

**The Economic Impact of  
University System of Georgia  
Institutions on their  
Regional Economies in FY 2007**

**April 2008**

**A Needs Assessment Study**

**Commissioned by**

**Georgia's Intellectual Capital Partnership Program (ICAPP)**

**Dr. Jeffrey M. Humphreys**

**Director, Selig Center for Economic Growth**

**Terry College of Business**

**The University of Georgia**



**The Economic Impact of University System of Georgia Institutions  
on their Regional Economies in FY 2007**

## **Executive Summary**

The statewide economic impact of the University System of Georgia's 35 institutions in fiscal year 2007 includes:

- \$11 billion in output (sales);
- \$6.7 billion in gross regional product;
- \$4.8 billion in income; and
- 106,267 full- and part-time jobs (2.6 percent of all jobs in Georgia).

These benefits permeate both the private and public sectors of the host communities. For example, for each job created on campus there are 1.4 off-campus jobs that exist because of spending related to the college or university.

These economic impacts demonstrate that continued emphasis on colleges and universities as a pillar of the state's economy translates into jobs, higher incomes, and greater production of goods and services.

In addition to the system-wide impact summarized here, the following chapters quantify the economic benefits that each institution conveys to the community in which it is located. Each institution's benefits are estimated for several categories of college/university-related expenditures: spending by the institutions themselves for salaries and fringe benefits, operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects.

## **1. Introduction**

How much does a region benefit economically from hosting an institution of higher education? Traditionally, the benefits are discussed in broad, qualitative terms that often fail to satisfy those who demand tangible evidence of the economic linkages between the academic community and the community as a whole; however, this report quantifies the economic benefits that the University System of Georgia's institutions convey to the communities in which they are located.

The benefits are estimated for three important categories of college/university-related expenditures: spending by the institutions themselves for salaries and fringe benefits, operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects (construction). The economic impact estimates are based on regional input-output models of each institution's regional economy, certain necessary assumptions, and available data on annual spending in the specified categories. Moreover, the emphasis is on funds received by residents in the region that hosts each college or university. The study reports expenditures and impacts for the 2007 fiscal year—July 1, 2006 through June 30, 2007. Note that since Georgia Gwinnett Colle

## **2. Economic Impact Highlights**

In the simplest terms, the total economic impact of all 35 institutions on their host communities was \$11 billion in FY 2007. The output impact of each institution is the change in regional output that is due to spending by the institution and spending by the students who attend that particular college or university. Of the FY 2007 total, \$7.3 billion (66 percent) is initial spending by the institutions and students; \$3.8 billion (34 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2007 total output impact (\$11 billion) by initial

### 3. Methodology

#### **Understanding the Concept of the Short-Term Economic Impact Of a College or University**

The total annual economic impact of college- or university-related spending is defined to consist of the net changes in regional output, value added, labor income, and employment that are due to initial spending by the institution (for operations as well as personnel services) and its students. The total economic impact includes the impact of the initial round of spending and the secondary, or indirect and induced spending—referred to as the multiplier effect—that occurs when the initial expenditures are re-spent. Figure 1 provides a schematic representation of impact relationships.

Indirect spending refers to the changes in inter-industry purchases as a region's industries respond to the additional demands triggered by spending by the college or university, its faculty and staff, and its students. It consists of the ripples of activity that are created when an institution and its employees and students purchase goods or services from other industries located in the host community. Induced spending is similar to indirect spending except that it refers to the additional demand triggered by spending by the region's households as their income increases due to changes in production. Basically, the induced impact captures the ripples of activity that are created when households spend more due to increases in their earnings that were generated by the direct and indirect spending.

The sum of the direct, indirect, and induced economic impacts is the total economic impact, which is expressed in terms of output (sales, plus or minus inventory), value added (gross regional product), labor income, or employment. Total industry output is gross receipts or sales, plus or minus inventory, or the value of production by industry (including households) for a given period of time. Total output impacts are the most inclusive, largest measures of economic impact. Because of their size, output impacts typically are emphasized in economic impact studies and receive much media attention. One problem with output as a measure of economic impact, however, is that it includes the value of inputs produced by other industries, which means that there inevitably is some double counting of economic activity. The other measures of economic activity (value added, labor income, and employment) are free from double counting and provide a much more realistic measure of the true economic impact of a college or university on its regional economy.

