# Greater Greenville Regional Economic Scorecard March 2009



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## Greater Greenville Regional Economic Scorecard, 2009



prepared by

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Daniel Eades and Jamey Lowdermilk Research Associates EDA University Center for Economic Development Clemson University UCED Research Report 03-2009-01 March 30, 2009



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"Focusing our efforts on what matters most."

The creation of the Greater Greenville Regional Economic Scorecard achieves just that – a laser focus on specific drivers associated with robust economic growth and prosperity.

For a number of years, our Governor, legislators and business leaders have acknowledged the gap between South Carolina's per capita income and the per capita income of the U.S. as a critical economic indicator for our state. Greenville, while seemingly prosperous, has seen a decline in per capita income relative to the US over the past six years. We now stand where we were in the late 1980s. It is a disturbing trend.

Advantage Greenville, a select group of Greenville area leaders with a passion for enhancing business and community prosperity, set out in the summer of 2007 to uncover drivers of per capita income growth or decline. The pivotal question: "How does Greenville compare to peer communities in the Southeast in factors linked to per capita income?"

A team of distinguished, nationally prominent researchers at Clemson University was tasked to create an econometric model that would assist Advantage Greenville in bringing the attention of local and state leaders to activities that would have the greatest benefit for our citizens. The model would be based on a statistical analysis of objective data from select peer communities. This tool holds promise as a framework for discussion and policy decisions for the future.

We believe that they have superbly succeeded in this task.

We are pleased to present the findings from the inaugural edition of the Economic Scorecard. While the results may not be shocking, they are sobering. Critical findings include:

- Greenville's human capital index needs a significant amount of attention.
- Greenville's innovation index is relatively strong but more needs to be done to ensure that we are competitive with communities at the next tier of development.
- Greenville's entrepreneurial index lags aspirational cities and more effort must be made to have the pieces in place to support a strong entrepreneurial culture.

Advantage Greenville is not making specific recommendations. Rather, we intend to use the Economic Scorecard to facilitate serious discussion among community leaders during the remainder of this year.

We, as a community, count on you to answer the call of leadership and join in this dialogue of critical importance to our future.

Valinda Rutledge

Chair, Advantage Greenville CEO,

Bon Secours St. Francis Health System

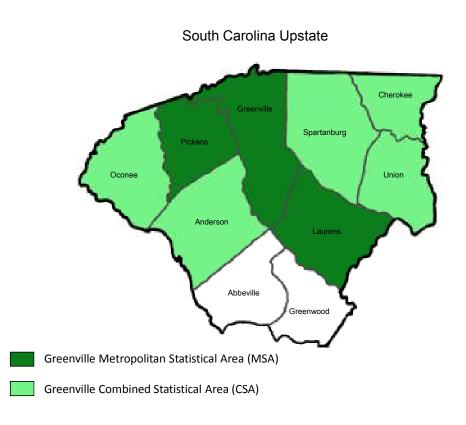
#### Introduction

The Greater Greenville Chamber of Commerce has an ongoing effort to develop an economic development strategy and implementation plan. This effort builds on analyses by Market Street Services, Inc. (2006) and the Chamber's Vision 2025 plan (2004). Efforts by the Chamber, and cooperating institutions and individuals, to implement the plan require an objective basis for monitoring economic development trends. The analysis provided in this report provides indicators needed to establish and maintain an effective system for monitoring economic development trends in Greenville County and the proximate region.

**Per capita income** is a key measure of economic progress in Greenville County and the South Carolina Upstate. As revealed in the pages of this report, real per capita income (after adjusting for inflation) has increased over the past twenty years in Greenville County and the region, but generally at rates slower than the U.S. average over the past decade. So while real per capita incomes are increasing in Greenville and the region, the increases have not been large enough to reach 2007 levels in most "peer" cities in the South, nor in several "target cities" that are the leading economic engines in the region.

Three South Carolina Upstate regions are the focus of this report:

- 1. Greenville County
- 2. The Greenville Metropolitan Statistical Area (MSA) comprised of Greenville, Laurens and Pickens Counties, and
- **3.** The **Greenville Combined Statistical Area (CSA)** comprised of Greenville, Laurens, Pickens, Anderson, Spartanburg, Oconee, Union and Cherokee Counties.



### **Peer and Target Cities**

The MSA and CSA that are anchored by Greenville County were compared to all other MSAs and CSAs in the South to identify Greenville's peer group of small and large cities using quantitative indicators of innovation and growth potential. Appendix A provides a list of the community characteristics used to select cities that are similar to Greenville in business environment, innovation, and growth potential. Comparison cities for the Greenville MSA are five medium-sized metro areas: Charleston and Columbia, South Carolina; Jackson, Mississippi; Lexington, Kentucky; and Little Rock, Arkansas. Comparison cities for the Greenville CSA are six larger metro areas: Birmingham, Alabama; Greensboro/Winston-Salem, North Carolina; Jacksonville, Florida; Knoxville, Tennessee; Louisville, Kentucky; and Richmond, Virginia. In addition to the peer cities, the Greenville Chamber of Commerce selected four metro areas as representative of highly competitive areas in the New Knowledge Economy: Austin, Texas; Charlotte, North Carolina; Nashville, Tennessee; and Raleigh/Durham, North Carolina.

#### Peer Cities Selected for the Greenville MSA and CSA Regions

Metro Area	Population (2000)	Population (2007)	Percent Change
Greenville MSA	599,940	613,828	2.3%
Jackson, MS CSA	525,246	559,366	6.5%
Lexington, KY CSA	602,733	658,071	9.2%
Charleston, SC MSA	603,178	630,100	4.5%
Little Rock, AR MSA	610,518	672,623	10.2%
Columbia, SC MSA	647,158	712,760	10.1%
Greenville CSA	1,128,104	1,221,881	8.3%
Knoxville, TN CSA	935,659	1,029,155	10.0%
Richmond, VA MSA	1,096,956	1,211,608	10.5%
Jacksonville, FL MSA	1,122,750	1,296,676	15.5%
Birmingham, AL CSA	1,129,721	1,187,319	5.1%
Louisville, KY MSA	1,161,975	1,228,764	5.7%
Greensboro/Winston-Salem CSA	1,414,656	1,535,926	8.6%
Target Cities			
Austin, TX MSA	1,249,763	1,593,400	27.5%
Nashville, TN MSA	1,311,789	1,521,751	16.0%
Raleigh/Durham CSA	1,314,589	1,638,019	24.6%
Charlotte, NC MSA	1,330,448	1,650,667	24.1%

Traditional metrics for gauging regional competitiveness often include wage rates, local tax burdens, and land costs. These factors have been important in recruiting new firms to a region and in local business retention and expansion. However there is limited variation in these factors across MSAs in the South, and low wage jobs in manufacturing are increasingly moving overseas. Accordingly, this report focuses on metrics for gauging how well the Greenville region is doing in the competition for New Economy jobs that are most likely to provide boosts to real per capita incomes of the residents of the region. These characteristics provide a set of benchmarks that Greenville can work towards in an implementation plan if Greenville is to reach and maintain top rank characteristics in innovation and growth potential.

