The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2019

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Executive Summary

The statewide economic impact of the University System of Georgia's institutions in fiscal year 2019 includes:

- $18.5 billion in output (sales);
- $12.6 billion in gross regional product;
- $8.6 billion in income; and
- 157,770 full- and part-time jobs (3.5 percent of all non-farm 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 two 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.

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 several 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 2019 fiscal year—July 1, 2018 through June 30, 2019.

The study does not account for all of the short-term impacts of the 26 institutions on their host communities, however. For example, there are no dollar amounts estimated for several sources of college/university-related spending because doing so would require collecting survey data, a task beyond the resources available to this study. In addition, the study neither quantifies the many long-term benefits that an institution of higher education imparts to the host community's economic development nor does it measure intangible benefits (such as cultural opportunities, intellectual stimulation, and volunteer work) to local residents. Finally, the study is not a net benefit analysis; it estimates only economic benefits and does not calculate what the presence of a tax-exempt college/university costs the community.

Economic Impact Highlights

In the simplest terms, the total economic impact of all 26 institutions on their host communities was $18.5 billion in FY 2019. 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 2019 total, $12.6 billion (68 percent) is initial spending by the institutions and students; $5.9 billion (32 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2019 total output impact ($18.5 billion) by initial spending ($12.6 billion) yields an average multiplier value of 1.47. On average, therefore, every dollar of initial spending generates an additional 47 cents for the economy of the region that hosts the institution.

In FY 2019, value added comprises $12.6 billion (68 percent) of the $18.5 billion output impact, with domestic and foreign trade comprising the remaining $5.9 billion (32 percent). The $12.6 billion value-added impact equals 2.1 percent of Georgia's GDP. Labor income received by residents of the communities that host one or more institutions equals $8.6 billion, and represents 68 percent of the value-added impact.

The collective or rolled-up employment impact of all institutions on their host communities in FY 2019, including multiplier effects, is 157,770 full- and part-time jobs. Approximately 33 percent of these positions are on campus (51,768 FTE University System employees) and 67 percent (106,002 jobs) are off-campus positions in either the private or public sectors. On average, for each job created on campus there are two off-campus jobs that exist because of spending related to the institution. The 157,770 jobs generated by the University System account for 3.5 percent of all the nonfarm jobs in Georgia, or about one job in 29. To provide perspective, the rolled-up employment impact of the USG's 26 institutions exceeded the combined number of jobs at Georgia's top five employers—Fort Benning (40,000 jobs), Walmart (34,872 jobs), Delta Air Lines (30,813 jobs), U.S Army Signal Center and Fort Gordon (25,264 jobs), and Emory University (24,535 jobs).

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 consists 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. 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 impact ($200) minus the direct impact ($100).

The multiplier traces the flows of re-spending that occur throughout the region until the initial dollars have completely leaked to other regions. Obviously, multiplier effects within large, self-sufficient areas are likely to be larger than those in small, rural, or specialized areas that are less able to capture spending for necessary goods and services. Multiplier effects also vary greatly from industry to industry, but in general, the greater the interaction with the local economy, the larger the multiplier for that industry. For example, personal services, business services, and entertainment industries have intricate relationships with local supporting industries, and therefore have relatively high multiplier values. Conversely, electric, gas, and sanitary services usually are less intertwined with local supporting industries, and their multipliers are lower.

■ Analytic Approach ■

Estimating the economic impact of the University System of Georgia institutions on their regional economies in FY 2019 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 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 the U.S. Census Bureau. For analytical purposes, all dollar amounts were converted to inflation-adjusted dollars, but the amounts expressed in this report are expressed in 2018 dollars.

Type SAM (social accounting matrices) multipliers from IMPLAN 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, IMPLAN 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 ■

Initial spending is the combination of several types of spending, including spending by USG institutions for personnel services (wages, salaries, and benefits), spending by USG institutions for operating expenses, and spending by students.

The Board of Regents provided institution-specific data on expenditures for personnel services and the number of positions. The expenditure amounts are industry changes and are reported in the first column of Tables 1 and 2, respectively. These amounts are allocated to various economic sectors recognized by IMPLAN on the typical expenditure pattern for households of moderate income.

Institution-specific data on expenditures for operating expenses (non-personnel services) for FY 2019 were obtained from the Board of Regents. These amounts are industry changes 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.

The expenditures and impact reported in Tables 1-3 for Augusta University do not account for spending by the hospital and clinics operating by the AU Health System, Inc. Expenditures and impacts for the AU Health System,

Inc. are reported in Appendix 3, however. Appendix 4 reports the combined impacts of Augusta University and the AU Health System, Inc. on the Augusta MSA (including the two out-of-state counties) rather than that portion of the local economy that lies within Georgia (defined in Appendix 1).

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 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 2019. 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 some previous editions of this study did not include the impacts of public/private ventures. The FY 2019 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) The College Board Annual Survey of Colleges; (2) various annual *Consumer Expenditure Surveys* conducted by the U.S. Bureau of Labor Statistics (BLS); (3) 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 (4) a sample of recent estimated costs of attendance prepared by individual institutions. Although the estimated costs of attendance prepared by the College Board and individual institutions were not detailed enough to be used by 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. In addition, expenditures for tuition were eliminated because of possible double counting. Institutions receive payments from students for tuition, which in turn support the institutions' expenditures, which has already been estimated. After adjustment, the average expenditure per student by semester was estimated at $5,383 for Summer 2018, $8,075 for Fall 2018, and at $8,075 for Spring 2019.

The final step in estimating students' personal expenditures was to multiply the number of semesters of student spending by the average spending per semester. For FY 2019, these amounts are reported in the first column of Tables 1 and 2. The number of semesters of students' spending equals each institution's FTE enrollment as reported in the *Semester Enrollment Report* issued by the Board of Regents.

Results

This section describes the economic benefits that the University System of Georgia's 26 institutions conveyed to their host communities in FY 2019. 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 four indicators of impact—total output, total value-added, total income, and total employment—for each category of initial spending. All dollar amounts are reported in 2018 dollars.

