

# THE ECONOMIC AND COMMUNITY IMPACTS OF THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

**FY16**



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## I. THE UNIVERSITY OF ALABAMA AT BIRMINGHAM ECONOMIC IMPACT EXECUTIVE SUMMARY

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The University of Alabama at Birmingham (UAB) is a powerhouse for academic, clinical and research innovation throughout the Birmingham region, statewide, nationally and throughout the globe. UAB's story is one of remarkable growth in size, quality, reputation and impact. UAB has transformed from its modest beginnings in 1936 as an extension center into a doctoral research university and academic medical center. With an enrollment of more than 19,500 students in 2016,<sup>1</sup> employment of more than 23,000 full-time and part-time individuals, and more than 120,000 active alumni worldwide, the impacts of UAB can be felt by many throughout the world. As the largest single employer in the state of Alabama, UAB generates significant impacts for its employees and the state in terms of economic, employment and government revenue impacts on a daily basis. UAB, the UAB Health System and Southern Research drive a significant amount of the Alabama economy every year.

The impact of UAB can be felt through its academic rigor, its health care presence and its strong research activity, as well as its economic activity. For the purposes of this impact analysis, "UAB" is defined as the combined impacts of UAB Academic, UAB Health System and Southern Research.

## THE UNIVERSITY OF ALABAMA AT BIRMINGHAM ECONOMIC IMPACTS TO THE STATE, FY16

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<sup>1</sup> This study was completed for fiscal year 2016. At the time of publication, total enrollment for UAB for fall 2017 had reached 20,902.

- UAB generates **\$7.15 billion** in economic impact annually within the state of Alabama.
- UAB supports **64,292 jobs** throughout the state of Alabama.
- **One in every 31 jobs** within the state of Alabama either is held directly by a UAB employee or is supported as a result of UAB's presence.
- State and local government revenue attributable to the presence of UAB totaled **\$268.6 million** in FY16.
- For every **\$1** in state funding received by the institution, UAB generates **\$25** in economic impact that is returned back to the state.
- UAB faculty, staff and students generate more than **\$80.5 million** in community impact through donations and volunteer time to local nonprofits. In addition, the UAB Health System supports more than **\$144 million** in charity care to underserved populations in Birmingham and across the state.

## II. BACKGROUND

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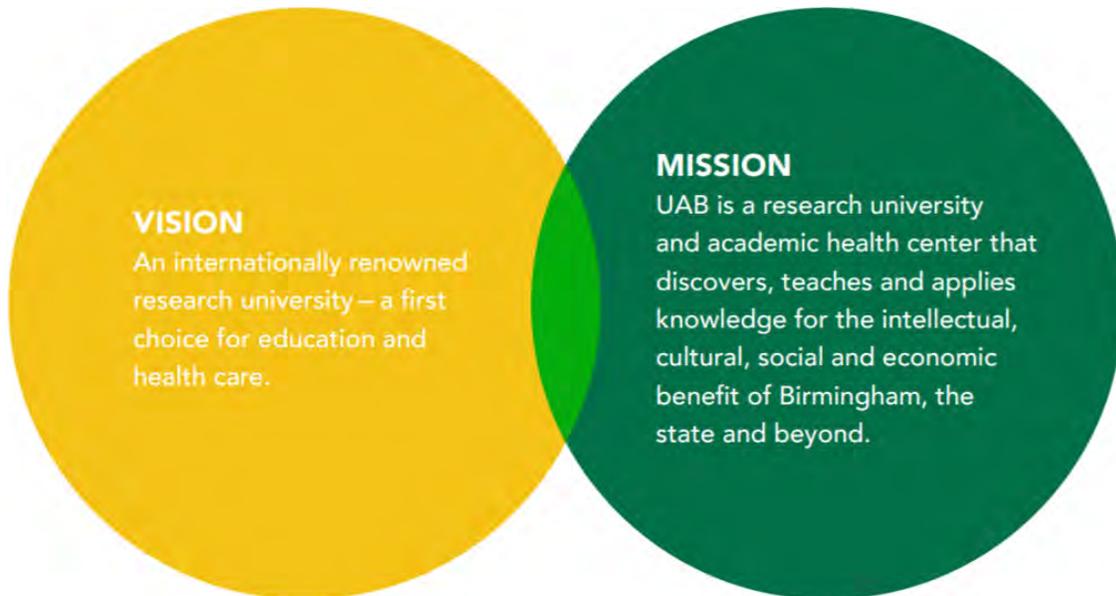
### ABOUT UAB

The **University of Alabama at Birmingham (UAB)** traces its roots to the 1859 founding of the Medical College of Alabama and the 1936 opening of the Birmingham Extension Center of the University of Alabama. In 1945, the Medical College of Alabama was moved from Tuscaloosa to Birmingham and the University’s Medical Center was founded. Later, in November of 1966, the Extension Center and the Medical Center were merged to form the “University of Alabama at Birmingham,” an organizational component of the University of Alabama (in Tuscaloosa). In 1969, UAB became an independent institution, one of the autonomous universities within the newly created three-campus University of Alabama System.

Today, UAB is a comprehensive urban university with a nationally recognized academic health center. UAB is the only public, four-year-degree-granting university in the state’s largest metropolitan area. UAB is the largest research institution in the state of Alabama, and the university is the largest single employer in the state.

### STRATEGIC PLAN

The UAB Strategic Planning process began in 2014 with the charge for individual UAB Colleges and Schools to develop their strategic plans for the future. In the fall of 2016, the UAB Strategic Planning Council was formed to solidify a university-wide plan with input from faculty, staff, students and external constituents.<sup>2</sup> Today UAB is defined by:



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<sup>2</sup> UAB anticipates finalizing its strategic planning process in the fall 2017/winter 2018 with campus-wide execution in the spring of 2018.

## The UAB Strategic Plan Overarching Mission Pillars include:

- **Education:**

Provide education that prepares diverse students to lead, teach, provide professional services, and become the prominent scholars and societal leaders of the future.

- **Research, Innovation and Economic Development**

Pursue research, scholarship and creative activities that spur innovation; make UAB a vibrant cultural center; and expand UAB's capability to continually discover and share new knowledge that benefits society by contributing to the economic development and prosperity of the city of Birmingham, the state of Alabama and beyond.

- **Community Impact**

Encourage partnerships that improve education, the arts and humanities, health, economic prosperity, and quality of life through service at home and around the globe.

- **Patient Care**

Deliver the highest-quality patient care that reflects our ability to translate discoveries into revolutionary therapies in one of the nation's largest academic medical centers.

## IMPACT STUDY

In February 2017, Tripp Umbach was retained by UAB to measure the economic, employment, government revenue and community benefits that the UAB Academic, UAB Health System and its partners such as Southern Research bring to the Birmingham region and to the state of Alabama. Tripp Umbach completed a similar study in 2010 for UAB; however, significant changes have occurred throughout the UAB system. Therefore, quantifying the current impacts of UAB was necessary.

Interestingly, the impacts generated by UAB on a daily basis align with the strategic pillars of the university.

- **Education:** With enrollment over 19,500<sup>3</sup>, UAB generates impacts as a result of providing high-quality educational opportunities for these students to remain in the state to receive their higher education degrees. In addition, a majority of these students

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<sup>3</sup> This study was completed for fiscal year 2016. At the time of publication, total enrollment for UAB for fall 2017 had reached 20,902.

(65.1%) graduate and obtain jobs within the state, generating continued impacts for the state of Alabama.

- **Research, Innovation and Economic Development:** UAB supports research efforts on- and off-campus through direct research with faculty and students as well as through collaborative partnerships with research institutes such as Southern Research. UAB also connects with the community through the provision of incubator space and fostering relationships between the community and the university to develop and sustain new businesses locally.
- **Community Impact:** Caring and responsive service, and community involvement are among UAB's core values. The institution engages and collaborates with a diverse range of individuals and organizations in its local and global communities to advance transformative initiatives, from free clinics to educational seminars, service in advocacy and professional organizations, workforce development, volunteerism, donations, and free health care to patients. UAB also connects with its community in a unique way by bringing culture and the arts to the community, hospitals and grade schools, as well as hosting nationally celebrated acts on-campus.
- **Patient Care:** UAB is a leader in patient care in the region as well as across the state. UAB provides a wide range of services in Birmingham as well as in surrounding regions in order to be the provider of choice for a large population of individuals in need. UAB also specializes in eye care at the Callahan Eye Hospital, shaping eye care and research across the country and globe.

This impact study attempts to quantify the economic, employment, government revenue and community impacts that UAB brings to the Birmingham region and to the state of Alabama. However, the plethora of intangible impacts generated by UAB cannot be quantified, such as the importance of having an institution of higher-education nearby. Both the qualitative and the quantitative impacts are outlined throughout this study to shed light on the depth of the importance of UAB to the region and the state.

### III. METHODOLOGY

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#### PROJECT OVERVIEW

The overall economic and fiscal impact that the University of Alabama at Birmingham has on the vitality of the region and state includes the following elements:

- Economic impacts through spending (capital expenditures, operational expenditures, payroll and benefits)
- Direct, indirect and induced employment impacts
- Government revenue impacts at the local and state levels
- The impact of spending by employees in the local economy on goods and services
- The impact of visitor spending on the economy (wage premiums, job creation, etc.)
- The impact of student spending in the region (retail/merchandise, hospitality, etc.)
- The impact of the attraction of external research dollars, the commercialization of research discoveries, and the impacts on the economic development throughout the region
- The impact that employees and students have on the community through donations and volunteer work

**STUDY OVERVIEW**

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**KEY IMPACT FINDINGS PROVIDED FOR:**

- THE UNIVERSITY OF ALABAMA AT BIRMINGHAM
- THE UNIVERSITY OF ALABAMA AT BIRMINGHAM ACADEMIC
  - UAB HEALTH SYSTEM
  - SOUTHERN RESEARCH

**FINDINGS REPORTED FOR THE FOLLOWING GEOGRAPHIES:**

- STATE OF ALABAMA
- BIRMINGHAM COMBINED STATISTICAL AREA (CSA)

**IMPACT FINDINGS REPORTED FOR FISCAL YEAR 2016 (FY16)**

This economic impact analysis measures the effect of direct, indirect and induced economic, employment and government revenue impacts for UAB Academic, UAB Health System and

Southern Research operations throughout the state of Alabama as well as the Birmingham Combined Statistical Area (CSA).<sup>4</sup>

For the purposes of the impact analysis, UAB is defined as the combined impacts of UAB Academic, the UAB Health System and Southern Research. These entities are further defined as:

- UAB Academic – The UAB Academic impact analysis included all schools and colleges of UAB, including UAB Arts (AEIVA, Alys Stephens Center) and UAB Athletics.
- UAB Health System – The UAB Health System impact analysis included the UAB Health System Corporate Office, the UAB Hospital, the University of Alabama Health Services Foundation (UAHSF), Medical West, Baptist Health System in Montgomery, Triton Health System / Viva Health Group, and UAB Callahan Eye Hospital Authority.
- Southern Research – Southern Research impact analysis included only the operations of Southern Research.

Impact findings were generated for UAB Academic and Southern Research at the state and Birmingham CSA geographies; impact findings for the UAB Health System were generated for all of the aforementioned entities at the state-level geographic analysis, but omitted Baptist Health for the Birmingham CSA analysis (Baptist Health is not located within the Birmingham CSA).

## IMPACT METHODOLOGY

The methodology employed in the calculation of these impacts was IMPLAN.<sup>5,6</sup> Primary data utilized to conduct the analysis was collected directly from each institution analyzed. Data included capital expenditures (five-year average), operational expenditures, employment headcounts, payroll and benefits, taxes, and event information for FY16.<sup>7</sup> The multipliers used in this study were derived from the IMPLAN software. Tripp Umbach's approach to economic impact analysis is conservative by way of utilizing the industry standard software, IMPLAN, to

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<sup>4</sup> The Birmingham Combined Statistical Area (CSA) was defined as the following Alabama counties: Bibb, Blount, Chilton, Coosa, Cullman, Jefferson, Shelby, St. Clair, Talladega and Walker.

<sup>5</sup> Minnesota IMPLAN Group, Inc., (MIG) is the corporation that is responsible for the production of IMPLAN (Impact analysis for PLANning) data and software. IMPLAN is a micro-computer-based, input-output modeling system. With IMPLAN, one can estimate Input-Output models of up to 528 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model.

<sup>6</sup> The previous UAB economic impact analysis was conducted using ACE-based linear cash-flow modeling. Further explanation of the methodologies employed are provided in Appendix I.

<sup>7</sup> Fiscal Year 2016 represents the period of time from October 1, 2015 to September 30, 2016.

conduct the impact analysis and using conservative assumptions for individual spending patterns. Tripp Umbach bases assumptions of spending on federal per diem rates.