## Per Capita Income Levels, 1987 and 2007

\$45,000 \$40,000 \$35,000 REAL PER CAPITA INCOME \$30,000 \$25,000 \$20,000 \$15,000 \$10,000 \$5,000 \$0 Charlotte-Gastonia-Charleston-North Concord, NC-SC **United States** Charleston, SC (MSA) Columbia, SC (MSA) Greenville, SC (MSA) (MSA) \$29,641 \$29,937 \$24,456 \$25,719 1987 \$26,558 2007 \$38,632 \$39,004 \$34,133 \$33,943 \$32,317 30.3% 30.3% 39.6% 27.8% 25.7% % Change

Figure 1. REAL PER CAPITA INCOMES 1987 AND 2007 (2007 PRICES)

U.S. andMSAs (Source: REIS, U.S. Dept. of Commerce)

Figure 1 displays the levels of real per capita income (2007 dollars) in 1987 and 2007 for the United States, the Greenville MSA (Greenville, Laurens and Pickens Counties), and in three proximate MSAs – Charlotte, Charleston and Columbia. The level of real per capita income increased in all regions by more than 25% since 1987. However, Charleston and Columbia have grown their local economies over the past two decades in ways that have enabled per capita incomes in Charleston and Columbia to surpass income in Greenville by more than \$1,600 per person in 2007. In contrast, 1987 per capita income was higher in Greenville than in Charleston and lagged Columbia's per capita income by only about \$800.

From 1987 to 2007, per capita income in Greenville grew substantially slower than both the national average and surrounding regional MSAs. Per capita income in the Greenville MSA increased at a rate 5% less than the nation and Charlotte region, and 13.9% less than the Charleston region. Per capita income is now about \$6,700 lower than in the Charlotte MSA and approximately \$6,300 less than the national average. Part of this difference is the result of cost of living differences, but the ACCRA cost of living index (Appendix B) indicates that an income gap continues to exist after adjusting for COL differences.

## Per Capita Income Trends

FIGURE 2. PER CAPITA INCOME TRENDS RELATIVE TO THE U.S.: GREENVILLE COUNTY, the GREENVILLE MSA, the GREENVILLE CSA, and SOUTH CAROLINA

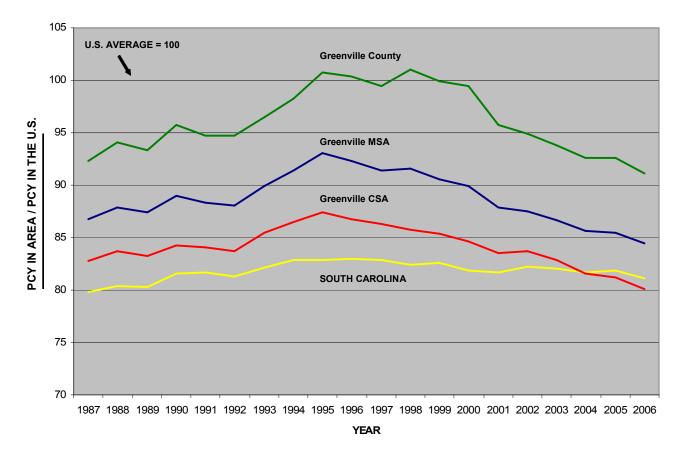


Figure 2 presents a snapshot of how per capita income has trended over time in the region compared to the national average. The per capita incomes are converted to ratios of the U.S. average from 1987 onward. As shown on the top green line, the per capita income of Greenville County rose from about 92% of the U.S. average in 1987 to 101% of the U.S. per capita income in 1998. Since 1998, however, the Greenville County per capita income has fallen back to about 91% of the U.S. average in 2006 (County data for 2007 will be released in April, 2009).

The second major theme from this figure is that the larger the region considered, the lower the average per capita income level. The Greenville MSA (Greenville, Laurens and Pickens Counties) had a per capita income that was 84% of the U.S. average in 2006. The Greenville CSA per capita income (add Anderson, Spartanburg, Oconee, Cherokee and Union counties to the MSA) fell to 80% of the national average in 2006 – slightly below the SC (81%) average per capita income level.

## Greenville MSA versus South Carolina MSAs

FIGURE 3. PER CAPITA INCOMES (PCY) IN CHARLESTON, COLUMBIA, and GREENVILLE MSA COMPARED TO CHARLOTTE TARGET, 1987 to 2007

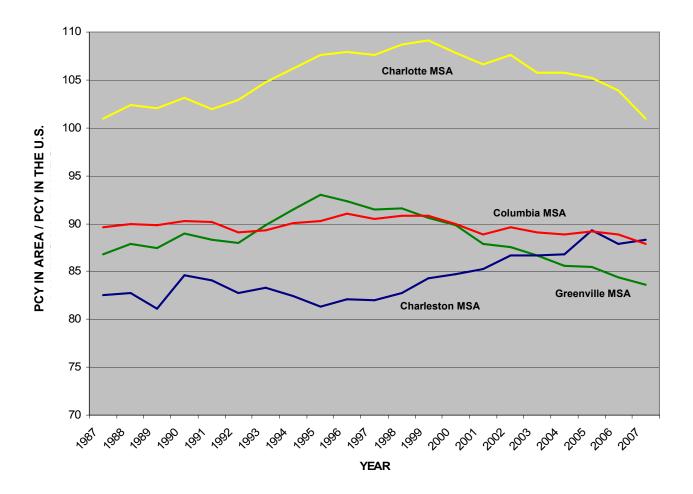


Figure 3 compares per capita income trends in selected MSAs in South Carolina. The Charlotte MSA, shown in yellow, has a per capita income level substantially higher than Greenville's MSA level and the gap has grown over the past twenty years. Since 2004, the Greenville MSA per capita income has fallen behind that of Columbia and Charleston. By 2007, the Charleston and Columbia MSAs have settled in at about 88% of the U.S. average while Greenville's per capita income is 84% of the national level. The contrast is striking between the steady increase in Charleston's per capita income relative to the national average since 1995 while Greenville's per capita income has fallen further behind the national average.

