Regional
FactBook

A SUMMARY OF CONDITIONS AND TRENDS FOR UPSTATE, SOUTH CAROLINA

In support of the Connecting Our Future Regional Transportation, Mobility, and Connectivity Initiative for the Ten County Upstate Region.

February 2018
Version 1.2

CONNECTING
OUR
FUTURE

This Regional Fact Book provides background information to assist with the development of the Regional Transportation, Mobility and Connectivity Vision and Actionable Strategies being developed as part of the Connecting Our Future Initiative. Data has been assembled from the region's previous plans, studies, and existing sources unless otherwise noted. This effort is being coordinated by Ten at the Top and led by a coalition of Upstate stakeholders representing education, transit systems, local governments, economic development organizations, healthcare, conservation groups and business.

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Advisory Committee Members

Adam Artigliere	McNair Law Firm	**Joanie Martin**	Michelin
Fred Cartwright	PRUV Mobility	**Max Metcalf**	BMW Manufacturing
Dan Cooper	TriCounty Technical College	**Stacey Mills**	USC Upstate
Andrea Cooper	Upstate Forever	**Janice Moss**	Redi-Group
Mike Davidson	JTEKT	**Ric Ransom**	Greenville Health System
Suzanne Dickerson	SC Council on Competitiveness	**Sue Schneider**	Spartanburg Water
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Johnson Link	Clemson University	**Irv Welling**	Welling Strategic
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Connecting our Future Partners   as of February, 2018

Steering Level Supporters
Duke Energy
Hollingsworth Funds
Jolley Foundation
Michelin

Kickoff Event Supporters
Clemson University
Upstate SC Alliance

Business Level Supporters
JTEKT North America Corporation
Mavin Construction
Proterra

Media
Greenville Journal
Upstate Business Journal

Government / Non-Profits
ANATS/Electric City Transit
Anderson County Planning
Carolinas Alliance 4 Innovation
Catbus
Global Autonomous Vehicle Partnership
GPATS
Piedmont Health Foundation
SC Technology & Aviation Center
SPATS
Transportation Association of South Carolina
Upstate Forever

Regional FactBook

Connecting our Future

6,165

Square Miles

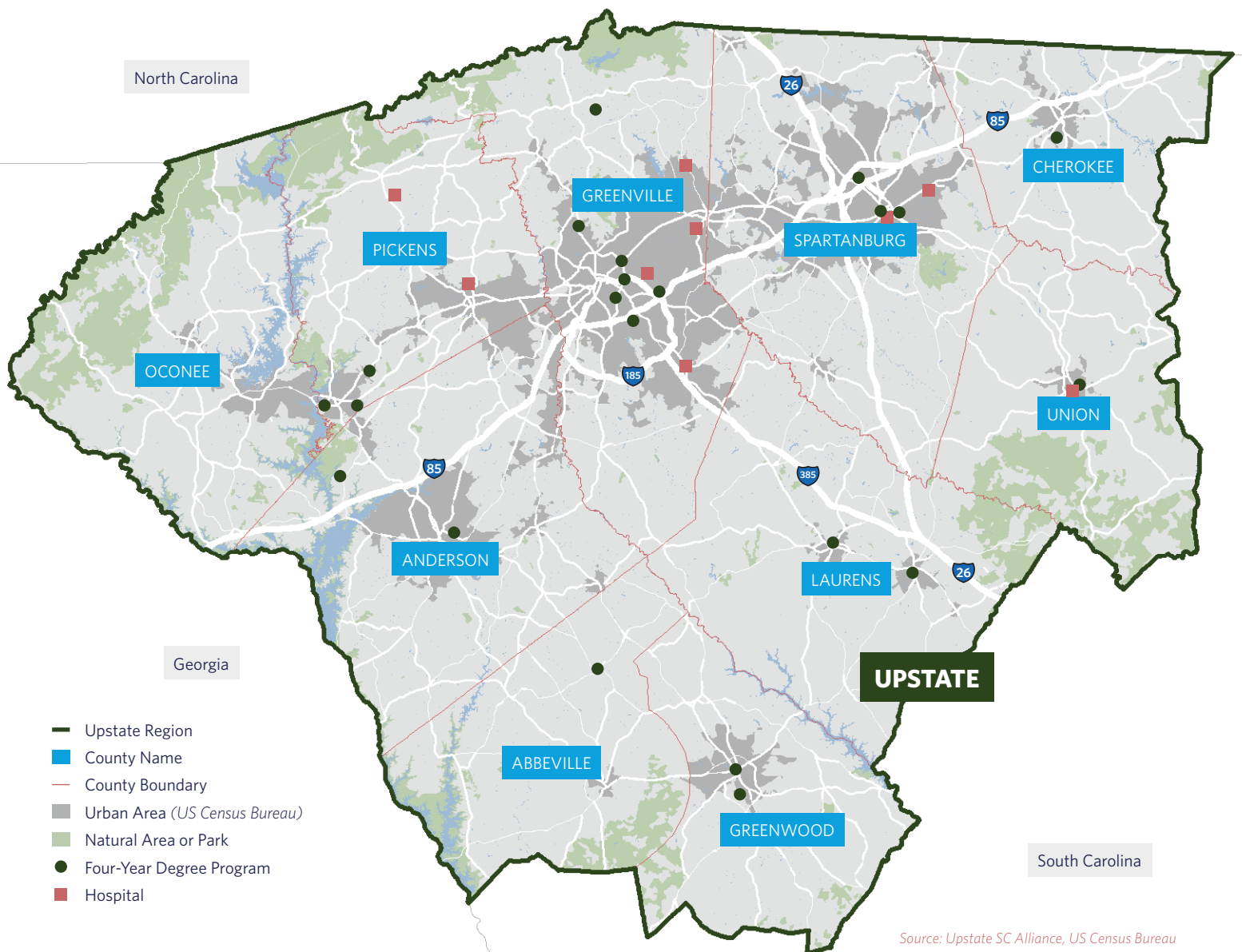A range of environments, including both urban and rural conditions.

62

Cities and Towns

Ranging in populations from rural communities to large metropolitans areas.

1.34m

Upstate Population

continues to grow rapidly in recent decades.

North Carolina

CHEROKEE

GREENVILLE

PICKENS

SPARTANBURG

OCONEE

UNION

ANDERSON

LAURENS

UPSTATE

Georgia

ABBEVILLE

GREENWOOD

South Carolina

— Upstate Region
■ County Name
— County Boundary
■ Urban Area *(US Census Bureau)*
■ Natural Area or Park
● Four-Year Degree Program
■ Hospital

Source: Upstate SC Alliance, US Census Bureau

1. Introduction

Purpose

This document considers the conditions and trends affecting transportation in the Upstate region of South Carolina. The findings presented are divided into four categories: People, Prosperity, Place, and Mobility. Data was derived from existing plans, studies, and research by the Planning Team.

Process

The vision and strategy development component of Connecting Our Future was initiated in January 2018 to address emerging transportation issues throughout the Upstate region. The process will examine conditions and trends, establish priorities with key stakeholders, and provide a set of recommendations to address challenges and take advantage of opportunities. This strategy is being developed in close coordination with the Ten at the Top organization and other stakeholders from the ten-county Upstate region. It will establish a vision, identify strategies, and generate a call-to-action to help facilitate implementation. The strategy will also identify short and long-term actions (projects, policies, and/or programs) that are intended to improve mobility, accessibility, and connectivity for people and goods throughout the Upstate.

Plans

Gather Existing Data
review and summarize materials in the form of the Regional FactBook

Technical Analysis

Discussion

Advisory Committee No.1

Stakeholder Symposium
review research and discuss ideas

Advisory Committee No.2

Regional Mobility Study

Connecting Our Future is a natural follow up to Shaping our Future Growth Alternatives Analysis completed in 2017. That initial study focused on land use patterns in the Upstate, presenting multiple scenarios for future development based on existing plans and alternative options. As the region continues to experience intense growth the potential implications will be great, especially if the current patterns for development are continued. This study found that anywhere from 770 to 1,600 square miles of new development could be expected to accommodate the growth in residents and jobs. The Connecting our Future process expands on this work by examining the efficiency and efficacy of the region's transportation network for people and goods.

Regionalism

The ten-county Upstate region encompasses more than 6,000 square miles, 62 cities and towns, three metropolitan planning organizations, and produces billions of dollars in annual economic output.

