

**SAVANNAH COLLEGE OF ART AND DESIGN:
ITS GROWING AND COMPLEX CONTRIBUTION
TO THE CHATHAM COUNTY ECONOMY**

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EXECUTIVE SUMMARY

This report presents findings on the impact of the Savannah College of Art and Design (SCAD) on the economy of Chatham County. With 4,152 full-time equivalent (FTE) students in the fall of 1999, SCAD produced 44% of all higher educational services in Chatham County.

With fiscal year revenues at year end June 30, 1999 of \$71.6 million and an operating budget of \$62.2 million before interest, taxes, depreciation, and amortization, SCAD expended \$44.0 million for purchases which produced a direct impact on the Chatham County economy. The direct impact of \$44.0 million in expenditures resulted in an adjusted direct impact of \$41.7 million in real 1997 dollars and 953 jobs. Assuming that some expenditures were not local, the direct impact may be as low as \$29.8 million and 726 jobs. The multiplier effect results in a total impact of between \$45.9 million supporting 962 jobs and \$63.8 million supporting 1,277 jobs.

Students who attend SCAD live in the greater Savannah area while in college. The expenditures of the approximately 4,500 students for housing, transportation and other living expenses have a direct impact in 1997 dollars of between \$17.0 million and \$21.0 million. The total impact of student expenditures is between \$24.5 million and \$31.5 million, resulting in between 417 and 518 jobs.

The combined impact of SCAD as a business and the direct expenditures by students results in an annual impact on the Chatham economy of between \$70.4 million generating 1,379 jobs and \$95.3 million generating 1,795 jobs. These figures measure the tangible impact of SCAD on the surrounding area. While the tangible economic impact is certainly large and significant, SCAD has also created many intangible benefits which have important economic consequences.

In addition to the impact of annual operations, SCAD spends an average of approximately \$7.0 million annually on capital improvements. The total impact of \$7.0 million dollars of direct expenditures is \$10.5 million in real 1997 dollars. This supports an average of 166 jobs in the Chatham economy.

The educational services produced by SCAD employ the region's historic structures, culture, art heritage, and aesthetics to produce highly competitive higher education services. The students consuming these services are not typically part of the resident households in the local economy. Hence, SCAD's services are part of the regional export base. Exports tend to grow an economy.

SCAD is a growing institution in the core of the downtown business district. Enrollment has increased by an average annual rate of 12%. SCAD has grown its business at the same time that the cost of attending SCAD has increased. It has done this while attracting high quality

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students with SAT scores which average 1070. Prospects for continued growth are strong.

SCAD, while a not-for-profit college, is a private business having all of the economic impacts of a private business. It is a clean, high-technology, knowledge-based business. The fact that SCAD has engineered a way to generate export base services from the assets of Savannah's downtown environment complements the tourism economy and provides a vital economic base to revitalize the core commercial base of downtown.

Between 1987 and 2000, SCAD has invested building and building improvements of \$51.4 million in downtown Savannah. This investment in the acquisition, renovation and improvement of property complements Savannah's own investment in downtown revitalization. But there are significant benefits created by this investment which go far beyond the pure impact of the dollars spent. First, SCAD's investment is dispersed through the historic district. This has had the effect of augmenting and spreading the benefits of the City's own revitalization investments. Second, and most important, SCAD contributes the one thing which makes downtown revitalization strategy work. It puts people on the street. More than 6,000 students, faculty and staff populate the downtown.

INTRODUCTION

This report is part of a continuing series of reports on the impacts of institutions of higher education on the economy of Southeast Georgia and the communities which host these institutions. The purpose of the series is to provide the Region's institutions with concrete information about their role in the Region's economy. The analyses have shown that each institution has a tangible and significant economic impact in the same way that any large business organization would. However, the contributions of these institutions are far more complex than that of most business organizations. The complexity of the contribution of an institution on the Region's economy is particularly interesting in the case of the Savannah College of Art and Design (SCAD).

Following Georgia Southern University in the southeast portion of the state, SCAD has the largest enrollment of any of the Region's colleges that grant Bachelor's degrees. However, all of the other institutions are state-supported while SCAD is a private, not-for-profit college. Hence, SCAD is not supported by state tax dollars and this makes its impact unique relative to the region's other institutions of higher education.

The following report presents the results of analyses of three different ways in which SCAD has a significant economic impact on the Chatham County economy. Chapter Two provides a discussion of institutions of higher education as businesses and the economics of not-for-profit businesses. Chapter Three of this report describes the method used to analyze the economic impact of SCAD as a business that provides educational services. Chapter Four presents the results of this aspect of the impact analysis. Chapter Five presents an analysis of the economic impact of SCAD as an investor in downtown re-development. Chapter Six discusses the contribution that SCAD makes to the tourism economy.

1.1 Background

SCAD is accredited by the Commission on Colleges of the Southern Association of Colleges to award bachelors' and masters' degrees. It is one of three accredited institutions of higher education in Chatham County able to award bachelor's and master's degrees. SCAD offers 18 undergraduate majors with 11 minors awarding the degree of Bachelor of Fine Arts or Bachelor of Architecture. SCAD also offers 18 graduate programs awarding the degree of Master of Fine Arts, Master of Architecture or Master of Arts.

Economic Impact: SCAD

In Fall 1999, SCAD had a full-time enrollment of 3,933 students and a part-time enrollment of 498 students or an enrollment of 4,152 in full-time equivalents (FTE). In the same year, Armstrong Atlantic State University (AASU) had a full-time equivalent enrollment of 3,835 and Savannah State University (SSU) had a head count of 2,153.¹ AASU's FTE enrollment was approximately 68% of its head count. Assuming a similar pattern of full and part-time enrollment for SSU, SSU's 2,153 student head count should result in approximately 1,450 FTEs. This would mean that FTEs for all fully accredited institutions of higher education in Chatham County were 9,437 in 1999. SCAD's 1999 student population represented 44% of all FTE enrollment in an institution of higher education in Chatham County.²

SCAD spent \$62.2 million before interest, tax depreciation, and amortization to deliver educational services in the fiscal year (FY) that ended June 30, 1999.³ In the same year, AASU and SSU each spent approximately \$47.0 million or a total of \$94.0 million. Adding in SCAD's FY 1999 expenditures means that payments for higher education services in Chatham County totaled \$156.2 million. SCAD accounts for 40% of all direct expenditures connected to the delivery of higher educational services in Chatham County.

1.2 Conclusion

Between 1995 and 1999 SCAD's FTE enrollment increased at an average annual rate of 12% per year. Hence, SCAD has quickly become a significant and growing economic force in Chatham economy. The following report provides quantitative measures of the tangible economic impact of SCAD. It also presents a discussion of the economic benefits of SCAD's presence in Chatham economy where the impact, while intangible, is very real.

THE ECONOMICS OF PRIVATE-SECTOR HIGHER EDUCATION

Current news about the economy frequently focuses on the growth of ‘knowledge based’ businesses. In some cases this is included in discussions about the ‘new economy’ or the ‘information economy.’ A knowledge based business is a business which uses technical and informational expertise to collect, organize, store, analyze and disseminate know how.

The information technology revolution has emphasized the enormous value and market potential of ‘knowledge based’ business, but the knowledge economy is not new. Today’s colleges and universities are the oldest members of the knowledge-based economy. They are the direct decedents of the world’s original knowledge based businesses.

Today, the majority of institutions of higher education around the world are state-sponsored or state-affiliated, but private institutions are common and wide spread through the world. SCAD is a private sector, not-for-profit, institution of higher education.

The system of publicly supported higher education in the U.S., which dates from the 1850s, has produced many institutions of world-wide distinction.⁴ Indeed the U.S. is probably one of the world’s largest exporters of higher education services.

The strength of the public sector institutions in the U.S. often obscures the vital and significant role of the private, not-for-profit, business of higher education. This chapter first discusses the business of higher education. This is followed by a brief discussion of the nature and role of not-for-profit businesses.

2.1 Education as a Business

While the public sector has largely dominated higher education in the U.S., schools such as SCAD are closely linked to the origins of the university as a business. All of today’s colleges and universities owe their basic structure to the modern university which emerged as a major force in Europe recovering from the Dark Ages. Renaissance Europe emerged from the Dark Ages with a vibrant economic re-birth largely based on international trade and commerce. But it was also an economy desperately short of knowledgeable workers who could manage the business of trade, the engineering of transportation systems, and the architecture of the modern city.

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To fill the demand for labor in this first version of the knowledge based economy, eager students would join together in the growing cities to contract with teachers, professionals, lecturers and tutors to provide courses of instruction. Collectively, students would negotiate prices for lecture space, the printing of books, the management of systems for borrowing books and the procurement of supplies. These collectives of students, student unions or guilds, would hire the lecturers and tutors who provided instruction in specified areas such as mathematics, law and architecture. They also commonly negotiated with local political officials and other guilds for special rates and tax exemptions.

Today entrepreneurs have replaced the student collectives, but schools like SCAD are truly the descendants of the early form of the university as knowledge-based businesses. SCAD has identified programs which meet the needs of students with interests in careers in art, industrial design, computer graphics and architecture.

SCAD's growth is a testament to the fact that its programs provide students with valuable and marketable skills. As a private institution, unencumbered by the needs of a state bureaucracy to supply accountability to voters for dollars, SCAD can respond quickly to capture changing market trends. With strengths in such programs as Graphic Design, Computer Art, Photography, Architecture and Illustration, FTEs have increased from 2,623 in 1995 to 4,152 in 1999. This is a 12% average annual increase in FTEs.

The strong growth in FTEs has occurred in spite of significant increase in the estimated cost of attending SCAD. In 1995 the estimated annual cost of attending SCAD, including tuition, housing, books, and other charges, was \$16,475. In 1999, the estimated annual cost reached \$21,325. This is a 30% increase in the cost of attending SCAD over the period or an average yearly increase of 6%.

