

THE ECONOMIC IMPACT OF THE UNIVERSITY OF NORTH ALABAMA ON COLBERT AND LAUDERDALE COUNTIES

March 2017



Analysis Performed by:

Dr. J. Douglas Barrett

Dr. Keith D. Malone

Institute for Innovation and Economic Development

Department of Economics and Finance

University of North Alabama

Table of Contents

Executive Summary iii

Introduction 1

Impact of University Operations 8

Total Employment and Earnings Generated by UNA 15

Impact of Faculty, Staff and Students 16

Community Service 21

Taxes Generated in the Local Economy 24

Degree Earnings Premium 26

UNA Visitors and Other Impacts 31

Attendance and Spending—UNA Home Football Games 35

A Note on Results 37

EXECUTIVE SUMMARY

What Is the Economic Impact of the University of North Alabama (UNA) to the Local Economy? UNA has an impact on the local economy through:

University Operations

Payroll

Purchases

Capital Expenditures

Contractor Operations

Payroll

Purchases

Student Spending

Off-campus Purchases

University Events and Activities that Attract Visitors and Guests

Off-campus Purchases by Visitors

Total Impact (direct and induced effects)

Jobs as a result of the University	3,542.86
Earnings as a result of the University	\$392,160,000
Total Spending	\$316,360,000

Impact from University Payroll and University Contractor Payroll

EMPLOYMENT

Direct Employment	1,069.65
Direct Spending	233.58
Induced Employment	309.30
Total Jobs	1,612.53

PAYROLL

Direct Payroll	\$41,795,684
Direct Spending	4,688,718
Induced Payroll (Earnings)	\$13,890,452
Total	\$60,374,854

Direct Employment (Payroll) represents jobs (payroll) at the University of North Alabama and its contractors. Induced Employment (Payroll) represents jobs (earnings) that exist in the local economy as a result of the University of North Alabama. Total impact represents the injection of dollars into the local economy that are spent and re-spent until they leak out of the local economy.

Total Spending by University Employees and Students

Business Category	Annual Spending
Housing/Shelter	\$23,510,524
Utilities	12,897,558
Household Furnishings	947,570
Groceries	19,303,290
Restaurants	10,690,131
Healthcare	5,763,884
Apparel	2,628,229
Transportation (vehicle, maintenance)	21,604,549
Recreation and Entertainment	5,456,867
Personal and Business Services	2,799,901
Religious and Charitable Contributions	10,252,235
Personal Insurance	3,706,943
Other Retail	5,708,663
Total Spending	\$125,270,343

Savings University Employees and Students save a portion of their Incomes

Funds Deposited with Local Institutions	
Checking	\$7,569,297
Savings	<u>15,477,500</u>
Total	\$23,046,797

Taxes Ownership of Property and Spending by University Employees and Students Generates Tax Revenue for Local Government.

	<u>Amount</u>
Total Real Estate Taxes	\$568,956
Total Personal Property Taxes	244,336
Total Property Taxes	\$813,292
Direct Sales Taxes	\$2,167,872
Induced Sales Taxes	638,512
Total Sales Taxes	\$2,806,384
Total Local Taxes	\$3,619,676

UNA Home Football Game Revenues

Total Spent at Event	\$1,308,046
Total Spent in Community	\$2,914,032
Total Induced Earnings from Home Football Games	\$1,698,120

UNA home football games generate over \$5.92 million each year into the Shoals economy.

Earnings Premium for Graduates of the University of North Alabama:

Highest Degree	Career Earnings
Not High School Graduate	\$1,050,429
High School	1,407,769
Some College	1,699,254
Bachelor's Degree	2,448,481
Master's Degree	2,883,551

These premiums suggest that each UNA student with a bachelor's degree who remains in the Colbert/Lauderdale County impact area, has over \$1 million more in lifetime earnings to spend or save than a high school graduate in the local impact area. A Master's graduate who remains in the impact area has access to almost \$1.5 million in additional lifetime earnings.

In addition, earning bachelor's and master's degrees increases sales taxes and charitable gifts.

Additional Contributions	Bachelor's	Master's
Sales Taxes	\$11,884.85	\$16,853.32
Charitable Gifts	\$21,743.36	\$30,833.19

For students who remain in the Shoals area, sales taxes and charitable giving are substantially increased, thus helping improve the overall quality of life in the area.

Community Service

UNA employees devote the following total annual hours to community service in the Shoals:

Category	Hours
Civic Clubs	3,752
Other Service	5,195
Board of Directors	2,213
Community/Government	2,886
School Boards	192
Youth Organizations	33,671
Church	9,043
Other	1,732

These activities are indicative of the fact that University employees tend to be very active in the local community, and further contribute to the betterment of the Shoals area.

The Economic Impact of the University of North Alabama 2016

INTRODUCTION

The University of North Alabama (UNA) offers numerous opportunities for learning and other activities. Each occasion affects the local community in various and expected ways. A more informed citizenry and enhanced personal enrichment opportunities add to the benefits that result from the presence of an institution of higher learning. The university also generates numerous economic benefits within the immediate and surrounding areas. All impacts are of great interest in assessing the value of UNA. However, the purpose of this study is to identify and estimate the economic benefits surrounding university operations within the immediate area. While economic benefits generated by UNA clearly flow into numerous areas surrounding the university in Northwest Alabama, Northeast Mississippi and South-central Tennessee, for purposes of this study, the Florence-Muscle Shoals Metropolitan Statistical Area (MSA)¹ has been defined as the immediate impact zone.

The study examines the economic impact of the UNA during the 2015-2016 academic year. In order to estimate the economic impact of current operations, various financial reports, expenditure records, employment and enrollment reports, etc. were examined by UNA staff and data made available to the consultants generating the report. In addition, a survey was administered and reviewed in order to determine the household characteristics and spending habits of university faculty, staff and students. Finally, an additional survey was administered to attendees of UNA home football games to determine how hosting football games impacts the local economy.

¹ The Bureau of Economic Analysis (BEA) defines the Florence-Muscle Shoals MSA as the combination of Colbert and Lauderdale counties.

According to university representatives, data provided for the 2015-2016 academic year is representative of a typical year given current education industry characteristics and performance. Therefore, the economic impact of current operations, as detailed in this report, serves as a proxy for the yearly economic impact of UNA. Obviously, the exception to this proxy is that the economic impact varies based on local economic conditions and changes in university employment and spending patterns of faculty, staff and students and their households. Specifically, the size of the economic impact depends directly on employment and earnings at the university, how those earnings are spent, and the economic linkages present within the impact region itself and surrounding regions. As in a previous version of this study (2012 Economic Impact of UNA), we include a section detailing earnings premiums for graduates of UNA (including associated economic benefits), and community service contributions of UNA employees.

Education Sector

Education plays a critical and burgeoning role for economic growth and stability in any local economy. Because of the nature of the service provided and campus footprint, a university typically employs a large number of workers and is often one of the largest employers in a region. Currently, UNA and vendors operating on campus have 1,520 paid employees ranging from faculty to administrative staff to building maintenance and ground crew and numerous student employees. This level of employment represents just under three percent (2.96%) of total employment in the MSA.² Additionally, comparing total UNA employment to a list of employees by firm, constructed by the Shoals Economic Development Authority (SEDA) indicates that UNA may in fact be the second largest employer in the MSA, behind North

² Total occupations in the MSA according to the Bureau of Labor Statistics (BLS) are 51,270 as show in the MSA Occupational Employment Statistics table available at https://www.bls.gov/oes/current/oes_22520.htm.

American Lighting which employs 1,710.³ Obviously, many of these workers are full-time; however, all student employees and various other positions are employed on a part time basis. In fact, adjusting total paid employees to full-time equivalents (FTE) yields total full-time employment directly related to UNA equal to 1,069.65.

