ethnic groups.

METRO ATLANTA POVERTY RATE, 2015





Black/African-American 19.2%

White

7.9%

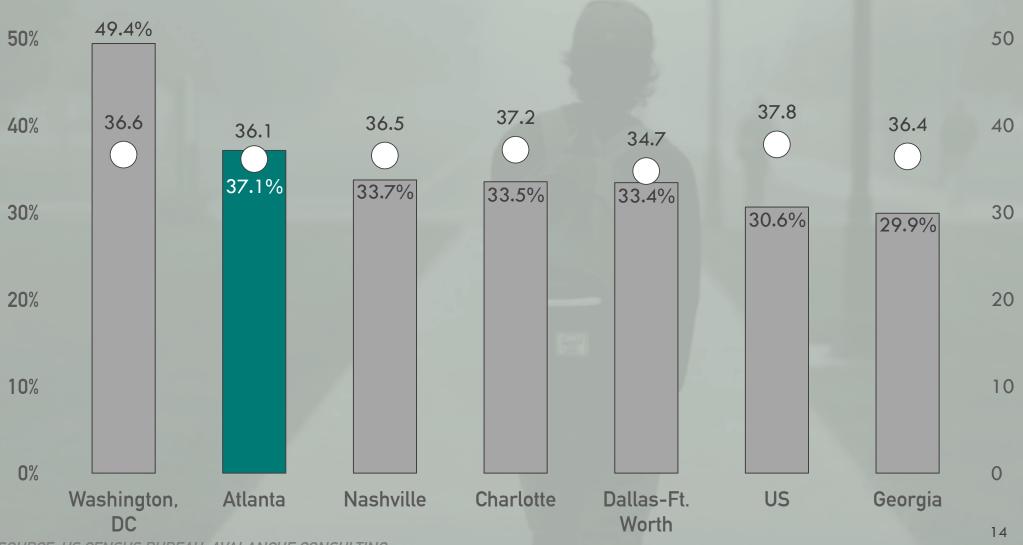
SOURCE: US CENSUS BUREAU; AVALANCHE CONSULTING

Despite these challenges, metro Atlanta continues to provide an environment rich in opportunities for both individuals and businesses.

Metro Atlanta is young and well-educated.

SHARE OF 25 YEARS+ POPULATION W/ A BACHELOR'S DEGREE OR HIGHER, 2015

O MEDIAN AGE, 2015

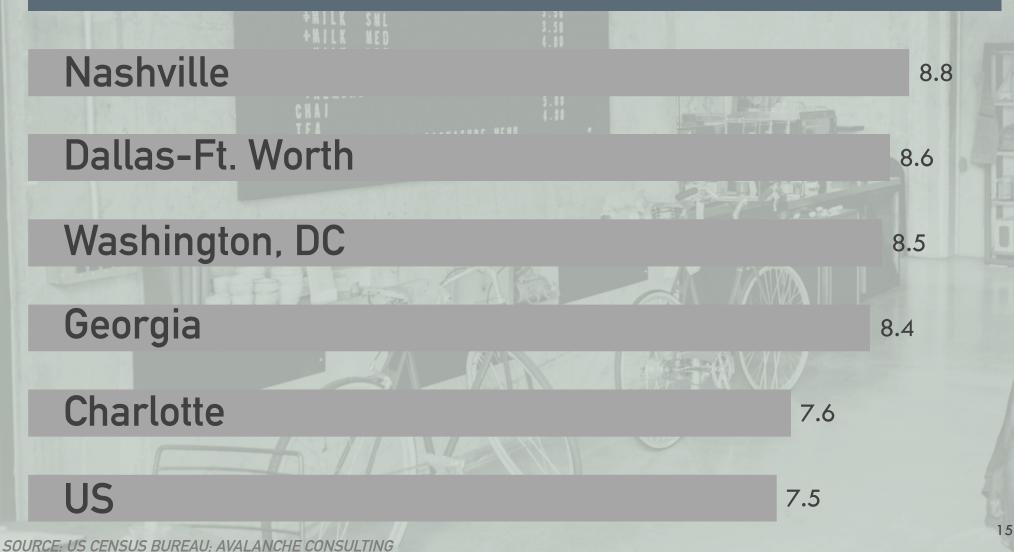


SOURCE: US CENSUS BUREAU; AVALANCHE CONSULTING

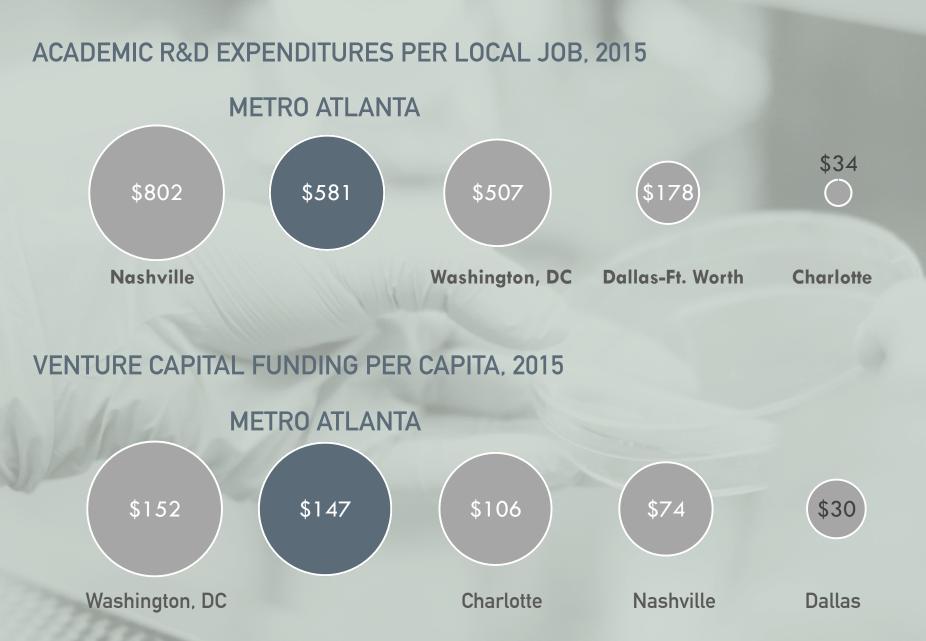
Metro Atlanta is very entrepreneurial.



Atlanta



Metro Atlanta is a significant R&D hub.

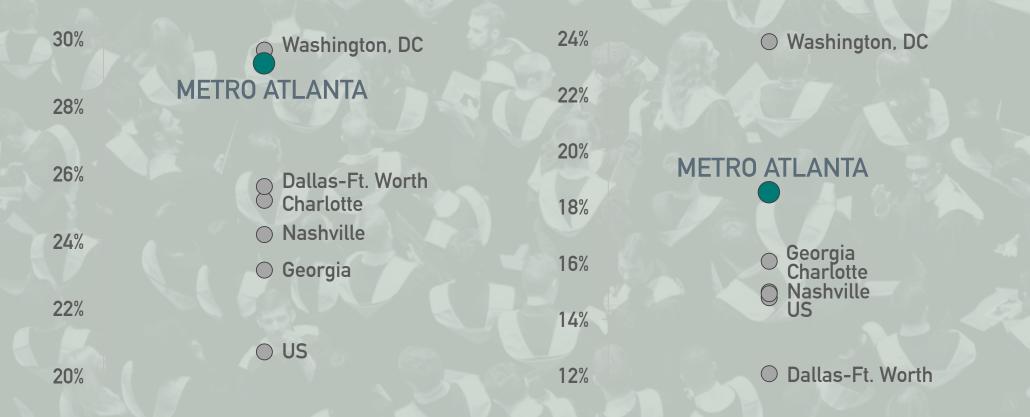


SOURCE: NATIONAL SCIENCE FOUNDATION; NATIONAL VENTURE CAPITA; AVALANCHE CONSULTING

Minorities in metro Atlanta possess greater levels of educational attainment than their peers in other regions.*

% OF BLACK/AFRICAN-AMERICANS W/ A BACHELOR'S DEGREE, 2015

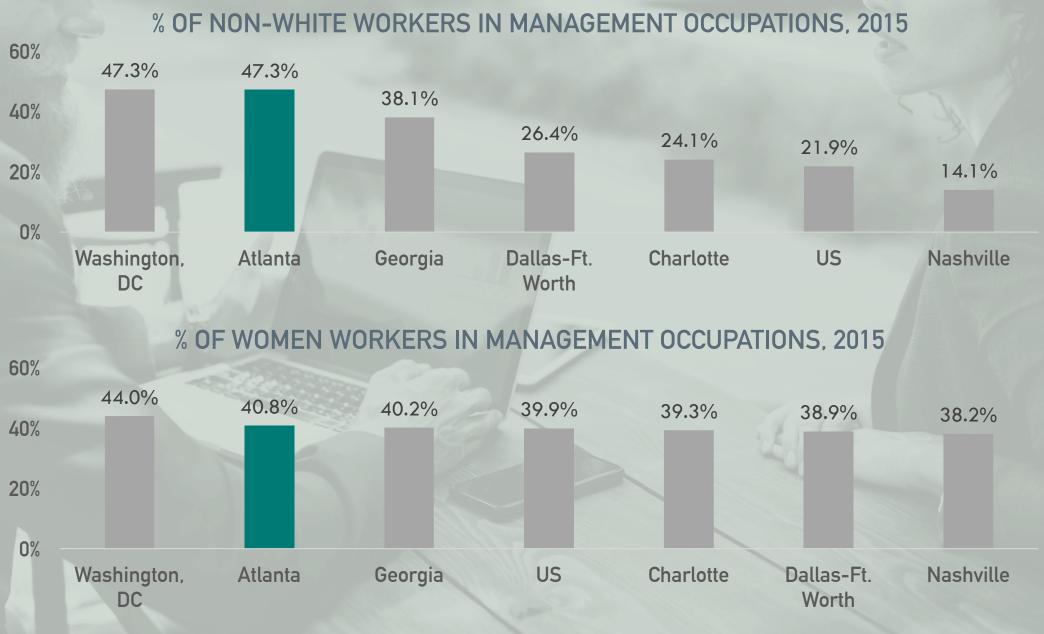
% OF HISPANICS W/ A BACHELOR'S DEGREE, 2015



*although disparities in the educational attainment levels within racial and ethnic groups remain significant

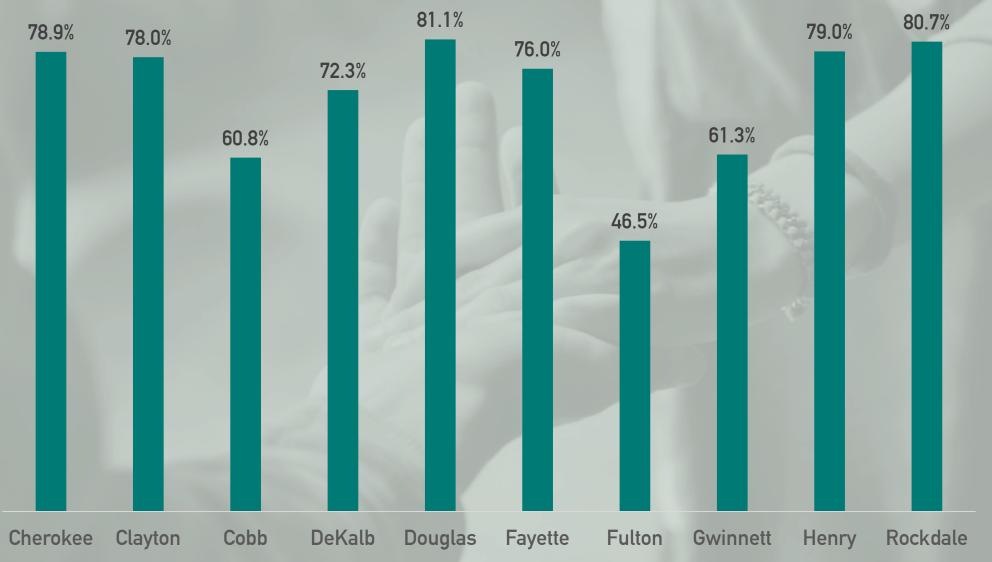
SOURCE: US CENSUS BUREAU; AVALANCHE CONSULTING

Metro Atlanta provides greater leadership opportunities for women and minorities than other regions.



Metro Atlanta is deeply interconnected. The region cannot succeed unless all counties succeed.

SHARE OF RESIDENTS WORKING OUTSIDE THEIR HOME COUNTY, 2014



02 SWOT

The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis on the following pages summarizes metro Atlanta's competitive position in five categories – Entrepreneurship & Innovation, Global Business Environment, Infrastructure & Mobility, Livability, and Talent & Education. The conclusions in this section are drawn from an analysis of quantitative data as well as qualitative information gleaned from interviews and focus groups with local stakeholders. They also draw from the consulting team's national perspective and expertise. To be competitive, regions must think holistically about the interconnectivity between issues.



Leadership Global Business Environment Public Policy Talent & Education Infrastructure & Mobility Entrepreneurship & Innovation Affordability Livability Economic Mobility

SWOT Introduction

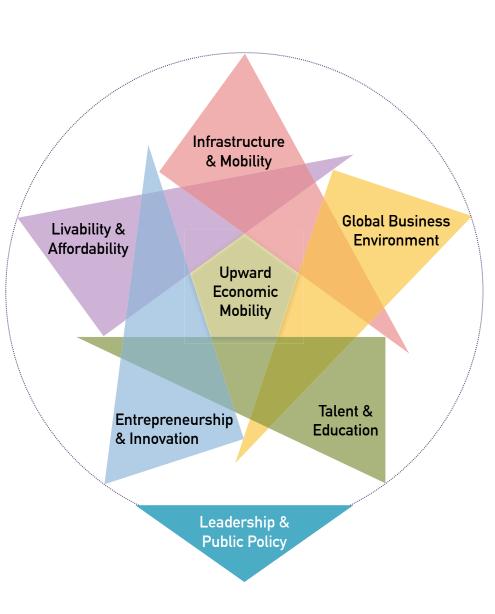
The sustained economic recovery and reduced unemployment enjoyed by many regions in the US, including metro Atlanta, has changed the economic competitiveness equation. Employers ready to expand are facing challenges finding skilled talent. As hiring becomes more of a challenge, economic developers and educators are forming closer bonds as both try to find solutions. With access to talent becoming more difficult, a multitude of other concerns surface: Does our community offer the quality of life desired by top talent? Does our community offer affordable housing and mobility so that workers can live within a reasonable commute of their jobs? Are we doing everything we can to re-engage people in the workforce and put them on viable career pathways?

Today, to be competitive, regions must think holistically and consider the interconnectivity of issues. The following SWOT Analysis considered metro Atlanta's current position and future opportunities through this lens.

While CATLYST's research process began by exploring the interconnectedness of the nine topics illustrated on the previous page, the SWOT Analysis presented on the following pages centers on five topics: Global Business Environment; Talent & Education; Entrepreneurship & Innovation; Livability & Affordability; and Infrastructure & Mobility.

The other four other topics that have been explored (Public Policy, Leadership, Affordability, and Economic Inclusion) are so intimately linked that they must be present in any discussions about the other five SWOT topics.

- Economic Mobility and Affordability are emerging as foundational themes for the entire CATLYST strategy. The number of metro Atlanta residents in poverty has increased at nearly three times the rate of regional population growth over the past 10 years, and poverty has been especially pronounced in the region's suburban areas. All future CATLYST initiatives must provide opportunities to raise residents out of poverty, whether the topic at-hand is education, infrastructure, entrepreneurship, quality of place, or business growth.
- Public Policy and Leadership emerged as essential solutions to all metro Atlanta challenges. Local leaders making policy decisions that advance unified regional goals will greatly accelerate economic growth.





Metro Atlanta has long ranked as a leading destination for entrepreneurs. In recent years, the region's rich history of entrepreneurship has been complemented by an increasingly visible tech scene. Metro Atlanta's colleges and universities manage billions in R&D expenditures, and venture capital funding continues to rise. The region's dominance in the world of payment processing has solidified its status as 'Transaction Alley.' Despite these many strengths, metro Atlanta must more effectively tell its story to help encourage even greater levels of entrepreneurship and innovation.

STRENGTHS

- Metro Atlanta is home to 15 *Fortune 500* companies, one of the largest concentrations in the US. The region's numerous corporate headquarters provide a ready customer base for fledgling business-to-business ventures.
- Nearly 70% of US payment transactions are processed in metro Atlanta, providing a ripe environment for emerging FinTech startups.
- In 2015, metro Atlanta colleges and universities managed \$1.5 billion in R&D expenditures. The same year, metro Atlanta companies received more than \$800 million in venture capital.
- Metro Atlanta has high levels of both self-employment and microbusinesses, a signal of a vibrant small business environment.
- New entrepreneurial programs and support spaces reflect a greater emphasis on entrepreneurship & innovation throughout the region, with strong connections to major corporations.

WEAKNESSES

- Despite high levels of innovation, revenues for self-employed workers are less than the averages of the US and many other major metropolitan areas.
- The breadth of metro Atlanta's high tech environment is more limited than in places such as of Silicon Valley. While innovative companies can succeed within the region by focusing on specific niches such as FinTech and MedTech, there is often a tendency among some local incubators and other aligned stakeholders to be all things to all people.
- While metro Atlanta is home to many corporate headquarters, the R&D facilities of these firms are often located elsewhere.
- Some local stakeholders believe there is a lack of collaboration and mentorship among the constituencies of the innovation community.

CONNECTED OPPORTUNITIES

Metro Atlanta's entrepreneurial culture and innovation assets provide significant opportunities to bolster the region's global visibility, help address issues such as poverty and food insecurity, and boost wages and incomes. Corporate entrepreneurship models could be adapted/expanded to nonprofits – involving entrepreneurial ventures in developing solutions to address socioeconomic needs.

BIZ. ENVIRONMENT

ECONOMIC MOBILITY

INFRA. & MOBILITY







CONNECTED THREATS

Rising real estate and talent costs could deter entrepreneurs from starting and expanding businesses in the region. If public policies do not encourage a broad mix of real estate options (both residential and commercial), entrepreneurs may consider moving to other regions.



AFFORDABILITY









Nurturing a global business environment has been among metro Atlanta's greatest successes. From the attraction of numerous corporate headquarters to the region's successful bid for the Olympics, metro Atlanta has consistently worked to provide a competitive operating environment with global visibility. While the region remains a compelling destination for both businesses and talent, local political and industry leaders must continue to reinforce metro Atlanta's identity as a global community.

STRENGTHS

- Metro Atlanta's high concentration of corporate headquarters and international companies reflects the region's unique combination of a competitively priced operating environment, extensive connectivity to the rest of the world, and a skilled workforce.
- From poverty reduction to entrepreneurial support, metro Atlanta's corporate community is involved in a host of initiatives to improve the region's competitiveness.
- Metro Atlanta continues to attract talent from outside the region.
- In recent years, the state and several localities within metro Atlanta have approved new funding for critical transportation initiatives long advocated by metro Atlanta's business community.
- Metro Atlanta's thriving film industry continues to increase the region's global visibility and brand recognition.
- As reflected by the Regional Marketing Alliance, to name just one example, economic development professionals throughout the region are coordinating business retention and attraction efforts.

CONNECTED OPPORTUNITIES

There is an opportunity to better educate local elected leaders about how their local decisions impact the overall vitality of the region. One of the greatest opportunities today is to illuminate them about how local public policies related to education, transit, and social service investments affect regional business competitiveness and can help stem challenges related to the growing suburbanization of poverty.

LEADERSHIP

TALENT & EDUCATION

INFRA. & MOBILITY





WEAKNESSES

- Dozens of individual jurisdictions within metro Atlanta can make regional coordination difficult. As one CATLYST stakeholder observed, "The Atlanta Region doesn't want to be a region on a daily basis, only for the big deals."
- Despite the recent economic upswing, many individuals have fallen out of the labor force, a dynamic that contributes to labor shortages and related challenges growing area businesses.
- The distance between job centers and residential areas within metro Atlanta can make it difficult to connect workers with employers.
- In 2015, metro Atlanta exports declined for the first time since 2009. Already, metro Atlanta exports fewer goods and services on a per capita basis than peers such as Dallas and Charlotte.