SCAD is one of three institutions of higher education specializing in art and design in the southeast U.S.: 1) SCAD; 2) Ringling School of Art in Sarasota, FL; and, 3) Atlanta College of Art, Atlanta, GA. However, SCAD also competes with many institutions of higher education, including fine arts programs at the larger public universities

The majority of SCAD's students come from the South, 51.3% in 1999. Also in 1999, 11.3% of SCAD's students came from abroad. The rest of SCAD's students came from the East, 17.5%, the MidWest, 12.2%, and the West, 7.7%. The average SAT score for a SCAD student is 1070 and scores have increased systematically since 1995.

Of the students who apply to SCAD for admission, the acceptance rate is approximately

75%. While SCAD enrollment has increased significantly since 1995, SCAD's acceptance rate has remained virtually the same. With constant acceptance rate, increasing SAT's scores, rising prices and increasing enrollment, one may conclude that SCAD has been able to become more selective. SCAD's program has truly met the challenge of the market test.

2.2 Not-For-Profit Enterprise: Their Role in the Education Economy and Measuring Their Economic Impact

SCAD is only one of Georgia's 36 private colleges and universities. Of the 36 private, not-for-profit colleges and universities in Georgia, only Georgia Military College receives state assistance. The 36 private institutions enroll approximately 62,000 students per year.

The University System of Georgia maintains 35 institutions of higher education.⁵ The University System of Georgia enrolls approximately 200,000 students per year.

One might ask; why do two parallel systems, one public and one private, co-exist in the market? Additionally, one might ask why educational institutions are granted not-for-profit status. The answer to both is that education is an unusual type of economic good, a mix-public good.

Public Goods, Private Goods, Mixed Goods and Externalities

Most goods bought and sold are pure private goods. For a good to be a private good, the owner and consumer of the good must be able to exclude other people from using them in any way. Pure private goods are characterized by: 1) private ownership; 2) exclusivity; the ability to prohibit others from using the goods, even if we choose not to use them; and, 3) rivalry, ownership by one person, given a level of production, means that someone else is unable to own or consume the product. In the case of a pure private good bought and sold in a competitive market, the price paid in the market represents the value of the total benefits of consuming the good.

Shoes are an excellent example of private goods. The person owning a pair of shoes can exclude others from using the shoes or the person who owns them may choose to charge others for the use of the shoes. The fact that one person owns a pair of shoes also means that, given scarce resources, someone somewhere else is going without shoes.

Pure public goods are both non-rival and non-exclusive. National defense is an example of a non-rival public good. Since the standing army deters aggression, all citizens are protected. Citizens simultaneously consume national defense, but national defense is also non-exclusive. Providing national defense for one person also means all others are protected. One cannot sell national defense in small packets according to the amount each individual is willing to pay.

Mixed public goods are goods which share characteristics in common with both public and private goods. The founder of the formal study of economics, Adam Smith, listed education as one of the responsibilities of government, placing education among the category of goods which are viewed as public goods. The reason is that collectively, as a nation, we all benefit from the education of others. However, the chief beneficiary of an education is the recipient of that education. Education provides one with the skills the modern market place requires which one converts into income. Education also provides one with the tools to appreciate such things as culture, art and society.

Externalities are benefits or costs of production or consumption by one person which spillover, affecting the production or consumption by others. A typical example of an external cost is pollution. Driving an automobile which produces polluting emissions imposes costs on other people. Similarly driving at rush hour produces congestion, imposed not only on the person who chose to drive at rush hour, but on all others.

A good example of an external benefit is an annual flu shot. The direct beneficiary is the person, who having been immunized, does not come down with the flu, but everyone who would have otherwise been exposed to a case of the flu also benefits from the shot by avoiding the flu. Since one cannot extract a payment from everyone who benefits from one's shot, flu shots are under produced.

Goods which have external benefits are underproduced if left entirely to the private market. Goods which have external costs are overproduced if unregulated. Why this happens is easy to see. If one can get others to pay the cost of bad air as a result of ones choice to drive, using ones car is cheaper for one than it should be. When government regulates such things as requiring emissions controls on cars, for example, it raises the cost of the car by an amount related to the need to clean the air, and thus the cost of driving increases, forcing the driver to internalize at least part of the cost of fouling the air. Alternatively, since one cannot extract a payment for all of the benefits of one's education, people tend to under-consume education. When government mandates school attendance to some minimum grade level, it is forcing literacy on those who would otherwise be illiterate and a burden to society. It is regulating the amount of education produced.

2.3 Public and Not-For-Profit Delivery of Goods

In *The Nonprofit Economy*, Weisbrod⁶ describes not-for-profit enterprises as institutions providing "collective goods" in a mixed economy. In a democratic society, the government must make its services available to everyone who meets certain conditions, the equal access constraint on government. However, the attempt by government to generalize services in a

way which provides equal access causes certain portions of the market for mixed public goods to be unserved or underserved.

In order to offer public education cost effectively, public school education for kindergarten through 12th grade tends to focus on uniformity. While public higher education provides a seemingly greater menu of options for study, there remains a great deal of uniformity designed to instruct large numbers of fairly diverse individuals simultaneously. This need to create access opportunity for students of diverse backgrounds and abilities, opens doors of opportunity for others to carve out small, like segments of the market by tailoring services specifically to the needs of a particular portion of the market.

Hence, the not-for-profit sector co-exists with the public sector and the private sector by offering services consistent with characteristics of public goods, but by limiting access to specific segments. The presence of not-for-profit enterprises specifically benefits the public sector by relieving a portion of the burden of providing public goods from the public sector. At the same time the overall quality of public goods is increased because not-for-profit enterprises provide goods specifically tailored to meet the special needs of particular segments of the population. Because of this shared role in the provision of public goods not-for-profit enterprises are usually tax exempt and have the right to receive donations in lieu of the tax a government would normally impose.

2.4 Conclusion

SCAD is one of 36 private, not-for-profit institutions of higher education in Georgia. It receives no direct public assistance. It serves a unique niche in the market place, specializing in programs which emphasize creativity. Creativity flourishes in a small, nurturing environment which cannot typically fit comfortably at a public institution.

Hence, like all private enterprises, SCAD must generate enough revenue to pay for all of the educational goods and services it needs to produce. The economic impact of SCAD is measured like that of any other private enterprise activity.

INPUT-OUTPUT MODELS AND THE ANALYSIS OF ECONOMIC IMPACTS

A regional input-output modeling system, IMPLAN,⁷ was used to estimate the economic impact of SCAD. Nationally recognized as one of the best input-output modeling systems, IMPLAN includes a database for the state of Georgia and for each of its counties. The impact analyses focus on the Chatham County economy. The estimates were prepared using the 1997 database, which is the most current database available. Since the expenditures data is in year 2000 dollars, the program automatically deflates the dollars to 1997. Therefore, all of the estimated impacts are reported in base year 1997 dollars.

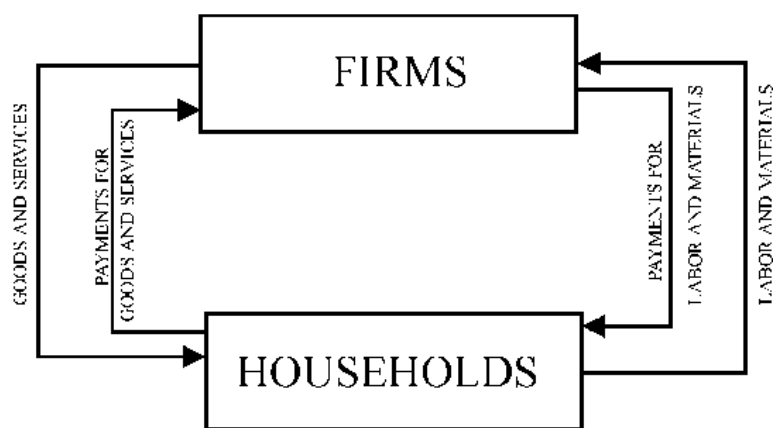
3.1 Regional Input-Output Analysis: Theoretical Framework ⁸

Input-output analysis, a branch of economic modeling and statistics, has the ability to illustrate and quantify the economic interdependence of producing industries in any regional or local economy. Just as each industry produces goods and services, it is also a consumer when purchasing other goods and services for use in the production process. Using the input-output analysis technique, the impact of a specific industry or economic activity can be traced throughout all sectors of the economy.

Economists often view the economy as if it were a series of transactions that flowed in a circle. In order to understand the theory behind input-output models, it is best to understand the Circular Flow of Transactions in a basic economy.

Economists often summarize the economy by describing it as a series of transactions. Each transaction by one sector has a counterbalancing transaction in at least one other sector. In Figure 3-1, the outside loop refers to such things as goods, services, labor and capital. The households provide firms with such things as labor and materials.⁹ In return, the firms provide households with such things as goods and services for sale. The inner loop, on the other hand, identifies the payments for the

FIGURE 3-1
Circular Flow of Transactions



transaction of the goods and services which are part of the outer loop. The firms pay the household wages and other payments for labor and materials. The households, however, provide payments back to firms for the goods and services the household consumes.

Equilibrium in this simple economy will be maintained as long as there are no leakages from the system. Leakages include savings, imports and taxes. A leakage means that the amount of the payments going to the firm for its goods and services is less than the income obtained by the household or, as in the case of public education, a portion of the payments which households receive as income is paid to a government in taxes for the purpose of supporting public higher education. Note also that taxes are a leakage through the business sector, which must use some of the revenue from the purchases made by local households for goods to pay taxes which support public higher education. When leakages occur the total amount of income and goods will shrink unless new spending injections occur which offset the losses. Some examples of these injections are: 1) the investment of savings by the firms; 2) consumers from outside of the region buy the firm's goods, exports; and/or, 3) government purchases goods with revenue generated by taxes. The economy will balance if injections continue to equal leakages. If injections are greater than leakages, the economy will grow. For example, an economy grows when it exports more goods and services than it imports. When leakages exceed injections, the economy will shrink. For example, an economy shrinks if it imports more than it exports, all other things being constant.