For such a large and diverse area, the Upstate has maintained a relatively high-degree of inter-governmental and organizational collaboration. This gives the region a distinct advantage in regional planning efforts, as the communities are accustomed to working together. This collaboration will continue to be critical as the region develops. The effects of growth and transportation initiatives are not limited by jurisdictional boundaries. Rather, these decisions have regional implications.

General Definitions

The Fact Book has been broken into four topical chapters. These include:

People. Background on demographic trends related to population change, households size and makeup, race and ethnicity, and aging.

Prosperity. An examination of conditions and trends related to the regional economy, employment patterns, personal and family prosperity, educational attainment and health and wellness.

Place. A summary of the unique characteristics of the Upstate's natural and built environment. This section includes information related to land use, density, building patterns, housing, utilities, parks and trails, and other place-based conditions and trends.
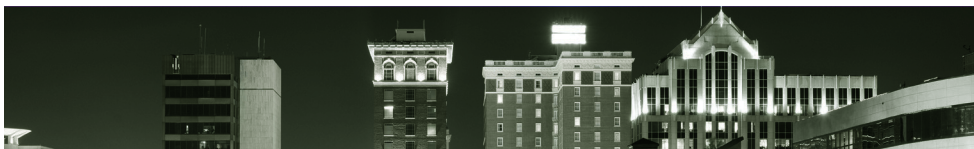
Mobility. Characteristics, advantages and limitations of the Upstate transportation system. Data and findings relate to the movement of people and goods and their impact on the people, prosperity, and places of the region.

Major Findings

Several themes emerged from the research and data collected in the Regional Fact Book. Transportation decisions are deeply related to other quality of life measures presented in the People, Prosperity, and especially, Place sections. A couple major points from each chapter are listed below, with further information included in the pages that follow.

People

Strong, but not uniform population growth. While the Upstate will continue its strong growth well into middle of the 21st century, this will not be felt uniformly in the region. Urban centers will grow the fastest with major implications for infrastructure.

Household size and makeup changing quickly. Like the country overall, the Upstate households are shrinking. Families are smaller and more residents are living alone. The rate of growth for households is outpacing population growth. This means more rooftops per resident and greater potential impact on the transportation network overall.

Prosperity

Poverty increasing and unequally distributed. Overall, the proportion of individuals living in poverty has been on the rise since 2000, increasing by five percentage points. However, poverty is not uniform throughout the region, with poverty levels in Greenwood more than ten percent higher than those in Greenville.

Education levels improving, yet still behind. Compared to national averages, the Upstate region's residents are not attaining high levels of education. While rates of adults with bachelor's degrees and higher have risen since 2000, they are still five percentage points lower than the national average.

Place

Development pattern demands are shifting. Suburban development has been the dominant development pattern in recent decades. As the region's population continues to grow, residents are looking for a greater variety of places. People are increasingly seeking out city centers that provide employment, commerce, and residential options. This urban form also helps to curtail regional concerns about outward expansion consuming valuable green fields and utility strain.

Protecting water sources. There are many bodies of water spread through the region, some serving as potable sources and others for recreation and economic drivers. Recent studies have revealed that water quality figures are dropping. Some organizations have taken steps towards protecting these areas.

Mobility

A strategic crossroads in a growing economic megaregion. Transportation plays a major role in the regional economy and will continue be a strategic focus as growth occurs.

More travel options than ever. Expanded regional trail systems, bike share networks, and ride share companies available in the urban areas highlight the region's embrace of emerging trends.

Many mobility challenges remain. Much of the Upstate is still very car-dependent, and accessing jobs, healthcare, education, and other resources can be challenging, especially for those without a vehicle.

1.74m

2040 Projected
Population

23%

Increase of
Minority
Population

2. People

The people section examines demographic trends within the Upstate region. For context, the analysis will compare the region to the state of South Carolina, and to the nation where appropriate.

Population

Steady growth since 1980. The Upstate region grew by nearly half a million people between 1980 and 2016, from just under one million in 1980 to nearly 1.5 million in 2016. The fastest period of recent growth took place in the 1990's when the region grew by 15 percent, and added more than 160,000 people. One in three South Carolinians live in the Upstate region. *Source: Upstate SC Alliance*

Pushing two million by 2040. The majority of population projection models predict continued growth for the region throughout the next two decades, with the population reaching just over 1.75 million by 2040. This amounts to more than 300,000 new residents and is expected to occur primarily in the urbanized counties. *Source: Shaping our Future: Growth Alternatives Analysis*

Upstate Population Over Time
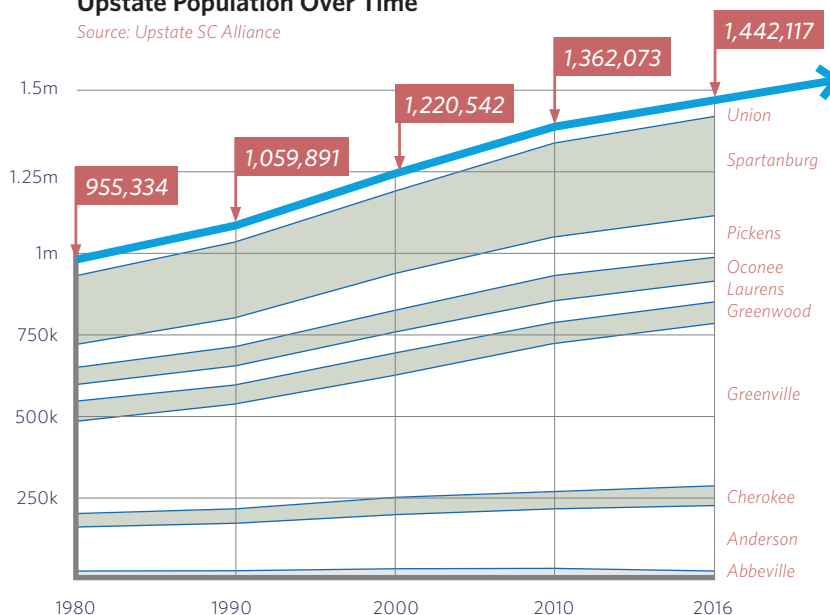*Source: Upstate SC Alliance*

955,334	
1,059,891	
1,220,542	
1,362,073	
1,442,117	

Union
Spartanburg
Pickens
Oconee
Laurens
Greenwood
Greenville
Cherokee
Anderson
Abbeville

1980 1990 2000 2010 2016

1.44m

Current Upstate Population (2016)

1.74m

Projected Upstate Population (2040)

Consistent regional growth; variable county growth. Growth in the Upstate varies between counties. Smaller counties grew at much slower pace than the larger, urbanized areas. The six counties smaller than 100,000 residents collectively grew by only 2,300 residents, with two counties, Abbeville and Union, losing population at a rate of two and four percent respectively. *Source: Upstate SC Alliance*