CONNECTED THREATS

If metro Atlanta's business community, political leaders, workforce representatives, and philanthropic organizations don't work together to develop and implement policies that improve talent production and economic mobility, the region risks losing businesses to other communities that provide a more cohesive approach to addressing their needs.

PUBLIC POLICY

7

TALENT & EDUCATION









Infrastructure lies at the heart of metro Atlanta's emergence as a global city. Atlanta first arose as a regional hub in the 19th century due to the presence of numerous rail lines. More than 100 years later, the US interstate system and Hartsfield-Jackson Atlanta International Airport helped propelled the region to new heights. Despite strong national and international connections, however, efficiently facilitating the movement of people within metro Atlanta is an ongoing struggle and remains one of the greatest complaints among residents and businesses alike.

STRENGTHS

- Hartsfield-Jackson Airport connects the region with the rest of the world, a major competitive advantage. The Aerotropolis strategy promises to further increase the airport's economic impact.
- Extensive Interstate access, numerous rail networks, and proximity to several major ports makes metro Atlanta one of the best connected regions in the nation.
- Both metro Atlanta and Georgia are making significant public investments to improve mobility throughout the region.
- The addition of Clayton County to the MARTA network may support an expansion of the region's rail network. Additionally, other parts of the region are actively exploring transit expansion.
- MARTA's transit-oriented development program is leveraging existing transportation assets to enhance regional livability.
- As a critical regional facilitator and leader, the Atlanta Regional Commission helps convene communities throughout the region to collectively address important transportation and mobility issues.

CONNECTED OPPORTUNITIES

The need for transportation investments has historically united political leaders throughout metro Atlanta regardless of political affiliation or geography. Additional strategic investments in infrastructure that consider future growth patterns and technological advancements can ensure metro Atlanta's business environment remains competitive, improve the region's livability, and help alleviate housing affordability pressures.

BIZ. ENVIRONMENT

LIVABILITY

A



WEAKNESSES

- The region's heavy rail transit system spans two of the five core counties in the region.
- Despite an uptick in ridership in the immediate wake of the I-85 bridge collapse, average daily ridership on MARTA has declined during the past five years.
- The average worker in metro Atlanta spends more than an hour every day commuting to and from work, a dynamic driven by a lack of alignment between job centers, infrastructure investments, and housing decisions.
- Although Atlanta and other cities within the region have expanded dedicated bike and pedestrian lanes in recent years, the region's non-automotive transportation networks remain limited.
- In many older parts of metro Atlanta, inadequate and deteriorating water and wastewater systems threaten the region's water quality and require expensive repairs.

CONNECTED THREATS

Metro Atlanta may find it increasingly difficult to accommodate future growth without updated land use policies and greater regional collaboration on mobility issues. Past land use development in metro Atlanta disconnected people from jobs in many parts of the region. A limited transit network forces most workers to drive alone to work. The lack of transit options regionally also limits employment opportunities.



7

LEADERSHIP







24



Metro Atlanta has remained one of the fastest growing regions in the US for much of the past 25 years. The region's population growth has been largely fueled by a simple livability pitch—metro Atlanta offers plentiful jobs and a relatively low cost of living. In recent years, however, this value proposition has become more complicated. Housing is increasingly more expensive, especially within the urban core forcing lower income residents into the suburbs. Poverty has risen significantly and income disparities have grown. A child born into poverty is less likely to move out of poverty in Atlanta than in other major metros.

STRENGTHS

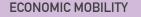
- Metro Atlanta's economic engine is once again roaring, with both employment and median household income levels increasing.
- At the regional level, metro Atlanta remains affordable relative to many other major metropolitan areas.
- During the past 20 years, ARC's Livable Centers Initiative (LCI) has helped create more than 100 mixed-use, mixed income plans for existing corridors.
- Metro Atlanta continues to construct new cultural and entertainment facilities, as well as many multi-use trail and green space investments across the region.
- Each year, metro Atlanta hosts hundreds of cultural and culinary events.
- In a survey of 2,000 individuals conducted as part of CATLYST, respondents consistently gave high marks to metro Atlanta's dining, retail, and entertainment amenities.

CONNECTED OPPORTUNITIES

Metro Atlanta has traditionally thrived thanks to political leadership that ensured the region has a globally competitive business environment. The region's rich history of civic engagement and current economic momentum provides leaders and residents alike with capacity to improve livability throughout the region.

BIZ. ENVIRONMENT

LEADERSHIP



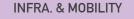
WEAKNESSES

- Income levels are not increasing at the same pace as they are in benchmarked regions, and disparities are increasing. The region ranks 49th of 50 largest metros in terms of economic mobility in a 2014 Equality of Opportunity study.
- Metro Atlanta's urban core has become much more expensive in recent years, forcing poorer residents to move into the suburbs.
- Poverty within metro Atlanta has increased in the past ten years. These increases have largely occurred within suburban communities that often lack robust social service support systems.
- Despite the success of the Atlanta Beltline, park space availability and walkability remains limited in much of the region.
- Despite a decline in crime during the past decade, CATLYST survey respondents ranked public safety last among the region's quality of place attributes.
- Significant growth in the region's elderly population will require additional services in areas such as housing and transportation.

CONNECTED THREATS

Unless upward economic mobility improves and residents have better career and wealth-building opportunities, poverty levels will increase across the region. Decreasing affordability will exacerbate the problem, forcing residents to live greater distances from job centers to find quality housing. This will further strain infrastructure and put new pressures on outlying communities to provide the services and training those residents need.

ECONOMIC MOBILITY









Talent & Education in metro Atlanta is characterized by both successes and substantial deficiencies. Metro Atlanta's world-class higher education institutions and proven ability to attract college-educated migrants supply the region with talent. At the same time, PK-12 education indicators show that there is substantial room for improvement. Improving the educational outcomes of students throughout metro Atlanta is essential if the region is to address other critical issues such as Economic Mobility and Affordability.

STRENGTHS

- Metro Atlanta is well educated. At both the associate's degree and bachelor's degree levels, educational attainment within the region exceeds the US average.
- Racial and ethnic minorities in the region are more likely to possess a post-secondary education than their counterparts in many other major metropolitan areas.
- Programs such as the Georgia Hope Scholarship and public Pre-K programs provide the state with remarkable infrastructure from which to increase access to quality education.
- The region's many colleges and universities have substantial levels of R&D activity.
- Recent initiatives such as Learn4Life, a regional consortium dedicated to improving public education throughout metro Atlanta, and the MAX Provider Portal, demonstrate the power of regional collaboration.
- The Hope Career Grant provides free tuition to technical school students enrolled in programs that support growing industries.

CONNECTED OPPORTUNITIES

Improving educational outcomes throughout metro Atlanta will ultimately contribute to increased entrepreneurship and innovation, improve economic mobility, and heighten the region's global competitiveness.

WEAKNESSES

- According to Learn4Life's indicators for the five-county core region, just 20% of children attend a "high quality" early education center. Only 40% of 3rd graders are proficient in reading, and only 38% of 8th graders are proficient in math.
- CATLYST survey participants characterized access to early childhood/pre-school education, elementary and middle schools, and high schools as 'below average.'
- Although educational attainment levels of racial and ethnic minorities in metro Atlanta exceed those of other regions, they significantly trail educational attainment levels of White, Non-Hispanic individuals.
- Post-secondary enrollment rates among graduating high school students in many counties within the region are less than the statewide average of 60%.
- There are growing concerns that schools don't do enough to boost students' career readiness or promote lifelong learning.

CONNECTED THREATS

Poor educational outcomes often reflect concentrated poverty within a community. Unless the region can more effectively combat poverty and improve educational outcomes, too many residents will lack the skills necessary to thrive in today's workplace. Without a highly skilled workforce, the region's global business environment will also become less competitive.

AFFORDABILITY

LIVABILITY

INFRA. & MOBILITY

26



BIZ. ENVIRONMENT



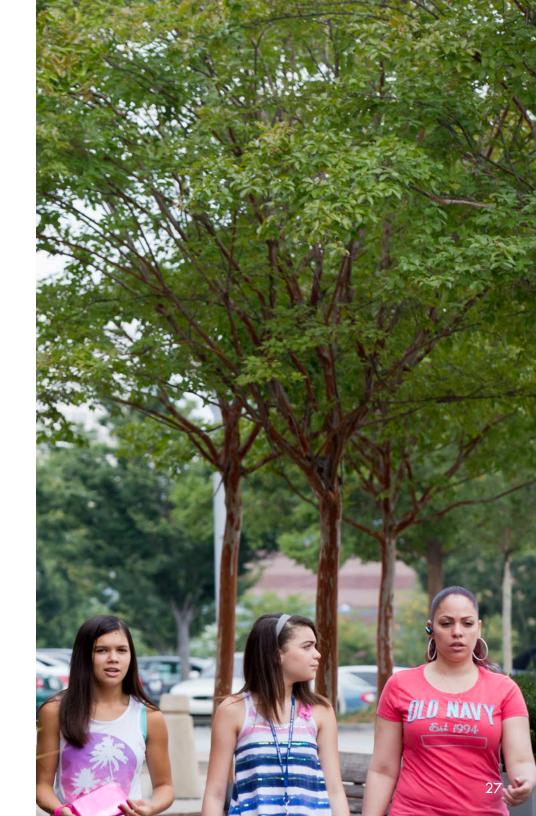


BIZ. ENVIRONMENT

03 Economic Characteristics

Cities cannot remain in stasis for long. If you're not moving forward, you're likely falling behind. Progress, however, brings its own challenges. An expanding employment base, for example, fuels demand for new infrastructure. A region rich in patent production requires a constant infusion of entrepreneurial support to bring innovation to market. Rising wages for some may reduce affordability for others.

The following metrics place metro Atlanta's economic performance in a broader context and help identify areas in which the community is moving forward in a positive direction.

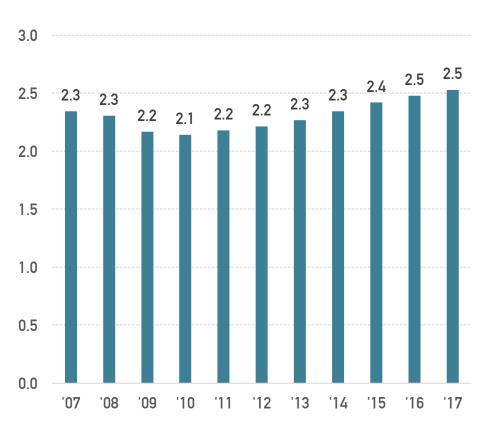


Employment Growth

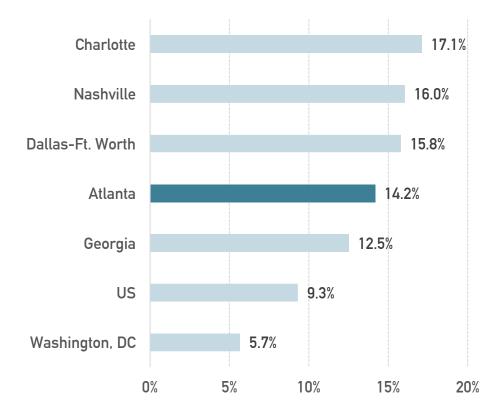
While metro Atlanta's economy was hit hard by the recession, employment in the region has since rebounded strongly. Between 2008 and 2010, metro Atlanta lost more than 200,000 jobs. Since then, employment in the region has increased by nearly 390,000 workers. Between 2012 and 2017, total employment in metro Atlanta expanded by more than 14%. Among examined benchmark regions, Charlotte, Nashville, and Dallas all experienced greater rates of employment growth. Total employment in the US increased by less than 10% during this period.

WHY IS THIS IMPORTANT?

Employment growth is a primary indicator of a community's overall economic health. Strong job creation relative to benchmark communities can indicate a more competitive business climate and the presence of supportive resources.



METRO ATLANTA TOTAL EMPLOYMENT (IN MILLIONS), 2007 – 2017 EMPLOYMENT GROWTH 2012 – 2017



SOURCE: AVALANCHE CONSULTING / EMSI

Unemployment

Metro Atlanta's unemployment rate is currently 4.6%. During the past decade, the region's unemployment rate has experienced significant fluctuations. At the height of the recession, for example, unemployment in metro Atlanta topped 10%. The region's unemployment rate has subsequently experienced a year-over-year decline every month since 2012, with the exception of just one month. Despite significant improvements in the the region's employment performance, however, unemployment in metro Atlanta remains slightly higher than all other peer regions examined.

WHY IS THIS IMPORTANT?

Low unemployment suggests that the residents are able to secure employment. Especially low unemployment, however, may also indicate a potential workforce shortage. Higher unemployment may also indicate that a larger portion of residents are actively seeking jobs.

3.6%

3.7%

4%

4.3%

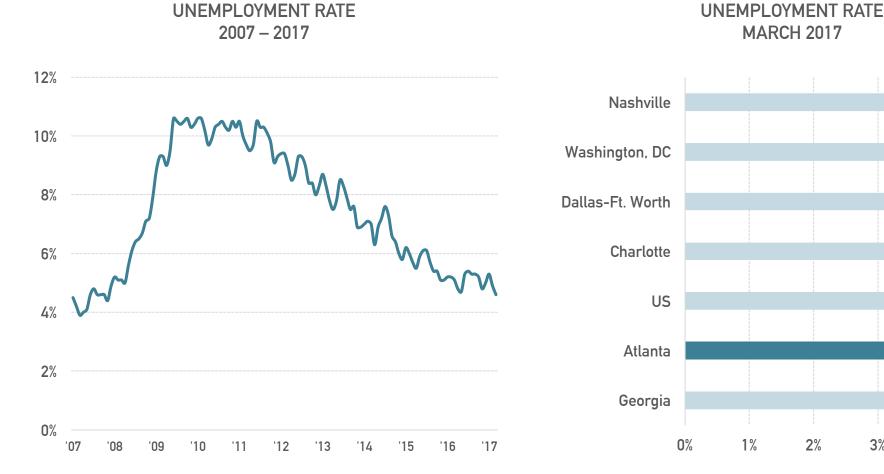
4.4%

4.6%

4.6%

4.8%

5%



SOURCE: AVALANCHE CONSULTING / BUREAU OF LABOR STATISTICS

SOURCE: AVALANCHE CONSULTING / BUREAU OF LABOR STATISTICS

3%

Industry Diversity

Metro Atlanta has a relatively diversified economy. Trade & Transportation is the region's largest employment sector, representing approximately 22% of all jobs. Other leading industries in the region include Professional & Business Services (15.8%), Health Services & Private Education (12.8%), and Government (12.3%). Between 2012 and 2017, every major industrial sector in metro Atlanta posted double-digit employment growth rates. After significant declines during the housing crisis, Construction employment rose by more than 30%. Employment in the small Natural Resources sector increased by nearly 30%. Leisure & Hospitality employment expanded by more than 20%.

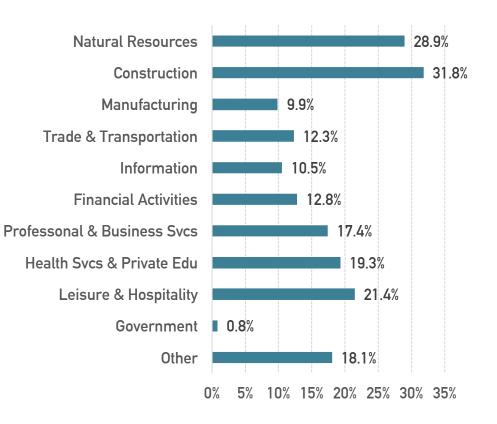
WHY IS THIS IMPORTANT?

Resilient economies employ residents in a diverse mix of industries. A diverse industry base allows communities to better weather economic downturns that affect one industry more than others. A diverse economy also provides a variety of jobs with different educational and experience requirements.



METRO ATLANTA EMPLOYMENT BY INDUSTRY

METRO ATLANTA EMPLOYMENT GROWTH BY INDUSTRY 2012 – 2017



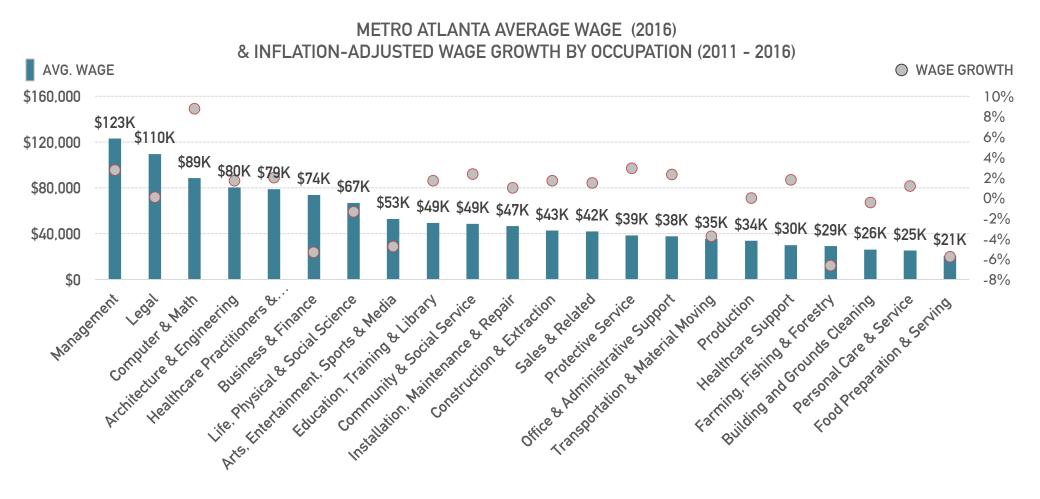
SOURCE: AVALANCHE CONSULTING / EMSI

Occupational Salaries

Average annual salaries in metro Atlanta vary widely by occupation. For metro Atlanta workers in occupations such as Management and Legal, average wages top \$100,000 annually. At approximately \$89,000, Computer & Math workers have the third-highest average annual wages. Wages for these workers are also growing faster than for any other occupational group in the region. Between 2011 and 2016, the average wage for a Computer & Math workers increased nearly 9% on an inflation-adjusted basis. Wages for most other other occupations have increased between 1% and 2% during this period. Average wages for Food Preparation & Serving workers, already the lowest among all occupations in the region at \$21,000 annually, declined nearly 6% between 2011 and 2016.

WHY IS THIS IMPORTANT?

Examining salaries by occupation helps reveal which occupations are more competitive for workers or where workers are more productive (regardless of industry). Aboveaverage salaries may also indicate high demand for those workers in a community.



Industry Salaries (continued)

Metro Atlanta's economy has thrived due in part to its ability to offer employers access to an abundance of talent *and* a cost competitive operating environment. While average wages in the region are slightly higher than the US average, they remain less than in many other major metropolitan areas. Average wages for metro Atlanta workers are approximately \$51,000 annually, 2% higher than the national average. Average annual wages in Atlanta are also higher than in Dallas, Charlotte and Nashville. With average annual wages approaching \$70,000, Washington DC has the substantially highest labor costs. Between 2011 and 2016, average wages in metro Atlanta increased 2.3%, slightly less than the US average.

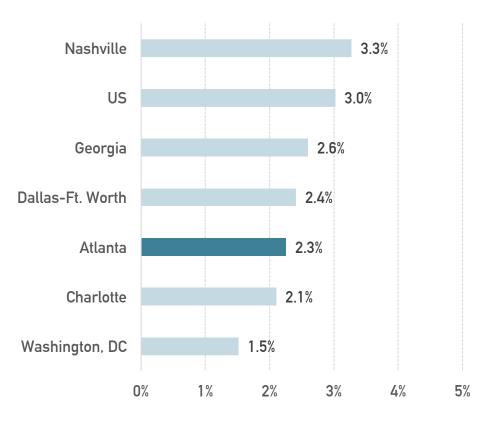
WHY IS THIS IMPORTANT?

