The Economic Impact of Technical College System of Georgia Institutions on their Service Delivery Areas' Economies in FY 2012

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The Technical College System of Georgia

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Executive Summary

The statewide economic impact of the Technical College System of Georgia (TCSG) institutions on their service delivery areas' economies in fiscal year 2012 includes:

- $1.2 billion in output (sales);
- $905 million in gross regional product;
- $693 million in income; and
- 14,997 full- and part-time jobs (0.4 percent of all nonfarm jobs in Georgia, or 1 job in 264).

These benefits permeate both the private and public sectors of the communities that TCSG institutions serve. For example, for each job created on campus, one off-campus job exists because of spending related to the technical college.

In addition to the system-wide impact summarized here, Table 1 reports economic impacts that each technical college conveys to the area that it serves. Each technical college's impacts are estimated for several categories of institution-related expenditures: spending by the institutions themselves for salaries and fringe benefits, operations, and capital projects; and students' spending that is supported by scholarships and fellowships (e.g., Pell Grants).

The Short-Term Impact of TCSG-Related Spending in FY 2012

How much does a region benefit economically from hosting a technical college? 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 technical college and the community as a whole; however, this report quantifies the economic benefits that TCSG institutions convey to the communities that they serve.

The benefits are estimated for several important categories of college-related expenditures: spending by the institutions themselves for personnel (salaries and fringe benefits), operations, and capital projects (construction and equipment); and students' spending that is supported by scholarships and fellowships. The economic impact estimates are based on input-output models of each institution's service delivery area, 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 technical college. The study reports expenditures and impacts for the 2012 fiscal year—July 1, 2011 through June 30, 2012.

■ Economic Impact Highlights ■

In the simplest terms, the total economic impact of all 25 TCSG institutions on their service delivery areas was $1.2 billion in FY 2012. 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 technical college. Of the FY 2012 total, $833 million (71 percent) is initial spending by the institutions and students; $347 million (29 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2012 total output impact ($1.2 billion) by initial spending ($833 million) yields an average multiplier value of 1.42. On average, therefore, every dollar of initial spending generates an additional 42 cents for the economy of the region that hosts the institution.

In FY 2012, value added comprises $905 million (77 percent) of the $1.2 billion output impact, with domestic and foreign trade comprising the remaining $276 million (23 percent). The $905 million value-added impact equals 0.2 percent of Georgia's GDP. Labor income received by residents of the communities that host one or more institutions equals $693 million, and represents 77 percent of the value-added impact.

The collective or rolled-up employment impact of all institutions on their host communities in FY 2012, including multiplier effects, is 14,997 jobs. Approximately 54 percent of these positions are on campus (TCSG employees) and 46 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there is an off-campus job that exists because of spending related to the institution. The 14,997 jobs generated by the TCSG account for 0.4 percent of all the nonfarm jobs in Georgia, or about one job in 264.

■ Methodology ■

The total annual economic impact of TCSG-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 personnel services, operations, and capital projects) and its students. The total economic impact includes the impact of the initial round of spending and the secondary, or indirect and induced spending—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 technical college, 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 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 are free from double counting and provide a more realistic measure of the true economic impact of a technical college on its service delivery area's economy.

The regional economic areas are the host communities that TCSG institutions serve. 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 faculty member or student 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 TCSG institutions on their service delivery areas in FY 2012 involved several basic steps. First, initial spending and employment for each institution were obtained; 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, the IMPLAN Version 3.0 modeling system was used to build regional economic models that are specific to each institution's service delivery region. All dollar amounts are expressed in FY 2012 dollars.

Type SAM (social accounting matrices) multipliers from the IMPLAN Version 3.0 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 Version 3.0 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 the 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 TCSG. The expenditure amounts were treated as an industry change and are reported in the first column of Table 1. 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) FY 2012 were obtained from the TCSG. These amounts are reported in the first column of Table 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 public educational institutions that was developed by the IMPLAN modelers. Institution-specific data on capital projects (construction and equipment) also were obtained from the TCSG and were allocated to the appropriate IMPLAN sector.

To avoid double-counting, the estimates of initial spending by the institutions do not include expenditures arising from two budgetary classes: (1) depreciation and (2) scholarships and fellowships. The spending associated with scholarships and fellowships represents transfers of funds (e.g., funds from Pell Grants in excess of tuition and fees) to students. Such funds are modeled as students' personal expenditures (described below) rather than as spending by the institution, however.