Economic impact begins when an organization such as UAB spends money. Studies measuring economic impact capture the direct economic impact of an organization’s spending, plus additional indirect and induced spending in the economy as a result of direct spending.

WHAT IS INCLUDED IN THE ECONOMIC IMPACT?	WHAT IS NOT INCLUDED IN THE ECONOMIC IMPACT?
<ul style="list-style-type: none"><li>• OPERATIONAL SPENDING<ul style="list-style-type: none"><li>• CAPITAL SPENDING</li><li>• RESEARCH SPENDING</li></ul></li><li>• NUMBER OF EMPLOYEES</li><li>• SALARIES AND BENEFITS<ul style="list-style-type: none"><li>• VISITOR SPENDING</li><li>• STUDENT SPENDING</li></ul></li></ul>	<ul style="list-style-type: none"><li>• RESEARCH COMMERCIALIZATION<ul style="list-style-type: none"><li>• IN-STATE ALUMNI IMPACT</li><li>• ATTRACTION POWER</li></ul></li><li>• KNOWLEDGE AND EXPERTISE<ul style="list-style-type: none"><li>• ARTS AND CULTURE</li></ul></li></ul>

Total economic impact measures the dollars that are generated within the region due to the presence of UAB Academic, UAB Health System and Southern Research. This includes not only spending on goods and services with a variety of vendors within the region and the spending of its faculty, staff, students and visitors, but also the economic impact generated by businesses that benefit from UAB’s spending. It is important to remember that not all dollars spent by an organization remain in its home state. Dollars that are spent out of the region, in the form of purchases from out-of-area vendors, are not included in UAB’s economic impact on the region. The multipliers utilized in this study were derived from IMPLAN.

Key economic impact findings presented within this study include the total current (FY16) economic impacts of UAB Academic, UAB Health System and Southern Research operations on employment in Alabama, as well as the revenue impact on state and local governments. It is important to note that all impact values of UAB reported in this study occur on an annual basis.

## IV. THE UNIVERSITY OF ALABAMA AT BIRMINGHAM – TOTAL IMPACT

### A. OVERALL IMPACT FINDINGS

UAB is a significant generator of economic, employment and government revenue activity throughout the state of Alabama.<sup>8</sup> UAB spends in a variety of ways and supports jobs across multiple economic sectors. The presence of UAB helps to create a diverse and stable economy locally as well as statewide.

In FY16,

- UAB generated **\$7.15 billion** in economic impact within the state of Alabama.
- UAB supported **64,292 jobs** throughout the state of Alabama.
- **One in every 31 jobs** within the state of Alabama either was held directly by a UAB employee or was supported as a result of UAB's presence.<sup>9</sup>
- State and local government revenue attributable to the presence of UAB totaled **\$268.6 million**.

The presence of UAB also affects the state of Alabama through community events and benefits, visitor attraction, student spending, research activity, and economic development initiatives. Multiple additional impacts of UAB are outlined in this report.

The following table outlines the impacts generated by UAB Academic, the UAB Health System and Southern Research.

**THE COMBINED ECONOMIC IMPACTS OF UAB ACADEMIC, UAB HEALTH SYSTEM AND SOUTHERN RESEARCH, FY16**

Organization	Economic Impact	Employment Impact	Government Revenue Impact*	Community Impact†
<i>UAB Academic</i>	<i>\$2.7 billion</i>	<i>25,873 jobs</i>	<i>\$105.1 million</i>	<i>\$43.4 million</i>
<i>UAB Health System</i>	<i>\$4.3 billion</i>	<i>37,413 jobs</i>	<i>\$158.6 million</i>	<i>\$36.4 million</i>
<i>Southern Research</i>	<i>\$150.3 million</i>	<i>1,006 jobs</i>	<i>\$4.9 million</i>	<i>\$758,000</i>
<b>TOTAL TO ALABAMA</b>	<b>\$7.15 billion</b>	<b>64,292 jobs</b>	<b>\$268.6 million</b>	<b>\$80.5 million</b>

\* Government Revenue impacts are in addition to the overall economic impact.

† Community impacts are in addition to the overall economic impact.

<sup>8</sup> UAB defined as UAB Academic, UAB Health System and Southern Research.

<sup>9</sup> U.S. Census Bureau, 2011-2015 American Community Survey. Selected Economic Characteristics.

**B. ECONOMIC IMPACT OF UAB ON THE STATE**

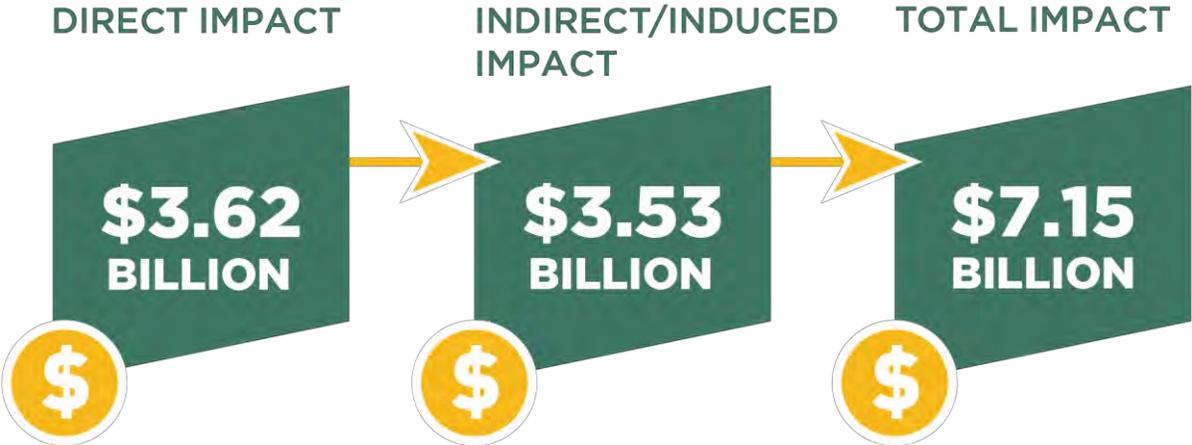
Economic impact is generated when an organization spends money directly in the economy. Direct spending by UAB to vendors and employees also generates additional spending throughout the state; this is known as indirect and induced impact. UAB affects economic growth in Alabama in two ways:

- 1. Direct expenditures for goods and services by UAB, its faculty, staff, students and visitors. This spending supports local businesses, which in turn employ local individuals to sell the goods and provide the services that UAB constituencies need.
- 2. Indirect or induced spending within the state of Alabama. The businesses and individuals that receive direct payments re-spend this money within the state, thus creating the need for even more jobs.

In FY16, the direct spending of UAB, in combination with the indirect and induced impacts of dollars’ being re-spent throughout the state economy, generated more than \$7.15 billion in overall economic impact (\$3.62 billion in direct impact and \$3.53 billion in indirect and induced impacts).

**ECONOMIC IMPACT OF UAB ON THE STATE, FY16**

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### C. EMPLOYMENT IMPACT OF UAB ON THE STATE

In FY16, UAB directly supported 36,393 jobs (full-time and part-time) throughout the state of Alabama. **UAB is the largest single employer in the state of Alabama.** In addition to the jobs directly supported by UAB, thousands of additional jobs are indirectly supported as a result of spending by UAB, its employees, visitors and patients. Indirect and induced employment is generated when an organization spends in the economy, when those directly employed by an organization spend their earnings in the economy, and when visitors to the organization spend in the economy.

UAB supports thousands of jobs statewide in virtually every sector of the Alabama economy, including construction, business and professional services, restaurants and hotels, information technology, security, and temporary employment companies.

**In FY16, UAB supported 64,292 jobs in the state of Alabama.** These jobs (both full-time and part-time) include not only direct employment by UAB (36,393 jobs), but also indirect and induced jobs (27,899 jobs) that are supported as a result of UAB, employee, student and visitor spending. **One in every 31 jobs** within the state of Alabama either is held directly by a UAB employee or is supported as a result of UAB's presence.<sup>10</sup>

### EMPLOYMENT IMPACT OF UAB ON THE STATE, FY16



<sup>10</sup> U.S. Census Bureau, 2011-2015 American Community Survey. Selected Economic Characteristics.

**D. STRENGTHENING STATE AND LOCAL GOVERNMENTS**

It is a common misperception that public universities and nonprofit health systems do not generate tax revenue. **State and local government revenues attributable to the presence of UAB in FY16 totaled more than \$268.6 million (\$73.1 million in direct impact and \$195.5 million in indirect and induced impact).**<sup>11</sup> Through its local spending, as well as direct and indirect support of jobs, the presence of UAB stabilizes and strengthens the local and statewide tax base. UAB is an integral part of the state’s economy, generating government revenue, jobs and spending.

**GOVERNMENT REVENUE IMPACT OF UAB ON THE STATE, FY16**

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<sup>11</sup> Local and state government revenue impacts for this study were generated through the IMPLAN software with data provided by the University of Alabama at Birmingham. This study utilized the IMPLAN methodology; previous UAB economic impact analysis utilized a linear cash-flow methodology. Differences in methodology account for the differences in the final impact numbers between the previous study and the current study. For further explanation of the methodologies used, please refer to Appendix I.

## E. TIES TO THE COMMUNITY

### UNIVERSITY CONTRIBUTIONS

UAB Academic, UAB Health System and Southern Research are strong community partners in Birmingham and across the state of Alabama. The institutions themselves partake in a number of activities that support local businesses and nonprofits to be successful. The following are a handful of the community activities in which UAB engages with the immediate as well as broader communities:

- **UAB Benevolent Fund** – The UAB Benevolent Fund, established and governed by employees, recognizes the importance of supporting the community. The UAB Benevolent Fund has active partnerships with more than 130 local nonprofit agencies. The UAB Benevolent Fund looks to transform where residents:

*Live* – Providing decent, safe, affordable housing. Protecting the land and water on which all life depends.

*Work* – Equipping students with resources to graduate ready for college or their career. Research funding to improve health care outcomes.

*Play* – Providing open places, trails and water for recreational opportunities. Supporting enrichment activities for children after school and in the summer.

#### UAB Benevolent Fund Programs include:

- **The Employee Emergency Assistance Program** is one of many charitable efforts supported through donations received by the UAB Benevolent Fund. Employee Emergency Assistance allows a portion of the funds collected by the UAB Benevolent Fund Campaign to remain here helping UAB employees who need financial assistance due to a crisis situation in their lives. The program objective is to provide UAB, the Callahan Eye Hospital, Viva, the UAB Health Services Foundation and Health System employees with confidential financial assistance during times of verifiable emergency situations.

**\$3.6 Million**  
through **4,207**  
**awards** to  
employees



- **UAB Habitat House** –

The UAB Benevolent Fund has completed three Habitat for Humanity homes in the Birmingham area in the past three years. All three homes were entirely funded by employee contributions and built entirely by UAB employee and student volunteers.



- **Blazer Kitchen** is the UAB on-campus food bank that serves UAB employees and students facing food insecurity with fresh and nonperishable foods. Blazer Kitchen partners with the Community Food Bank of Central Alabama to access low-cost food such as USDA food, food donated through grocery stores and food available only to food banks.

- **UAB Regions Institute for Financial Education** – In 2015, Regions Financial Corp. pledged \$2 million for the creation of a new institute focused on financial management planning, the Regions Institute for Financial Education housed in the UAB Collat School of Business. The institute covers financial education for students as well as the public. Student offerings include both one- and three-credit-hour courses, as well as online, face-to-face and service learning alternatives. Outreach initiatives strive to educate consumers of all ages throughout Alabama via partnerships with programs such as GEAR UP Alabama, GEAR UP Birmingham and America Saves, as well as programming on campus and in the community.

- **Black History Month** – The University of Alabama at Birmingham celebrates Black History Month with several events that pay tribute to African-American history and culture. The UAB community and public are invited to the lectures, movie screenings and performances throughout the month of February.

- **UAB Dentistry Cares Community Day** – Each year, UAB Dentistry

teams with the Alabama Dental Association, the Birmingham District Dental Society, Cahaba Valley Health Care and other sponsors to host UAB Dentistry Cares, an entire day of service provided to the community's most



vulnerable population. UAB Dentistry faculty, staff and student volunteers work alongside community professionals to provide emergency dental care to over 500 homeless and underserved, giving priority to patients suffering from dental infections or pain. Participating patients also receive oral health counseling, blood pressure checks and oral cancer screenings. All told, nearly 350 dentists, hygienists, dental assistants and others give up a day of work to help patients in need.