■ Total Initial Spending ■

For each institution, total initial spending accruing to the institution's regional economy is the combination of three types of spending—spending by the institution for personnel services, spending by the institution for operating expenses, and spending by that institution's students. Estimates of initial spending for FY 2019 are reported in the first column of Tables 1 and 2. Spending by the institutions for capital projects is reported in Appendix 2.

For FY 2019, total initial spending for all 26 institutions was $12.6 billion. Spending originating from personnel services accounted for 37 percent ($4.7 billion) of initial spending, spending due to operating expenses accounted for 23 percent ($2.9 billion) of initial spending, and students' personal expenditures accounted for 39 percent ($4.9 billion) of initial spending.

■ Total Output Impact ■

The output impact was calculated for each category of initial spending, based on the impact of the first round of spending and the impacts generated by the re-spending of these amounts—the multiplier effect. Total output impacts are the most inclusive, largest measures of economic impact. Conceptualized as the equivalent of business revenue, sales, or gross receipts, total output is the value of productions by all industries, including households. Output impacts for FY 2019 are reported in the second column of Tables 1 and 2.

Measured in the simplest and broadest possible terms, the total economic impact of the 26 institutions of the University System of Georgia was $18.5 billion in FY 2019 (Table 1). This amount represents the combined impact of all 26 institutions on their host communities. Of the FY 2019 output impact, $12.6 billion (68 percent) was initial spending by the institutions and students, while $5.9 billion (32 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 2019 was 1.47, obtained by dividing the total output impact ($18.5 billion) by initial spending ($12.6 billion). On average, therefore, every dollar of initial spending generated an additional 47 cents for the economy of the region hosting the institution. Thus, for all institutions combined, the output impact was 1.47 times greater than their initial spending, but the multiplier varies among the individual USG institutions.

It is no surprise that estimates for the various institutions show differing outcomes, given the differences in budgets, staffing, enrollment, and regional economies. Institutions located in the largest metropolitan areas (e.g., Georgia Tech in Atlanta)—where multipliers are the highest, or institutions that have the largest budgets, staffs, and enrollments—had the largest economic impacts. Thus, for the most part, institutions with large initial spending will rank highly on the various indicators of economic impact, including value-added, labor income, and employment impact described in the following subsections.

■ Total Value-Added Impact ■

Because value-added impacts exclude expenditures related to foreign and domestic trade, they provide a much more accurate measure of the actual economic benefits flowing to businesses and households in a region than the more inclusive output impacts. The value-added impacts for FY 2019 are reported in the third column of Tables 1 and 2.

The 26 institutions collectively generated a value-added impact of $12.6 billion on their host communities in FY 2019. For all institutions combined, the value-added impact equaled 68 percent of the $18.5 billion output impact

(with domestic and foreign trade comprising the remaining 32 percent of the output impact). The $12.6 billion value-added impact reported for FY 2019 equals about 2.1 percent of Georgia's 2018 GDP.

■ Labor Income Impact ■

Collectively, the 26 University System institutions generated a labor income impact on their host communities of $8.6 billion in FY 2019. The labor income received by residents of the communities that host University System institutions represents 68 percent of the value-added impact. 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 26 institutions generated an employment impact of 157,770 jobs on their host communities in FY 2019. Approximately 33 percent (51,768 jobs) of these positions are on-campus jobs at one of the institutions of the University System of Georgia, and 67 percent (106,002 jobs) are off-campus positions in either the private or public sectors. On average, for each job created on campus there are two off-campus jobs that exist because of spending related to the University System of Georgia. On average, 13 jobs were generated for each million dollars of initial spending by USG institutions and students in FY 2019—on average $79,908 in initial spending supports one job.

The employment impact associated with the University System equals 3.5 percent of all the nonfarm jobs held by Georgians, or about one job in 29. To provide perspective, the rolled-up employment impact of the USG's 26 institutions (157,700 jobs) exceeded the combined number of jobs (155,484 jobs) with Georgia's top five employers – Fort Benning (40,000 jobs), Walmart (34,872 jobs), Delta Air Lines (30,813 jobs), U.S Army Signal Center and Fort Gordon (25,264 jobs), and Emory University (24,535 jobs).

Employment impacts in FY 2019 for the individual institutions are reported in the fifth column of Table 2. For each institution, a break out of on-campus and off-campus jobs that exist due to institution-related spending is reported in Table 3.

Comparisons to FY 2018 Estimates

Table 4 reports the total economic impact of all USG institutions on their regional economies in FY 2019 and FY 2018. Initial spending was 5 percent higher in FY 2019 than in FY 2018. The output (sales), value added (state GDP), and labor income impacts were 4.6 percent, 3.5 percent, and 1.1 percent higher in FY 2019 than reported for FY 2018. In contrast, the employment impact was 6.2 percent lower in FY 2019 than reported for FY 2018. It should be noted that there were an unusually large number of changes in methodology which limits comparability of the estimates for FY 2019 to estimates for earlier years. This explains why the output impact increased less than initial spending. In general, the methodological changes reduced multiplier values. Indeed, methodological changes rather than changes in initial spending wholly account for the decreased employment impact between FY 2018 and FY 2019.

Although the methods used in FY 2019 are similar to those used in the FY 2018, the methodological changes were greater than in most years. The most important change is that the IMPLAN Group substantially revised their regional economic modeling system. In this major revision (the culmination of three years of work by IMPLAN modelers), many of the multiplier values used to estimate both the direct and induced economic impacts declined. Although the new version is a substantial improvement over the previous ones, it limits comparability of estimates to those produced before. For example, the new platform dramatically improved the social accounting matrices (SAMs), offering more complete pictures of the flow of both market and non-market funds throughout the local economies. Moreover, the new platform is based on the 2017 NAICS codes rather than the 2012 NAICS codes, which resulted in a completely new industry aggregation scheme with 546 sectors. These and other improvements provide greater accuracy, but reduced many of the multiplier values. Another method change is that the author revised estimates of student spending per semester. The revisions were designed to improve accuracy, but limit the comparability of the FY 2019 economic impact estimates to those produced for prior years. More specifically, new information obtained from the College Board's "Trends in College Pricing 2019" and the U.S. Bureau of Labor Statistics *2018 Consumer*

Expenditure Survey (released in September 2019) was used to re-estimate spending per student per semester. Student spending also was reallocated among expenditure categories and industry sectors. Hence, the comparison reported in Tables 4 and 5 should be used with caution.