The regional economic areas are the host communities, including the surrounding counties from which employees and students commute. The effects of expenditures that go to people, businesses, or governments located outside the regions are not included in the value-added, labor income, and employment impact estimates.

The multiplier concept is common to most economic impact studies. Multipliers measure the response of the local economy to a change in demand or production. In essence, multipliers capture the impact of the initial round of spending plus the impacts generated by successive rounds of re-spending of those initial dollars. The magnitude of a particular multiplier depends upon what proportion of each spent dollar leaves the region during each round of spending. Multipliers therefore are unique to the region and to the industry that receives the initial round of spending.

Figure 2 illustrates the successive rounds of spending that might occur if a person buys an item locally. Assume that the amount spent is \$100 and that the appropriate regional output multiplier is 2.0. The initial injection of spending to the region is \$100, which creates a direct economic impact of \$100 to the regional economy. Of that \$100, only \$50 is re-spent locally; the rest flows out of the region through non-local taxes, non-local purchases, and income transfers. After the first round of spending, the total economic impact to the region is \$150. During the second round of re-spending, \$25 is re-spent locally and \$25 leaks out of the region, a 50 percent leakage. Now the total economic impact to the region is \$175. After seven rounds of re-spending, less than \$1 remains in the local economy, but the total economic impact has reached almost \$200. The induced (multiplier effect) impact to the region (\$100) equals the total im

rest

## **Analytic Approach**

Estimating the economic impact of the University System of Georgia institutions on their regional economies in FY 2007 involved four basic steps. First, initial spending (and employment) for each institution were obtained for Budget Unit "A" and "Budget Unit "B"; and then the institutional expenditures were allocated to industrial sectors recognized by the economic impact modeling system. Second, spending by students was estimated and then allocated to industrial sectors. Third, expenditures associated with capital projects (construction) funded were obtained for each institution and were allocated to the appropriate industrial sectors. Finally, the IMPLAN Professional Version 2.0 (2007) modeling system was used to build regional economic models that are specific to each institution.

The geographic areas corresponding to the regional models that were built for each institution, which include the labor force directly involved in their economic spheres, are reported in Appendix 1. These geographic areas are based on an analysis of commuting patterns data obtained from Census 2000 (*Residence County to Workplace County Flows for Georgia, U.S.* Census Bureau, Internet Release Date: March 6, 2003).

For analytical purposes, all dollar amounts were converted to inflation-adjusted dollars, but the amounts expressed in this report have been re-inflated to 2007 dollars. Type SAM (social accounting matrices) multipliers from the IMPLAN modeling system were used to estimate the economic impacts associated with all categories of spending. Type SAM multipliers capture the original expenditures resulting from the impact, the indirect effects of industries buying from industries, and the induced effects of households' expenditures based on information in the social account matrix. The multipliers account for Social Security and income tax leakage, institutional savings, commuting, inter-institutional transfers, and people-to-people transfers.

Whenever appropriate, the IMPLAN software applied margins to convert purchaser prices to producer prices. In input-output models, all expenditures are in terms of producer prices, which allow all spending to be allocated to the industries that actually produce the good or service. The margins are derived from U.S. Bureau of Economic Analysis data. Moreover, margins were selected according to type of consumer to which these applied. For example, households pay transportation, wholesale, and the full retail margins. In contrast, institutions of higher education may pay little or no retail margin as they have typically more buying power than a household. In addition, some sectors of the model do not have margins. For instance,

because there usually are no wholesalers or retailers involved when someone rents a room, hotels and other lodging do not have margins.

The model's default estimates of the local economy's regional purchase coefficients were used to derive the ratio of locally purchased to imported goods. The regional purchase coefficient represents the proportion of the total demands for a given commodity that is supplied by the region to itself. The regional purchase coefficients were estimated with an econometric equation that predicts local purchases based on each region's unique characteristics. In addition, the entire analysis was conducted using the full range of industrial sectors in order to avoid aggregation bias.

