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CLEMSON UNIVERSITY

REDRL RESEARCH REPORT
05-2001-01

CONTRIBUTION OF THE GREENVILLE HOSPITAL SYSTEM TO THE ECONOMIES OF GREENVILLE COUNTY AND THE SOUTH CAROLINA UPSTATE, 2000

prepared by

Mark S. Henry, Professor

David L. Barkley, Professor

and

Mellie Warner, Senior Research Associate

Regional Economic Development Research Laboratory
Clemson University
Clemson, South Carolina

Clemson University Public Service Activities

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The authors are grateful to the following staff at the Greenville Hospital System for providing data needed to undertake this study: Chris Sullivan, Director, Strategic Planning; Cheves Steck, Office of Strategic Planning; and Danielle Dyer, Vice-President, Marketing/Communications.

CONTRIBUTION OF THE GREENVILLE HOSPITAL SYSTEM TO THE ECONOMIES OF GREENVILLE COUNTY AND THE SOUTH CAROLINA UPSTATE, 2000

Executive Summary

This report summarizes the economic and fiscal impacts of the Greenville Hospital System (GHS) on Greenville County and the South Carolina Upstate (counties of Greenville, Anderson, Laurens, Oconee, Pickens, and Spartanburg). There are two principal parts to this study: impacts on the private sector and impacts on state and local government revenues.

Impact on Private Sector

The Greenville Hospital System impacts the Upstate economy through five principal sources of expenditures; payroll spending by GHS employees; materials, supplies, and services spending by GHS required to provide daily health services; construction expenditures; visitor spending by those who travel to GHS to see patients; and student spending associated with GHS training programs. These expenditures have the following total (direct plus indirect) impacts on the economies of Greenville County and the Upstate:

Total Private Sector Impacts, Greenville County

Expenditure Category	Income	Employment
Payroll Related	$245,162,960	9,688
GHS Purchases	28,982,722	750
Construction	14,170,880	322
Visitors	2,354,365	90
Students	1,380,862	50
Total	**$292,051,788**	**10,900**

Total Private Sector Impacts, Upstate South Carolina

Expenditure Category	Income	Employment
Payroll Related	$326,745,529	10,228
GHS Purchases	34,248,179	910
Construction	14,170,889	322
Visitors	2,354,365	90
Students	1,380,862	50
Total	**378,891,603**	**11,600**

Public Sector Impacts

State and local tax revenues are enhanced by economic activity related to GHS. The two principal sources of new tax revenues are GHS employees who pay income, sales, and property taxes and area businesses that pay additional taxes because of GHS related spending (GHS expenditures for goods and services; construction spending; and spending by employees, visitors, and students on local goods and services). The tax revenues generated for Greenville County and the South Carolina Upstate are:

Public Sector Impacts

Source of Tax Revenues	Revenues Generated	
	Greenville	Upstate
South Carolina State Income Tax, GHS Employees	$ 8,913,968	$11,997,844
South Carolina State/Local Taxes, GHS Related Spending	8,850,827	11,140,813
Property Taxes		
County	$2,036,188	$ 2,722,546
Municipal	615,969	883,848
Schools	4,181,509	5,880,519
Special Purpose Districts	835,383	917,811
Total	7,669,049	$10,404,724
Total State/ Local Taxes	**$25,433,844**	**$33,553,381**

CONTRIBUTION OF THE GREENVILLE HOSPITAL SYSTEM TO THE ECONOMIES OF GREENVILLE COUNTY AND THE SOUTH CAROLINA UPSTATE, 2000

I. Introduction

The objective of this document is to provide estimates of the private and public sector economic impacts that the Greenville Hospital System (GHS) has on Greenville County and the South Carolina Upstate (defined as the counties of Greenville, Spartanburg, Anderson, Pickens, Oconee, and Laurens). In 2000, GHS had operating revenues, net of adjustments for charity and negotiated charges, of $606 million and had 8,211 employees on the payroll for at least part of the year. Thus, GHS is a major employer and important contributor to the economies of Greenville County and the Upstate. In addition, GHS generates significant economic impacts from purchases of supplies, equipment, and utilities; from construction of new facilities; from local spending by GHS employees; and from local expenditures by visitors to the GHS patients and by students at GHS training programs. Moreover, GHS payroll and expenditures result in local "multiplier" effects--indirect or secondary sales, employment, and income in the counties due to follow-up rounds of economic activity. Finally, county and municipal governments, school districts, and special purpose districts receive tax revenues from the direct and secondary impacts of GHS on the private sector.

The analysis of GHS's private and public sector economic impacts is organized as follows. In Part II, we provide an overview of data and research procedures used in the study. Part III summarizes the direct and indirect private sector economic impacts associated with GHS payroll and expenditures. Part IV provides estimates of the regional

public sector impacts government revenues and expenditures attributed to GHS. Finally, in Part V we estimate the net contribution of GHS to the area economy, that is, the economic activity that would be lost if GHS did not exist.

II. Data and Procedures

Four principal steps were involved in estimating the economic contribution of GHS to Greenville and the Upstate. First, data were collected from GHS on: (a) the 2000 payroll for the 8,211 employees by zip code of residence, (b) the 2000 expenditures for supplies and services involving approximately 15,000 separate transactions, (c) construction expenditures for 1996-2000 and planned expenditures for 2001-2005, (d) student numbers and length of training (weeks) for the eleven training programs offered at GHS, and (e) the number of patients and length of stay (patient days) by types of patient care.

Second, direct expenditures in Greenville and the Upstate associated with payroll, vendor purchases, construction, visitors, and students are estimated. GHS payroll is allocated to employee's county of residence and the amount of payroll available for personal consumption expenditures is estimated (gross taxable income less taxes, social security and medicare payments, payroll deductions, and savings). A shopping trips (gravity) model is used to allocate GHS employees' consumption expenditures to each of the six upstate counties. GHS purchases from suppliers (vendors) also are allocated to the six upstate counties and to outside the region (imports) based on the location of the vendor. Estimates of local expenditures by visitors to GHS patients and students at GHS training programs are based on assumptions regarding per diem spending by visitors and students from outside the six county area.

Third, each of the direct expenditure categories from step two (employees, vendors, construction, visitors, students) generates indirect expenditures, employment, and income that are estimated using the Clemson University Impact Model for Planning (IMPLAN). IMPLAN models are developed for the six Upstate counties and total (direct plus indirect) private sector impacts are estimated for each county.

Fourth, Social Accounting Matrices (SAMs) are constructed for each of the upstate counties. The SAMs are used to allocate the private sector income impacts among nine income groups and to estimate the associated public sector impacts (changes in state and local tax revenues for Upstate counties).

III. Private Sector Economic Impacts

A. GHS Employment and Payroll in 2000

In 2000, GHS had 8,211 employees on their payroll for at least part of the year. Of this total, 6,937 were employed as of December 31, 2000 and the remaining 1,274 individuals were employed at GHS earlier in the year. The distribution of GHS employees by county of residence is presented in Table 1. Figure 1 provides the residential location of GHS employees by zip code for the six upstate counties. As expected, most GHS employees reside in Greenville County (5,323), followed by Anderson (992), Pickens (502), and Spartanburg (402) counties. Interestingly enough, 800 employees reside outside the region, 630 in other SC counties and 170 out of state. Eighty-nine of the out-of-state employees reside in North Carolina (65) or Georgia (24), while the remaining 81 are likely former employees that left GHS before the end of 2000.

The share of an individual's income that is spent locally and the types of goods and services purchased vary by income category. Thus, a breakdown of GHS employees

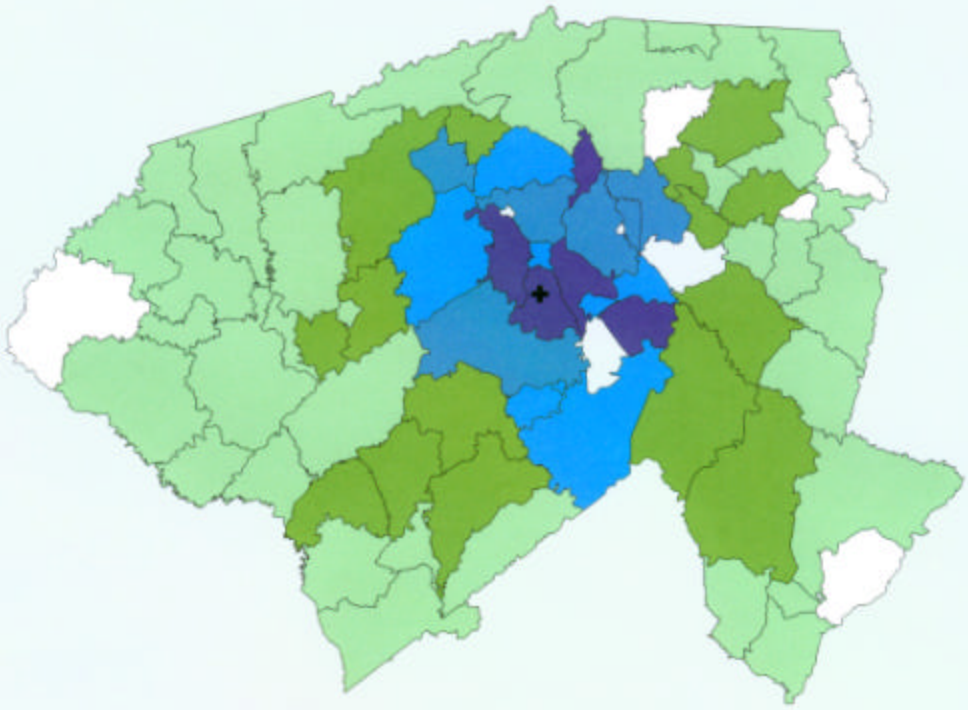
Table 1. EMPLOYMENT AT GHS, 2000

	Income									
	Less than $5,000	**$5,000 to 9,999**	**$10,000 to 14,999**	**$15,000 to 19,999**	**$20,000 to 29,999**	**$30,000 to 39,999**	**$40,000 to 49,999**	**$50,000 to 69,999**	**$70,000 and above**	**Total**
County										
Greenville	324	296	859	613	594	932	656	620	429	**5,323**
Spartanburg	35	37	66	41	24	60	62	47	30	**402**
Pickens	36	36	70	45	56	98	72	60	29	**502**
Oconee	5	7	9	7	3	9	2	7	5	**54**
Anderson	67	50	143	95	112	188	139	142	56	**992**
Laurens	7	10	22	22	24	20	12	7	14	**138**
Other	57	41	101	62	72	136	112	109	110	**800**
Total	**531**	**477**	**1,270**	**885**	**885**	**1,443**	**1,055**	**992**	**673**	**8,211**

NOTES:

1. The total number of employees, 8,211, includes all employees on the GHS payroll at some time during the calendar year 2000. Of this total, 6,937 were employed as of December 31, 2000; there were 1,274 employees terminated during 2000 or before. For purposes of the impact estimates, the payroll received during calendar year 2000 by terminated employees that reside in the region is counted. Thus, the 8,211employees represent the number that could have spent GHS payroll earnings for all or part of 2000 in the upstate. 2. The 800 out of region employees include 630 that live in other counties in S.C. and 170 who live out of state. State of residence include N.C.(65 employees), Ga. (24 employees), Fl. (16 employees) and 65 employees in other states. None of the payroll based spending by the 800 out of region employees is counted in the impact estimates as they are assumed to spend their payroll outside the region. This is a conservative assumption that may underestimate the actual payroll based spending in the upstate. Of the 170 GHS employees that live out of state, 63 still work at GHS and commute mainly from Ga. Or N.C. (losing about $4.6 million in payroll). Of the 630 employees residing in S.C. in the upstate region, 526 remain GHS employees indicating a leakage of payroll (about $21.6 million) out of the

Figure 1. Residential Location of GHS Employees by Zip Code, Six County Upstate, 2000



Number of Employees

- 0
- 1 - 31
- 32 - 86
- 87 - 263
- 264 - 449
- 450 - 687

and total payroll by income levels provides improved estimates of employee consumption expenditures in Greenville County and the Upstate. The distribution of GHS employees by nine income categories, and the total gross income earned in each of these categories is presented in Tables 1 and 2 and Figures 2 and 3. GHS employees are distributed relatively evenly among the nine payroll categories with the exception of the large share of employees in the $10,000-$15,999 payroll group. The large number of employees in this category (as well as the two lower income categories) reflect significant part-time and part-year employment at GHS. The distribution of payroll by income categories indicates that much of GHS' wages and salaries (63 percent) is earned by individuals in the top three income categories ($40,000 and above). Individuals with higher incomes have higher propensities to save and to purchase goods and services from outside the region. Thus, local personal consumption expenditures by GHS employees (as a percentage of total gross taxable income) will be less than that of a similar-sized industry that provides primarily low-wage jobs.