Faster growth in larger counties. Between 2000 and 2016 the fastest growth occurred in the Upstate's three largest counties - Greenville (+10.5 percent), Spartanburg (+6 percent), and Anderson (+5 percent) - adding a total of 72,000 residents. Greenville County led the region in net migration increase (residents moving into the county versus natural increase through birth) with more than 32,000 new residents moving in between this period. *Source: Upstate SC Alliance*
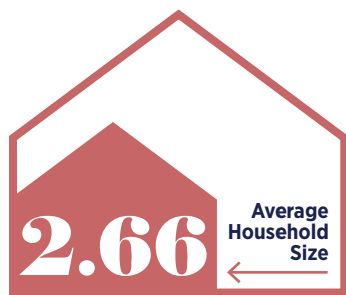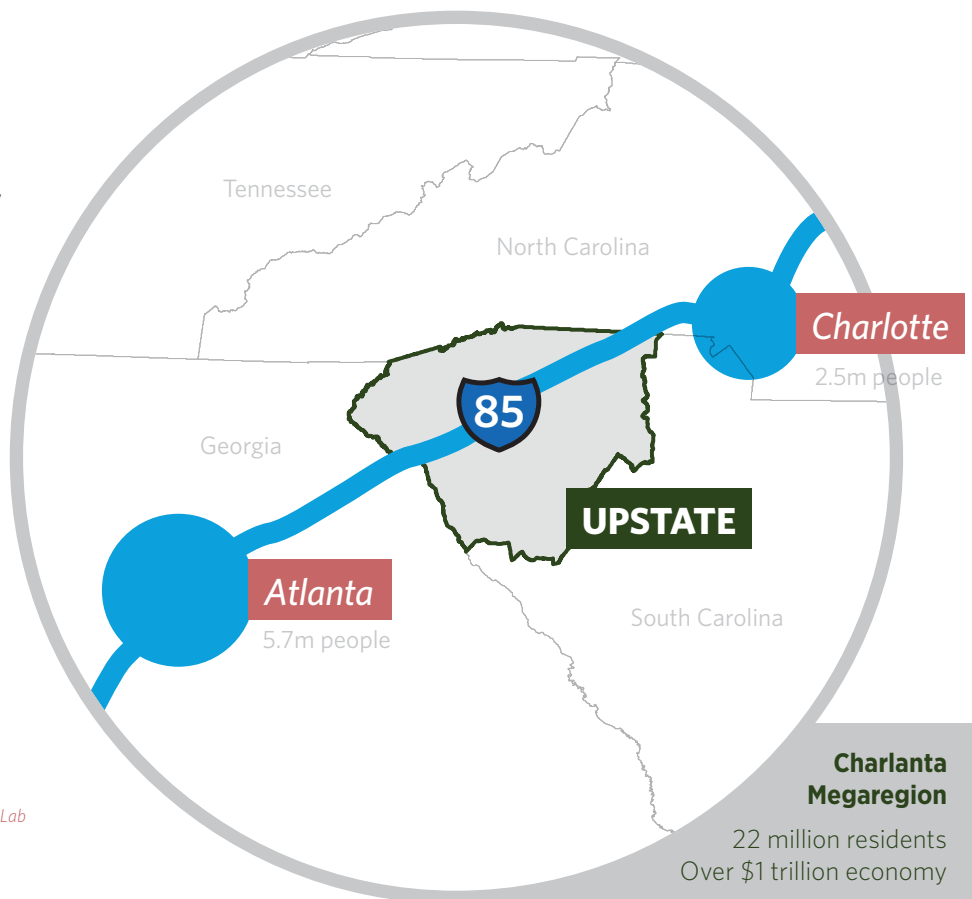
Greenville's population booming. Between 2015 and 2016 Greenville grew by nearly six percent, the third fastest growing community of its size in the country over this period. *Source: US Census Bureau*

Central to the Charlanta Megaregion. The Upstate is central to the much larger Charlanta megaregion stretching from Charlotte to Atlanta and including more than 22 million people. This was one of the fastest growing regions in the country between 2000 and 2016 and includes 45 metro areas. With more than a trillion dollars in economic output, its economy is bigger than South Korea's, placing it among the world's fifteen largest economies. *Source: The Center of Charlanta via CityLab*

Tennessee

North Carolina

Georgia

85

Charlotte
2.5m people

UPSTATE

Atlanta
5.7m people

South Carolina

Charlanta Megaregion

22 million residents
Over $1 trillion economy

2.66
Average Household Size

538,952
Upstate Households
Though average household size is decreasing, the total number of households continues to rise.

Households

More rooftops, fewer occupants. Even as household and family size continue to decline in the Upstate, the population is increasing. Thusly, more housing units are needed per person. This trend is expected to continue.
Source: US Census Bureau American Communities Survey

Household size distribution consistent with the State. The overall distribution of household sizes is relatively consistent with the state and national shares.

Increasing share of older residents living alone. The instances of older residents (aged 65 and older) living alone increased 32 percent between 2000 and 2016, adding more than 14,000 new households.

One in four upstate households include children under 18.

Significant increase in single-person households. Between 2000 and 2016, the Upstate experienced a 23 percent increase in single-person households. Of the roughly 62,000 new households created between this period, 45 percent, or 28,000, were single-person. *Source: US Census Bureau*

Upstate Family

with children **67%**

with children **66%**

South Carolina Family

Upstate Non-family

single person **33%**

single person **34%**

South Carolina Non-family

23%
Single Person Household Increase
from 2000 to 2016.

28,000
New Singles
Of the new households added since 2000, 45% were single households.

Age

Younger region on average. The Upstate's median age of 37 is two years younger than the State of South Carolina, and one year younger than the country overall.

One in four residents under the age of 20. The region's distribution of young people is identical to that of the state with roughly 375,000 or 25 percent of residents under the age of 20.
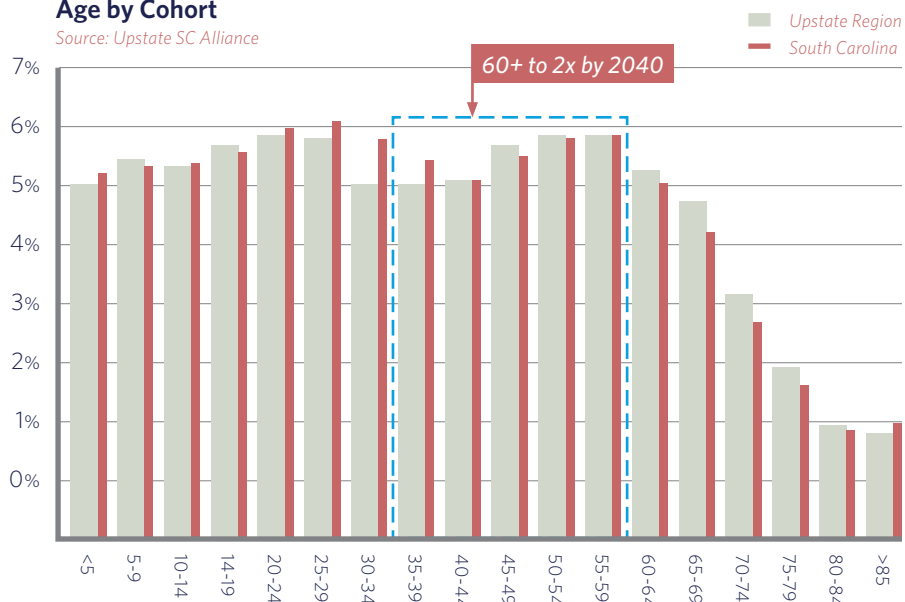
Growth in the over-60 population. By 2040 the senior population of the Upstate is expected to double, reaching nearly half a million residents. Greenville County will see the largest increase with more than 34,000 residents aging to the over-60 age cohort.

Source: Upstate SC Alliance

Age by Cohort
Source: Upstate SC Alliance

Legend: Upstate Region, South Carolina

60+ to 2x by 2040

(Bar chart showing age cohorts from <5 to >85 on x-axis, 0% to 7% on y-axis)

Diversity

Faster growth for minority population segments. The region experienced a 23 percent growth in the non-hispanic, minority population between 2000 and 2016 compared to a 17 percent increase in the white, non-hispanic white population. While not the fastest rate, the largest overall growth in of a minority segment was within the Black or African American population, adding 40,000 new residents.

Increase in residents identifying as two or more races. The region experienced a significant increase in the number of residents identifying as two or more races, adding more than 16,000 new residents for a growth rate of nearly 200 percent between 2000 and 2016. This follows a national trend, where between 2000 and 2010, the number of white and black biracial Americans more than doubled, while the population of adults with a white and Asian background increased by 87%.
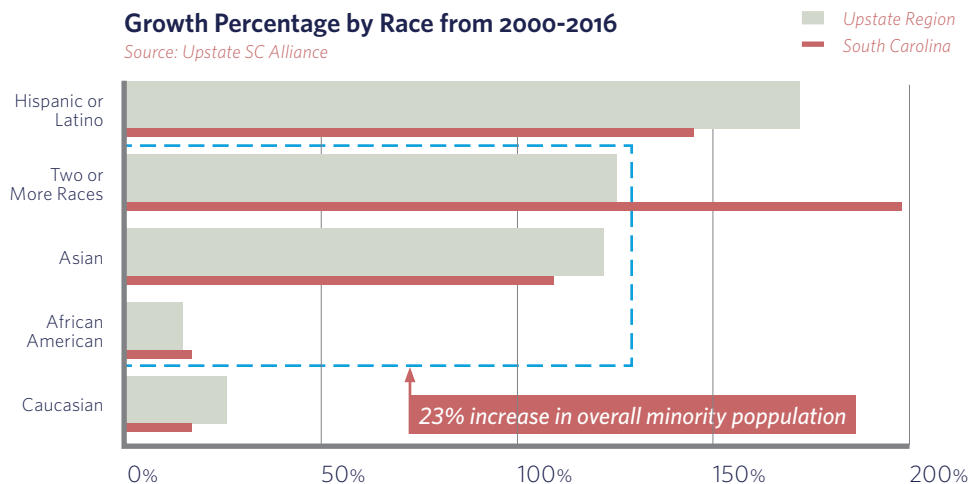
Significant growth in Hispanic and Latin Population. Between 2000 and 2016 this segment grew by 145%, adding more than 50,000 new residents. This is slightly less than the State's increase of 172% over this same period. The largest growth occurred in Greenville county, with an increase of more than 30,000 Hispanic and Latinx residents. Please note race and ethnicity are not synonymous.
Source: Upstate SC Alliance

More bilingual households. More than 100,000 individuals in Upstate speak a language other than English. This represents 7.8 percent of the overall population and is one point higher than the state average. The majority, 64 percent of these individuals speak Spanish. This share will increase in the next several decades.