## Greenville MSA versus Target MSAs

FIGURE 4. GREENVILLE MSA PER CAPITA INCOMES (PCY) COMPARED TO <u>TARGET MSAs</u>
OVER THE 1987 TO 2007 PERIOD

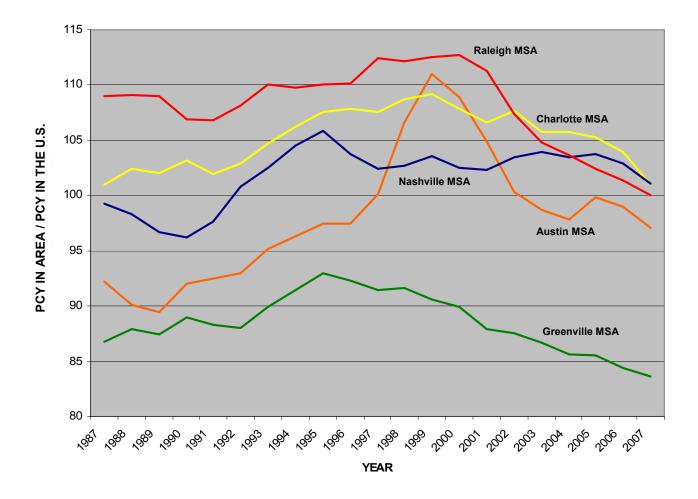


Figure 4 highlights how per capita income has trended over time in the Greenville MSA compared to its "Target Cities." Since 1997, the four target MSAs (Austin, Raleigh, Nashville and Charlotte) generally have had per capita incomes near or above the national average. The relative incomes of the four target cities have trended downward since about 2000-2002, reflecting the negative impact of the recent downturns in the IT and financial sectors. However, Greenville's and Nashville's downward trends started in 1995 while the downward trends of Austin, Raleigh, and Charlotte started four to six years later. The major theme of this figure is that the Greenville MSA per capita income remains about 15% to 20% below its Target Cities throughout the ten-year period.

### **Development of Economic Competitiveness Scorecard**

Four steps were used to develop a scorecard for the Greenville economy. First, we identified the key characteristics of a competitive economy. Second, we selected a set of peer cities and target cities for comparisons with the Greenville MSA and CSA. Third, we developed sets of indices and benchmarks for Greenville and the peer and target cities. The indices were derived from data on the selected key characteristics of a competitive economy. Fourth, we identified strengths and weaknesses of the Greenville area economy based on Greenville's relative rankings in characteristics that affect economic progress. An in-depth overview of the four steps is provided in the 2008 Greater Greenville Regional Economic Scorecard (<a href="www.clemson.edu/used">www.clemson.edu/used</a>). The following discussion focuses on changes in Greenville's rankings from 2006 to 2007 in the six indices that reflect regional competitiveness in the New Economy.

#### **Indices of Competitiveness**

Labor Force Education
Knowledge Workforce
Innovative Activity and Capacity
Entrepreneurial Environment
Industrial Structure and Composition
Industrial Diversity and Breadth

The six principal inputs of regional competitiveness (labor force education, knowledge workers, innovation, entrepreneurial environment, industrial diversity, and industrial composition) have multiple components. Thus, an index was developed for each competitiveness component that incorporated the multiple measures for the principal category and expressed the benchmark relative to the national average. The indices for the Greenville MSA and CSA permit ready comparisons with peer cities in the South as well as with the nation as a whole. The data used for the calculation of the six indices are provided in Appendix C. The index values represent how the metro area compares to the national average for a specific component of competitiveness. For example, an index value of 100 represents the national average and an index value of 90 means that the metro area is 10% below the national average. Alternatively, a metro index value of 105 means that the metro area is 5% above the national average.

## **Benchmarking Changes in Regional Competitiveness**

The 2006 to 2007 changes in Greenville's indices of competitiveness are represented graphically using a horizontal "speedometer." There are 12 spaces on the speedometer, each representing one of the 11 peer cities plus the Greenville CSA. Greenville's position among the 12 cities is represented by the green space, with the index values increasing as we move from left to right. For example, in the Index of Innovative Activity, Greenville ranks 5<sup>th</sup> out of the 12 metro areas (see Figure 1).

Jacksonville Louisville Charleston Richmond Lexington
37.9 54.4 62.12 76.2 139.8

lowest value Greenville Highest value

Figure 1. Innovative Activity and Index

There are two arrows on each of the benchmarking speedometers, one for the Greenville CSA and one for the highest ranking metro area. One arrow indicates the direction of change of the Greenville index from 2006 to 2007. An arrow inside a box means that the index changed but that the Greenville CSA position among peer cities remained the same (see Figure 2).

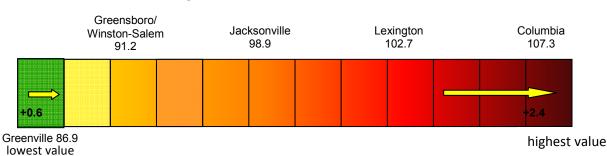
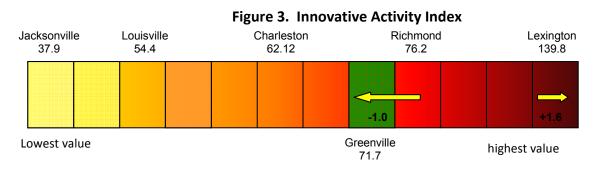
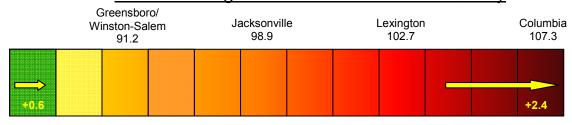


Figure 2. Labor Force Education Index

An arrow going from one box to another indicates that the metro area changed positions among its peers from 2006 to 2007. In figure 3, for example, Greenville CSA's innovation index declined by 1.0 and Greenville dropped from  $4^{th}$  to  $5^{th}$  in the ranking. Finally, the highest ranked MSA has an arrow indicating if this metro area had an increasing or declining index value. A comparison of the Greenville arrow with the arrow of the top ranked metro area provides insights into whether the competitiveness gap increased or decreased from 2006 to 2007.



## Benchmarking the Index of Labor Force Quality



Greenville CSA 86.9

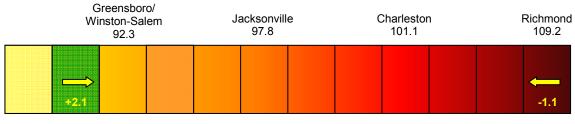
Index values for labor force education are based on the percent of the labor force that have high school diplomas and the percent that are college graduates. The findings indicate that the Greenville area ranks last among the five small peer cities, the six large peer cities, and the four target cities in labor force education. Additionally, both the Greenville MSA (96.0) and Greenville CSA (86.9) regions have index values less than 100, indicating that labor force education measures are below the national average. However, over the past year the index values for the Greenville MSA and CSA regions increased 2.3 and 0.6 points, respectively.

