

**Estimation of Household Income and  
Per Capita Income Excluding  
Traditional College Students: An  
Adjustment to the Census 2000 Data  
for Statesboro, GA**

**Prepared for: City of Statesboro**

**Prepared by: Bureau of Business Research  
and Economic Development,  
Georgia Southern University**

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# **Estimation of Household Income and Per Capita Income Excluding Traditional College Students: An Adjustment to the Census 2000 Data for Statesboro, GA**

**Prepared for: City of Statesboro**

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## **Executive Summery**

The City of Statesboro and Bulloch County are in a unique situation where the Census data on income and households does not reflect the true economy. Since Georgia Southern University has an unusually large number of students living in the community, off campus, their relatively lower wages has driven down the average income. As a result, the appearance of a lower per capita income and household income has become a deterrent for some new business prospects.

This study has created a methodology that adjusts the number of households, household income, and per capita income in both the City of Statesboro and Bulloch County. The result excludes what the Bureau of Business Research and Economic Development calls the “traditional college student” from the general population.

The following are some of the findings for the City of Statesboro:

- The estimated number of “traditional college students” was between 6,538 and 8,392;
- The adjusted number of households for the city was between 5,393 and 6,440;
- The adjusted average household income was between \$37,568 and \$42,042; and,
- The adjusted per capita income was between \$13,561 and \$14,254.

The following are some of the findings for Bulloch County:

- The estimated number of “traditional college students” was between 7,109 and 8,680;
- The adjusted number of households for the county was between 17,051 and 18,034;

- The adjusted average household income was between \$46,384 and \$48,096; and,
- The adjusted per capita income was between 16,522 and 16,725.

Additionally, a critical component of this study was buying power of the students and residents of Bulloch County. Even though this study did not determine the full discretionary income of students, it does highlight that the Census numbers do not correctly identify their full buying power. Actually, students' earnings were much higher.

Furthermore, when ranking the residents side of the equation for household income in a forty county area, Bulloch County went from a rank of eleventh to sixth. The five counties that had a higher household income were Columbia, Bryan, Chatham, Effingham, and Glynn.

The underestimated incomes of students and residents have created an artificial barrier against new retail development, and as a result this economy has been underserved by the retail and wholesale trade sectors. It is expected that over the next few years, the Statesboro and Bulloch economies will slowly shift to correct this underestimation.

Overall, this study has determined an adjusted income and household population that is more reflective of Statesboro and Bulloch County. More detailed information on the methodology and data is shown within this report.

## **Introduction**

Cities, counties, and economic developers have always known that household income is just as important of a tool in attracting new industries and businesses as unemployment levels and an available labor force. In fact, in the case of retail location decisions, household income and other measures of purchasing power are critical. Often times, when a business is ready to expand and is looking for a site, they first start off by collecting general data on communities they think will meet their company's needs. That means they will not go any further than the general data that is provided by the Census or other central data centers. As such, the appearance of growth or a strong economy of any of those communities will entice a business to explore that potential community further. On the other hand, if the economy appears to be struggling or has areas of weakness, the business might interpret the numbers as a bad sign and will not further explore opportunities.

Unfortunately, such appearances in data are sometimes misleading. This simply happens because every county-community across the United States is different, and it would be virtually impossible to create a survey instrument that could handle all of the "unique" situations. As a result, the Census of Population and Housing has created a standard that best reflects the majority. It takes into consideration major overarching questions that communities, practitioners, and researchers want to know to better understand the economic and social environment.

Statesboro, Georgia is an example of a community that has been misrepresented, by appearance, from some of the Census numbers. The driving factor for this is due to the unusual housing situation of the University within this city. Georgia Southern University (GSU), unlike most four-year colleges of the same size, has a larger portion of its student population living off campus. As of 2002, 81% of GSU students lived off campus. With a student population of about 15,000 and a total city population of 22,698, one can see how the University affects the city. To correct this unusual situation, GSU has undertaken a major building campaign to expand dormitory capacity.