Limitations and Topics for Future Research

Because the goal of this study was to estimate the economic impact of all 26 institutions, certain necessary assumptions were designed to work well for the average institution, but may lead to an over- or under-estimate of the economic contribution that a specific institution makes to its host community. For example, detailed surveys of actual spending by students at various institutions could help to refine estimates of initial spending by students.

Due to both resource and data limitations, several important types of short-term college or university-related expenditures were not estimated. For instance, studies could be conducted to measure spending by visitors to the institutions and spending by retirees who still live in the host communities. In addition, it would be worthwhile to investigate expenditures supported by the non-institutional income of each institution's employees. Such income may come from an employee's consulting, investments, and other personal business activities. Moreover, other members of an employee's household often supplement their total household income. Employees' household incomes also can be supplemented via transfers, inheritances or gifts. At least a portion of income derived from these sources would not come to the community that hosts the institution if that person's job at the college/university did not exist.

Since the focus here is only on the short-term impacts of several types of college- or university-related spending, there was no attempt to evaluate the long-term impacts of the University System's institutions on the economic development of the host communities and the state. After all, colleges and universities not only spend money year by year, but also have long-term impacts on the labor force, local business and industry, nonprofits, and local government.

Local businesses benefit from easy access to a large pool of part-time and full-time workers. Moreover, companies and agencies that depend on highly specialized skills often cluster around universities. This may be particularly true of high-tech and innovation-based companies, which are expected to account for a disproportionately high share of future economic growth.

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.

Summary

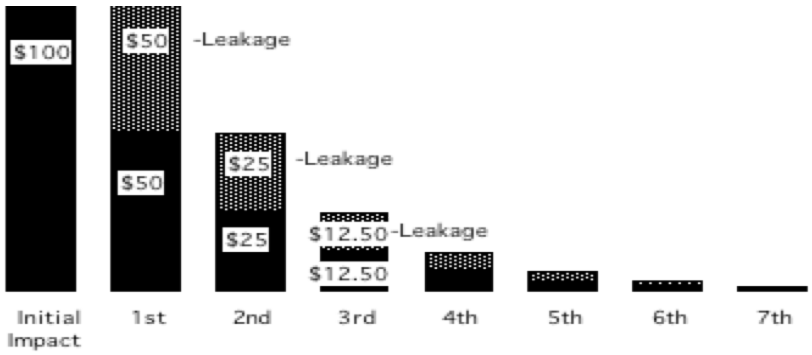
The fundamental finding of this study is that each of the University System of Georgia's institutions creates substantial economic impacts in terms of output, value added, labor income, and employment. The combined economic impact of the University System's institutions on their host communities in FY 2019 includes:

- $18.5 billion in output (sales);
- $12.6 billion in valued added (gross regional product);
- $8.6 billion in labor income; and
- 157,770 full- and part-time jobs.

These economic impacts demonstrate that continued emphasis on higher education as an enduring pillar of the regional economy translates into jobs, higher incomes, and greater production of goods and services for local households and businesses.

Figure 1
Schematic Representation of Impact Relationship

Figure 2
How Multipliers Capture the Impact of Re-spending



Initial Direct or Indirect Impact	**$100**	
First Round of Re-spending	**$50 re-spent locally**	**$50 leakage***
Second Round of Re-spending	**$25 re-spent locally**	**$25 leakage**
Third Round of Re-spending	**$12.50 re-spent locally**	**$12.50 leakage**
Fourth Round of Re-spending	**$6.25 re-apent locally**	**$6.25 leakage**
Fifth Round of Re-spending	**$3.12 re-spent locally**	**$3.12 leakage**
Sixth Round of Re-spending	**$1.56 re-spent locally**	**$1.56 leakage**
Seventh Round of Re-spending	**$.78 re-spent locally**	**$.78 leakage**

Total Economic Impact $200 **Total Leakage $100**

*Leakage indicates amounts spent outside area and not re-circulated locally.

Table 1

Total Economic Impact of All Institutions of the University System of Georgia on their Regional Economies in Fiscal Year 2019

Total for All Institutions in 2019	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System total	12,591,482,010	18,471,540,386	12,584,029,470	8,590,406,952	157,770
Personnel services	4,705,817,853	8,159,659,559	6,723,175,930	5,786,395,458	76,348
Operating expenses	2,942,322,535	3,584,358,517	1,747,258,202	923,976,143	22,543
Student spending	4,943,341,622	6,727,522,310	4,113,595,338	1,880,035,351	58,879

Notes:

The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN and production functions provided by IMPLAN.

Initial spending for personnel services and operating expenses were obtained from the Board of Regents of the University System of Georgia. The author estimated initial spending by students.

Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Table 2

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Research Universities					
Augusta University	1,064,911,667	1,375,595,910	1,013,260,413	822,852,490	11,592
Personnel Services	610,738,436	957,225,443	805,903,192	714,481,171	8,248
Operating Expenses	307,957,002	228,969,480	98,679,080	55,771,642	1,592
Student Spending	146,216,229	189,400,987	108,678,141	52,599,677	1,752
Georgia Institute of Technology	2,281,779,708	3,852,743,729	2,652,431,797	1,880,772,645	27,746
Personnel Services	1,054,166,122	1,977,037,398	1,605,807,348	1,356,706,140	15,228
Operating Expenses	764,901,454	1,188,369,396	612,838,658	320,244,188	6,961
Student Spending	462,712,132	687,336,935	433,785,791	203,822,317	5,557
Georgia State University	1,720,831,255	2,803,161,755	1,894,854,591	1,230,483,659	21,406
Personnel Services	567,792,928	1,064,868,079	864,916,864	730,746,451	8,649
Operating Expenses	374,314,970	581,544,789	299,900,965	156,715,866	3,406
Student Spending	778,723,357	1,156,748,887	730,036,762	343,021,342	9,351
University of Georgia	2,077,616,297	2,912,189,412	2,018,109,301	1,456,280,820	26,060
Personnel Services	915,968,594	1,538,437,762	1,270,239,378	1,100,087,528	14,870
Operating Expenses	518,733,023	539,700,785	242,776,515	130,756,728	3,758
Student Spending	642,914,680	834,050,865	505,093,408	225,436,564	7,432
Comprehensive Universities					
Georgia Southern University	777,956,485	984,130,600	671,352,632	442,664,823	9,860
Personnel Services	240,756,907	380,925,489	321,787,972	282,525,299	4,533
Operating Expenses	123,448,416	104,425,848	45,394,632	24,642,983	756
Student Spending	413,751,162	498,779,263	304,170,028	135,496,541	4,571
Kennesaw State University	1,006,495,856	1,619,942,802	1,089,859,627	684,999,456	13,760
Personnel Services	289,917,898	543,726,947	441,630,861	373,122,778	5,658
Operating Expenses	172,789,031	268,449,217	138,438,484	72,342,238	1,572
Student Spending	543,788,927	807,766,638	509,790,282	239,534,440	6,530
University of West Georgia	392,020,209	632,323,791	426,004,368	269,392,588	5,405
Personnel Services	116,042,117	217,631,358	176,766,527	149,345,581	2,294
Operating Expenses	69,594,997	108,124,470	55,759,476	29,137,601	633
Student Spending	206,383,095	306,567,963	193,478,365	90,909,406	2,478
Valdosta State University	319,798,790	383,486,865	247,672,830	157,952,316	4,241
Personnel Services	93,592,636	137,833,579	118,438,507	105,274,566	1,818
Operating Expenses	56,843,268	41,828,207	16,026,211	7,986,807	311
Student Spending	169,362,886	203,825,079	113,208,112	44,690,943	2,112

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
State Universities					
Albany State University	185,202,363	222,070,453	143,065,779	93,237,582	2,431
Personnel Services	53,374,684	82,871,476	69,819,243	61,589,007	1,012
Operating Expenses	38,431,034	25,130,485	9,740,997	5,335,417	198
Student Spending	93,396,645	114,068,492	63,505,539	26,313,158	1,221
Clayton State University	188,119,959	302,478,169	202,913,673	127,140,074	2,676
Personnel Services	53,171,788	99,721,108	80,996,388	68,431,806	1,153
Operating Expenses	33,712,057	52,375,867	27,010,083	14,114,355	307
Student Spending	101,236,114	150,381,194	94,907,202	44,593,913	1,216
Columbus State University	240,258,603	290,480,614	192,218,584	127,121,493	3,056
Personnel Services	73,089,333	114,094,913	95,705,317	84,763,373	1,344
Operating Expenses	47,559,697	33,777,688	13,562,549	6,577,732	247
Student Spending	119,609,573	142,608,013	82,950,718	35,780,388	1,465
Fort Valley State University	123,121,873	143,749,305	96,618,511	67,170,162	1,564
Personnel Services	40,389,439	63,804,855	53,641,361	47,200,954	826
Operating Expenses	39,071,870	27,348,705	11,828,965	6,563,430	207
Student Spending	43,660,564	52,595,745	31,148,185	13,405,778	531
Georgia College & State University	231,375,196	290,331,157	199,185,555	134,266,972	2,794
Personnel Services	79,273,107	127,138,090	106,228,680	93,242,238	1,229
Operating Expenses	37,816,259	27,191,676	11,899,934	6,473,038	201
Student Spending	114,285,830	136,001,391	81,056,941	34,551,696	1,364
Georgia Southwestern State University	85,002,097	90,984,938	57,217,630	37,002,793	1,040
Personnel Services	25,898,970	35,545,698	31,157,749	28,214,089	381
Operating Expenses	14,779,194	7,068,489	2,291,859	1,227,784	61
Student Spending	44,323,933	48,370,751	23,768,022	7,560,920	598
Middle Georgia State University	202,317,578	249,508,413	163,507,535	104,769,516	2,670
Personnel Services	56,118,522	88,583,075	74,111,156	65,236,154	1,086
Operating Expenses	34,891,181	24,392,899	10,188,619	5,565,073	186
Student Spending	111,307,875	136,532,439	79,207,760	33,968,289	1,398
Savannah State University	136,604,465	172,199,505	116,037,917	77,203,347	1,681
Personnel Services	41,649,021	66,041,472	55,877,966	49,047,666	767
Operating Expenses	32,086,676	28,143,523	12,325,476	6,681,489	202
Student Spending	62,868,768	78,014,510	47,834,475	21,474,192	712
University of North Georgia	501,530,447	699,431,977	462,153,781	295,329,202	6,563
Personnel Services	141,908,239	240,969,143	198,030,144	171,516,320	2,713
Operating Expenses	74,346,872	82,106,689	35,969,843	19,925,270	571
Student Spending	285,275,336	376,356,145	228,153,794	103,887,612	3,279