Growth Percentage by Race from 2000-2016
Source: Upstate SC Alliance

Legend: Upstate Region, South Carolina

(Horizontal bar chart with categories: Hispanic or Latino, Two or More Races, Asian, African American, Caucasian; x-axis 0% to 200%)

23% increase in overall minority poppulation

49%

Renters
Categorized
"Cost Burdened"

3.7%

Low
Unemployment
Rate

3. Prosperity

The prosperity section presents data pertaining to the health and diversity of the local economy and how that is translating to the personal prosperity of its residents. Additionally, the section will analyze the relative performance of the region in education and health indicators.

Qualitative Assessments

Textiles to Tech. The Upstate's economy has evolved along with the country. The rich environment and abundant rivers and streams first attracted Cherokee hunting groups well before European colonization. As the area was slowly settled through the 18th century, these same rivers were utilized for mills and then for the emerging American textile industry. Production flourished up until the 1970's when much of the industry moved overseas. The region, however, has proved quite resilient and adaptable to a changing American economy. Its position between the twin booming cities of

Atlanta and Charlotte made it an ideal hub for regional trading and transportation. For major corporations like BMW, Michelin, and GE, the region made sense for production and headquartering. They have helped turn the Upstate into a technology and advanced manufacturing center. While this new economic infusion helped to stave off the worst impacts of the declining textile industry, the recovery was not uniform. Today, the region continues to leverage these investments with the intention of multiplying their impact across the full ten-county area. *Source: NPR Marketplace, "In Upstate S.C., BMW jobs replace textile mills"*

3:21

BMW Jobs Replace Textile Mills
Listen here:
http://bit.ly/2nsPQdN

Economy and Employment

Employment hub. The top employers in the Upstate are in the public and non-profit sectors, with the Greenville Health System, State of South Carolina, and Greenville County Schools each employing around 10,000 or more people. The region also boasts a large concentration of national and international corporate offices. Several regional headquarters employ upwards of 1,000 people each, including Michelin, Milliken & Company, and GE Power. The region's workers are majority white-collar at 59 percent, while 27 percent are blue collar and 15 percent service industry workers. *Source: Upstate SC Alliance, US Census Bureau, US Bureau of Labor Statistics*

53,403
Businesses

686,291
Employees

top 10
Employers
Greenville Health System 14,931
State of South Carolina 11,836
Greenville County Schools 9,550
BMW Manufacturing Corp. 8,800
Michelin North America 7,120
Spartanburg Regional Healthcare 6,100
BI-LO, llc 4,600
Bon Secours St Francis Health 3,985
AnMed Health Medical Center 3,915
Clemson University 3,814

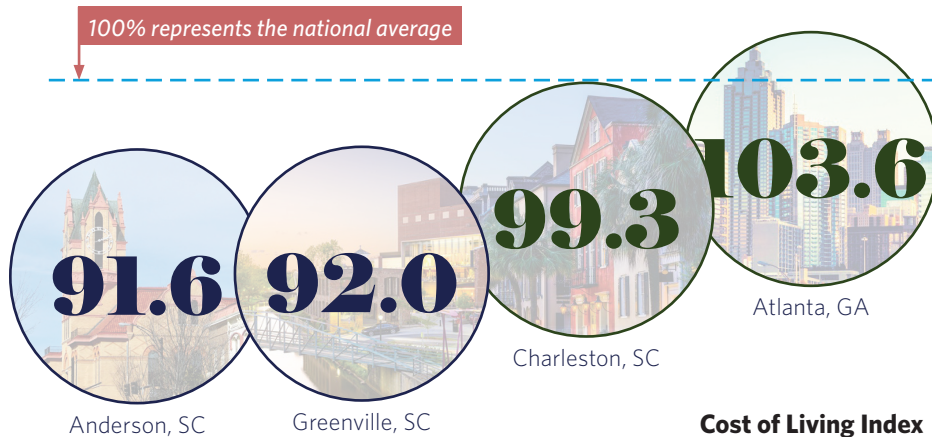### Job sectors
White Collar **59%**
Blue Collar **27**
Service **15**
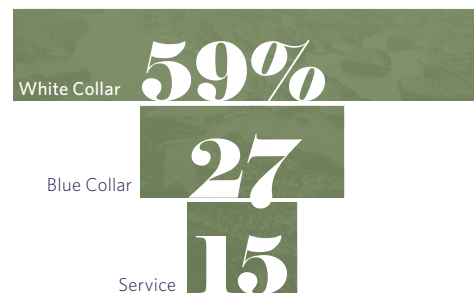
Low unemployment rates. Unemployment has generally been falling since the beginning of 2016. The unemployment rate, however, has been more volatile than the nation overall, though it has been lower than the US for most of 2017. The region's unemployment is generally lower than that of South Carolina. As of late 2017 the unemployment rate was at 3.7%, compared to SC's 4.0% and the USA's 4.1%.

3.7%
Unemployment Rate
as of November 2017

4.0%
SC Unemployment
as of November 2017

Fewer mass layoffs. The region and the state both faced significant periods of plant closures leading to mass layoffs in 2001 and 2008-9. However, business has stabilized since the recession and there have not been similar periods of massive job losses in the past decade. The Upstate has lost only 2000 jobs due to mass layoffs since 2015, when prior to 2010 it was losing far more than that amount each year. *Source: SC Dept. of Employment and Workforce*
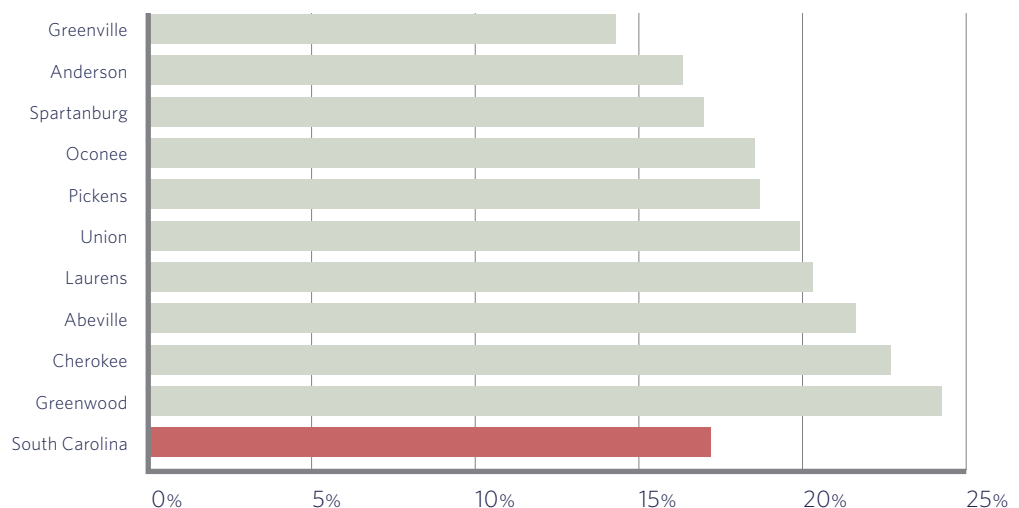
100% represents the national average

91.6
Anderson, SC

92.0
Greenville, SC

99.3
Charleston, SC

103.6
Atlanta, GA

Cost of Living Index

Cost of living is low. While household incomes are lower than the national average, so is the cost of living, at about 92 percent of the national average. It is also lower than that of other southern locations like Charleston (at 99 percent of the national average) and Atlanta (103 percent of the national average). *Source: Upstate SC Alliance*

Personal Prosperity

Poverty increasing in pockets. In 2016, 17.1 percent of individuals had lived below the poverty line in the past 12 months; this is comparable to the state rate of 17.2 percent. 24.5 percent of children under 18 were living in poverty, and 12.6 percent of families. Poverty, however, is not distributed evenly across the Upstate region. Rates varied widely for the ten counties, ranging from a low of 14.4 percent in Greenville to a high of 24.2 percent in Greenwood. In addition, the overall rate of poverty had increased by five percentage points since 2000, when the rate was at 11.8 percent. *Source: US Census Bureau, American Communities Survey*

Poverty Rates by County
Source: US Census Bureau, American Communities Survey

County	Poverty Rate
Greenville	
Anderson	
Spartanburg	
Oconee	
Pickens	
Union	
Laurens	
Abeville	
Cherokee	
Greenwood	
South Carolina	

0% 5% 10% 15% 20% 25%

$46,793
Median Household Income
is lower than both the State and national figures.