As such, the students' income, often rather small, is averaged in with the rest of the community, creating a biased estimate of average household income. This would not be as important if more of the students were living on campus, given how the Census of Population and Housing calculates income and housing. For example, if a student lives on campus or off campus but in GSU dorms or quarters, the Census would categorize them as "Noninstitutionalized Population" and not part of the housing population of the city. Therefore, their income would not be calculated into average household income.

As a result, the household income and per capita income of Statesboro appears lower in the Census calculation than what it really is. This does not mean that the Census was not accurate, but that because of an unusual situation some of the numbers misrepresent the true economy.

The City of Statesboro has had both positive and negative economic growth because of this unique situation. On one hand, some industries have recognized the positive benefits

of having a large labor pool, college students, and as a result located just outside the city. Those industries have benefited from not only a large labor pool, but also higher quality workers at relatively low wages. The negative side is that a lot of higher end commercial businesses will not come to the city because they know their business is more productive and has a better viability in highly dense areas with higher household incomes. They notice the potential market of Statesboro because of the population here and in the surrounding area, but the appearance of a lower household income deters them.

This study re-estimates household income by attempting to exclude traditional college students from the city and county. This is a contingent based analysis in that key factors that help identify those students are compared to each other. The result is an estimate of the number of traditional college students living in the community. More importantly, their estimated aggregate income is subtracted from the total aggregate income to derive a new estimate of household income and per capita income.

Furthermore, the methodology from this study can be used as a basis to help re-estimate household income and per capita income for other communities experiencing similar problems. For example, this can directly apply to other college communities, areas with a military base, and even communities with a high retirement population. The key determination would rely on the ability to “stereotype” the segment of the population under consideration.

## Findings

In order to get the full picture of the re-estimation of the average household income and the per capita income, the findings section will start off with base data. The base data is the preexisting data in the economy (households, total population, and income). From there, one will notice how the population and income were adjusted to help reflect the true economic condition in Statesboro, Georgia.

Additionally, the following data has both Statesboro and Bulloch County. This will help to both give a better perspective where this is impacting the economy, but also to show the full picture. That is the economic linkage of the students' income goes further than the city's boundaries; rather, both Statesboro and Bulloch are tied together and are almost inseparable.

### Findings: Base Data

**TABLE 1**  
Population and Housing: Statesboro and Bulloch

	<u>Statesboro</u>	<u>Bulloch</u>
<b>Households</b>	8,560	20,743
<b>Average Household Size</b>	2.27	2.53
<b>Population in Households</b>	19,397	52,393
<b>Noninstitutionalized Population</b>	3,301	3,333
<b>Total Population</b>	22,698	55,983

Table 1 shows the total population and housing for both Statesboro and Bulloch. There were 8,560 households in Statesboro and 20,743 in Bulloch County. This means about 41% of the total households are in Statesboro, whereas, 37% of the population “in housing” is within the city. The city's 2000 total population was 22,698 and the county's

was 55,983. Noninstitutionalized population includes dormitories, military quarters, group homes, and other homes for the physically and mentally handicapped. Notice that it is not included in households, but is included in the total population. Total Noninstitutionalized population was 3,301 and 3,333 for Statesboro and Bulloch, respectively.

**TABLE 2**  
Household, Per Capita, and Aggregate Income (1999\$)

	<b>Statesboro</b>	<b>Bulloch</b>
<b>Median Household Income</b>	\$19,016	\$29,499
<b>Average Household Income</b>	\$31,853	\$42,475
<b>Per Capita Income</b>	\$12,585	\$16,080
<b>Aggregate Income</b>	\$272,820,700	\$881,655,900

Table 2 includes household, per capita, and aggregate income. The median household income was \$19,016 and \$29,499 for Statesboro and Bulloch, respectively. Average income was \$31,853 for Statesboro and \$42,475 for Bulloch. The housing data does not include students in dormitories, however, per capita income does. Per capita income was \$12,585 for Statesboro and \$16,080 for Bulloch in 1999 dollars.