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2006 Census Region	2006	2007	Index Point Change 2006-2007
Small Peer Cities			
Columbia, SC MSA	104.9	107.3	2.4
Charleston, SC MSA	103.8	105.2	1.4
Lexington, KY CSA	106.1	102.7	-3.4
Little Rock, AR MSA	101.0	102.3	1.3
Jackson, MS CSA	99.1	101.1	2.0
Greenville, SC MSA	93.7	96.0	2.3
Large Peer Cities			
Richmond, VA MSA	106.3	105.4	-1.0
Jacksonville, FL MSA	99.0	98.9	-0.2
Birmingham, AL CSA	95.7	93.6	-2.1
Louisville, KY MSA	93.3	93.5	0.2
Greensboro/Winston-Salem, NC CSA	90.4	91.2	0.8
Knoxville, TN CSA	95.0	88.8	-6.3
Greenville, SC CSA	86.3	86.9	0.6
Target Cities			
Raleigh/Durham, NC MSA	121.2	123.8	2.6
Austin, TX MSA	123.2	120.5	-2.6
Charlotte, NC MSA	107.2	110.2	3.0
Nashville, TN MSA	103.1	102.3	-0.8
Greenville, SC MSA	93.7	96.0	2.3
State and United States			
United States	100.0	100.0	0.0
South Carolina	90.4	91.3	0.9

Percent of labor force with a high school diploma, 2007 Percent of labor force with a bachelors degree, 2007

## Benchmarking the Index of Knowledge Workers



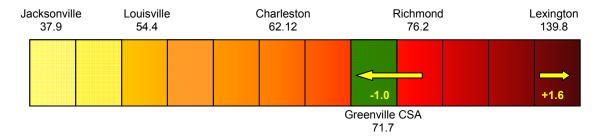
Greenville CSA 90.4

Knowledge workers are responsible for many of the new products and production processes that result in new economic activity. Over the past year (2006-2007) the Greenville MSA (100.8) surpassed the U.S. average, and the MSA rose from sixth to fourth among small peer cites. Although the region still lags behind the four target cities, the MSA's 4.8 point increase brought the region within one point of the Nashville MSA. The Greenville CSA (90.4) increased 2.1 points between 2006 and 2007, maintaining sixth place among the large peer cities in knowledge workers and still lagging the national average (index value 100.0).

Knowl	edge Workers		
2006 Census Region	2006	In 2007	dex Point Change 2006-2007
Small Peer Cities			
Columbia, SC MSA	104.7	105.4	0.7
Lexington, KY CSA	110.1	104.0	-6.1
Charleston, SC MSA	100.5	101.1	0.6
Greenville, SC MSA	96.1	100.8	4.8
Jackson, MS CSA	100.2	100.7	0.5
Little Rock, AR MSA	103.0	100.5	-2.5
Large Peer Cities			
Richmond, VA MSA	110.3	109.2	-1.1
Jacksonville, FL MSA	98.7	97.8	-0.8
Birmingham, AL CSA	99.4	95.0	-4.3
Louisville, KY MSA	93.2	93.5	0.3
Greensboro/Winston-Salem, NC CSA	90.7	92.3	1.6
Greenville, SC CSA	88.4	90.4	2.1
Knoxville, TN CSA	83.0	89.0	5.9
Target Cities			
Austin, TX MSA	122.5	123.5	0.9
Raleigh/Durham, NC MSA	121.7	121.9	0.2
Charlotte, NC MSA	109.1	112.6	3.5
Nashville, TN MSA	105.1	101.7	-3.4
Greenville, SC MSA	96.1	100.8	4.8
State and United States			
United States	100.0	100.0	0.0
South Carolina	88.9	89.9	1.0

Percent of employment in occupations classified as management, business/operations, finance, computers, math, architecture, engineering, sciences, law, education, healthcare, arts, design, entertainment, media, and high-end sales, 2007

### Benchmarking the Index of Innovative Activity



Innovative activity and capacity in the metro areas is represented by patents per 10,000 workers; employment in computer, science, and engineering occupations (measure of industry R&D); and graduate students in science and engineering per 10,000 residents (measure of university R&D). Between 2006 and 2007 the Greenville MSA index declined by 0.7 points to 97.4. However, the MSA region remained second among the six small peer cities. Similarly, the Greenville CSA declined by 1.0 to 71.7 but maintained its third place ranking among large peer cities. The Greenville MSA (97.4) had a higher innovation index than two of the target cities (Nashville (63.3) and Charlotte (61.2)); however, the Greenville MSA innovation index was below the U.S. average and less than 40% of the index values for Austin, TX and Raleigh/Durham, NC.

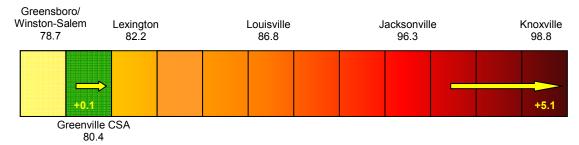
**Innovative Activity and Capacity** 

2006 Census Region	2006	2007	Index Point Change 2006-2007
Small Peer Cities			
Lexington, KY CSA	138.2	139.8	1.6
Greenville, SC MSA	98.1	97.4	-0.7
Columbia, SC MSA	68.4	76.3	7.9
Little Rock, AR MSA	62.6	71.1	8.6
Charleston, SC MSA	70.1	62.1	-8.0
Jackson, MS CSA	47.8	46.4	-1.4
Large Peer Cities			
Knoxville, TN CSA	86.2	89.1	2.9
Richmond, VA MSA	80.1	76.2	-3.8
Greenville, SC CSA	72.8	71.7	-1.0
Greensboro/Winston-Salem, NC CSA	62.3	56.5	-5.8
Birmingham, AL CSA	56.1	56.3	0.2
Louisville, KY MSA	59.5	54.4	-5.1
Jacksonville, FL MSA	39.8	37.9	-1.9
Target Cities			
Austin, TX MSA	260.8	262.0	1.2
Raleigh/Durham, NC MSA	248.2	245.3	-2.8
Greenville, SC MSA	98.1	97.4	-0.7
Nashville, TN MSA	69.3	63.3	-6.0
Charlotte, NC MSA	65.5	61.2	-4.4
State and United States			
United States	100.0	100.0	0.0
South Carolina	53.8	54.1	0.3

Patents per 10,000 workers, 2005

Percent of employment in computer, science, and engineering occupations, 2007 Graduate students in science and engineering per 10,000 residents, 2006

## Benchmarking the Index of Entrepreneurial Environment



Creative workers and innovative activity are most likely to result in new businesses and jobs if the community has a supportive entrepreneurial environment. The entrepreneurial environment index for the Greenville MSA (89.1) and CSA (80.4) ranked low compared to the small and large peer cities, representing fourth and sixth positions, respectively. However, the Greenville MSA did make a modest gain, increasing its index value by 1.6 points between 2005 and 2006. Despite the gain, the Greenville index values remain well below the four target cities and the U.S. average.