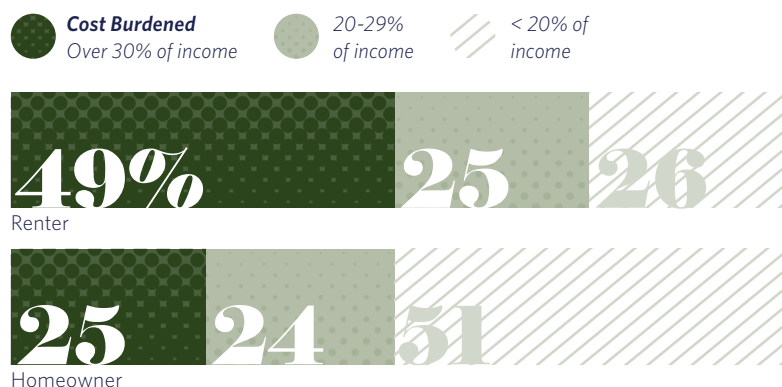**Low household incomes.** In 2017, the median household income for the region was $46,793, which was almost $2,000 less than the state median ($48,678) and over $9,000 below the national median of $56,124. However, as mentioned above, living costs are also significantly lower than the national average which may make up for some of this difference. *Source: Upstate SC Alliance*

Housing becoming less affordable. A household is considered "cost burdened" when it pays more than 30 percent of its income on housing costs. In the Upstate, 49 percent of renters and 25 percent of owners with a mortgage were cost burdened in 2016. These rates are comparable to those of South Carolina, and slightly better than the nation, in which 51 percent of renters and 31 percent of owners face cost burdens in housing. These statistics are rising faster in the Upstate than they are nationally. By both measures, affordable housing is still slightly more accessible in the Upstate than in South Carolina, where 51 percent of renters and 29 percent of homeowners are cost-burdened in their housing.

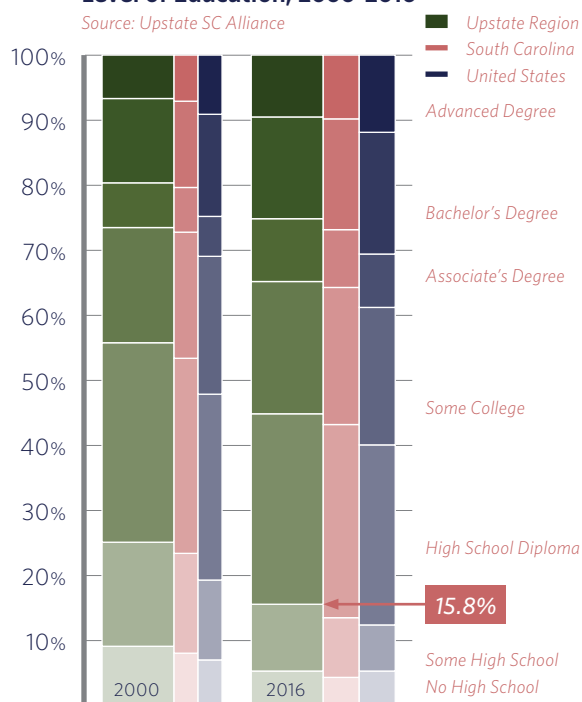*Source: US Census Bureau, American Communities Survey*

Housing Cost as Percentage of Monthly Income
Source: US Census Bureau, American Communities Survey

Cost Burdened
Over 30% of income

20-29% of income

< 20% of income

49% 25 26
Renter

25 24 51
Homeowner

Level of Education, 2000-2016
Source: Upstate SC Alliance

Upstate Region
South Carolina
United States

Advanced Degree
Bachelor's Degree
Associate's Degree
Some College
High School Diploma
15.8%
Some High School
No High School

2000 2016

Lifelong Learning

Education levels improving, but still behind. Compared to national averages, educational attainment in the Upstate is a significant weakness. 15.8 percent of adults do not have a high school diploma, compared to a national average of 13 percent. Only 25 percent have a bachelor's degree or higher, compared to 30.6 percent of adults nationally. These rates, however, are comparable to South Carolina, a state that ranks low in overall attainment. *Source: Upstate SC Alliance*

K-12 education on par with South Carolina. The Upstate contains 23 school districts, with a total enrollment in 2017 of 219,921 students. 75 percent graduate within four years, with a 2.4 percent dropout rate. Student success rates are in line with those of the state overall, with 41 percent of students meeting or exceeding expectations in English and 45 percent meeting or exceeding expectations in mathematics, compared to 40 percent and 42 percent in the state, respectively. *Source: South Carolina Department of Education, SC-Ready Assessments*

Multiple institutions for post-secondary education. There are 22 colleges in the Upstate, including 13 four-year schools and 3 two-year schools, as well as private professional and technical colleges. Combined, the colleges had a total enrollment of 83,484 students in 2016; this number saw a 23 percent increase over enrollment in 2001. *Source: Upstate SC Alliance*

Health and Wellbeing

Community health needs assessment completed for Greenville. Greenville Health System, the largest in the state, performed a Community Health Needs Assessment in 2013. While this study focused on Greenville County, some findings have regional implications. The major findings are included with the idea that they have some relation to the larger ten-county region.

- The population has been impacted by fairly high rates of disease, especially heart disease and cancers.
- 16% of Greenvillians are currently uninsured. More people report postponing medical care, primarily due to cost.
- Self-reported individual health has steadily declined in the last 15 years. High cholesterol continues to rise.

85 % beds are in general hospitals
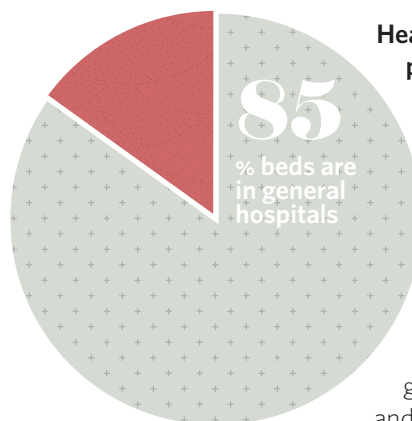
Healthcare institutions are plentiful. There are 28 hospitals with a total of 4,405 beds in Upstate. Of the hospitals, 19 are general medical and surgical hospitals; 4 are rehabilitation centers; 3 are psychiatric facilities; 1 specializes in gynecology / obstetrics, and one in orthopedics. *Source: Upstate SC Alliance*