Inflows and Outflows

The inflow of external dollars into a community expands the size of the local economy generating jobs and increasing incomes. Thus, when students from outside the impact zone attend UNA or Federal Student Aid is utilized to pay tuition of students from inside the MSA, new dollars are injected and the local economy is expanded and strengthened. UNA's Office of Student Financial Services indicates that students at UNA received more than \$40 million in student financial aid during the 2015-2016 academic year. This represents a substantial inflow of funds into the region. Completion of a degree also brings additional economic expansion as graduates earn higher incomes than their counterparts who do not graduate from college. On the other hand, when dollars are spent outside the local community – either by residents or UNA purchasing goods and services elsewhere or by students who decide to attend a different university – it represents a leakage and does not stimulate the local economy. Growing, vibrant economics seek to maximize inflows and minimize leakages.

Local economies benefit from the presence of universities because these facilities not only provide a source of skilled labor to sustain community employment needs and attract new high paying industries, but universities also help keep local dollars at home while increasing the inflow of federal monies. When tuition and university spending takes place in the local economy, it generates jobs and increases incomes within the local economy. Analogously,

³ SEDA's employment list is available at <http://www.seda-shoals.com/existing-industry#largest-manufacturing-companies>.

universities export their services when they serve students whose primary residence is outside the region. Expenditures related to the tuition of these students and parents or others who may visit the student during their time at UNA represent an injection of funds into the local economy. Oppositely, anytime education is purchased outside the region – by residents or other students – other communities reap the benefits and, as stated previously, represent a leakage from the local economy.

Other Benefits

The presence of a university in the local economy contributes to the education of the residents of a community. It is well understood that the local workforce becomes more productive as educational attainment increases. However, universities also provide other, less well known, benefits which are difficult to measure in dollar values. For example, universities typically have dynamic arts and cultural events such as art shows, music recitals and concerts. Universities also have the ability to bring nationally recognized authors and speakers to campus in order to share their experiences with students and the local community. Without the university, many residents of the region would not have the ability to easily access such events.

Benefits associated with events of this type are generally represented as quality of life improvements which unfortunately have subjective value depending on the individual and the event in question. Thus, quality of life benefits are referred to as non-pecuniary (non-monetary) in nature. Even though it is impossible to quantitatively measure these events, they are integral to development of the local economy. Local, existing firms seeking to expand current operations in the area or firms seeking to enter an area for the first time consider such quality of life issues as part of their expansion and/or new location decisions. Quality of life issues and potential industry expansion strengthen the local economy. Of course, the purpose of this study is to

estimate the size of the economic impact of the university on the local economy. While these “other” benefits are important and should not be ignored, it is not the focus of this analysis since they are difficult to measure. In the next section, impact types are discussed in greater detail.

Direct Benefits

A university directly impacts the local economy in many ways. Direct impacts are divided into several components and are identified in this section. As one of the largest employers in the area, the impact of the University on the surrounding community is substantial. Typically, the largest and most obvious direct university expenditure involves payment of wages to employees. Universities also make various purchases from local vendors on items ranging from utilizes to paper and soap. These expenditures from university operations contribute to the expansion of the local economy. As noted previously, any expenditure for supplies produced outside the region constitute a leakage from the impact zone and are not included in economic impact calculations of the specific region. In addition to discussing the direct employment and income of university employees, this study also provides estimates of employment and earnings associated with direct university spending within the impact region.

Induced Benefits

Hewings and Jensen (1986)⁴ identify the induced or consumption impact of entities such as hospitals, universities, and various businesses as the impact these firms have on the overall level of economic activity in the region. Specifically, when university employees spend their salaries in the impact zone, their spending cycles through the economy numerous times creating additional demand – known as the multiplier effect – which yields a total impact that is larger

⁴ Hewings, G.J.D. and Jensen, R.C., (1986), “Regional interregional and multiregional input-output analysis,” pp. 295-341. In P. Nijkamp(Ed.) Handbook of Regional and Urban Economics, Vol. 1. Amsterman: North Holland Publishing Company

than the initial income paid to direct employees. As an example, anytime a university employee spends their earnings within the MSA, businesses in the area increase employment to meet the increase demand. These employees also earn income which they may also spend in the local area, creating additional jobs and earnings at other businesses in the impact zone as dollars continue to re-circulate through the economy. However, this process does not continue infinitely, some earnings leak out of the spending stream each cycle as employees spend money outside of the impact zone or choose to save a portion of their earnings. Induced employment and earnings associated with university employee spending in the local area is estimated and presented below.

Indirect Benefits

The total economic benefit of a university far exceeds the direct and induced impacts noted above. Universities also have an indirect effect in the surrounding impact zone. As noted above, such indirect impacts are typically difficult to measure – as some indirect effects are non-pecuniary in nature – and therefore often omitted from traditional economic impact studies. However, such impacts should be noted as they do make a significant contribution to the local community. Examples of indirect benefits include, but not limited to, continuing education programs, clinical services through the nursing program, tax preparation, engagement with local businesses, assistance in shaping the economic development narrative of the region, and various other improvements to quality of life. For example, during the 2015-2016 academic year, UNA sponsored various student and community events such as theatre productions, Shoals Symphony events, flu shot clinics for faculty, staff, students and their dependents, etc. Other contributions to the community during 2015-2016 academic year include employee participation in various community service organizations.

Study Design

To estimate the extent of direct and induced effects, multipliers produced by the BEA are utilized. The BEA uses a sophisticated process to estimate the multipliers for various economic activities and geographic areas including metropolitan areas, all counties and every state. The BEA also creates statistics – employment multipliers – that allow researchers to estimate the number of induced jobs that will likely be created due to direct employees spending their income within the study area. The primary impact zone utilized in this report as been identified as the Florence-Muscle Shoals MSA. The Bureau of Economic Analysis (BEA) provides multipliers at the MSA level which will be utilized to complete this analysis.

Relevant data was gathered from myriad sources at UNA with data collection facilitated by the Office of Business and Financial Affairs. The Business office provided university spending data, including categories such as direct expenditures on supplies, capital expenditures, contractor expenditures, etc. Spending patterns of employees and students were acquired utilizing an online survey. This data along with relevant data from the Census Bureau are used to estimate sales taxes generated from the various spending related to the university. The survey also allows us to estimate property taxes collected from individuals connected to UNA as well as estimates of deposits in local financial institutions.

Finally, as in the 2012 UNA Economic Impact Study, we include a section on the earnings premiums for graduates of the University of North Alabama, the economic impact of UNA home football games, and community service contributions of UNA employees.

IMPACT OF UNIVERSITY OPERATIONS⁵

Direct Benefits

The University of North Alabama is a major employer in the Colbert/Lauderdale region of North-West Alabama both in terms of the number of employees and in terms of the payroll. UNA provides employment to administrators, faculty and staff on a full-time basis. UNA employs a total of sixteen administrators. There are 267 total faculty members employed by UNA on a full-time basis, and 456 total staff. Thus, there are 739 total full-time employees at the University.

Additionally, UNA employs some faculty and staff on a part-time basis. During the 2015-2016 academic year, UNA employed ninety (90) faculty members and ninety-eight staff on a part-time basis. The university has no part-time administrators. Finally, all 440 student employees at UNA are on a part-time basis. Student employment at UNA is derived from both graduate and undergraduate student populations. Full-time equivalence (FTE) positions are constructed in order to estimate the total direct full-time employment impact of UNA.⁶ The conversion from part-time faculty to full-time faculty yields an additional 30 FTE faculty members and 32.7 FTE staff members. Analogous conversion for students yields FTE student employment of 146.7.

⁵ All information reported in this section is based on data provided by the University of North Alabama and its contractors in December of 2016. This information was gathered through interviews with various departments and agencies through the Office of Business and Financial Affairs.

⁶ It is assumed that a full-time employee will work 40 hours per week for a period of 52 weeks which yields 2,080 work hours per year. Thus, full-time equivalences are constructed by dividing total hours worked by part-time employees by 2,080. This calculation yields the total number of full-time employees which would be required to conduct the activities currently performed by part-time employees.