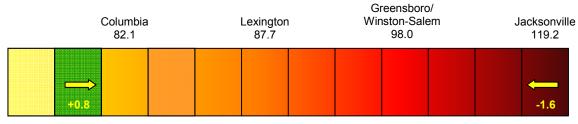
#### **Entrepreneurial Environment**

2006 Census Region	2005	2006	Index Point Change 2005-2006
Small Peer Cities			
Charleston, SC MSA	94.3	97.1	2.8
Jackson, MS CSA	89.6	92.8	3.2
Little Rock, AR MSA	91.8	91.0	-0.8
Greenville, SC MSA	87.5	89.1	1.6
Columbia, SC MSA	85.9	85.4	-0.5
Lexington, KY CSA	83.4	82.2	-1.1
Large Peer Cities			
Knoxville, TN CSA	93.8	98.8	5.1
Birmingham, AL CSA	95.4	97.8	2.4
Jacksonville, FL MSA	96.6	96.3	-0.3
Louisville, KY MSA	86.6	86.8	0.2
Richmond, VA MSA	86.5	86.5	0.1
Greenville, SC CSA	80.3	80.4	0.1
Greensboro/Winston-Salem, NC CSA	77.9	78.7	0.8
Target Cities			
Nashville, TN MSA	110.0	112.6	2.5
Austin, TX MSA	113.1	112.0	-1.1
Raleigh/Durham, NC MSA	109.8	111.6	1.8
Charlotte, NC MSA	96.7	96.7	0.0
Greenville, SC MSA	87.5	89.1	1.6
State and United States			
United States	100.0	100.0	0.0
South Carolina	84.8	85.2	0.4

Business churning (births + deaths), 2005

Establishments per 1,000 employees, 2006 Proprietors' income as a share of total income, 2006 Percent of employment in professional, scientific, and technical services industries, 2006

### Benchmarking Employment Diversity and Density



Greenville CSA 76.4

A diverse industrial base and high employment density (employees per square mile) are beneficial to regional economic growth because diversity and density facilitate the development and exchange of ideas and information among area businesses. The Greenville MSA (95.3) has a favorable diversity/density structure when compared to its small peer cities. The region lost 1.2 points between 2005 and 2006, but maintained its first place ranking. The Greenville CSA (76.4) ranks low in comparison to large peer cities and the target cities. However, the region experienced the largest index increase (0.8) among the large metro areas.

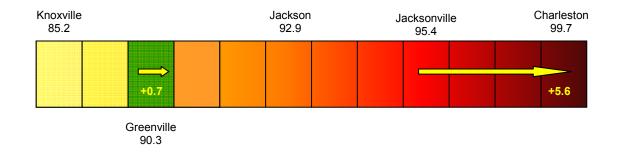
**Employment Diversity and Density Index** 

			Index Point Change
2006 Census Region	2005	2006	2005-2006
Small Peer Cities			
Greenville, SC MSA	96.5	95.3	-1.2
Lexington, KY CSA	90.8	87.7	-3.1
Little Rock, AR MSA	85.9	85.6	-0.3
Charleston, SC MSA	81.9	85.0	3.0
Columbia, SC MSA	83.2	82.1	-1.1
Jackson, MS CSA	73.5	73.2	-0.3
Large Peer Cities			
Jacksonville, FL MSA	120.7	119.2	-1.6
Louisville, KY MSA	120.6	115.9	-4.7
Knoxville, TN CSA	102.7	98.7	-4.0
Greensboro/Winston-Salem, NC CSA	97.2	98.0	0.7
Birmingham, AL CSA	97.6	94.7	-2.9
Richmond, VA MSA	92.0	90.4	-1.6
Greenville, SC CSA	75.6	76.4	0.8
Target Cities			
Charlotte, NC MSA	146.0	148.3	2.2
Raleigh/Durham, NC MSA	127.8	126.1	-1.7
Nashville, TN MSA	123.3	125.8	2.6
Austin, TX MSA	116.9	116.9	0.0
Greenville, SC MSA	96.5	95.3	-1.2
State and United States			
United States	NA	NA	NA
South Carolina	67.8	68.0	0.2

Employment per Square Mile, 2006 Employment Diversity Index, 2006

## Benchmarking Industrial Structure and Composition

Economic development is strongest in regions with relatively young establishments, a large share of locally owned businesses, and a large share of jobs in high wage occupations and high wage industries. As with the other indices the size of the geographic area influenced index values. The Greenville MSA (91.5) performed better than the Greenville CSA (90.3) but the MSA still ranked last among small peer cities and target cities. Over the two year period the Greenville MSA remained mostly unchanged (-0.1) while four of the six small peer cities increased by 2 points or more. In contrast, the Greenville CSA increased slightly (+0.7) while five of the seven peer regions declined by almost 2 points each.



**Industrial Structure and Composition** 

2006 Census Region	2004	lı 2006	ndex Point Change 2004-2006
Small Peer Cities			
Charleston, SC MSA	94.1	99.7	5.6
Columbia, SC MSA	89.4	94.4	5.0
Little Rock, AR MSA	96.1	93.7	-2.4
Jackson, MS CSA	90.9	92.9	2.0
Lexington, KY CSA	87.9	92.9	5.0
Greenville, SC MSA	91.6	91.5	-0.1
Large Peer Cities			
Birmingham, AL CSA	91.7	98.2	6.5
Richmond, VA MSA	98.6	97.2	-1.3
Jacksonville, FL MSA	97.3	95.4	-1.9
Greensboro/Winston-Salem, NC CSA	92.4	90.4	-2.0
Greenville, SC CSA	89.5	90.3	0.7
Louisville, KY MSA	90.7	88.8	-1.9
Knoxville, TN CSA	87.1	85.2	-1.8
Target Cities			
Raleigh/Durham, NC CSA	99.2	106.3	7.2
Austin, TX MSA	107.0	100.8	-6.2
Charlotte, NC MSA	102.5	99.9	-2.7
Nashville, TN MSA	95.9	96.5	0.6
Greenville, SC MSA	91.6	91.5	-0.1
State and United States			
United States	100	100	0.0
South Carolina	NA	NA	NA

Percent of establishments less than 10 years age, 2005

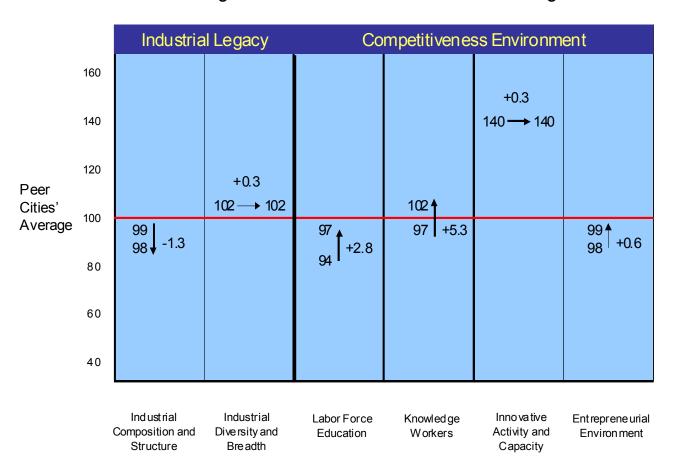
Share of manufacturing establishments locally owned, 2002