### **Initial Spending by the Institutions**

Institution-specific data on expenditures for personnel services and number of positions were obtained from the Board of Regents for FY 2007. The expenditure amounts were treated as an industry change and are reported in the first column of Tables 1 and 2, respectively. These amounts were allocated to various economic sectors recognized by the IMPLAN software based on the typical expenditure pattern for households of moderate income.

Institution-specific data on expenditures for operating expenses (non-personnel services) for FY 2007 were obtained from the Board of Regents for FY 2007. These amounts were treated as an industry change and are reported in the first column of Tables 1 and 2, respectively.

To avoid double-counting, the estimates of initial spending do not include expenditures arising from two budgetary classes: auxiliary enterprise funds (self-supporting activities for housing, food service, bookstore, athletics, and other) and student activity funds (cultural and recreational programs operated by students). The spending associated with such activities is included in the student's personal expenditures, however.

Expenditures for the Medical College of Georgia do not account for spending by the hospital and clinics operating by MCG Health, Inc., which became a not-for-profit corporation in July 2000. Prior to FY2007, the University of Georgia accounted for and reported HOPE scholarship funds and Stafford (FDSL) loan funds as sponsored operations instead of agency funds on budget basis reports. Therefore, the expenditures and impacts for the University of Georgia are not comparable to previously published



estimates, and the expenditures and impacts for the Medical College of Georgia are not comparable to estimates in studies for years prior to FY 2004.

Since a detailed analysis of spending patterns at each institution was not practical, budgeted expenditures for operating expenses were allocated to various economic sectors based on a typical expenditure pattern estimated for U.S. colleges that was developed by the IMPLAN 2.0 modelers.

Institution-specific data on capital projects (construction) also were obtained from the Board of Regents. The expenditures were allocated to the fiscal year of reported funding, regardless of whether or not all of the funds were actually spent during fiscal year 2007. Therefore, the amounts for capital expenditures and their impacts are not included in the economic impacts expressed in Tables 1-3, but they are reported in Appendix 2.

It should be noted that previous editions of this study did not include the impacts of public/private ventures. The FY 2007 capital project impacts therefore are not directly comparable to those for FY 2004 or earlier fiscal years.

### **Students' Personal Expenditures**

College students spend significant amounts of money in the local economy as a part of their living expenses, so the dollar value of this spending was estimated. Since a detailed survey of students' spending habits at each institution was not practical, typical expenditure levels per student per semester were estimated based on data obtained from several sources: (1) annual *Consumer Expenditure Surveys* conducted by the U.S. Bureau of Labor Statistics (BLS); (2) a special BLS study that appeared in the July 2001 issue of the *Monthly Labor Review* that examined the expenditures of college-age students and non-students; and (3) a sample of recent estimated costs of attendance prepared by individual institutions. Although the estimated costs of attendance prepared by individual institutions were not detailed enough to be used in the IMPLAN modeling system, they did provide information for a profile of average expenditures for some of the items typically purchased by students.

Although the *Consumer Expenditure Surveys* cover households consisting of one person at various income levels, no recent data are available specifically for college students; therefore, to adapt the data for this study, spending estimates for several categories of goods or services were increased, decreased, or eliminated. For example, compared to a

weighted average of lower-income households, students' expenditures for books and for eating out were increased substantially, while students' expenditures for groceries, cash contributions, insurance and pensions, and health care were reduced. Because spending for vacation and travel do not take place locally, these expenditures were eliminated entirely. In addition, expenditures for tuition were eliminated because of possible double counting. Institutions receive payments

## 4. Results

This section describes the economic benefits that the University System of Georgia's 35 institutions conveyed to their host communities in FY 2007. The estimates represent the economic impact of spending by an institution, its faculty and staff, and its students. Based on the methodology and available data described earlier, the IMPLAN modeling system was used to calculate the total economic impact—total

impact, \$7.3 billion (66 percent) was initial spending by the institutions and students, while \$3.8 billion (34 percent) was the induced/re-spending impact or multiplier effect (i.e., the difference between output impact and initial spending). The multiplier captures the regional economic repercussions of the flows of re-spending that take place throughout the region until the initial spending has completely leaked to other regions. The average multiplier value for all institutions in FY 2007 was 1.52, obtained by dividing the total output impact (\$11 billion) by initial spending (\$7.3 billion). On average, therefore, every dollar of initial spending generated an additional 52 cents for the economy of the region hosting the institution. Thus, for all

represents 72 percent of the value-added impact and 67 percent of the initial spending. Labor income for each institution is reported in the fourth column of Table 2.