B. Employees' Personal Consumption Expenditures

The payroll data provided in Table 2 (gross taxable income) are adjusted downward to reflect the flow of money outside the Upstate counties in terms of taxes, savings, and purchases of goods and services (imports) out of the six-county shopping area. Personal consumption expenditures for GHS employees, by county of residence, are estimated using a two-step approach. First, gross taxable income for employees in each income category is reduced by employee payments for federal income taxes, social security and medicare taxes, state income taxes, and estimated savings (including payroll deductions for retirement programs). Payments for taxes were estimated as the amounts

Table 2. TOTAL GROSS INCOME OF GHS EMPLOYEES, 2000

	Income									
	Less than $5,000	**$5,000 to 9,999**	**$10,000 to 14,999**	**$15,000 to 19,999**	**$20,000 to 29,999**	**$30,000 to 39,999**	**$40,000 to 49,999**	**$50,000 to 69,999**	**$70,000 and above**	**Total**
County										
Greenville	$516,002	$1,439,294	$9,522,685	$12,001,766	$14,342,310	$28,325,335	$26,348,341	$32,340,481	$50,572,372	**$175,408,586**
Spartanburg	43,591	166,477	707,734	638,542	476,499	1,717,996	2,114,860	2,285,876	1,943,186	**$10,094,760**
Pickens	56,686	162,201	655,093	879,109	1,364,936	2,805,148	2,937,325	3,070,410	2,500,360	**$14,431,268**
Oconee	6,406	30,653	89,206	117,955	62,233	241,204	64,214	366,342	357,073	**$1,335,286**
Anderson	111,620	252,033	1,469,006	1,765,761	2,634,275	5,651,230	5,609,044	7,326,948	5,160,264	**$29,980,181**
Laurens	5,050	45,241	229,263	407,103	541,726	634,168	514,210	283,859	1,600,288	**$4,260,909**
Other	94,393	180,924	975,130	1,090,875	1,456,672	3,486,812	4,131,282	4,971,033	11,688,131	**$28,075,252**
Total	**$833,748**	**$2,276,822**	**$13,648,118**	**$16,901,111**	**$20,878,651**	**$42,861,893**	**$41,719,275**	**$50,644,949**	**$73,821,674**	**$263,586,241**

	Income						
	Less than $10,000	**$10,000 to 19,999**	**$20,000 to 29,999**	**$30,000 to 39,999**	**$40,000 to 49,999**	**$50,000 to 69,999**	**$70,000 and above**
Total	**$3,110,570**	**$30,549,229**	**$20,878,651**	**$42,861,893**	**$41,719,275**	**$50,644,949**	**$73,821,674**

Figure 2. NUMBER OF GHS EMPLOYEES BY INCOME LEVEL, 2000

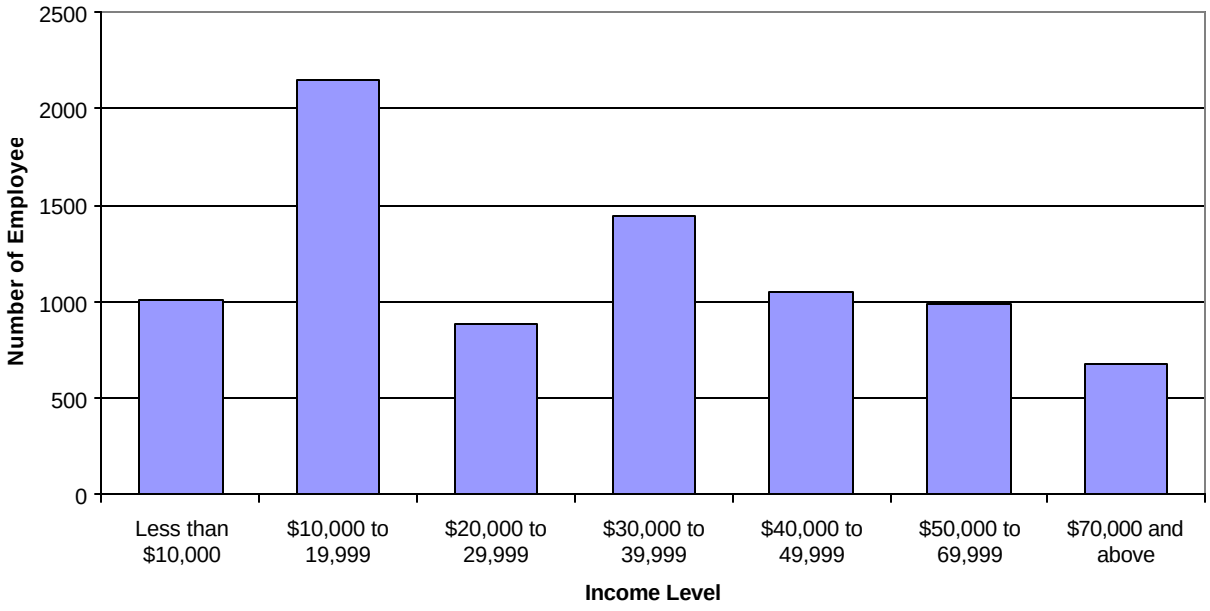
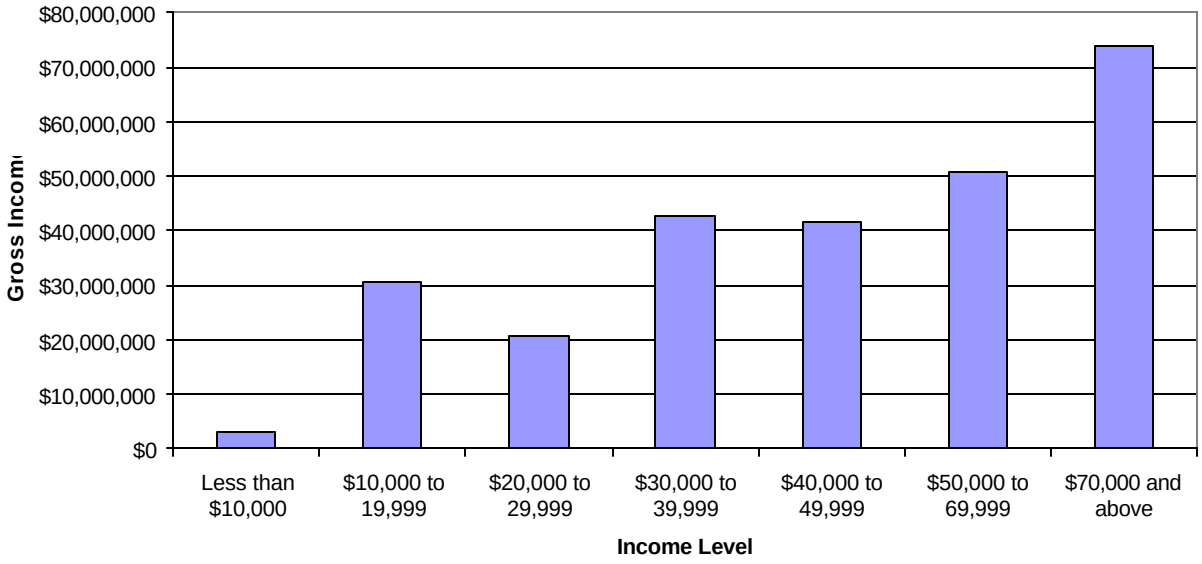


Figure 3. TOTAL GROSS INCOME OF GHS EMPLOYEES BY INCOME LEVEL, 2000



provided in employees' payroll withholdings. For employees in the payroll categories $20,000 and above, savings rates (out of after tax income) were estimated as equal to twice the average employee's rate for payroll deductions for retirement programs (e.g., 401 k). Employees in the lower four pay categories were assumed to have little or no savings other than their payroll deductions for retirement programs. The deductions from gross income for taxes and savings are shown in Appendix Tables A-1, A-2, A-3, and A-4. GHS payroll available for spending (referred to as personal consumption expenditures) is provided in Table 3.

Second, net local personal consumption expenditures for the six Upstate counties are estimated by subtracting spending outside the six counties for goods and services (imports) from the personal consumption expenditures of Table 3. To estimate these import leakages, a six-county IMPLAN model was constructed. Estimates were made in IMPLAN of (a) all consumer spending by economic sector by residents of the six counties, and (b) local (in-county) consumer spending by sector by residents. The shares of locally provided consumer goods for each economic sector are estimated as the ratio of local spending (b) to total spending (a). As one might expect, consumer spending profiles, and the propensity to purchase locally available goods, vary by household income category. Appendix tables A-5 through A-11 show estimates of net local consumption expenditure for the Upstate and the six Upstate counties individually.

Figure 4 summarizes the derivation of local consumption expenditures for the six Upstate counties from the initial GHS payroll. The 2000 GHS payroll of $263 million results in $235 million of gross taxable income for residents of the six Upstate counties. Of the $235 million of gross taxable income, approximately $97 million are allocated to

Table 3. PERSONAL CONSUMPTION EXPENDITURES BY GHS EMPLOYEES, 2000

	Income									
	Less than $5,000	**$5,000 to 9,999**	**$10,000 to 14,999**	**$15,000 to 19,999**	**$20,000 to 29,999**	**$30,000 to 39,999**	**$40,000 to 49,999**	**$50,000 to 69,999**	**$70,000 and above**	**Total**
County										
Greenville	$432,349	$1,148,587	$7,296,263	$8,884,619	$9,135,002	$17,712,393	$15,513,448	$17,719,009	$24,986,661	**$102,828,330**
Spartanburg	37,049	130,813	530,599	472,777	303,209	1,060,936	1,273,584	1,265,237	1,053,848	**$6,128,051**
Pickens	46,946	128,417	490,100	629,323	856,076	1,764,410	1,706,335	1,726,886	1,240,300	**$8,588,793**
Oconee	5,275	24,730	66,685	91,289	40,283	117,637	25,303	206,469	200,620	**$778,292**
Anderson	94,169	196,868	1,101,977	1,272,965	1,702,453	3,447,364	3,320,303	3,995,041	2,675,589	**$17,806,728**
Laurens	4,278	37,623	174,778	298,913	353,533	392,101	328,017	163,972	770,066	**$2,523,281**
Other	77,676	143,469	734,118	787,564	946,340	2,193,957	2,465,527	2,817,616	6,017,551	**$16,183,817**
Total	**$697,741**	**$1,810,508**	**$10,394,520**	**$12,437,451**	**$13,336,895**	**$26,688,797**	**$24,632,517**	**$27,894,229**	**$36,944,635**	**$154,837,292**

taxes (federal, social security, state); payroll deductions for insurance and retirement programs; and savings. The remaining $138 million is divided among consumption for locally provided goods and services ($94 million) and expenditures for imports ($45 million). The net local consumption expenditures of GHS employees ($93,749,089) is one of the initial injections of GHS based spending into the economies of the six counties of the Upstate. The remaining principal GHS expenditure injections into the local economies (purchases of supplies, construction, visitors, and students) are presented in the following sections.