Combining full-time employees with FTE for part-time workers yields a total of 948.4 full-time employees at the University of North Alabama. This information is summarized in Table 1.

Earnings by administrators, faculty, staff and student employees in 2016 total \$40,238,684. UNA personnel use this income to purchase various items from local retailers, make mortgage payments, pay utility bills, provide savings for local financial institutions, etc. The impact of expenditures by faculty, staff and students on Colbert and Lauderdale Counties is examined in a subsequent section. Table 2 provides 2016 payroll by category.

Table 1: 2016 Direct UNA Employment

	Full-Time	Full-Time Equivalences	Total
Administrators	16	--	16
Faculty	267	30	297
Staff	456	32.7	488.7
Students*	--	146.7	146.7
Total Employment	739	209.4	948.4

* The student category includes both undergraduate and graduate student employment.

Source: Interviews with UNA personnel with FTE's estimated by consultants

Table 2: 2016 UNA Payroll by Category

	Payroll
Administrators	\$2,017,778.00
Faculty	17,013,422.73
Staff	19,989,768.50
Students	1,217,715.00
Total	\$40,238,684.23

Source: Interviews with UNA personnel

UNA utilizes contractors to provide various services that have an impact on the local economy. Specifically, UNA employs contractors for foodservice and campus bookstore

operations. During 2016, University contractors employed 73 full-time employees. An additional 79 to 82 individuals are employed on a part time basis. Adjusting part-time contractor employees to FTE equals 48.25 full time workers. Thus, total full-time contractor employment equals 121.25 workers. Foodservice and bookstore employees earned a total payroll of \$1,557,000. Table 3 presents contractor employment and payroll data.

Table 3: 2016 Direct Contractor Employment and Payroll

Employment	Full-Time	Full-Time Equivalences	Total
Foodservice	70	41.88	111.88
Bookstore	3	6.37	9.37
Total Employment	73	48.25	121.25
	Foodservice	Bookstore	Total
Payroll	\$1,344,000	\$213,000	\$1,557,000

Source: Interviews with UNA personnel and consultant projections

The final direct benefit examined in this economic impact study revolves around UNA and contractor spending within the impact area. University and contractor purchases boost the sales of local vendors. Increased sales generate additional earnings for firms engaged in business transactions with UNA and its contractors. Subsequently, these firms must employ more workers because of the increase in business. Additional rounds of earnings and expenditures translate into even greater employment and earnings opportunities for individuals in other industries and businesses in the Colbert/Lauderdale impact area.

Interviews with UNA employees indicate that UNA spent approximately \$10.5 million during 2016 on various supplies, utilizes, paper, vehicle maintenance, etc in the MSA impact zone. This figure represents approximately forty percent (40%) of total non-payroll expenditures. UNA also spent \$10 million on capital projects within the impact region during

the same time frame – representing approximately sixty percent (60%) of total spending on capital projects during the year. Capital spending during 2016 is a little under the five year annual average of \$16.8 million. However, total capital spending over the last five years is approximately \$84 million with \$33 million and \$20 million spent during 2014 and 2013 respectively. Food service contractors are projected to spend an additional \$1.026 million within the MSA while the bookstore spends an estimated \$95,000. Direct spending for 2016 is summarized in Table 4 below.

Table 4: 2016 UNA Direct Spending, Employment and Payroll

	Spending	Employment	Payroll
General Spending	\$10.5 million	123.35	\$4,223,100.00
Capital Projects	\$10 million	86.89	\$4,055,000.00
Contractor Spending			
Food Service	\$1,026,480	21.67	\$426,297.14
Bookstore	\$95,000	1.67	\$39,320.50
Total	\$21,621,480	233.58	\$8,743,717.64

Source: Interviews with UNA employees and Consultant Projections

As noted previously, direct spending by UNA and associated contractors in the MSA generates additional employment and earnings in the impact area. Employment and earnings multipliers produced by the BEA⁷ allow for the estimation of the additional employment and earnings related to this direct spending. Specifically, the BEA provides employment and earnings estimates for sixty-four (64) industry subgroups. Since UNA spending occurs across a wide spectrum of sectors, it is appropriate to construct an average spending multiplier for the MSA. Specifically, the average employment multiplier is 12.036 jobs per \$1 million of spending

⁷ These multipliers are produced by the BEA RIMS II program.

while the earnings multiplier is \$0.4022 per \$1 of spending or \$40.22 in earnings per \$100 of spending. Table 4 indicates that general UNA spending generates 123.35 total jobs (105.77 FTE)⁸ and \$4.223 million in earnings.

Capital spending, foodservice spending, and bookstore spending allow usage of specific multipliers rather than average multipliers due to the less generalized nature of this spending. Examining BEA industry classification to identify those related to capital projects – construction, scientific and technical services, etc. – we are able to construct a capital spending multiplier. Capital spending by UNA in the impact region is projected to create 8.9027 jobs per \$1 million of spending and \$0.4055 earnings per \$1 of spending. Alternatively, \$40.55 in earnings is generated for each \$100 of direct spending. Thus, as shown in Table 3, university capital spending generates an additional 86.89 total jobs (74.41 FTE) and \$4.055 million in earnings. Summation of general and capital spending impacts yields total employment generated from UNA spending equal to 210.24 (180.18 FTE) and earnings in excess of \$8.74 million.

Table 3 also details employment and earnings impacts of UNA foodservice and bookstore contractors. Fortunately one industry subgroup available from the BEA is foodservice and drinking places. Direct spending in this industry generates 21.114 total employees per \$1 million of spending and \$0.4153 earnings per \$1 of spending (\$41.53 per \$100). Therefore, UNA's foodservice contractor generates 21.67 total jobs (18.56 FTE) and \$426,297.14 in earnings per year. On a broad basis, the BEA does not provide multipliers for bookstores so we employ multipliers from the Retail Trade sector for estimation purposes. Multipliers in this industry are slightly smaller than the foodservice industry with 17.58 employees generated per \$1 million of

⁸ Basic application of BEA multipliers yields total jobs – full and part-time. The BEA also publishes an average FTE to total jobs ratio for conversion of total jobs to FTE. The generalized average FTE/Total Jobs ratio, as reported in the BEA RIMS II handbook is 0.8564. This ratio will be used to convert total jobs to FTE throughout the entire report.

spending and an earnings multiplier of \$0.4139 per \$1 of spending (\$41.39 per \$100). Bookstore spending is projected to sustain 1.67 total jobs (1.43 FTE) per year and \$39,320.50 in earnings. Total employment and earnings generated by contractor spending equals 23.34 total jobs (19.99 FTE) and \$465,617.64 respectively. Adding contractor results to direct UNA spending increases spending related total employment to 233.58 (200.29 FTE) and total spending related earnings to \$8.74 million.

Induced Benefits

University and contractor employees use their earnings to make purchases in the local economy. This spending obviously boosts the sales of local vendors. Increased sales generate additional earnings for business firms and their employees. In addition, these firms must employ more workers because of the increased business. Additional rounds of earnings and expenditures translate into even greater employment and earnings in the Colbert/Lauderdale impact area. These effects are the induced or secondary effects of university and contractor employee expenditures.

To capture the secondary effects of employee spending, we again use RIMS II multipliers produced by the BEA. In this case, multipliers are identified for each level of activity. Specifically, multipliers for the Education Services sector are utilized to determine how direct UNA employees and payroll interact with other sectors of the economy. Additionally, multipliers for foodservice and drinking and retail sales are utilized to estimate the secondary impacts of contractor employee spending. As university faculty staff and administrators spend money in the MSA, each 100 employees is projected to sustain 29.81 total jobs and each \$100 in UNA payroll generates \$32.93 in additional earnings. From the contractor perspective, spending by foodservice employees generates 2.16 total jobs for each 10 jobs in the foodservice sector and each 10 bookstore employees generates 2.53 total jobs. Additional earnings generated by

foodservice and bookstore employee spending totals \$4.14 and \$3.89 per \$10 of earnings for each respective contractor.