### **Employment Impact**

The economic impact of hosting an institution of the University System of Georgia probably is most easily understood in terms of its effects on employment. Collectively, the 35 institutions generated an employment impact of 106,267 jobs in FY 2007. Approximately 42 percent of these positions are on-campus jobs at one of the institutions of the University System of Georgia, and 58 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.4 off-campus jobs that exist because of spending related to the University System of Georgia.

The employment impact associated with the University System accounts for 2.6 percent of all the jobs held by Georgians, or about one job in 39. For all institutions combined, 14.6 jobs were generated for each million dollars of initial spending in FY 2007.

Employment impacts in FY 2007 for the individual institutions are reported in the fifth column of Table 2.



Finally, the outreach and service units of the college or university provide valuable services to local businesses and households. Cultural and educational programs and facilities often are available to the general public and provide intangible benefits to the host community by improving residents' quality of life.

## 6. Summary





## Figure 2

How multipliers capture the

Table 1

Total Economic Impact of all 35 Institutions of the University System of Georgia  
on their Regional Economies in the 2007 Fiscal Year

Total for All Institutions in <u>2007</u>	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	7,279,143,097	11,037,935,664	6,721,156,391	4,842,777,373	106,267

Table 2

Total Economic Impact of University System of Georgia  
Institutions on their Regional Economies in the 2007 Fiscal Year

Initial

Output

Table 2 (continued)

Total Economic Impact of University System of Georgia  
Institutions on their Regional Economies in the 2007 Fiscal Year

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
<b>Augusta State University</b>	129,242,404	180,347,832	107,107,432	72,861,782	2,127
Personal Services	35,777,177	68,425,093	49,359,204	42,559,539	1,090
Operating Expenses	20,685,527	25,417,918	8,375,790	5,164,832	134
Student Spending	72,779,700	86,504,821	49,372,438	25,137,411	903
<b>Clayton State University</b>	119,794,690	183,848,708	114,455,389	77,135,265	1,737
Personal Services	34,741,044	70,448,225	51,881,156	43,684,292	839
Operating Expenses	18,786,046	25,691,023	10,376,937	6,433,797	127
Student Spending	66,267,600	87,709,460	52,197,296	27,017,176	771
<b>Columbus State University</b>	154,757,145	211,839,694	123,319,348	86,393,792	2,436
Personal Services	45,591,251	85,816,921	61,508,237	53,576,975	1,276
Operating Expenses	25,272,994	29,518,617	7,613,780	5,085,123	137
Student Spending	83,892,900	96,504,156	54,197,331	27,731,694	1,023
<b>Fort Valley State University</b>	75,601,427	111,882,678	66,515,705	49,561,190	1,455
Personal Services	30,324,745	58,055,973	41,944,533	36,215,293	999
Operating Expenses	18,008,182	21,573,228	6,185,706	3,954,194	105
Student Spending	27,268,500	32,253,477	18,385,466	9,391,703	351
<b>Georgia College &amp; State University</b>	135,485,842	171,519,082	99,860,163	71,554,550	1,855
Personal Services	44,360,021	79,632,667	55,667,830	49,276,251	906
Operating Expenses	18,335,096	19,637,623	3,974,818	2,314,001	69
Student Spending	72,790,725	72,248,792	40,217,515	19,964,298	880
<b>Georgia Southwestern State University</b>	60,576,621	77,636,619	41,107,999	29,412,123	793
Personal Services	17,060,119	31,414,481	21,739,531	19,185,687	347
Operating Expenses	15,073,227	16,925,503	3,176,966	2,106,669	70
Student Spending	28,443,275	29,296,635	16,191,502	8,119,767	376
<b>Kennesaw State University</b>	381,518,157	584,598,257	368,026,524	246,427,964	5,244
Personal Services	110,330,949	223,730,166	164,764,685	138,733,004	2,306
Operating Expenses	43,966,858	60,127,261	24,286,179	15,057,657	296
Student Spending	227,220,350	300,740,830	178,975,660	92,637,303	2,642
<b>North Ga. College &amp; State University</b>	101,142,365	145,760,977	89,385,444	61,582,885	1,443
Personal Services	31,742,777	61,007,315	44,143,873	37,873,153	650
Operating Expenses	11,849,088	14,705,486	4,775,418	3,168,605	73
Student Spending	57,550,500	70,048,176	40,466,153	20,541,127	720
<b>Savannah State University</b>	85,089,732	121,592,072	70,264,933	48,739,229	1,157
Personal Services	24,637,123	47,348,016	34,220,775	29,441,173	549
Operating Expenses	21,874,909	27,446,034	8,871,557	5,516,282	138
Student Spending	38,577,700	46,798,022	27,172,601	13,781,774	470