Examining salaries by industry helps reveal which local industries are more competitive for workers or where workers show higher productivity. Above-average salaries may also indicate high demand for those workers in a community.



METRO ATLANTA AVERAGE WAGE 2016

CHANGE IN AVERAGE WAGE (INFLATION ADJUSTED) 2011 - 2016



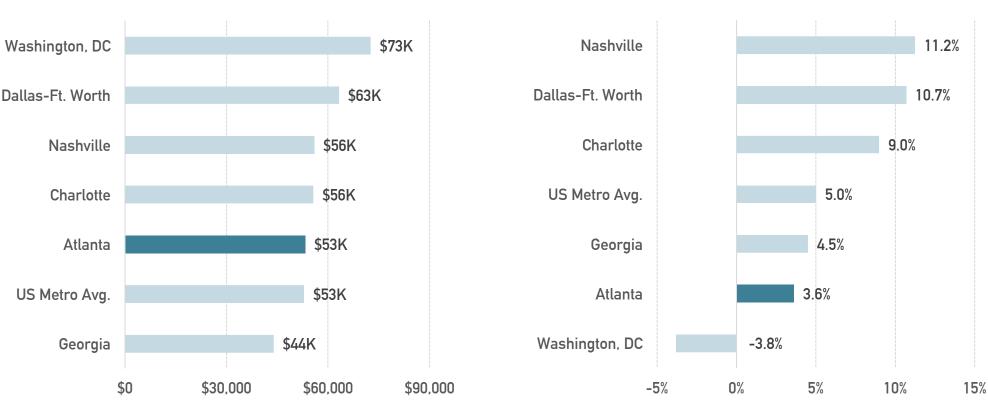
SOURCE: AVALANCHE CONSULTING / EMSI

Gross Regional Product

Per capita gross regional product is the primary measure of a region's overall economic productivity. In turn, higher productivity ultimately supports higher wages. At \$53,000, metro Atlanta's gross regional product per capita is virtually identical to the US metropolitan average. Per capita gross regional product in metro Atlanta is less than in all examined benchmark regions. Gross regional product per capita in both Nashville and Charlotte exceeds \$56,000. Per capita gross regional product in the Dallas metro area exceeds \$63,000 and in Washington, DC it tops \$72,000. Between 2010 and 2015, Atlanta's gross regional product increased less than 4%. Only Washington, DC, where per capita gross regional product declined, experienced a weaker performance during this period.

WHY IS THIS IMPORTANT?

Gross Regional Product (GRP) is a measure of the overall economic growth and productivity in a region. When GRP growth outpaces job growth, it shows that local workers and industries are becoming more competitive.



GROSS REGIONAL PRODUCT PER CAPITA 2015

CHANGE IN GROSS REGIONAL PRODUCT PER CAPITA 2010 - 2015

SOURCE: AVALANCHE CONSULTING / EMSI

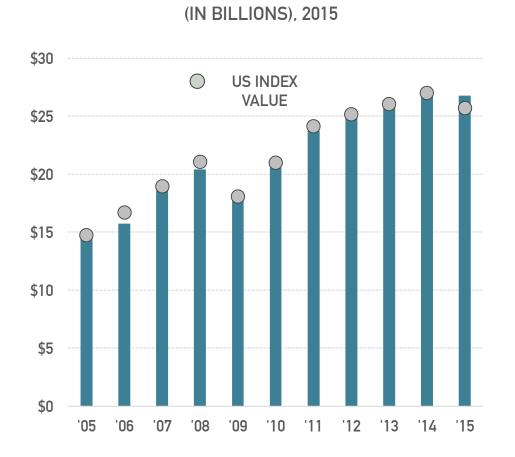
SOURCE: AVALANCHE CONSULTING / EMSI

Export Activity

Export activity in metro Atlanta is relatively modest compared to other benchmark regions. During the past decade, export growth within metro Atlanta has slightly outpaced the US average. Between 2005 and 2015, the value of exports originating in metro Atlanta increased by 82% on a non inflation-adjusted basis. During this same period, the value of all US exports grew by more than 75%. In 2015, the Atlanta region produced \$11,000 of exports per job. Among benchmark regions, only Washington, DC produces fewer exports on a per capita basis.

WHY IS THIS IMPORTANT?

Exports reflect a region's competitive position. Exports draw outside dollars back into the community, increasing wealth and spurring secondary impacts across the community. If products and services are exported, they usually represent areas of specialization in the community and value-added work being done.



VALUE OF EXPORTS

VALUE OF EXPORTS PER JOB 2015



SOURCE: AVALANCHE CONSULTING / BROOKINGS INSTITUTION

SOURCE: AVALANCHE CONSULTING / EMSI / BROOKINGS INSTITUTION

Income

While median household income in Atlanta remains relatively high, since 2010 the region has lost ground relative to other communities. Median household income in metro Atlanta was \$50,000 in 2015, approximately \$4,000 higher than the US figure. Among benchmark regions, only Washington, DC and Dallas feature greater median household income levels. Between 2010 and 2015, median household income in Atlanta increased 13% before adjusting for inflation. During this period, median income rose 11% nationally. Among benchmark regions, only Nashville experienced a greater increase in median household income between 2010 and 2015.

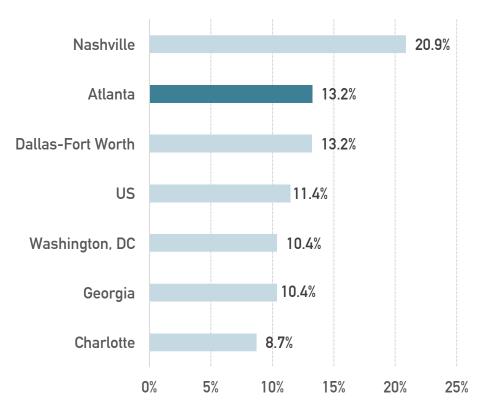
WHY IS THIS IMPORTANT?

Wealth creation is an important goal of economic development and a strong measure of a community's economic health. When residents of a community have high household incomes they are able to reinvest locally – purchasing goods and services that spur additional economic growth.



MEDIAN HOUSEHOLD INCOME





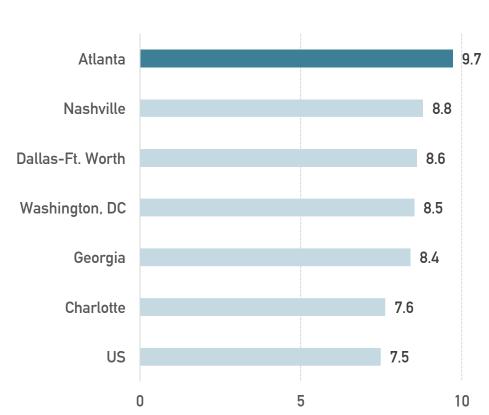
SOURCE: AVALANCHE CONSULTING / US CENSUS BUREAU

Self-Employment

The Atlanta region has a relatively high rate of self-employment. There are nearly 10 firms with no employees for every 100 people living within the region. Nationally, there are just 7.5 non-employers for every 100 residents. On a per capita basis, metro Atlanta has more non-employers than all other examined benchmark regions. While metro Atlanta has a high proportion of non-employers, these firms are characterized by relatively modest receipts. Revenues for non-employers within metro Atlanta average \$40,500 annually. Only the state of Georgia has lower average annual receipts for non-employers.

WHY IS THIS IMPORTANT?

Self-employment can play a vital role in overall employment within a community.



NON-EMPLOYERS PER 100 RESIDENTS

2014

AVERAGE ANNUAL RECEIPTS OF NON-EMPLOYERS 2014

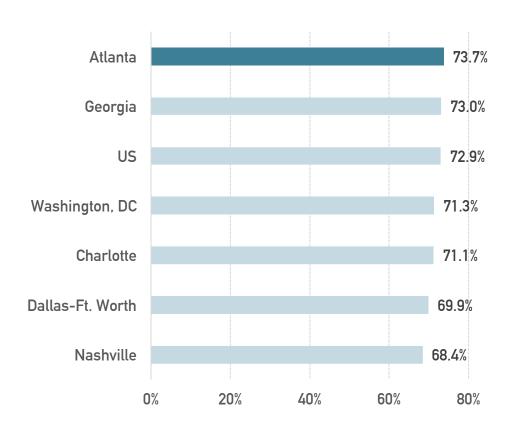


Entrepreneurial Activity

Micro businesses represent a slightly greater share of all businesses within metro Atlanta relative to the US and benchmark regional averages. In metro Atlanta, nearly 74% of all businesses have fewer than 10 employees. Nationally, 73% of all businesses have fewer than 10 employees. While this difference may be small, it translates into 1,000 additional micro businesses in the Atlanta region. Between 2010 and 2015, the number of micro businesses in the Atlanta region increased by more than 5%. Nationally, the number of micro businesses increased just 2.5% during this period. The growth rates of micro businesses in Dallas, Nashville, and Washington, DC, however, exceeded that of Atlanta.

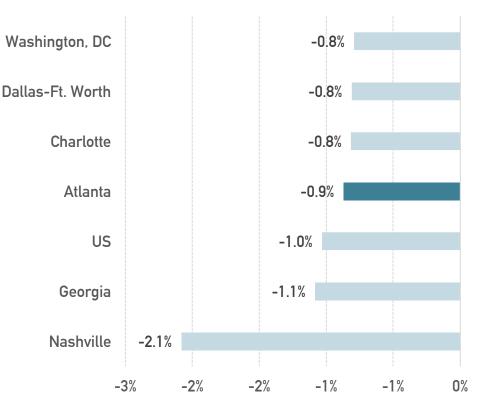
WHY IS THIS IMPORTANT?

Businesses that have fewer than ten employees are the heart of the national economy. While few create big job gains all at once and many often fail, positive growth of small businesses reflects a thriving economy and the presence of an ecosystem that encourages entrepreneurship.



MICRO BUSINESSES (<10 EMPLOYEES) AS % OF ALL BUSINESSES, 2015

CHANGE IN MICRO BUSINESSES (<10 EMPLOYEES) AS % OF ALL BUSINESSES, 2010 – 2015

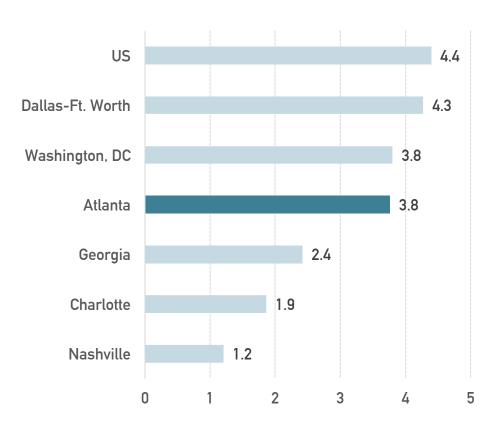


Innovation

Metro Atlanta fares relatively well on two critical measures of innovation—patent production and venture capital funding. In 2015, approximately 2,150 patents were awarded to residents and businesses in metro Atlanta. Atlanta produces 3.8 patents for every 10,000 residents, nearly identical to the Washington, DC region and slightly less than the Dallas metro area. While the US average is 4.4 patents per 10,000, just five metropolitan areas account for a third of this total—San Jose, New York, San Francisco, Los Angeles, and Boston. In 2015, Atlanta companies received more than \$825 million in venture capital. Among benchmark regions, only Washington, DC has a higher rate of venture funding per capita.

WHY IS THIS IMPORTANT?

of local High levels patent production within a community may reflect a concentration of innovative and/or businesses innovative individuals. Venture capital is often the lifeblood of these young, innovative companies and individuals.



UTILITY PATENT APPLICATIONS PER 10,000 RESIDENTS 2015

VENTURE CAPITAL FUNDING PER CAPITA 2015



SOURCE: AVALANCHE CONSULTING / US PATENT & TRADEMARK OFFICE

SOURCE: AVALANCHE CONSULTING / NATIONAL VENTURE CAPITAL ASSOCIATION

Research & Development

ACADEMIC R&D EXPENDITURES PER LOCAL JOB

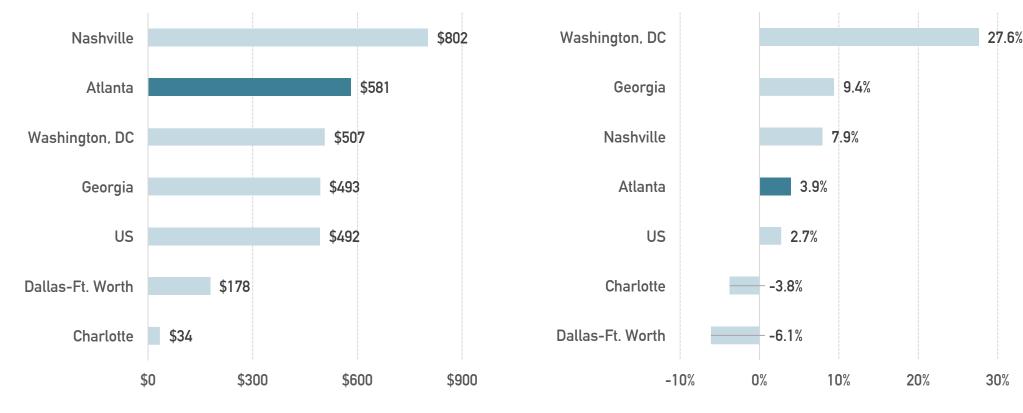
2015

Thanks to an abundance of colleges and universities within the region, metro Atlanta is home to significant levels of academic research and development activity. In 2015, post-secondary institutions in metro Atlanta managed \$1.4 billion in academic research and development spending. Among benchmark regions, only Nashville has a higher per capita rate of academic research and development expenditures. In absolute terms, however, academic research and development activity in metro Atlanta is twice that of Nashville. During the last five years, total academic expenditures in the region have increased less than 4%, slightly greater than the US average but less than gains in Washington, DC and Nashville.

WHY IS THIS IMPORTANT?

Academic research and development funding creates economic activity and often leads to induced benefits, such as the formation of businesses selling new products and services derived from research activity. Businesses and talented workers often choose communities that are research hubs.

CHANGE IN ACADEMIC R&D EXPENDITURES PER LOCAL JOB 2010 – 2015



SOURCE: AVALANCHE CONSULTING / US PATENT & TRADEMARK OFFICE

SOURCE: AVALANCHE CONSULTING / NATIONAL VENTURE CAPITAL ASSOCIATION

Traffic Congestion

Metro Atlanta is viewed by many outsiders as having some of the worst traffic congestion in the US. Actual traffic congestion in Atlanta, however, is actually less common in metro Atlanta compared to many other benchmark regions. On average, metro Atlanta drivers spent 52 hours annually delayed by traffic congestion. Such delays are even more severe in both the Washington, DC and Dallas-Fort Worth regions. Traffic congestion in metro Atlanta cost drivers more than \$1,100 annually in wasted gas and time. Only the Charlotte region, however, has lower traffic congestion costs.

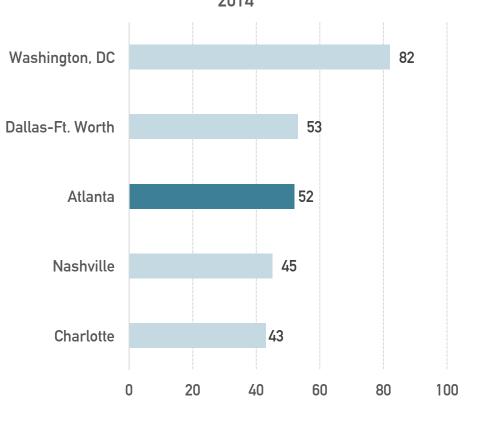
WHY IS THIS IMPORTANT?

Excessive traffic congestion threatens a region's guality of while also reducing life productivity. traffic Severe congestion may also reflect overburdened transportation infrastructure.



AVERAGE COST OF CONGESTION PER AUTO COMMUTER

ANNUAL NUMBER OF HOURS OF DELAY DUE TO TRAFFIC CONGESTION PER AUTO COMMUTER 2014



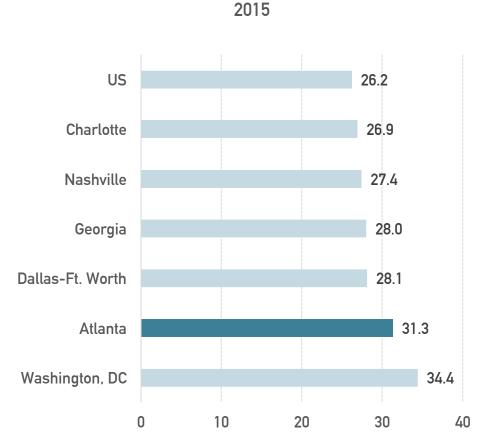
SOURCE: AVALANCHE CONSULTING / TEXAS TRANSPORTATION INSTITUTE

Commuting Characteristics

Although actual traffic congestion in metro Atlanta isn't as severe as it is widely perceived, drivers in the region have relatively lengthy commutes. On average, metro Atlanta drivers spend more than 30 minutes each way commuting to work. Among benchmark regions, only Washington, DC workers suffer longer commutes. In the nation's capital, however, a substantially lower proportion of workers drive alone to work. metro Atlanta's relatively long commuting times is largely the result of the region's land use patterns. According a study published in 2014, metro Atlanta is the most sprawling region in the US. As a result, even in the absence of traffic congestions, metro Atlanta are forced to spend significant time commuting to work.

WHY IS THIS IMPORTANT?

A region's commute times aren't wholly driven by traffic congestion. Land use patterns, especially areas characterized by geographic separation between residential areas and work centers, can force workers to travel significant distances to reach their place of employment.



AVERAGE TRAVEL TIME TO WORK

URBAN SPRAWL INDEX (LOWER VALUES EQUAL MORE URBAN SPRAWL) 2014

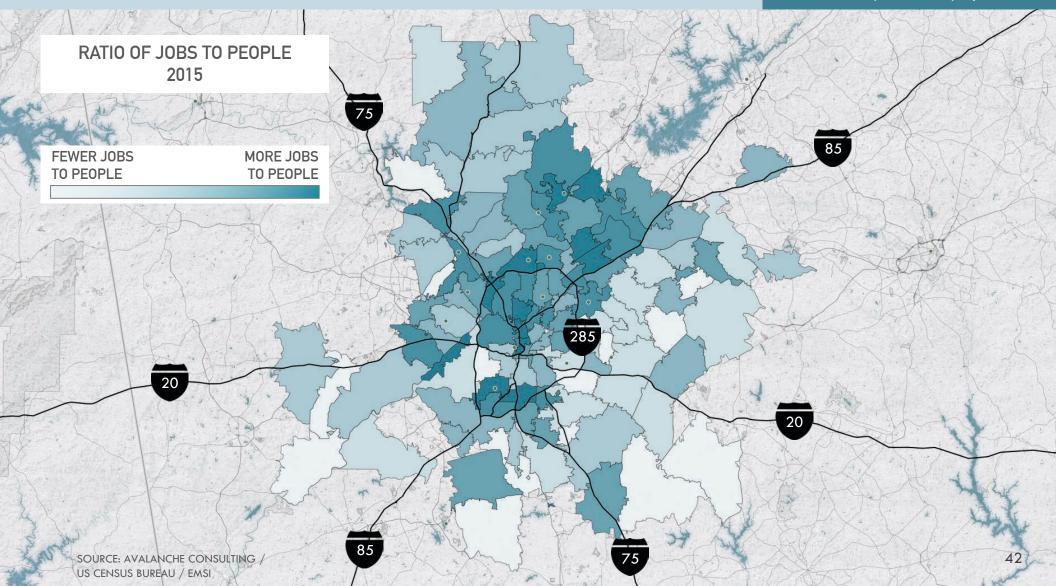


People Versus Jobs

Metro Atlanta's population is far more decentralized than employment. As a result, there are many portions of metro Atlanta that have large numbers of residents but relatively few employment opportunities. For example, there are approximately 30 zip codes in the 10-county ARC between interstates 85 and 20 located outside of the 285 perimeter. Collectively, these counties are home to more than 1.3 residents but fewer than 300,000 jobs. This area is also characterized by limited to no mass transit options. Similar dynamics operate beyond the 285 perimeter to the south and east of Atlanta. These population to job imbalances, combined with relative lack of mass transit, force hundreds of thousands of workers to commute significant distances via personal automobile.