215

**People Per
Square
Mile**

80%

**Homes
Built
Pre-2000**

4. Place

The place section addresses the existing land use, development form, housing stock and characteristics, as well as a general assessment of parks, trails, and open spaces.
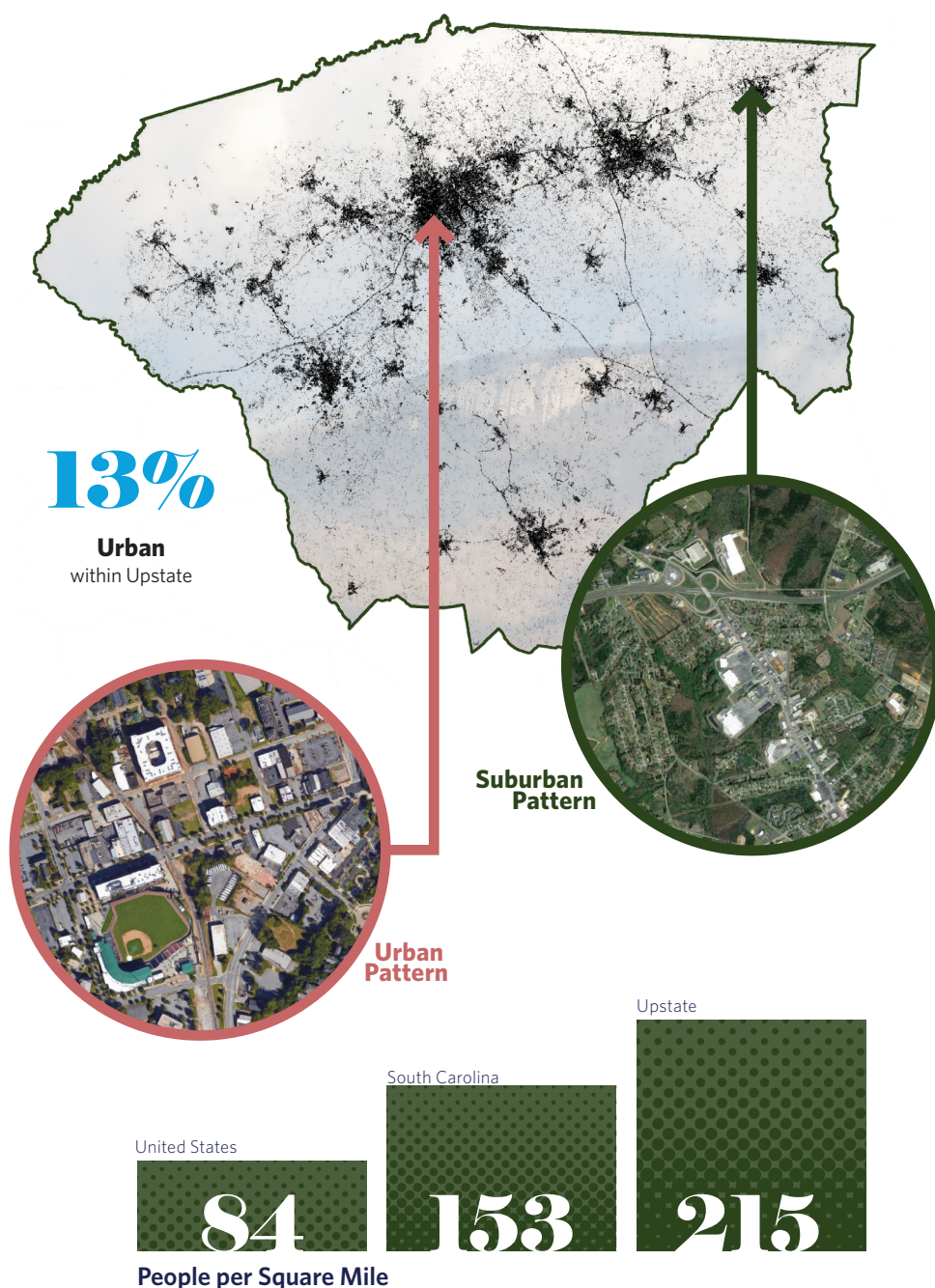
Growth History

Changing development patterns. Historic town centers across the Upstate typically had clustered and walkable developments in a grid pattern. As the automobile became more prevalent, cities shifted towards suburban expansion. New preferences for places to both live and work without a long commute are being seen, as well as a residential return to historic downtowns. These shifts over time have created a pattern that varies throughout the region.

More people per mile. The Upstate is significantly more dense than South Carolina on average, with roughly 215 people per square mile compared to 153 in the state. This is indicative of the development patterns growing along I-85 and the Charlanta micro-region and plethora of universities in the area.

Suburban sprawl has been most common form. Though more dense than the rest of the state, the Upstate has seen a trend of sprawl over the last 40 years. Radiating out from the larger cities in the region, large lot rural development continues to expand. Auto-oriented development has been the focus, specifically along the I-85 corridor. Recreational areas such as Lake Keowee and Lake Hartwell are also seeing significant growth that mimics the pattern and form around the region.

13%
Urban
within Upstate

Suburban Pattern

Urban Pattern

United States

South Carolina

Upstate

84   153   215

People per Square Mile

15

Housing

Homeownership declining. The rate of homeownership in the Upstate is dropping along with the state and the nation, but at a faster rate. 61 percent of homes are owner occupied, slightly less than the state's average of 68 percent. In 2000, 67 percent of units were occupied by owners. This represents a 6 percent decline in homeownership, compared to a 4 percent decline nationally. There are more single person households and a lower average age than the rest of the state, as mentioned in the People section. *Source: US Census Bureau, American Communities Survey, Shaping our Future: Growth Alternatives Analysis*

Upstate Owner Occupied

61%

Upstate Rental

39%

68%

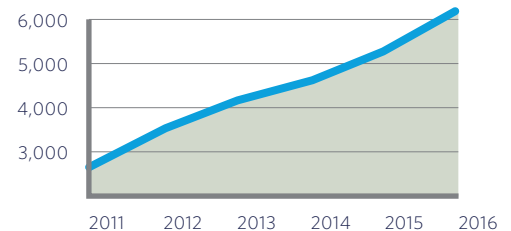**32%**

South Carolina Owner Occupied

South Carolina Rental

Exisiting trends in housing size to continue in near future. Projected 2040 build-out of pipeline projects includes primarily large-lot, single-family detached homes. New housing supply would be approximately 90 percent single family and 10 percent multi-family. New residential neighborhoods would average fewer than three homes per acre. *Source: Shaping our Future: Growth Alternatives Analysis*
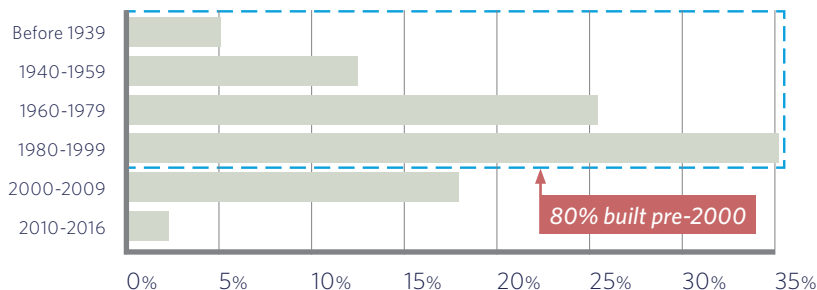
Building Permits in Recent Years
Source: Upstate SC Alliance

Middle-aged housing stock. The majority of the Upstate's housing stock (60 percent) was constructed between 1960 and 1999. Over 80 percent of the region resides in homes built before 2000, however construction has recovered since the recession and building permits have risen continually since 2011. There is a substantial portion (17 percent) of permits beyond 4,000sf though this trend is in a downward projection. This is another instance that demand is based more on location than size in recent years. *Source: US Census Bureau, Shaping our Future: Growth Alternatives Analysis, Upstate SC Alliance*

Housing Construction by Year
Source: Shaping our Future: Growth Alternatives Analysis

80% built pre-2000

Utility Infrastructure

Spreading utilities thin. Though the current infrastructure system handles population needs, the same system is unlikely to have capacity if suburban development patterns continue. Continued outward expansion from urban centers strain utility systems and improvements are costly. *Source: Shaping our Future: Growth Alternatives Analysis*

Parks, Trails, and Open Spaces

Park amenities. Parks range from small city-owned parcels to national forests and state parks. These encompass roughly 15 percent of the region. The abundance of park space is well beyond national standards and offers residents ample opportunities for recreation. There are several protected areas along with park lands throughout the Upstate. The highest concentration of protected lands is in the northwest portion of the region in Oconee County.

15

State Parks

Caesars Head
Croft
Devils Fork
Jones Gap
Keowee-Toxaway
Kings Mountain
Lake Greenwood
Lake Hartwell
Oconee
Paris Mountain
Presidents
Sadlers Creek
Stumphouse Mountain
Table Rock
Wildcat Wayside

Aging dam infrastructure. Multiple rivers in the region have been dammed, dating all the way to 1881. These provide economic benefits through hydroelectric stations, recreational opportunities, and also many miles of lake front throughout the region. But as the built infrastructure ages, there may be large scale future investment required to maintain safety and functionality. The US Army Corps of Engineers estimates the average lifespan of a dam to be 50 years, while the average age of the 233 dams in the Upstate region is 55.
*Source: American Society of Civil Engineers, National Inventory of Dams*

Forest lands seeing significant decline. Over the last few decades, the Upstate has nearly doubled the amount of developed land and decreased the amount of forest land by over 33 percent. Continued growth pressure from the I-85 corridor this trend is likely to continue.