Input-output models begin by simply assigning dollars to the flow of transactions between businesses, households and other major consumer groups in the economy such as governments. These transactions are recorded in a table. A hypothetical transactions table is shown as Table 3-1. The rows display the transaction of things, goods, and services. The columns reveal the payments associated with each transaction. The system balances in that there is an accounting for all injections and leakages. In other words, **Total Output (Expenditure)** is equal to **Total Payments (Income/Revenue)**.

The transactions table is more than a numerical version of the Circular Flow diagram. The table is actually a set of equations that depicts the linkages between the final demand for goods and services and the payments, income or revenue, associated with the production of those goods and services. The solution of the system of equations results in a set of multipliers which show the relationships between the final demand for a good or service and the intermediate demand among the producers who supply goods and services at the various stages of production. The mathematical manipulation required to solve the set of equations will not be discussed here.¹⁰

**Table 3-1
Hypothetical Transactions Table**

Outputs* Inputs*	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
	A	B	C	D	E	F	Gross Inventory Accumul- ation(+)	Exports to foreign countries	Gross Govern- ment Purchases	Private Capital Formation	House- holds	Total Gross Output
[1] Industry A	10	15	1	2	5	6	2	5	1	3	14	64
[2] Industry B	5	4	7	1	3	8	1	6	3	4	17	59
[3] Industry C	7	2	8	1	5	3	2	3	1	3	5	40
[4] Industry D	11	1	2	8	6	4	0	0	1	2	4	39
[5] Industry E	4	0	1	14	3	2	1	2	1	3	9	40
[6] Industry F	2	6	7	6	2	6	2	4	2	1	8	46
[7]Gross inventory depletion(-)	1	2	1	0	2	1	0	1	0	0	0	8
[8]Imports	2	1	3	0	3	2	0	0	0	0	2	13
[9] Payments to government+	2	3	2	2	1	2	3	2	1	2	12	32
[10] Depreciation	1	2	1	0	1	0	0	0	0	0	0	5
[11] Households	19	23	7	5	9	12	1	0	8	0	1	85
[12] Total Gross	64	59	40	39	40	46	12	23	18	18	72	431

*Status to industries and sectors along the top of the table from the industry listed in each row at the left of the table.

**Purchases from industries and sectors at the left of the table by the industry listed at the top of each column.

However, in the context of this study, the solution to the set of equations describing the transactions for Chatham County will result in a set of multipliers describing the links between the demand for higher education services and all other sectors of each region's economy.

Input-output models are driven by final demand (consumption). Industries selling to consumers respond to changes in the demand for their products by supplying consumers directly. However, in order to supply consumer demand, the directly impacted industries must buy goods and services from other businesses. Hence, indirectly impacted producers react by supplying goods and services to the industries responding to direct demand, which means that in turn they must buy goods and services from yet other producers.

Each industry that produces goods and services generates demand for other goods and services of other linked producers in a round by round fashion. These round by round incremental effects are described as multipliers. Within the general framework of input-output analysis, various methodologies can be employed to solve the mathematical equations and calculate the multipliers. The methodology used in this study is outlined in Section 3.2.

3.2 BBRED Methodology

IMPLAN relies on a complex database of linked expenditure patterns between 528 processing sectors in the economy. Using data specific down to the county level for the state of Georgia, the program is capable of generating five separate impact measures in the form of multipliers. These are: 1) output multipliers; 2) personal income multipliers; 3) total income multipliers; 4) value-added multipliers; and, 5) employment multipliers. Each of the multipliers is composed of several components or effects. These effects are denoted: 1) direct effects; 2) indirect effects; and, 3) induced effects.

There are three types of multipliers which may be estimated in a system of input-output equations. These are termed Type I, Type II and Type III Leontief multipliers. Only Type I and II multipliers are estimated in the version of IMPLAN used in this study. Type I multipliers include only the direct and indirect effects. The Type II multipliers used in this study demonstrate the full impact of the direct, indirect, and induced effects, where the induced effects are based on income.¹¹

The direct effects of any given producer or industry are the output and employment associated with the immediate effects of a change in final demand. Final demand consists of purchases of goods and services for final consumption, as opposed to an intermediate purchase where the goods will be further re-manufactured by a supplier of final demand. For example, the expenditures by students to take courses or enroll in a degree program are direct final demand.

The indirect effects are the output or employment associated with backward linkages in industry demand. These are the inter-industry effects, i.e. producers buying from other local businesses. To produce the output necessary to serve final demand, directly impacted industries must demand inputs from supporting producers. In order for supporting businesses to produce the intermediate demand for the output going to the directly impacted industries, they require the input of goods and services from other business and employment. Therefore, some portion of the demand for each intermediate producer is attributable to the primary supplier of final demand, in this case SCAD is the supplier of the final demand for higher education.

Supporting services linked to higher education services include such sectors as advertising, printing and professional services such as legal and banking.

The induced effects are changes in demand associated with the household income generated by the direct and indirect effects of output or employment. Household consumption is related to household income in a stable way and is typically estimated by the propensity to consume. Hence, employment and output generate income which the household uses in turn to demand goods and services. Some part of each region's consumption therefore, is dependent on household income generated by the owners and employees of both directly and indirectly impacted producers.

For example, in 1999 SCAD provided higher education services for 4,152 full-time equivalent students. SCAD spent an estimated \$62.7 million before interest, taxes, depreciation and amortization to produce these services. Chapter Four of this report shows how the \$62.2 million in final demand for higher education services impacted the Chatham County economy.

3.3 Determining Final Demand for Education Expenditures

As stated, final demand measures the final consumption of purchases of goods and services. It is changes in the final demand for a product which cause producers to change output and which result in changes in employment and income. Hence, a critical step in developing any impact analysis is to get the estimate, the change or new final demand correct.

In a regional context for the case of public expenditures on such things as educational services, it is important to determine how much of the financing for the purchases has been or will be paid for by the taxpayers in the region in which the expenditures are to be made. To see this, recall that a tax is a leakage from the income stream, but government expenditures are an injection. Hence, in any given year households and businesses in a region collectively pay funds which support higher education. At the same time, in any given year government spends some of the money from higher education funds to provide for higher education services. If injections back into the economy are equal to the leakages from the economy, the economy neither grows or decreases in size as a result of the taxing and spending decisions. However, if more is spent in one year than is collected in taxes, the net increase in demand will cause the economy to expand. If less is spent in one year than is collected in taxes, the impact analysis measures the net impact in the form of jobs not created as a result of the net decrease in demand.

Economic Impact: SCAD

As discussed previously, AASU and SSU combined spend approximately \$94.0 million per year to produce public higher education. Some portion of this is paid by the students in the form of tuition and some portion is a shared expense of all Georgians in the form of taxes paid annually which support higher education. In the context of this study, the amount paid annually by people and businesses in Chatham County to support higher education has not been calculated. However, in an impact analysis, the Chatham share of payment for higher education should be deducted from the expenditures to determine the net additional demand or new final demand for higher education in Chatham paid for by the rest of Georgia.

In contrast to the public sector case, SCAD receives no tax dollars in support of its delivery of higher education. SCAD produces its services, paying for the goods and services it consumes during production with the fees it collects from its customers.

In FY 1999, SCAD received \$71.6 million in revenue and spent \$62.2 million on operations before interest, taxes, depreciation, and amortization all of which are merely payments to and for the purposes of economic impact analysis which are not part of the direct impact of SCAD. For the purposes of this study, \$44.0 million in expenditures were identified as the types of expenditures representing the direct impact of SCAD as a business producing educational services. For example, \$10.3 million was spent in student aid. Since student aid impacts the economy through the expenditure made by students, this is deducted from the impact of SCAD to eliminate double counting of expenditures. Table 3.2 shows SCAD's expenditures by IMPLAN section.

Table 3.2
SCAD expenditure by IMPLAN Processing Sector: Direct Impact

AGGREGATED IMPLAN SECTORS	SCAD LINE ITEM BY IMPLAN SECTOR	
437 TRANSPORTATION	437 AIR TRANSPORTATION	
	439 ARRANGEMENT OF PASSENGER TRANSPORTATION	\$ 2,335,353
	440 TRANSPORTATION SERVICES	
441 COMMUNICATIONS	441 COMMUNICATIONS, EXCEPT RADIO AND TV	\$ 20,855
	442 RADIO AND TV BROADCASTING	
443 UTILITIES	443 ELECTRIC SERVICES	\$ 2,280,556
	444 GAS PRODUCTION AND DISTRIBUTION	
	445 WATER SUPPLY AND SEWERAGE SYSTEMS	
	446 SANITARY SERVICES AND STEAM SUPPLY	
451 AUTOMOTIVE SERVICES	451 AUTOMOTIVE DEALERS & SERVICE STATIONS	\$ 251,815
456 FINANCIAL SERVICES	456 BANKING	\$ 5,814,424
	457 CREDIT AGENCIES	
	458 SECURITY AND COMMODITY BROKERS	
	459 INSURANCE CARRIERS	
	460 INSURANCE AGENTS AND BROKERS	
462 REAL ESTATE	462 REAL ESTATE	\$ 278,780
472 SERVICES TO BUILDINGS	472 SERVICES TO BUILDINGS	\$ 523,992
469 ADVERTISING	469 ADVERTISING	\$ 3,322,236
450 FOOD SERVICES	450 FOOD STORES	\$ 137,509
513 POSTAL SERVICES	513 POSTAL SERVICES	\$ 407,444
449 MERCHANDISE STORES	449 MERCHADISE STORES	\$ 1,688,240
496 COLLEGE SERVICES	496 COLLEGES, UNIVERSITIES	\$25,852,537
509 RESEARCH, DEVELOPMENT & TESTING SERVICES	509 RESEARCH, DEVELOPMENT & TESTING SERVICES	\$ 4,121
470 OTHER BUSINESS SERVICES	470 OTHER BUSINESS SERVICES	\$ 1,102,750
TOTAL BUDGET		\$44,038,645

3.4 High and Low Impact Scenarios

In some cases when developing an impact analysis the researcher is certain that all of the new final demand will be filled by the region's economy. Suppose for example that the project in question is a new community park and it is known that the park was built by a local contractor. In that case, one can identify that all of the direct effects will be contained within the region's economy. However, in the case of higher education services, all of the suppliers may not be businesses residing within the region where the actual educational facilities are located. Hence, all of the initial or direct new final demand may not be captured within the region.