WHY IS THIS IMPORTANT?

A region's commute times aren't wholly driven by traffic congestion. Land use patterns, especially areas characterized by geographic separation between residential areas and work centers, can force workers to travel significant distances to reach their place of employment.



Economic Dynamics Key Takeaways

01

After being hard hit by the recession, metro Atlanta's economy has since rebounded strongly.

At the height of the recession, metro Atlanta's unemployment topped 10% and the region shed more than 200,000 jobs. Since 2010, however, employment within metro Atlanta has increased by nearly 390,000. These employment gains have been broad-based, with employment expanding in all major industry sectors during this period.

02

Metro Atlanta's renewed economic vitality has not erased all signs of the recession.

Metro Atlanta's unemployment rate remains higher than regions such as Nashville, Dallas, and Washington, DC. Median household income in the region remains less than in 2010. Recent increases in metro Atlanta's gross regional product have trailed the gains of regions such as Nashville, Dallas, and Charlotte. During the past decade, export activity in metro Atlanta has lagged behind the US average.

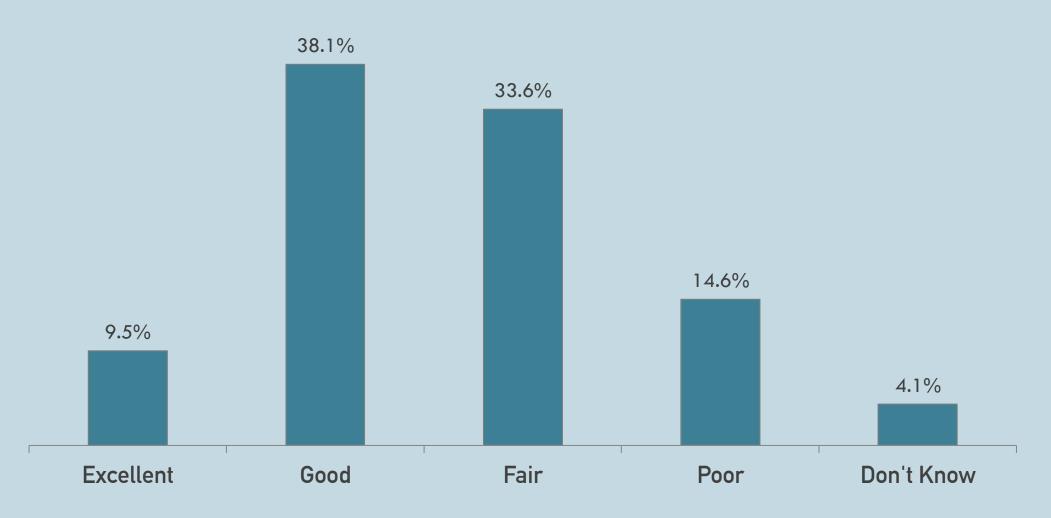
03

Metro Atlanta is both entrepreneurial and innovative.

Metro Atlanta's self-employment rate exceeds the Dallas, Charlotte, Nashville, Washington, DC, Georgia, and US averages. The concentration of businesses with fewer than 10 employees in metro Atlanta is also greater than all examined benchmark regions. metro Atlanta also has a healthy rate of patent production and high concentrations of venture capital relative to other benchmark regions.

How would you rate job opportunities in the Atlanta metro area?

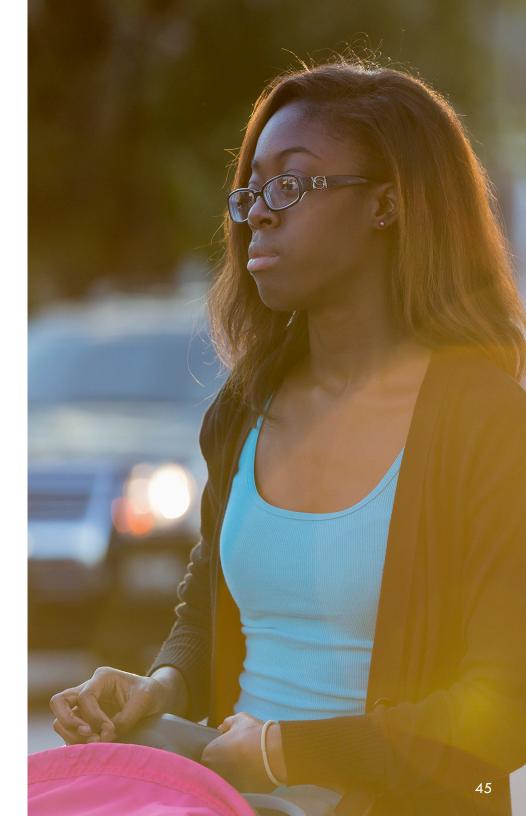
SOURCE: ARC 2016 METRO ATLANTA SPEAKS SURVEY



SOURCE: 2016 METRO ATLANTA SPEAKS SURVEY

04 Demographic Characteristics

Demographic characteristics play a vital role in the economic competitiveness of the region. A growing population not only provides employers with additional workers, but also requires sustained investments in infrastructure. The age of a region's residents helps determine the need for facilities such as schools and hospitals. Educational attainment levels influence the types of businesses that thrive within a community and whether residents can be gainfully employed. Poverty rates have important implications for government support and social services. Ethnic and racial diversity contributes to the cultural vibrancy of a region but can also underscore the need for greater economic inclusion. The following section provides a snapshot of some of metro Atlanta's demographic characteristics.

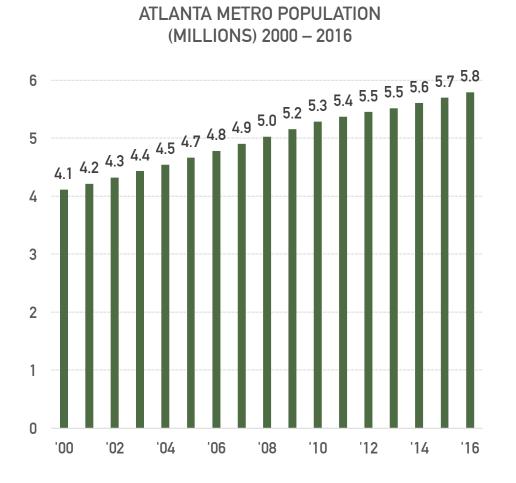


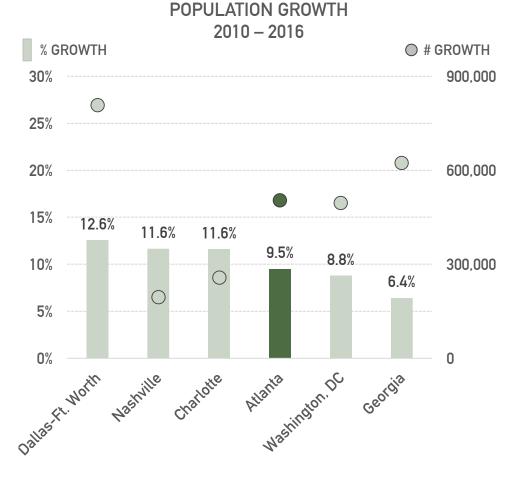
Population Growth

Metro Atlanta is currently home to nearly 5.8 million residents. The region's story is one of tremendous growth and the past 15 years have been no exception. Between 2000 and 2016, the population of metro Atlanta increased by more than 40%. Since 2010, the region's population has grown by 9.5%, more than twice the US average. Although some benchmark regions have posted even greater rates of growth in recent years, on an absolute basis only the Dallas-Ft. Worth metro has added more people than metro Atlanta. The population of the Dallas metro area, for example, increased by more than 12% during this period. The populations of both Nashville and Charlotte increased by more than 11%.

WHY IS THIS IMPORTANT?

Population growth is one of the base indicators of overall economic prosperity in a community. A growing population reassures businesses that they will have workers and new customers available in the future.



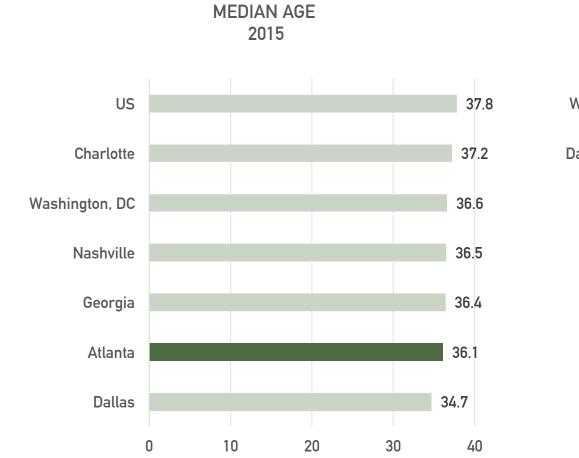


Age Composition

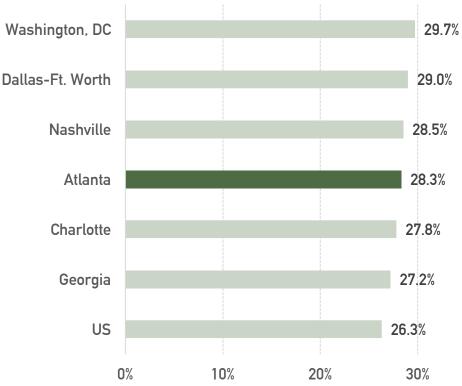
Metro Atlanta is a relatively young region. At 36 years, the median age of metro Atlanta is nearly 2 years less than the US figure. Among benchmark regions, only Dallas has a lower median age. Young professionals, which includes individuals between the ages of 25 and 44, represent more than 28% of metro Atlanta's population. Nationally, young professionals represent 26% of the population. Dallas, Nashville, and the Washington, DC metros all have a slightly larger proportion of young professionals relative to metro Atlanta.

WHY IS THIS IMPORTANT?

Young professionals (residents aged 25 to 44 years old) represent a critical segment of a local workforce for companies seeking to hire new workers with the latest skills and knowledge. Recruiting and retaining residents in this age cohort helps a region ensure a growing labor force for companies.



% YOUNG PROFESSIONALS (RESIDENTS AGE 25-44) 2015



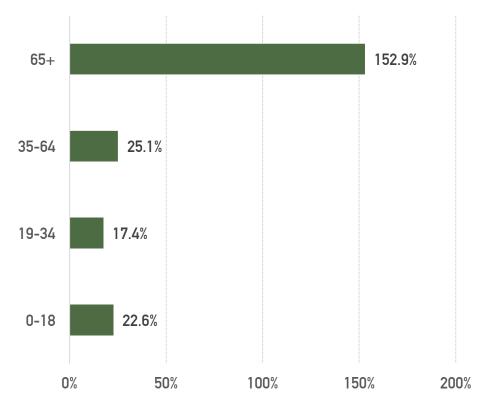
Age Composition (Projected)

Although metro Atlanta is relatively young, it is also experiencing a significant growth in its elderly population. This dynamic is projected to continue during the next several decades. By 2040, the number of residents age 65 and older in ARC's 10-county planning area will more than double to nearly 1.2 million in individuals. In 2040, residents age 65 and older are projected to represent more than 20% of the region's total population.

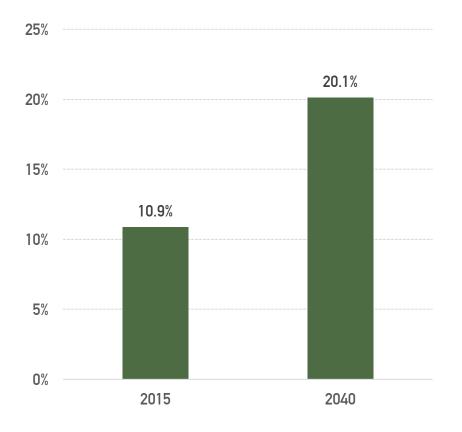
WHY IS THIS IMPORTANT?

The country's rapidly aging population has significant implications for a host of regional workforce, housing, and mobility issues.

10-COUNTY ARC REGION PROJECTED POPULATION CHANGE 2015 - 2040



10-COUNTY ARC REGION PROJECTED POPULATION AGE 65+ AS % OF TOTAL

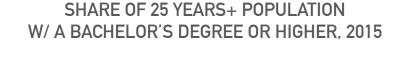


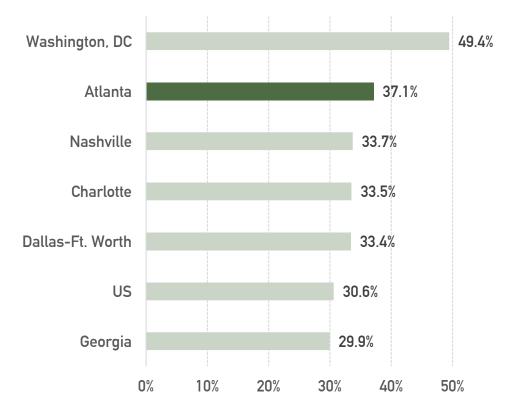
Educational Attainment

Metro Atlanta is a very well-educated region. More than 37% of all residents age 25 and older possess a bachelor's degree or higher level of educational attainment. The US average is just 30%. Among benchmark communities, only Washington, DC has a greater share of residents with a bachelor's degree or higher level of educational attainment. More than 7% of metro Atlanta residents age 25 and older hold an associate's degree. While the proportion of metro Atlanta residents with an associate's degree trails the US and Georgia averages, it is higher than all benchmark regions except Charlotte.

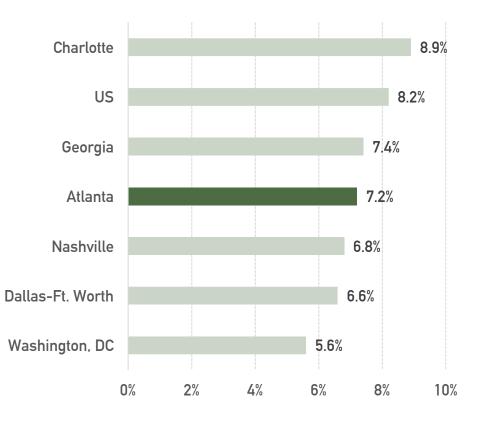
WHY IS THIS IMPORTANT?

Young professionals (residents aged 25 to 44 years old) represent a critical segment of a local workforce for companies seeking to hire new workers with the latest skills and knowledge. Recruiting and retaining residents in this age cohort helps a region ensure a growing labor force for companies.





SHARE OF 25 YEARS+ POPULATION W/ AN ASSOCIATE'S DEGREE, 2015

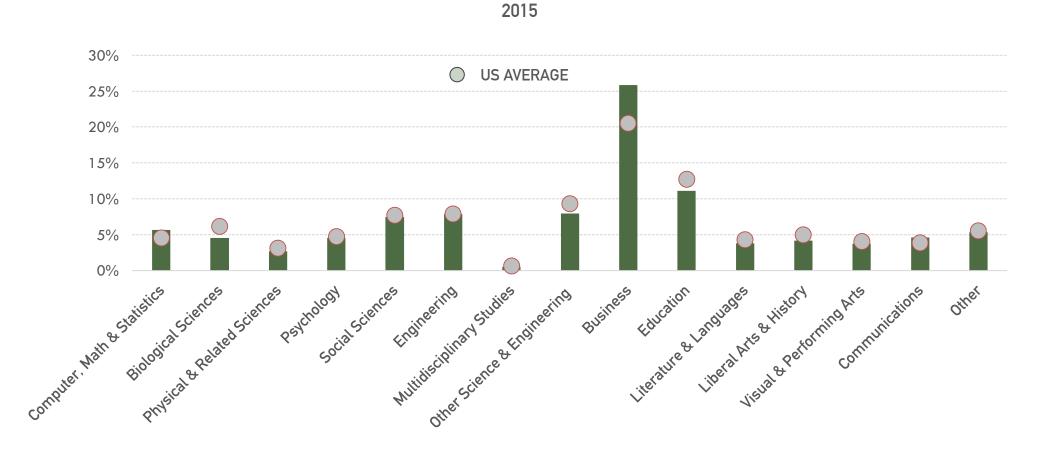


Education Breakdown

Outside of a few notable exceptions, the degree composition of metro Atlanta residents largely mirrors the US. Approximately 26% of college graduates in the region hold degrees in business. Nationally, the figure is less than 21%. Nearly 6% of individuals with a college degree in metro Atlanta studied Computer, Math or Statistics, a percentage point higher than the US average. The remaining differences between the degree composition of college graduates in metro Atlanta and the rest of the US are minimal.

WHY IS THIS IMPORTANT?

New jobs often require education beyond a high school diploma – ranging from a certificate to a master's degree. Due to this growing reliance on skilled workers, many businesses expand to new locations based on the presence of a welleducated population.



FIELD OF BACHELOR'S DEGREE FOR FIRST MAJOR

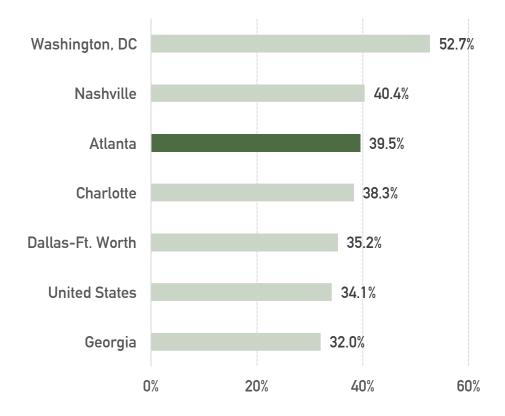
Young Professionals

Nearly 40% of young professionals in metro Atlanta possess a bachelor's degree or higher level of educational attainment. Nationally, just 34% of young professionals have a bachelor's or graduate degree. Educational attainment levels among young professionals in the region, however, trail the averages of Nashville (40%) and Washington, DC (53%). In Nashville, the figure is 40%. Less than 8% of young professionals in metro Atlanta have an associate's degree, a lower rate than the US and Georgia averages. Among benchmark regions, however, only Charlotte has a higher proportion of young professionals with associate's degrees.

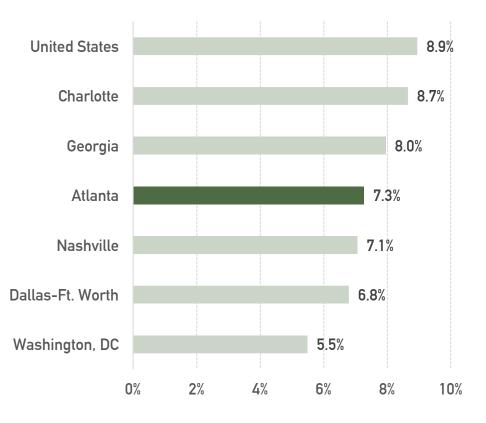
WHY IS THIS IMPORTANT?

Young professionals (residents aged 25 to 44 years old) represent a critical segment of a local workforce for companies seeking to hire new workers with the latest skills and knowledge. Recruiting and retaining residents in this age cohort helps a region ensure a growing labor force for companies.

SHARE OF YOUNG PROFESSIONAL POPULATION W/ BACHELOR'S DEGREE OR HIGHER, 2015



SHARE OF YOUNG PROFESSIONAL POPULATION W/ ASSOCIATE'S DEGREE, 2015



SOURCE: AVALANCHE CONSULTING / EMSI

Talent Attraction

2

0

-2

2010

1.5

Talent migration into metro Atlanta has been relatively volatile during the past 5 years. Immediately prior to the recession, metro Atlanta attracted more than 5,000 college graduates from other parts of the US on a net basis. Between 2011 and 2013, however, the number of college educated individuals moving *away from* the region exceeded the number of college educated individuals moving *to* metro Atlanta. While the region is once again experiencing a net increase in the number of college educated individuals moving into the region, per capital talent migration into metro Atlanta remains less than pre-recession levels and less than the migration rates of Nashville, Charlotte, and Dallas.