C. GHS Purchases of Services and Supplies

In 2000, GHS made purchases of services and supplies of $127.9 million from about 15,000 transactions. From this vendor information, purchaser profiles were constructed by location of vendor and principal type of good or service acquired. These profiles permit the identification of input purchases from the six Upstate counties and goods and services imported from outside the region. The summary results of these profiles are shown in Table 4, with the long list of goods and services shortened to those most frequently purchased by GHS. Note that of the total purchases of $127.9 million, $33.4 million are from businesses located in one of the upstate counties. The remaining $94.5 million in materials, services, and supplies are purchased from outside the Upstate region. Also note in Table 4 that only the "margin" portion ($412,663) of total purchases in the retail and wholesale trade sectors ($825,325) is included in local expenditures. The "margin" is the trade mark-up or value added contributed by the local trade sector.

Table 4. TOTAL PURCHASES FROM VENDORS IN THE SIX COUNTY GHS REGION, 2000

County	IMPLAN INDUSTRY 1 AG	48 CONST	58 MANUF	433 TCPU	447 TRADE	margin	454 EATING	456 FIRE	463 LODGING	464 SVCS	510 GOVT	TOTALS in Region	TOTAL PURCHASES
Greenville	$292,958	$0	$1,602,112	$1,936,152	$639,767	$319,884	$229,098	$40,201	$189,124	$23,167,339	$81,679	**$4,380,204**	
Spartanburg	446	0	29,818	14,618	74,839	$37,420	0	0	121	2,175,735	975	**$82,302**	
Pickens	0	0	1,304	1,295	17,890	$8,945	0	397	0	1,784,693	13,332	**$11,544**	
Oconee	0	0	35	0	0		0	0		39,143	0	**$35**	
Anderson	0	0	370,015	0	88,578	$44,289	140	65,606	0	784,379	0	**$414,444**	
Laurens	0	0	8,869	56,905	4,251	$2,126	0	0	0	77,252	0	**$67,900**	
Totals In region:	**$293,404**	**$0**	**$2,012,153**	**$2,008,970**		**$412,663**	**$229,238**	**$106,204**	**$189,245**	**$28,028,541**	**$95,986**	**$4,956,428**	**$127,908,460**

NOTES:

Examples of the kinds of purchases in each sector are:

AG: Dairy Farms

MANUF: Printing and publishing

TCPU: Telephone services

TRADE: Retail stores

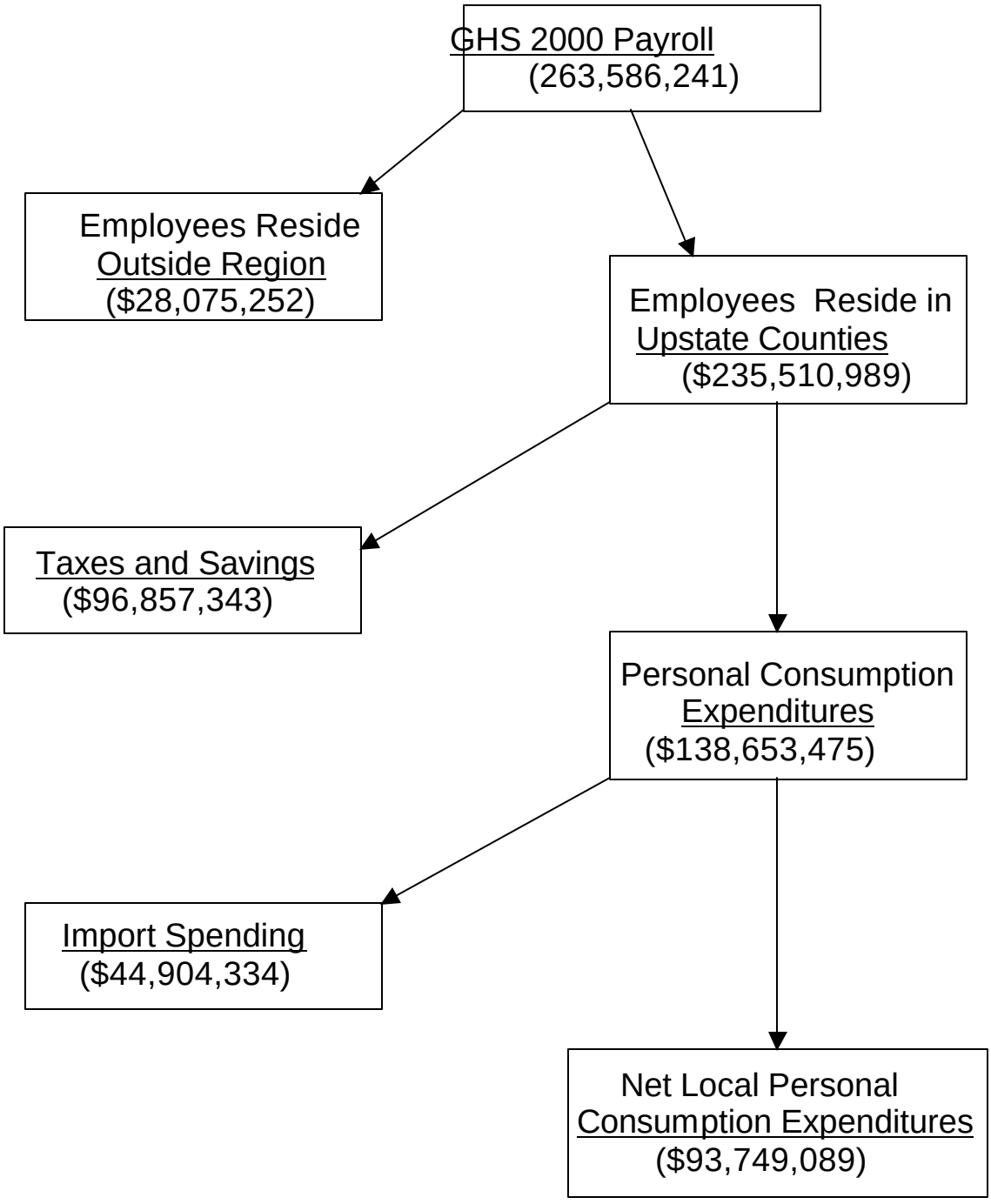
EATING: Restaurants

FIRE: Insuance

LODGING: Hotels

SVCS: Consulting, Contract health services

Figure 4. DERIVATION OF NET LOCAL PERSONAL CONSUMPTION EXPENDITURES FOR SIX UPSTATE COUNTIES



D. GHS Construction Expenditures

A summary of past (1996-2000) and planned (2001-2005) contract construction activity in Greenville County by GHS is provided in Table 5. GHS expects to average approximately $15,690,000 in construction expenditures over the 10-year period. For the purpose of this impact analysis, we take the 2000-2001 average ($15,460,574) as representative of a "typical year" of construction spending. Construction expenditures are included as injections in Greenville County only.

Table 5. PAST AND PLANNED CONSTRUCTION EXPENDITURES, GHS, 1996-2005

Year	Expenditure
1996	$ 5,637,003
1997	7,555,332
1998	25,902,943
1999	27,889,843
2000	4,921,147
2001	26,000,000
2002	27,000,000
2003	8,000,000
2004	8,000,000
2005	6,000,000
10 Year Average	$15,690,627

E. Visitor Expenditures

Individuals who visit patients at GHS contribute to the local economy through their expenditures on lodging and at food service businesses. Food expenditures by visitors at GHS are not included as part of visitors' expenditures because spending at GHS cafeterias is included in payroll and vendor expenditures.

Data required to estimate visitors' expenses include the county of residence of in-patients and the number of patient days by county of residence. In 2000, GHS reported 255,911 patient days for 41,863 in-patients from the six Upstate counties (Table 6). We assumed that one visit per patient day, excluding the day of checking in, resulted in a meal purchase by visitors of $10. Thus, total expenditures for meals by visitors to Upstate patients equals $2,140,480. For patients from outside the region we also assumed one meal purchase by visitors of $10 for each patient day in the hospital, excluding the day of check-in. Meal purchases for day visitors to in-patients from outside the Upstate are estimated at $100,800. Finally, one day of lodging is assumed for each five patient days by non-Upstate patients. For each overnight visit we assumed a $60.00 expenditure for lodging and $40 for meals, thus estimated spending by overnight visitors equaled $92,500 for meals and $138,780 for lodging. In total, we estimated that visitors to GHS spent approximately $2,472,560 in Greenville County for food and lodging.

F. Student Expenditures

GHS provides training programs for medical and nursing students in a variety of specialties. Table 7 provides the number of students in each training program and the length of time required to complete the training. For out-of-town students we assumed local expenditures of $175 per week for food, transportation, entertainment, etc. ($25 per day). An additional $210 per week expenditure for lodging was assumed for out-of-town students that did not use GHS housing. Total student expenditures in Greenville County

Table 6. EXPENDITURES BY VISITORS TO GHS

A. Meals

Estimate - $10.00 per day for meals (outside GHS) is assumed for every patient day in the hospital

1. Upstate Patients

- discharges 41,863
- days 255,911

Meals: $2,140,480

2. Outside Upstate Patients

- discharges 1,485
- days 11,565

Meals: $100,800

B. Lodging

Estimate: One lodging day is assumed for each five patient days by non-Upstate patients. For each overnight stay to visit a GHS patient, we assume a $60.00 expenditure for lodging and $40.00 expenditure for 2 days of meals (in addition to the previously counted $10.00 a day).

1. Lodging nights = 11,565/5 = 2,313
2. Lodging expenses = 2,313 ($60.00) = $138,780
3. Food expenses = 2,313 ($40.00) = $92,520

C. Summary:

Meals: day visitors	=	$2,241,280
Meals: overnight visitors	=	92,500
Lodging	=	$ 138,780
Total		**$2,472,560**

Table 7. GHS STUDENTS, FY 2000

Specialty	Total Students	Out of Town Students	# Used GHS Housing	Visit Length	Other Training Opportunities Available in Area
Physical Therapy	32	19	16	Average stay = 6.4 weeks	Yes
Laboratory	5	3	3	26 weeks	Yes
Child Life	1	1	1	13 weeks	No
Pharmacy	14	14	1	4 weeks	No
Medical Students	31 24	31 24	23 0	4 weeks 52 weeks	No
Perfusion	5	3	3	5 weeks	
Anesthesia	26	22	22	6-8 weeks	No
Heart Life	7	4	4	13 weeks	Yes
Occupational Therapy	9 5 13	9 2 13	6 2 7	12 weeks 7 weeks 1 week	No No No
Medical Information	2	0	0		Yes
Respiratory Therapy	30	0	0		Yes
Clinical Engineering	0				--
Speech Pathology	0				--
Clinical Nutrition	2	2	1	26 weeks	Yes
ETC	10	10	8	4 weeks	No
Nursing	462 1	0	0	2 semesters, 2 days per week 6 weeks	No
Perioperative Services	70 8	0 8	0 0	2 days-2 semesters, 2 days per week 6 weeks	Yes

are estimated at $1,445,257; $1,147,225 for food, transportation, and entertainment and $298,032 for lodging (Table 8).

G. Secondary and Total Economic Impacts

The five sets of spending profiles previously presented (consumer purchases by GHS employees, GHS expenditures for supplies and services, construction spending, and visitor and student spending) are the direct expenditures attributable to GHS. To provide estimates of the indirect and total income, sales, and employment impacts from GHS, IMPLAN models of Greenville County and the five other Upstate counties were developed. Using IMPLAN databases and software for the six counties, inter-industry models were constructed that capture the linkages between each sector of the local (county) economy. For example, when GHS purchases water from the local utility, the utility must pay employee wages and purchase supplies from local businesses. The utility's employees will have local consumption expenditures and the local firms supplying inputs to the utility also pay wages and make purchases. The IMPLAN model provides a complete accounting of all these direct and indirect linkages to estimate the total multiplier impacts on the local economy from the initial spending by GHS.