(continued)



Table 2 (continued)

Total Economic Impact of University System of Georgia  
Institutions on their Regional Economies in the 2007 Fiscal Year

<u>Institution</u>	<u>Initial Spending (current dollars)</u>	<u>Output Impact (current dollars)</u>	<u>Value Added Impact (current dollars)</u>	<u>Labor Income Impact (current dollars)</u>	<u>Employment Impact (jobs)</u>
<b>Two-year Colleges</b>					
Atlanta Metropolitan College	34,722,459	52,871,937	32,375,031	21,693,092	474
Personal Services	9,392,676	19,046,559	14,026,720	11,810,595	213
Operating Expenses	6,813,908	9,318,420	3,763,830	2,333,610	46
Student Spending	18,515,875	24,506,958	14,584,481	7,548,887	215
Bainbridge College	50,266,572	60,015,706	31,243,838	20,959,640	658
Personal Services	10,714,478	19,396,591	13,425,765	11,891,208	199
Operating Expenses	10,903,019	11,960,861	2,381,622	1,472,058	56
Student Spending	28,649,075	28,658,254	15,436,451	7,596,374	403
Coastal Georgia Community College	51,943,968	69,284,826	39,041,628	26,419,226	695
Personal Services	13,111,247	24,466,039	17,404,397	15,136,590	281
Operating Expenses	10,179,971	11,814,792	3,020,757	1,946,843	54
Student Spending	28,652,750	33,003,995	18,616,474	9,335,793	360
Darton College	80,245,164	105,808,797	59,444,558	40,141,234	1,363
Personal Services	18,693,109	35,350,880	25,258,943	21,948,723	668
Operating Expenses	15,699,080	18,526,861	4,789,199	3,108,592	94
Student Spending	45,852,975	51,931,056	29,396,416	15,083,919	601
East Georgia College	33,773,307	42,137,152	21,871,837	14,023,260	471
Personal Services	5,926,290	10,945,520	7,729,666	6,768,046	155
Operating Expenses	8,386,667	9,534,563	2,372,772	1,428,199	44
Student Spending	19,460,350	21,657,069	11,769,399	5,827,015	272
Ga. Highlands College	68,989,194	89,617,375	50,783,887	33,204,322	986

Table 2 (continued)

Total Economic Impact of University System of Georgia  
Institutions on their Regional Economies in the 2007 Fiscal Year

<u>Institution</u>	Initial Spending (current dollars)	Output Impact	Value Added Impact	Labor Income Impact	Employment Impact
--------------------	--	------------------	-----------------------	------------------------	----------------------



Table 3

## Appendix 1

### Study Areas for Institutions

#### Research and Regional Universities

Georgia Institute of Technology – Atlanta MSA  
Georgia State University – Atlanta MSA  
Medical College of Georgia – Richmond, Columbia, Burke, McDuffie, Jefferson, Lincoln, Warren, and  
Glascock  
University of Georgia – Clarke, Oconee, Madison, Oglethorpe, Jackson, Barrow, Walton, and Gwinnett  
Georgia Southern University – Bulloch, Screven, Candler, Jenkins, Evans, Tattnall, and Emanuel  
Valdosta State University – Lowndes, Brooks, Lanier, Echols, Cook, and Berrien