1.3

2014

1.1

2015

WHY IS THIS IMPORTANT?

Young professionals (residents aged 25 to 44 years old) represent a critical segment of a local workforce for companies seeking to hire new workers with the latest skills and knowledge. Recruiting and retaining residents in this age cohort helps a region ensure a growing labor force for companies.

NET INFLUX OF COLLEGE EDUCATED DOMESTIC MIGRANTS INTO ATLANTA METRO, (PER 1000 RESIDENTS) 2010 - 2015

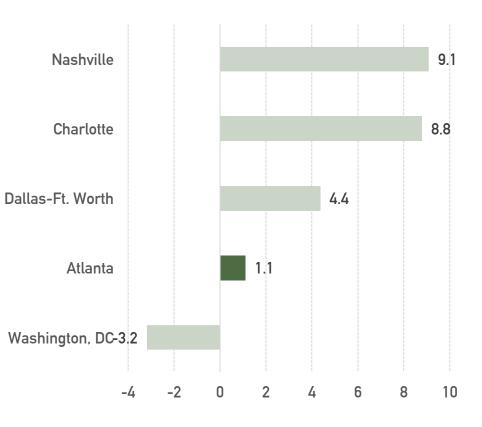
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2013

-0.2

2012

NET INFLUX OF COLLEGE EDUCATED DOMESTIC MIGRANTS INTO REGION (PER 1,000 RESIDENTS) 2015



2011

-1.0

Foreign Born Population

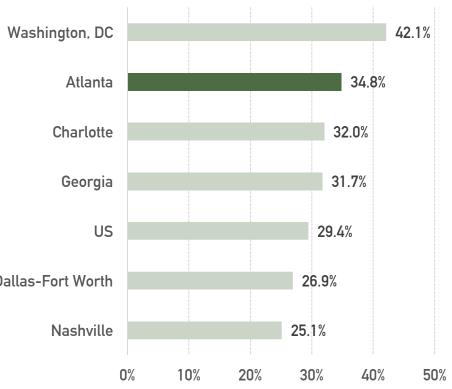
Nearly 14% of metro Atlanta's population is foreign born. Among benchmark regions, only Washington, DC and the Dallas-Fort Worth region have greater proportions of foreign born residents. Approximately 35% of foreign-born individuals living in metro Atlanta possess a bachelor's degree or higher level of educational attainment. Educational attainment levels among metro Atlanta's foreign born population is higher than in any other benchmark region except Washington, DC.

WHY IS THIS IMPORTANT?

Foreign born residents often serve as an important contributor to a region's talent pool. Foreign born residents are also more likely to start their own businesses than native born individuals.

FOREIGN BORN POPULATION AS % OF TOTAL 2015 Washington, DC Washington, DC 22.9% 18.2% Dallas-Fort Worth Atlanta Atlanta 13.8% Charlotte US 13.5% Georgia Georgia US 10.0% Charlotte 9.8% **Dallas-Fort Worth** 8.2% Nashville Nashville 0% 5% 10% 15% 25% 20%

FOREIGN BORN POPULATION WITH A BACHELOR'S DEGREE OR HIGHER LEVEL OF EDUCATIONAL ATTAINMENT 2015



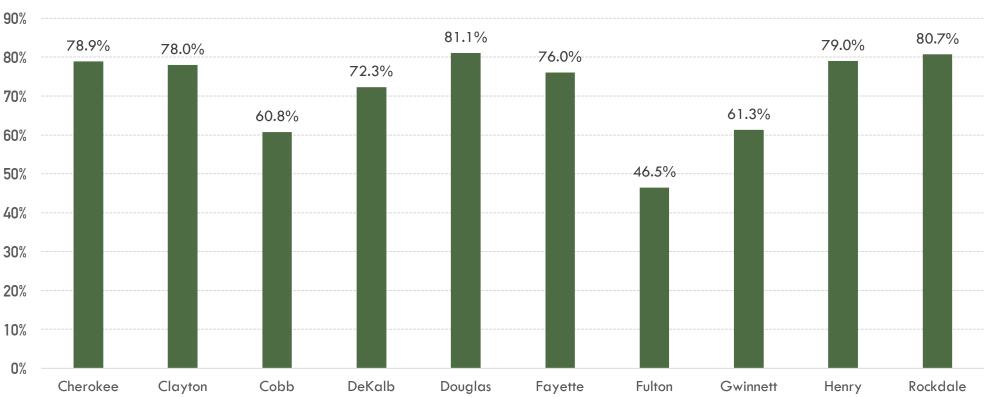
SOURCE: AVALANCHE CONSULTING / US CENSUS BUREAU

Commuting Patterns

Individual counties within metro Atlanta are economically interdependent. With the exception of Fulton County, a majority of workers in all counties within metro Atlanta are employed outside of their home communities. In counties such as Douglas and Rockdale, the proportion of workers employed in another county exceeds 80%. In most of the remaining counties—Cherokee, Clayton, DeKalb, Fayette, and Henry—more than 70% of workers commute to another county to reach their place of employment.

WHY IS THIS IMPORTANT?

Commuting patterns play several important roles in a region's economy. Regions that can draw outside workers can significantly increase their available workforce. At the same time, commuting patterns can also contribute to congestion and thus threaten a community's guality of life.



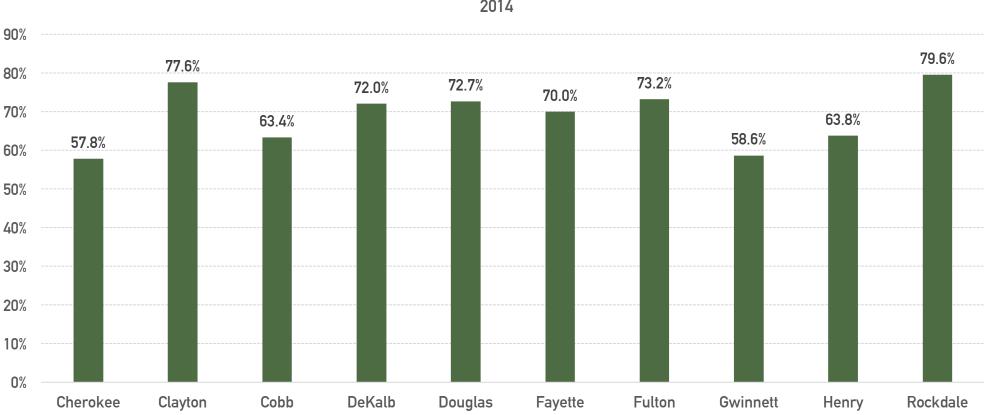
SHARE OF RESIDENTS WORKING OUTSIDE THE COUNTY 2014

Commuting Patterns (continued)

Communities throughout metro Atlanta are both exporters and importers of labor. A majority of workers in every county in metro Atlanta live in another county. More than 70% of workers employed in counties such as Clayton, DeKalb, Douglas, Fulton, and Rockdale commute from elsewhere. In all other counties except Cherokee and Gwinnett, more than 60% of workers come from outside jurisdictions.

WHY IS THIS IMPORTANT?

Commuting patterns play several important roles in a region's economy. Regions that can draw outside workers can significantly increase their available workforce. At the same time, commuting patterns can also contribute to congestion and thus threaten a community's quality of life.



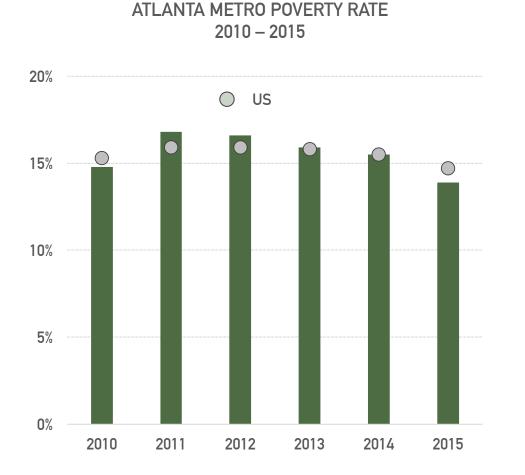
SHARE OF EMPLOYED WORKERS LIVING IN ANOTHER COUNTY 2014

Poverty

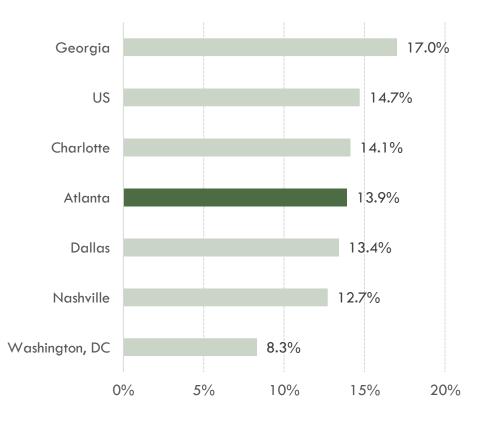
After four years of decline, the poverty rate of metro Atlanta is now lower than pre-recession levels. In 2015, metro Atlanta's poverty rate was approximately 14%, nearly a percentage point less than the US average. The poverty rate of metro Atlanta is 3 percentage points less than the statewide average. Among benchmark regions, however, Dallas, Nashville, and Washington, DC all have poverty rates that are lower than metro Atlanta's average.

WHY IS THIS IMPORTANT?

Poverty levels indicate whether residents have incomes and access to jobs that allow them to prosper and support their families. High poverty levels often reflect limited job opportunities in a community and put heavy demands on social services.



POVERTY RATE 2015



SOURCE: AVALANCHE CONSULTING / US CENSUS BUREAU

Housing Affordability

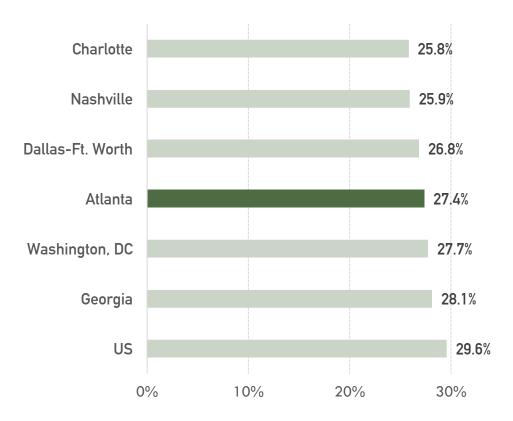
Housing is relatively affordable in metro Atlanta. Residents are considered to be 'cost burdened' if they spend more than 30% of their income on housing. Only 27% of homeowners with a mortgage in metro Atlanta are considered cost burdened. While Charlotte, Nashville, and Dallas have smaller proportions of cost burdened homeowners, these differences are modest.

And, renting is affordable. Fewer than 24% of renters in metro Atlanta spend more than 30% of their income on housing, a smaller proportion than the averages of the US, Georgia, and all benchmark regions.

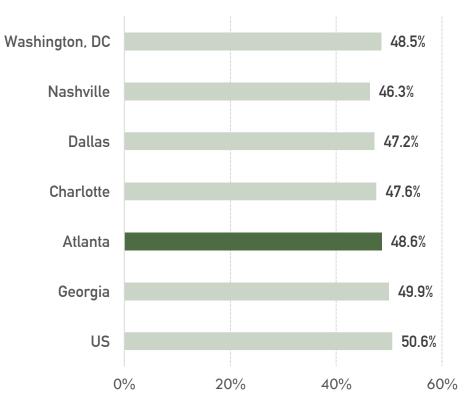
WHY IS THIS IMPORTANT?

Cost of living is an important component of quality of place. Regions with high costs of living may find it difficult to attract and retain talent.

HOMEOWNERS W/ A MORTGAGE SPENDING MORE THAN 30% OF INCOME ON HOUSING COSTS, 2015



RENTERS SPENDING MORE THAN 30% OF INCOME ON HOUSING COSTS, 2015

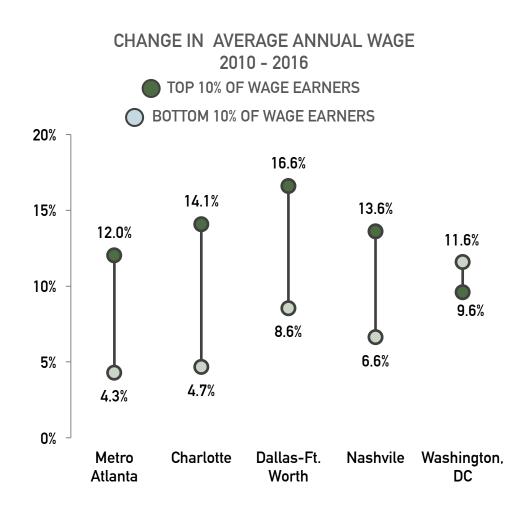


Income & Wage Inequity

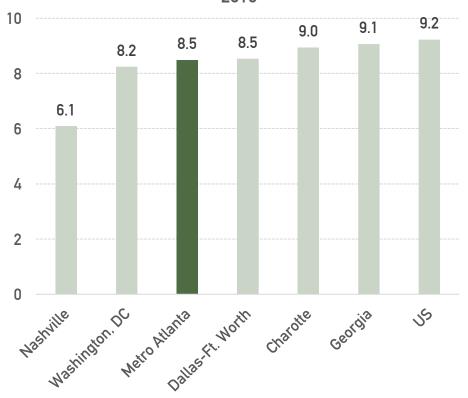
Since 2010, the highest earners within the Atlanta metro have experienced substantially larger wage gains than their lower-wage counterparts. Average annual wages for the top 10% of earners in metro Atlanta increased by 12% between 2010 and 2016. During this same period, average annual wages for the bottom 10% of earners in metro Atlanta increased by just 4% Among benchmark regions, only experienced a greater disparity in gains by different income levels. Currently, income for the top 5% of metro Atlanta households is 8.5 times greater than the income of the region's bottom 20% of households. Due to growing income inequity in many parts of the US, several other benchmark areas are characterized by even greater income disparities.

WHY IS THIS IMPORTANT?

Overall wage and income levels can obscure significant levels of inequality within a community.



RATIO OF INCOME OF TOP 5% OF HOUSEHOLDS RELATIVE TO INCOME OF BOTTOM 20% OF HOUSEHOLDS 2015



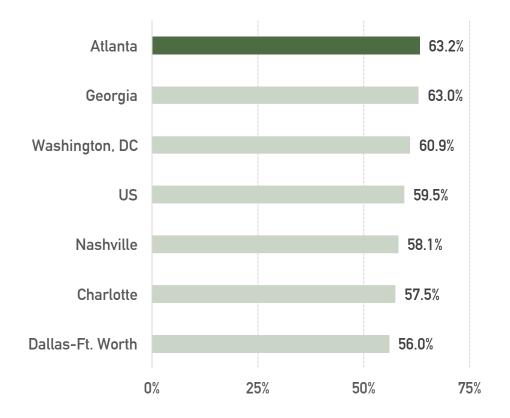
Income Equity by Race/Ethnicity

Median incomes for both Black/African-American and Hispanic households in metro Atlanta are substantially less than their White, Non-Hispanic counterparts. metro Atlanta, however, compares favorably to other communities in the relationship between Black/African-American and White, Non-Hispanic median income. In metro Atlanta, Black/African-American median household income is 63% of White, Non-Hispanic median household income, a *higher* proportion than in all other examined benchmark regions. Hispanic median household income, a *lower* proportion than in all other benchmark communities.

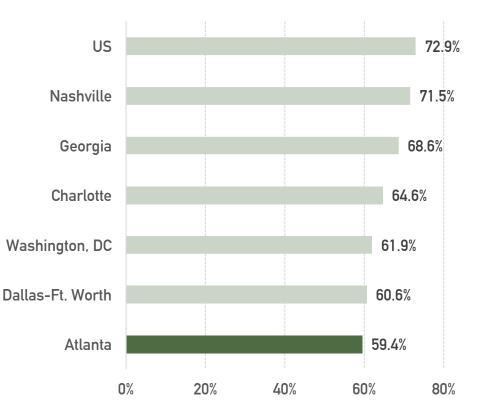
WHY IS THIS IMPORTANT?

Overall income levels within a community may mask significant differences among individual racial and ethnic groups.

BLACK/AFRICAN-AMERICAN MEDIAN HOUSEHOLD INCOME AS % OF WHITE NON-HISPANIC, 2015



HISPANIC MEDIAN HOUSEHOLD INCOME AS % OF WHITE NON-HISPANIC, 2015



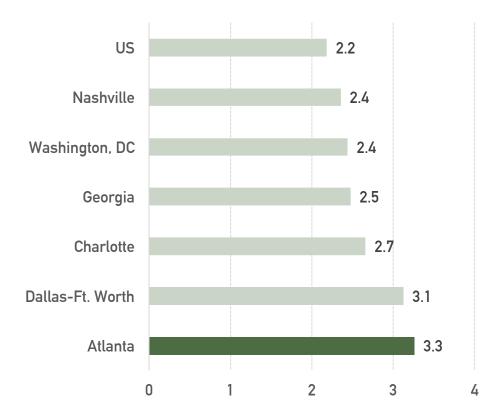
Poverty Equity by Race/Ethnicity

Metro Atlanta is characterized by significant differences in the poverty rates of individual racial and ethnic groups. Both Black/African-American and Hispanic residents of metro Atlanta are more than three times as likely to live in poverty relative to their White, Non-Hispanic counterparts. Less than 8% of the White, Non-Hispanic population in metro Atlanta live in poverty. More than 27% of metro Atlanta's Black/African-American population lives in poverty. More than 25% of metro Atlanta's Hispanic population lives in poverty. No benchmark region has a greater discrepancy in the poverty rates of White, Non-Hispanic residents relative to Black/African-American or Hispanic residents.

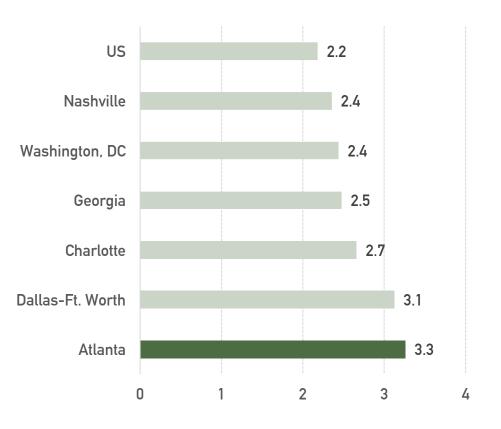
WHY IS THIS IMPORTANT?

Overall income levels within a community may mask significant differences among individual racial and ethnic groups.

RATIO OF BLACK/AFRICAN-AMERICAN POVERTY RATE TO WHITE POVERTY RATE, 2015



RATIO OF HISPANIC POVERTY RATE TO WHITE POVERTY RATE 2015



Leadership Equity

Both racial minorities and women represent relatively high proportions of individuals in management occupations within metro Atlanta. More than 47% of management occupations in metro Atlanta are held by Non-White individuals, more than twice the US average. Among benchmark regions, only Washington, DC has a higher share of Non-White managers.

And, women comprise more than 40% of management occupations in metro Atlanta, slightly higher than the US average and a greater proportion than in all benchmark regions except Washington, DC.

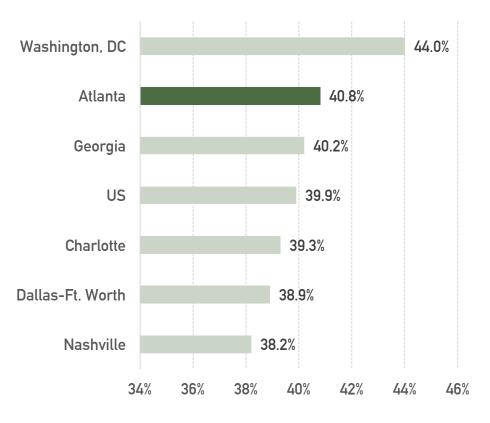
WHY IS THIS IMPORTANT?