The direct spending by GHS and its employees, students, and visitors are converted into total private sector impacts (employment and income) using the IMPLAN model for each county. However, estimation of the total impact of spending by GHS employees requires the development of a second type of model—-the shopping trips or gravity model. The shopping trips model allocates consumer expenditures among the six

Table 8. CONTRIBUTION BY GHS STUDENTS TO AREA ECONOMY

Specialty	Expenditures for Food, etc.	Expenditures for Lodging	Total Expenditures
Physical Therapy	19 x $175 x 6.4 weeks = $21,800	3 x $210 x 6.4 weeks = $4,032	$25,832
Laboratory	3 x $175 x 26 weeks = $13,650	NA	$13,650
Child Life	1 x $175 x 13 weeks = $2,275	NA	$2,275
Pharmacy	14 x $175 x 4 weeks = $9,800	13 x $210 x 4 weeks = $10,920	$20,720
Medical Students	a. 31 x $175 x 4 weeks = $21,700 b. 24 x $175 x 52 weeks = $218,400	a. 8 x $210 x 4 weeks = $6,720 b. 24 x $210 x 52 weeks = $262,080	a. $28,420 b. $480,480
Perfusion	5 x $175 x 5 weeks = $1,750	NA	$1,750
Anesthesia	22 x $175 x 7 weeks = $26,950	NA	$26,950
Heart Life	4 x $175 x 13 weeks = $9,100	NA	$9,100
Occupational Therapy	a. 9 x $175 x 12 weeks = $18,900 b. 5 x $175 x 7 weeks = $6,125 c. 13 x $175 x 1 week = $2,275	a. 3 x $210 x 12 weeks = $7,560 b. NA c. 6 x $210 x 1 week = $1,260	a. $26,460 b. $6,125 c. $3,535
Clinical Nutrition	2 x $175 x 26 weeks = $9,100	1 x $210 x 26 weeks = $5,460	$14,560
Nursing	462 x $50/week x 34 weeks = $785,400	NA	$785,400
TOTAL	**$1,147,225**	**$298,032**	**$1,445,257**

counties based on the number of GHS employees residing in each county, the number of trade and service employees in a county (shopping frequently increases with larger numbers of stores and services available in a county), and the average distance between population centers in one county and shopping centers in the remaining counties (shopping frequency declines with increased distance between residence and location of trade centers). The shopping trips model trades off the pull of larger concentrations of shopping opportunities against the friction of greater distance to the shopping areas. The results of the shopping trips model are provided in Appendix Table A-12.

The direct, indirect, and total income and employment impacts of GHS on the six Upstate counties are summarized in Table 9. GHS provided 7,411 jobs for residents of the Upstate. Greenville County residents held 5,323 of these jobs (71 percent) followed by Anderson County with 992 and Pickens County with 502. Spending by GHS and its employees, students, and visitors resulted in 3,389 additional jobs in the Upstate, with 2,689 of these jobs in Greenville County. Thus, total (direct + indirect) Upstate residents employment attributable to GHS is 10,800 jobs, with 8,012 of these in Greenville County.

The distribution of income attributable to GHS closely parallels that of employment. Income earned by Upstate employees of GHS was $235.5 million, with $175.4 million (74 percent) earned by residents of Greenville County. Expenditures related to GHS resulted in an additional $143.4 million in income for Upstate residents. Thus the total contribution by GHS to regional income was $378.9 million, of which approximately $292.0 million was earned by residents of Greenville County.

Table 9. INCOME AND EMPLOYMENT IMPACTS OF GHS ON UPSTATE COUNTIES, 2000

County	Direct	Indirect	Total
Income			
Greenville	$175,408,586	$116,643,202	$292,051,788
Anderson	29,980,181	11,774,018	41,754,199
Laurens	4,260,909	1,423,748	5,684,657
Oconee	1,335,286	545,370	1,880,656
Pickens	14,431,268	6,648,407	21,079,675
Spartanburg	10,094,760	6,344,079	16,438,839
Upstate	$235,510,989	$143,378,824	$378,889,814
Employment[a]			
Greenville	5,232	2,689	8,012
Anderson	992	306	1,298
Laurens	138	37	175
Oconee	54	13	67
Pickens	502	183	685
Spartanburg	402	161	563
Upstate[b]	7,411	3,389	10,800

[a] Employment is measured by place of residence.
[b] Total employment at GHS was 8,211 in 2000, thus 800 employees resided outside the six upstate counties.

IV. Public Sector Impacts

State and local tax revenues are enhanced by economic activity related to GHS. The two principal sources of tax revenues are: (1) GHS employees who pay income, sales, and property taxes, and (2) area businesses and residents who pay additional income, sales, and property taxes because of GHS related spending (GHS expenditures for services and supplies; employee, student, and visitor spending for local goods and services).

State income taxes paid by GHS employees were estimated by payroll deduction for 2000. State and local taxes resulting from GHS-related expenditures (including indirect rounds of spending) were provided by the Social Accounting Matrices (SAMs) of each county's IMPLAN model. The estimation of county property tax revenues (divided among county government, city government(s), school district(s), and special purpose district(s) required several steps. First, we used the standard real estate rule of thumb that recommends housing to be purchased at 2.5 times the gross annual income of an employee. Thus, if GHS employees in County A had total taxable income equal to $10 million, then we assumed these employees had real property in County A equal to $25 million. This estimation procedure allows only the marginal contribution of GHS payroll income to a GHS employee's family to be counted toward the implied value of real estate owned. Second incomes by spouses or other family members are not considered. We count only the added market value of housing made possible by the GHS payroll. On the other hand, we assume that real estate is owner-occupied by GHS employees. Estimates of property taxes paid indirectly on rental units through rental payments to landlords are

not counted separately but should be comparable to the imputed property taxes paid on the market value of owner-occupied housing.

Second, the value of personal property per county was estimated at $20,000 for each GHS employee residing in the county. The $20,000 estimated value of personal property per employee is approximately the Upstate average for personal property per household.

Third, the estimated market values for real and personal property were converted to assessed values and multiplied times the appropriate millage rates to determine tax revenues for county government, city governments, school districts, and special purpose districts. An average millage rate was used if the county had the multiple jurisdictions for the principal jurisdictional category (e.g., city governments or school districts). All GHS employees in a county were assessed taxes to support county government and schools. The number of GHS employees residing in cities was estimated by multiplying the total number of GHS employees residing in the county by the share of county population located in incorporated places.

Finally, we assumed that special purpose district assessments are paid by only GHS employees that reside outside of incorporated places (that is, by GHS employees that did not pay municipal taxes). This will understate tax revenues paid by GHS employees since some special purpose districts (e.g., tech schools and libraries) include incorporated as well as unincorporated areas.

The estimated tax revenues generated by GHS employees and expenditures are summarized in Table 10. GHS employees paid approximately $13.5 million in state income taxes, $12.0 million of which came from GHS employees residing in the

Table 10. TAX REVENUES GENERATED BY GHS EMPLOYEES AND EXPENDITURES

County	State Income Tax Paid by GHS Employees	State/Local Taxes from GHS Based Spending (exc. property)	Local Property Tax Revenues					Total State/Local Tax Revenues[a]
			County Government	City Government	School District	Special Purpose Districts	Total	
Greenville	$ 8,913,968	$ 8,850,827	$2,036,188	$615,969	$4,181,509	$835,383	$7,669,049	$25,433,844
Anderson	1,530,921	1,019,758	343,998	147,671	889,315	37,464	1,418,448	3,969,127
Laurens	233,416	126,333	39,732	20,747	114,006	8,376	182,860	542,609
Oconee	68,174	46,474	16,890	3,582	31,508	0	51,980	166,629
Pickens	750,672	579,829	152,087	59,843	322,655	15,234	549,818	1,880,319
Spartanburg	510,693	517,593	133,650	36,037	341,527	21,354	532,568	1,560,853
Upstate	$11,997,844[b]	$11,140,813	$2,722,546	$883,848	$5,880,519	$917,811	$10,404,724	$33,553,381

[a] Total state/local taxes are the sum of state income taxes paid by GHS employees, state/local taxes from GHS based spending, and total local property taxes.
[b] An additional $1,512,856 in state income taxes was paid by GHS employees now residing outside the six county region.

Upstate. Upstate GHS employees also paid approximately $10.4 million in real and personal property taxes. Almost $7.7 million of the GHS-related tax revenues were received by public entities in Greenville County (county government, city governments, school district, and special purpose districts). Finally, additional tax revenues (income, sales, and property) are generated by the enhanced economic activity resulting from GHS-related expenditures (GHS purchases of goods and services, employee consumption expenditures, and student and visitor spending). Total state and local taxes attributable to the secondary rounds of spending were estimated to be $11.1 million. In total, GHS is responsible for more than $33.5 million of revenues for state and local income, sales, and property taxes.

V. Net Contribution of GHS

One measure of the importance of GHS to the economies of Greenville County and the Upstate is to estimate the net income impact or "what would be lost if GHS did not exist." The dollar value of "what would be lost if GHS did not exist" will be less than our estimate of the contribution of GHS to the local economy because, over time, market forces would result in the expansion of existing area hospitals and the addition of new hospitals. Thus, if GHS were to cease operations, other hospitals would expand or be created to fill the void left by the loss of GHS. As a result, our estimate of "what would be lost without GHS?" is based on the services or activities that would be difficult to replace, or require extensive time to replace, if GHS were to close. We define these "difficult to replace" activities as the GHS programs and services (e.g., education, research, tertiary treatments, free clinic) that are not readily available at other hospitals in the Upstate. One would assume that these programs are

not related to market forces, and thus, these services would be lost if GHS no longer existed.

The net income impact of GHS on Greenville County and the Upstate is estimated as the share of GHS revenues associated with (a) the provision of tertiary services and (b) serving patients from outside the six county area. We assume that the tertiary and out-of-region patients come to GHS because of the perception of the availability of special services. In the absence, of GHS, these patients may elect to go to Atlanta or Charlotte for the level of care desired, thus reducing injections of spending in the Greenville and Upstate economies. Table 11 summarizes the methodology used to estimate net income impacts. Tertiary care patients (see Appendix A-13 for classifications of tertiary and non-tertiary care activities) contributed almost $69.3 million to GHS 2000 revenues. In addition, non-tertiary care patients from outside the Upstate (1,388 patients for 9,818 patient days) provided $12.4 million in revenues to GHS. In total, approximately 22.4 percent of GHS in-patient revenues are attributable to tertiary care or out-of-region patients. Data on residence and type of care for out-patients was not available. However, if we assume that in-and out-patients are similar in terms of type of care (tertiary vs. non- tertiary) and residence (inside region vs. outside region), then the net economic impacts as a share of total impacts would be approximately 22 percent.

In summary, we estimate that approximately 22 percent of the GHS economic contribution to regional income and employment would be lost if GHS did not exist. Thus, the net economic impact of GHS for Greenville County is 2,398 jobs and $64.2 million in income, and the net contribution for the six Upstate counties is 2,552 jobs and $83.4 million in income.

Table 11. NET ECONOMIC IMPACTS ATTRIBUTABLE TO GHS

A. Methodology: Net economic impacts equal share of total economic impacts attributable to (1) tertiary care patients, and (2) patients from outside the six county Upstate service area.