■ Students' Personal Expenditures ■

Many technical college students receive scholarships and fellowships (such as Pell Grants), which represent new dollars for the area's economy. Amounts exceeding tuition and fees are transferred to students who spend these funds as part of their living expenses. Since a detailed survey of students' spending habits at each institution was not practical, the pattern of typical expenditures by students was estimated based on data obtained from annual Consumer Expenditure Surveys conducted by the U.S. Bureau of Labor Statistics (BLS) and a special BLS study that appeared in the July 2001 *Monthly Labor Review* that examined the expenditures of college-age students and non-students.

Although the Consumer Expenditure Surveys cover households consisting of one person at various income levels, no recent data are available specifically for technical 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, while students' expenditures for groceries, cash contributions, insurance and pensions, and health care were reduced. 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. For FY 2012, student spending supported by scholarships and fellowships is reported in column one of Table 1.

■ Results ■

This section describes the economic benefits that the TCSG's 25 institutions conveyed to their service delivery areas in FY 2012. 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 Version 3.0 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 2012 dollars.

■ Total Initial Spending ■

For each institution, total initial spending accruing to the institution's regional economy is the combination of four types of spending—spending by the institution for personnel services, operating expenses, and capital projects, and spending by the institution's students. Estimates of initial spending for FY 2012 are reported in column one of Table 1.

Total initial spending for all 25 institutions was $833 million. Spending originating from personnel services accounted for 56 percent ($463 million) of initial spending, spending for operating expenses accounted for 16 percent ($137 million), capital expenses accounted for 5 percent ($41 million), and students' personal expenditures (from scholarships and fellowships) accounted for 23 percent ($192 million) 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. Seen as 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 2012 are reported in column two of Table 1.

Measured in the simplest and broadest terms, the total economic impact of the TCSG's 25 institutions was $1.2 billion (Table 1). This amount represents the combined impact of all 25 institutions on their service delivery areas. Of the FY 2012 output impact, $833 million (71 percent) was initial spending by the institutions and students, while $347 million (29 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 2012 was 1.42, obtained by dividing the total output impact ($1.2 billion) by initial spending ($833 million). On average, therefore, every dollar of initial spending generated an additional 42 cents for the economy of the region hosting the institution. Thus, for all institutions, the output impact was 1.42 times greater than their initial spending.

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., Atlanta)—where multipliers are the highest, or institutions that have the largest budgets, staffs, and enrollments--had the largest economic impacts. So, 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 impacts described in the following paragraphs.

■ 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 2012 are reported in column three of Table 1.

The 25 institutions collectively generated a value-added impact of $905 million in FY 2012. For all institutions combined, the value-added impact equaled 77 percent of the $1.2 billion output impact (with domestic and foreign trade comprising the remaining 23 percent of the output impact). The $905 billion value-added impact reported for FY 2012 equals 0.2 percent of Georgia's 2012 GDP.

■ Labor Income Impact ■

Collectively, the 25 TCSG institutions generated a labor income impact of $693 million in FY 2012. The labor income received by residents of the communities that host TCSG institutions represents 77 percent of the value-added impact. Labor income for each institution is reported in column four of Table 1.

■ Employment Impact ■

The economic impact of hosting a technical college probably is most easily understood in terms of its effects on employment. Collectively, the 25 institutions generated an employment impact of 14,997 jobs in FY 2012. Approximately

54 percent of these positions are on-campus jobs, and 46 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there is almost one off-campus job that exists because of spending related to the TCSG.

The employment impact associated with the TCSG accounts for 0.4 percent of all the nonfarm jobs held by Georgians, or about one job in 264. For all institutions combined, 18 jobs were generated for each million dollars of initial spending in FY 2012.

Employment impacts for the individual institutions are reported in column five of Table 1. For each institution, a break out of on-campus and off-campus jobs that exist due to institution-related spending is reported in Table 2.

■ Summary ■

The fundamental finding is that each of the TCSG's institutions creates substantial economic impacts in terms of output, value added, labor income, and employment. The combined economic impact of the TCSG's institutions on their host communities in FY 2012 includes:

- $1.2 billion in output (sales);
- $905 million in valued added (gross regional product);
- $693 million in labor income; and
- 14,997 jobs.

