

## Methodology

This report features demographic profiles for Superdistricts and counties in the 20-county region served by the Atlanta Regional Commission, based on the Census Bureau's 2005-2009 American Community Survey 5-year estimates. These profiles follow precisely the order, format, and content of the ACS-based "fact sheets" available via the Census Bureau's American Fact Finder online system. Because the American Fact Finder system provides these "fact sheets" only for cities, counties, states, and the nation as a whole, this report fills the gap for Atlantans interested in drilling down to smaller areas.

### What Are Superdistricts?

Superdistricts are planning units built by the Atlanta Regional Commission from groups of Census tracts to allow consistent comparisons at a sub-county geography over time. Superdistricts are useful for looking at local conditions when counties are too coarse a geography but tracts too fine. Moreover, Superdistrict boundaries remain constant even as census tracts split and cities annex or de-annex territory.<sup>1</sup>

For more information on Superdistrict boundaries, please consult XXXX (NEED LINK).

### What is the American Community Survey, and What is a 5-Year Estimate?

The American Community Survey is a nationwide survey conducted by the U.S. Census Bureau on a continuous, rolling basis. It is intended to replace the "long form" that has been a component of the decennial census for the last several decades.

From 1940 until 2000, the Census Bureau actually conducted a census (counting of the entire population) and a survey (measuring a sample of the population) simultaneously: most households received a "short form" with basic questions (e.g. age, sex, race), while a "long form" with everything contained on the "short form" plus many other topics (e.g. educational attainment, occupation, income) was administered to a sample of households (varied by year and other factors, but roughly 1 in 7 households). As the name implies, the decennial census took place only once every ten years, providing a single "snapshot" of the country. But policymakers wanted to have more timely data, so the Census Bureau moved to the new "continuous measurement" model of the ACS, which had its nationwide launch in 2005.

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<sup>1</sup> The 2005-2009 ACS data are reported for 2000-era tracts. The 20-county region was divided into 676 tracts for the 2000 census; this number increased to 948 for the 2010 census.

Though the ACS is a replacement for the long form component of the census, it is not a direct substitute. The two differ in many important ways, but we will focus on a few key points.

First, as mentioned above, the "continuous measurement" model means that the ACS is not a snapshot for any particular point in time. So while the decennial census measured where people lived on Census Day (historically April 1st of years ending in 0), the ACS looks at where people live on the day they are surveyed. For example, ACS income measures look at the 12-month period preceding the survey date, while the decennial looked at the previous calendar year. Second, the ACS sample is much smaller than that of the decennial census: roughly 2.5% each year. Even pooling the data over a 5-year period yields a combined sample of only about 12.5%, considerably smaller than the roughly 16.7% sampled in the decennial census; the implications of this smaller sample on the margin of error for estimates is discussed below. Third, the pooling across years required to yield a decent-sized sample for smaller areas creates complications for interpretation. Whereas the decennial census allowed one to say, "on April 1, 2000, X% of the population in region Y was unemployed," we must now say "over the course of the period 2005-2009, an average X% of the population in region Y was unemployed." When faced with a period of rapid change such the onset of the "Great Recession," having a pooled estimate over a 5-year period is much less helpful than having a firm snapshot at a single point in time. So while the ACS has been of great help to policymakers interested in the effects of the Great Recession on states, counties, and large cities, it has created new challenges for people interested in small cities and neighborhoods within larger cities.

To learn more about the ACS, how to use it, and how it differs from the decennial census, please refer to the Census Bureau's publication *A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know*, available for download at <http://www.census.gov/acs/www/Downloads/handbooks/ACSGeneralHandbook.pdf>.

### **What is a Margin of Error, and Why is its Calculation so Important?**

It is not feasible to administer the long form or the ACS to the entire population.<sup>2</sup> Fortunately, this is not necessary: just like a single spoonful can tell you if a pot of soup has enough salt, a reasonable estimate of a population may be derived from a quality sample. The quality of a sample depends on two factors: its representativeness and its size. In some sense, the representativeness is the more important of the two: a biased sample, however large, can

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<sup>2</sup> Even the short-form Census falls short of its goal of universal participation; the Census Bureau estimates that the national mail participation rate was about 74% of all households.

never yield a good estimate. After adding salt to your soup but before tasting, you stir the soup. Otherwise you'll get a spoonful of extra-salty soup not representative of the pot as a whole. Randomly sampling the population has the same effect as stirring the soup: you get a sample that is representative of the population from which it was drawn. But the spoonful of soup doesn't have *exactly* the same proportion of salt as the rest of the pot: it contains the "true" amount, plus or minus some amount due to chance. We call that chance variation from the true amount "sampling error." The larger the sample, the smaller that error is likely to be, though the marginal reduction in sampling error of increasing the sample size by a unit declines as the number of units goes up.

Proper reporting of a sample-based estimate, therefore, requires three pieces of information: a "point estimate" (our best estimate of the actual value), plus a margin of error, given a particular confidence level (which allow assessment of the quality of the estimate): we are 90% confident that the pot of soup has 8,500 milligrams of salt, plus or minus 500 milligrams (another way of stating this uses a "confidence interval": we are 90% confident that the pot contains between 8,000 and 9,000 milligrams of salt). Holding a sample size constant, increasing the confidence level forces us to increase the margin of error (we would have to increase the size of the range to be 99% confident that our range contains the true value).