To simulate the case where all of the suppliers of the initial or new final demand are all businesses within Chatham County the models were run as a closed models meaning that all of SCAD's expenditures represent the direct impact within the county. The direct expenditures drive the other linked industries to increase output and employment, multiplying the initial expenditures in indirect effects and induced effects. Running the models closed produces high estimates of the total impact of the net new expenditures.

To simulate the case where some of SCAD's expenditures are made at businesses outside Chatham County, the models were run as an open model which uses the region's own Local Purchasing Coefficient¹² to estimate the portion of the new final demand satisfied by producers within the county. In this case, only a portion of the new final demand is *captured* within the county. The amount captured locally becomes the direct final local demand. The multipliers then estimate the indirect and induced effects which arise from these captured expenditures. Running the models open produce low estimates of the total impact of the net new expenditures.

3.5 Conclusion

For the purposes of this study, \$44.0 million in expenditures by SCAD in FY 1999 were identified as expenditures with a direct economic impact. The expenditures were matched to 14 demand or processing sectors consistent with the IMPLAN program.

THE ECONOMIC IMPACT OF SCAD

The following analysis will show that SCAD has a major and unique economic impact when compared to the other institutions of higher education located in Chatham County. This is not only because it is larger than either of the other institutions, but because very few of the dollars which it spends locally come from within the Chatham economy. In this Chapter, the importance of this point is first discussed and then the results of the input-output analysis are presented.

4.1 Exporting Educational Services

Returning to the circular flow, anytime an economy exports more goods or services than it imports, the economy expands. The businesses within a region which supply the demand created by customers from outside the region are said to be part of the region's export base. Ninety-two percent of SCAD's students come from outside Chatham County and 80% come from outside Georgia. Compared to AASU and SSU, this places SCAD in the export base portion of Chatham economy and the Georgia economy. SCAD is using the region's stock of wealth in historic structures, heritage, culture and aesthetics to export educational services. The characteristics which SCAD has made part of its production of educational services are otherwise only exportable through tourism and SCAD's participation in the Chatham economy complements the area's tourism economy in several ways which will be discussed in Chapter Six.

The dollars spent by SCAD's students and the dollars spent by SCAD in producing educational services for its students for all practical purposes come from outside Chatham's economy. SCAD is a private not-for-profit institution of higher education supported by the tuition its students pay. Again, looking at the circular diagram, Figure 3.1, one can note that some portion of the taxes paid by Chatham County tax payers support higher education in Georgia. Taxes are a leakage from Chatham's economy. Expenditures at AASU and SSU for higher education are the return flow of this circular flow. While the amount spent to support the educational services produced by AASU and SSU exceeds the amount paid by Chatham County residents, the payment of taxes reduces the direct impact of each below the \$47.0 million each spends on average. Since Chatham taxpayers make no such contribution to SCAD, SCAD's expenditures in the production of educational services are not offset by taxes contributed. Hence, SCAD's \$44.0 million spent in FY 1999 is SCAD's direct impact.

While SCAD shares certain characteristics with other institutions of higher education because of its not-for-profit status, SCAD's impact on the Chatham economy is that of any business enterprise. SCAD produces educational services, for which it charges fees consistent with the cost of producing those services. Part of SCAD's cost of producing educational services is the cost of its physical plant. This too, like any other Chatham business, is covered by the charges the customer pays.

4.2 Economic Impact: SCAD Operations

Tables 4-1 and 4-2 show the high and low estimates of the economic impact of SCAD's ~~actual FY 1999 expenditures as defined for the purposes of this report~~¹³. In FY 1999, SCAD spent \$44.0 million for everything from faculty salaries to utilities as shown in Table 3.2. Table 4-1 shows the direct, induced and indirect effect of these expenditures in real 1997 dollars. The table also shows the total number of jobs supported by these expenditures. Table 4-2 shows that the direct impact is slightly smaller when some goods and services are purchased outside of Chatham County.

The direct economic impact of the export of educational services by SCAD averages \$35.8 million in real 1997 dollars. The impact ranges between the low estimate of approximately \$29.9 million and the high estimate of approximately \$41.7 million in real 1997 dollars. Since SCAD's enrollment has been growing at an average annual rate of 12% per year since 1995, the direct annual impact of SCAD easily reaches \$35.8 million per year in real 1997 dollars. The direct impact on employment in Chatham County ranges between 725 and 953 jobs per year.

The indirect effect means that businesses supplying SCAD increase their economic activity in order to serve SCAD by between \$7.5 and \$10.4 million per year. The indirect effect adds between 104 and 143 jobs to the Chatham economy annually. Finally, the induced effect added between \$8.5 and \$11.8 million to the Chatham economy, increasing the number of jobs in the economy by between 131 and 181 per year.

The total estimated economic impact of SCAD on an annual basis is between \$45.9 million and \$63.8 million. For every dollar spent by SCAD, an additional \$0.50 of economic activity is generated by businesses providing goods and services to SCAD. SCAD's presence in the market adds between 962 and 1,277 jobs to Chatham economy.

Tables 4-1 and 4-2 have some interesting features which should be highlighted. In particular, the multipliers for communications expenditures and for real estate expenditures are 42.5 and 10.5 respectively. These are extremely large multipliers. A test of the model showed that, in fact, these two sectors are highly linked to each other.

The large multipliers come from the fact that not only are the sectors linked to each other, but also, as a major service center in the regional economy, few if any services in these sectors are imported.

**Table 4-1
High Impact Scenario: Economic Impact of SCAD's Annual Operations**

OUTPUT						
Sector	Industry	Direct Capture	Indirect	Induced	Total	Multiplier
437	Travel	\$2,273,976	\$233,525	\$121,420	\$2,628,921	1.16
441	Communications	\$19,848	\$501,708	\$322,622	\$844,178	42.53
443	Utilities	\$2,216,548	\$118,450	\$289,613	\$2,624,611	1.18
449	Supplies	\$1,654,136	\$16,323	\$250,584	\$1,921,042	1.16
450	Food services	\$134,731	\$17,492	\$268,549	\$420,773	3.12
451	Auto	\$246,728	\$30,250	\$464,412	\$741,390	3.00
456	Banking	\$5,532,994	\$893,564	\$853,863	\$7,280,421	1.32
462	Real estate	\$266,687	\$1,834,538	\$691,602	\$2,792,827	10.47
469	Advertising	\$3,200,249	\$43,900	\$13,819	\$3,257,968	1.02
470	Other business services	\$1,061,418	\$165,683	\$52,416	\$1,279,517	1.21
472	Service to buildings	\$504,786	\$104,177	\$34,208	\$643,170	1.27
496	Colleges universities	\$24,205,828	\$2,062	\$118,201	\$24,326,092	1.00
509	Research, Development & Testing Services	\$3,967	\$23,315	\$6,964	\$34,245	8.63
513	Postal services	\$387,461	\$172,096	\$65,563	\$625,120	1.61
Total		\$41,709,354	\$10,351,407	\$11,752,353	\$63,813,115	1.53
EMPLOYMENT						
Sector	Industry	Direct	Indirect	Induced	Total	Multiplier
437	Travel	30.1	3.1	1.6	34.8	1.16
441	Communications	0.1	2.2	1.4	3.8	38.00
443	Utilities	7.5	0.4	1.0	8.9	1.19
449	Supplies	59.7	0.6	9.0	69.3	1.16
450	Food services	4.9	0.6	9.8	15.4	3.14
451	Auto	4.1	0.5	7.7	12.3	3.00
456	Banking	66.6	10.8	10.3	87.7	1.32
462	Real estate	1.5	10.0	3.8	15.2	10.13
469	Advertising	38.2	0.5	0.2	38.8	1.02
470	Other business services	14.5	2.3	0.7	17.5	1.21
472	Service to buildings	18.3	3.8	1.2	23.4	1.28
496	Colleges universities	706.5	0.1	3.4	710.0	1.00
509	Research, Development & Testing Services	0.1	0.5	0.2	0.8	8.00
513	Postal services	0.9	0.4	0.2	1.5	1.67
Total		952.9	143.3	180.6	1,276.9	1.34