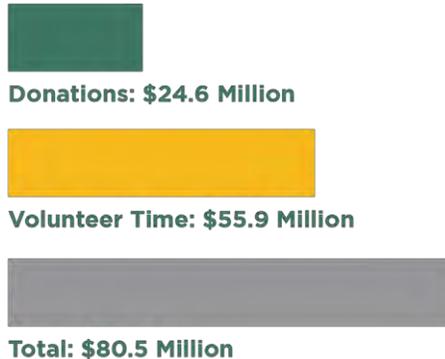
- **UAB Medicine Support Groups and Seminars** – UAB Medicine coordinates and hosts a variety of support groups, from those with chronic illnesses to the families and loved ones of these patients. Groups include: Young Breast Cancer Survivors, Transplant Wellness, Orthopedic Oncology, Leukemia and Lymphoma Society Patient and Family Support Group, and many others. In addition, UAB Medicine holds educational workshops and seminars for patients, families and friends to better understand illnesses and wellness planning. For example, the Department of Interprofessional Practice and Training partners with the Alzheimer's Association to provide an educational series on dementia.

- **Birmingham Recovery Walk** – UAB Hospital's Addiction Recovery Unit, along with a number of local agencies, hosts a recovery walk as part of National Recovery Month, promoting the belief that behavioral health is essential to health, prevention works, treatment is effective, and people recover from mental and/or substance use disorders.

## EMPLOYEE AND STUDENT CONTRIBUTIONS

In addition to the community outreach conducted by the institutions, employees and students engage with the community through volunteer work or by making donations to local organizations. Tripp Umbach estimates that UAB employees and students generate more than **\$80.5 million** annually in charitable donations and volunteer services across the state of Alabama.<sup>12</sup> These benefits are in addition to the \$7.15 billion in economic impacts that UAB brings to the state.

### COMMUNITY IMPACT OF UAB ON ALABAMA, FY16



Source: Tripp Umbach findings using data obtained by the University of Alabama at Birmingham

## DONATIONS TO LOCAL ORGANIZATIONS:

- **\$24.6 million** donated to local charitable organizations by UAB employees and students in FY16.<sup>13</sup>
- **Some examples of the UAB donations to the community include:**
  - UAB Campus Dining and UAB Collat School of Business presented Birmingham-based food recovery nonprofit Magic City Harvest with a \$3,500 check as part of UAB Dining's commitment to reduce food insecurity for both UAB students and the surrounding Birmingham community.<sup>14</sup>
  - UAB Football head coach Bill Clark donated 100 season tickets to Big Brothers Big Sisters of Greater Birmingham.<sup>15</sup> Clark described the donation as "a token of our appreciation for what the city has helped build." UAB opens against Alabama A&M on September 2, 2017, at Legion Field. UAB Football players were matched with youth last fall through the Big Brothers Big Sisters program.

<sup>12</sup> Total community benefit of employees is calculated by Tripp Umbach from the combined impacts of employees' and students' making monetary donations to organizations and the value of a volunteer hour.

<sup>13</sup> Primary data collection via survey research where faculty, staff and students provide estimates on spending patterns, including information on the number of volunteer hours and charitable donations in which they provide.

<sup>14</sup> UAB Service to the Community. UAB Campus Dining Donates to Local Food Recovery Program.

<sup>15</sup> USA Today. UAB's Clark donates 100 season tickets to youth program. May 25, 2017.

## VOLUNTEER ACTIVITIES OF EMPLOYEES AND STUDENTS:

- **\$55.9 million** in value of volunteer time provided to area communities by UAB employees and students in FY16.<sup>16</sup>
- UAB employees and students engage with a wide range of volunteer opportunities regionally on their own personal time, as well. Some of the external organizations that employees and students volunteer with locally include:
  - **Hands on Birmingham** – An affiliate of the national HandsOn Network, Hands on Birmingham connects people with organized and meaningful volunteer opportunities to improve their community. HOB provides flexible hands-on volunteer opportunities for busy people. Last year, over 6,700 volunteers donated over 23,000 hours of hands-on service to the community.
  - **City of Birmingham Division of Youth Services** – Birmingham is one of the few municipalities in the country with a division or department that specifically addresses issues directly impacting its youth population. The Mayor’s Office Division of Youth Services (DYS) strives to ensure that youth in the City of Birmingham are provided with quality, efficient and effective programs and services in eight key areas: Athletics and Recreation, Cultural Arts, Education, Faith-Based Initiatives, Family Services, Health and Wellness, Mentoring, and Workforce Development.
  - **Growing Kings** – Growing Kings is a registered 501(c)(3) nonprofit organization that provides mentoring programs to at-risk males in Birmingham City Schools. The goal of Growing Kings is to offer positive direction that will lead toward progressive thinking in all aspects of students’ lives. Partnerships with community businesses, organizations and leaders is a key differentiating factor to the program delivery methods. Through these partnerships, students are provided a hands-on, first-person perspective into the professional lives and successes of mentors.
  - **UAB Benevolent Fund** – The UAB Benevolent Fund has active partnerships with more than 130 local nonprofit agencies and connects employees and students with these organizations to volunteer. See previous section on University Contributions for more information on the UAB Benevolent Fund.

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<sup>16</sup> The rate of \$23.56 per hour was used to calculate the value of volunteer services. This amount was calculated independently by Independent Sector. [https://www.independentsector.org/volunteer\\_time](https://www.independentsector.org/volunteer_time)

- **Red Mountain Park First Saturday Service Days** –

Volunteers at the Red Mountain Park work on a regular basis to clear trails and remove invasive plants from pathways. These programs help to ensure enjoyable park amenities for local residents as well as



visitors throughout the year. These events are great for students, employees and local residents to come together under the shared goal of making their community better through volunteer work and beautification of the park.

- **UAB Hospital Volunteer Opportunities** – Individuals can volunteer through the hospital in a variety of ways; they include: working in trauma and day-of-surgery waiting rooms, helping visitors find their way, acting as patient representatives, doing sewing and other craft projects from home, assisting staff and patients in in-patient units, writing newsletters, feeding patients, ministering to stressed families, creating and sending press releases, making jewelry for critically ill children, and reading to lonely patients.

## F. CULTURAL IMPACTS OF UAB

### Diversity at UAB

Consistently ranked by The Princeton Review as one of the most diverse universities in the nation (with faculty, staff and students from more than 110 countries), UAB provides an inclusive environment for the pursuit of excellence in education, research, health care, outreach and economic development.

Because of its commitment to diversity and inclusion in all aspects of its mission, UAB is able to bridge cultural boundaries through the transmission of knowledge and ideas, the provision of health and human services, and the shared experience of art. For example:

- The **UAB Office for Equity and Diversity** provides effective leadership in the development, coordination, implementation and assessment of a comprehensive array of programs to promote diversity and understanding of differences at UAB.
- **UAB Student Multicultural and Diversity programs** serve the UAB community, especially students, by developing programs and resources that promote multicultural and social justice awareness, education and appreciation. Additionally, the programs support the growth of students' attitudes, ideas and behaviors as they relate to multicultural issues and personal and social identities.
- The **UAB School of Medicine's Office of Diversity and Multicultural Affairs** is working to educate the next generation of physicians to be culturally and socially sensitive to the diverse backgrounds of fellow students, faculty, staff and patients.
- The **UAB Office of Disability Support Services** (DSS) makes the UAB campus and programs accessible to all students with learning and other disabilities.
- **International students at UAB** can find academic preparation, English-language training, admissions support, recruiting and student services provided through a unique partnership called INTO UAB. Founded in 2016, INTO UAB is an initiative to increase the global diversity of UAB's student body, increase globalization opportunities for domestic students, and provide opportunities for faculty to expand international teaching, research and service activities.

### The Arts at UAB

The presence of a large institution of higher education brings with it many additional benefits to a region, such as cultural offerings that may not be available if not for the university. For UAB

and Birmingham, this tremendous cultural exposure is provided through The Abrams-Engel Institute for Visual Arts (AEIVA) and the Alys Stephens Performing Arts Center (ASC).

- **AEIVA**

AEIVA's mission is to provide a cultural gateway that enriches and supports accessible learning, research and thinking for the UAB community, Birmingham and beyond, through transformative and challenging exhibitions, engaging programming, and purposeful collecting. Open to the public since January 2014, AEIVA's exhibitions feature artists of regional, national and international significance, as well as exhibitions of student work including the annual Bachelor of Fine Arts exhibition, featuring graduates of the UAB Department of Art and Art History.

Highlights from AEIVA's past exhibitions include Warhol: Fabricated; Willie Cole: Transformations; Enrique Martinez Celaya: Small Paintings 1974-2015; a collaborative exhibition with the Birmingham Mayor's office The Freedom Exhibition: Two Countries One Struggle; and an immersive exhibition, Jessica Angel: Facing the Hyperstructure, installed as a collaboration of a UAB class and student volunteers with visiting artist-in-residence Jessica Angel. AEIVA also cares for and houses a permanent art collection composed of more than 1,200 historical, modern and contemporary works of art.

AEIVA's exhibitions, programs and tours remain free and open to the public, reinforcing UAB's commitment to engaging a diverse community. Through programming, AEIVA engages with its members and community with free tours, lectures and gallery talks with visiting artists. In the 2015/16 fiscal year, AEIVA hosted, co-hosted or made its space available for 50 UAB-associated events, including lectures, exhibition receptions, symposiums and cultural events. Additionally, AEIVA hosted 25 tours of the collection and exhibitions for classes, workshops and school groups, not only for UAB students, but for students from area schools including Auburn University, Woodlawn High School, Samford University and Troy High School in Tennessee.

- **ASC**

In September 1996, the Alys Stephens Performing Arts Center was founded on the campus of the University of Alabama at Birmingham as a lasting tribute to the late Mrs. Alys Robinson Stephens, a lifelong patron of the arts and a well-known and beloved member of the Birmingham community. The Center became the home of the Alabama Symphony Orchestra as well as UAB's Department of Music and Department of Theatre. The Alys Stephens Center quickly became the center for entertainment and arts education in Birmingham and central Alabama and has established itself as the premier

center for arts and education in the area with more than 100,000 visitors annually. The Alys Stephens Performing Arts Center serves as a bridge to the arts for the community.

UAB offers a wide range of cultural amenities through the Alys Stephens Performing Arts Center, including: the UAB Institute for Arts in Medicine (AIM), Meet the Artist series, the PNC Words Are Our World program, summer camps, and ArtPlay educational classes in local schools and throughout the community. Every year, UAB Arts touches the lives of thousands of local residents and attracts visitors from around the globe to experience the sights and sounds of art in Birmingham.

- **Arts in Medicine (AIM)** – Through a collaboration between ASC and UAB Medicine, UAB Hospital is one of the first hospitals in Alabama to have a formal Arts in Medicine program. AIM focuses on the needs of the whole person – mind, body and spirit. AIM includes both interactive and passive arts experiences, which can include bedside and workshop activities, or performances and visual art installations in public spaces. In FY16, AIM touched the lives of more than **16,200 individuals** through its program.



- **Meet the Artist Series** – The Meet the Artist program brings grade-school students to the Alys Stephens Center to see live performances and to interface with artists one-on-one. During the most recent school year, there were 13 shows that brought a total of 6,598 students and teachers from all over the Birmingham area to UAB’s campus. In addition, the mentor program brings arts professionals and children together through pre-talks about various arts before the children and mentors are treated to a show at the ASC. Over the 2015-2016 fiscal year, the mentor program reached **76 children and 47 professionals**.
- **PNC Words Are Our World (WAOW)** – The University of Alabama at Birmingham’s Alys Stephens Performing Arts Center along with McWane Science Center was granted \$500,000 from PNC Foundation to help 2,000 children and their families grow their vocabularies through “Words Are Our World,” an arts-

and science-based program. “Words Are Our World” introduces six to eight new words each month, through science projects with McWane and through visual arts and movement with the Alys Stephens Center. Neighborhood workshops and hands-on vocabulary lessons are set for every second and third Saturday of the month, along with community-based events and other outreach activities, including center visits, professional performances and summer learning sessions. The Words Are Our World program began in January 2016 and ended in August 2016 after **60 different events**. Each month, the WAOW program met four times. WOAW **reached 3,967 children and families**.

- **ArtPlay Classes** – The arts are paramount at the Alys Stephens Center, and ArtPlay encompasses all of the Center’s community education initiatives. Classes range from pre-K (dance, music, painting, etc.) to adult (performance, sound mixing, writing, etc.) and cover a wide breadth of interests throughout the arts.



- Over the most recent academic year (fall 2015-spring 2016), there were a total of 56 ArtPlay classes, taught by more than 20 teachers, that attracted a total of 386 registrations. Classes last between eight and 12 weeks and meet for approximately one to two hours per week.
- Interested individuals can also sign up for private lessons through ArtPlay. During the FY16 academic year, a total of 31 people participated in private lessons taught by five different teachers.
- **Summer Camps** – Every year, the ASC hosts a series of summer camps for students. ASC Summer Camps include education and activities in the visual arts, performance arts, musical theater and many more disciplines. Counselors work with students every day, culminating in a showcase of their work at the end of the camp. In FY16, there were a total of 120 students in attendance with 10 counselors.