The balance of the base data can be found in Table 3. In this table the household income and per capita income for the counties in State Service Delivery Region 7, 9, and 12 were ranked from highest to lowest. There are forty counties in these four regions. Cities included in them were Augusta, Brunswick, Dublin, Savannah, and Statesboro. When looking at the ranking of Bulloch County compared to the other 39 counties, it was ranked eleventh for household income and tenth for per capita income.

**TABLE 3**  
Rankings of Household Income and Per Capita Income

<b>NAME</b>	<b>States Service Delivery Region</b>	<b>Household Income</b>	<b>Per Capita Income</b>
Columbia County	Region 7	1	1
Bryan County	Region 12	2	4
Chatham County	Region 12	3	3
Effingham County	Region 12	4	5
Glynn County	Region 12	5	2
McDuffie County	Region 7	6	6
Camden County	Region 12	7	9
Richmond County	Region 7	8	7
Laurens County	Region 9	9	8
Wayne County	Region 9	10	12
<b>Bulloch County</b>	<b>Region 12</b>	<b>11</b>	<b>10</b>
Bleckley County	Region 9	12	11
Washington County	Region 7	13	13
Liberty County	Region 12	14	27
Appling County	Region 9	15	16
Wilcox County	Region 9	16	25
Lincoln County	Region 7	17	15
Montgomery County	Region 9	18	23
Dodge County	Region 9	19	18
Wheeler County	Region 9	20	35
Tattnall County	Region 9	21	31
Toombs County	Region 9	22	20
Warren County	Region 7	23	24
Screven County	Region 7	24	26
Telfair County	Region 9	25	21
McIntosh County	Region 12	26	19
Burke County	Region 7	27	33
Wilkes County	Region 7	28	17
Jefferson County	Region 7	29	30
Taliaferro County	Region 7	30	14
Emanuel County	Region 9	31	29
Jeff Davis County	Region 9	32	28
Jenkins County	Region 7	33	32
Long County	Region 12	34	38
Candler County	Region 9	35	36
Glascocock County	Region 7	36	22
Treutlen County	Region 9	37	34
Evans County	Region 9	38	37
Johnson County	Region 9	39	39
Hancock County	Region 7	40	40

## Findings: Estimation

The estimation section of the findings not only illustrates the adjustment in income to exclude the traditional college student, but it also shows key data. Since this study relies on the probable characteristics of traditional college students to identify students residing in the city, it is imperfect by its very nature; however, a high and low estimate was calculated to give the practitioner a perspective of the true income. Please notice that the left column includes symbols in parentheses to demonstrate the calculation made.

**TABLE 4**  
Average Household Income Calculation (1999\$)

	Statesboro		Bulloch	
	Low Estimate	High Estimate	Low Estimate	High Estimate
<b>Estimated Student Households</b>	2,125	3,172	2,709	3,692
<b>(*)Average Student Household Income<sup>1</sup></b>	\$14,532	\$14,532	\$16,675	\$16,675
<b>(=)Aggregate Student Income</b>	\$30,878,447	\$46,100,102	\$45,175,797	\$61,558,802
<b>Aggregate Income</b>	\$272,820,700	\$272,820,700	\$881,655,900	\$881,655,900
<b>(-)Aggregate Student Income</b>	\$30,878,447	\$46,100,102	\$45,175,797	\$61,558,802
<b>(=)Adjusted Aggregate Income</b>	\$241,942,253	\$226,720,598	\$836,480,103	\$820,097,098
<b>Households</b>	8,565	8,565	20,743	20,743
<b>(-)Estimated Student Households</b>	2,125	3,172	2,709	3,692
<b>(=)Adjusted Households</b>	6,440	5,393	18,034	17,051
<b>Adjusted Aggregate Income</b>	\$241,942,253	\$226,720,598	\$836,480,103	\$820,097,098
<b>(/)Adjusted Households</b>	6,440	5,393	18,034	17,051
<b>(=)Estimated Household Income</b>	<b>\$37,568</b>	<b>\$42,042</b>	<b>\$46,384</b>	<b>\$48,096</b>

Table 4 illustrates the average household income calculation. The estimated number of student households for Statesboro was between 2,125 and 3,172. For Bulloch the

<sup>1</sup> Average student household income was estimated from householders under 25.

estimated number of student households was slightly higher, between 2,709 and 3,692.<sup>2</sup> Multiplying these numbers with an estimated average student household income derives an aggregate student income. This aggregate income shows part of the buying power students have. It should be noted that the students buying power is actually larger than income. A better measurement is earnings, which includes such things as money from family, loans, and grants.