Overall income levels within a community may mask significant differences among individual racial and ethnic groups.

% OF NON-WHITE WORKERS IN MANAGEMENT OCCUPATIONS 2015

Washington, DC 47.3% 47.3% Atlanta Georgia 38.1% 26.4% Dallas 24.1% Charlotte US 21.9% Nashville 14.1% 0% 20% 40% 60%

% OF FEMALE WORKERS IN MANAGEMENT OCCUPATIONS 2015

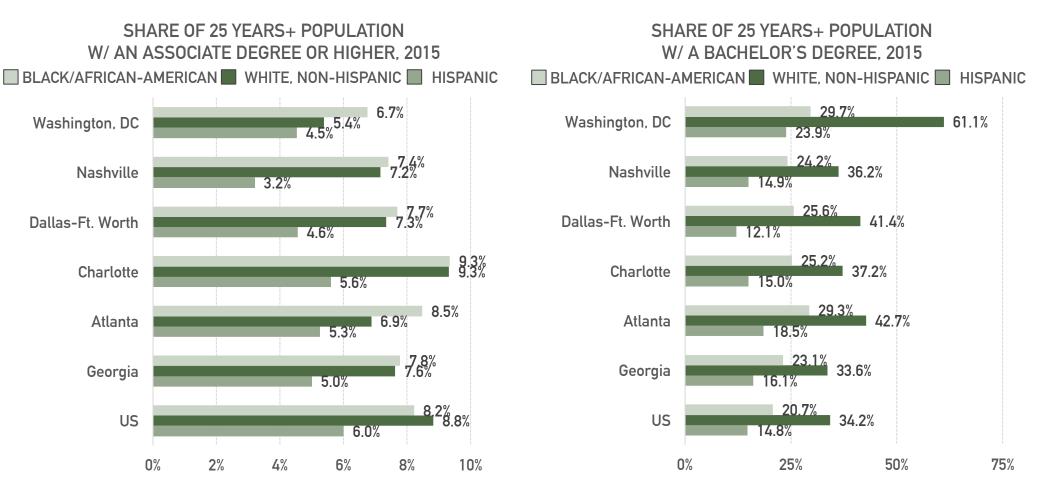


Education Equity

Differences in educational attainment in metro Atlanta among individual racial and ethnic groups are relatively modest at the associate degree level but more pronounced at higher levels of educational attainment. Approximately 43% of White, Non-Hispanic individuals in metro Atlanta hold a bachelor's degree or higher level of educational attainment. The figure for Black/African-American residents is 29%. Only Washington, DC has a higher level of educational attainment among Black/African-American residents. Less than 19% of metro Atlanta's Hispanic population possesses a bachelor's degree or higher level of educational attainment, second only to Washington, DC among benchmark regions.

WHY IS THIS IMPORTANT?

Students who graduate high school and enroll in post-secondary educational institutions are far more likely to enjoy greater economic opportunity than their peers who fail to graduate high school.



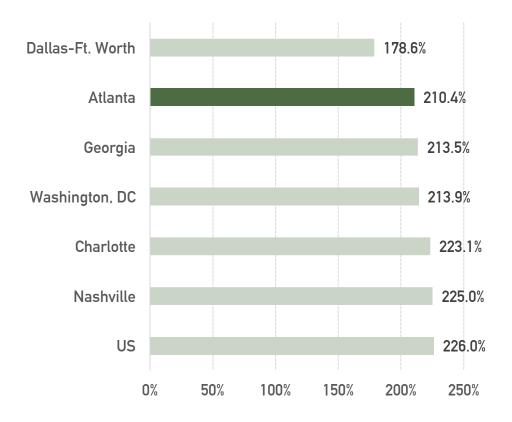
Employment Equity

The unemployment rate for Black/African-American residents of metro Atlanta is slightly more than twice that of White, Non-Hispanic residents. Despite the significant differences in unemployment rates, among benchmark regions only the Dallas region is characterized by less disparity. Hispanic residents of metro Atlanta are 20% more likely to be unemployed than their non-Hispanic counterparts. Among benchmark regions, only Nashville and Dallas have lower levels of employment equity across ethnic lines.

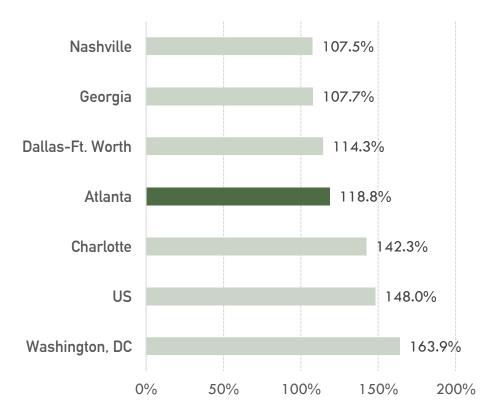
WHY IS THIS IMPORTANT?

Traditional measures of unemployment can obscure significant differences in the unemployment rates of individual racial and ethnic groups.

BLACK/AFRICAN-AMERICAN UNEMPLOYMENT RATE AS % OF WHITE NON-HISPANIC UNEMPLOYMENT RATE, 2015



HISPANIC UNEMPLOYMENT RATE AS % OF WHITE NON-HISPANIC UNEMPLOYMENT RATE, 2015

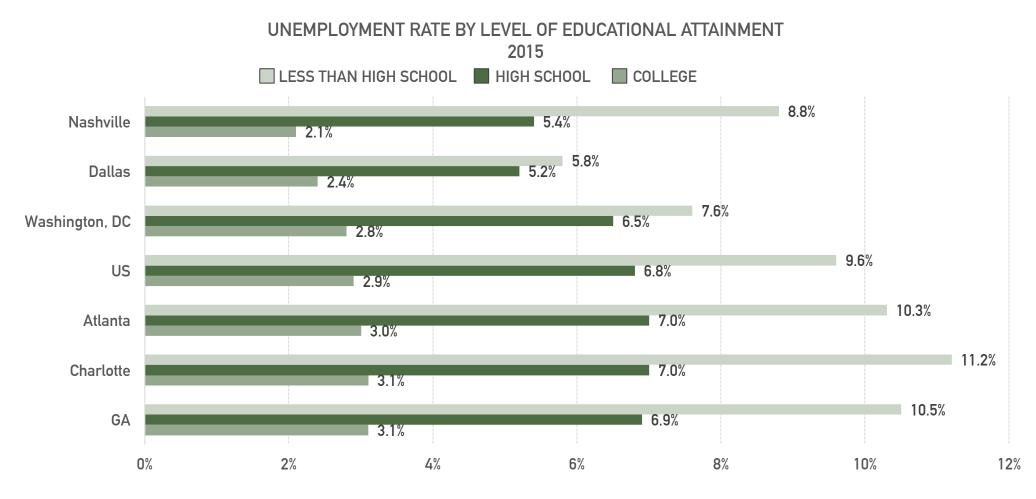


Employment Equity

Fewer characteristics are more highly correlated with improved employment outcomes than educational attainment. In metro Atlanta, for example, the unemployment rate for individuals with a college degree is just 3%. For metro Atlanta residents without a high school diploma, the unemployment rate exceeds 10%. A similar dynamic characterizes most other benchmark regions. Dallas is a slight exception. While the unemployment of individuals within the region without a high school diploma is higher than for college graduates, the difference is less pronounced.

WHY IS THIS IMPORTANT?

Individuals with higher levels of educational attainment are characterized by significantly lower rates of unemployment relative to their less educated peers.



Demographic Dynamics Key Takeaways

01

Metro Atlanta's population is young and well educated.

At 36 years, metro Atlanta's median age is nearly two years less than the US figure and less than all examined benchmark regions except Dallas. More than 37% of metro Atlanta residents age 25 and older possess a bachelor's degree. Nationally, just 30% of adults age 25 and older are college graduates.

02

Migration into metro Atlanta is highly responsive to changes in the regional economy.

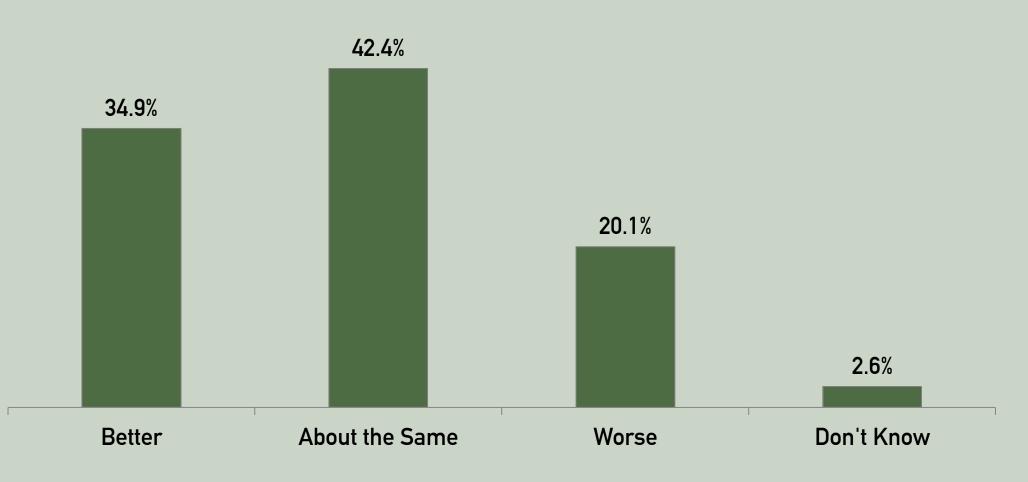
Historically, metro Atlanta has been a talent magnet. After the recession, however, the number of college graduates leaving metro Atlanta exceeded those moving into the region. Though the region is once again attracting college graduates on a net basis, migration rates into metro Atlanta remain less than in other regions such as Nashville and Charlotte.

03

Metro Atlanta is characterized by significant economic inequity across racial and ethnic groups.

While the median incomes of Black/African-American households in metro Atlanta are less than their White counterparts, the level of inequity is lower than the US, Georgia, and benchmark regional averages. Income disparities between White and Hispanic households, however, are significantly greater in metro Atlanta. Black/African-American and Hispanic residents in metro Atlanta are also far more likely to live in poverty compared to their counterparts in other regions.

Will Living Conditions in metro Atlanta be Better or Worse in 3 – 4 years?



SOURCE: 2016 METRO ATLANTA SPEAKS SURVEY

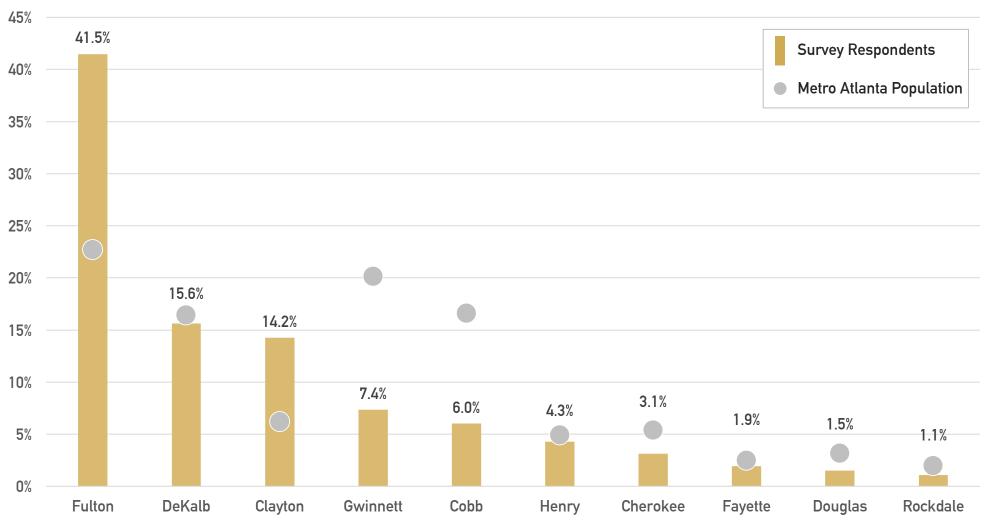
05 Survey Results

As part of the strategic planning process, Avalanche Consulting conducted an online survey of metro Atlanta residents and businesses. **2,083 respondents participated in the survey**. The following section provides a brief summary of the survey findings.



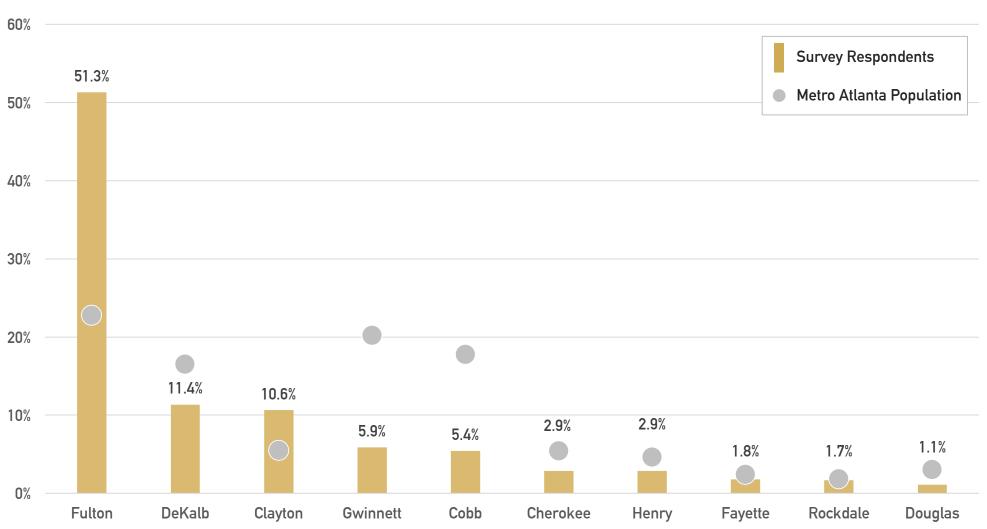
In what county do you live?

Survey respondents included individuals from every county in ARC's 10-county planning region. More than 40% of respondents live in Fulton County, a significantly higher proportion than the county's share of the region's total population. Nearly 16% of respondents reside in DeKalb County, nearly equal to their proportion of the region's population. Clayton County representatives comprised more than 14% of all respondents, a disproportionately high response rate. No other single county accounted for more than 10% of total responses.



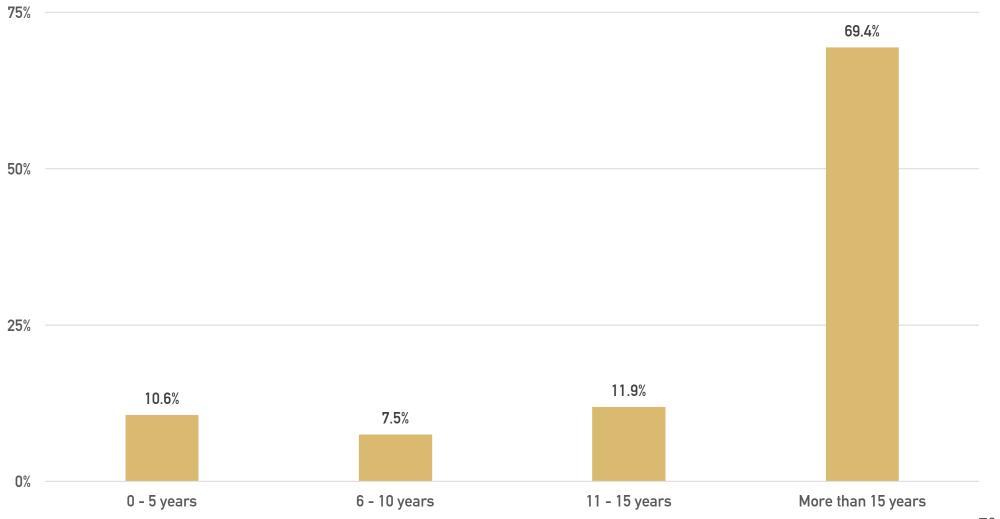
Where is your place of employment?

The survey also included individuals employed in every county within the ten-county ARC planning region. More than half of respondents work in Fulton County. More than 11% of survey participants are employed within DeKalb County. Clayton County is the place of employment for nearly 11% of residents. No other county within the region accounted for more than 10% of employed survey respondents.



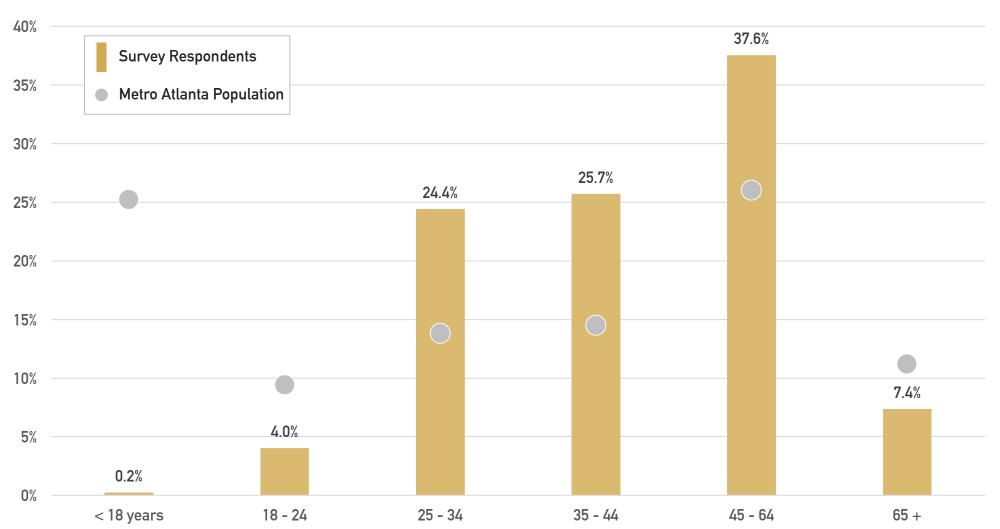
How long have you lived in the Atlanta region?

Longtime residents of metro Atlanta represented a large proportion of survey respondents. Nearly 70% of individuals who participated in the survey have lived in the region for 15 years or longer. An additional 12% of survey respondents have lived in the Atlanta region for 11 to 15 years. Nearly 11% of survey participants have lived in the region for 5 years or less. Individuals who have lived in metro Atlanta between 6 and 10 years represented the smallest share of respondents, at 7.5%.



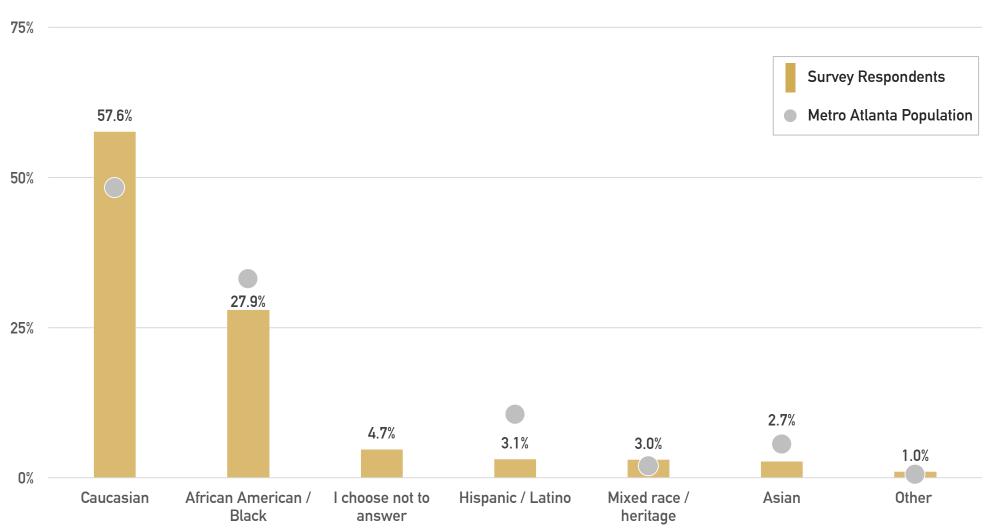
What is your age range?