B. Data: Tertiary Care (In-Patients Only)

	Patients	Days	Revenue
Adult			
Inside Region	1,319	13,308	$38,945,867
Outside Region	87	948	2,767,218
Pediatric			
Inside Region	1,193	14,999	25,655,524
Outside Region	123	1,103	1,927,584
Total	**2,722**	**30,268**	**$69,296,193**

Non-Tertiary Care (In-Patients Only)

	Patients	Days	Revenue
Adult			
Inside Region	36,071	207,116	$261,190,933
Outside Region	87	8,537	10,733,152
Pediatric			
Inside Region	8,179	30,305	21,061,025
Outside Region	217	1,281	1,360,644
Total	**45,638**	**247,239**	**$294,345,754**

C. Share of Total Revenue (In-Patient Only)

Tertiary (Inside & Outside)	$69,296,193	Share:
Non-Tertiary (Outside)	12,788,598	82,084,791/363,641,947 = 22.4%
Total	**$82,084,791**	

D. Estimated Net Impact of GHS on Greenville and Upstate Economies

Impact	Greenville Employment	Greenville Income
Total	10,900	$292,051,788
Net (22%)	2,398	64,251,392

Impact	Upstate Employment	Upstate Income
Total	11,600	$378,891,603
Net (22%)	2,552	83,256,152

Table A-1. FEDERAL INCOME TAX PAID BY GHS EMPLOYEES , 2000

	Income Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 69,999	$70,000 +	Total
County										
Greenville	$25,280	$95,324	$769,150	$1,118,279	$1,425,870	$3,281,604	$3,458,393	$4,662,030	$11,259,056	**$26,094,985**
Spartanburg	2,164	13,865	60,623	69,599	51,783	201,709	254,929	320,785	341,835	**$1,317,292**
Pickens	3,376	10,137	58,182	88,390	142,939	344,225	403,389	438,987	492,237	**$1,981,861**
Oconee	443	2,423	7,746	10,847	6,932	25,372	6,721	51,067	75,396	**$186,946**
Anderson	5,239	21,543	126,589	171,159	270,208	661,318	723,275	1,052,552	1,029,051	**$4,060,935**
Laurens	260	2,838	19,036	38,987	55,237	75,768	76,419	41,606	356,694	**$666,843**
Other	5,812	13,949	86,592	120,476	154,466	431,808	551,261	759,349	2,592,999	**$4,716,711**
Total	**$42,573**	**$160,079**	**$1,127,918**	**$1,617,738**	**$2,107,434**	**$5,021,803**	**$5,474,386**	**$7,326,376**	**$16,147,267**	**$39,025,574**

Table A-2. SOCIAL SECURITY TAXES PAID BY GHS EMPLOYEES, 2000

	Income Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 69,999	$70,000 and above	Total
County										
Greenville	$39,307	$108,020	$704,138	$885,514	$1,058,277	$2,108,821	$1,966,794	$2,419,441	$2,342,451	**$11,632,763**
Spartanburg	3,335	12,608	52,305	48,056	35,267	128,472	157,338	171,246	126,289	**$734,915**
Pickens	4,303	12,092	48,217	64,480	100,565	209,907	218,734	229,942	139,503	**$1,027,744**
Oconee	490	2,345	6,587	8,853	4,612	18,158	4,834	27,634	23,773	**$97,285**
Anderson	8,492	18,912	107,662	129,437	194,918	418,800	417,233	547,151	277,242	**$2,119,847**
Laurens	386	3,461	16,832	29,895	40,261	47,366	38,424	21,350	69,977	**$267,953**
Other	7,181	13,627	72,121	81,135	108,411	260,387	309,670	373,173	543,649	**$1,769,355**
Total	**$63,494**	**$171,066**	**$1,007,862**	**$1,247,370**	**$1,542,311**	**$3,191,911**	**$3,113,027**	**$3,789,938**	**$3,522,884**	**$17,649,861**

Table A-3. STATE INCOME TAXES PAID BY GHS EMPLOYEES, 2000

	Income Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 69,999	$70,000 and above	Total
County										
Greenville	$13,255	$46,146	$340,374	$484,856	$638,450	$1,369,908	$1,354,105	$1,726,506	$2,940,369	**$8,913,968**
Spartanburg	1,035	6,250	26,142	30,958	21,874	88,992	103,621	121,743	110,077	**$510,693**
Pickens	1,626	4,872	26,061	39,138	65,538	146,580	155,130	171,023	140,704	**$750,672**
Oconee	198	1,155	3,352	4,733	3,256	10,923	3,086	20,215	21,257	**$68,174**
Anderson	2,547	8,980	55,470	76,503	122,934	287,715	290,316	390,050	296,406	**$1,530,921**
Laurens	107	1,319	8,748	17,837	24,684	32,120	27,834	15,317	95,451	**$223,416**
Other	3,067	6,725	38,769	51,051	67,580	176,010	218,177	271,701	679,776	**$1,512,856**
Total	**$21,834**	**$75,448**	**$498,915**	**$705,076**	**$944,315**	**$2,112,248**	**$2,152,268**	**$2,716,555**	**$4,284,041**	**$13,510,700**

Table A-4. ESTIMATED SAVINGS BY GHS EMPLOYEES, 2000

	Income Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 69,999	$70,000 and above	Total
County										
Greenville	$0	$0	$0	$0	$1,245,446	$2,242,984	$2,367,016	$3,318,948	$4,858,849	**$14,033,243**
Spartanburg	0	0	0	0	42,092	137,566	179,178	227,798	180,666	**$767,301**
Pickens	0	0	0	0	115,832	212,387	271,566	299,500	260,983	**$1,160,268**
Oconee	0	0	0	0	4,208	44,863	15,535	35,536	22,887	**$123,029**
Anderson	0	0	0	0	197,733	489,691	482,412	746,397	467,504	**$2,383,737**
Laurens	0	0	0	0	40,297	50,581	25,183	23,695	166,116	**$305,872**
Other	0	0	0	0	98,822	246,001	314,091	400,023	1,022,628	**$2,081,566**
Total	**$0**	**$0**	**$0**	**$0**	**$1,744,430**	**$3,424,074**	**$3,654,981**	**$5,051,898**	**$6,979,633**	**$20,855,017**

Savings estimtates are based on retirement plan contributions less adjustments for consumption in excess of current income. The key asumption is that GHS employees with less than 20,000 per year in gross income will have zero net of savings out of current income. Generally, the share of income allocated to savings is likely to fall with lower household incomes.

Table A-5. GHS: IMPACTS ON UPSTATE COUNTIES

Year 2000 **A. Initial Injection of Spending:**	All GHS Employees Total Current dollars Wages and Salary	GHS Employees Residing in Upstate Current dollars Wages and Salary	GHS Employee Consumption Current dollars	GHS Employee Consumption in Upstate Current dollars	All GHS Based Spending in the Upstate Current dollars
1. Payroll	$263,586,241	$235,510,990	$138,653,475	$93,749,089	$93,749,089
2. Purchases from Vendors	$127,908,460				$33,376,404
3. Visitors	$2,472,580				$2,472,580
4. Students	$1,445,257				$1,445,257
5. Construction 2000-2001	$15,460,574				$15,460,574
Totals	**$410,873,112**				**$146,503,904**

B. Total Sales Impacts in Six Counties	Total GHS Revenues 2000 Current dollars	Upstate Sales from GHS Based Spending 1997 dollars	Current dollars	Total GHS Related Sales in Upstate Current dollars
1. Payroll		$147,987,546	$157,044,384	$157,044,384
2. Purchases from Vendors		$55,934,423	$59,357,610	$59,357,610
3. Visitors		$4,248,109	$4,508,093	$4,508,093
4. Students		$2,449,958	$2,599,895	$2,599,895
5. Construction 2000-2001		$28,169,002	$29,892,945	$29,892,945
Totals	**$606,000,000**	**$238,789,038**	**$253,402,927**	**$859,402,927**

Table A-5. GHS: IMPACTS ON UPSTATE COUNTIES

C. Total Income Impacts in Six Counties	GHS Employees Residing in Upstate Current dollars	Upstate Income from GHS Based Spending 1997 dollars	Current dollars	Total GHS Related Income in Upstate Current dollars
1. Payroll	$235,510,989	$85,963,569	$91,224,539	$326,735,529
2. Purchases from Vendors		$32,273,067	$34,248,179	$34,248,179
3. Visitors		$2,218,587	$2,354,365	$2,354,365
4. Students		$1,301,227	$1,380,862	$1,380,862
5. Construction 2000-2001		$13,353,637	$14,170,880	$14,170,880
Totals		**$135,110,087**	**$143,378,824**	**$378,889,814**

D.Total Employment Impacts in Six Counties	All GHS Payroll Employees, 2000	GHS Employees Residing in Upstate	Employment from GHS Based Spending	**Total GHS Related Employment:** Living in Upstate and Working in Upstate	Working in Upstate
1. Payroll	8,211	7,411	2,017	9,428	10,228
2. Purchases from Vendors			910	910	910
3. Visitors			90	90	90
4. Students			50	50	50
5. Construction 2000-2001			322	322	322
Totals			**3,389**	**10,800**	**11,600**

Table A-5. GHS: Impacts on Upstate Counties

E. State/Local Tax Impacts in Six Counties (excludes property taxes from GHS employees that reside in the Upstate)	All GHS Payroll Employees, 2000 State Income Tax* Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$11,997,844	$6,733,908	$7,146,023	$19,143,867	
2. Purchases from Vendors		$2,366,836	$2,511,686	$2,511,686	
3. Visitors		$260,266	$276,194	$276,194	
4. Students		$149,934	$159,110	$159,110	
5. Construction 2000-2001		$987,373	$1,047,800	$1,047,800	
Totals		**$10,498,317**	**$11,140,813**	**$23,138,657**	**$23,138,657**

F. GHS Employee Property Taxes (Paid by GHS Employees Residing in County) Millage rate:(means for Cities, Schools, SPD):	County Government	City Government	School District	Special Purpose Dist	**TOTAL LOCAL PROPERTY TAX REVENUES**
1. Number of GHS Employees residents	7,411	2,129	7,411	5,282	
2. Estimated Market Value of Real property	$588,777,475	$168,755,682	$588,777,475	$420,021,793	
3. Estimated Market Value of Personal property	$148,220,000	$42,579,200	$148,220,000	$105,640,800	
4. Estimated Assessed Value Real property	$23,551,099	$6,750,227	$23,551,099	$16,800,872	
5. Estimated Assessed Value Personal property	$15,563,100	$4,470,816	$15,563,100	$11,092,284	
Total Property Tax Revenues, 2000	**$2,722,546**	**$883,848**	**$5,880,519**	**$917,811**	**$10,404,724**

G. Total State and Local Tax Revenue		
	PAID BY RESIDENTS OF THE SIX COUNTY REGION:	**$33,543,381**
	STATE INCOME TAX GHS EMPLOYEES RESIDING OUTSIDE THE REGION:	$1,512,856
* Note that the State Income Tax total	**TOTAL STATE AND LOCAL TAX REVENUES RELATED TO GHS:**	**$35,056,237**

Table A-6. GHS: Impacts on Greenville County

Year 2000 **A. Initial Injection of Spending:**	Year 2000 All GHS Employees Total Wages and Salary Current dollars	GHS Employees Residing in Greenville County Wages and Salary Current dollars	GHS Employees Residing in Greenville County Consumption Current dollars	GHS Employees Residing in Greenville County Cons in Gnv Co. Current dollars	All GHS Based Spending in Greenville County Current dollars
1. Payroll	$263,586,241	$175,408,586	$102,828,330	$69,520,313	$69,520,313
2. Purchases from Vendors	$127,908,460				$27,858,547
3. Visitors	$2,472,580				$2,472,580
4. Students	$1,445,257				$1,445,257
5. Construction 2000-2001	$15,460,574				$15,460,574
Totals	**$410,873,112**				**$116,757,271**