Table 4-2
Low Impact Scenario: Economic Impact of SCAD's Annual Operations

OUTPUT						
		Direct Capture	Indirect	Induced	Total Multiplier	
437	Travel	\$1,341,693	\$148,613	\$88,201	\$1,578,507	1.18
441	Communications	\$11,459	\$353,414	\$234,468	\$599,341	52.30
443	Utilities	\$1,414,714	\$86,730	\$210,484	\$1,711,927	1.21
449	Supplies	\$1,571,429	\$12,490	\$182,101	\$1,766,020	1.12
450	Food services	\$127,995	\$13,385	\$195,157	\$336,537	2.63
451	Auto	\$234,392	\$23,147	\$337,491	\$595,030	2.54
456	Banking	\$2,782,056	\$553,682	\$620,495	\$3,956,233	1.42
462	Real estate	\$186,658	\$1,405,940	\$502,718	\$2,095,316	11.23
469	Advertising	\$1,869,811	\$33,077	\$10,042	\$1,912,930	1.02
470	Other business services	\$437,591	\$120,229	\$38,088	\$595,909	1.36
472	Service to buildings	\$363,789	\$79,900	\$24,859	\$468,548	1.29
496	Colleges universities	\$19,233,952	\$1,424	\$85,842	\$19,321,218	1.00
	Research, Development &					
509	Testing Services	\$713	\$16,238	\$5,061	\$22,012	30.87
513	Postal services	\$290,650	\$119,722	\$47,638	\$458,010	1.58
Total		\$29,866,900	\$7,523,782	\$8,540,089	\$45,930,771	1.54
EMPLOYMENT						
	Industry	Direct	Indirect	Induced	Total	Multiplier
437	Travel	17.8	2.0	1.2	20.9	1.17
441	Communications	0.1	1.6	1.0	2.7	27.00
443	Utilities	4.8	0.3	0.7	5.8	1.21
449	Supplies	56.7	0.5	6.6	63.7	1.12
450	Food services	4.7	0.5	7.2	12.3	2.62
451	Auto	3.9	0.4	5.6	9.8	2.51
456	Banking	33.5	6.7	7.5	47.7	1.42
462	Real estate	1.0	7.7	2.7	11.4	11.40
469	Advertising	22.3	0.4	0.1	22.8	1.02
470	Other business services	6.0	1.6	0.5	8.1	1.35
472	Service to buildings	13.2	2.9	0.9	17.0	1.29
496	Colleges universities	561.3	0.0	2.5	563.9	1.00
	Research, Development &					
509	Testing Services	0.0	0.3	0.1	0.5	NA
513	Postal services	0.7	0.3	0.1	1.1	1.02
Total		725.0	104.4	131.3	961.6	1.32

4.3 The Economic Impact of Payroll

In FY 1999 SCAD had a faculty and staff payroll of \$23.2 million in real 1997 dollars. Incorporated in the above impacts in Tables 4.1 and 4.2 is the impact of the expenditures made by these households in the Chatham economy. Tables 4-3 and 4-4 show the low and high distribution of expenditures by type made by these households.¹⁴

Part of the economic impact captured in Tables 4-1 and 4-2 is the induced effect. SCAD employs faculty, staff and administrative support in order to provide educational services. The income earned by these households is spent on local goods and services. In fact, Table 4-4, which contains the low estimate of this economic impact, shows that about \$5.1 million of income earned by employees of SCAD may not be captured by the Chatham economy, but most household expenditures are local.

The approximately \$18.1 to \$23.2 million expenditures in real 1997 dollars by households employed by SCAD multiplies in the Chatham economy to between \$26.0 and \$33.4 million per year. These estimates are based on the distribution of expenditures by households reported by the Bureau of Labor Statistic, Current Population Survey.

It can also be noted that the output multipliers are small, only slightly larger than one, in such sectors as food stores and apparel. This is because most of the goods sold by local stores are produced elsewhere. Hence, only the local service component, selling the goods, have an economic impact. On the other hand, the output multipliers for such sectors as housing and health care are near 1.5. This is because large components of the goods or services sold are produced locally.

Again, the effect of the expenditures by the households employed by SCAD shown in Tables 4-3 and 4-4, are part of the total impact of SCAD as contained in Tables 4-1 and 4-2. Based on the low estimate of a total impact of \$45.9 million per year, approximately 56% of the impact is generated by the households employed by SCAD. Based on the high estimate of total impact of \$63.8 million per year, approximately 52% of the impact is generated by the households employed by SCAD.

Table 4-3
High Impact Scenario: Economic Impact of Household Expenditures

OUTPUT						
Sector		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	\$4,794,708	\$168,405	\$31,076	\$4,994,188	1.0
443	Utilities	\$1,791,461	\$100,422	\$128,760	\$2,020,642	1.1
450	Food Stores	\$2,240,012	\$9,786	\$117,270	\$2,367,067	1.1
452	Apparel & Accessory Stores	\$1,194,084	\$4,980	\$59,684	\$1,258,747	1.1
453	Furniture & Home Furnishings Stores	\$1,019,394	\$5,541	\$66,404	\$1,091,338	1.1
454	Eating & Drinking	\$1,355,632	\$46,116	\$314,109	\$1,715,857	1.3
455	Miscellaneous Retail	\$594,093	\$15,291	\$183,236	\$792,620	1.3
456	Insurance	\$1,996,324	\$481,142	\$370,886	\$2,848,353	1.4
461	Housing	\$4,240,844	\$796,140	\$960,062	\$5,997,046	1.4
474	Personnel Supply Services	\$393,816	\$107,046	\$24,508	\$525,370	1.3
483	Entertainment	\$1,102,269	\$186,292	\$77,057	\$1,365,618	1.2
490	Health care	\$1,352,207	\$10,398	\$735,048	\$2,097,653	1.6
495	Education	\$399,301	\$53,037	\$113,359	\$565,697	1.4
502	Other Nonprofit Organizations	\$755,874	\$1,215	\$15,054	\$772,143	1.0
Total		\$23,230,016	\$4,980,042	\$5,180,062	\$33,390,120	1.4
EMPLOYMENT						
Sector	Industry	Direct	Indirect	Induced	Total	Multiplier
433	Transportation	40.8	1.4	0.3	42.5	1.0
443	Utilities	5.5	0.3	0.4	6.2	1.1
450	Food Stores	82.1	0.4	4.3	86.8	1.1
452	Apparel & Accessory Stores	39.5	0.2	2	41.6	1.1
453	Furniture & Home Furnishings Stores	26.5	0.1	1.7	28.3	1.1
454	Eating & Drinking	39.7	1.3	9.2	50.2	1.3
455	Miscellaneous Retail	19.9	0.5	6.1	26.5	1.3
456	Insurance	24.0	5.8	4.5	34.3	1.4
461	Housing	27.2	5.1	6.2	38.5	1.4
474	Personnel Supply Services	27.0	7.3	1.7	36.1	1.3
483	Entertainment	25.7	4.4	1.8	31.9	1.2
490	Health care	18.2	0.1	9.9	28.2	1.5
495	Education	10.5	1.4	3	14.9	1.4
502	Other Nonprofit Organizations	15.4	0	0.3	15.7	1.0
Total		402	66.1	81.7	549.8	1.4

Table 4-4
Low Impact Scenario: Economic Impact of Household Expenditures

OUTPUT						
Sector		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	\$4,354,476	\$150,046	\$24,739	\$4,529,261	11.0
443	Utilities	\$1,123,942	\$77,859	\$102,527	\$1,304,328	1.2
450	Food Stores	\$2,128,011	\$8,023	\$93,370	\$2,229,404	1.0
452	Apparel & Accessory Stores	\$1,134,379	\$4,083	\$47,520	\$1,185,982	1.0
453	Furniture & Home Furnishings Stores	\$968,424	\$4,543	\$52,870	\$1,025,837	1.1
454	Eating & Drinking	\$1,210,362	\$37,247	\$250,068	\$1,497,678	1.2
455	Miscellaneous Retail	\$564,389	\$12,536	\$145,891	\$722,816	1.3
456	Insurance	\$999,815	\$331,092	\$295,293	\$1,626,199	1.6
461	Housing	\$3,048,518	\$607,315	\$764,290	\$4,420,123	1.4
474	Personnel Supply Services	\$282,744	\$82,500	\$19,513	\$384,757	1.4
483	Entertainment	\$477,757	\$98,943	\$61,339	\$638,039	1.3
490	Health care	\$1,070,453	\$8,073	\$585,320	\$1,663,846	1.6
495	Education	\$322,798	\$29,494	\$90,202	\$442,493	1.4
502	Other Nonprofit Organizations	\$370,674	\$940	\$11,983	\$383,597	1.0
Total		\$18,056,741	\$3,798,851	\$4,124,155	\$25,979,747	1.4
EMPLOYMENT						
Sector		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	37	1.3	0.2	38.5	1.0
443	Utilities	3.4	0.2	0.3	4	1.2
450	Food Stores	78	0.3	3.4	81.7	1.0
452	Apparel & Accessory Stores	37.5	0.1	1.6	39.2	1.0
453	Furniture & Home Furnishings Stores	25.1	0.1	1.4	26.6	1.1
454	Eating & Drinking	35.4	1.1	7.3	43.8	1.2
455	Miscellaneous Retail	18.9	0.4	4.9	24.2	1.3
456	Insurance	12	4	3.6	19.6	1.6
461	Housing	19.6	3.9	4.9	28.4	1.4
474	Personnel Supply Services	19.4	5.7	1.3	26.4	1.4
483	Entertainment	11.2	2.3	1.4	14.9	1.3
490	Health care	14.4	0.1	7.9	22.3	1.5
495	Education	8.5	0.8	2.4	11.7	1.4
502	Other Nonprofit Organizations	7.6	0	0.2	7.8	1.0
Total		328	49.4	65.1	442.5	1.3

4.4 The Economic Impact of Students

Large portions of the students attending SSU and AASU are Chatham County residents at the time they enroll in courses. Recalling again the circular flow shown in Figure 3.1, these students are parts of the households which supply labor and other things to local businesses and receive things: goods and services from those local businesses. They are part of the local economy, and not part of the economic base. They create final demand, but not new final demand.

On the other hand, the students attending SCAD are really members of households that are part of other economies. The payments they make to SCAD are income generated by economies outside of Chatham County. Hence, everything spent by SCAD students is part of new final demand. If not for SCAD's production, higher education services, these students and their expenditures would not be part of the Chatham economy. Their expenditures are pure injections.

It is true that once SCAD students are living in the area they seek jobs generated by the Chatham economy. However, since Chatham County is a job surplus area, an area which creates more jobs than can be supplied by workers available in the area's economy, if a SCAD student did not migrate to fill the job, someone else would have to migrate to fill the job. Hence, the expenditures made by SCAD students while living in Chatham County are all new final demand expenditures.

Table 4-5 and 4-6 show that student households have an annual direct impact of between \$17.0 million and \$21.9 million. The distribution of expenditures was estimated using the distribution of expenditures by households as reported by the Bureau of Labor Statistics, Current Population Survey.