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
State Colleges					
Abraham Baldwin Agricultural College	112,850,878	128,754,568	81,075,861	54,484,312	1,416
Personnel Services	28,819,972	41,065,582	35,553,694	32,055,713	560
Operating Expenses	23,428,176	14,499,768	5,464,188	3,070,914	108
Student Spending	60,602,730	73,189,218	40,057,979	19,357,685	748
Atlanta Metropolitan State College	56,417,153	90,544,053	60,123,540	37,416,417	723
Personnel Services	15,153,002	28,418,720	23,082,512	19,501,833	263
Operating Expenses	12,084,929	18,775,438	9,682,439	5,059,643	110
Student Spending	29,179,222	43,349,895	27,358,589	12,854,941	350
College of Coastal Georgia	87,754,421	104,946,126	67,834,942	42,772,053	1,116
Personnel Services	22,816,692	35,106,518	29,818,159	26,257,394	447
Operating Expenses	15,872,261	12,362,846	4,713,394	2,450,512	99
Student Spending	49,065,468	57,476,762	33,303,389	14,064,147	570
Dalton State College	119,610,588	137,758,116	86,073,722	56,417,850	1,399
Personnel Services	26,974,727	39,011,790	33,777,605	30,328,429	422
Operating Expenses	20,695,928	12,850,280	4,994,625	2,835,494	94
Student Spending	71,939,933	85,896,046	47,301,492	23,253,927	883
East Georgia State College	72,304,141	77,977,155	47,160,300	28,256,893	883
Personnel Services	14,318,181	20,985,287	17,992,811	16,042,162	291
Operating Expenses	17,290,357	8,379,251	3,277,059	1,719,386	64
Student Spending	40,695,603	48,612,617	25,890,430	10,495,345	528
Georgia Gwinnett College	325,457,995	519,538,555	345,070,563	211,556,754	3,950
Personnel Services	82,099,589	153,973,794	125,062,000	105,661,731	1,201
Operating Expenses	59,691,853	92,738,706	47,825,082	24,991,414	543
Student Spending	183,666,553	272,826,055	172,183,481	80,903,609	2,206
Georgia Highlands College	132,629,823	181,400,770	116,871,996	68,761,428	1,814
Personnel Services	27,260,934	45,820,548	38,151,305	32,963,457	674
Operating Expenses	22,559,296	24,723,566	11,353,433	5,660,199	164
Student Spending	82,809,593	110,856,656	67,367,258	30,137,772	976
Gordon State College	86,583,278	137,669,238	90,890,863	55,029,130	1,182
Personnel Services	20,370,455	38,203,799	31,030,239	26,216,666	434
Operating Expenses	16,246,168	25,240,439	13,016,422	6,801,845	148
Student Spending	49,966,655	74,225,000	46,844,202	22,010,619	600

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
South Georgia State College	62,930,885	68,142,410	42,463,159	27,072,178	742
Personnel Services	14,155,560	20,617,636	17,648,952	15,836,953	247
Operating Expenses	13,176,566	5,840,010	2,299,214	1,325,095	44
Student Spending	35,598,759	41,684,764	22,514,993	9,910,130	451

Notes:

The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN and production functions provided by IMPLAN.

Initial spending for personnel services and operating expenses were obtained from the Board of Regents of the University System of Georgia. The author estimated initial spending by students.

Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs.

Expenditures and impacts for Augusta University do not include impacts associated with the AU Health System, Inc., which are reported in Appendix 3.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Table 3

On-Campus and Off-Campus Jobs that Exist Due to Institution-Related Spending in Fiscal Year 2019

Institution	Total Employment Impact	On-Campus Jobs	Off-Campus Jobs That Exist Due to Institution-Related Spending
System Total	**157,770**	**51,768**	**106,002**
Research Universities	**86,804**	**30,177**	**56,627**
Augusta University	11,592	5,547	6,045
Georgia Institute of Technology	27,746	9,117	18,629
Georgia State University	21,406	5,358	16,048
University of Georgia	26,060	10,155	15,905
Regional Universities	**33,267**	**10,489**	**22,778**
Georgia Southern University	9,860	3,437	6,423
Kennesaw State University	13,760	3,977	9,783
University of West Georgia	5,405	1,622	3,783
Valdosta State University	4,241	1,453	2,788
State Universities	**24,475**	**7,780**	**16,695**
Albany State University	2,431	765	1,666
Clayton State University	2,676	845	1,831
Columbus State University	3,056	1,018	2,038
Fort Valley State University	1,564	637	927
Georgia College & State University	2,794	844	1,950
Georgia Southwestern State University	1,040	298	742
Middle Georgia State University	2,670	819	1,851
Savannah State University	1,681	577	1,104
University of North Georgia	6,563	1,977	4,586
State Colleges	**13,225**	**3,322**	**9,903**
Abraham Baldwin Agricultural College	1,416	462	954
Atlanta Metropolitan State College	723	175	548
College of Coastal Georgia	1,116	349	767
Dalton State College	1,399	328	1,071
East Georgia State College	883	234	649
Georgia Gwinnett College	3,950	725	3,225
Georgia Highlands College	1,814	540	1,274
Gordon State College	1,182	316	866
South Georgia State College	742	193	549

Notes: On-campus and off-campus jobs reported for Augusta University exclude employment impacts for the AU Health System, Inc., which are reported in Appendix 3.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Table 4

Output Impact of All USG Institutions
in FY 2019 Compared to FY 2018, With Percent Change

Impact Category	Fiscal Year 2019 (2018 dollars/jobs)	Fiscal Year 2018 (2018 dollars/jobs)	Percent Change
Initial Spending	12,591,482,010	11,996,022,013	5.0
Output Impact	18,471,540,386	17,652,735,508	4.6
Value Added Impact	12,584,029,470	12,157,031,004	3.5
Labor Income Impact	8,590,406,952	8,497,117,785	1.1
Employment Impact	157,770	168,284	-6.2

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Table 5

Output Impact For All USG Institutions
in FY 2019 Compared to FY 2018, With Percent Change