In the FY16 academic year, UAB Arts and the Alys Stephens Performing Arts Center attracted more than 100,000 visitors to campus arts events.

- 59,000 visitors to ticketed arts events
- 11,000 visitors to non-ticketed events open to the public, presented by ASC
- 30,000 visitors to non-ticketed events open to the public, presented by external groups (non-ASC)

As we have seen, the impact of the arts in the Birmingham community as a result of UAB, AEIVA and the Alys Stephens Performing Arts Center is significant, and Birmingham would be significantly different if not for these events and activities. The following impact findings for the UAB Arts is the quantification of the spending and employment of UAB Arts. It is important to remember the intangible impacts that UAB Arts and the Alys Stephens Performing Arts Center bring to the region and state on a daily basis.<sup>17</sup>

### GENERATING ECONOMIC ACTIVITY

Direct spending by UAB Arts generates economic activity throughout the state. In FY16, the direct spending of UAB Arts in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy, generated **\$4.8 million** in overall economic impact to the State of Alabama (\$2.2 million in direct impact and \$2.6 million in indirect and induced impact).

### PROVIDING AND SUPPORTING JOBS

In FY16, UAB Arts directly employed 71 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the region and state that in turn supports additional indirect and induced jobs created when UAB Arts, its employees and visitors spend in the region and state. In total, UAB Arts supports **94 jobs** throughout the state of Alabama.

### GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of UAB Arts totaled approximately **\$205,000** in FY16.

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<sup>17</sup> The following impact values for the UAB Arts are a subset of the impact values presented in the UAB impacts of this report. UAB Arts impacts are included in the overall UAB economic, employment and government revenue impacts.

## **G. ATHLETICS ATTRACTS IMPACTS TO THE REGION**

UAB pride is strong in Birmingham and throughout the state, and this can be seen through its active athletics programs. Supporting 18 Division I sports teams, UAB attracts students and visitors to Birmingham for athletic events. In FY16 alone, approximately 132,000 tickets were sold to UAB Athletics events. With all of this excitement surrounding the athletics programs, UAB is currently in the building phase for new practice facilities and sporting arenas for its teams.

Every year, UAB Athletics events attract visitors to the area who spend on goods and services (athletic merchandise, hotels, restaurants, etc.). The economic impacts associated with these visitors, along with the direct spending of the UAB Athletics Department, generate significant impacts for the Birmingham region and the state.<sup>18</sup>



### **GENERATING ECONOMIC ACTIVITY**

Direct spending by UAB Athletics generates economic activity throughout the state. In FY16, the direct spending of UAB Athletics in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy, generated **\$35.7 million** in overall economic impact to the state of Alabama (\$16.7 million in direct impact and \$19.0 million in indirect and induced impact).

### **PROVIDING AND SUPPORTING JOBS**

In FY16, UAB Athletics directly employed 231 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the region and state that in turn supports additional indirect and induced jobs created when UAB Athletics, its employees and visitors spend in the region and state. In total, UAB Athletics supports **404 jobs** throughout the state of Alabama.

### **GENERATING STATE AND LOCAL GOVERNMENT INCOME**

State and local government revenues attributable to the presence of UAB Athletics totaled approximately **\$1.5 million** in FY16.

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<sup>18</sup> The following impact values for the UAB Athletics are a subset of the impact values presented in the UAB impacts of this report. UAB Athletics impacts are included in the overall UAB economic, employment and government revenue impacts.

## H. UAB RESEARCH LEADING TO INNOVATIVE DISCOVERY

UAB embodies a spirit of discovery that advances knowledge, solves real-world problems and drives economic development. UAB research attracts more than **\$430 million** in sponsored research funds each year, and it is conducted in the departments of 10 schools, 24 university-wide research centers, UAB hospitals and clinics, and field sites by faculty, fellows and students collaborating among themselves and with others around the globe. Research at UAB spans the spectrum and mingles disciplines to investigate, reveal and apply knowledge that changes the lives of individuals and the fates of communities.



In FY16, UAB directly spent more than **\$171.7 million** on research activity throughout the system, in academic as well as clinical environments. The research activity of UAB generates local as well as statewide impacts through the spending of UAB as well as the employment of research faculty, staff and students.<sup>19</sup>

### GENERATING ECONOMIC ACTIVITY

In FY16, the direct spending of UAB Research in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy, generated **\$325.3 million** in overall economic impact to the state of Alabama (\$171.7 million in direct impact and \$153.6 million in indirect and induced impact).<sup>20</sup>

### PROVIDING AND SUPPORTING JOBS

In FY16, UAB Research directly employed 3,689 researchers (full-time or part-time positions). This direct employment generates additional spending throughout the region and state that in turn supports additional indirect and induced jobs created when UAB Research, its employees and visitors spend in the region and state. In total, UAB Research supports **4,842 jobs** throughout the state of Alabama.

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<sup>19</sup> The following impact values for the UAB Research are a subset of the impact values presented in the UAB impacts of this report. UAB Research impacts are included in the overall UAB economic, employment and government revenue impacts.

<sup>20</sup> The economic impact of the UAB Research activity for this study was calculated as a result of the research expenditures of UAB in FY16. Previous UAB studies estimated the research impacts of all research funding as opposed to the expenditures for a given year. Further explanation is provided in Appendix I.

## GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of UAB Research totaled approximately **\$8.0 million** in FY16.

## RESEARCH COMMERCIALIZATION

The UAB Research Foundation (UABRF) became a part of the UAB Institute for Innovation and Entrepreneurship in October of 2013, which in 2015 was rebranded as the Bill L. Harbert Institute for Innovation and Entrepreneurship (HIIE). While the UABRF remains the assignee of all intellectual property developed at UAB and is the legal entity for all licenses and other transactions, the HIIE was created to foster an entrepreneurial community and innovative ecosystem. The HIIE not only has integrated the more traditional technology transfer activities of the UABRF but also functions as a resource center for UAB as it continues to advance its role in innovation, entrepreneurship and economic development.

The HIIE serves as a nexus for UAB innovation and includes engagement of faculty and students in creating new and experiential learning opportunities across disciplines in business and entrepreneurship. The HIIE can facilitate rapid development of new ideas, products and technologies and better prepare faculty, students and researchers to be leaders and entrepreneurs in an increasing technology-driven ecosystem. Toward this end, the HIIE recently launched the UAB Commercialization Accelerator, which provides the infrastructure, resources and environment to facilitate and accelerate the movement of research discoveries and innovations into new ventures.

UAB's partnership with the Birmingham Entrepreneurial Center has produced the largest high-tech business incubator in the Southeast — Innovation Depot, home to 100 client companies with a sales impact of \$1.25 billion during the past five years, and approximately 870 people working at the facility.

One new resident at the Depot is the UAB Innovation Lab (iLab), a partnership between UAB's Collat School of Business and Innovation Depot that acts as a conduit between students with big ideas and the city's entrepreneurial community. UAB, Innovation Depot and other partners are also collaborating on plans for a "Technology Village" to provide a permanent home for companies graduating from Innovation Depot and newly recruited to Birmingham.

### *Highlights of UAB research commercialization activity include:*

- Extensive portfolio of inventions from which both U.S. and foreign patents have been issued and numerous patent applications are pending
- Over 520 issued U.S. patents through fiscal year 2016
- Almost 60 companies based on UAB technologies have been created

- More than \$85 million in revenue generated
- Greater than 2,500 intellectual property disclosures submitted
- Launch of the UAB Commercialization Accelerator

*Companies started from UABRF technologies include the following: Those highlighted in green are Alabama-based companies*

- Aegis Therapeutics, LLC
- *Atherotech, Inc. (now Ningbo Alabama LLC)*
- BioCryst Pharmaceuticals, Inc.
- BioFlage, Inc.
- *BioHorizons IPH, Inc.*
- *Blondin Bioscience, LLC.*
- Catherex, Inc.
- *Cilantro Healthcare Solutions, LLC*
- *CNine Biosolutions, LLC*
- *Discovery BioMed, Inc.*
- Emageon, Inc. (wholly owned subsidiary of Amicas, Inc.)
- *Endomimetics, LLC*
- ErgoScience, Inc.
- *EZ-Snips, LLC*
- *Guideway Care Inc.*
- Hemodynamic Therapeutics, Inc. (previously Cato Research Ltd.)
- Idenix Pharmaceuticals, Inc. (acquired by Merck)
- *Incysus Ltd.*
- *Innovative Composite Solutions, LLC*
- Interaction Advisory Group, LLC
- *Liffey Vax, Ltd. (subsidiary of Liffey Biotech, Ltd.)*
- *LipimetiX Development, LLC (formerly Benu BioPharma, Inc.)*
- *MedMined, Inc. (now a product offered by BD/ CareFusion Corp.)*
- *Megan Health, Inc. (now a subsidiary of Celldex Therapeutics, Inc.)*
- *MOVI Medical LLC*
- *Neurorecovery, Inc. (acquired by Accorda Therapeutics, Inc.)*
- Novab, Inc.
- *PhishMe, Inc. (formerly Malcovery Security, LLC)*
- *Photonics Innovations, Inc. (acquired by IPG Photonics, Corp.)*
- *PNP Therapeutics, Inc.*
- *Rad Physics, Inc. (formerly X-Ray Imaging Innovations, Inc.)*

- *Soluble Therapeutics* (acquired By CytoBioscience, Inc.)
- *Southern Biotech*
- *TransMolecular, Inc.* (acquired by Morphotek)
- *Tranzyme Pharma* (acquired by Ocera Therapeutics)
- *Vaxin Pharmaceuticals, Inc.* (now Altimmune Inc.)
- *VectorLogics, Inc.* (acquired by DNATRIX, Inc.)
- *Vegas Betts, LLC*
- *VIPAAR, Inc.* (now Help Lightning, Inc.)
- *Vista Engineering and Consulting, LLC*
- *Vivo Biosciences, Inc.* (acquired by LifeNet Health, Inc.)
- *Vulcan Analytical, LLC* (formerly Aquifex, LLC)

## **I. UAB GRADUATES CONTINUE TO IMPACT THE ECONOMY**

The University of Alabama at Birmingham is a world-renowned institution that contributes a significant amount to the advancement of society. Graduates from UAB work in numerous countries around the world, which allows the university's reach to be felt on a global scale. UAB alumni play a major role in both the domestic and international economies. By educating the next generation of highly educated, global citizens, UAB is shaping a skilled workforce that will transform and lead an emerging global economy.



### **UAB ENRICHES THE CURRENT AND FUTURE WORKFORCE**

On average, UAB confers approximately 4,500 degrees each year for undergraduate and graduate students, which positions UAB to provide quality education to the next generation of leaders. By educating students, UAB adds to the talent pool of human capital throughout the world. A degree from the University of Alabama at Birmingham increases a graduate's value, productivity and earning potential in the job market.

Based on data on median annual earnings for university graduates, a bachelor's degree earned at a university increases a graduate's salary compared with a high school diploma by an average of about \$21,100 a year (from \$35,400 to \$56,500), while a master's degree earned at a university increases a graduate's salary compared to a bachelor's degree by an average of about \$13,500 a year (from \$56,500 to \$70,000 for master's, and \$91,000 for doctoral).<sup>21</sup>

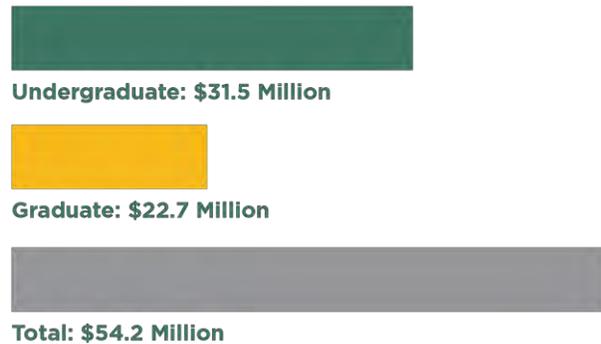
### SALARY COMPARISON BY DEGREE TYPE



Source: CollegeBoard. Education Pays 2013.

In academic year 2015-2016, UAB awarded 2,295 undergraduate degrees. Historically, 65 percent of UAB graduates remain in the state to work after completing their degree. For the undergraduate class of 2016, the increased earning power in their first year of employment

### ANNUAL SALARY IMPACTS OF UAB GRADUATES ON THE STATE OF ALABAMA



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

equates to the creation of **\$31.5 million in salary**. A similar analysis applied to the 2,267 advanced (master's certificate, doctoral, and post-doctoral) degrees awarded in academic year 2015-2016, equates to another **\$22.7 million** of value created for their first year of employment.

Therefore, on an annual basis, UAB **creates \$54.2 million of additional earning power** for members of each graduating class. This impact is in addition to the impact of the university's operations.