The total aggregate income in Statesboro was \$272,820,700 and for Bulloch it was \$881,655,900. The new estimated aggregate income was between \$241,942,253 and \$226,720,598 for Statesboro and \$836,480,103 and \$820,097,098 for Bulloch County. This is important because this shows the buying power of the residents of the city and county. If one adds in the market area aggregate income, all the counties-communities that are economically linked to Statesboro, one will get the potential buying power for commercial businesses.

The estimated household income for Statesboro is between \$37,568 and \$42,042. This is between \$5,715 and \$10,189 higher than what the Census estimated (\$31,853). As for Bulloch, household income increased between \$3,909 and \$5,621 to \$46,384 and 48,096, respectively. The Census estimate was \$42,475.

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<sup>2</sup> The low estimate calculates the sum of two Census categories: “Roomer or Boarder” and “Housemate or Roommate”. Additionally, the only part of those categories used is Nonfamily Nonrelatives.

The high estimate takes a wider approach and calculates all Nonfamily households with the householder under the age of 24 as part of the traditional college student.

**TABLE 5**  
Average Per Capita Income Calculation (1999\$)

	Statesboro		Bulloch	
	Low Estimate	High Estimate	Low Estimate	High Estimate
<b>Estimated Student Population</b>	3,761	5,615	4,332	5,903
<b>(+)Students in College Dormitories</b>	2,777	2,777	2,777	2,777
<b>(=)Total Estimated Student population</b>	6,538	8,392	7,109	8,680
<b>Total Estimated Student population</b>	6,538	8,392	7,109	8,680
<b>(*)Average Student Income<sup>3</sup></b>	\$8,210	\$8,210	\$10,428	\$10,428
<b>(=)Aggregate Student Income</b>	\$53,678,088	\$68,899,742	\$74,135,444	\$90,518,449
<b>Aggregate Income</b>	\$272,820,700	\$272,820,700	\$881,655,900	\$881,655,900
<b>(-)Aggregate Student Income</b>	\$53,678,088	\$68,899,742	\$74,135,444	\$90,518,449
<b>(=)Adjusted Aggregate Income</b>	\$219,142,612	\$203,920,958	\$807,520,456	\$791,137,451
<b>Total Population</b>	22,698	22,698	55,983	55,983
<b>(-)Total Estimated Student population</b>	6,538	8,392	7,109	8,680
<b>(=)Adjusted Population</b>	16,160	14,306	48,874	47,303
<b>Adjusted Aggregate Income</b>	\$219,142,612	\$203,920,958	\$807,520,456	\$791,137,451
<b>(/)Adjusted Population</b>	16,160	14,306	48,874	47,303
<b>(=)Estimated Per Capita Income</b>	<b>\$13,561</b>	<b>\$14,254</b>	<b>\$16,522</b>	<b>\$16,725</b>

Table 5 shows the average per capita income calculations. Again, it is important to note that unlike in households, students in dormitories were added into population. The total estimated traditional college students in Statesboro was between 6,538 and 8,392. For Bulloch County it was between 7,109 and 8,680. There are two reasons why this does not add up to the enrollment figure at GSU. First, a portion of the student population are commuters. They travel in from surrounding counties. Second, part of the student

<sup>3</sup> Average student household income was estimated from householders under 25.

enrollment includes graduates and undergraduates in the distance learning program.

Participant cities included Brunswick, Savannah, Hinesville, and Dublin.

The estimated per capita income for Statesboro was between \$13,561 and \$14,254. The Census estimate was \$12,585, making an increase of \$976 and \$1,669, respectively. The Bulloch estimated per capita income was between \$16,522 and \$16,725. This is above the Census estimate of \$16,080.