Concentration of jobs in high wage industries (traded industries only): 100 equals US average, 2006

Concentration of industry jobs in high wage occupations (traded industries only): 100 equals US average, 2006

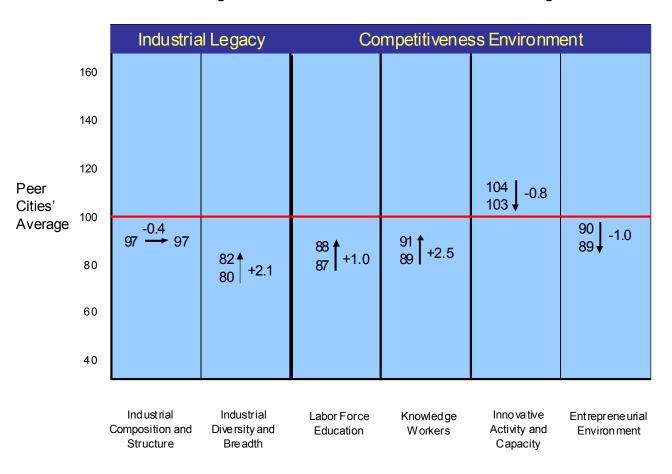
The economic scorecards summarize the index values for Greenville relative to the averages for the small and large peer cities combined. The Greenville MSA and CSA values in the scorecards are derived by dividing the Greenville index value (for example, 97.4 for the MSA for innovative activity) by the average index value for the eleven peer cities (for example, 69.6 for innovative activity). The resulting scorecard value (97.4/69.6 = 1.4 X 100 = 140) indicates the extent to which Greenville is "above" or "below" average relative to its peer cities. The 2006 and 2007 scorecard values are provided for each benchmarking category, and the direction of the arrow indicates if Greenville's relative score increased or decreased from one year to the next. The Economic Scorecard, part 1 indicates that the Greenville MSA had improvements in all competitiveness categories relative to its peer cities. The largest improvements were in labor force education and knowledge workers.

ECONOMIC SCORECARD, PART 1:
Benchmarking Greenville MSA Versus Small and Large Peer Cities



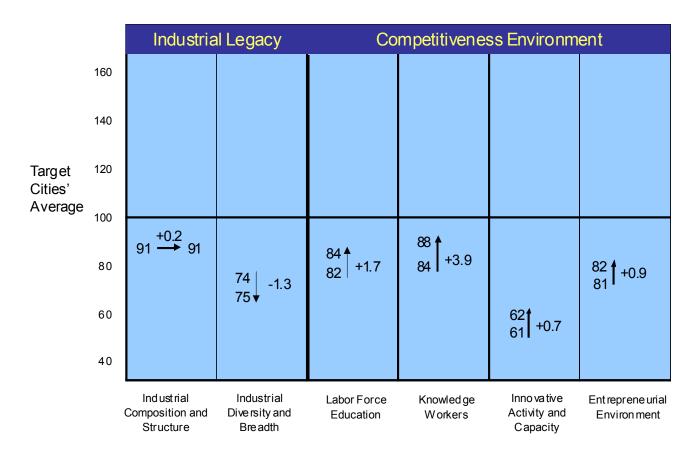
Scorecard 2 compares the Greenville CSA index values to the 11 peer city average. The Greenville CSA gained on the peer cities in industrial composition and diversity, labor force education, and knowledge workers. Alternatively the Greenville CSA experienced minor declines in its relative position in innovative activity and entrepreneurial environment.

ECONOMIC SCORECARD, PART 2: Benchmarking Greenville CSA Versus Small and Large Peer Cities



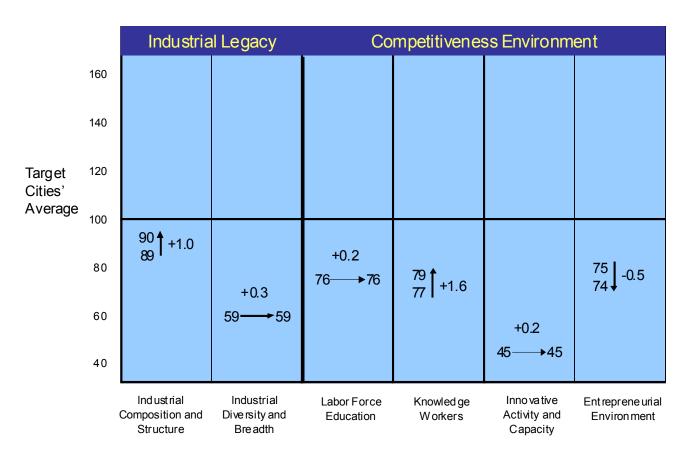
Scorecard 3 compares the Greenville MSA with the average index values for the four target cities (Austin, TX; Charlotte, NC; Nashville, TN; and Raleigh/Durham, NC). The scorecard indicates that the Greenville MSA experienced improvements in all competitiveness areas except industrial structure. The largest relative improvements were in labor force education and knowledge workers.

ECONOMIC SCORECARD, PART 3:
Benchmarking Greenville MSA Versus Four Target Cities
(Austin, Charlotte, Nashville, Raleigh-Durham)



Scorecard part 4 compares the Greenville CSA with the average index values for the four target cities. Lower scores are provided for the Greenville CSA region than for the Greenville MSA region (see part 3). In addition, Greenville CSA showed less improvement in relative scores than the Greenville MSA region. Relative scores remained static or declined in all categories except knowledge workers.