Institution	Output Impact in FY 2019 (2018 dollars	Output Impact in FY 2018 (2018 dollars	Percent Change
System Total	**18,471,540,386**	**17,652,735,506**	**4.6**
Research Universities	**10,943,690,806**	**10,162,048,689**	**7.7**
Augusta University	1,375,595,910	1,377,756,136	-0.2
Georgia Institute of Technology	3,852,743,729	3,352,836,002	14.9
Georgia State University	2,803,161,755	2,589,435,673	8.3
University of Georgia	2,912,189,412	2,842,020,878	2.5
Comprehensive Universities	**3,619,884,057**	**3,593,366,906**	**0.7**
Georgia Southern University	984,130,600	1,043,491,229	-5.7
Kennesaw State University	1,619,942,802	1,551,180,911	4.4
University of West Georgia	632,323,791	604,556,747	4.6
Valdosta State University	383,486,865	394,138,019	-2.7
State Universities	**2,461,234,531**	**2,460,196,114**	**0.0**
Albany State University	222,070,453	244,406,917	-9.1
Clayton State University	302,478,169	283,210,501	6.8
Columbus State University	290,480,614	295,041,159	-1.5
Fort Valley State University	143,749,305	142,567,025	0.8
Georgia College & State University	290,331,157	298,471,484	-2.7
Georgia Southwestern State University	90,984,938	93,624,915	-2.8
Middle Georgia State University	249,508,413	251,687,436	-0.9
Savannah State University	172,199,505	183,879,935	-6.4
University of North Georgia	699,431,977	667,306,742	4.8
State Colleges	**1,446,730,993**	**1,437,123,797**	**0.7**
Abraham Baldwin Agricultural College	128,754,568	148,595,411	-13.4
Atlanta Metropolitan State College	90,544,053	93,043,354	-2.7
College of Coastal Georgia	104,946,126	104,113,295	0.8
Dalton State College	137,758,116	135,815,305	1.4
East Georgia State College	77,977,155	80,952,494	-3.7
Georgia Gwinnett College	519,538,555	489,589,456	6.1
Georgia Highlands College	181,400,770	177,046,638	2.5
Gordon State College	137,669,238	136,754,098	0.7
South Georgia State College	68,142,410	71,213,746	-4.3

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Appendix 1

Study Areas for Institutions

Research Universities

Augusta University – Richmond, Columbia, Burke, McDuffie, Lincoln, Jefferson, Jenkins, and Warren
Georgia Institute of Technology – Atlanta MSA
Georgia State University – Atlanta MSA
University of Georgia – Clarke, Oconee, Madison, Jackson, Oglethorpe, Barrow, Gwinnett, Walton, and Elbert

Comprehensive Universities

Georgia Southern University – Bulloch, Screven, Candler, Emanuel, Evans, Tattnall, Jenkins, Chatham, Effingham, Bryan, and Liberty
Kennesaw State University – Atlanta MSA
University of West Georgia – Atlanta MSA
Valdosta State University – Lowndes, Brooks, Lanier, Berrien, Cook, and Echols

State Universities

Albany State University – Dougherty, Lee, Worth, Mitchell, Terrell, Sumter, Tift, and Crisp
Clayton State University – Atlanta MSA
Columbus State University – Muscogee, Harris, Chattahoochee, Marion, Talbot, Troup, and Stewart
Fort Valley State University – Peach, Houston, Crawford, Bibb, Taylor, and Macon
Georgia College & State University – Baldwin, Putnam, Hancock, Wilkinson, Washington, Jones, and Bibb
Georgia Southwestern State University – Sumter, Schley, Lee, Macon, Crisp, Webster and Marion
Middle Georgia State University – Bibb, Houston, Jones, Monroe, Peach, Crawford, Twiggs, Baldwin, Wilkinson, Henry, Laurens, Lamar, Bleckley, and Pulaski
Savannah State University – Chatham, Effingham, Bryan, Liberty, and Bulloch
University of North Georgia – Lumpkin, Hall, Dawson, Forsyth, White, Oconee, Clarke, Barrow, Madison, Jackson, Gwinnett, Fannin, Gilmer, and Union

State Colleges

Abraham Baldwin Agricultural College – Tift, Worth, Cook, Colquitt, Irwin, Turner, Decatur, Seminole, Miller, Grady, Early, Thomas, Mitchell, and Baker
Atlanta Metropolitan State College – Atlanta MSA
College of Coastal Georgia – Glynn, Brantley, McIntosh, Camden, and Wayne
Dalton State College – Whitfield, Murray, Catoosa, Gordon, Walker, Bartow, and Gilmer
East Georgia State College – Emanuel, Bulloch, Candler, Jefferson, Johnson, Burke, and Toombs
Georgia Gwinnett College – Atlanta MSA
Georgia Highlands College – Floyd, Polk, Bartow, Chattooga, Gordon, Cobb, Paulding, Douglas, and Carroll
Gordon State College – Atlanta MSA
South Georgia State College – Coffee, Atkinson, Bacon, Jeff Davis, Ware, Pierce, Brantley, and Clinch

Note:

Study areas were defined by the author based on commuting data obtained from the Residence County to Workplace County Flows for Georgia, 5-Year ACS, 2009-2013, U.S. Census Bureau (data extracted on March 8, 2018).

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Appendix 2

Economic Impact of Capital Outlays in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	**406,120,000**	**755,184,324**	**422,140,708**	**263,321,046**	**5,093**
Research Universities	**241,885,000**	**498,590,711**	**293,105,134**	**183,419,132**	**3,245**
Augusta University	59,400,000	87,415,717	51,568,009	32,909,600	587
Georgia Institute of Technology	132,255,000	339,025,594	199,788,131	122,476,655	2,154
Georgia State University	10,000,000	10,717,945	6,344,994	4,639,025	63
University of Georgia	40,230,000	61,431,455	35,404,000	23,393,852	441
Comprehensive Universities	**63,700,000**	**95,184,126**	**55,203,218**	**35,043,594**	**687**
Georgia Southern University	52,600,000	75,893,207	44,434,052	28,076,219	568
Kennesaw State University	5,000,000	8,991,172	5,489,498	3,568,299	59
University of West Georgia	1,700,000	3,644,101	2,157,298	1,577,268	22
Valdosta State University	4,400,000	6,655,646	3,122,370	1,821,808	38
State Universities	**52,235,000**	**85,122,042**	**45,910,636**	**28,961,133**	**651**
Albany State University	0	0	0	0	0
Clayton State University	5,300,000	10,234,390	5,220,303	3,197,820	54
Columbus State University	4,800,000	6,836,994	2,906,434	1,684,995	40
Fort Valley State University	0	0	0	0	0
Georgia College & State University	2,600,000	3,202,206	1,655,309	1,210,562	22
Georgia Southwestern State University	3,400,000	4,688,923	1,752,901	1,042,252	30
Middle Georgia State University	19,235,000	30,351,527	19,643,015	12,559,622	306
Savannah State University	3,700,000	5,808,937	2,707,254	1,599,491	33
University of North Georgia	13,200,000	23,999,065	12,025,420	7,666,391	166
State Colleges	**48,300,000**	**76,287,445**	**27,921,720**	**15,897,187**	**510**
Abraham Baldwin Agricultural College	37,400,000	59,782,441	20,136,913	11,206,778	417
Atlanta Metropolitan State College	0	0	0	0	0
College of Coastal Georgia	0	0	0	0	0
Dalton State College	0	0	0	0	0
East Georgia State College	0	0	0	0	0
Georgia Gwinnett College	1,400,000	779,375	479,718	257,520	4
Georgia Highlands College	4,100,000	6,737,096	3,352,505	2,041,779	37
Gordon State College	2,300,000	4,441,339	2,265,415	1,387,733	23
South Georgia State College	3,100,000	4,547,194	1,687,169	1,003,377	29