To put these changes in context with the region, the following table re-ranks the forty counties indicated earlier. Please note that the high estimate of household income and per capita income were used in this new ranking. As such, Bulloch County was ranked 6 for household income and 9 for per capita income. This is a change of five places for household income and one for per capita income.

**TABLE 6**

Rankings of Household Income and Per Capita Income with New Estimates

<b>NAME</b>	<b>States Service Delivery Region</b>	<b>Household Income</b>	<b>Per Capita Income</b>
Columbia County	Region 7	1	1
Bryan County	Region 12	2	4
Chatham County	Region 12	3	3
Effingham County	Region 12	4	5
Glynn County	Region 12	5	2
<b>Bulloch County NEW</b>	<b>Region 12</b>	<b>6</b>	<b>9</b>
McDuffie County	Region 7	7	6
Camden County	Region 12	8	10
Richmond County	Region 7	9	7
Laurens County	Region 9	10	8
Wayne County	Region 9	11	12
Bleckley County	Region 9	12	11
Washington County	Region 7	13	13
Liberty County	Region 12	14	27
Appling County	Region 9	15	16
Wilcox County	Region 9	16	25
Lincoln County	Region 7	17	15
Montgomery County	Region 9	18	23
Dodge County	Region 9	19	18
Wheeler County	Region 9	20	35
Tattnall County	Region 9	21	31
Toombs County	Region 9	22	20
Warren County	Region 7	23	24
Screven County	Region 7	24	26
Telfair County	Region 9	25	21
McIntosh County	Region 12	26	19
Burke County	Region 7	27	33
Wilkes County	Region 7	28	17
Jefferson County	Region 7	29	30
Taliaferro County	Region 7	30	14
Emanuel County	Region 9	31	29
Jeff Davis County	Region 9	32	28
Jenkins County	Region 7	33	32
Long County	Region 12	34	38
Candler County	Region 9	35	36
Glascocock County	Region 7	36	22
Treutlen County	Region 9	37	34
Evans County	Region 9	38	37
Johnson County	Region 9	39	39
Hancock County	Region 7	40	40

## **Conclusions**

This City of Statesboro and Bulloch County are in a unique situation where the Census data on income and households does not reflect the true economy. Since Georgia Southern University has an unusually large number of students living in the community, off campus, their relatively lower wages has driven down the average income. As a result, the appearance of a lower per capita income and household income has become a deterrent for some new business prospects.

This study has created a methodology that adjusts the number of households, household income, and per capita income in both the City of Statesboro and Bulloch County. The result excludes what the Bureau of Business Research and Economic Development calls the “traditional college student”.

The Census estimated household income for Statesboro in 2000 to be at \$31,853 (1999\$) and for Bulloch County at \$42,465 (1999\$). After adjusting for the traditional college student, this study found the household income for Statesboro to be between \$37,568 and \$42,042 and Bulloch to be between \$46,384 and \$48,096. Additionally, there was an adjustment to per capita income. The Census estimate was \$12,585 and \$16,080 for Statesboro and Bulloch, respectfully. This study found that per capita income to be between \$13,561 and \$14,254 for Statesboro and between \$16,522 and \$16,725 for Bulloch, County.

It should be noted that although this study looked at an adjustment to income to show the buying power of students and residents, there is an additional component that needs to be addressed. For example, the buying power (discretionary income) of students cannot be fully measured by income; rather, it needs to be measured by earnings. When “traditional college students” enter college they typically receive additional money from other places than a job: loans, grants, and money from family members. This makes the aggregate income of students in the findings section under estimated. In fact, it could be expected that they have significantly higher discretionary income.<sup>4</sup>

The underestimated incomes of students and residents have had an artificial barrier against new retail development, and as a result this economy has been underserved by the retail and wholesale trade sectors. It is expected that over the next few years the Statesboro and Bulloch economies will slowly shift to correct this underestimation.

Overall, the Buying Power of Bulloch County and Statesboro was much higher than what was reflected in the Census estimates. As such, household income went from ranked eleventh out of a forty county region to ranked sixth. As a result of this recalculation, the only five counties with higher household income than Bulloch were Columbia, Bryan, Chatham, Effingham, and Glynn.