B. Total Sales Impacts in Greenville Co.	Total GHS Revenues (net of adjustments) 2000 Current dollars	Total GHS Related Sales in Greenville county 1997 dollars	Total GHS Related Sales in Greenville county Current dollars	GHS and Related Sales in Greenville county Current dollars
1. Payroll		$113,000,446	$119,916,073	$119,916,073
2. Purchases from Vendors		$47,198,268	$50,086,802	$50,086,802
3. Visitors		$4,248,109	$4,508,093	$4,508,093
4. Students		$2,449,958	$2,599,895	$2,599,895
5. Construction 2000-2001		$28,169,002	$29,892,945	$29,892,945
Totals	**$606,000,000**	**$195,065,783**	**$207,003,809**	**$813,003,809**

Table A-6. GHS: Impacts on Greenville County

C. Total Income Impacts in Greenville Co.	GHS Employees Residing in Greenville County Current dollars	Greenville Co. Income from GHS Based Spending 1997 dollars	Current dollars	Total GHS Related Income in Greenville County Current dollars
1. Payroll	$175,408,586	$65,731,600	$69,754,374	$245,162,960
2. Purchases from Vendors		$27,311,272	$28,982,722	$28,982,722
3. Visitors		$2,218,587	$2,354,365	$2,354,365
4. Students		$1,301,227	$1,380,862	$1,380,862
5. Construction 2000-2001		$13,353,637	$14,170,880	$14,170,880
Totals		**$109,916,323**	**$116,643,202**	**$292,051,788**

D.Total Employment Impacts in Greenville Co.	All GHS Payroll Employees, 2000	GHS Employees Residing in Greenville County	Employment in Gnv from GHS Based Spending	Total GHS Related Employment Residing in Gnv Co.	Total GHS Related Employment Working in Gnv Co.
1. Payroll	8,211	5,323	1,477	6,800	9,688
2. Purchases from Vendors			750	750	750
3. Visitors			90	90	90
4. Students			50	50	50
5. Construction 2000-2001			322	322	322
Totals			**2,689**	**8,012**	**10,900**

Table A-6. GHS: Impacts on Greenville County

E. State/Local Tax Impacts in Greenville Co. **(excludes property taxes from GHS employees that reside in the County)**	Greenville County Resident Employees State Income Tax Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$8,913,968	$4,979,901	$5,284,671	$14,198,639	
2. Purchases from Vendors		$1,962,921	$2,083,052	$2,083,052	
3. Visitors		$260,266	$276,194	$276,194	
4. Students		$149,934	$159,110	$159,110	
5. Construction 2000-2001		$987,373	$1,047,800	$1,047,800	
Totals		**$8,340,395**	**$8,850,827**	**$17,764,795**	**$17,764,795**

F. GHS Employee Property Taxes **(Paid by GHS Employees Residing in County)** **Millage rate:(means for Cities, Schools, SPD):**	County Government 70.9	City Government 76.6	School District 145.6	Special Purpose Dist 40.4	**TOTAL LOCAL PROPERTY TAX REVENUES**
1. Number of GHS Employees residents	5,323	1,490	5,323	3,833	
2. Estimated Market Value of Real property	$438,521,465	$122,786,010	$438,521,465	315,735,455	
3. Estimated Market Value of Personal property	$106,460,000	$29,808,800	$106,460,000	76,651,200	
4. Estimated Assessed Value Real property	$17,540,859	$4,911,440	$17,540,859	12,629,418	
5. Estimated Assessed Value Personal property	$11,178,300	$3,129,924	$11,178,300	8,048,376	
Total Property Tax Revenues, 2000	**$2,036,188**	**$615,969**	**$4,181,509**	**$835,383**	**$7,669,049**
(28% of GHS employees live in a city in Gnv Co.) 0.28					
G. Total State and Local Tax Revenue					**$25,433,844**

Table A-7. GHS: IMPACTS ON ANDERSON COUNTY

Year 2000 **A. Initial Injection of Spending:**	All GHS Employees Total Wages and Salary Current dollars	GHS Employees Residing in Anderson County Wages and Salary Current dollars	GHS Employees Residing in Anderson County Consumption Current dollars	GHS Employees Residing in Anderson County Cons in Lau Co. Current dollars	All GHS Based Spending in Anderson County Current dollars
1. Payroll	$263,586,241	$29,980,181	$17,806,728	$12,045,250	$12,045,250
2. Purchases from Vendors	$127,908,460				$1,264,429
3. Visitors	$2,472,580				$0
4. Students	$1,445,257				$0
5. Construction 2000-2001	$15,460,574				$0
Totals	**$410,873,112**				**$13,309,679**

B. Total Sales Impacts in Anderson County	Total GHS Related Sales in Anderson 1997 dollars	Total GHS Related Sales in Anderson Current dollars	Total GHS Related Sales in Anderson Current dollars
1. Payroll	$17,457,926	$18,526,351	$18,526,351
2. Purchases from Vendors	$2,005,193	$2,127,911	$2,127,911
3. Visitors	$0	$0	$0
4. Students	$0	$0	$0
5. Construction 2000-2001	$0	$0	$0
Totals	**$19,463,119**	**$20,654,262**	**$20,654,262**

Table A-7. GHS: IMPACTS ON ANDERSON COUNTY

C. Total Income Impacts in Anderson County	GHS Employees Residing in Anderson County Current dollars	Anderson Co. Income from GHS Based Spending 1997 dollars	Total GHS Related Income in Anderson County Current dollars	Total GHS Related Income in Anderson County Current dollars
1. Payroll	$29,980,181	$10,041,199	$10,655,720	$40,635,901
2. Purchases from Vendors		$1,053,805	$1,118,298	$1,118,298
3. Visitors			$0	$0
4. Students			$0	$0
5. Construction 2000-2001			$0	$0
Totals		**$11,095,004**	**$11,774,018**	**$41,754,199**

D.Total Employment Impacts in Anderson Co.	All GHS Payroll Employees, 2000	GHS Employees Residing in Anderson County	Employment in And from GHS Based Spending	Total GHS Related Employment Residing in And Co.
1. Payroll	8,211	992	274	1,266
APPENDIX			32	32
3. Visitors				
4. Students				
5. Construction 2000-2001				
Totals			**306**	**1,298**

Table A-7. GHS: IMPACTS ON ANDERSON COUNTY

E. State/Local Tax Impacts in Anderson Co. **(excludes property taxes from GHS employees that reside in the County)**	Anderson County Resident Employees State Income Tax Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$1,530,921	$869,064	$922,251	$2,453,172	
2. Purchases from Vendors		$91,884	$97,507	$97,507	
3. Visitors		$0	$0	$0	
4. Students		$0	$0	$0	
5. Construction 2000-2001		$0	$0	$0	
Totals		**$960,948**	**$1,019,758**	**$2,550,679**	**$2,550,679**

F. GHS Employee Property Taxes **(Paid by GHS Employees Residing in County)** **Millage rate:(means for Cities, Schools, SPD):**	County Government 67.7	City Government 107.6	School District 175.02	Special Purpose Dist 10.1	**TOTAL LOCAL PROPERTY TAX REVENUES**
1. Number of GHS Employees residents	992	268	992	724	
2. Estimated Market Value of Real property	$74,950,453	$20,236,622	$74,950,453	54,713,830	
3. Estimated Market Value of Personal property	$19,840,000	$5,356,800	$19,840,000	14,483,200	
4. Estimated Assessed Value Real property	$2,998,018	$809,465	$2,998,018	2,188,553	
5. Estimated Assessed Value Personal property	$2,083,200	$562,464	$2,083,200	1,520,736	
Total Property Tax Revenues, 2000	**$343,998**	**$147,671**	**$889,315**	**$37,464**	**$1,418,448**

(27% of GHS employees live in a city in Ande Co.)

0.27

G. Total State and Local Tax Revenue **$3,969,127**

Table A-8. GHS: IMPACTS ON LAURENS COUNTY

Year 2000 **A. Initial Injection of Spending:**	All GHS Employees Total Wages and Salary Current dollars	GHS Employees Residing in Laurens County Wages and Salary Current dollars	GHS Employees Residing in Laurens County Consumption Current dollars	GHS Employees Residing in Laurens County Cons in Lau Co. Current dollars	All GHS Based Spending in Laurens County Current dollars
1. Payroll	$263,586,241	$4,260,909	$2,523,281	$1,706,622	$1,706,622
2. Purchases from Vendors	$127,908,460				$145,152
3. Visitors	$2,472,580				$0
4. Students	$1,445,257				$0
5. Construction 2000-2001	$15,460,574				$0
Totals	**$410,873,112**				**$1,851,774**

B. Total Sales Impacts in Laurens County	Total GHS Related Sales in Laurens 1997 dollars	Total GHS Related Sales in Laurens Current dollars	Total GHS Related Sales in Laurens Current dollars
1. Payroll	$2,059,847	$2,185,910	$2,185,910
2. Purchases from Vendors	$197,544	$209,634	$209,634
3. Visitors	$0	$0	$0
4. Students	$0	$0	$0
5. Construction 2000-2001	$0	$0	$0
Totals	**$2,257,391**	**$2,395,543**	**$2,395,543**

Table A-8. GHS: IMPACTS ON LAURENS COUNTY

C. Total Income Impacts in Laurens County	GHS Employees Residing in Laurens County Current dollars	Laurens Co. Income from GHS Based Spending 1997 dollars	Total GHS Related Income in Laurens County Current dollars	Total GHS Related Income in Laurens County Current dollars
1. Payroll	$4,260,909	$1,231,671	$1,307,049	$5,567,958
2. Purchases from Vendors		$109,969	$116,699	$116,699
3. Visitors			$0	$0
4. Students			$0	$0
5. Construction 2000-2001			$0	$0
Totals		**$1,341,640**	**$1,423,748**	**$5,684,657**

D.Total Employment Impacts in Laurens Co.	All GHS Payroll Employees, 2000	GHS Employees Residing in Laurens County	Employment in Lau from GHS Based Spending	Total GHS Related Employment Residing in Lau Co.
1. Payroll	8,211	138	34	172
2. Purchases from Vendors			3	3
3. Visitors				
4. Students				
5. Construction 2000-2001				
Totals			**37**	**175**

Table A-8. GHS: IMPACTS ON LAURENS COUNTY

E. State/Local Tax Impacts in Laurens Co. **(excludes property taxes from GHS employees that reside in the County)**	Laurens County Resident Employees State Income Tax Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$223,416	$108,789	$115,447	$338,863	
2. Purchases from Vendors		$10,258	$10,886	$10,886	
3. Visitors		$0	$0	$0	
4. Students		$0	$0	$0	
5. Construction 2000-2001		$0	$0	$0	
Totals		**$119,047**	**$126,333**	**$349,749**	**$349,749**

F. GHS Employee Property Taxes **(Paid by GHS Employees Residing in County)**	County Government	City Government	School District	Special Purpose Dist	**TOTAL LOCAL PROPERTY TAX REVENUES**
Millage rate:(means for Cities, Schools, SPD):	55.5	82.8	159.3	18	
1. Number of GHS Employees residents	138	48	138	90	
2. Estimated Market Value of Real property	$10,652,273	$3,728,295	$10,652,273	6,923,977	
3. Estimated Market Value of Personal property	$2,760,000	$966,000	$2,760,000	1,794,000	
4. Estimated Assessed Value Real property	$426,091	$149,132	$426,091	276,959	
5. Estimated Assessed Value Personal property	$289,800	$101,430	$289,800	188,370	
Total Property Tax Revenues, 2000	**$39,732**	**$20,747**	**$114,006**	**$8,376**	**$182,860**

(35% of GHS employees live in a city in Lau. Co.
0.35

G. Total State and Local Tax Revenue **$532,609**

Table A-9. GHS: IMPACTS ON OCONEE COUNTY

Year 2000 **A. Initial Injection of Spending:**	All GHS Employees Total Wages and Salary Current dollars	GHS Employees Residing in Oconee County Wages and Salary Current dollars	GHS Employees Residing in Oconee County Consumption Current dollars	GHS Employees Residing in Oconee County Cons in Ocon. Co. Current dollars	All GHS Based Spending in Oconee County Current dollars
1. Payroll	$263,586,241	$1,335,286	$778,292	$525,118	$525,118
2. Purchases from Vendors	$127,908,460				$39,178
3. Visitors	$2,472,580				$0
4. Students	$1,445,257				$0
5. Construction 2000-2001	$15,460,574				$0
Totals	**$410,873,112**				**$564,296**