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN and production functions provided by IMPLAN. Initial spending for capital projects were obtained from the Board of Regents of the University System of Georgia. Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full- and part-time jobs. Estimates for Augusta University exclude impacts associated with the AU Health System, Inc., which are reported in Appendix 3.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Appendix 3

Combined Economic Impact of Augusta University and AU Health System, Inc. in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Augusta University	**1,124,311,667**	**1,463,011,627**	**1,064,828,422**	**855,762,090**	**12,179**
Personnel Services	610,738,436	957,225,443	805,903,192	714,481,171	8,248
Operating Expenses	307,957,002	228,969,480	98,679,080	55,771,642	1,592
Student Spending	146,216,229	189,400,987	108,678,141	52,599,677	1,752
Capital Spending	59,400,000	87,415,717	51,568,009	32,909,600	587
AU Health System, Inc.	**872,726,102**	**1,075,702,147**	**797,738,338**	**662,189,616**	**8,987**
Wages & Salaries and Benefits	473,087,832	741,482,249	624,265,596	553,448,626	6,390
Other Operating Expenditures	363,795,350	282,869,781	142,799,369	90,538,672	2,272
Student Spending	0	0	0	0	0
Capital Spending	35,842,920	51,350,117	30,673,373	18,202,318	325

Grand Total Economic Impact of Augusta University and AU Health System, Inc.

Grand Total	**1,997,037,769**	**2,538,713,774**	**1,862,566,760**	**1,517,951,705**	**21,166**
Wages & Salaries and Benefits	1,083,826,268	1,698,707,692	1,430,168,788	1,267,929,796	14,638
Operating Expenses	671,752,352	511,839,261	241,478,449	146,310,314	3,864
Student Spending	146,216,229	189,400,987	108,678,141	52,599,677	1,752
Capital Spending	95,242,920	138,765,834	82,241,382	51,111,918	912

Note: Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property type income, and indirect business taxes. Labor income includes both the total payroll costs of workers who are paid by employers and payment received by self-employed individuals. Employment includes both full-time and part-time jobs. Initial spending estimates are based on financial data obtained from AU Health System, Inc., (a component unit of the State of Georgia) Financial Statements and Report of Independent Certified Public Accountants (June 30, 2019 and 2018). Other operating expenditures do not include $45.2 million in purchased services (a transfer) and $37.1 million in depreciation and amortization. The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN, Type SAM multipliers, and consumption functions provided by IMPLAN.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia, (www.selig.uga.edu), 2020.

Appendix 4

Combined Economic Impact of Augusta University and AU Health System, Inc. on the Augusta MSA in Fiscal Year 2019

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Augusta University	**1,124,311,667**	**1,499,462,145**	**1,078,833,229**	**866,356,812**	**12,486**
Personnel Services	610,738,436	970,911,077	811,499,046	719,865,353	8,374
Operating Expenses	307,957,002	243,994,100	104,733,236	59,490,916	1,687
Student Spending	146,216,229	194,698,961	110,541,952	53,642,176	1,808
Capital Spending	59,400,000	89,858,007	52,058,995	33,358,367	619
AU Health System, Inc.	**872,726,102**	**1,106,313,014**	**811,853,643**	**674,230,582**	**9,190**
Wages & Salaries and Benefits	473,087,832	752,083,363	628,600,235	557,619,300	6,486
Other Operating Expenditures	363,795,350	301,469,112	152,349,735	98,158,386	2,360
Student Spending	0	0	0	0	0
Capital Spending	35,842,920	52,760,539	30,903,673	18,452,896	344

Grand Total Economic Impact of Augusta University and AU Health System, Inc.

Grand Total	**1,997,037,769**	**2,605,775,159**	**1,890,686,872**	**1,540,587,394**	**21,676**
Wages & Salaries and Benefits	1,083,826,268	1,722,994,440	1,440,099,281	1,277,484,653	14,858
Operating Expenses	671,752,352	545,463,212	257,082,971	157,649,302	4,047
Student Spending	146,216,229	194,698,961	110,541,952	53,642,176	1,808
Capital Spending	95,242,920	142,618,546	82,962,668	51,811,263	963

Note: Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property type income, and indirect business taxes. Labor income includes both the total payroll costs of workers who are paid by employers and payment received by self-employed individuals. Employment includes both full-time and part-time jobs. Initial spending estimates are based on financial data obtained from AU Health System, Inc., (a component unit of the State of Georgia) Financial Statements and Report of Independent Certified Public Accountants (June 30, 2019 and 2018). Other operating expenditures do not include $45.2 million in purchased services (a transfer) and $37.1 million in depreciation and amortization. The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN, Type SAM multipliers, and consumption functions provided by IMPLAN.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia, (www.selig.uga.edu), 2020.