Table 5 below details induced employment and earnings estimates generated by applying the multipliers described above. Given UNA’s total FTE employment of 948.4, induced total employment generated in the area equals 282.72 (242.12 FTE). An additional 24.20 (20.72 FTE) total induced jobs result from UNA foodservice employment. Finally, 2.38 (2.04 FTE) jobs are generated in the local economy due to 9.37 bookstore employees. Thus, more than 300 additional people in the Florence-Muscle Shoals MSA have jobs because of UNA employment levels.

Table 5: UNA Induced Employment and Earnings

	Employment	Earnings
UNA	282.72	\$13,250,598.72
Contractors		
Food Service	24.20	\$556,953.60
Bookstore	2.38	\$82,899.60
Contractor Total	26.58	\$639,853.20
Total	309.30	\$13,890,451.92

Source: Consultant Projections

These employees earn income as they work in various sectors of the economy. Table 5 reveals that the 309.30 (264.88 FTE) induced employees earn approximately \$13.89 million in induced earnings as a result of UNA and contractor employees spending their payroll in the impact region. Earnings generated by direct UNA payroll is obviously the largest induced impact as total UNA payroll of more than \$40 million results in \$13.25 million induced earnings. Foodservice payroll of \$1.34 million and bookstore payroll of \$213,000 induces an additional \$556,953.60 and \$82,899.60 in earnings respectively. Total induced contractor earnings equal \$639,853.20.

TOTAL EMPLOYMENT AND EARNINGS GENERATED BY UNA

The purpose of this section is to summarize total employment and earnings impact of UNA and associated contractors. The University of North Alabama employs a total of 948.4 full-time (recall that part-time workers are converted to FTE) faculty, staff, administration, and students. Foodservice and bookstore contractors sustain an additional 121.25 FTE jobs. This yields total direct FTE employment at UNA to 1,069.65. Direct spending by UNA and contractors generates additional total employment equal to 233.58 (200.04 FTE). Thusly, total employment directly related to UNA is 1,303.23 (1,269.69 FTE).⁹ Furthermore, employee spending generates an additional 309.30 total sustainable jobs (264.88 FTE) in the study region. Summation of direct and induced employment estimates yields total employment related to UNA equal to 1,441.36 (1,370.57 FTE). Total contractor related employment is 171.17 (164 FTE). Thus, total employment generated by UNA activities in the study region is 1,612.53 (1,534.57 FTE). Table 6 summarizes the total employment impact of UNA

Table 6: 2016 Total Employment Generated by UNA

	Direct	Direct Spending	Induced	Total
UNA	948.4	210.24	282.72	1,441.36
Contractors				
Food Service	111.88	21.67	24.20	157.75
Bookstore	9.37	1.67	2.38	13.42
Contractor Total	121.25	23.34	26.58	171.17
Total	1,069.65	233.58	309.30	1,612.53

Source: Consultant Projections

⁹ Total employment described here combines FTE employment at UNA with total employment as estimated for direct spending. Total employment at UNA considering part-time employees as part-time is 1,520 – as discussed in a previous section.

Table 7 summarizes the total earnings related to the employment discussed above. Direct University payroll (including contractor’s payroll) totals \$41.795 million. Total direct spending by UNA and contractors combine to generate \$4.688 million. Induced earnings, created as UNA and contractor employees spend their income within the study region, totals \$13.89 million. Across the various categories, earnings related to UNA are in excess of \$57 million while contractors contribute another \$2.662 million. Total earnings generated equal \$60.374 million. Including direct spending in the area – which represents the initial round of earnings for the businesses where the spending occurs – total overall earnings equal \$81,996,333.80.

Table 7: 2016 Total Earnings Generated by UNA

	Direct	Direct Spending	Induced	Total
UNA	\$40,238,684.23	\$4,223,100.00	\$13,250,598.72	\$57,712,382.95
Contractors				
Food Service	\$1,344,000.00	\$426,297.14	\$556,953.60	\$2,327,250.74
Bookstore	\$213,000.00	\$39,320.50	\$82,899.60	\$335,220.10
Contractor Total	\$1,557,000.00	\$465,617.64	\$639,853.20	\$2,662,470.84
Total	\$41,795,684.23	4,688,717.64	13,890,451.92	\$60,374,853.79

Source: Consultant Projections

IMPACT OF FACULTY, STAFF AND STUDENTS

Economic impact information presented unto this point has been based on a generalized impact on the Florence-Muscle Shoals MSA. The purpose of this section is to examine how UNA and its employees and students influence the various sectors of the local economy. Estimating more specific impacts of faculty, staff and students within the region requires specific information on household characteristics and spending patterns of each group. To obtain this information, all UNA employees and students were asked to complete a survey. A total of 665

students and 328 employees completed the surveys. These respondents reflect a representative mix of the overall makeup of the University's student body and employees.

Faculty, Staff, and Students

The following characteristics describe specific responses from respective surveys and do not represent estimates for the total employee and/or student population among employees, 172 (52.8%) would not be living in the Shoals area if UNA were located elsewhere. Four hundred students (65.3%) responded similarly. This is further reflected in that 72.3% of students have parents living outside of the Shoals, and 66% of student respondents are living in the Shoals specifically to attend UNA. Only 26.3% of students live at home with their parents. Almost 93% of responding employees live in the Colbert/Lauderdale county area. A large majority (87.9%) of responding employees are homeowners, while only 12% rent. Excluding students residing with their parents, 33.1% of student survey respondents indicate that they rent housing, while 14.3% are homeowners and 26.8% live in campus housing.

In addition to descriptive characteristics, survey results allow for calculation of population estimates and spending patterns for the entire employee and student populations at UNA. Unless otherwise noted, all remaining estimates in this section are considered to be representative of total faculty, staff, and student population behavior.

Faculty, Staff, and Student Income and Spending Patterns

Over the past year, total payroll for employees was \$40,238,684 and for students the total net income was \$52,830,000. Contractor payroll was \$1,557,000. Additional annual net income for family members of employees and students totaled \$166.87 million. Adjusting employee (including contractor employees) payroll for taxes, retirement, insurance and other deductions, employee and student households earned in excess of \$250.9 million in net income during 2016.

Households spend net income to purchase goods and services, make mortgage and car payments, pay the private school tuition discussed above, etc., as well as to pay sales and property taxes. Households will also save a portion of their net income. Employee and student surveys asked respondents to provide details concerning their spending habits in the study area for 2016. Estimates for total spending by category are provided in Table 8.

Information in Table 8 indicates that, excluding private school tuition, employees and students at UNA spent in excess of \$125 million in Colbert and Lauderdale Counties. Housing and Shelter is the largest expenditure category, with mortgage and housing rental payments totaling more than \$23.5 million. Furthermore, over the last five years, we estimate that faculty, staff, and students have spent over \$50 million purchasing or constructing new housing within the impact zone. Transportation expenditures constitute the second largest spending category with the total exceeding \$21.6 million. The transportation expenditure captures car payments as well as spending on gas and general maintenance. The survey also captured spending on new or used automobiles during the past year. Extrapolating survey results we estimate that faculty, staff, students and related households spent in excess of \$11.7 million purchasing approximately 540 automobiles during 2016. Expenditures on utilities totaled \$12.9 million, while grocery purchases were more than \$19 million. Charitable contributions from UNA personnel and student households were over \$10.2 million.

Expenditure levels shown in Table 8 represent only the direct or initial round of expenditures in the local economy. As is the case with local spending by UNA and university contractors, spending within a given region becomes incomes for others, and these individuals in turn spend a portion of their income on goods and services. Thus, spending by UNA employees, students, and other household members generates additional earnings and employment

opportunities in the area. Using BEA multipliers as discussed previously, induced employment and earnings are estimated. The most appropriate multipliers are determined by matching spending categories from Table 8 with BEA industry classifications for the study area.