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<sup>4</sup> Unfortunately, because of the complexity of potential student income, the best measure would come from a direct survey.

## Appendix A

### DEFINITIONS OF TERMS USED IN TABLES FROM CENSUS DATA

**I. Census Tract**—Census tracts are small, relatively permanent statistical subdivisions of a county or statistically equivalent entity delineated by local participants as part of the U.S.Census Bureau 's Participant Statistical Areas Program. The U.S.Census Bureau delineated census tracts where no local participant existed or where a local or tribal government declined to participate. The primary purpose of census tracts is to provide a stable set of geographic units for the presentation of decennial census data.

**II. Census Block Group**—A block group (BG) is a cluster of census blocks having the same first digit of their four-digit identifying numbers within a census tract. For example, block group 3 (BG 3) within a census tract includes all blocks numbered from 3000 to 3999. BGs generally contain between 600 and 3,000 people, with an optimum size of 1,500 people.

**III. Census Block**—Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries, such as city, town, township, and county limits, property lines, and short, imaginary extensions of streets and roads. Generally, census blocks are small in area; for example, a block bounded by city streets. However, census blocks in sparsely settled areas may contain many square miles of territory.

**IV. Households**—Includes all of the people who occupy a housing unit. A housing unit is equal to a house, apartment, a mobile home, a group of rooms, or a single room occupied as separate living quarters. For 100% tabulation, the count of households always equals the number of housing units.

**V. Average Household Size**—A measure obtained by dividing the number of people in a household by the number of households (or householders).

**VI. Group Quarters**—All people not living in housing units are classified as living in group quarters.

**A) Non-Institutionalized Population**—Includes people living in group quarters other than institutions.

**1) College quarter's off-campus**—Includes university-owned off-campus housing. The place is reserved exclusively for occupancy by college students who do not have their families living with them. In census products, people in this category are classified as living in a college dormitory.

**2) College Dormitories**—Includes college students in dormitories (provided the dormitory is restricted to students who do not have their families living with them), fraternity and sorority houses, and on-campus residential quarters used exclusively for those in religious orders who are

attending college. College dormitory housing includes university-owned, on-campus and off-campus housing for unmarried residents.

**VII. Nonrelatives**—Includes any household member who is not related to the householder by birth, marriage, or adoption, including foster children.

**A) Roomer, boarder**—Includes roomers or boarders who live in a room in the household of Person 1 (householder). Some sort of cash or non-cash payment (e.g., chores) is usually made for their living accommodations.

**B) Housemate or roommate**—A person who is not related to the householder and who shares living quarters primarily to share expenses.

**VIII. Tenure**—Asked at all occupied housing units. All occupied housing units are classified as either owner occupied or renter occupied.

**A) Owner**—A housing unit is owner occupied if the owner or co-owner lives in the unit even if it is mortgaged or not fully paid for. The owner or co-owner must live in the unit and usually is Person 1 on the questionnaire. The unit is “Owned by you or someone in this household with a mortgage or loan” if it is being purchased with a mortgage or some other debt arrangement, such as a deed of trust, trust deed, contract to purchase, land contract, or purchase agreement.

**B) Renter**—All occupied housing units that are not owner occupied, whether they are rented for cash rent or occupied without payment of cash rent, are classified as renter occupied.

**IX. Household Income**—This includes the income of the householder and all other individuals 15 years old and over in the household, whether they are related to the householder or not. Because many households consist of only one person, average household income is usually less than average family income. The income of the household does not include amounts received by individuals who were members of the household during all or part of calendar year 1999 if these individuals no longer resided in the household at the time of enumeration.

**X. Aggregate Income**—Aggregate income is the sum of all incomes for a particular universe. Aggregate income is subject to rounding, which means that all cells in a matrix are rounded to the nearest hundred dollars.

**XI. Per Capita Income**—Per capita income is the mean income computed for every man, woman, and child in a particular group. It is derived by dividing the total income of a particular group by the total population in that group. (The aggregate used to calculate per capita income is rounded.)