### ALUMNI CONTINUE TO GENERATE IMPACT FOR THE REGION

The contributions of UAB graduates are critically important to the economic vitality of the state of Alabama, across the United States and internationally. UAB alumni number more than 120,000 and reside in all 50 states as well as many countries throughout the world. Given that 65 percent of the alumni of UAB stay in Alabama after graduating, this equates to approximately 75,000 alumni living, working and generating impact within the state of Alabama.

<sup>21</sup> CollegeBoard. Education Pays 2013: The Benefits of Higher Education for Individuals and Society. Trends in Higher Education Series.

Over a lifetime of employment (40 years), UAB undergraduate alumni who remain in the state of Alabama generate **\$27.0 billion** that would otherwise have been unachieved had these students not pursued an undergraduate degree. Likewise, over a lifetime of employment, UAB graduate alumni who remain in the state of Alabama generate **\$19.4 billion**, which would otherwise not have been achieved had these students not pursued a graduate degree.<sup>22</sup>

In total, all UAB alumni currently living in the state of Alabama generate an increased earning power of **\$46.4 billion over 40 years**. By teaching and retaining students within the state of Alabama who utilize their education, graduates of UAB are generating impacts every day.

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<sup>22</sup> Accounting for forgone income while attending the university, future periods of unemployment, time out of the labor force for child rearing, and other life events, total earning power over 40 years of employment was adjusted down by 80 percent.

## V. THE UNIVERSITY OF ALABAMA AT BIRMINGHAM ACADEMIC – TOTAL IMPACT

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### INTRODUCTION

The University of Alabama at Birmingham is a world-renowned institution offering more than 120 areas of study across 12 undergraduate and graduate schools/colleges:

- College of Arts and Sciences
- Collat School of Business
- Honors College
- School of Dentistry
- School of Education
- School of Engineering
- School of Health Professions
- School of Medicine
- School of Nursing
- School of Optometry
- School of Public Health
- The Graduate School

With more than 19,500 enrolled students<sup>23</sup> as well as more than 120,000 alumni living throughout the United States and world, the reach of UAB students and their outstanding educational experience is expansive.

Every day, UAB Academic programs generate impacts to the Birmingham region and the state by educating students and attracting future scholars. The impacts of the UAB Academic activities are outlined below.

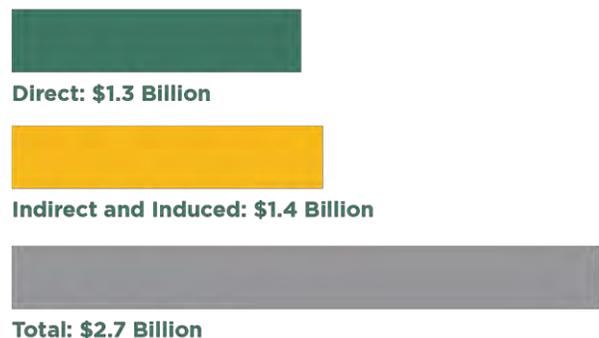
### GENERATING ECONOMIC IMPACT FOR THE STATE

The UAB Academic division is a powerhouse for economic activity. UAB Academic spends in a variety of ways, across multiple economic sectors throughout the state of Alabama. The presence of UAB Academic helps to create a diverse and stable economy locally as well as statewide.

Direct spending by UAB Academic to vendors and employees helps to generate additional spending in the area as well as throughout the state. Operations of UAB Academic directly or indirectly impact residents throughout Alabama

#### ECONOMIC IMPACT OF UAB ACADEMIC ON ALABAMA, FY16

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Source: Tripp Umbach findings using data obtained by the University of Alabama at Birmingham

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<sup>23</sup> This study was completed for fiscal year 2016. At the time of publication, total enrollment for UAB for fall 2017 had reached 20,902.

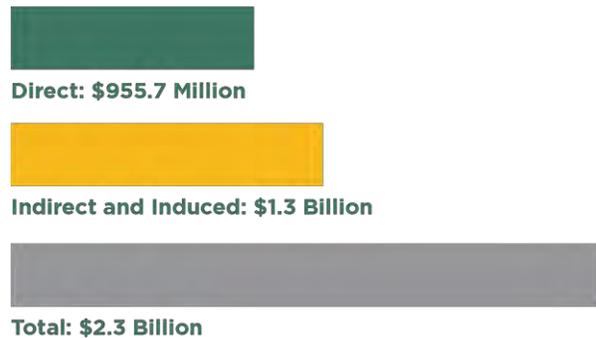
every day. In FY16, the direct spending of UAB Academic, in combination with the indirect and induced impacts of dollars' being re-spent throughout the state economy, generated more than \$2.7 billion in overall economic impact.

As a result of expenditures on goods and services by UAB Academic, its faculty, staff, students and visitors, the overall economic impact of UAB Academic operations on the state of Alabama in FY16 was \$2.7 billion (\$1.3 billion in direct impact and \$1.4 billion in indirect and induced impact).

### GENERATING IMPACT IN THE REGION

Direct spending by UAB Academic also generates significant economic activity throughout the Birmingham region. In FY16, the direct spending of UAB Academic in combination with the indirect and induced impacts of dollars' being re-spent throughout the regional economy generated \$2.3 billion in overall economic impact to the Birmingham region (\$955.7 million direct impact and \$1.3 billion indirect and induced).

#### ECONOMIC IMPACT OF UAB ACADEMIC ON THE BIRMINGHAM CSA, FY16



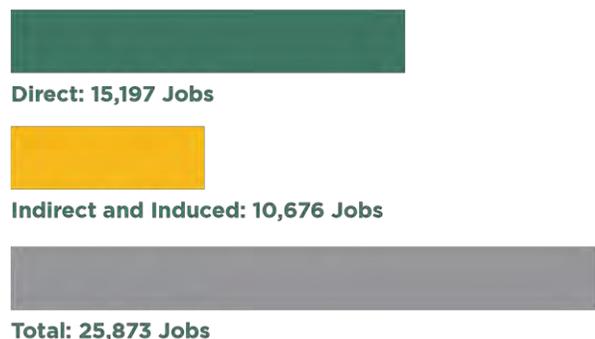
Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

### CREATING AND SUSTAINING JOBS THROUGHOUT THE STATE

In FY16, UAB Academic supported 25,873 jobs in the state of Alabama. These jobs (both full-time and part-time) include not only direct employment by UAB Academic (15,197 jobs), but also indirect and induced jobs (10,676) that are supported as a result of UAB Academic, employee, student and visitor spending.

UAB Academic directly supported 15,197 jobs (full-time or part-time) during FY16. UAB Academic supports thousands of jobs statewide in virtually every sector of the Alabama economy, such as construction, business and professional services, restaurants and hotels, information technology, security, and temporary employment companies. These indirect and induced jobs (10,676 jobs) support the more than 15,197 jobs held by Alabama residents directly employed by UAB Academic.

#### EMPLOYMENT IMPACT OF UAB ACADEMIC ON ALABAMA, FY16

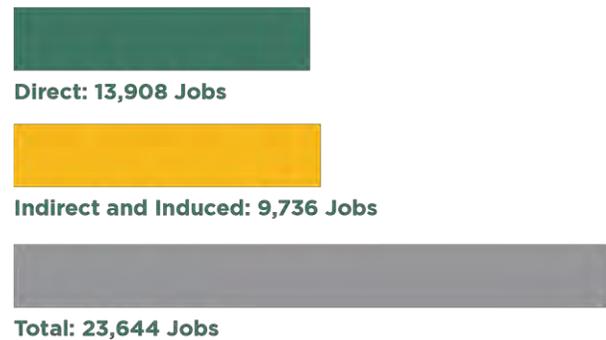


Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## SUPPORTING JOBS IN THE REGION

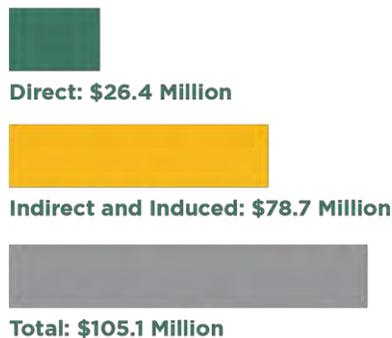
In FY16, UAB Academic directly employed 13,908 individuals (full-time or part-time positions) living, and therefore spending dollars, in the Birmingham region. This direct employment generates additional spending throughout the region that in turn supports additional indirect and induced jobs created when UAB Academic, its employees, students and visitors spend in the region. In total, UAB Academic supports **23,644 jobs** throughout the Birmingham region.

## EMPLOYMENT IMPACT OF UAB ACADEMIC ON THE BIRMINGHAM CSA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## GOVERNMENT REVENUE IMPACT OF UAB ACADEMIC ON THE STATE, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

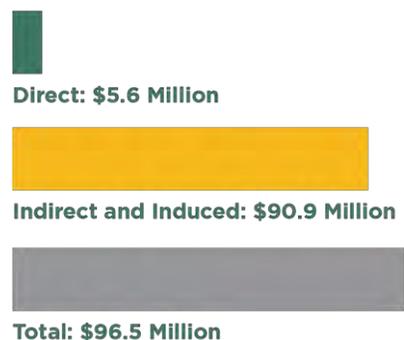
## GOVERNMENT REVENUE IMPACT FOR THE STATE

It is a common misperception that public universities do not generate tax revenue. **State and local government revenues attributable to the presence of UAB Academic totaled \$105.1 million in FY16 (\$26.4 million in direct and \$78.7 million in indirect and induced impact).** Through its local spending, as well as direct and indirect support of jobs, the presence of UAB Academic stabilizes and strengthens the local and statewide tax base. UAB Academic is an integral part of the state's economy — generating revenue, jobs and spending.

## GOVERNMENT REVENUE IMPACT FOR THE REGION

State and local government revenues attributable to the presence of UAB Academic totaled more than **\$96.5 million (\$5.6 million in direct and \$90.9 million in indirect and induced impact)** in FY16 for the Birmingham region.

## GOVERNMENT REVENUE IMPACT OF UAB ACADEMIC ON BIRMINGHAM, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## GIVING BACK TO THE COMMUNITY

Not only does UAB Academic directly and indirectly affect the economy of Alabama and support jobs throughout the state, it also touches the lives of residents by way of community support. UAB Academic, its employees and its students all take active roles in engaging with the local as well as larger communities, donating time and dollars to support their community.

Tripp Umbach estimates that UAB Academic faculty, staff and students generated more than **\$43.4 million** annually in charitable donations and volunteer services. These community impacts are in addition to the economic impact of UAB Academic and include:

- **\$11.2 million** donated to local charitable organizations by UAB Academic faculty, staff and students.
- **\$32.2 million** in value of volunteer time provided to area communities by UAB Academic faculty, staff and students.

### COMMUNITY IMPACT OF UAB ACADEMIC ON ALABAMA, FY16

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Source: Tripp Umbach findings using data obtained by the University of Alabama at Birmingham

## VI. THE UAB HEALTH SYSTEM – TOTAL IMPACT

### INTRODUCTION

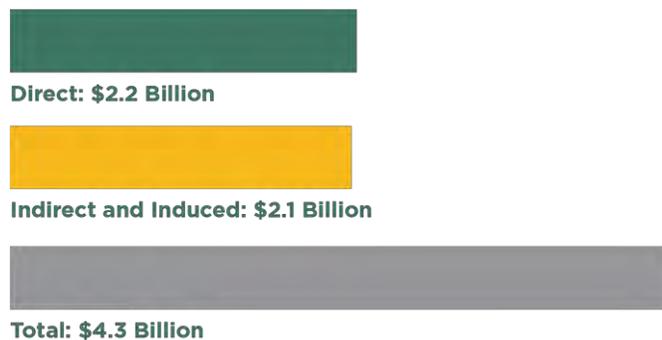
The impact analysis of the UAB Health System included all seven component parts of the organization: the UAB Health System Corporate offices, the UAB Hospital, University of Alabama Health Services Foundation (UAHSF), Medical West, Baptist Health System in Montgomery, Triton Health System / Viva Health Group, and the Callahan Eye Hospital. In addition to the overall impact analysis for the UAB Health System, separate impact analyses were conducted for each of the component organizations. These impact analyses can be found in Appendices A through G.



### ECONOMIC IMPACT FOR THE STATE

Direct spending by the UAB Health System generates economic activity throughout the state of Alabama. In FY16, the direct spending of the UAB Health System in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy generated **\$4.3 billion** in overall economic impact (\$2.2 billion direct impact and \$2.1 billion indirect and induced).

#### ECONOMIC IMPACT OF THE UAB HEALTH SYSTEM ON ALABAMA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

Economic impact is generated by the UAB Health System when it spends on goods and supplies, when patient care is provided, and when it pays its employees. These employees then generate indirect and induced impacts when they spend their paychecks on goods and services in the local economy such as food, personal goods, and mortgage/rent. The total impact of all of this spending amounts to the \$4.3 billion economic impact of the UAB Health System in the state.