These economic impacts demonstrate that continued emphasis on technical colleges 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 Relationships

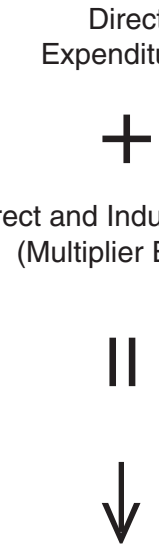
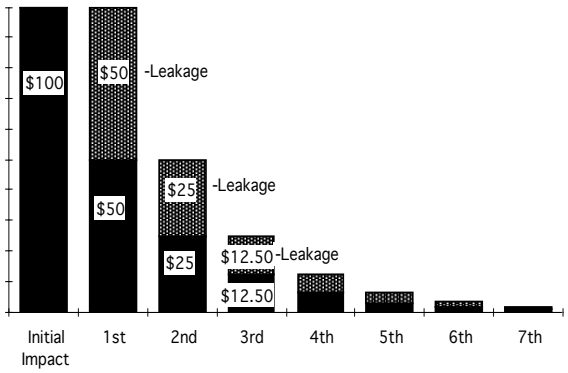


Figure 2

How Multipliers Capture the Impact of Re-spending Initial Impacts If the Output Multiplier Equals 2.0



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-spent 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 TCSG Institutions on their Service Delivery Areas' Economies in Fiscal Year 2012

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
TCSG Total	832,897,001	1,179,918,464	904,639,443	692,867,018	14,997
Personal Services	462,737,670	784,286,021	665,495,039	566,239,199	10,978
Operating Expenses	137,133,808	121,571,600	72,188,720	45,372,300	1,138
Capital Expense	40,960,000	45,365,374	21,021,703	13,415,830	392
Student Spending	192,065,523	228,695,469	145,933,981	67,839,689	2,489
Albany	35,313,277	47,378,544	35,796,935	26,600,009	552
Personal Services	16,530,792	27,991,131	23,699,447	20,183,938	351
Operating Expenses	8,305,405	7,309,180	4,417,400	2,759,620	66
Capital Expenses	677,973	735,435	389,457	257,796	6
Student Spending	9,799,107	11,342,798	7,290,631	3,398,655	129
Altamaha	14,959,331	20,410,617	15,928,041	12,475,484	274
Personal Services	9,129,356	14,850,165	12,656,705	10,765,807	216
Operating Expenses	3,226,069	2,654,860	1,501,480	915,740	26
Capital Expenses	371,605	356,669	173,146	104,017	3
Student Spending	2,232,301	2,548,923	1,596,710	689,920	29
Athens	31,600,965	46,716,956	36,753,532	28,844,757	608
Personal Services	21,106,398	35,584,965	30,163,673	25,538,868	486
Operating Expenses	4,012,040	3,481,600	1,844,840	1,146,660	38
Capital Expenses	624,281	645,279	325,171	202,875	6
Student Spending	5,858,246	7,005,112	4,419,848	1,956,354	79
Atlanta	45,092,951	63,965,060	50,061,258	38,382,086	692
Personal Services	20,578,398	35,887,820	31,095,808	26,799,219	458
Operating Expenses	8,742,699	8,161,780	5,398,360	3,888,720	58
Capital Expenses	720,323	826,745	501,017	373,057	6
Student Spending	15,051,531	19,088,715	13,066,073	7,321,090	171
Augusta	37,389,594	54,380,987	41,422,474	31,614,826	699
Personal Services	21,154,001	36,321,696	30,473,048	25,916,133	513
Operating Expenses	6,064,885	5,558,060	3,207,500	2,033,280	52
Capital Expenses	631,628	743,013	379,137	244,312	6
Student Spending	9,539,080	11,758,218	7,362,789	3,421,101	127
Central Georgia	45,611,420	64,673,414	48,310,497	36,482,311	873
Personal Services	23,278,143	40,852,189	34,272,658	28,878,938	639
Operating Expenses	7,747,686	7,329,260	4,348,200	2,614,900	70
Capital Expenses	6,174,064	5,733,589	2,924,663	1,860,817	47
Student Spending	8,411,527	10,758,376	6,764,976	3,127,656	117

(continued)

Table 1 (continued)

Total Economic Impact of TCSG Institutions
on their Service Delivery Areas' Economies in Fiscal Year 2012