Table 8: Employee and Student Spending Estimates

Business Category	Annual Spending
Housing/Shelter	\$23,510,524
Utilities	\$12,897,558
Household Furnishings	\$947,570
Groceries	\$19,303,290
Restaurants	\$10,690,131
Healthcare	\$5,763,884
Apparel	\$2,628,229
Transportation (vehicle, maintenance)	\$21,604,549
Recreation and Entertainment	\$5,456,867
Personal and Business Services	\$2,799,901
Religious and Charitable Contributions	\$10,252,235
Personal Insurance	\$3,706,943
Other Retail	\$5,708,663
Total Spending	\$125,270,343

Source: Consultant Projections

The induced employment and earnings estimates obtained so far have ignored spending by students and by household members of both employees and students. Thus, to get the total induced employment and earnings related to UNA households, it is necessary to estimate student and household spending in the local area. These amounts are estimated combining survey responses concerning income with consumption patterns from the Consumer Expenditure Survey (CEX), produced by the Bureau of Labor Statistics (BLS). Survey results indicate that total student income is \$52.83 million. Additional household income of both employees and students is \$166.87 million. This yields total additional household and student income of \$219.70 million.

Now that we have the appropriate income for students and UNA related households, the next step is to apply spending pattern estimates available from the CEX. Specifically, CEX indicates that residents in the southern region of the United States spend approximately 75.16% of their income on average.¹⁰ While the majority of this consumption will take place in the various impact zones, some of the spending will leak out of the regional economy. Clearly, the amount of spending outflow that takes place will vary depending on the size of the impact zone considered – i.e. smaller regions present a greater opportunity for shopping outside the area simply because of the ease of traveling outside primary impact zone.¹¹ For purposes of this study, we assume spending outflow will be equal to twenty-seven percent (27%) of total spending.¹²

To estimate induced employment and earnings associated to various UNA related households, we will employ the average spending multipliers utilized to estimate the employment and earnings impact of direct UNA and contractor spending. Recall that 12.036 total employees are generated per \$1 million of spending and \$40.22 earnings are created per \$100 of spending.¹³ Application of CEX consumption estimates indicates that student and UNA related household spending is expected to exceed \$160.38 million. Spending multipliers reveal that this level of spending generates total employment of 1,930.33 (1,653.14 FTE) and earnings of \$64.51 million. Combining these induced impacts with total employment and total earnings shown in Tables 6 and 7 and student income, total employment related to UNA operations in the

¹⁰ Percentages for consumption and taxable sales for the Southern Region are calculated from Table 8. Region of Residence: Average Annual Expenditures and Characteristics, Consumer Expenditure Survey, 2009. Although this data is from 2009, it is still applicable as spending and taxable percentages are very stable over time.

¹¹ It is not necessary to estimate spending outflow in the previous discussion of induced employment and earnings as the BEA direct effect multipliers used in those calculations incorporate leakage estimates.

¹² This 27% figure for spending outflow has been used in previous studies of the Florence-Muscle Shoals MSA. For a full discussion of this leakage estimate, see “Economic Impact of Regional Care Health Care Facilities,” 2011, pp 14-15.

¹³ See discussion on page 12.

region equals 3,542.86 (3,034.10 FTE) and total earnings of \$177.71 million. Addition of employee and student household income elevates total earnings related to UNA to \$392.16 million.

UNA operations in the region also have an impact on financial institutions. As mentioned previously, faculty, staff, students and related households may choose to save a portion of their income. Any saving that is held as deposits with local financial institutions become available to the local market for loans for home construction, automobile financing, new and expanding business firms and other expenditures that provide additional benefits to the local economy. The amount of saving for employees, students and their households that is deposited in local financial institutions is estimated by examining average monthly checking and savings account balances as indicated by survey respondents. Estimates from the survey indicate that UNA related households hold total monthly checking and savings account balances in excess of \$7.5 million and \$15.4 million respectively. Specific amounts are shown in Table 9.

Checking	7,569,297
Savings	15,477,500
Total	\$23,046,797

Source: Consultant Projections

COMMUNITY SERVICE

Many UNA employees are engaged in service in the local area. Of the 328 respondents, there are 259 memberships/active participations in community organizations, including: civic clubs, other service organizations, serving on boards of directors, community or governmental

organizations, school boards, and helping with youth activities. Each activity requires a time commitment.

The average amount of time employee respondents devoted to community service activities is more than six hours/month. Average monthly time allotments for service activities are given in Table 10.

Table 10: Average Community Service Hours per Month

Category	Employee Hours
Civic Clubs	0.39
Other Service	0.57
Board of Directors	0.23
Community/Government	0.38
School Boards	0.02
Youth Organizations	0.94
Church	3.52
Other Service	0.18
Total	6.13

Source: Survey Results

To estimate the total community service hours for University employees, we multiply the average hours from the survey by the total number of UNA employees. Total estimates are presented in Table 11. Using this calculation, employees generate almost 5,000 community service hours per month. On a yearly basis, UNA employees provide various community organizations with over 58,000 hours of service. In addition to the time spent in service to the Shoals community, many employees and their families serve in leadership roles within their organizations.

Table 11: Total Employee Community Service Hours

Category	Monthly	Yearly
Civic Clubs	312.66	3,751.96
Other Service	432.92	5,195.02
Board of Directors	184.39	2,212.69
Community/Government	240.51	2,886.12
School Boards	16.03	192.41
Youth Organizations	2,805.95	33,671.40
Church	753.60	9,043.18
Other	144.31	1,731.67
Total	4,890.37	58,684.44

Source: Consultant Projections

Volunteering time is not the only avenue UNA employees utilize to assist their local community. Numerous faculty, staff, and students contribute a portion of their incomes to various charities – both within and outside the local community. From the employee and student surveys, it is estimated that total annual direct charitable giving within the MSA, as shown in Table 8, is \$10,252,580. Assuming that this level of charitable giving includes “other” household income from faculty, staff and students, it is possible to estimate charitable giving for induced earnings. Induced earnings of \$78.4 million, combined with charitable giving estimates available from the CEX, it is possible to estimate the charitable giving for earnings indirectly related to UNA. According to CEX estimates¹⁴, residents of the southern region of the United States contribute an average of 1.49% of their income to various charities. Applying this percentage to induced income above we estimate additional giving to charity of \$1.17 million per year. Without knowing where these charitable donations are made we cannot simply add this giving to the \$10 million figure discussed above. On the other hand, we can conclude that UNA

¹⁴ *Supra Note 10*

and related households contribute a minimum \$10.252 million to local charities on an annual basis.

TAXES GENERATED IN THE LOCAL ECONOMY

Using the University Employee Survey and University Student Survey, we obtained estimates of real estate tax collections and personal property tax collections in the two counties in the study area. This information is shown in Table 12. Total real estate taxes amounted to \$568,956 and total personal property taxes amounted to \$244,336.

Table 12: Annual Local Property Taxes

		Real Estate	Personal Property	Total
Colbert	Employee	\$74,751	\$32,682	\$107,433
	Student	\$23,614	\$19,455	\$43,069
Lauderdale	Employee	\$319,693	\$105,139	\$424,832
	Student	\$150,897	\$87,061	\$237,958
Total		\$568,956	\$244,336	\$813,292

Source: Consultant Projections

Sales tax collections in the study area are estimated using payroll information from employees, students, and household members. Employee payroll information is given in Table 2 of the report. Student and family member incomes were reported in the previous section. Using estimates constructed from survey responses from employees and students, the portion of total direct income devoted to taxable consumption is \$45,639,404. Applying the average tax rate in the study area, 4.75%, to this amount yields total sales tax collections of \$2,167,872.