ECONOMIC SCORECARD, PART 4:
Benchmarking Greenville CSA Versus Four Target Cities
(Austin, Charlotte, Nashville, Raleigh-Durham)



### Appendix A

Metropolitan Area Characteristics Used in Cluster Analysis to Group 118 Southern Metro Areas According to New Economy Environment

#### A. Innovative Activity

Number of patents issued per 1000 population (USPTO, 1990-99)\*
Academic R&D expenditures per capita (NSF, 1998-2000)
Doctorates awarded in science and engineering per 1000 population (NSF, 1998-2000)
Graduate science and engineering students per 1000 population (NSF, 1998-2000)
Percentage of employment in technical professions - computer science; engineering except civil; natural, physical, and social science (BLS, 2000)

#### B. Labor Force Quality

Percentage of adult population (25+) that were high school graduates (Census, 2000) Percentage of adult population (25+) that were college graduates (Census, 2000) Percentage of population (age 16-64) that were employed (Census, 2000)

#### C. Entrepreneurial Environment

Percentage change in number of establishments (CBP, 1990-2000)
Percentage of establishments with fewer than 20 employees (BLS, 2000)
Number of Inc. 500 companies per 100,000 population (<a href="www.inc500.com">www.inc500.com</a>, 1990-2000)
Venture capital investments (\$) per capita (Price Waterhouse Coopers, 2000)
Percentage of employment in managerial and business professions (BLS, 2000)
Percentage of employment in SIC 73, business services (CBP, 2000)
Percentage of establishments in SIC 73, business services (CBP, 2000)

#### D. Localization Economics

Percentage of employment in high-technology industries (CBP, 2000)
Percentage of establishments in high-technology industries (CBP, 2000)
Percentage of employment in information technology industries (CBP, 2000)
Percentage of establishments in information technology industries (CBP, 2000)
Percentage of employment in the largest 3 manufacturing industries (2-digit SIC, CBP, 2000)

Percentage of establishments in largest 3 manufacturing industries (2 digit SIC, CBP 1997)

Population Density (Census, 2000)

#### E. Competitiveness in Global Economy

Exports as a percent of gross metropolitan product, metro areas ranked in quantiles (DOC, 1999)

\*CBP = County Business Patterns; DOC = U.S Department of Commerce; BLS = U.S. Bureau of Labor Statistics; NSF = National Science Foundation; USPTO = U.S. Patent and Trademark Office.

#### Appendix B

ACCRA Cost of Living Index in Peer and Target Cities

"C2ER, founded in 1961 as the American Chamber of Commerce Researchers Association (ACCRA), is a nonprofit professional organization comprising research staff of chambers of commerce, economic development organizations and agencies, and related organizations throughout the United States and Canada. In its dedication to improving business information through research, C2ER developed the ACCRA Cost of Living Index to meet the need for a measure of living cost differentials among urban areas. Originally titled Inter-City Cost of Living Indicators Project, the ACCRA Cost of Living Index has been published quarterly since 1968. The ACCRA Cost of Living Index is based on nearly 100,000 data points gathered primarily by C2ER members located in 400 cities." From: C2ER P.O. Box 100217, Arlington VA 22210 data download.

#### ACCRA COST OF LIVING INDEX QTR 4 2007 - QTR 3 2008 **URBAN AREA AND STATE** COMPOSITE INDEX HOUSING Knoxville, TN 88.4 75.5 Winston-Salem, NC 90.2 75.7 90.7 Birmingham, AL 73.2 Greenville 91.7 74.6 Nashville, TN 91.8 74.6 Charlotte, NC 92.8 78.3 Louisville, KY 93.8 83.3 LittleRock, AR 94.1 78.8 Jackson, MS 94.9 88.2 Austin, TX 94.9 83.5 95.4 Lexington, KY 89.2 Charleston, SC 96.8 89.1 Columbia, SC 96.8 89.1 Jacksonville, FL 97.2 89.8 101.5 Raleigh, NC 98.0 Richmond, VA 104.4 109.2

## **Appendix C**

Knowled	lae V	Vorl	kers
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2006 Census Region	Percent of Knowledge Workers
Small Peer Cities	
Columbia, SC MSA	41.6%
Lexington, KY CSA	41.1%
Charleston, SC MSA	39.9%
Greenville, SC MSA	39.8%
Jackson, MS CSA	39.8%
Little Rock, AR MSA	39.7%
Large Peer Cities	
Richmond, VA MSA	43.1%
Jacksonville, FL MSA	38.6%
Birmingham, AL CSA	37.5%
Louisville, KY MSA	36.9%
Greensboro/Winston-Salem, NC CSA	36.5%
Greenville, SC CSA	35.7%
Knoxville, TN CSA	35.2%
Target Cities	
Austin, TX MSA	48.8%
Raleigh/Durham, NC MSA	48.2%
Charlotte, NC MSA	44.5%
Nashville, TN MSA	40.2%
Greenville, SC MSA	39.8%
State and United States	
United States	39.5%
South Carolina	35.5%

Percent of employment in occupations classified as management, business/operations, finance, computers, math, architecture, engineering, sciences, law, education, healthcare, arts, design, entertainment, media, and high-end sales, 2007

Labor Force Education

	Percent of Labor	Percent of Labor
	Force with a High	Force with a
2006 Census Region	School Diploma	Bachelor's Degree
Small Peer Cities		
Columbia, SC MSA	86.7%	30.8%
Charleston, SC MSA	87.8%	29.3%
Lexington, KY CSA	83.8%	29.2%
Little Rock, AR MSA	87.1%	27.9%
Jackson, MS CSA	83.6%	28.4%
Greenville, SC MSA	80.8%	26.5%
Large Peer Cities		
Richmond, VA MSA	85.3%	30.2%
Jacksonville, FL MSA	87.8%	25.8%
Birmingham, AL CSA	82.9%	24.5%
Louisville, KY MSA	85.5%	23.6%
Greensboro/Winston-Salem, NC CSA	81.6%	23.6%
Knoxville, TN CSA	81.8%	22.2%
Greenville, SC CSA	79.2%	22.0%
Target Cities		
Raleigh/Durham, NC MSA	87.3%	39.7%
Austin, TX MSA	85.7%	38.4%
Charlotte, NC MSA	86.0%	32.6%
Nashville, TN MSA	85.0%	28.6%
Greenville, SC MSA	80.8%	26.5%
State and United States		
United States	84.5%	27.5%
South Carolina	82.1%	23.5%

Innovative Activity and Capacity
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2006 Census Region	Patents per 10.000 Workers	Percent of Employment in Computer, Science, & Engineering Occupations	Science & Engineering Graduate Students per 10.000 Residents	
Small Peer Cities	.,		.,	
Lexington, KY CSA	3.59	4.67%	31.82	
Columbia, SC MSA	1.56	4.73%	12.36	
Greenville, SC MSA	4.34	4.55%	15.25	
Charleston, SC MSA	2.44	3.82%	7.94	
Little Rock, AR MSA	1.67	4.15%	11.82	
Jackson, MS CSA	1.14	3.23%	6.23	
Large Peer Cities				
Knoxville, TN CSA	3.51	3.73%	15.98	
Richmond, VA MSA	2.61	5.05%	9.53	
Greenville, SC CSA	4.82	3.56%	7.63	
Greensboro/Winston-Salem, NC CSA	2.90	3.13%	6.85	
Birmingham, AL CSA	1.59	3.62%	7.97	
Louisville, KY MSA	2.14	3.02%	7.8	
Jacksonville, FL MSA	2.07	3.75%	0.00	
Target Cities				
Austin, TX MSA	28.17	8.61%	19.46	
Raleigh/Durham, NC MSA	13.41	8.66%	41.16	
Greenville, SC MSA	4.34	4.55%	15.25	
Nashville, TN MSA	1.65	3.66%	10.29	
Charlotte, NC MSA	2.27	4.95%	4.97	
State and United States				
United States	6.42	4.61%	12.13	
South Carolina	2.91	3.34%	5.39	