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Chattahoochee	68,419,845	104,722,504	82,792,624	64,442,801	1,288
Personal Services	42,588,784	74,842,148	63,547,656	54,106,417	1,001
Operating Expenses	9,735,650	9,374,740	5,951,180	3,765,960	80
Capital Expenses	1,177,775	1,277,132	736,348	502,728	10
Student Spending	14,917,636	19,228,484	12,557,440	6,067,696	197
Columbus	27,129,828	38,156,614	29,411,785	23,093,304	479
Personal Services	15,510,455	26,343,632	22,254,985	19,025,858	366
Operating Expenses	6,470,731	5,678,600	3,352,700	2,178,440	50
Capital Expenses	577,897	660,430	342,382	225,483	5
Student Spending	4,570,745	5,473,952	3,461,718	1,663,523	58
Georgia Northwestern	49,725,480	68,963,126	51,516,689	39,292,516	886
Personal Services	26,897,592	44,882,430	37,977,011	32,424,030	627
Operating Expenses	7,873,259	6,696,540	3,700,380	2,254,820	70
Capital Expenses	3,273,686	4,169,890	1,618,224	998,356	38
Student Spending	11,680,943	13,214,266	8,221,074	3,615,310	150
Georgia Piedmont	38,847,204	59,595,578	46,923,134	36,509,489	773
Personal Services	23,550,125	42,369,052	35,847,001	30,163,140	616
Operating Expenses	9,295,545	9,298,180	5,940,000	3,740,200	78
Capital Expenses	628,710	711,799	399,959	266,460	6
Student Spending	5,372,824	7,216,547	4,736,174	2,339,689	73
Gwinnett	47,247,354	71,377,444	57,186,777	45,243,426	768
Personal Services	27,205,114	48,138,038	41,544,032	35,615,956	577
Operating Expenses	8,430,116	8,173,540	5,398,080	3,824,200	58
Capital Expenses	738,338	853,758	518,936	379,563	6
Student Spending	10,873,786	14,212,108	9,725,729	5,423,707	127
Lanier	27,690,389	40,741,923	31,021,125	24,389,539	515
Personal Services	16,444,392	27,847,320	23,666,589	20,151,925	393
Operating Expenses	3,892,401	3,480,160	2,072,660	1,338,400	32
Capital Expenses	3,002,691	4,221,504	1,963,003	1,360,001	35
Student Spending	4,350,905	5,192,939	3,318,873	1,539,213	56
Middle Georgia	22,560,028	30,906,755	25,110,522	20,414,949	412
Personal Services	15,945,490	25,043,325	21,603,300	18,578,618	349
Operating Expenses	3,227,403	2,450,520	1,433,760	891,620	24
Capital Expenses	623,905	562,659	268,096	166,577	5
Student Spending	2,763,230	2,850,251	1,805,366	778,134	34

(continued)

Table 1 (continued)

Total Economic Impact of TCSG Institutions
on their Service Delivery Areas' Economies in Fiscal Year 2012

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Moultrie	20,950,388	26,095,668	20,070,410	15,483,285	371
Personal Services	11,135,540	17,908,559	15,246,781	13,066,143	279
Operating Expenses	3,673,484	2,977,540	1,650,800	1,000,500	32
Capital Expenses	2,143,861	929,099	538,482	280,721	8
Student Spending	3,997,503	4,280,470	2,634,347	1,135,921	52
North Georgia	25,696,048	35,266,872	25,252,275	18,975,890	452
Personal Services	13,348,612	22,057,594	18,624,602	15,703,366	309
Operating Expenses	4,301,385	3,591,180	1,970,140	1,110,140	38
Capital Expenses	3,796,776	4,834,639	1,709,579	981,677	47
Student Spending	4,249,275	4,783,459	2,947,954	1,180,707	58
Oconee	23,629,725	30,382,428	23,573,404	18,516,823	442
Personal Services	14,022,193	22,658,021	19,128,260	16,400,240	353
Operating Expenses	3,451,773	2,684,780	1,434,140	822,140	30
Capital Expenses	2,342,988	965,857	576,330	306,081	8
Student Spending	3,812,771	4,073,770	2,434,674	988,362	50
Ogeechee	21,614,605	29,515,195	22,123,055	15,969,493	393
Personal Services	11,024,022	18,401,130	15,496,757	13,060,502	264
Operating Expenses	2,522,641	2,125,640	1,156,380	640,540	22
Capital Expenses	448,861	430,422	207,375	119,449	4
Student Spending	7,619,081	8,558,003	5,262,543	2,149,002	104
Okefenokee	12,640,699	17,807,595	13,640,407	10,499,913	233
Personal Services	7,787,411	12,903,817	10,821,982	9,171,473	175
Operating Expenses	1,959,214	1,638,400	883,060	498,280	20
Capital Expenses	403,401	438,869	201,893	120,478	4
Student Spending	2,490,673	2,826,509	1,733,472	709,682	34
Savannah	41,149,772	56,935,335	43,346,190	31,979,006	707
Personal Services	19,903,400	33,889,435	28,790,397	24,483,527	477
Operating Expenses	7,119,721	6,240,880	3,791,300	2,384,300	56
Capital Expenses	710,186	698,564	374,109	243,558	6
Student Spending	13,416,465	16,106,456	10,390,384	4,867,621	168
South Georgia	21,260,396	27,530,288	20,921,916	16,030,223	366
Personal Services	11,559,051	18,618,895	15,777,061	13,537,163	258
Operating Expenses	3,870,349	3,009,300	1,626,120	986,640	34
Capital Expenses	584,258	607,293	272,441	164,313	6
Student Spending	5,246,738	5,294,800	3,246,294	1,342,107	68