## ECONOMIC IMPACT OF THE UAB HEALTH SYSTEM ON THE BIRMINGHAM CSA, FY16

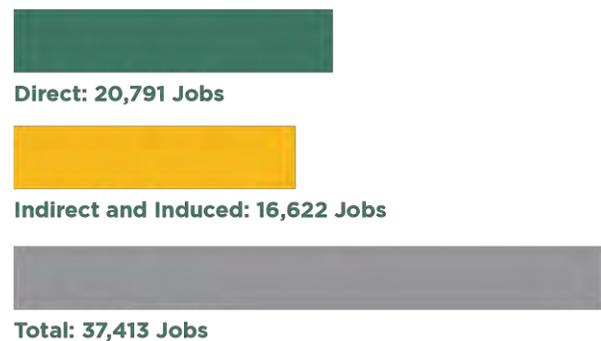


Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## EMPLOYMENT IMPACT IN THE STATE

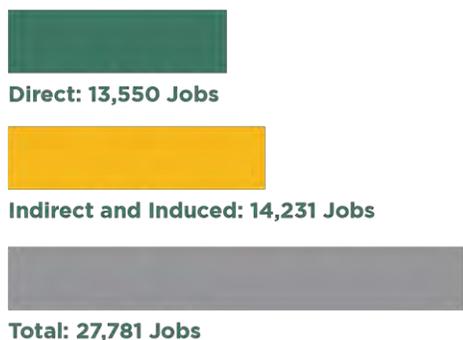
In FY16, the UAB Health System directly employed 20,791 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when the UAB Health System, its employees, patients and visitors spend in the region and state. In total, UAB Health System supports **37,413 jobs** (20,791 direct and 16,622 indirect and induced jobs) throughout the state of Alabama.

## EMPLOYMENT IMPACT OF THE UAB HEALTH SYSTEM ON ALABAMA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## EMPLOYMENT IMPACT OF THE UAB HEALTH SYSTEM ON THE BIRMINGHAM CSA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## ECONOMIC IMPACT FOR THE REGION

Direct spending by the UAB Health System generates economic activity throughout the Birmingham region. In FY16, the direct spending of the UAB Health System in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy generated **\$3.2 billion** in overall economic impact (\$1.4 billion direct impact and \$1.8 billion indirect and induced).

## EMPLOYMENT IMPACT IN THE REGION

In FY16, the UAB Health System directly employed 13,550 individuals (full-time or part-time positions) living, and therefore spending dollars, in the Birmingham region. This direct employment generates additional spending throughout the region that in turn supports additional indirect and induced jobs created when the UAB Health System and its employees, patients and visitors spend in the region. In total, UAB Health System supports **27,781 jobs** throughout the Birmingham region.

## GOVERNMENT REVENUE IMPACT FOR THE STATE

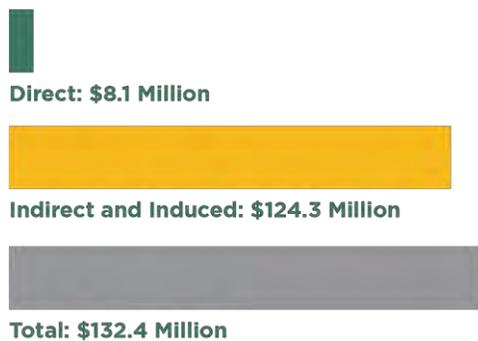
Government revenues attributable to the presence of the UAB Health System totaled more than **\$158.6 million (\$46.4 million in direct impact and \$112.2 million in indirect and induced impact)** in FY16. This income is generated when the UAB Health System and its employees, health professional students, patients and visitors spend on goods in the region (e.g., at restaurants, retail, hotels/motels, etc.).

## GOVERNMENT REVENUE IMPACT OF UAB HEALTH SYSTEM ON THE STATE, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## GOVERNMENT REVENUE IMPACT OF UAB HEALTH SYSTEM ON BIRMINGHAM, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## GOVERNMENT REVENUE IMPACT FOR THE REGION

Government revenues attributable to the presence of the UAB Health System totaled **\$132.4 million (\$8.1 million in direct impact and \$124.3 million in indirect and induced impact)** in FY16 for the Birmingham region.

## CONNECTING WITH THE COMMUNITY

The UAB Health System is intimately engaged with the community through a number of events, donating to local organizations and volunteering time to provide care to residents.

In addition to all of the care provided to the community by the organization, the employees of the UAB Health System engage in community outreach on their own time as well. It is estimated that the UAB Health System physicians and staff generate more than **\$36.4 million** annually in charitable donations and volunteer services every year. These benefits are in addition to the \$4.3

## COMMUNITY IMPACT OF THE UAB HEALTH SYSTEM ON ALABAMA, FY16



Source: Tripp Umbach findings using data obtained by the University of Alabama at Birmingham

billion annual economic impact of the UAB Health System and include the following:

- **\$13.2 million** donated to local charitable organizations in FY16.
- **\$23.2 million** in value of volunteer time provided to area communities in FY16.

### **BIRMINGHAM CITY SCHOOLS HEALTH ACADEMY**

UAB Medicine offers Birmingham City Schools students many opportunities for learning and career development, focusing on the variety of jobs represented at the UAB Medicine. On behind-the-scenes tours, sophomores in the Health Sciences Academies at Carver and Jackson-Olin high schools get the chance to learn about the dozens of careers that make up UAB Medicine, from physicians and nurses to lab technicians, physical therapists, central sterile supply and environmental services. Juniors from the two schools are given opportunities to shadow these professions, while select seniors are selected for paid internships at UAB Medicine. The ultimate goal is for students to begin career planning in high school and to explore the breadth of jobs available in the health care industry so that they may bridge into training programs after high school in preparation for careers in health care. UAB Medicine also serves Birmingham City Schools as a host site for Project SEARCH – Birmingham. Project SEARCH is a unique school-to-work transition program for students with disabilities. Birmingham City Schools students participate in this one-year internship program during their last year of high school focused on providing competitive, transferable and marketable skills that prepare the intern to secure competitive employment at UAB Medicine or in the local community.

## VII. SOUTHERN RESEARCH – TOTAL IMPACT

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### INTRODUCTION

Southern Research is a nonprofit 501(c)(3) research institute headquartered in Birmingham. Southern Research was established in 1941. Southern Research currently employs nearly 500 scientists and engineers working across four divisions: Drug Discovery, Drug Development, Engineering, and Energy and Environment. Southern Research also has laboratories and offices in Wilsonville, Alabama; Frederick, Maryland; Durham, North Carolina; Houston, Texas; and Cartersville, Georgia.

UAB and Southern Research have long maintained a fruitful research relationship in drug discovery, materials engineering, high-performance computing, gene therapy and other areas. Because the research programs at UAB and Southern Research exhibited such high compatibility, leadership of both institutions believed a more structured partnership would be mutually beneficial. In 1999, the two parties entered into an arrangement whereby Southern Research, while maintaining its separate identity and nonprofit corporate structure, became a legal affiliate of UAB.

Some of the exciting research being conducted at Southern Research includes:

- The development of drugs to combat various forms of cancer, ALS, Alzheimer’s, diabetes, kidney disease, Parkinson’s and tuberculosis, among others.
- The creation of new and innovative medical devices.
- Working collaboratively to help launch manned missions to Mars.
- Making the air and water cleaner here on Earth.
- Helping to keep the men and women of our military safe from harm.

Southern Research works with and is funded through the National Cancer Institute, National Institutes of Health, the U.S. Department of Defense, the U.S. Department of Energy, NASA, hospitals, major aerospace firms, utility companies, and other private and government organizations as they **solve the world’s hardest problems**.

### SOUTHERN RESEARCH IMPACT OVERVIEW

Through its operations and spending by the institution, its employees and visitors every year, Southern Research generates and supports:

- **\$150.3 million** in economic impact to the state.
- **1,006 jobs** throughout the state.

- **\$4.9 million** in state and local government revenue to the state.
- More than **\$758,000** in community benefit through donations and volunteer work.

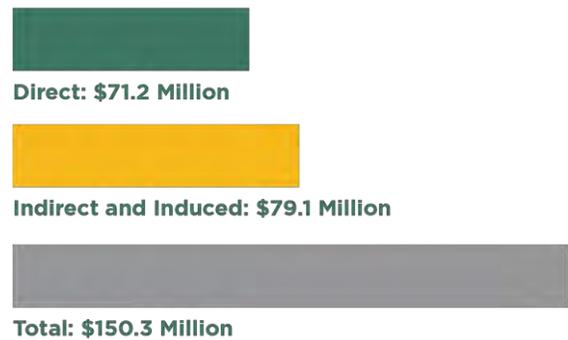
## GENERATING ECONOMIC ACTIVITY IN THE STATE

Direct spending by Southern Research generates economic activity throughout the state of Alabama. In FY16, the direct spending of Southern Research in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy generated **\$150.3 million** in overall economic impact (\$71.2 million direct impact and \$79.1 million indirect and induced) to the state of Alabama.

Economic impact is generated by Southern Research when it spends on goods and supplies and when it pays its employees.

These employees then generate indirect and induced impacts when they spend their paychecks on goods and services in the local economy such as food, personal goods, and mortgage/rent. The total impact of all of this spending amounts to the \$150.3 million economic impact of Southern Research in the state of Alabama.

### ECONOMIC IMPACT OF SOUTHERN RESEARCH ON ALABAMA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

### ECONOMIC IMPACT OF SOUTHERN RESEARCH ON THE BIRMINGHAM CSA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

### ECONOMIC IMPACT IN THE REGION

Direct spending by Southern Research also generates economic activity throughout the Birmingham region. In FY16, the direct spending of Southern Research in combination with the indirect and induced impacts of dollars' being re-spent throughout the regional economy generated **\$149.5 million** in overall economic impact to the Birmingham region (\$67.3 million direct impact and \$82.2 million indirect and induced).

## PROVIDING AND SUPPORTING JOBS ACROSS THE STATE

In FY16, Southern Research directly employed 405 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when Southern Research, its employees and visitors spend in the region and state. In total, Southern Research supports **1,006 jobs** (405 direct and 601 indirect and induced jobs) throughout the state of Alabama.

## EMPLOYMENT IMPACT OF SOUTHERN RESEARCH ON ALABAMA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## EMPLOYMENT IMPACT OF SOUTHERN RESEARCH ON THE BIRMINGHAM CSA, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

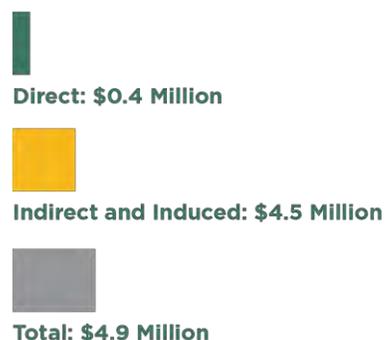
## EMPLOYMENT IMPACT IN THE BIRMINGHAM REGION

In FY16, Southern Research directly employed 365 individuals (full-time or part-time positions) living, and therefore spending dollars, in the Birmingham region. This direct employment generates additional spending throughout the region that in turn supports additional indirect and induced jobs created when Southern Research, its employees and visitors spend in the region. In total, Southern Research supports **926 jobs** throughout the Birmingham region.

## GENERATING GOVERNMENT INCOME FOR THE STATE

Government revenues attributable to the presence of Southern Research totaled nearly **\$4.9 million** (\$0.4 million in direct impact and \$4.5 million in indirect and induced impact) in FY16. This income is generated when Southern Research, its employees and visitors spend on goods in the region (e.g., at restaurants, retail, hotels/motels, etc.).

## GOVERNMENT REVENUE IMPACT OF SOUTHERN RESEARCH ON THE STATE, FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## GOVERNMENT REVENUE IMPACT OF SOUTHERN RESEARCH ON BIRMINGHAM FY16



Source: Tripp Umbach findings using IMPLAN results from data obtained by the University of Alabama at Birmingham

## GOVERNMENT REVENUE IMPACT FOR THE BIRMINGHAM REGION

Government revenues attributable to the presence of Southern Research totaled **\$4.7 million** (**\$0.2 million in direct impact and \$4.5 million in indirect and induced impact**) in FY16 for the Birmingham region.

## CONNECTING WITH THE COMMUNITY

Southern Research is intimately engaged with the community. It is estimated that Southern Research faculty and staff generate more than **\$758,000** annually in charitable donations and volunteer services every year. These benefits are in addition to the \$150.3 million annual economic impact of Southern Research to the state and include the following:

- **\$281,000** donated to local charitable organizations in FY16.
- **\$477,000** in value of volunteer time provided to area communities in FY16.