As discussed above, total direct earnings generate additional earnings in the study area through the multiplier process. Based on induced earnings estimates provided in previous sections, CEX¹⁵ consumption data suggests, \$13,442,366 will be devoted to consumption that is

¹⁵ *Supra Note 10*, CEX estimates that 31.25% of total consumption is subject to sales taxes.

subjected to sales taxes. Using the average sales tax rate in the two county region yields sales tax collections of \$638,512. Thus, total sales tax collections in 2016 as a result of spending by households both directly and indirectly related to UNA equal \$2,806,384. This information is summarized in Table 13.

In Table 14, total local taxes¹⁶ collected as a result of activities resulting from the existence of UNA are given. Total real estate taxes, total personal property taxes and total sales taxes are summed to yield total local tax collections of \$3,619,676.

Table 13: Total Local Sales Taxes

	Direct	Induced	Total
Taxable Sales	\$45,639,404.00	\$13,442,366.00	\$59,081,770
	Direct	Induced	Total
Sales Taxes	\$2,167,872	\$638,512	\$2,806,384

Source: Consultant Projections

Table 14: Total Local Taxes Collected

(Annual)	Amount
Total Real Estate Taxes	\$568,956
Total Personal Property Taxes	\$244,336
Total Property Taxes	\$813,292
Direct Sales Taxes	\$2,167,872
Induced Sales Taxes	\$638,512
Total Sales Taxes	\$2,806,384
Total Annual Local Taxes	\$3,619,676

Source: Consultant Projections

¹⁶ It is worth noting that a portion of taxes at the state and national levels return to the local economy in various forms (i.e. teacher salaries, highway construction and maintenance, transfer payments of various types, etc.). However, it is impossible to estimate the exact percentage of state and national tax dollars collected from the impact area as a result of the university that are returned to Colbert and Lauderdale counties and therefore these values are noted but not included in this analysis.

DEGREE EARNINGS PREMIUM

A major purpose of UNA is to provide the enhancement of human capital. This enhancement itself is an economic impact as it results in an increase in the productivity of students after graduation. Educational institutions serve as job creators for the employees and the suppliers of the school, as well as contributing to work force efficiency for each new graduate. We estimate the impact due to career earnings premiums by comparing the earnings of individuals who do and do not hold college degrees. Since UNA offers master's degrees, premiums are given for baccalaureate and master's degree holders.

The increase in total productivity resulting from an extra year of education can be estimated. Two complementary effects create this gain: increases attributable to improved worker quality and productivity gains from the worker's ability to use available physical capital more effectively. Research on the experience of the United States from 1840 to 2000 indicates that an additional year of education affords workers an eight to ten percent increase in productivity with an additional two to four percent productivity increase resulting from more effective use of capital. The total productivity gain for an extra year of schooling is approximately 12 percent.¹⁷

Workers with college degrees enjoy higher salaries over their careers. Researchers Anthony P. Carnevale, Stephen J. Rose and Ban Cheah of the Georgetown University Center on Education and the Workforce¹⁸ estimate the premium paid for educational attainment across a worker's expected career. The lifetime earnings difference based on educational attainment was found to be significant. Table 15 provides estimates of lifetime earnings based on schooling.

¹⁷ INCOME AND EDUCATION OF THE STATES OF THE UNITED STATES: 1840-2000, Scott Baier, Sean Mulholland, Chad Turner and Robert Tamura, Working Paper 2004-31. Federal Reserve Bank of Atlanta, 2004.

¹⁸ In a report titled, "The College Payoff – Education, Occupation and Lifetime Earnings"

The earnings presented in Table 15 apply to the total U.S. economy and do not necessarily reflect Alabama earnings estimates. Alabama salaries are generally lower than U.S. averages. However, the education premiums as reported are the difference in earnings for various levels of educational attainment, and are aggregated by discipline. Thus, it is possible and perhaps likely that the lower high school graduate earnings in Alabama and the lower bachelor's graduate earnings in Alabama retain a difference similar to those reported in Table 15.

Earnings premiums for UNA graduates are calculated using high school graduation as the base case. The earnings premium for a bachelor's degree is \$1,040,712 and the earnings premium for a master's degree is \$1,475,782. These premiums suggest that each UNA graduate with a bachelor's degree, who remains in the Colbert/Lauderdale County impact area, has over \$1 million in additional lifetime earnings to spend or save relative to a high school graduate living in the study area. A graduate remaining in the local economy and possessing a master's degree has approximately \$1.476 million in additional lifetime earnings over and above a high school graduate to impact the local economy.

Table 15: Lifetime Earnings by Level of Education and Education Premium

Highest Degree	Career Earnings	Education Premium
Not High School Graduate	\$1,050,429	--
High School	\$1,407,769	--
Some College	\$1,699,254	\$291,485
Bachelor's Degree	\$2,448,481	\$1,040,712
Master's Degree	\$2,883,551	\$1,475,782

Source: Carnevale, Rose, and Cheah (2011) adjusted for inflation. Education premiums are Consultant Projections

Utilizing CEX spending and charitable giving data that has been utilized previously in the report, we are then able to ascertain the impact that such earnings premiums have on the local economy when a graduate decides to remain in the local area. Applying these consumer

behavior features to the lifetime earnings premium (bachelor's degree over and above a high school graduate) of a single individual that remains in the local economy yields \$571,005.37 in additional consumption. \$178,439.18 of lifetime earnings premium will be devoted to consumption that is subject to the sales tax. Thus, a bachelor's degree earning individual will pay \$8,475.86 in sales taxes over and above what a high school graduate pays (assuming a sales tax rate of 4.75%, an average tax rate for the four municipalities and the two counties).

Using the same CEX data but applying it to the earnings premium of a single individual that remains in the area with a master's degree over and above a high school graduate that remains in the area yields \$809,714.36 in additional consumption. \$253,035.74 of the lifetime earnings premium will be devoted to consumption that is subject to the sales tax. Thus, a master's degree earning individual will pay \$12,019.20 in sales taxes over and above what a high school graduate pays (again assuming a sales tax rate of 4.75% and that all spending is in the impact area).

CEX data estimates that 1.49% of the lifetime earnings premium is given to charity. (Note that we do not apply leakage to this calculation.) During their careers, those individuals earning a bachelor's degree have the ability to devote \$15,506.61 to charity over and above what a high school graduate donates and those individuals earning a master's degree devote \$21,989.15 to charity over and above what a high school graduate donates.

Applying RIMS II multipliers for the Colbert/Lauderdale impact area allows for the estimation of induced employment and earnings associated with degree earning premiums.¹⁹

The spending of the earnings premium of a single graduate earning a bachelor's degree residing in the local area is expected to generate 12.53 induced jobs and \$418,574.36 in induced

¹⁹ *Supra Note 13*

earnings over a 40-year career. This in turn generates an additional \$229,658.36 in consumption, of which \$71,768.24 is taxable consumption. This taxable consumption will generate \$3,408.89 in city and county taxes. Using the 1.49% for charitable giving, an additional \$6,236.75 in charitable giving is estimated to be generated by each student earning a bachelor's degree.

The spending of the earnings premium of a single master's degree earning graduate residing in the local area is expected to generate 17.76 induced jobs and \$593,559.52 in induced earnings over a 40-year career. This in turn generates an additional \$325,667.12 in consumption, of which \$101,770.97 is taxable consumption. This taxable consumption will generate \$4,834.12 in city and county taxes. Using the 1.49% for charitable giving, an additional \$8,844.04 in charitable giving is estimated to be generated by each student earning a bachelor's degree. The total employment and earnings impact of the earnings premium in the local area would be the sum of the effect of each graduate who remains in the impact area after graduation.