(continued)

Table 1 (continued)

Total Economic Impact of TCSG Institutions
on their Service Delivery Areas' Regional Economies in Fiscal Year 2012

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Southeastern	22,616,338	30,469,358	22,988,715	17,132,345	402
Personal Services	12,312,743	20,047,495	16,962,699	14,479,669	279
Operating Expenses	2,911,999	2,300,120	1,242,940	721,480	26
Capital Expenses	456,218	471,312	206,270	118,804	5
Student Spending	6,935,378	7,650,431	4,576,806	1,812,392	93
Southern Crescent	50,943,165	71,997,872	50,943,589	36,601,265	881
Personal Services	22,493,360	38,002,210	32,127,270	27,048,458	526
Operating Expenses	4,376,872	3,856,100	2,204,280	1,279,080	40
Capital Expenses	8,688,193	12,295,674	5,315,047	3,466,114	108
Student Spending	15,384,740	17,843,888	11,296,992	4,807,613	207
Southwest Georgia	15,202,060	21,371,303	16,595,460	13,309,242	265
Personal Services	9,624,776	16,063,679	13,532,984	11,612,194	209
Operating Expenses	3,163,227	2,597,040	1,426,200	925,140	26
Capital Expenses	361,569	400,713	181,152	110,442	4
Student Spending	2,052,488	2,309,871	1,455,124	661,466	26
West Georgia	46,023,554	65,357,646	50,368,486	37,562,164	911
Personal Services	25,834,889	43,610,800	37,096,614	31,264,695	676
Operating Expenses	6,455,828	5,630,940	3,250,600	1,851,700	58
Capital Expenses	1,020,477	1,044,460	527,421	329,418	9
Student Spending	12,712,360	15,071,446	9,493,851	4,116,351	167
Wiregrass Georgia	39,582,585	55,199,383	42,580,143	33,021,874	757
Personal Services	23,772,633	39,170,476	33,087,719	28,262,924	580
Operating Expenses	6,303,426	5,272,660	2,986,220	1,799,800	54
Capital Expenses	780,336	750,570	372,065	232,733	7
Student Spending	8,726,190	10,005,677	6,134,139	2,726,417	116

Notes:

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

Initial spending for personal services, operating expenses capital expenses, and students were obtained from the TCSG.

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 on-campus and off-campus jobs (see Table 2).

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2014.

Table 2

TCSG's On-Campus and Off-Campus Jobs That Exist Due to Institution-Related Spending in Fiscal Year 2012

Institution	Total Employment Impact	On-Campus Jobs	Off-Campus Jobs That Exist Due to Institution-Related Spending
TCSG Total	14,997	8,092	6,905
Albany	552	248	304
Altamaha	274	163	111
Athens	608	352	256
Atlanta	692	347	345
Augusta	699	376	323
Central Georgia	873	479	394
Chattahoochee	1,288	724	564
Columbus	479	272	207
Georgia Northwestern	886	459	427
Georgia Piedmont	773	453	320
Gwinnett	768	424	344
Lanier	515	292	223
Middle Georgia	412	262	150
Moultrie	371	214	157
North Georgia	452	223	229
Oconee	442	270	172
Ogeechee	393	192	201
Okefenokee	233	125	108
Savannah	707	354	353
South Georgia	366	189	177
Southeastern	402	203	199
Southern Crescent	881	377	504
Southwest Georgia	265	149	116
West Georgia	911	512	399
Wiregrass Georgia	757	433	324

Notes:

On-campus employment is expressed as full-time equivalents, and was provided by the TCSG. Off-campus employment includes both full- and part-time jobs.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2014.