The indirect and induced effects of the direct expenditures add \$3.6 million and \$3.8 million respectively, in the low impact scenario. In the high impact scenario, the indirect and induced effects of the direct student expenditures add \$4.7 million and \$4.9 million respectively. The total impact of student households is between \$24.5 million and \$31.5 million annually.

**Table 4-5
High Impact Scenario: Economic Impact of Student Expenditures**

OUTPUT						
Sector		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	\$4,512,509	\$158,500	\$29,287	\$4,700,295	1.0
443	Utilities	\$1,686,022	\$94,535	\$121,346	\$1,901,903	1.1
450	Food Stores	\$2,108,173	\$9,211	\$110,518	\$2,227,902	1.1
452	Apparel & Accessory Stores	\$1,123,803	\$4,688	\$56,247	\$1,184,738	1.1
453	Furniture & Home Furnishings Stores	\$959,395	\$5,216	\$62,580	\$1,027,191	1.1
454	Eating & Drinking	\$1,275,844	\$43,425	\$296,023	\$1,615,292	1.3
455	Miscellaneous Retail	\$559,127	\$14,393	\$172,686	\$746,205	1.3
456	Insurance	\$1,904,884	\$455,042	\$349,532	\$2,709,457	1.4
461	Housing	\$3,991,243	\$749,618	\$904,784	\$5,645,644	1.4
474	Personnel Supply Services	\$370,638	\$100,837	\$23,097	\$494,572	1.3
483	Entertainment	\$1,037,393	\$175,348	\$72,620	\$1,285,360	1.2
490	Health care	\$1,272,622	\$9,787	\$692,727	\$1,975,135	1.6
495	Education	\$375,800	\$49,920	\$106,832	\$532,551	1.4
502	Other Nonprofit Organizations	\$711,386	\$1,145	\$14,187	\$726,718	1.0
Total		\$21,888,836	\$4,691,187	\$4,881,808	\$31,461,832	1.4
EMPLOYMENT						
Sector		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	38.4	1.3	0.2	40	1.0
443	Utilities	5.1	0.3	0.4	5.8	1.1
450	Food Stores	77.3	0.3	4.1	81.7	1.1
452	Apparel & Accessory Stores	37.1	0.2	1.9	39.2	1.1
453	Furniture & Home Furnishings Stores	24.9	0.1	1.6	26.7	1.1
454	Eating & Drinking	37.3	1.3	8.7	47.3	1.3
455	Miscellaneous Retail	18.7	0.5	5.8	25	1.3
456	Insurance	22.9	5.5	4.2	32.6	1.4
461	Housing	25.6	4.8	5.8	36.3	1.4
474	Personnel Supply Services	25.4	6.9	1.6	33.9	1.3
483	Entertainment	24.2	4.1	1.7	30	1.2
490	Health care	17.1	0.1	9.3	26.5	1.5
495	Education	9.9	1.3	2.8	14.1	1.4
502	Other Nonprofit Organizations	14.5	0	0.3	14.8	1.0
Total		378.6	62.2	77	517.9	1.4

Table 4-6
Low Impact Scenario: Economic Impact of Student Expenditures

OUTPUT						
Sector		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	\$4,098,188	\$141,218	\$23,303	\$4,262,709	1.0
443	Utilities	\$1,057,791	\$73,288	\$96,575	\$1,227,655	1.2
450	Food Stores	\$2,002,764	\$7,551	\$87,949	\$2,098,265	1.0
452	Apparel & Accessory Stores	\$1,067,613	\$3,843	\$44,761	\$1,116,217	1.0
453	Furniture & Home Furnishings Stores	\$911,426	\$4,276	\$49,801	\$965,503	1.1
454	Eating & Drinking	\$1,139,124	\$35,067	\$235,551	\$1,409,742	1.2
455	Miscellaneous Retail	\$531,170	\$11,799	\$137,422	\$680,392	1.3
456	Insurance	\$954,019	\$312,716	\$278,150	\$1,544,885	1.6
461	Housing	\$2,869,093	\$571,739	\$719,921	\$4,160,753	1.5
474	Personnel Supply Services	\$266,103	\$77,690	\$18,380	\$362,173	1.4
483	Entertainment	\$449,638	\$93,130	\$57,778	\$600,545	1.3
490	Health care	\$1,007,451	\$7,598	\$551,342	\$1,566,390	1.6
495	Education	\$303,800	\$27,760	\$84,965	\$416,524	1.4
502	Other Nonprofit Organizations	\$348,857	\$885	\$11,287	\$361,030	1.0
Total		\$17,007,036	\$3,577,393	\$3,884,741	\$24,469,171	1.4
EMPLOYMENT						
		Direct	Indirect	Induced	Total	Multiplier
433	Transportation	34.8	1.2	0.2	36.2	1.0
443	Utilities	3.2	0.2	0.3	3.7	1.2
450	Food Stores	73.4	0.3	3.2	76.9	1.0
452	Apparel & Accessory Stores	35.3	0.1	1.5	36.9	1.0
453	Furniture & Home Furnishings Stores	23.7	0.1	1.3	25.1	1.1
454	Eating & Drinking	33.3	1	6.9	41.2	1.2
455	Miscellaneous Retail	17.8	0.4	4.6	22.8	1.3
456	Insurance	11.5	3.8	3.4	18.6	1.6
461	Housing	18.4	3.7	4.6	26.7	1.5
474	Personnel Supply Services	18.3	5.3	1.3	24.9	1.4
483	Entertainment	10.5	2.2	1.3	14	1.3
490	Health care	13.5	0.1	7.4	21	1.6
502	Other Nonprofit Organizations	7.1	0	0.2	7.4	1.0
Total		308.9	46.5	61.3	416.7	1.3

4.5 Conclusion

Combining the economic impact of SCAD's operations with the economic impact created by the student households results in a total impact of SCAD of between \$95.3 million, in 1997 real dollars, and generating 1,795 jobs and \$70.4 million generating 1,379 jobs. These represent the tangible yearly economic impacts of SCAD based on its soar in 1999. The analyses are based on the impact of the business operations of SCAD, as a firm which provides educational services, and the households which relocate to consume those services.

REDEVELOPMENT: FINDING NEW ECONOMIC MEANING FOR DOWNTOWN

Across America, an answer to the question “what can be done to save our downtown,” has been sought with increasing imperative as each decade has passed since 1950. Federal subsidies in the 1950s and 1960s failed to check the growing demise of the inner city. As federal subsidies for downtown revitalization decreased dramatically in the late 1970’s, cities discovered that revitalization required a business-like approach in which the form and type of redevelopment had to be driven by private markets. SCAD’s participation in the redevelopment of downtown Savannah has combined the best of the private market impulse with the best features of public sector redevelopment.

The following contains a brief discussion of redevelopment strategies. For the reader familiar with this literature this section will not add much to their understanding of redevelopment. However, the purpose of this discussion is to focus on the primary cause of the need to redevelop. At the heart of this need is a plan to discover a new economic meaning for downtowns. Second, the discussion focuses on what creates a vibrant downtown. The simple answer to this question is people: people in motion, streets filled with people, neighborhoods and mixed landuses filling a canvas that has always been the city-scape.

The following also contains a brief discussion of Savannah’s redevelopment. Again, for the reader familiar with this history, little will be added. Similar to the discussion of redevelopment strategies, the purpose of this discussion is to demonstrate the important contributions SCAD’s investment program has made to Savannah’s historic district.

5.1 Redevelopment Strategies

In 1954, nationwide downtown retail sales accounted for twenty percent of total metropolitan sales. By 1977, only four percent of total metropolitan sales occurred downtown.¹⁵ Shopping malls and the sub-urbanization of Savannah resulted in the familiar pattern of lost downtown retail in favor of the sub-urban fringe. The decline of the core retail district of the city, Broughton Street, is only now beginning to recover. Several of the redevelopment strategies discussed here focus solely on the lack of competitiveness of downtown retail.

The retail economy or retail function of the city was really only partially the victim of competition from the newer retail forms such as regional shopping malls and convenience strips.

Prior to the 1950’s, the American economy was made up of all the downtown economies of the country. Downtown was historically the center of all economic activity, such as transpor-

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tation, manufacturing, finance, and communications. As more flexible forms of transportation and communications permitted the dispersion of manufacturing, the shift of jobs and homes to the low cost and open spaces around the city, all shifted the economic base of downtown. The flight of retail, management and ultimately professional services from downtown were merely a function of the lost economic purpose of downtown. Several of the redevelopment strategies employed around the country focused on establishing new economic engines for the downtown district.

Robertson has described seven strategies used in downtown redevelopment.¹⁶ Some aspects of several of these are evident in the redevelopment history of Savannah. The seven strategies are:

1. pedestrianization;
2. indoor shopping center;
3. historic preservation;
4. waterfront development;
5. office development;
6. special activity generators; and,
7. transportation enhancement.

Before briefly describing these and their relative successes as redevelopment strategies, one should take into account the one feature that the Savannah's city scape has proved to be a unique redevelopment asset: the Oglethorpe City Plan.

Savannah began as a planned city. Early redevelopment efforts in Savannah nearly destroyed what has proved to be a visionary city form. Fortunately, after the destruction of Ellis Square in 1954, seven women stepped in to prevent the destruction of the Davenport House and the vital legacy of the Oglethorpe City Plan remains intact today.