#### State Universities

Albany State University – Dougherty, Lee, Worth, Mitchell, Terrell, Colquitt, Baker, Sumter, Calhoun, and Tift  
Armstrong Atlantic State University – Chatham, Effingham, Bryan, Liberty, and Bulloch  
Augusta State University – Richmond, Columbia, Burke, McDuffie, Jefferson, Lincoln Warren, and Glascock  
Clayton State University – Atlanta MSA  
Columbus State University – Muscogee, Harris, Chattahoochee, Marion, Talbot, Stewart, Troup, Meriwether  
Fort Valley State University – Peach, Houston, Bibb, Crawford, Macon, and Taylor  
Georgia College & State University – Baldwin, Hancock, Putnam, Wilkinson, Jones, and Washington  
Georgia Southwestern State University – Sumter, Schley, Macon, Lee, Crisp, Marion, Webster, and Dooly  
Kennesaw State University – Atlanta MSA  
North Georgia College & State University – Lumpkin, Hall, Dawson, White, Forsyth, and Union  
Savannah State University – Chatham, Effingham, Bryan, Liberty, and Bulloch  
Southern Polytechnic State University – Atlanta MSA  
University of West Georgia – Atlanta MSA

#### State Colleges

Abraham Baldwin Agricultural College – Tift, Berrien, Worth, Colquitt, Irwin, Cook, and Turner  
Dalton State College – Whitfield, Murray, Catoosa, Gordon, Walker, and Gilmer  
Gainesville State College – Hall, Gwinnett, Jackson, White, Habersham, Lumpkin, Banks, and Forsyth  
Georgia Gwinnett College – Atlanta MSA  
Gordon College – Atlanta MSA  
Macon State College – Bibb, Houston, Jones, Monroe, Peach, Crawford, Twiggs, Baldwin, Wilkinson, and  
Laurens  
Middle Georgia College – Bleckley, Dodge, Pulaski, Twiggs, and Laurens

#### Two-Year Colleges

Atlanta Metropolitan College – Atlanta MSA  
Bainbridge College – Decatur, Seminole, Miller, Grady, Early, Mitchell, and Baker  
Coastal Georgia Community College – Glynn, Brantley, McIntosh, Camden, and Wayne  
Darton College – Dougherty, Lee, Worth, Mitchell, Terrell, Colquitt, Baker, Sumter, Calhoun, and Tift  
East Georgia College – Emanuel, Candler, Bulloch, Johnson, Jefferson, Toombs, Treutlen, and Jenkins  
Georgia Highlands College – Floyd, Polk, Chattooga, Bartow, and Gordon  
Georgia Perimeter College – Atlanta MSA  
South Georgia College – Coffee, Atkinson, Bacon, Jeff Davis, Ware, Telfair, Ben Hill, and Irwin  
Waycross College – Ware, Pierce, Brantley, Bacon, Coffee, Clinch, and Atkinson

#### Note:

Study areas were defined by the author based on commuting data obtained from the Residence County to Workplace County Flows for Georgia, U.S. Census Bureau, Internet Release date March 6, 2003.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), April 7, 2008.

Appendix 2

Economic Impact of Capital Outlays  
in Fiscal Year 2007

<u>Institution</u>	<u>Initial Spending (2007 dollars)</u>	<u>Output Impact (2007 dollars)</u>	<u>Value Added Impact (2007 dollars)</u>	<u>Labor Income Impact (2007 dollars)</u>	<u>Employment Impact (jobs)</u>
<b>System Total</b>	<b>308,208,000</b>	<b>516,777,326</b>	<b>275,030,920</b>	<b>204,973,597</b>	<b>4,738</b>

Appendix 2 (continued)

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System, version 2.0, Type SAM multipliers, and production functions provided by MIG, Inc. Initial spending for capital projects were obtained from the Board of Regents of the

**ICAPP® Intellectual Capital Partnership Program®  
The Economic Development Program of the University System  
of Georgia  
[www.icapp.org](http://www.icapp.org)**