Summing the direct and induced estimates yields the total impact for bachelor's and master's degree holders. For those earning bachelor's degrees, total additional consumption is \$800,663.36, of which \$250,207.30 is taxable. Using the same rates as previously given, this will in turn create \$11,884.85 in additional city and county taxes, and \$21,743.36 in charitable contributions. Analogously, for master's degree earners, total additional consumption is \$1,135,381.48, of which \$354,806.71 is taxable. Using the same rates as previously given, this will in turn create \$16,853.32 in additional city and county taxes, and \$30,833.19 in charitable contributions.

Although this report specifically focuses on impact of UNA on the local economy, earnings premiums still exist when a UNA graduate moves outside the Colbert/Lauderdale County area (which is often the case for certain disciplines). Using the premium estimates from

Table 15 and graduation totals for the university (given in Table 16²⁰), the total earnings premium for UNA graduates from 2007-2016 may be estimated. From Table 16, between 2007 and 2016, 8,634 undergraduate and 3,589 graduate students completed their degrees, for a total of 12,223 graduates.

Table 17 provides estimates of total earnings premiums for all graduates from 2007-2016. This is constructed by multiplying the number of graduates in each category by their respective premium. Results suggest that the total degree earnings premium of UNA students who graduated in this time-frame exceeds \$14 billion.²¹ Again, such contributions are in excess of contributions made by the earnings of high school graduates. Applying employment and earnings estimates per graduate reveals that earnings premiums of UNA graduates support almost 171,902.08 jobs and more than \$5.74 billion in induced earnings over the career of the more than 12,000 graduates from 2007 – 2016.

Table 16: Total UNA Graduates 2007 - 2016

Calendar Year	Undergraduate	Graduate	Total
2007/08	1,001	523	1,524
2008/09	908	597	1,505
2009/10	914	398	1,312
2010/11	912	368	1,280
2011/12	941	373	1,314
2012/13	952	338	1290
2013/14	1,036	334	1,370
2014/15	959	308	1,267
2015/16	1,011	350	1,361
Total	8,634	3,589	12,223

Source: UNA Institutional Data Book

²⁰ Source: UNA Office of Institutional Research, Planning and Assessment

²¹ An estimate of this nature should be viewed in light of the assumptions involved in the calculation, so that the reader can understand the degree to which the actual outcomes may differ from the estimated outcomes.

Table 17: Total Earnings Premiums 2007 - 2016

Year	Bachelor's Premiums	Master's Premiums	Total Premiums
07/08	\$1,041,752,712	\$771,833,986	\$1,813,586,698
08/09	\$944,966,496	\$881,041,854	\$1,826,008,350
09/10	\$951,210,768	\$587,361,236	\$1,538,572,004
10/11	\$949,129,344	\$543,087,776	\$1,492,217,120
11/12	\$979,309,992	\$550,466,686	\$1,529,776,678
12/13	\$990,757,824	\$498,814,316	\$1,489,572,140
13/14	\$1,078,177,632	\$492,911,188	\$1,571,088,820
14/15	\$998,042,808	\$454,540,856	\$1,452,583,664
15/16	\$1,052,159,832	\$516,523,700	\$1,568,683,532
Total	\$8,985,507,408	\$5,296,581,598	\$14,282,089,006

Source: Consultant Projections

UNIVERSITY VISITORS AND OTHER IMPACTS

The focus on the study is monetary impacts due to UNA in the Shoals. While the measurable impact is large, it understates the overall impact of the University for two reasons. First, some economic impacts are difficult to quantify, but we know they exist. Also, certain items of impact are more qualitative in nature. Any University aspects that contribute positively to quality of life in the Shoals make it more likely for residents to stay in the Shoals (if already here) or relocate to the area. Furthermore, firms are more likely to locate in university towns/cities. In this section, we highlight four examples of UNA's impact.

Shoals Shift

In the spring of 2014 and with the help of partners the Shoals Chamber of Commerce and the Shoals Entrepreneurial Center, UNA initiated a session to take steps to help transform the Shoals economy. Shoals Shift (the name given to the movement) has produced twenty-six initiatives over the last three years. Some initiatives are recurring events (Shoals Idea Audition,

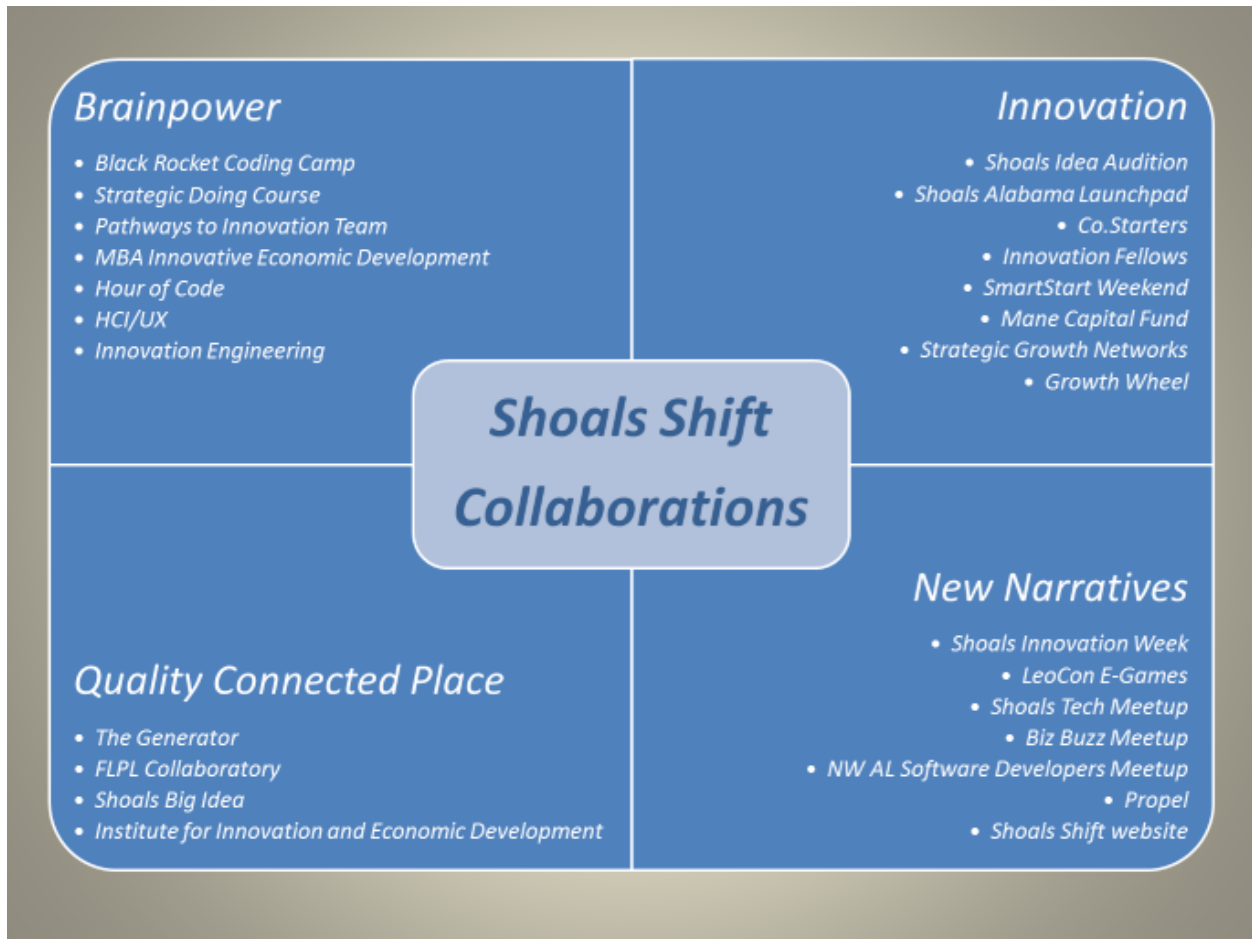
Shoals Big Idea, Smart Start Weekend, Shoals Alabama Launchpad) designed to encourage entrepreneurial ideas and progress. Other initiatives (such as CoStarters, the Generator, Strategic Doing Certification courses) offer further opportunities for business creation and performance improvement. Shoals Shift initiatives are presented in Figure 1.