Prime working age individuals between the ages of 25 and 64 represented the overwhelming majority of survey respondents. Half of all respondents were between the ages of 25 and 44 years old. Nearly 38% of survey respondents were between the ages of 45 and 64. Individuals age 65 and older comprised less than 8% of survey respondents. Fewer than 5% of survey participants were less than 25 years of age.



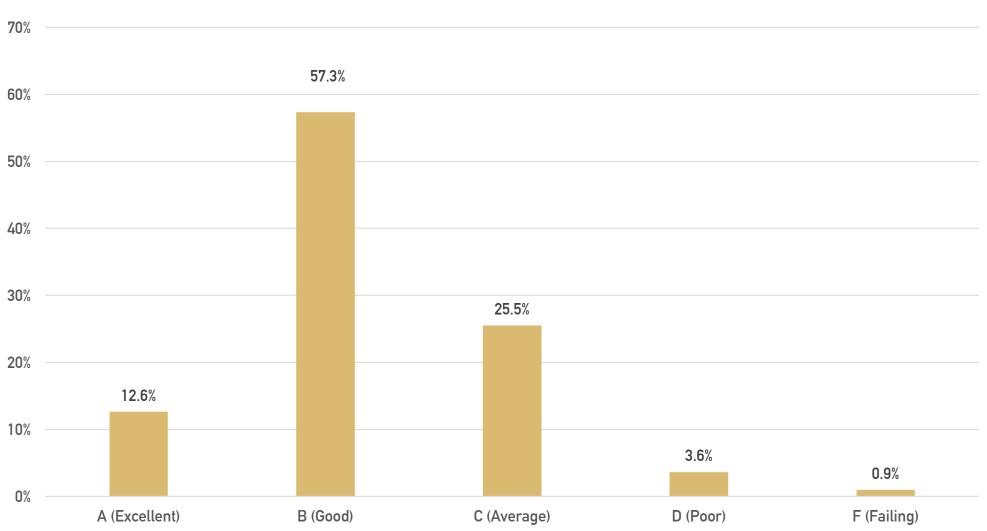
What is your ethnicity?

The racial and ethnic composition of survey respondents proved relatively similar to metro Atlanta's overall racial and ethnic makeup. Caucasian individuals represented nearly 58% of survey participants. African American/Black individuals comprised approximately 28% of respondents. Hispanic/Latino individuals represented slightly more than 3% of respondents. Fewer than 3% of survey participants were Asian. Slightly less than 6% of survey respondents were either of a different race and ethnicity or chose not to answer.



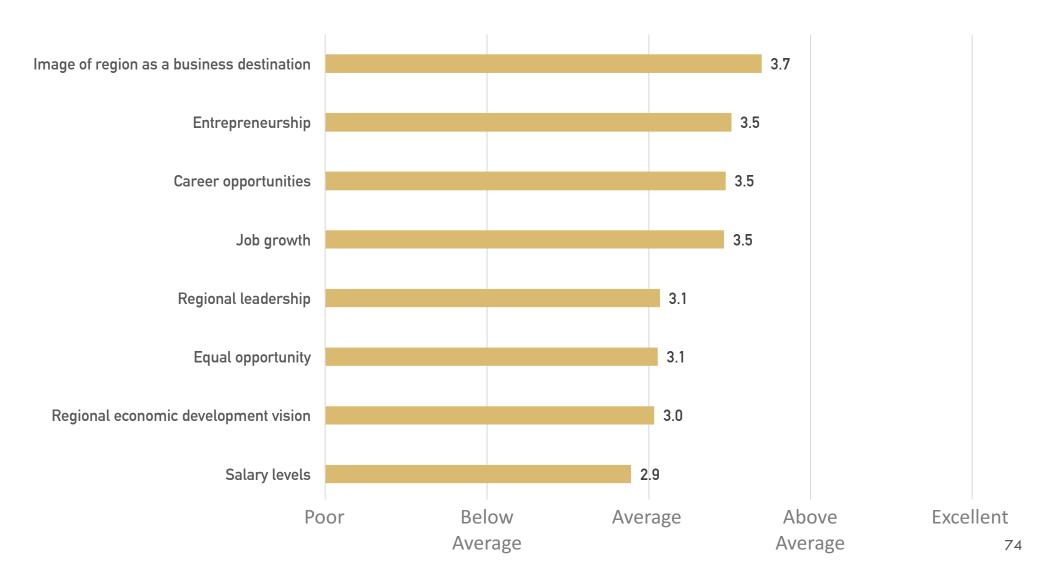
How would you grade the Atlanta region's <u>economic performance over the past five years</u>?

Survey respondents generally have positive views of metro Atlanta's economic performance during the past five years. Nearly 60% of participants gave a 'B' rating to the region's recent economic performance. Slightly more than a quarter graded metro Atlanta's recent economic performance as average. More than 12% of respondents believe the region's recent economic performance has been excellent. Less than 5% of survey participants characterized metro Atlanta's recent economic performance as either poor or failing.



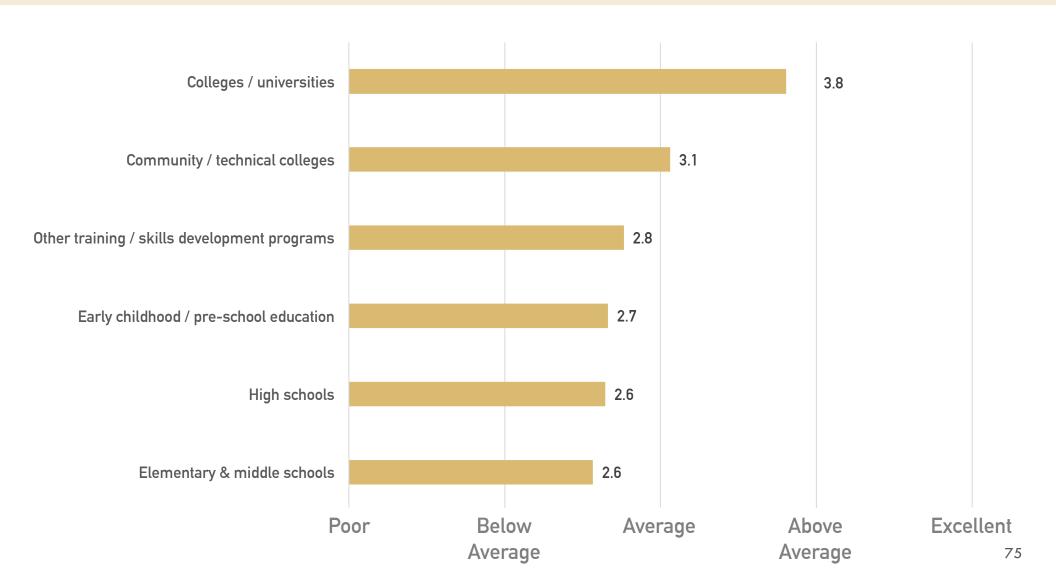
How would you grade the Atlanta region's general economy?

Survey respondents generally believe metro Atlanta's economy is slightly above average. Participants give the highest marks to the region's image as a business destination. Survey respondents also believe the region's entrepreneurship, career opportunities, and job growth are above average. Other areas of the general economy were largely characterized as just average, including regional leadership, equal opportunity, and regional economic competitiveness vision. metro Atlanta's salary levels were rated as slightly below average by most survey respondents.



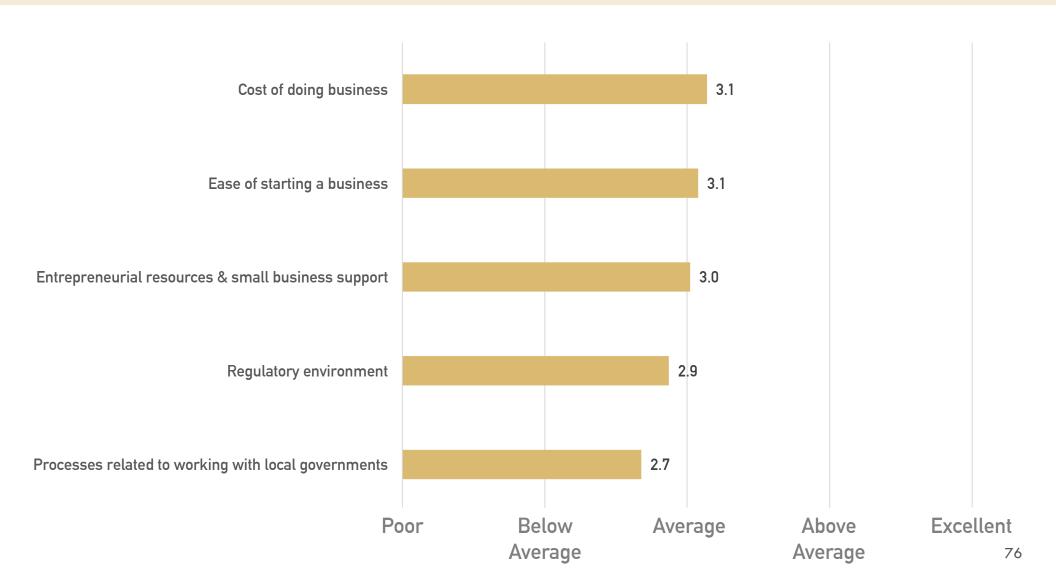
How would you grade the Atlanta region's education and workforce development?

Survey respondents are divided about the quality of metro Atlanta's education and workforce development systems. In general, participants gave high marks to the region's post-secondary institutions. Both metro Atlanta's colleges/universities and community/technical schools were characterized as above average by a majority of survey respondents. Participants have less favorable views of the region's primary and secondary education systems. On the whole, respondents believe the region's early childhood/pre-school education, high schools and elementary and middle schools are below average.



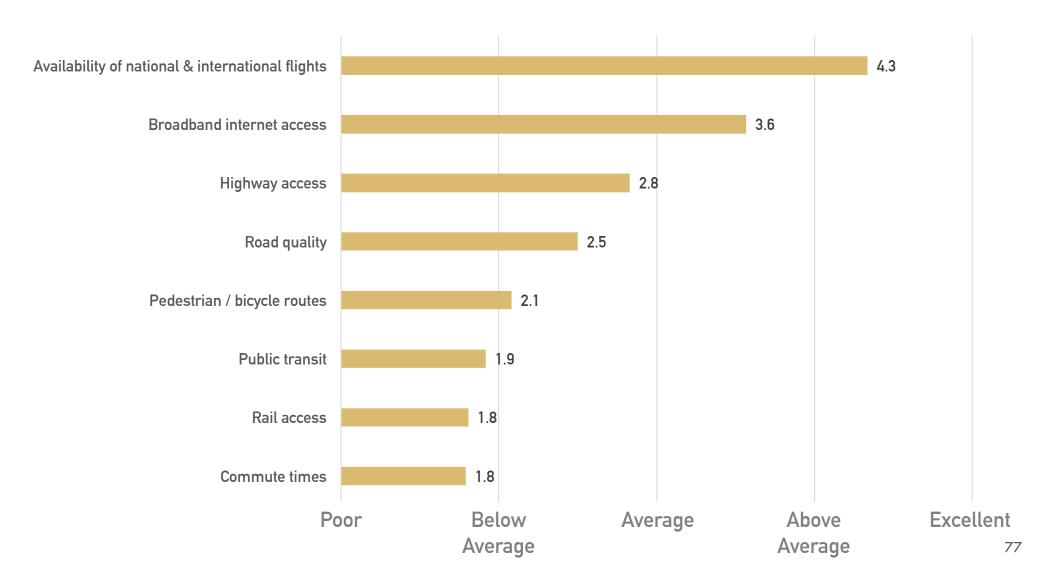
How would you grade the Atlanta region's business climate?

Survey respondents described most elements of Atlanta's business climate as average. The region's cost of doing business and ease of starting a business were viewed by survey participants as just slightly above average. metro Atlanta's entrepreneurial resources and small business support are viewed by respondents as average. The region's regulatory environment and processes related to working with local governments were rated as very slightly below average.



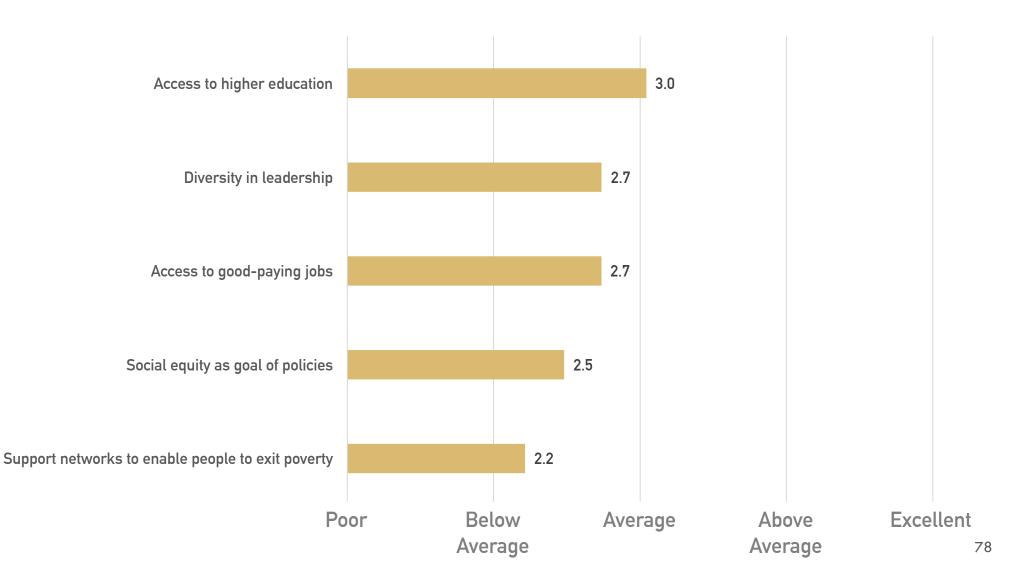
How would you grade the Atlanta region's transportation and infrastructure?

Views of metro Atlanta's transportation and infrastructure assets vary widely by mode. The availability of national and international flights was highly rated by respondents. Most participants believe metro Atlanta's flight connectivity to the rest of the county and world is either above average or excellent. Broadband internet was also viewed favorably. When it comes to moving people, however, survey respondents expressed far less satisfaction. Road quality was characterized as slightly below average by respondents. Public transit, rail access, and community times within the region were rated as solidly below average.



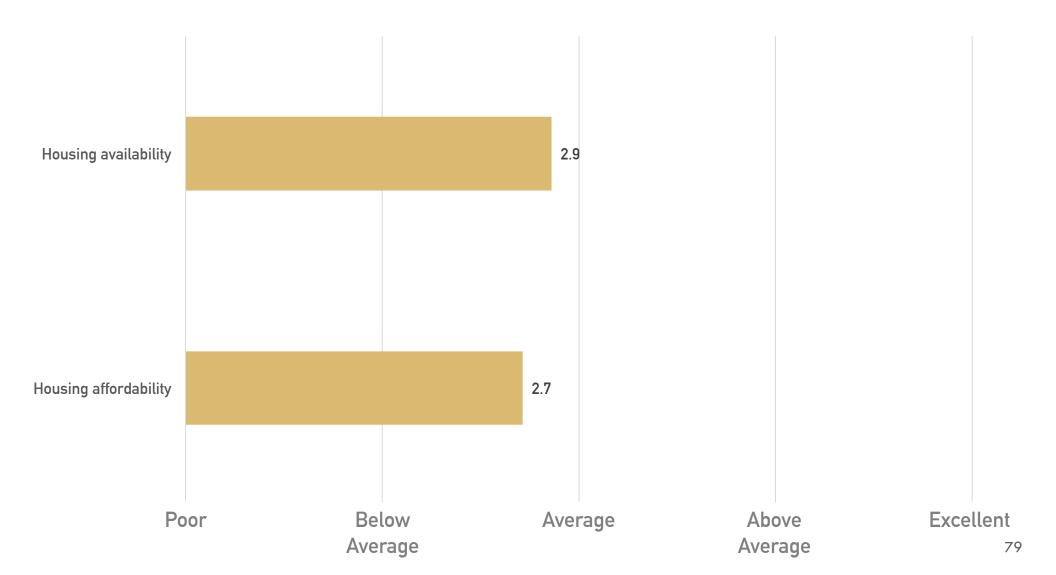
How would you grade the Atlanta region's <u>economic mobility</u>?

Survey respondents expressed reservations about the prospects of economic mobility within metro Atlanta. Access to education, the most highly rated element of economic mobility, was viewed as just average among most survey participants. Diversity in leadership, access to good-paying jobs, and economic mobility as a goal of policies were both characterized as slightly below average. Respondents gave even lower marks to metro Atlanta's support networks to enable people to exit poverty.



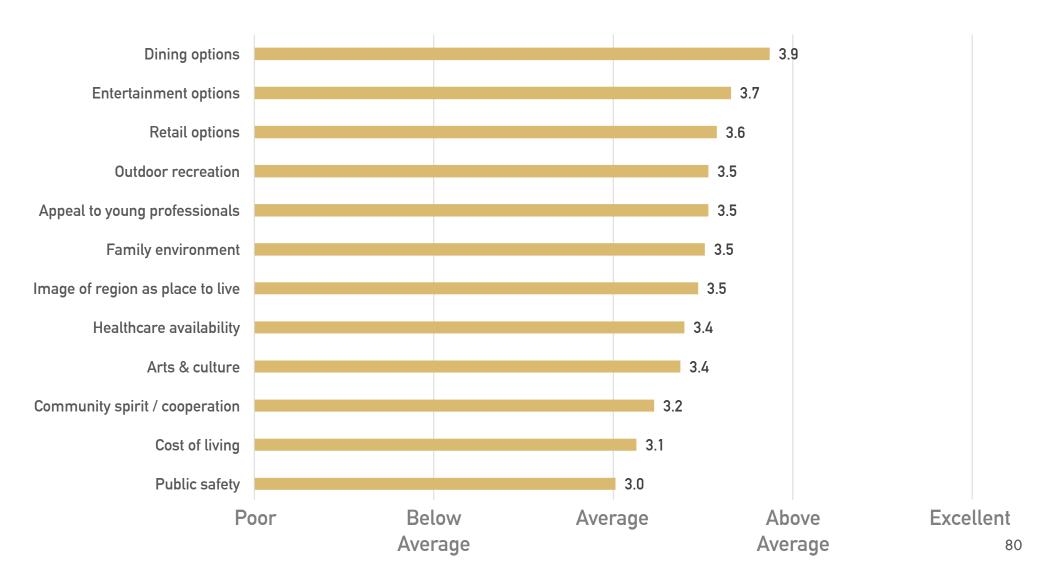
How would you grade the Atlanta region's <u>housing</u>?

Housing availability and affordability have emerged as a growing issue in metro Atlanta in recent years, a fact further reinforced by survey respondents. Participants view housing availability and affordability within the region as slightly below average.



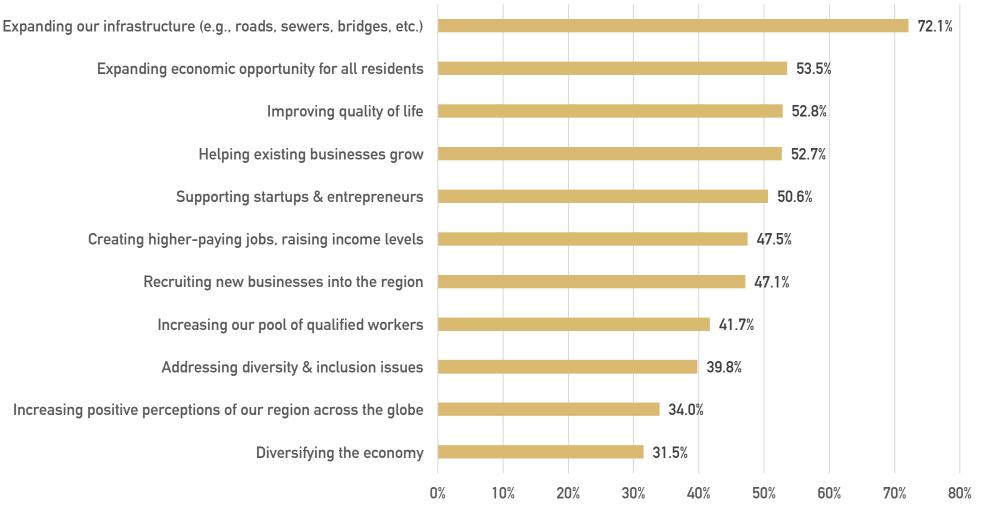
How would you grade the Atlanta region's quality of place?