Appendix 5

Augusta University's Albany, Savannah, and Rome Clinical Campuses: Economic Impact of FY 2019 Expenditures

Augusta University has established clinical campuses in Albany, Savannah, and Rome, which generate economic impacts for their host communities. Appendix 5 documents the economic impact that the Albany, Savannah, and Rome clinical campuses had on their host communities in FY 2019.

Albany: In FY 2019, total expenditures at the Albany clinical campus were $1,275,769, including $667,270 personnel expense, $172,449 operating expense, and $436,050 in student spending (Assistant Vice Chancellor for Fiscal Affairs/Budget Director, Board of Regents, University System of Georgia provided the estimates for personnel and operating expenses as well as enrollment).

The economic impact accruing to Albany includes:

- $1,275,769 in initial expenditures and 4 on-campus jobs,
- $1,681,362 in output (sales),
- $1,213,062 in gross regional product (value added),
- $916,756 in income, and
- 14 jobs.

Savannah: Total expenditures at the Savannah clinical campus were $1,711,409, including $829,788 personnel expense, $187,171 operating expense, and $694,450 in student spending (Assistant Vice Chancellor for Fiscal Affairs/Budget Director, Board of Regents, University System of Georgia provided the estimates for personnel and operating expenses as well as enrollment).

The economic impact accruing to Savannah includes:

- $1,711,409 in initial expenditures and 4 on-campus jobs,
- $2,341,644 in output (sales),
- $1,713,708 in gross regional product (value added),
- $1,253,361 in income, and
- 17 jobs.

Rome: Total expenditures at the Rome clinical campus were $1,339,949, including $829,778 personnel expense, $187,171 operating expense, and $323,000 in student spending (Assistant Vice Chancellor for Fiscal Affairs/Budget Director, Board of Regents, University System of Georgia provided the estimates for personnel and operating expenses).

The economic impact accruing to Rome includes:

- $1,339,949 in initial expenditures and 5 on-campus jobs,
- $2,032,229 in output (sales),
- $1,518,229 in gross regional product (value added),
- $1,167,868 in income, and
- 14 jobs.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia, (www.selig.uga.edu), 2020.

Appendix 6

Augusta University and UGA Medical Partnership's Athens Campus: Economic Impact of FY 2019 Expenditures

In partnership, Augusta University and the University of Georgia opened a new campus in Athens in FY 2011, which generates significant economic impacts for Athens' regional economy. Appendix 6 documents the economic impact that the Athens campus had on its host community in FY 2019.

In FY 2019, initial expenditures at the Athens campus (including St. Mary's) were $17,291,536, including $10,371,187 personnel expense, $2,434,609 operating expense, and $2,664,750 in student spending, and $1,820,990 in capital outlays (Assistant Vice Chancellor for Fiscal Affairs/Budget Director, Board of Regents, University System of Georgia provided expense data for personnel and operations as well as enrollment data).

The economic impact accruing to Athens includes:

- $17,291,536 in initial expenditures and 85 on-campus and St. Mary's jobs,
- $26,299,521 in output (sales),
- $19,308,230 in gross regional product (value added),
- $15,132,112 in income, and
- 208 jobs.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia, (www.selig.uga.edu), 2020.

Appendix 7

Combined Economic Impact of UGA's Griffin Campus (Budget Unit "A" and Budget Unit "B") On Its Regional Economy in Fiscal Year 2019

UGA's Griffin Campus	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Total	23,851,311	41,066,780	28,879,652	21,355,773	360
Personnel Services	13,027,109	24,431,711	19,844,147	16,765,819	254
Operating Expenses	8,159,452	12,676,711	6,537,349	3,416,149	74
Student Spending	2,664,750	3,958,347	2,498,156	1,173,805	32

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN and production functions provided by IMPLAN. Initial spending for personnel services and operating expenses were obtained from the Board of Regents of the University System of Georgia. The author estimated initial spending by students. Output refers to the value of total production, including domestic and foregin trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs. The total employment impact of 360 jobs consists of 179 on-campus jobs (expressed on a FTE basis) and 181 off-campus jobs. For each FTE job created on the Griffin campus, there are 1.0 off-campus jobs that exist because of spending related to UGA at Griffin.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Appendix 8

Total Economic Impact of Information Technology Services in Athens On the Regional Economy in Fiscal Year 2019

ITS in Athens	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Total	39,090,227	54,446,490	38,097,571	30,306,730	448
Personnel Services	21,553,802	36,201,223	29,890,204	25,886,334	321
Operating Expenses	17,536,425	18,245,267	8,207,367	4,420,396	127

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN and production functions provided by IMPLAN. Initial spending for personal services and operating expenses were obtained from the Board of Regents of the University System of Georgia. ITS operating expenditures expensed by USG institutions ($42,096,938) are not included because this amount represents various contracts and software licenses with suppliers that are unlikely to be located in the Athens area. In addition, a substantial of this amount represents USG institutions' purchasing software directly through ITS due to its ability to obtain better pricing. Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs.The total employment impact of 448 jobs consists of 210 USG jobs (expressed on a FTE basis) and 238 off-site jobs that are primarily in the private sector. For each FTE job created at ITS in Athens there are 1.1 off-site jobs that exist because of ITS-related spending.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2020.

Appendix 9

Total Economic Impact of the Shared Services Center in Sandersville On the Regional Economy in Fiscal Year 2019

SSC Sandersville	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Total	5,249,660	6,550,576	5,424,074	4,800,122	74
Personnel Services	4,274,214	6,069,444	5,254,390	4,711,490	70
Operating Expenses	975,446	481,132	169,684	88,632	4

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using IMPLAN and production functions provided by IMPLAN. Initial spending for personal services and operating expenses were obtained from the Board of Regents of the University System of Georgia. Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs. The total employment impact of 74 jobs consists of 54 USG jobs at the Shared Services Center (expressed on a FTE basis) and 20 off-site jobs that are primarily in the private sector. For each FTE job created at the Shared Services Center, there are 0.4 off-site jobs that exists because of Center-related spending.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia, (www.selig.uga.edu), 2020.