To understand the value of the Oglethorpe City Plan, consider Robertson's description of the demise of the urban core of a city "Th[e] thinning out of downtown activities, together with urban renewal policies enacted during the 1950s and 1960s¹⁷, produced downtowns vastly different from those of the 20th century. Densities decreased significantly as core blocks were razed and development increased on the periphery. Downtowns became less pedestrian-friendly. Distances between activities increased, making them less walkable; sidewalks narrowed, to widen streets for more automobiles; walking came to seem more dangerous from both heavy traffic and increased downtown crime; and reduced on-street activities(e.g. shops, other pedestrians) made walking less of a pleasure. Downtowns became characterized in

creasingly by ‘dead spaces’-uninteresting parking lots, ramps, vacant buildings and blank-walled office buildings.’¹⁸

The squares in the Oglethorpe City Plan provide an urban structure which is still considered state-of-the-art in urban design.¹⁹ First, the squares provide an essentially pedestrian friendly urban structure. In fact, transportation planners now encourage the use of squares, circles or rotaries to calm urban traffic and make urban traffic flows more compatible with non-motorized modes of transportation. Second, the squares provide for an overall feeling of open, green spaces in the downtown core. The tree filled, park-like public spaces provide an aesthetically pleasing backdrop for the city’s streetscape. Third, the squares help define neighborhoods and create a feeling of an urban space that is human in its scale, but at the same time that the entire complex of squares provides for an essential density or critical mass giving the core of the downtown a character or identity of place.

Pedestrianization, indoor shopping and most of the transportation enhancements which have been employed as redevelopment strategies focus on making downtown retail competitive with suburban retail forms. For example, pedestrianization usually takes the form of pedestrian malls, eliminating entirely or severely limiting vehicular traffic in certain downtown areas. These malls are set into the core retail district of the city. The streets in the area are usually redesigned creating a street scape which unifies and defines the district. The pedestrian safe zone provides open public spaces. The neighborhood-like atmosphere creates a space in the downtown which has a small human scale.

Indoor shopping malls, including sky malls, are merely a version of the suburban mall built under the landuse constraints typical of downtowns, e.g. high density development and fractured patterns of ownership. Like the suburban mall, downtown malls feature centralized management and tenants are typically high-end, upscale members of chain stores.

Transportation strategies have focused on how to make room in the urban landscape for high volumes of automobile traffic from the suburbs and at the same time how to reduce conflicts between vehicular traffic and pedestrian traffic. The strategies include: the creation of parking lots and parking garages; multiple occupancy lanes to expedite rapid movement between the suburbs and the urban core; and more recently the re-institution of mass transit and street designs which anticipate non-vehicular traffic like bicycles.

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The assumption behind each of these strategies is that the loss of the retail function as a downtown enterprise is the cause of the economic demise of the city. As the retail function was pulled to the suburbs, buildings became vacant and were abandoned. The loss of jobs and shoppers emptied the streets. The combined effect of lost shoppers on the street and lost jobs caused an increase in inner city poverty and crime. Fixing the retail environment was viewed as the solution to saving the city.

In some instances, these retail strategies did appear to succeed. For example, Burlington, Vermont has been cited as an example of a successful downtown pedestrian mall. However, as other communities implemented pedestrian malls it became apparent that the essential factor required for success is a receptive constituency. In the case of Burlington, the constituency is the state's largest university campus which puts about 10,000 students in the core of the city. In the case of indoor malls, these have succeeded when they are integrated with mixed uses such as hotels, offices, convention or civic centers and/or transit terminal facilities.

In fact, malls whether pedestrian or indoor which focus exclusively on regaining retail services have typically not succeeded. Both have to be connected to the office or entertainment economies to succeed. While pedestrian malls create many of the same desirable characteristics as Savannah's squares, indoor malls have been criticized as a fortress like solution that insulates suburban dwellers visiting the city from inner city decay. In fact, in some cases indoor malls have been shown to actually accelerate urban decay in adjoining neighborhoods by pulling retail and service dollars away from other downtown businesses rather than recapturing retail dollars which have fled to the suburbs.

The development of office complexes and special activity generators are redevelopment strategies aimed at creating alternative economic engine to replace the lost transportation and manufacturing economies. The downtown office complex as an economic engine relies on a theory that the managers of industry and transportation don't need to be close to their operation, but rather need to be close to each other. The special activity generators are intended to serve as magnets pulling suburban populations, travelers and tourists into the urban core for leisure and entertainment.

However, similar to the redevelopment strategies focusing on recapturing the retail economies, the office and special activity strategies do not in themselves produce revitalization. In fact, both the office development and special activities generators strategies incorporate retail and hotel components. Both strategies can produce as many negative effects as positive effects

since, like the indoor shopping mall, both often create islands in a sea of urban blight; both tend to destroy adjacent neighborhoods; and both create fortress-like havens for transitory populations.

Historic preservation and waterfront redevelopment can be termed strategies only in so far as they advocate creative reuse of assets which are abundant in downtowns. In fact, historic preservation, special activity generators and office development are typically tied together incorporating these as parts of other strategies.

From the dawn of civilization, cities have been located at the water's edge. There are numerous reasons for this ranging from sanitation and power supply to aesthetics. However, there is no doubt that the industrial revolution meant that most cities turned their backs on the water's edge as foul, dirty and unhealthy. The water's edge typically became also inaccessible in most cities, as water became a power source and served as a means of transportation of bulk goods. Factories, warehouses and transportation terminals built to serve industrial needs formed a wall between downtown and the water's edge. The growth of the service economy relative to the manufacturing economy, stringent pollution control regulations and improved energy to output technologies in motor freight all combined to break the hold of manufacturing, transportation and power on the waterfront. The result is that the waterfront often provides one of the best sources green and open spaces in many cities. Regaining the water's edge provides recreational and leisure opportunities, many combined with other redevelopment strategies, can succeed in downtown revitalization.

5.2 Savannah's Redevelopment: The Product of an Unspoken Public-Private Partnership

Several of the above strategies are present in the redevelopment history of Savannah. River Street, with major hotels anchoring each end of the reclaimed waterfront, is a classic example of waterfront redevelopment in the form of a pedestrian mall which attracts tourists. The civic center, and the recently opened trade center, are classic examples of convention and special event generators as redevelopment engines. However, the weaknesses and some of the typical negative impacts of these strategies are also evident. For example, the civic center probably accelerated the decline of the MLK Blvd commercial district. Increasing volumes of visitors to River Street failed to provide spillover to revitalize Broughton Street largely because the River Street complex is self-contained.

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As an aged port city and the commercial center of southeast Georgia, Savannah is rich both in history and architecture. Its long history as a wealthy city of commerce has left the city with a rich material and cultural legacy. To stand alone as a strategy, historic preservation must rise to the level of a theme park, such as in the case of Williamsburg, Virginia, providing experience style entertainment. Savannah's historic district has not quite risen to the theme park level. However, the variety and abundance of preserved assets confined with a compact and accessible district tied together by the theme of the Oglethorpe City Plan have contributed to the success of Savannah as a tourism destination. The impact of tourism and SCAD's contribution to the city's tourism industry are discussed in the next chapter.

Alternatively, historic preservation can succeed as a redevelopment strategy when preservation is part of a reuse strategy. But reuse can only be considered under the presumption that there is an economic purpose. In the case of Savannah, SCAD's production of educational services created an economic engine essential to and relying on historic preservation being a successful redevelopment strategy. SCAD's private market purpose combined with the distinctiveness of the Savannah cityscape mutually supports redevelopment/preservation strategies.

The historic preservation movement in Savannah has been privately led from its inception. SCAD as a participant in the historic preservation process has been motivated by a purely private sector goal, to succeed as a private educational institution. SCAD has never, per se, been a private sector partner in the redevelopment of Savannah. However, SCAD's investment interests coincides with that of the city and complements the city's public sector redevelopment investments.

To accommodate its growing student body, between 1987 and 2000, SCAD invested \$51.4 million in its physical plant in downtown Savannah. SCAD has grown from 71 students, 7 faculty and 4 administrators in 1987 to 4,500 students, 250 faculty and 500 administrators/staff in 2000. As the institution has grown, its annual average investment has increased. Between FY 1996 and 2000, SCAD's annual investment has an average \$7.0 million per year.

There is an important secondary aspect to SCAD's investment. SCAD's investment in downtown, while at a smaller scale than that of public investment projects, is dispersed throughout the downtown district.

[Insert map from pages 154-155 SCAD Catalogue 1999-2000]

Hence, SCAD's geographically dispersed investment breaks down the fortress like nature of the public redevelopment projects. This spreads its benefits throughout downtown neighborhoods.

Other goals of redevelopment which SCAD provides, include the peopling of the city. The disperse nature of SCAD's investment in some sense converts downtown Savannah into the SCAD campus. This accomplishes what all of the above strategies aspire to do; it puts pedestrians on the streets. Students moving to classes in different locations, going to the library or just conducting such business as buying books puts approximately 4,500 people on the streets daily. Add in faculty and administrators carrying out the business of education, means that SCAD places over 5,000 people in the downtown district daily.

Unlike an office development strategy, the SCAD population does not leave the city in the evening. Students, faculty and administrators both live and work in the downtown. Students go between where they live and the library or labs and studios. Students, faculty and administrators participate in numerous special evening programs. With up to 5,000 people on the street in the evening, the streets are safer and, now, evening businesses have a base of clientele. All of these infuse the city with people and activity.

5.3 Conclusion

SCAD has invested \$51.4 million dollars in downtown Savannah. The SCAD investment strategy which builds on the reuse of historic structures complements other public and private redevelopment investments. The geographically dispersed investments have resulted in diffusing the benefits of public investments which breaks down the effect of islands of prosperity in a sea of blight. Most importantly, the SCAD community has helped to re-populate historic downtown neighborhoods. The re-population of the city is based on the creation of a new economic engine for downtown which replaces the manufacturing and transportation economies which have fled to the open spaces of the suburbs.

SCAD'S CONTRIBUTION TO SAVANNAH'S TOURISM ECONOMY

Savannah is the major tourism destination in Coastal Georgia. In FY 1999, tourism was a \$16.0 billion industry in Georgia, supporting over 200,000 jobs state-wide. Tourism is a growing industry. Between FY 1998 and FY1999, tourism expenditures grew by 8.1%, well ahead of inflation. In Coastal Georgia, tourism is a \$1.2 billion segment of the region's economy, supporting over 19,000 jobs. Tourism expenditures in Coastal Georgia grew by 5.6% between FY 1998 and FY 1999. This chapter examines SCAD's contribution to the Savannah tourism economy.