## COMMUNITY IMPACT OF SOUTHERN RESEARCH ON ALABAMA, FY16



Source: Tripp Umbach findings using data obtained by the University of Alabama at Birmingham

## APPENDIX A: UAB HOSPITAL – TOTAL IMPACT

The centerpiece of UAB’s clinical enterprise, UAB Hospital is located in Birmingham’s Medical District. In the midst of UAB’s major research centers and clinics, the 1,157-licensed-bed hospital is among the 20 largest and best-equipped in the nation. With more than 1 million patient visits every year, ground-breaking research activity being conducted throughout the organization, and educational training for the physician and health care professional workforce of the future, UAB Hospital is a national leader in patient care. UAB Hospital is a major center for clinical research and the home of some of the top medical programs in America. Faculty physicians, nursing staff and support personnel are committed to providing world-class care to every patient.

UAB physicians are acknowledged leaders in their specialty fields. They collaborate across disciplines to reach and complete the best personalized treatment plan for each patient, drawing on the vast academic and research resources of UAB to treat even the most difficult cases. Among them is the UAB Comprehensive Cancer Center, the only one in a five-state region. The hospital also participates in the UAB Comprehensive Diabetes Research Center, and all inpatients are checked for glucose abnormalities through the hospital’s innovative Glycemic Control Program. Our highly recognized Neurosciences, Heart/Vascular, Critical Care, and other services also offer the benefit of evidence-based medicine.

With its wide range of clinical, research and academic offerings, the UAB Hospital generates significant impacts to the region and state on an annual basis. The following impact values for the UAB Hospital are a subset of the impact values presented in the UAB Health System section of this report. The UAB Hospital is one of seven components of the UAB Health System presented previously.

### GENERATING ECONOMIC ACTIVITY

Direct spending by UAB Hospital generates economic activity throughout the state of Alabama. In FY16, the direct spending of UAB Hospital in combination with the indirect and induced impacts of dollars’ being re-spent throughout the economy generated **\$1.6 billion** in overall



economic impact (\$797.8 million in direct impact and \$850.1 million in indirect and induced impact).

### **PROVIDING AND SUPPORTING JOBS**

In FY16, UAB Hospital directly employed 10,492 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when UAB Hospital and its employees spend in the region and state. In total, UAB Hospital supports **17,275 jobs** throughout the state of Alabama.

### **GENERATING STATE AND LOCAL GOVERNMENT INCOME**

State and local government revenues attributable to the presence of UAB Hospital totaled more than **\$66.0 million** in FY16.

## APPENDIX B: THE UNIVERSITY OF ALABAMA HEALTH SERVICES FOUNDATION – TOTAL IMPACT

Founded in 1973, the University of Alabama Health Services Foundation, P.C., (UAHSF) comprises multiple clinics and a network of suburban clinics that offer medical services in over 35 specialties, as well as administrative, technical and support departments. UAHSF plays a vital and visible role in delivering expert care within UAB’s internationally known academic medical center. UAHSF is known for high-quality patient care and unique compassion, dedication and excellence of its employees.

The following impact values for UAHSF are a subset of the impact values presented in the UAB Health System section of this report. UAHSF is one of seven components of the UAB Health System presented previously.

### GENERATING ECONOMIC ACTIVITY

Direct spending by UAHSF generates economic activity throughout the state of Alabama. In FY16, the direct spending of UAHSF in combination with the indirect and induced impacts of dollars’ being re-spent throughout the economy generated **\$1.1 billion** in overall economic impact (\$522.4 million in direct impact and \$537.3 million in indirect and induced impact).

### PROVIDING AND SUPPORTING JOBS

In FY16, UAHSF directly employed 3,942 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when UAHSF and its employees spend in the region and state. In total, UAHSF supports **8,308 jobs** throughout the state of Alabama.

### GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of UAHSF totaled **\$40.9 million** in FY16.



## APPENDIX C: UAB HEALTH SYSTEM CORPORATE OFFICE – TOTAL IMPACT

The following impact values for the UAB Health System Corporate Office are a subset of the impact values presented in the UAB Health System section of this report. The UAB Health System Corporate Office is one of seven components of the UAB Health System presented previously.

### GENERATING ECONOMIC ACTIVITY

Direct spending by the UAB Health System Corporate Office generates economic activity throughout the state of Alabama. In FY16, the direct spending of the UAB Health System Corporate Office in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy generated **\$64.3 million** in overall economic impact (\$34.3 million in direct impact and \$30.0 million in indirect and induced impact).

### PROVIDING AND SUPPORTING JOBS

In FY16, the UAB Health System Corporate Office directly employed 170 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when the UAB Health System Corporate Office and its employees spend in the region and state. In total, the UAB Health System Corporate Office supports **393 jobs** throughout the state of Alabama.

### GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of the UAB Health System Corporate Office totaled more than **\$2.1 million** in FY16.



## APPENDIX D: TRITON HEALTH SYSTEMS / VIVA HEALTH GROUP – TOTAL IMPACT

Triton Health Systems and Viva Health Group (Triton / Viva) are health insurance plans and members of the UAB Health System offering customers competitive benefits, outstanding value and quality providers. Since its establishment in 1995, Viva Health has grown to be one of the largest health plans in the state of Alabama.

The following impact values for Triton / Viva are a subset of the impact values presented in the UAB Health System section of this report. Triton / Viva is one of seven components of the UAB Health System presented previously.

### GENERATING ECONOMIC ACTIVITY

Direct spending by Triton / Viva generates economic activity throughout the state of Alabama. In FY16, the direct spending of Triton / Viva in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy generated **\$109.9 million** in overall economic impact (\$59.0 million in direct impact and \$50.9 million in indirect and induced impact).

### PROVIDING AND SUPPORTING JOBS

In FY16, Triton / Viva directly employed 478 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when Triton / Viva and its employees spend in the region and state. In total, Triton / Viva supports **874 jobs** throughout the state of Alabama.

### GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of Triton / Viva totaled **\$3.7 million** in FY16.



## APPENDIX E: BAPTIST HEALTH SYSTEM – TOTAL IMPACT

Nestled in the heart of Alabama’s state capital (Montgomery) is Baptist Health, the area’s premier health care provider and tertiary referral center. Baptist Health is a three-hospital, nonprofit, faith-based system serving central Alabama. Baptist Health is also the largest nongovernmental employer in the area, with nearly 3,400 employees.

Baptist Health is an affiliate of UAB. With more than 525 Baptist Health-affiliated physicians, a seasoned clinical staff and a comprehensive offering of medical services, Baptist Health also serves the community and local businesses with a wide range of wellness programs and services designed to help people live healthier and happier lives.

The following impact values for Baptist Health are a subset of the impact values presented in the UAB Health System section of this report. Baptist Health is one of seven components of the UAB Health System presented previously.



### GENERATING ECONOMIC ACTIVITY

Direct spending by Baptist Health generates economic activity throughout the state of Alabama. In FY16, the direct spending of Baptist Health in combination with the indirect and induced impacts of dollars’ being re-spent throughout the economy generated **\$1.2 billion** in overall economic impact (\$666.4 million in direct impact and \$483.7 million in indirect and induced impact).

### PROVIDING AND SUPPORTING JOBS

In FY16, Baptist Health directly employed 4,077 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when Baptist Health and its employees spend in the region and state. In total, Baptist Health supports **7,842 jobs** throughout the state of Alabama.

### GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of Baptist Health totaled **\$35.2 million** in FY16.

## APPENDIX F: MEDICAL WEST – TOTAL IMPACT

Memorial Hospital was founded in 1964 to serve the residents of western Jefferson County. Shortly after its inception, Memorial Hospital was sold to Dr. Ben Carraway and the legendary Blue Star was placed on the roof. The facility was renamed Bessemer Carraway until 2003, when UAB Health System partnered together with Bessemer Carraway to complement one of the most robust health systems in the country.

Today, Medical West is a 310-bed acute care hospital offering a wide range of diagnostic, surgical, medical, rehabilitation and emergency services. Primary care physicians, specialists and sub-specialists have offices located on the Medical West main campus. Residents of western Jefferson County and Birmingham metro area can benefit from the convenience of Medical West health centers in their neighborhoods.

The following impact values for Medical West are a subset of the impact values presented in the UAB Health System section of this report. Medical West is one of seven components of the UAB Health System presented previously.



### GENERATING ECONOMIC ACTIVITY

Direct spending by Medical West generates economic activity throughout the state of Alabama. In FY16, the direct spending of Medical West in combination with the indirect and induced impacts of dollars' being re-spent throughout the economy generated **\$169.0 million** in overall economic impact (\$79.5 million in direct impact and \$89.5 million in indirect and induced impact).

### PROVIDING AND SUPPORTING JOBS

In FY16, Medical West directly employed 1,331 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when Medical West and its employees spend in the region and state. In total, Medical West supports **2,045 jobs** throughout the state of Alabama.

### GENERATING STATE AND LOCAL GOVERNMENT INCOME

State and local government revenues attributable to the presence of Medical West totaled **\$7.0 million** in FY16.

## APPENDIX G: UAB CALLAHAN EYE HOSPITAL AUTHORITY – TOTAL IMPACT

The UAB Callahan Eye Hospital Authority (Callahan Eye Hospital) is the state’s only facility dedicated to providing quality medical and surgical eye care to the people of Alabama and the Southeast. Callahan Eye Hospital’s primary business consists of outpatient ophthalmology and ambulatory surgery, making it one of the busiest ophthalmology surgery centers in the country.

Callahan Eye Hospital is/offers:

- One of the most comprehensive eye care facilities in the Southeast with 40-plus years’ experience.
- 24-hour, seven-day-a-week eye emergency room and the region’s only Level I Ocular Trauma Center.
- Comprehensive eye care and emergency care for accident related eye trauma; over 11,500 eye surgeries, 5,799 emergency visits, 74,483 clinic visits and much more.
- Only hospital in Alabama dedicated entirely to eye care, and one of few worldwide focused on developing advances in ophthalmology.



The following impact values for Callahan Eye Hospital are a subset of the impact values presented in the UAB Health System section of this report. Callahan Eye Hospital is one of seven components of the UAB Health System presented previously.

### GENERATING ECONOMIC ACTIVITY

Direct spending by Callahan Eye Hospital generates economic activity throughout the state of Alabama. In FY16, the direct spending of Callahan Eye Hospital in combination with the indirect and induced impacts of dollars’ being re-spent throughout the economy generated **\$103.9 million** in overall economic impact (\$55.7 million in direct impact and \$48.2 million in indirect and induced impact).

## **PROVIDING AND SUPPORTING JOBS**

In FY16, Callahan Eye Hospital directly employed 301 individuals (full-time or part-time positions). This direct employment generates additional spending throughout the state that in turn supports additional indirect and induced jobs created when Callahan Eye Hospital and its employees spend in the region and state. In total, Callahan Eye Hospital supports **676 jobs** throughout the state of Alabama.

## **GENERATING STATE AND LOCAL GOVERNMENT INCOME**

State and local government revenues attributable to the presence of Callahan Eye Hospital totaled **\$3.7 million** in FY16.

# APPENDIX H: DEFINITION OF TERMS

<b>Study Year</b>	Fiscal year was defined as FY16, October 1, 2015 – September 30, 2016
<b>Total Industry Output</b>	The total impact of an organization includes the spending of the organization, the labor income expenditures, and the value-added to the economy as a result of the organizational spending; this is described as the total industry output.
<b>Total Economic Impact</b>	The total impact of an organization is a compilation of the direct impact, the indirect impact, and the induced impact generated in the economy as a result of the organization.
<b>Direct Economic Impact</b>	Direct impact includes all direct effects the organization has on the region due to the organization’s operations. These include direct employees, organizational spending, employee spending, and spending by patients and visitors to the organization.
<b>Indirect Economic Impact</b>	The indirect impact includes the impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money is spent outside of the local economy, either through imports or by payments to value added.
<b>Induced Economic Impact</b>	The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN’s default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not lost to the regional economy. This money is recirculated through the household spending patterns causing further local economic activity.

<b>Multiplier Effect</b>	The multiplier effect is the additional economic impact created as a result of the organization’s direct economic impact. Local companies that provide goods and services to an organization increase their purchasing by creating a multiplier.
<b>Government Revenue</b>	Government revenue that is collected by governmental units in addition to those paid directly by an organization, including taxes paid directly by employees of the organization, visitors to the organization, and vendors who sell products to the organization.
<b>Direct Employment</b>	Total number of employees, both full-time and part-time, at the organization based on total jobs.
<b>Indirect Employment</b>	Indirect employment is the additional jobs created as a result of the organization’s economic impact. Local companies that provide goods and services to an organization increase their number of employees as purchasing increases, thus creating an employment multiplier.