Patents per 10,000 workers, 2005
Percent of employment in computer, science, and engineering occupations, 2007
Graduate students in science and engineering per 10,000 residents, 2006

**Entrepreneurial Environment** 

	Entropronounal Environment						
2006 Census Region	Business Churning	Establishments per 1,000 Employees	Propreitors' Income as a Percent of Total Income	Percent of Employment in Professional, Scientific, & Technical Services Industries			
Small Peer Cities	Ontarining	Linployees	Total Income	mustres			
Charleston, SC MSA	23.78%	68.89	8.59%	5.02%			
Jackson, MS CSA	21.36%	60.52	12.39%	3.73%			
Little Rock, AR MSA	20.81%	60.97	10.82%	4.14%			
Greenville, SC MSA	21.85%	58.44	7.09%	5.33%			
Columbia. SC MSA	20.82%	61.25	7.96%	4.19%			
	20.82% 19.66%	57.15					
Lexington, KY CSA	19.00%	57.15	7.89%	4.19%			
Large Peer Cities							
Knoxville, TN CSA	20.46%	57.25	11.99%	5.60%			
Birmingham, AL CSA	20.54%	58.17	13.89%	4.48%			
Jacksonville, FL MSA	27.36%	65.26	7.54%	4.78%			
Louisville, KY MSA	20.30%	56.18	10.91%	3.75%			
Richmond, VA MSA	21.13%	60.79	7.77%	4.48%			
Greenville, SC CSA	20.94%	54.95	7.96%	3.67%			
Greensboro/Winston-Salem, NC CSA	20.17%	56.81	9.11%	2.85%			
Target Cities							
Nashville, TN MSA	22.54%	53.13	19.03%	5.20%			
Austin, TX MSA	24.45%	61.49	11.65%	7.15%			
Raleigh/Durham, NC MSA	23.22%	61.41	7.65%	9.10%			
Charlotte, NC MSA	23.73%	56.99	10.77%	4.96%			
Greenville, SC MSA	21.85%	58.44	7.09%	5.33%			
State and United States							
United States	22.05%	63.39	11.76%	5.07%			
South Carolina	21.58%	64.46	8.45%	3.52%			

Business churning (births + deaths), 2005
Establishments per 1,000 employees, 2006
Proprietors' income as a share of total income, 2006
Percent of employment in professional, scientific, and technical services industries, 2006

**Industrial Structure and Composition** 

2006 Census Region	Percent Establishments < 10 Years	Percent Establishments Locally Owned	Concentration of High Wage Industries	Concentration of High Wage Occupations
Small Peer Cities				
Charleston, SC MSA	64.5%	81.7%	95.9%	92.1%
Columbia, SC MSA	58.3%	77.0%	93.9%	89.3%
Little Rock, AR MSA	58.1%	84.3%	85.4%	86.4%
Jackson, MS CSA	58.8%	80.4%	89.1%	82.9%
Lexington, KY CSA	56.8%	78.9%	90.7%	86.6%
Greenville, SC MSA	59.2%	77.8%	85.3%	83.5%
Large Peer Cities				
Birmingham, AL CSA	57.0%	86.5%	94.7%	93.9%
Richmond, VA MSA	58.3%	80.8%	89.6%	100.0%
Jacksonville, FL MSA	67.2%	84.4%	79.0%	83.7%
Greensboro/Winston-Salem, NC				
CSA	54.6%	81.8%	88.1%	79.5%
Greenville, SC CSA	57.3%	78.6%	86.5%	79.8%
Louisville, KY MSA	55.7%	85.1%	80.2%	74.9%
Knoxville, TN CSA	54.8%	82.4%	78.3%	67.5%
Target Cities				
Raleigh/Durham, NC CSA	64.2%	80.5%	105.4%	111.0%
Austin, TX MSA	67.0%	83.6%	88.7%	96.6%
Charlotte, NC MSA	63.6%	79.2%	97.3%	95.8%
Nashville, TN MSA	60.6%	82.1%	92.1%	89.0%
Greenville, SC MSA	59.2%	77.8%	85.3%	83.5%
State and United States				
United States	58.2%	81.5%	100.0%	100.0%
South Carolina	59.4%	NA	84.0%	75.3%

Percent of establishments less than 10 years age, 2005

Share of manufacturing establishments locally owned, 2002

Concentration of jobs in high wage industries (traded industries only): 100 equals US average, 2006 Concentration of industry jobs in high wage occupations (traded industries only): 100 equals US average, 2006

2006 Census Region	Employment per Square Mile	Employment Diversity Index
Small Peer Cities		
Greenville, SC MSA	188.67	4.81
Lexington, KY CSA	130.35	6.06
Little Rock, AR MSA	104.28	6.79
Charleston, SC MSA	146.81	5.09
Columbia, SC MSA	122.09	5.67
Jackson, MS CSA	73.68	6.39
Large Peer Cities		
Jacksonville, FL MSA	253.09	5.35
Louisville, KY MSA	186.94	7.46
Knoxville, TN CSA	139.02	7.11
Greensboro/Winston-Salem, NC CSA	186.81	5.20
Birmingham, AL CSA	118.47	7.39
Richmond, VA MSA	134.72	6.24
Greenville, SC CSA	133.83	4.51
Target Cities		
Charlotte, NC MSA	337.70	5.79
Raleigh/Durham, NC MSA	229.44	7.12
Nashville, TN MSA	178.88	9.01
Austin, TX MSA	229.86	5.94
Greenville, SC MSA	188.67	4.81
State and United States		
United States	49.24	1.00
South Carolina	78.93	5.35

Employment per Square Mile, 2006 Employment Diversity Index, 2006

### References

Atkinson, R.D. and D.K. Correa. 2007. *The 2007 State New Economy Index*. The Information Technology and Innovation Foundation, Washington DC.

Barkley, D.L., M.S. Henry, D. Eades, and J. Lowdermilk. "*Greater Greenville Regional Economic Scorecard, 2009.*" UCED Research Report 03-2008-01, EDA University Center for Economic Development, Clemson University, <a href="https://www.clemson.edu/uced">www.clemson.edu/uced</a>.

Market Street Services. 2006. *Economic Development Strategy: Greenville, SC.* Market Street Services, Inc. Atlanta, GA.

Greater Greenville Chamber of Commerce. Vision 2025, 2004.