Tourism is a highly competitive business. Nations, states and regions all compete for the attention of travelers by creating unique images of the tourism experience to their area. However, to succeed at this image building process a place also has to be able to live up to the reputation created. As one of the original thirteen colonies, with long established settlements like Savannah, Coastal Georgia has an image as a heritage destination. However, to understand what makes a destination, one needs to understand some of the unique characteristics of the tourism business.

6.1 The Economics of Tourism

The production and consumption of tourism is quite different from the production and consumption of goods such as automobiles. For example, a producer of automobiles collects raw materials, manufactured components and other services together at a central location, builds cars and then ships them to where the consumer buys and uses cars. Hence, production and consumption are separated both by time and space.

The production of tourism is entirely different. A location has a collection of components which a traveler may use to assemble a tourism experience. The consumers and the producers are one in the same person and consumption and production cannot be separated in time or space. Like any business manager, the tourist is seeking to maximize the chances of producing a successful product. But as a producer the tourists faces an uncertainty which is not present in most businesses, the tourist is in effect building a product in an unknown location. To reduce the costs that uncertainty creates, tourists:

1. Tend to gather lots of information, including relying on such things as the 'brand name effect' of image;
2. Seek locations with a variety of both complementary and substitute attractions, the inputs with which the tourist plans to build a vacation; and,
3. Seek locations with quality and variety in the other factors of production, e.g accommodations, meals, access and climate.

SCAD contributes to the Savannah area tourism economy in two ways. First, SCAD is itself a tourism attraction. Second, SCAD is a provider of some of the facilities and activities that tourists view as components of their ideal tourism experience.

6.2 SCAD as a Tourist Attraction

SCAD brings a large number of tourists to Savannah. Prospective students and their parents are likely to visit as a part of the process of choosing a college. On average, approximately 20,000 students and parents visit Savannah every year while shopping for school.

Once a student is enrolled, other family and friends are likely to become visitors for special events. These special events typically include such things as Home Coming Weekend, recitals and, of course, graduation. Unfortunately, except for Home Coming Weekend with approximately 2,500 visitors annually and graduation which brings approximately 2,100 visitors to Savannah, visitors for special events are uncounted.

6.3 SCAD as a Part of the Savannah Tourism Industry

Differentiation of products is essential to an area's competitive advantage as a tourism destination. Differentiation of products involves image creation. Clearly, SCAD's investment in redevelopment complements and enhances Savannah's image as a destination for heritage tourism and historic preservation. However, tourists seek activity events and complementary goods in the package offered by any destination. SCAD contributes some of these as well.

For example, both the 'foolies' and the annual sidewalk events are the type of events that are highly visible. Art exhibits, special guests and other events contribute to an image of Savannah as a place where there is a valued menu of cultural events.

6.4 SCAD and the Human Capital of the Tourism Industry

Tourism has a reputation, only partially deserved, of creating a lot of part-time, lower paying jobs. However, anyone who has traveled knows that a key factor making the trip enjoyable is the quality of the services provided by town guides, wait staff and store clerks. College students are ideal employees for the type of service jobs that involve meeting the public. They are interested in part-time employment with the opportunity for flexible schedules. They are articulate and knowledgeable with a facility for engaging with the public.

6.5 Conclusions

SCAD, in advertising itself, advertises Savannah. With its world wide reputation, this complementary advertising of the destination enhances and expands the reach of Savannah's own advertising dollars. SCAD and SCAD's advertising enhances Savannah's reputation as a heritage tourism destination.

It should be noted that this investigation has not included an estimate of the economic impact of travelers to SCAD as a destination. All the visitors to SCAD as a tourism attraction do have an impact. These travelers include:

1. prospective students and parents visiting as a way of comparing SCAD to its competitors;
2. parents visiting students;
3. family attending graduations; and,
4. professionals attending conferences sponsored by SCAD.

The presence of 4,500 students adds to the area workforce. The qualities and characteristics of college students make them ideal employees in the tourism businesses. Moreover, the unique talents of the SCAD students adds to the variety of high quality goods tourists purchase at their travel destination.

The contributions SCAD makes to the tourism economy are in most respects intangible. But the fact that they are intangible makes them no less insignificant than the economic impacts documented in the earlier chapters.

ENDNOTES

¹ FTE enrollment was not available, but would be less than the head count.

² Note, SCAD's FTE's were 94% of its head count. FTE's as a percent of head count are typically lower at urban, public colleges which attract large numbers of local students who commute from home rather than reside on campus, as well as students who attend classes on a part time basis while working.

³ See note 13.

⁴ The dominance of the public sector, state-sponsored system of higher education in the U.S. began with the establishment of the system of land grant colleges and universities. Acts related to the distribution of lands in the public domain date from 1796 to the present. From 1796 through at least 1862 almost all land acts contained some type of system for supporting public education. For example, in the Land Acts relating to the surveying of the Northwest Territories, one out of every 36 parcels was to be set aside to support public education.

Beginning in the 1850s, Senator Justin Morrill advocated public support for the development of agricultural and technical colleges. The Morrill Act was finally passed in 1862. This was followed in 1887 by the Hatch Act, which provided for agricultural research through state agricultural experimental stations.

Senator Morrill was significantly influenced in his philosophy of public education by Alden Partridge. Alden Partridge was the first commandant of the U.S. Military Academy of West Point. He left the Academy to establish his own college which is today known as Norwich University. Truly Jeffersonian in philosophy, Partridge's university provided technical education to meet the demands of agriculture and industry. His was the first university to offer a degree in agricultural science and his was the first university, outside of the military academy, where a person could study what he called "civil" engineering. Partridge also advocated the teaching of foreign languages like Spanish and French since these had practical applications in commerce compared to the Greek and Latin taught at Harvard.

⁵ This does not include the 28 technical institutes some of which are being upgraded to college status.

⁶ Weisbrod, Burton A. *The Nonprofit Economy*, Harvard University Press, 1998.

⁷ IMPLAN is the product of the Minnesota IMPLAN Group, Inc. of Stillwater, MN.

⁸ A glossary of definitions is provided in Appendix A.

⁹ In a private market economy the households are the ultimate owners of all of the productive resources.

¹⁰ A general discussion of the mathematical processes for deriving multipliers is found in *The Elements of Input-Output Analysis*, by William H. Miernyk. IMPLAN estimates Leontief Type I multipliers and a modified form of Miernyk's Type III multipliers.

¹¹ Induced effects may be estimated by either Type II or Type III Leontief Multipliers. The primary difference between the two types of multipliers arises from the type of constraint imposed on the system of equations. The Type III multipliers used in IMPLAN assumes that the economy is at full employment. Therefore, any change in final demand either increases or decreases population by the number of jobs created or lost. It is therefore assumed that

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wages do not adjust, only the number of people employed. Each person added or lost adds to or deducts from the average expenditures per person.

¹² This is essentially the marginal propensity to purchase within Chatham County.

¹³ SCAD's actual budget in 1999 was \$62.0 million. However, some items, like depreciation, have no direct economic impact. When such items were removed from the budget, it was possible to assign \$44.0 million to the various processing sectors in the model.

¹⁴ These two impacts cannot be added.

¹⁵ Robertson, Kent A. "Downtown Redevelopment Strategies in the United States: An End-of-Century Assessment," *Journal of the American Planning Association*, August, 1995, Vol. 61, No. 4, page 429-437.

¹⁶ *ibid*, Robertson.

¹⁷ Specifically, the wholesale destruction of what was considered blighted areas to create blocks of parking, new government offices and special activity facilities such as civic centers.

¹⁸ *ibid*, Robertson, page 430.

¹⁹ See discussions on 'New Urbanism' or 'Traditional Neighborhood Design (TND)' in such literature as Bressi, T. W. 1994. *Planning the American Dream*. P. Katz, editor. *The New Urbanism: Toward an Architecture of Community*. McGraw Hill: New York.

APPENDIX A

The following glossary of terms is provided to assist the non-economist readers of this report.

Input-Output Analysis - is a method used in economics to model microeconomic transactions at an aggregated level, such as a region within a state or a state within a multi-state region. The method focuses on how producers respond to changes in demand by final consumers. A final consumer is one who purchases a good or service as a finished product. In this sense, shippers using the deep water ports are final consumers. Input-output analysis then traces the demand for the services of such entities as the deep water ports back through all of the businesses, suppliers, from which production inputs must be purchased. The linkages between final consumers and producers and between producers of final goods and suppliers of inputs to the production process are expressed in a set of equations.

Multipliers - are generated by solving the system of equations which describe the connections between final consumers and producers and between producers of final goods and the suppliers of inputs to the production process. There are five types of multipliers usually generated by an input-output model. These are: 1) output multipliers; 2) personal income multipliers; 3) total income multipliers; 4) value-added multipliers; and, 5) employment multipliers.

The term multiplier in input-output analysis has the same meaning as the term in its common use. For example, as shown in the case of Region Two dividing total employment of 9,558 by the direct employment of 4,914 results in a multiplier of 1.94. Hence, for every additional job directly related to the deep water ports in Region Two, an additional 1.94 jobs are created in the region.

Direct, Indirect and Induced Effects - are separate components of multipliers. Each effect measures the specific relationship between a source of demand and a supplier. The ***direct effect*** measures the relationship between the demand from a final consumer and producer of final goods and services. The ***indirect effect*** measures the relationship between the producer of a final good and suppliers of the inputs which are necessary in the production process. The ***induced effect*** closes the circle by measuring the effect on each sector of the demand created by the added incomes of the newly employed and the effect of additional as business expenditures as businesses try to expand.

The regional modeling program, IMPLAN, calculates all three effects for all five types of multipliers for a total of 528 processing sectors for the State of Georgia and each of its counties.