Roadways in need of repair. While dozens of repair, resurfacing, and operational projects are in process across the Upstate, the needs continue to outpace the available funding. Over 157 SCDOT projects in the Upstate are currently in line to be funded, including bridge replacements, safety improvements, and resurfacings. *Source: SCDOT*

Air quality improvements.
Air quality is impacted by transportation issues, particularly increased congestion and lack of transportation alternatives for personal vehicles. Several Upstate counties signed an agreement in 1997 to improve air quality and move the regaion back to "attainment" as designated by the EPA. As of 2008 all counties acheived this designation. The issue still remains important to public health, economic vitality, and natural assets. The American Lung Association notes air pollution can cause asthma episodes and can increase the risk of heart attacks, strokes, and lung cancer.
Source: US EPA, American Lung Association

▲ Dam
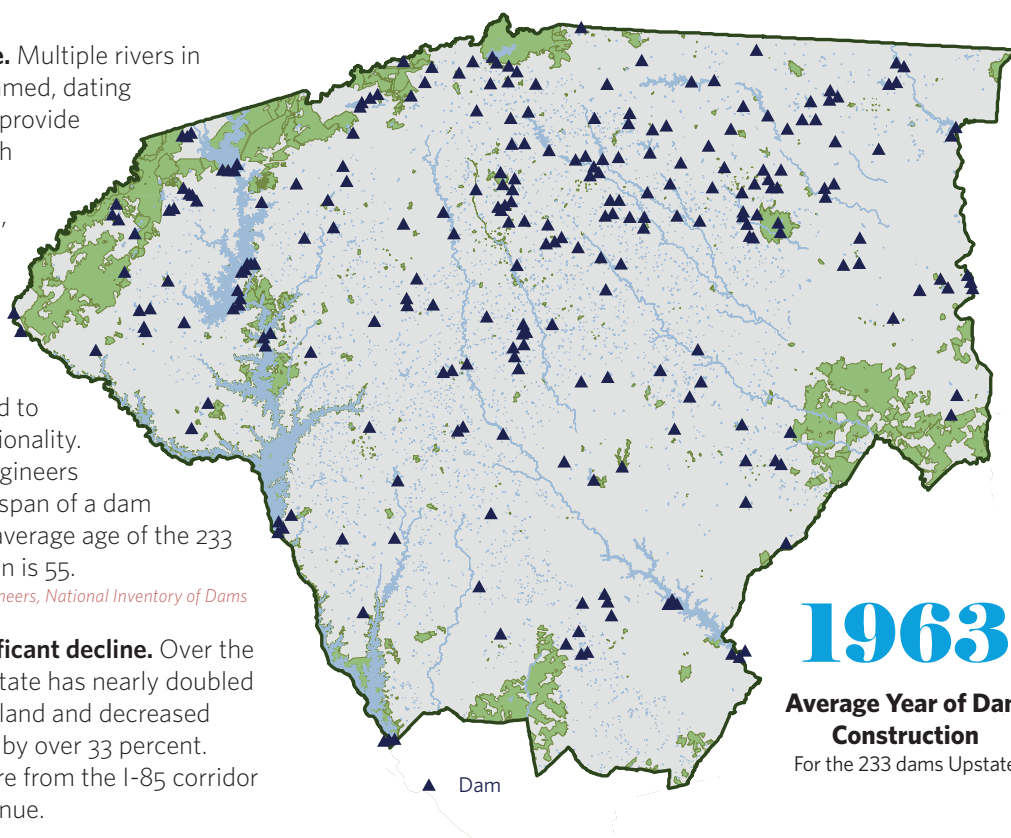
1963

Average Year of Dam Construction
For the 233 dams Upstate

37

2/18 Atlanta Air Quality Index

18

2/18 Spartanburg Air Quality Index

Many off-road trails. Hiking trails, off-road bike paths, and multi-use trails are spread throughout the region. Most notably, the 500 mile Palmetto Trail. Many others are located in the roughly 1,000 square miles of park and recreation spaces. Some trails connect municipalities with asphalt, while other single tracks connect campgrounds and natural features such as Table Rock or Cedar Falls.

Swimming discouraged. Development and non-point/ point source pollution have decreased local water quality. In a 2010 report, the Upstate was identified as having water that did not meet State standards to support aquatic life or serve as a swimmable body of water. With over 2 percent of the region being open water, the impacts of dropping water quality are significant.
Source: Shaping our Future: Growth Alternatives Analysis

Protection of drinking water. Drinking water is also impacted by falling water quality figures. Continued deforestation and development in rural lands and watersheds will negatively impact water quality. Many of the area's water providers use local reservoirs impacted by these changes. Institutions such as Upstate Forever, Greenville Water, and others are investing in the protection of environmentally sensitive lands to protect water quality for both recreation and consumption. Some efforts include protecting land from development, creating landscape buffers, and litter cleanup of water bodies. *Source: Shaping our Future: Growth Alternatives Analysis, Upstate Forever*

21,000

Protected Acres
Through Upstate Forever by way of voluntary land easements to protect water quality

$7m

**Economic Impact
from Swamp
Rabbit Trail**

6%

**Households
with No Access
to a Vehicle**

5. Mobility

The mobility section addresses the Upstate's major transportation role in the regional economy. Multiple forms of transportation are available, however many mobility challenges remain.

Qualitative Assessments

The Upstate is complex — geographically, economically, and environmentally. Given this complexity, planning for regional mobility must consider how local issues, needs, and solutions affect the region and support community initiatives, such as economic success, public health and safety, social mobility, and technology. While cities and counties play a key role in transportation within their borders, regional organizations help coordinate transportation decisions and funding allocations. The Upstate is home to three metropolitan planning organizations: the Greenville-Pickens Area Transportation Study (GPATS), the Spartanburg Area Transportation Study (SPATS), and the Anderson Area Transportation study (ANATS). In addition, the Appalachian, Upper Savannah, and Catawba Councils of Governments plan for the rural areas outside of the MPO borders.
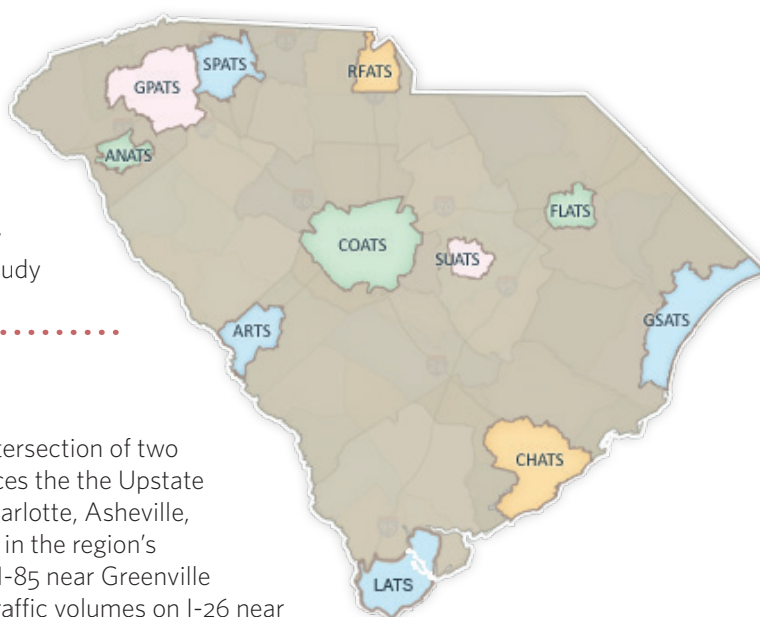
Regional Connections

A regional crossroads. The Upstate sits at the intersection of two major interstates: I-85 and I-26. This location places the the Upstate within a few hours driving distance of Atlanta, Charlotte, Asheville, Columbia, and Charleston, and plays a major role in the region's economy. According to SCDOT data, sections of I-85 near Greenville carry more than 130,000 vehicles per day, while traffic volumes on I-26 near Spartanburg approach 50,000 vehicles per day. *Source: SCDOT Traffic Counts*

Greenville-Spartanburg International Airport is a regional air hub. In addition to numerous smaller and private airports, Greenville-Spartanburg International Airport (GSP) serves the Upstate region with direct service to 14 major cities by five major airlines. More than 2 million passengers are served each year, and nearly 30,000 tons of cargo are loaded on and off planes at GSP each year. Cargo volumes at the airport were up 43 percent in 2017. *Source: GSP Airport*

$817,119,411

Airport's Economic Impact in 2012
Serving both passenger travel and facilitating cargo distribution.