# APPENDIX I: TECHNICAL APPENDIX

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## ORGANIZATIONAL DEFINITIONS

For the purposes of the impact analysis UAB is defined as the combined impacts of the UAB Academic, the UAB Health System, and Southern Research. These entities are further defined as:

- UAB Academic – The UAB Academic impact analysis included all schools and colleges of UAB including UAB Arts (AEIVA, Alys Stephens Center) and UAB Athletics.
- UAB Health System – The UAB Health System impact analysis included the UAB Health System Corporate Office, the UAB Hospital, the University of Alabama Health Services Foundation (UAHSF), Medical West, Baptist Health System in Montgomery, Triton Health Systems / Viva Health Group, and UAB Callahan Eye Hospital Authority.
- Southern Research – Southern Research impact analysis included only the operations of Southern Research.

## METHODOLOGY DEFINITIONS

In 2010, UAB contracted with Tripp Umbach to conduct a similar economic impact analysis of their impacts on the state. The 2010 analysis was completed using an ACE-based linear cash-flow methodology; the current study was completed using IMPLAN methodology. It is important to understand the different methodologies as the output differs related to methodology utilized. The different methodologies are described below:

- **ACE-based Linear Cash-Flow Methodology** – The methodology employed in the 2010 UAB economic impact study was derived from an original set of research tools and techniques developed for the American Council on Education (ACE).<sup>24</sup> The ACE-based methodology employs linear cash flow modeling to track the flow of institution-originated funds through a delineated spatial area. The ACE-base methodology distinguishes the economic impact of the institutions that are attributable to funds brought into the state from out-of-state sources. The application of this “fresh dollar” model provides a first-line measure of the initial direct expansion in the state economy caused by the institution of study. The final Tripp Umbach, ACE-based, linear cash-flow model is a hybrid model that includes a fresh-dollar approach feeding into a traditional model that tracks institutional in-state spending. Thus, the final model used for the 2010

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<sup>24</sup> Caffrey, John and Isaacs, Herbert, “Estimating the Impact of a College or University on the Local Economy,” American Council on Education, 1971.

study measured funds brought into the state together with the ultimate flow of these funds through the state economy and the effect on economic expansion, job growth, and enterprise development. This methodology has been utilized by Tripp Umbach for more than 10 years in quantifying the economic impact of all Association of American Medical Colleges (AAMC) member medical schools and member teaching hospitals.

- **IMPLAN Methodology** – The economic impact of UAB was estimated using IMPLAN (Impact Analysis for PLANning), an econometric modeling system developed by applied economists at the University of Minnesota and the U.S. Forest Service. The IMPLAN modeling system has been in use since 1979 and is currently used by over 500 private consulting firms, university research centers and government agencies. The IMPLAN modeling system combines the U.S. Bureau of Economic Analysis’ Input-Output Benchmarks with other data to construct quantitative models of trade flow relationships between businesses and between businesses and final consumers. From this data, one can examine the effects of a change in one or several economic activities to predict its effect on a specific state, regional or local economy (impact analysis). The IMPLAN input-output accounts capture all monetary market transactions for consumption in a given time period. The IMPLAN input-output accounts are based on industry survey data collected periodically by the U.S. BEA and follow a balanced account format recommended by the United Nations.

IMPLAN’s Regional Economic Accounts and the Social Accounting Matrices were used to construct state- and CSA-level multipliers, which describe the response of the economy to a change in demand or production as a result of the activities and expenditures of UAB. Each industry that produces goods or services generates demand for other goods and services, and this demand is multiplied through a particular economy until it dissipates through “leakage” to economies outside the specified area. IMPLAN models discern and calculate leakage from local, regional and state economic areas based on workforce configuration, the inputs required by specific types of businesses, and the availability of both inputs in the economic area. Consequently, economic impacts that accrue to other regions or states as a consequence of a change in demand are not counted as impacts within the economic area.

The model accounts for substitution and displacement effects by deflating industry-specific multipliers to levels well below those recommended by the U.S. Bureau of Economic Analysis. In addition, multipliers are applied only to personal disposable income to obtain a more realistic estimate of the multiplier effects from increased demand. Importantly, IMPLAN’s Regional Economic Accounts exclude imports to an economic area, so the calculation of economic impacts identifies only those impacts

specific to the economic impact area. IMPLAN calculates this distinction by applying Regional Purchase Coefficients (RPC) to predict regional purchases based on an economic area's particular characteristics. The RPC represents the proportion of goods and services that will be purchased regionally under normal circumstances, based on the area's economic characteristics described in terms of actual trade flows within the area.

## **EMPLOYMENT DEFINITIONS**

IMPLAN analysis is conducted to measure jobs/positions (part-time or full-time), not full-time equivalents (FTEs). Full-time and part-time employees generate impact in the economy and support additional indirect and induced employment throughout the state of Alabama. Employment data of the UAB Academic, UAB Health System, and Southern Research was provided as an output of all individuals who receive a paycheck from the respective institution. This includes all full-time, part-time, and employed faculty, staff, and students.

## **ECONOMIC IMPACT VALUE DEFINITION**

The overall economic impact values provided in this report for UAB, UAB Academic, UAB Health System, and Southern Research include the following impact values that were broken out as sub-analyses:

- Organizational spending – capital and operational
- UAB Arts
- UAB Athletics
- UAB Research

The impact values of UAB, UAB Academic, UAB Health System, and Southern Research that were presented in this report that are not included in the overall economic impact value and are, therefore, in addition to the economic impact of the organization are:

- Government revenue impacts
- Community benefit impacts
- Alumni impacts
- Individual institutional impacts

## GOVERNMENT REVENUE IMPACT DEFINITION

Government revenue impacts generated in the current, FY16 study included all taxes paid by each of the UAB entities to the state of Alabama and the Birmingham CSA (i.e., payroll, property, sales, unemployment, income, and any other taxes paid to the state and local government). Any federal taxes paid by UAB were not included in the government revenue impacts (i.e., FICA payments).

Differences in methodology have also played a role in the differences in reported government revenue impacts of UAB from 2010 to 2017.

## VISITOR DEFINITIONS

Impact analysis looks to quantify the impact of the attraction of “fresh” dollars to a region. Therefore, when including visitor spending in the impact analysis of a university, health system, or other organization, the analysis will only include those visitors coming to a region from outside of said region. Visitors to events who also live in the region would have spent their dollar in that region otherwise; therefore, this dollar was not attracted to the region as a result of the organization being analyzed.

For UAB, the impact analysis looked at impacts to the state of Alabama and the Birmingham CSA region. Visitors to UAB were only counted if they were from outside of said region being analyzed.

## VISITOR SPENDING

Tripp Umbach uses federal per diem rates to estimate visitor spending in an area. Per diem rates can be found here by area: <http://www.gsa.gov/portal/content/104877>. Tripp Umbach has utilized per diem rates to estimate visitor spending as they can be considered a conservative measure (i.e., visitors generally spend more than the per diem rates in any given area).

The rates utilized specifically for this analysis were:

- Birmingham region = \$96 for lodging; \$59 for meal and incidental expenses
- Standard for Alabama = \$91 for lodging, \$51 for meal and incidental expenses

## COMMUNITY BENEFITS

Community benefits provided in this report outline two forms of impact — monetary donations made by employees and students to local nonprofits as well as volunteer hours that are valued at a monetary value.

- Tripp Umbach has conducted survey research to estimate the amount of monetary donations a student, staff, faculty, and physicians will spend in a year. This amount differs per individual but ranges from \$500-\$700. Tripp Umbach also understands that not all individuals donate; therefore, this is adjusted as well.
- The value of a volunteer hour has been quantified by Independent Sector to be \$23.56 per individual per hour. Tripp Umbach utilized this value with the understanding (also from survey research) of the average number of hours faculty, staff and students engage in volunteer activities (estimated 100 hours per year, for 50 percent of the employees and students).

### RESEARCH IMPACT DEFINITION

The 2010 impact analysis quantified the total research funding impact of UAB (revenue received as opposed to expenditures for one year) and the impact of that entire “engine.” For the 2017 analysis, research impact was quantified as the annual impact of UAB research expenditures in FY16. The methodology was refined from 2010 to 2017 with the understanding that an institution may have “secured” a certain amount of research funding in one year; however, this funding is generally not all spent in one fiscal year. Therefore, the 2017 analysis looks at the research expenditures that occurred in FY16 to estimate the annual impact of UAB research on the state economy.

## APPENDIX J: FAQs REGARDING ECONOMIC IMPACT ASSESSMENT

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### WHAT IS ECONOMIC IMPACT?

Economic impact begins when an organization spends money. Economic impact studies measure the direct economic impact of an organization's spending, plus additional indirect spending in the economy as a result of direct spending. Economic impact has nothing to do with dollars collected by institutions, their profitability or even their sustainability, since all operating organizations have a positive economic impact when they spend money and attract spending from outside sources.

Direct economic impact measures the dollars that are generated within a geographic region due to the presence of an institution. This includes not only spending on goods and services with a variety of vendors within the region, and the spending of its employees and visitors, but also the economic impact generated by businesses within the region that benefit from the spending of the institution. It is important to remember that not all dollars spent by an institution stay in geographic region of study. Dollars that "leak" out of the region in the form of purchases from out-of-area vendors are not included in the economic impact that an institution has on the region.

The total economic impact includes the "multiplier" of spending from companies that do business with an institution. Support businesses may include lodging establishments, restaurants, construction firms, vendors, temporary agencies, etc. Spending multipliers attempt to estimate the ripple effect in the economy where the spending occurs. For example: Spending by an institution with local vendors provides these vendors with additional dollars that they re-spend in the local economy, causing a "multiplier effect."

### WHAT IS THE MULTIPLIER EFFECT?

Multipliers are a numeric way of describing the secondary impacts stemming from the operations of an organization. For example, an employment multiplier of 1.8 would suggest that for every 10 employees hired in the given industry, eight additional jobs would be created in other industries, such that 18 total jobs would be added to the given economic region. The multipliers used in this study range from 1.8 to 2.0.

The Multiplier Model is derived mathematically using the input-output model and Social Accounting formats. The Social Accounting System provides the framework for the predictive Multiplier Model used in economic impact studies. Purchases for final use drive the model.

Industries that produce goods and services for consumer consumption must purchase products, raw materials and services from other companies to create their product. These vendors must also procure goods and services. This cycle continues until all the money is leaked from the region's economy. There are three types of effects measured with a multiplier: the direct, the indirect, and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied. The indirect effect is the business-to-business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects.

- **Direct effects** take place only in the industry immediately being studied.
- **Indirect effects** concern inter-industry transactions: Because an institution is in business, it has a demand for locally produced materials needed to operate.
- **Induced effects** measure the effects of the changes in household income: Employees of an institution and suppliers purchase from local retailers and restaurants.
- **Total Economic Impacts** are the total changes to the original economy as the result of the operations of an institution, i.e., Direct effects + Indirect effects + Induced effects = Total Economic Impacts.

### WHAT METHODOLOGY WAS USED IN THIS STUDY?

IMPLAN (IMpact analysis for PLANning) data and software. Using classic input-output analysis in combination with regional specific Social Accounting Matrices and Multiplier Models, IMPLAN provides a highly accurate and adaptable model for its users. The IMPLAN database contains county, state, ZIP code and federal economic statistics that are specialized by region, not estimated from national averages, and can be used to measure the effect on a regional or local economy of a given change or event in the economy's activity.

### WHAT IS EMPLOYMENT IMPACT?

Employment impact measures the direct employment (employees, staff, faculty, administration) plus additional employment created in the economy as a result of the operations of an institution.

Indirect and Induced employment impact refers to other employees throughout the region who exist because of an institution's economic impact. In other words, jobs related to the population — city services (police, fire, EMS, etc.), employees at local hotels and restaurants, clerks at local retail establishments, and residents employed by vendors used by the institution.

### **WHAT IS THE DIFFERENCE BETWEEN DIRECT AND INDIRECT TAXES?**

Direct tax dollars include sales taxes and net corporate income taxes paid directly by the institution to the state, while indirect taxes include taxes paid to the state by vendors that do business with an institution and individuals.

### **IS THIS A ONE-TIME IMPACT, OR DOES THE IMPACT REPEAT EACH YEAR?**

The results presented in this economic impact study are generated on an annual basis. The economic impact in future years can be either higher or lower based on number of employees, students, capital expansion, increases in external research and state appropriations.

### **WHAT ARE TRIPP UMBACH'S QUALIFICATIONS TO PERFORM ECONOMIC IMPACT ANALYSIS?**

Tripp Umbach is the national leader in providing economic impact analysis to leading health care organizations, universities and academic medical centers. Since 1990, Tripp Umbach has completed more than 300 economic impact studies for such clients as: Boston University, Indiana University, Michigan State University, The Pennsylvania State University, The Ohio State University, UCONN, the University at Buffalo, University of Arizona, University of Michigan, University of Minnesota, The University of Pittsburgh, the University of Vermont, the University of Virginia, The University of Washington and the previous impact analysis for The University of Alabama at Birmingham.