B. Total Sales Impacts in Oconee County	Total GHS Related Sales in Oconee 1997 dollars	Total GHS Related Sales in Oconee Current dollars	Total GHS Related Sales in Oconee Current dollars
1. Payroll	$790,594	$838,978	$838,978
2. Purchases from Vendors	$59,575	$63,221	$63,221
3. Visitors	$0	$0	$0
4. Students	$0	$0	$0
5. Construction 2000-2001	$0	$0	$0
Totals	**$850,169**	**$902,199**	**$902,199**

Table A-9. GHS: Impacts on Oconee County

C. Total Income Impacts in Oconee County	GHS Employees Residing in Oconee County Current dollars	Oconee Co. Income from GHS Based Spending 1997 dollars	Total GHS Related Income in Oconee County Current dollars	Total GHS Related Income in Oconee County Current dollars
1. Payroll	$1,335,286	$479,979	$509,354	$1,844,640
2. Purchases from Vendors		$33,939	$36,016	$36,016
3. Visitors			$0	$0
4. Students			$0	$0
5. Construction 2000-2001			$0	$0
Totals		**$513,918**	**$545,370**	**$1,880,656**

D.Total Employment Impacts in Oconee Co.	All GHS Payroll Employees, 2000	GHS Employees Residing in Oconee County	Employment in Oco from GHS Based Spending	Total GHS Related Employment Residing in Oco Co.
1. Payroll	8,211	54	12	66
2. Purchases from Vendors			1	1
3. Visitors				
4. Students				
5. Construction 2000-2001				
Totals			**13**	**67**

Table A-9. GHS: IMPACTS ON OCONEE COUNTY

E. State/Local Tax Impacts in Oconee Co. **(excludes property taxes from GHS employees that reside in the County)**	Oconee County Resident Employees State Income Tax Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$68,174	$41,158	$43,677	$111,851	
2. Purchases from Vendors		$2,636	$2,797	$2,797	
3. Visitors		$0	$0	$0	
4. Students		$0	$0	$0	
5. Construction 2000-2001		$0	$0	$0	
Totals		**$43,794**	**$46,474**	**$114,648**	**$114,648**

F. GHS Employee Property Taxes **(Paid by GHS Employees Residing in County)**	County Government	City Government	School District	Special Purpose Dist	**TOTAL LOCAL PROPERTY TAX REVENUES**
Millage rate:(means for Cities, Schools, SPD):	68.4	55.8	127.6	0	
1. Number of GHS Employees residents	54	14	54	40	
2. Estimated Market Value of Real property	$3,338,215	$867,936	$3,338,215	2,470,279	
3. Estimated Market Value of Personal property	$1,080,000	$280,800	$1,080,000	799,200	
4. Estimated Assessed Value Real property	$133,529	$34,717	$133,529	98,811	
5. Estimated Assessed Value Personal property	$113,400	$29,484	$113,400	83,916	
Total Property Tax Revenues, 2000	**$16,890**	**$3,582**	**$31,508**	**$0**	**$51,980**

(26% of GHS employees live in a city in Oco. Co.)
0.26

G. Total State and Local Tax Revenue **$166,629**

Table A-10. GHS: IMPACTS ON PICKENS COUNTY

Year 2000 **A. Initial Injection of Spending:**	All GHS Employees Total Wages and Salary Current dollars	GHS Employees Residing in Pickens County Wages and Salary Current dollars	GHS Employees Residing in Pickens County Consumption Current dollars	GHS Employees Residing in Pickens County Cons in Pcks Co. Current dollars	All GHS Based Spending in Pickens County Current dollars
1. Payroll	$263,586,241	$14,431,268	$8,588,793	$5,818,204	$5,818,204
2. Purchases from Vendors	$127,908,460				$1,809,966
3. Visitors	$2,472,580				$0
4. Students	$1,445,257				$0
5. Construction 2000-2001	$15,460,574				$0
Totals	**$410,873,112**				**$7,628,170**

B. Total Sales Impacts in Pickens County	Total GHS Related Sales in Pickens 1997 dollars	Total GHS Related Sales in Pickens Current dollars	Total GHS Related Sales in Pickens Current dollars
1. Payroll	$8,041,273	$8,533,399	$8,533,399
2. Purchases from Vendors	$2,880,625	$3,056,919	$3,056,919
3. Visitors	$0	$0	$0
4. Students	$0	$0	$0
5. Construction 2000-2001	$0	$0	$0
Totals	**$10,921,898**	**$11,590,318**	**$11,590,318**

Table A-10. GHS: IMPACTS ON PICKENS COUNTY

C. Total Income Impacts in Pickens County	GHS Employees Residing in Pickens County Current dollars	Pickens Co. Income from GHS Based Spending 1997 dollars	Total GHS Related Income in Pickens County Current dollars	Total GHS Related Income in Pickens County Current dollars
1. Payroll	$14,431,268	$4,602,442	$4,884,111	$19,315,379
2. Purchases from Vendors		$1,662,548	$1,764,296	$1,764,296
3. Visitors			$0	$0
4. Students			$0	$0
5. Construction 2000-2001			$0	$0
Totals		**$6,264,990**	**$6,648,407**	**$21,079,675**

D.Total Employment Impacts in Pickens Co.	All GHS Payroll Employees, 2000	GHS Employees Residing in Pickens County	Employment in Pck from GHS Based Spending	Total GHS Related Employment Residing in Pcks Co.
1. Payroll	8,211	502	124	626
2. Purchases from Vendors			59	59
3. Visitors				
4. Students				
5. Construction 2000-2001				
Totals			**183**	**685**

Table A-10. GHS: IMPACTS ON PICKENS COUNTY

E. State/Local Tax Impacts in Pickens Co. **(excludes property taxes from GHS employees that reside in the County)**	Pickens County Resident Employees State Income Tax Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$750,672	$412,013	$437,228	$1,187,900	
2. Purchases from Vendors		$134,377	$142,601	$142,601	
3. Visitors		$0	$0	$0	
4. Students		$0	$0	$0	
5. Construction 2000-2001		$0	$0	$0	
Totals		**$546,390**	**$579,829**	**$1,330,501**	**$1,330,501**

F. GHS Employee Property Taxes **(Paid by GHS Employees Residing in County)**	County Government	City Government	School District	Special Purpose Dist	**TOTAL LOCAL PROPERTY TAX REVENUES**
Millage rate:(means for Cities, Schools, SPD):	60.9	61.4	129.2	10	
1. Number of GHS Employees residents	502	196	502	306	
2. Estimated Market Value of Real property	$36,078,170	$14,070,486	$36,078,170	22,007,684	
3. Estimated Market Value of Personal property	$10,040,000	$3,915,600	$10,040,000	6,124,400	
4. Estimated Assessed Value Real property	$1,443,127	$562,819	$1,443,127	880,307	
5. Estimated Assessed Value Personal property	$1,054,200	$411,138	$1,054,200	643,062	
Total Property Tax Revenues, 2000	**$152,087**	**$59,843**	**$322,655**	**$15,234**	**$549,818**
(.39% of GHS employees live in a city in Pick Co.)	0.39				
G. Total State and Local Tax Revenue					**$1,880,319**

Table A-11. GHS: IMPACTS ON SPARTANBURG CO.

Year 2000 **A. Initial Injection of Spending:**	All GHS Employees Total Wages and Salary Current dollars	GHS Employees Residing in Spartanburg County Wages and Salary Current dollars	GHS Employees Residing in Spartanburg County Consumption Current dollars	GHS Employees Residing in Spartanburg County Cons in Sptg. Co. Current dollars	All GHS Based Spending in Spartanburg County Current dollars
1. Payroll	$263,586,241	$10,094,760	$6,128,051	$4,133,582	$4,133,582
2. Purchases from Vendors	$127,908,460				$2,259,132
3. Visitors	$2,472,580				$0
4. Students	$1,445,257				$0
5. Construction 2000-2001	$15,460,574				$0
Totals	**$410,873,112**				**$6,392,714**

B. Total Sales Impacts in Spartanburg County	Total GHS Related Sales in Spartanburg 1997 dollars	Total GHS Related Sales in Spartanburg Current dollars	Total GHS Related Sales in Spartanburg Current dollars
1. Payroll	$6,637,460	$7,043,673	$7,043,673
2. Purchases from Vendors	$3,593,218	$3,813,123	$3,813,123
3. Visitors	$0	$0	$0
4. Students	$0	$0	$0
5. Construction 2000-2001	$0	$0	$0
Totals	**$10,230,678**	**$10,856,795**	**$10,856,795**

Table A-11. GHS: IMPACTS ON SPARTANBURG CO.

C. Total Income Impacts in Spartanburg County	GHS Employees Residing in Spartanburg County Current dollars	Spartanburg Co. Income from GHS Based Spending 1997 dollars	Total GHS Related Income in Spartanburg County Current dollars	Total GHS Related Income in Spartanburg County Current dollars
1. Payroll	$10,094,760	$3,876,678	$4,113,931	$14,208,691
2. Purchases from Vendors		$2,101,534	$2,230,148	$2,230,148
3. Visitors			$0	$0
4. Students			$0	$0
5. Construction 2000-2001			$0	$0
Totals		**$5,978,212**	**$6,344,079**	**$16,438,839**

D.Total Employment Impacts in Spartanburg Co **.**	All GHS Payroll Employees, 2000	GHS Employees Residing in Spartanburg County	Employment in Sptg. from GHS Based Spending	Total GHS Related Employment Residing in Sptg Co.
1. Payroll	8,211	402	95	497
2. Purchases from Vendors			66	66
3. Visitors				
4. Students				
5. Construction 2000-2001				
Totals			**161**	**563**

Table A-11. GHS: IMPACTS ON SPARTANBURG CO.

E. State/Local Tax Impacts in Spartanburg Co. **(excludes property taxes from GHS employees that reside in the County)**	Spartanburg County Resident Employees State Income Tax Current dollars	State/local Taxes from GHS Based Spending 1997 dollars	State/local Taxes from GHS Based Spending Current dollars	State/local Taxes from GHS Based Spending and Payroll Current dollars	
1. Payroll	$510,693	$322,983	$342,750	$853,443	
2. Purchases from Vendors		$164,760	$174,843	$174,843	
3. Visitors		$0	$0	$0	
4. Students		$0	$0	$0	
5. Construction 2000-2001		$0	$0	$0	
Totals		**$487,743**	**$517,593**	**$1,028,286**	**$1,028,286**

F. GHS Employee Property Taxes (Paid by GHS Employees Residing in County)	County Government	City Government	School District	Special Purpose Dist	**TOTAL LOCAL PROPERTY TAX REVENUES**
Millage rate:(means for Cities, Schools, SPD):	72.1	69.4	184.2	16	
1. Number of GHS Employees residents	402	113	402	289	
2. Estimated Market Value of Real property	$25,236,900	$7,066,332	$25,236,900	18,170,568	
3. Estimated Market Value of Personal property	$8,040,000	$2,251,200	$8,040,000	5,788,800	
4. Estimated Assessed Value Real property	$1,009,476	$282,653	$1,009,476	726,823	
5. Estimated Assessed Value Personal property	$844,200	$236,376	$844,200	607,824	
Total Property Tax Revenues, 2000	**$133,650**	**$36,037**	**$341,527**	**$21,354**	**$532,568**
(28% of GHS employees live in a city in Spt. Co.)					
	0.28				
G. Total State and Local Tax Revenue					**$1,560,853**