Decreased usage of passenger rail. Amtrak's Crescent Route, which connects New York, Atlanta, and New Orleans, provides daily service to Clemson, Greenville, and Spartanburg. Currently, a rail trip between the Upstate and a nearby major city, such as Charlotte or Atlanta, takes nearly twice as long as driving. Passengers at the Upstate stations have dropped slightly in recent years, from a total of 21,500 in 2014, to 18,800 in 2016. *Source: Greeville Journal "Greenville Could Lose Amtrak Service Under Trump Proposal"*

Inland port provides freight connections. The Upstate is home to South Carolina's first inland port, located 212 miles inland from the Port of Charleston in Greer. This strategic location near the interchange of I-85, I-26, and several rail lines, has allowed major manufacturers such as BMW and Michelin to invest and expand nearby. The inland ports experienced 33% growth in 2017, and moved an average of 333 shipping containers per day in the 2016-2017 fiscal year. According to the South Carolina Ports Authority, the facility in Greer supports 1 in 8 jobs in the Upstate region, and has a $26.8 billion economic impact. *Source: South Carolina Ports Authority*
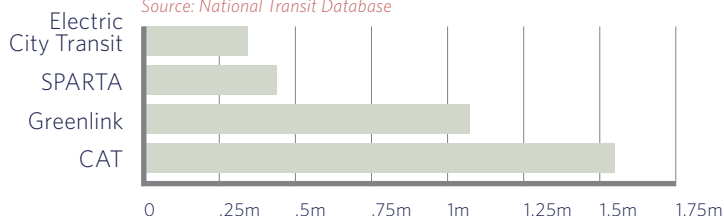
Travel Options

Providing reasonable and accessible transportation options helps address limited funding, promotes active living, and advances healthy communities. Travel choices also contribute to a region's brand. Travel options often have to overcome the disconnect between where people live and work and the effect these location decisions have on mobility.

Some fixed-route transit. Public transit in the Upstate is provided in the Greenville, Spartanburg, Clemson, and Anderson urban areas, with fixed-route service largely unavailable outside of those areas. CAT is the most frequently used transit system in the Upstate and currently operates the only all-electric bus fleet in the United States for its routes in the Town of Seneca. CAT routes are available free to all passengers. *Source: National Transit Database*

Annual Trips in 2016
Source: National Transit Database

	Annual Trips
Electric City Transit	~0.3m
SPARTA	~0.4m
Greenlink	~1.05m
CAT	~1.5m

(Scale: 0, .25m, .5m, .75m, 1m, 1.25m, 1.5m, 1.75m)

Regional greenways abundant. The Upstate's visionary trail and greenway system is an important tourism destination and provides recreational benefits for residents. Greenville County is the hub of the Upstate's trail system, with the Swamp Rabbit trail stretching 20 miles from downtown Greenville to Travelers Rest. The trail attracts over 500,000 users annually, and expansion plans are in the works to create connections to other regional trail systems. *Source: Rails to Trails Conservancy, Greenville Recreation Department*

+500,000
Swamp Rabbit Trail Riders
use the 20 mile trail each year.

$7m
Swamp Rabbit Trail Economic Impact
In tourism-based revenue annually.

BCycle provides public bikes. Spartanburg and Greenville are each home to BCycle bike share programs – a system that allows visitors and residents to borrow bicycles for short-term, local use. The program launched in Spartanburg in 2011 and Greenville in 2013, and provide an important transportation and recreational element for many residents. While these programs help, bikeability within the Upstate is still low with few on-street amenities and a lack of connectivity between networks. *Source: Greenville BCycle*

Walkability needs improvement. Pedestrian accessibility varies throughout the region. While many downtown areas and urban neighborhoods are well-served by a comprehensive sidewalk network, many rural and suburban areas lack sidewalks, trails, or facilities that would make walking safe and enjoyable. Pedestrian mobility was once mostly an afterthought in the Upstate, but it is becoming more important. Nearly every county or city plan adopted within the past five years includes a goal to improve "walkability."

Technology and Preparedness

The landscape surrounding mobility is evolving. A strong emphasis is being placed on the strategic use of technology to maximize the effectiveness of existing transportation infrastructure. Likewise, a resilient transportation system that prepares for and adapts to changing conditions has a direct influence on the ability to move people and goods within and through the region.

Leader in automotive research.
The Upstate is an industry leader in transportation technology and is home to the Clemson University International Center for Automotive Research (CU-ICAR). This 250-acre campus includes a graduate-level degreed program in Automotive Engineering, research facilities, and more than 20 industry partners co-located in six separate buildings. CU-ICAR is also partnered with the adjacent Greenville Technical College's "Center for Manufacturing Innovation."

Studying personal rapid transit. The Upstate leaders are on the cutting edge of planning for emerging transportation technologies. A 2014 study commissioned by the Greenville County Economic Development Corporation evaluated the feasibility of a personal rapid transit (PRT) system parallel to Laurens Road between Downtown Greenville and CU-ICAR. PRT is a form of transit that uses small self-driving "pods" to transport a few passengers as opposed to larger buses or trains. Though the project has not been implemented, it remains a topic of interest for advocates in the Greenville area. *Source: GCEDC PRT Evaluation*

6%

Households with No Access to a Vehicle

Shared ride services growing. Shared rides have become increasingly popular transportation options around the world. Both Uber and Lyft, the two largest mobile applications, serve the Upstate region. These services can fill a crucial gap for the six percent of the Upstate households who don't have access to a vehicle, as well as provide mobility options to destinations transit doesn't serve. *Source: American Community Survey 2016*

Intelligent systems to manage transportation. Greenville is home to one of South Carolina's five traffic management centers. This center allows South Carolina Department of Transportation employees to monitor traffic through 132 interstate cameras, control 11 dynamic messaging signs, and communicate with other state and local agencies as needed.

Travel demand management not yet in operation. Travel Demand Management (TDM) refers to strategies that reduce or shift demand by changing travel patterns. Examples of TDM include carpool programs, flexible work hours, transit incentives, and working from home. Though regional TDM initiatives in the Upstate currently do not formally exist, the presence of several central business districts and abundance of large employment centers provides a helpful starting point.

Barriers to Mobility

The region's unprecedented growth has shed new light on the challenges facing mobility for current and future residents. In many ways, these barriers make it difficult to achieve transportation mobility (moving people and goods). In other ways, these barriers make it difficult for the region's most vulnerable citizens to achieve social mobility.

Gap in access to personal vehicles.
Many residents find it hard to move around the Upstate without a vehicle. Approximately 6 percent, or 37,000 households, do not have access to a vehicle. As a result, about 24 percent of Greenville County residents reported in a survey that they sometimes have trouble getting to jobs, health care treatment, school, and other locations. *Source: Piedmont Health Foundation Mobility Survey*

Limited public transportation. More than 90 percent of respondents in the Piedmont Health Mobility Survey indicated the current bus system does not meet their needs. Short service hours, limited geographic range, and a lack of connectivity between the regional transit systems are common challenges that limit the ability of Upstate residents to depend on public transportation for 100 percent of their daily transportation needs.

Dispersed population. While Upstate has several cities with concentrated population centers, much of the region has a dispersed growth pattern, making it difficult to provide effective and efficient transportation services. Even if money were no object, a state-of-the-art transit system would struggle to serve an adequate number of riders and destinations given current land use patterns.

$590

In Time and Fuel
Lost while sitting in traffic.

Congestion getting worse. Congestion in Upstate is increasing. In 2014, congestion cost the average Upstate motorist $590 in lost time and wasted fuel, and each driver spent up to 27 extra hours sitting in traffic congestion. *Source: South Carolina Transportation by the Numbers, TRIP Research Group*

Unsafe roadways. South Carolina has the highest road fatality rate in the nation, at 53% above the national average. The problem is worst along rural roads, where the fatality rate is more than three times higher than urban areas. SCDOT has identified several of the most dangerous rural roads for safety improvements. *Source: SCDOT*

2018

Regional
Fact Book

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Connecting our Future