When applying this concept to the ACS, we should first note that the Census Bureau typically reports a 90% confidence interval: we are 90% certain that the true number lies within the reported range. When looking at counties or large cities, the samples are large and the confidence intervals small. But for smaller geographies such as census tracts, even the five-year pooled sample is quite small-- yielding a rather large confidence interval. When the confidence intervals for two areas overlap, we cannot tell whether the difference we observed is real or an artifact caused by sampling error (or, to use the jargon, the differences are not "statistically significant"). But merging tracts to form Superdistricts yields considerably larger samples, allowing for such comparisons to take place. Thus use of Superdistricts solves a "Goldilocks" problem: counties are too large; tracts are too small (due to the margin of error issue); Superdistricts are "just right."

Although you can simply add the raw population of two census tracts together, estimating the margin of error for the resultant area is somewhat more complicated. To estimate the margin of error for numbers and proportions, we follow the method recommended in Appendix 3 of the Census Bureau's publication *A Compass for Understanding and Using American Community Survey Data: What General Data Users Need to Know* available for download at <http://www.census.gov/acs/www/Downloads/handbooks/ACSGeneralHandbook.pdf>. To estimate the margin of error for medians, we follow the method recommended on pages 16-17

of "2005-2009 ACS 5-year PUMS Accuracy of the Data" available at  
[http://www.census.gov/acs/www/Downloads/data\\_documentation/pums/Accuracy/2005\\_2009AccuracyPUMS.pdf](http://www.census.gov/acs/www/Downloads/data_documentation/pums/Accuracy/2005_2009AccuracyPUMS.pdf).

**What tables from the ACS were used to compile these Demographic Profiles?**

<b>SOCIAL</b>	
<i>Indicators</i>	<i>Table(s)</i>
Households by Type	B11001
Average Household Size	B09016, B11001
Relationship	B09016
Marital Status	B12001
Fertility	B13002
Grandparents	B10050
School Enrollment	B14001
Educational Attainment	B15002
Veteran Status	B21001
Residence 1 Year Ago	B07003
Place of Birth	B05002
Year of Entry, Native	B05005
World Region of Birth of Foreign Born	B05006
Language Spoken at Home	B16004
Ancestry	B04006
<b>ECONOMIC</b>	
<i>Indicators</i>	<i>Table(s)</i>
Employment Status	B23001
Employment for parents of Own Children	B23008
Commuting to Work	B08101
Mean Travel Time to Work	B08013, B08101
Occupation	C24010
Industry	C24030
Class of Worker	B24080
Household Income	B19001
Median Household Income	B19013
Mean Household Income	B19025, B19001
Households with Earnings	B19051
Mean Earnings	B19061, B19051
Households with Social Security	B19055
Mean Social Security	B19065, B19055

Households with Retirement Income	B19059
Mean Retirement Income	B19069, B19059
Households with SSI Income	B19056
Mean SSI Income	B19066, B19056
Households with Public Assistance Income	B19057
Mean Public Assistance Income	B19067, B19057
Households with Food Stamp/SNAP Income	B22001
Family Income	B19101
Median Family Income	B19113
Mean Family Income	B19127, B19101
Per Capita Income	B19313, B01001
Median Non-Family Income	B19202
Mean Non-Family Income	B19214, B19201
Median Earnings for Workers:	B20017
Poverty: Families	B17010
Poverty: People	B17001
Poverty: Related Children	B17006
Poverty: Related People in Families	B17021
Poverty: Unrelated individuals 15 years and over	B17007
<b>HOUSING</b>	
<i>Indicators</i>	<i>Table(s)</i>
Housing Occupancy	B25002
Homeowner vacancy rate	B25003, B25004
Rental vacancy rate	B25003, B25004
Units in Structure	B25024
Year Structure Built	B25034
Rooms	B25017
Median Number of rooms	B25018
Bedrooms	B25041
Housing Tenure	B25009
Average Household size of occupied units	B25008, B25003
Year Householder Moved into Unit	B25038
Vehicles Available	B25044
House Heating Fuel	B25040
Selected Characteristics: Lacking Plumbing	B25048
Selected Characteristics: Lacking Complete Kitchen	B25052
Selected Characteristics: Lacking Telephone	B25043
Occupants per Room	B25014
Value of Housing Unit	B25075
Median housing unit value	B25077
Mortgage Status	B25081

Selected Monthly Owner Costs	B25087
Median Selected Monthly Owner Costs	B25088
Selected Monthly Owner Costs as a Percentage of Household Income	B25091
Gross Rent	B25063
Median Gross Rent	B25064
Gross Rent as a Percentage of Household Income	B25070
<b>DEMOGRAPHIC</b>	
<i>Indicators</i>	<i>Table(s)</i>
Sex and Age	B01001
Median Age	B01002
Race	C02003
Tribal Groupings	B02005
Asian Groupings	B02006
Hawaiian and Pacific Islander Groupings	B02007
Race Alone or In Combination with One or More Other Races	B02008, B02009, B02010, B02011, B02012, B02013
Hispanic or Latino and Race	B03001, B03002