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

Assumes distance exponent = 1.2

A. SIZE OF EACH SHOPPING CENTER FROM GHS PAYROLL DATA

		NUMBER OF EMPLOYEES IN:				TOTAL CONSUMPTION BY RESIDENCE			
COUNTY OF		TRADE	Oth SVCs	Eating	Hotels	TRADE	Oth SVCs	Eating	Hotels
RESIDENCE:		Tj	Sj	Ej	Hj	CTj	CSj	CEj	CHj
ANDERSON	1	14265	14279	4485	365	1,931,599	3,329,545	780,531	43,349
GREENVILLE	2	52416	71859	14061	1555	10,958,775	19,287,880	4,517,066	265,452
LAURENS	3	4741	4874	1195	80	267,028	475,662	110,348	6,650
OCONEE	4	4167	4896	1435	49	81,371	147,837	33,604	2,018
PICKENS	5	6877	10553	4303	283	934,229	1,609,491	375,723	20,747
SPARTANBURG	6	24132	32166	10275	720	648,037	1,143,256	267,161	15,230

B. DISTANCE MATRIX Dij

COUNTY OF		COUNTY OF SHOPPING					
RESIDENCE:		1	2	3	4	5	6
ANDERSON	1	1	40	44.2	25.5	27.3	58.8
GREENVILLE	2	40	1	39	57.3	13.3	31.5
LAURENS	3	44.2	39	1	79.7	49.4	46.4
OCONEE	4	25.5	57.3	79.7	1	25.6	75.8
PICKENS	5	27.3	13.3	49.4	25.6	1	45.7
SPARTANBURG	6	58.8	31.5	46.4	75.8	45.7	1

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

C. ATTRACTION MATRIX FOR TRADE Tj / Dij

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	14265	626.6021579	50.2762911	85.501805	130.0181098	181.6939746	15339.09234
GREENVILLE	2	170.5296051	52416	58.4241533	32.362194	308.1605604	384.2559952	53369.73251
LAURENS	3	151.2742654	645.9313261	4741	21.780784	63.81557484	241.419163	5865.221114
OCONEE	4	292.7005641	407.0786536	24.7810652	4167	140.4465469	133.9646673	5165.971497
PICKENS	5	269.6973006	2348.777655	43.994422	85.101172	6877	245.8633963	9870.433946
SPARTANBURG	6	107.4036362	834.6246578	47.4294817	23.132387	70.06475121	24132	25214.65491

D. ATTRACTION MATRIX FOR OTH SVCS Sj / Dij

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	14279	859.0316785	51.6866996	100.46	199.5173931	242.1833411	15731.87912
GREENVILLE	2	170.6969668	71859	60.063135	38.02383	472.8832912	512.182096	73112.84932
LAURENS	3	151.4227295	885.530738	4874	25.591246	97.92725916	321.7921763	6356.264149
OCONEE	4	292.9878272	558.0789256	25.4762522	4896	215.5201992	178.5640431	6166.627247
PICKENS	5	269.9619877	3220.024678	45.2286043	99.989282	10553	327.715979	14515.92053
SPARTANBURG	6	107.5090446	1144.217286	48.7600282	27.179306	107.5168416	32166	33601.18251

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

E. ATTRACTION MATRIX FOR EATING Ej / Dij

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	4485	168.0909062	12.6724674	0.9069306	81.35348645	77.36224056	4825.386031
GREENVILLE	2	53.61551202	14061	14.7261892	0.3432707	192.8188005	163.6097443	14486.11352
LAURENS	3	47.56151984	173.2761061	1195	0.2310321	39.92997216	102.792222	1558.790852
OCONEE	4	92.02678094	109.2020175	6.24622925	44.2	87.87865224	57.03990372	396.5935836
PICKENS	5	84.79441942	630.0778885	11.0890813	0.902681	4303	104.6845018	5134.548572
SPARTANBURG	6	33.76833566	223.8945611	11.9549105	0.2453687	43.84013734	10275	10588.70331

F. ATTRACTION MATRIX FOR HOTELS Hj / Dij

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	365	18.58910171	0.84836602	0.5232292	5.350461693	5.421003718	395.7321623
GREENVILLE	2	4.36335828	1555	0.98585367	0.1980408	12.68132014	11.46462442	1584.693197
LAURENS	3	3.870669954	19.16253076	80	0.1332877	2.626117156	7.202958619	112.9955642
OCONEE	4	7.489358984	12.07660459	0.41815761	25.5	5.779609246	3.996956757	55.26068719
PICKENS	5	6.900772149	69.68004528	0.74236527	0.5207775	283	7.335556329	368.1795165
SPARTANBURG	6	2.748147718	24.76040413	0.80032874	0.1415589	2.883281168	720	751.3337206

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

G. % RESIDENTS OF i that shop in j Tj / Dij / ROW Tj SUM **TRADE**

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	0.929976799	0.040850015	0.00327766	0.0055741	0.008476258	0.011845158	1
GREENVILLE	2	0.003195249	0.982129712	0.00109471	0.0006064	0.00577407	0.007199886	1
LAURENS	3	0.025791741	0.110129067	0.80832417	0.0037135	0.010880336	0.041161136	1
OCONEE	4	0.056659346	0.078800019	0.00479698	0.8066247	0.027186861	0.025932134	1
PICKENS	5	0.027323753	0.237960931	0.00445719	0.0086218	0.69672722	0.024909077	1
SPARTANBURG	6	0.004259572	0.033100777	0.00188103	0.0009174	0.002778731	0.957062473	1

H. % RESIDENTS OF i that shop in j Sj / Dij / ROW S j SUM **OTHER SERVICES**

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	0.907647452	0.054604518	0.00328548	0.0063858	0.012682362	0.015394432	1
GREENVILLE	2	0.002334705	0.982850493	0.00082151	0.0005201	0.006467855	0.007005364	1
LAURENS	3	0.023822599	0.139316227	0.76680262	0.0040261	0.015406417	0.050625992	1
OCONEE	4	0.047511843	0.090499864	0.00413131	0.793951	0.034949445	0.028956516	1
PICKENS	5	0.018597649	0.221827108	0.00311579	0.0068882	0.726994887	0.022576314	1
SPARTANBURG	6	0.003199561	0.034052887	0.00145114	0.0008089	0.003199793	0.957287738	1

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

I. % RESIDENTS OF i that shop in j Ej / Dij / ROW Ej SUM **EATING**

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	0.929976799	0.040850015	0.00327766	0.0055741	0.008476258	0.011845158	1
GREENVILLE	2	0.003195249	0.982129712	0.00109471	0.0006064	0.00577407	0.007199886	1
LAURENS	3	0.025791741	0.110129067	0.80832417	0.0037135	0.010880336	0.041161136	1
OCONEE	4	0.056659346	0.078800019	0.00479698	0.8066247	0.027186861	0.025932134	1
PICKENS	5	0.027323753	0.237960931	0.00445719	0.0086218	0.69672722	0.024909077	1
SPARTANBURG	6	0.004259572	0.033100777	0.00188103	0.0009174	0.002778731	0.957062473	1

J. % RESIDENTS OF i that shop in j Hj / Dij / ROW H j SUM **HOTELS**

RESIDENCE:		COUNTY OF SHOPPING						ROW
		1	2	3	4	5	6	SUM
ANDERSON	1	0.907647452	0.054604518	0.00328548	0.0063858	0.012682362	0.015394432	1
GREENVILLE	2	0.002334705	0.982850493	0.00082151	0.0005201	0.006467855	0.007005364	1
LAURENS	3	0.023822599	0.139316227	0.76680262	0.0040261	0.015406417	0.050625992	1
OCONEE	4	0.047511843	0.090499864	0.00413131	0.793951	0.034949445	0.028956516	1
PICKENS	5	0.018597649	0.221827108	0.00311579	0.0068882	0.726994887	0.022576314	1
SPARTANBURG	6	0.003199561	0.034052887	0.00145114	0.0008089	0.003199793	0.957287738	1

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

K. PCEij FOR TRADE: CTj* (Tj / Dij / ROW Tj SUM) TRADE

RESIDENCE:		COUNTY OF SHOPPING						PCE BY COUNTY OF
		1	2	3	4	5	6	RESIDENCE
ANDERSON	1	1,796,342	78,906	6,331	10,767	16,373	22,880	1,931,599
GREENVILLE	2	35,016	10,762,939	11,997	6,645	63,277	78,902	10,958,775
LAURENS	3	6,887	29,408	215,845	992	2,905	10,991	267,028
OCONEE	4	4,610	6,412	390	65,636	2,212	2,110	81,371
PICKENS	5	25,527	222,310	4,164	8,055	650,903	23,271	934,229
SPARTANBURG	6	2,760	21,451	1,219	595	1,801	620,212	648,037
TRADE		**1,871,143**	**11,121,424**	**239,946**	**92,689**	**737,471**	**758,366**	**14,821,039**
PCE BY SHOPPING COUNTY (COLUMN SUM)								

L. PCEij FOR SERVICES: CSj * (Sj / Dij / ROW Sj SUM) SERVICES

RESIDENCE:		COUNTY OF SHOPPING						
		1	2	3	4	5	6	
ANDERSON	1	3,022,053	181,808	10,939	21,262	42,226	51,256	3,329,545
GREENVILLE	2	45,032	18,957,102	15,845	10,031	124,751	135,119	19,287,880
LAURENS	3	11,332	66,267	364,739	1,915	7,328	24,081	475,662
OCONEE	4	7,024	13,379	611	117,375	5,167	4,281	147,837
PICKENS	5	29,933	357,029	5,015	11,087	1,170,092	36,336	1,609,491
SPARTANBURG	6	3,658	38,931	1,659	925	3,658	1,094,425	1,143,256
SERVICES		**3,119,031**	**19,614,517**	**398,808**	**162,594**	**1,353,223**	**1,345,498**	**25,993,671**
PCE BY SHOPPING COUNTY (COLUMN SUM)								

Table A-12. SHOPPING TRIPS MODEL FOR THE 2001 GHS STUDY

M. PCEij FOR EATING: CEj* (Ej / Dij / ROW Ej SUM) EATING

RESIDENCE:		COUNTY OF SHOPPING						
		1	2	3	4	5	6	
ANDERSON	1	725,876	31,885	2,558	4,351	6,616	9,246	780,531
GREENVILLE	2	14,433	4,436,345	4,945	2,739	26,082	32,522	4,517,066
LAURENS	3	2,846	12,153	89,197	410	1,201	4,542	110,348
OCONEE	4	1,904	2,648	161	27,106	914	871	33,604
PICKENS	5	10,266	89,407	1,675	3,239	261,776	9,359	375,723
SPARTANBURG	6	1,138	8,843	503	245	742	255,690	267,161
TRADE		**756,463**	**4,581,281**	**99,039**	**38,090**	**297,331**	**312,230**	**6,084,433**

PCE BY SHOPPING COUNTY
(COLUMN SUM)

N. PCEij FOR HOTELS: CHj * (Hj / Dij / ROW Hj SUM) HOTELS

RESIDENCE:		COUNTY OF SHOPPING						
		1	2	3	4	5	6	
ANDERSON	1	39,346	2,367	142	277	550	667	43,349
GREENVILLE	2	620	260,900	218	138	1,717	1,860	265,452
LAURENS	3	158	926	5,099	27	102	337	6,650
OCONEE	4	96	183	8	1,602	71	58	2,018
PICKENS	5	386	4,602	65	143	15,083	468	20,747
SPARTANBURG	6	49	519	22	12	49	14,579	15,230
SERVICES		**40,654**	**269,497**	**5,555**	**2,199**	**17,571**	**17,970**	**353,446**

PCE BY SHOPPING COUNTY
(COLUMN SUM)

SOUTH CAROLINA AGRICULTURE AND FORESTRY RESEARCH
CLEMSON UNIVERSITY, CLEMSON, SOUTH CAROLINA 29634
JAMES R. FISCHER, DEAN/DIRECTOR

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