The Shoals Shift efforts have produced more than ten new local startups, with other new ideas in various stages at the current time. The Institute for Innovation and Economic Development at UNA was formed in January 2016 to coordinate and organize many initiatives under Shoals Shift. In the past year, the Institute has helped generate over \$1,000,000 in grants for the University and local area. Based on the efforts by UNA and partners, the Shoals was selected to host the international meeting for Strategic Doing Practitioners in 2016, 2017, and 2018. The University proposal to host the University Economic Development Association's (UEDA) annual summit in 2018 was accepted. UEDA estimates that each annual meeting generates approximately \$600,000 for the host region.

Arts and Cultural Production

The University actively engages in the local arts and cultural production community. According to a 2016 study (completed by the authors of the current report), Arts and Cultural Production in the Shoals have an overall economic impact of \$203.76 million, and generate 2,658 jobs. It is difficult to determine the contribution of UNA to these totals. However, areas of study such as Art, Music, Theater, and Entertainment Industry Management provide graduates as well as outlets for performance for those not otherwise affiliated with UNA.

Figure 1: Shoals Shift Initiatives



Institute for Learning in Retirement

The UNA Office of Continuing Education offers learning options beyond those for the traditional degree-seeking students. Among the myriad offerings the Institute for Learning in Retirement (ILR) presents a series of classes/workshops for local retired persons. For many years, the Shoals has been a popular destination for retirees. ILR offers a nice additional benefit for those retired in the Shoals area. This and other University learning opportunities contribute to the Shoals being an attractive location for retired persons.

University Visitors

The University of North Alabama attracts visitors to campus, and the visitors spend money in the local economy. Theatrical and musical performances, sporting events, academic and practitioner conferences, myriad camps and other youth events are held on campus. An estimate of the economic impact of university visitors is generated and presented for University athletics. The report is based on surveys addressing the economic impact of UNA football. Further analysis of other university events is not possible due to data limitations. For example, no information is available on visitor length of stay and visitor spending behavior for other University events. However, all University events generate economic impact for the Shoals.

Interviews with UNA personnel may provide an approximate measure of the number of visitors to campus each year. Typically, several thousand students visit campus each year as part of Preview Day which is sponsored by the UNA admissions office. An additional 5,000 to 10,000 people visit campus on an annual basis to partake in various events hosted by University Events, including all visitors to Norton Auditorium and the Guillot University Center for various events during the year (including numerous summer camps). This total does not include figures for athletic camps, since those events are not facilitated by University Events. No information regarding athletic camps was provided for this report.

However, gate receipts were reported for UNA sporting events. An estimated 85,807²² people attended various sporting events at the University during the 2015-2016 academic year, generating over \$245,000 in gate receipts. Table 18 provides a breakdown of attendance and gate receipts by sport by 2016.

²² UNA does not track official attendance for each sporting event. Thus, it is necessary to estimate attendance based on gate receipts, ticket prices and historical attendance/gate receipt ratios.

Table 18: 2015-2016 Sporting Events - Attendance and Receipts

Event	Attendance	Gate Receipts
Football	48,904	\$169,697.01
Basketball	16,657	\$40,476.00
Baseball	4,798	\$7,772.00
Softball	6,977	\$22,886.00
Volleyball	8,471	\$4,405.00
Total	85,807	\$245,236.01

Source: Interviews with UNA Personnel, Attendance estimated by Consultants

Attendance and Spending—UNA Home Football Games

A total of 48,904 individuals attended UNA home football games during the 2016 season. Based on two surveys administered during the season, it is estimated that approximately 4,368 of the total number of attendees were students, and approximately 570 were faculty/staff.²³

Event Spending Projections (based on survey results)

The survey also captured expenditures at the event. Total spending on food at the game is estimated to be \$459,088, while spending on clothing amounted to \$552,644. Expenditures on various souvenirs totaled \$81,797, and \$123,719 in an “other” category. Thus, total expenditures at the event excluding the ticket price (see Table 18 for gate receipts) equal \$1,308,046 for the 2016 football season.

Outside Event Spending Projections (based on survey results)

²³ Totals were generated by observing the behavior of each attendee category and calculating averages. The averages were next multiplied by the total number of attendees in each of the categories.

Football attendees also spend dollars in the local economy outside of the event. Survey respondents were asked to identify expenditures on various items in the local economy including accommodations, fuel, food, clothing, souvenirs and, once again, an “other” category.

Total expenditures on fuel by football attendees amounted to \$372,178. Total spending on food by those attending home games totaled \$1,188,107. Attendees at the games report in the survey that \$357,864 was spent for clothing, and an additional \$117,584 was spent on various souvenirs. Projections from survey results suggest that approximately \$288,335 in hotel receipts were generated as a result of University of North Alabama football games. Finally, survey respondents claimed \$589,964 was spent on “other” items from the local economy. Thus, total community spending by those attending the football game amounted to \$2,914,032.

Total Spending

Summing expenditures for hotel rooms, expenditures at the event and expenditures in the impact area, because of football game attendance, yields total spending of \$4,222,078. This information is summarized in Table 19.

Induced Effects

This spending by football attendees in the local economy becomes income for workers in the Colbert/Lauderdale impact area. When these workers spend their earnings, additional income for other workers is generated. Subsequent rounds of expenditures create more income so that the initial spending is multiplied. Thus, the initial round of spending creates additional income and additional jobs in the local economy.

To capture the secondary effects of attendee spending, RIMS II multipliers are utilized. Multipliers were selected to match the type of expenditures made by those attending football games; in particular an “accommodation” multiplier, a “spectator sport” multiplier and a “retail

spending” multiplier. Applying the appropriate multipliers, the total impact of football attendee spending supports 50.82 (43.52 FTE) induced jobs and creates \$1,698,000 in induced earnings.

Taxes are collected in the impact region due to the existence of home football games played by the University of North Alabama. Taxable expenditures in the community on food, clothing and souvenirs by those individuals attending games equal \$2,253,518. This spending generates subsequent rounds of spending and through the multiplier process results in an additional \$277,560 in induced taxable sales (CEX data utilized to estimate taxable sales). Thus, total taxable sales in the area as a result of football equal \$2,531,078. Subjecting this amount to the two-county average sales tax yields \$120,226 in sales tax collections.

A NOTE ON RESULTS

Economic impact analysis has a high level of variability, as results are based on surveys and multipliers (which also are estimates). Additional dispersion results from changes in employment and other economic indicators in the local region and beyond. Differences from previous studies may be noted in each component. The entire impact on jobs, earnings, and spending will reflect these changes.

As previously noted, several effects are difficult if not impossible to quantify. However, these effects are intuitively obvious to the observer. The University of North Alabama offers a plethora of benefits for the Shoals area. Some are easier to estimate numerically. Economic and non-pecuniary benefits are important. This study in no way should be taken to imply that the harder to quantify values are not critical to quality of life in the Shoals.

Table 19: Attendance and Spending for UNA Home Football Games

	Alumni/Fans/Parents	Total
Attendance	43,966.09	48,904
Event Spending		
Food ^a	\$459,087.78	\$549,887
Clothing	\$552,643.53	\$552,644
Souvenirs	\$81,797.38	\$81,797
Other	\$123,718.53	\$123,719
	Total Event Spending	\$1,308,046
Community Spending		
Accommodations	\$288,335.80	\$288,335.80
Fuel	\$372,178.06	\$372,178
Food	\$1,188,106.90	\$1,188,107
Clothing	\$357,863.52	\$357,864
Souvenirs	\$117,583.73	\$117,584
Other	\$589,963.58	\$589,964
	Total Community Spending	\$2,914,032
	Total Spending	\$4,222,078

Source: Consultant Projections from Surveys collected at a UNA home football game and online during 2016 season.