Survey respondents were generally enthusiastic about metro Atlanta's quality of place. The region's dining options were described by a majority of respondents as above average. metro Atlanta's entertainment and retail options were also highly rated. The region's outdoor recreation, appeal to young professionals, family environment, and image as a place to live were all characterized as above average. Healthcare, arts and culture, and community spirit were rated by survey respondents as slightly above average. metro Atlanta's cost of living and public safety were considered just average by most survey participants.



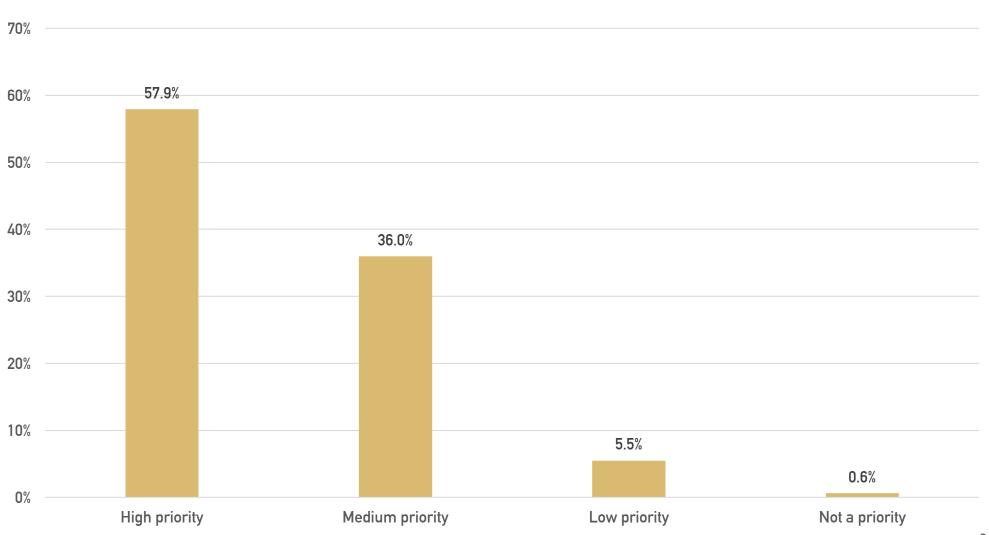
What should be the Atlanta region's top economic development priorities?

When asked what should be metro Atlanta's top economic competitiveness concern, expanding the region's infrastructure was easily the most widely shared priority. Nearly 75% of survey respondents believe it is the region's most pressing economic development priority. More than half of all survey participants believe leading priorities should include expanding opportunity for all residents, improving quality of life, helping existing businesses grow, and supporting startups and entrepreneurs. Less popular economic development priorities include addressing diversity and inclusion issues, increasing the region's global profile, and diversifying the economy.



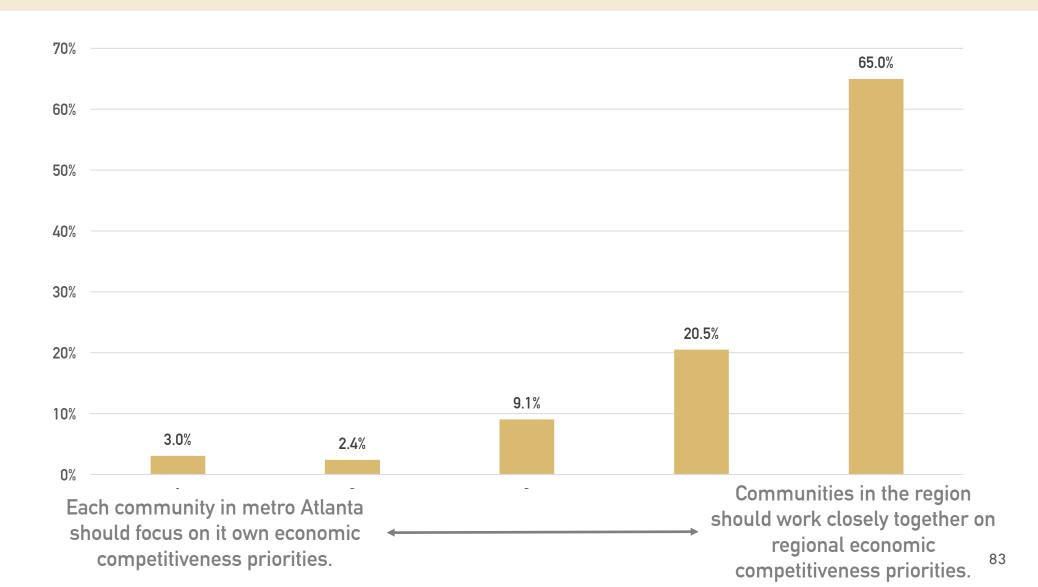
How would you rate economic development as a priority for the Atlanta region?

A majority of survey respondents believe economic development is a high priority for metro Atlanta. An additional 36% of respondents believe economic development is a medium priority within the region. Less than 7% of survey participants described economic development as either a low priority or not a priority for the region.



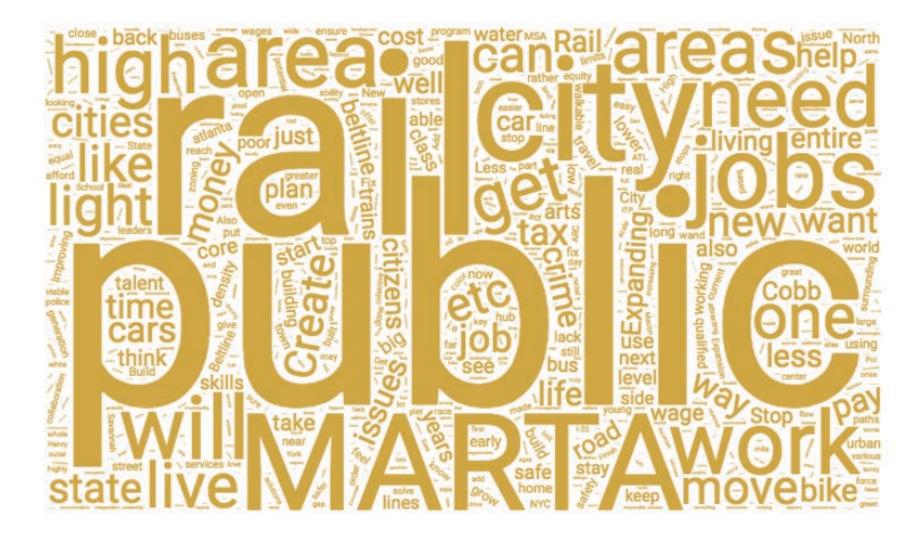
To what degree should we be thinking and acting regionally on economic competitiveness?

Survey respondents generally believe economic competitiveness in metro Atlanta should be coordinated at the regional level. Nearly two-thirds of survey respondents believe communities in metro Atlanta should work closely together on regional economic competitiveness priorities. Just 3% of survey participants feel that each community in metro Atlanta should focus on their own individual priorities. The remaining survey respondents expressed a viewpoint in between these two poles.



If you had a magic wand, what one change would you make that would most improve our future economy?

When asked to name how they would improve the region, the overwhelming share of survey respondents cited an issue related to transportation. Expanding mass transit within metro Atlanta was an especially common refrain. Other popular sentiments included improving the quality and associated wage levels of jobs created within the region and ensuring that metro Atlanta's prosperity extends to all areas.



06 **Trends & Disruptors**

The future of metropolitan areas will be greatly influenced by a several powerful trends and disruptors that promise to transform consumer and business behavior. The following eight demographic, technological, and economic trends will play a large role in determining which regions thrive in the 21st century:

DEMOGRAPHIC

- - Diversity
 - **Urbanization**

Aging



- Automation
- **Autonomous Vehicles**
- **ECONOMIC**
 - (s)
- **Climate Change**
- **Gig Economy**
- Inequality



People

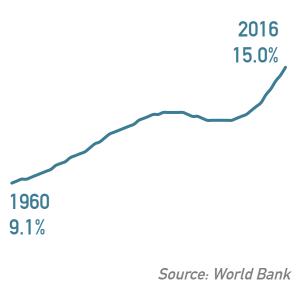
AGING

The US population is rapidly aging. More than 10,000 Baby Boomers turn 65 *every day*, and this trend will continue for another decade. By 2030, nearly one in five Americans will be over 65 years old. As the US retiree population swells, the relative number of active workers will decline. At the same time, Americans are living longer – increasing demand for goods and services and driving employment growth in specific sectors. Meeting the needs of our older population will require significant investments in social service programs, physical infrastructure, and education for workers.

Already, four out of the five fastest growing jobs in the US are related to healthcare. Through 2024, healthcare occupations are projected to fuel nearly a quarter of all job growth in the US. Demand for services such as transportation and meal delivery will continue to rise in response to an aging population. These services are typically provided by governments and non-profits. As a result, allocating resources will become a growing challenge for many communities – especially as a smaller share of their residents are actively working.

For communities and regions to thrive, they must re-engage and sustain individuals in the workforce, develop pipelines of talent for industries poised to grow, and provide resources needed by older residents. *By 2030, nearly one in five Americans will be over 65 years old.*

PERCENT OF US POPULATION AGE 65+



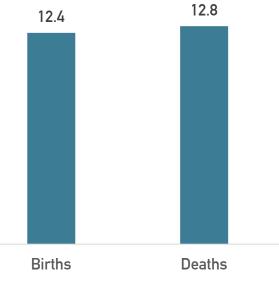
DIVERSITY

During the past 25 years, the US population has become increasingly diverse. Over the next quarter century, this trend will further accelerate. Today, more than half of all children born belong to minority racial and ethnic groups. Recent studies indicate that those regions that embrace diversity will be the most economically successful.

From both a demographic and economic perspective, the most successful regions in the US will be those that welcome and support a diverse population. Between 2015 and 2016, the non-Hispanic, White population in the US grew by less than 5,000 individuals. Increasingly, the only path for growth for many (if not most) communities will be accommodating racial and ethnic minorities.

Diversity will also be critical in sustaining economic vitality. At the regional level, diversity is associated with greater levels of entrepreneurship and innovation. At the company level, studies have found that more diverse teams lead to higher rates of creative problem-solving and greater revenues. Communities that fail to embrace diversity risk facing significant workforce and leadership challenges and likely will also become less innovative than their more diverse peers. By 2020, more than half of US children will be part of a minority race or ethnic group.

CULMULATIVE CHANGE IN WHITE, NON-HISPANIC POPULATION 2010 – 2016 (MILLIONS)



Source: US Census Bureau

People

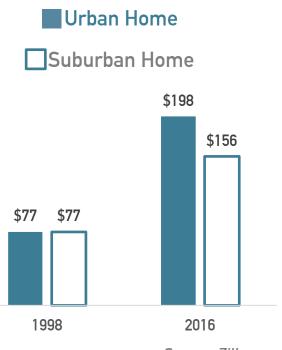
URBANIZATION

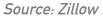
While much of the US population has been flocking to metropolitan areas for decades, the process has accelerated in recent years. Unlike in years past, recent metropolitan area population gains in many regions extend to the urban core. The resurgence of cities and the continued vitality of metropolitan areas are reshaping the way Americans live. Successfully navigating these changes will require a more thoughtful approach to regional collaboration.

For many cities, rising real estate prices driven by an influx of new residents has priced a growing number lower income households out of the urban core. At the same time, the recession contributed to a significant spike in the number of individuals living in poverty. These factors contributed to a notable rise in poverty in America's suburbs. The suburbanization of poverty creates challenges in communities without the physical and social service infrastructure often found in cities.

While metropolitan areas are highly intertwined economically, they remain politically decentralized—in some regions, the metropolitan area may span a dozen or more individual counties and countless cities. With resources and planning efforts fragmented across multiple jurisdictions, coordinating investments in areas such as education or transportation at the regional level can be extraordinarily difficult. The emergence of "megaregions" is likely to make this challenge even more pronounced. Since 2010, metropolitan areas have fueled all US population growth US.

AVERAGE HOME PRICE PER SQUARE FOOT







Technology

AUTOMATION

Advancements in technologies that automate functions currently performed by humans are likely to revolutionize the labor market in several important ways. Automation will likely eliminate and/or fundamentally transform jobs that are routine and follow formal operating rules. At the same time, automation is likely to fuel the creation of new occupations.

Researchers at Oxford University estimate that nearly half of US employment is at high risk of automation over the next two decades. More immediately, a survey conducted by PricewaterhouseCoopers found that nearly 60% of CEOs believe robotics will allow them to eliminate jobs over the next five years. The most imperiled occupations include positions in transportation and logistics, office administration, and manufacturing.

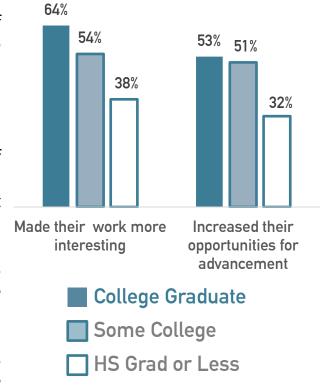
New technologies may also facilitate the creation of many new employment opportunities. When Deloitte analyzed the UK job market over the past

15 years, they found that technology eliminated 750,000 jobs but simultaneously created 3.5 million new jobs. Additionally, these newly created jobs typically paid significantly higher wages than those lost.

Whether automation involves the elimination, transformation, or creation of employment, the most successful regions will be those that provide lifelong training opportunities that help residents adapt to a constantly evolving labor market.

A PricewaterhouseCoopers survey found that nearly 60% of CEOs believe robotics will allow them to eliminate jobs over the next five years.





Source: Pew Research Center



Technology

AUTONOMOUS VEHICLES

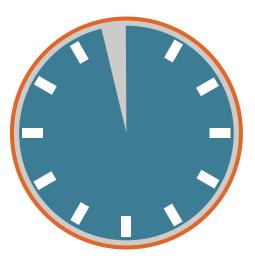
The approaching era of self-driving cars promises to transform our economy, our communities, and the way we live.

The rise of autonomous vehicles is likely to end car ownership in its current form. Instead of purchasing cars outright, tomorrow's consumers are likely to rely on car-sharing services. The decline of the consumer auto market is likely to negatively impact other industries such as consumer financing, insurance, and advertising. Governments may also be forced to rethink investments in mass transit as public systems face growing competition from carsharing services.

The resulting demand for parking consumes an enormous amount of US real estate. The growing ubiquity of autonomous vehicles may create significant redevelopment opportunities in places currently dedicated to parking. This dynamic, combined with the reduced need to incorporate parking in new buildings, will reduce the cost of residential and commercial construction.

Autonomous vehicles may also alleviate traffic congestion while simultaneously contributing to urban sprawl. Autonomous vehicles may lessen traffic congestion by reducing both accidents and increasing the number of cars that can safely drive within a given space. As autonomous vehicles will lessen the drudgery and expense associated with long commutes, driverless cars may also encourage more suburban sprawl as the relative cost of living farther from employment centers falls According to some estimates, America is home to more than 800 million parking spaces approximately three for every automobile.

CARS ARE PARKED 95% OF THE TIME



Source: The High Cost of Free Parking



CLIMATE CHANGE

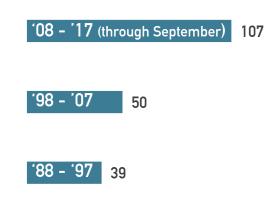
The scientific consensus is that climate change is occurring and it is largely due to the burning of fossil fuels. Unless the world reduces its carbon output, climate change is expected to accelerate over the next century.

Rising sea levels and increased storm activity are likely to threaten a growing number of individuals and the businesses they support. Mitigating the risks posed by climate change will be expensive— Miami plans to spend at least \$400 million on new pump stations and Charleston has outlined more than \$225 million in needed drainage projects. The public costs of addressing climate change are likely to increase further in the years ahead.

With limited federal commitment to combatting climate change, cities are poised to fill the void through both policy and investments. More than 375 US mayors announced their intentions to honor commitments to reduce greenhouse gas emissions as part of the Paris Climate Agreement. Part of this commitment will require additional investments in clean energy and energy efficiency initiatives.

In the decades to come, the most successful regions are likely to include communities whose economies are less reliant on a carbon-based economy. Economies fueled by human capital will be more insulated from policies aimed at addressing climate change and are also more likely to produce the innovations necessary to reduce carbon production. More than half of Americans live in coastal counties, placing many of them at greater risk of natural disasters.

BILLION-DOLLAR WEATHER & CLIMATE DISASTERS (INFLATION ADJUSTED)



Source: National Centers for Environmental Information



GIG ECONOMY

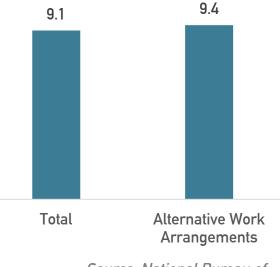
Since the industrial revolution, employment for most Americans has involved a formal relationship with a single employer. In recent years, however, a growing number of workers are relying on freelance opportunities instead of securing traditional employment. The rise of independent contractors and the "1099" or "gig economy" may have significant implications on the geography of future job growth and social welfare programs.

While the gig economy is in its earlier years, thus far it has favored metropolitan areas. Ride-sharing and house-sharing services are highly concentrated in regions with a large base of real-world consumers and service-providers – predominantly urbanized, metropolitan areas. Similarly, the growth of coworking spaces has been more pronounced in metropolitan areas that feature a critical mass of digital freelancers.

Existing social welfare programs in the US may prove insufficient as the gig economy continues to grow. Workers in the gig economy don't typically have access to benefits such as employer-based health insurance, retirement plans, or sick leave enjoyed by traditional workers. Independent contractors are also exempt from minimum wage requirements, overtime regulations, and unemployment insurance. As a growing number of workers forego traditional employment opportunities, more robust social services will be required to provide care and protection to workers.

The emergence of new online platforms such as eBay and Uber that directly connect buyers and sellers has allowed a growing number of individuals to find employment without becoming an employee.





Source: National Bureau of Economic Research



ECONOMIC INEQUALITY

During the past three years, economic inequality in the US has increased dramatically. In 1980, the top 10% of earners took home approximately one-third of all income in America. By 2015, more than half all income in the US went to the top 10% of earners. Rising economic inequality has significant impacts for both individuals and communities.

Rising economic inequality is associated with a host of ills for individuals. Average life expectancy is lower in communities characterized by greater levels of inequality. Rising inequality is associated with income-based segregation at the neighborhood level, a dynamic that contributes to lower educational outcomes in communities high concentrations of poverty.

Greater inequality may also negatively impact the economic health of both the country as a whole as well as individual regions. There is growing evidence that inequality may contribute to slower economic growth and greater volatility. Additionally, growing inequality may create a greater need for social programs. During the past 40 years, government transfer payments such as unemployment insurance, Medicare and Medicaid, and food stamps as a share of the economy has doubled. Finally, economic inequality appears to be growing increasing among individual regions. Prior to 1980, economic growth among individual regions increasingly converged. In the decades since, the largest economic gains have gone to a handful of "rock star" metros.

Since 1980, average incomes for the top 0.01% percent of households have increased by more than 300%. Average incomes of the bottom 90%, on the other hand, have remained essentially flat.

REAL AVERAGE INCOME (IN 2015 DOLLARS AND INCLUDING CAPITAL GAINS)



'80 '85 '90 '95 '00 '05 '10 '15

Source: World Wealth and Income Database