LOCAL ENGAGEMENT, REGIONAL LEADERSHIP, AND GLOBAL INNOVATION: THE ECONOMIC AND SOCIAL IMPACTS OF EMORY UNIVERSITY

FINAL REPORT – June 2017

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Local Engagement, Regional Leadership, and Global Innovation: The Economic and Social Impacts of Emory University

Executive Summary

“The essence of Emory is to advance knowledge and opportunity and to make our community and our world a better place.”
President Claire E. Sterk
MESSAGE FROM THE PRESIDENT

Measuring impact, beyond the numbers
Emory’s robust impact on our region began more than 180 years when a small group of Methodists founded a new college in Oxford, Georgia. In 1915, Emory received a charter to establish a university and campus in Atlanta, made possible by a donation from Asa Candler, chairman of the Coca-Cola Company, of $1 million and 75 acres in DeKalb County’s Druid Hills community. The ambition and investments of our early supporters launched Emory on its path to become a national research university with a global reach and influence. Paralleling Emory’s growth, Atlanta today is an international hub. We are proud of the university’s contributions in making our city and state a thriving, vital region.

Emory’s mission is to “create, preserve, teach, and apply knowledge in the service of humanity.” In fulfilling that mission, we make a commitment to bring the expertise, talent, and passion of our faculty, students, staff, and alumni to work together for the common good. Our health care system has a breadth and depth unmatched in Georgia and offers world-class care to our citizens. Our interdisciplinary hubs of research and innovation attract highly competitive federal and private grants, leading us to groundbreaking discoveries. Our faculty and students come from throughout the United States and across the world to form an academically rich and diverse campus for the cultivation of thought leaders and creative thinkers to solve some of today’s biggest challenges. Our local partners, whose reach is global, help us extend this impact to do good to where it is most needed.

In this report, you will find many measurable indicators of our impact on the region and beyond. Those measurements are important, but they are just a slice of the transformative contributions that this university makes. We also attempt to show the immeasurable ways that we strive to serve humanity—beginning in Atlanta and extending through the state, region, nation, and world.

Sincerely,
Claire E. Sterk
President
Emory University, which includes Emory Healthcare, ("Emory") is a premier private teaching, medical, and research institution located in the Atlanta region. It includes world-class academics and the most comprehensive health care system in the state of Georgia. It contributes greatly to its immediate neighborhood and to the world at large through its deep commitment to civic engagement, academic excellence, research and innovation, and commercialization and entrepreneurship. It is an economic engine for Atlanta and Georgia through its annual operations, the wage premium enjoyed by alumni living and working in the region, its capital investments, and ancillary spending by students, patients, and visitors. The purpose of this report is to articulate these economic and social impacts, and in doing so to acknowledge Emory’s contribution to local engagement, regional leadership, and global innovation.
### ECONOMIC IMPACT

Emory is a major economic engine for Atlanta and Georgia in four major ways:

- **Operations** – In the course of tending to its core functions as an educational institution, health system, and research giant, it is a major employer and procurer of goods and services, both of which support additional local economic activity.

- **Wage Premium** – It attracts and retains talented graduates, thereby increasing both intellectual capital and household earnings within the region.

- **Capital Investments** – Its investments on and around campus represent economic opportunity for the construction industry and related sectors, and are a counterbalance to the negative effects associated with the cyclical nature of those markets.

- **Ancillary Spending** – It draws in students, patients, and visitors, whose spending supports a variety of industries and merchants.

It is estimated that within the state of Georgia economy, Emory produces a $9.1 billion economic impact and directly or indirectly supports **64,000 jobs**; $4.4 billion of that economic impact and 35,000 of that employment impact takes place within the city of Atlanta economy.

This amount of economic impact also grows various local and state tax bases, and is estimated to produce $5 million in annual tax revenues to the City of Atlanta government and an additional $200 million in annual tax revenues to the State of Georgia government.

Emory produces a **$9.1 billion** economic impact.

Emory is the **2nd** largest employer in the Atlanta region.

Emory alumni living and working in Georgia earn about an additional **$800 million** a year due to the education and credential they received from Emory.

Emory has undertaken about **$750 million** in capital investments over the past four years.

Emory students inject an additional **$136 million** a year in spending into the state.
**ECONOMIC IMPACT**

**Emory’s Annual Total Economic Impact**

**ECONOMIC IMPACT**
- State of Georgia: $9.1 B
- Druid Hills Campus & City of Atlanta: $4.4 B

**JOBS SUPPORTED**
- State of Georgia: 63,680
- Druid Hills Campus & City of Atlanta: 35,350

**Annual Economic Impact by Category**

**OPERATIONS**
- State of Georgia: $7.7 B
- Druid Hills Campus & City of Atlanta: $4.1 B

**CAPITAL**
- State of Georgia: $330 M
- Druid Hills Campus & City of Atlanta: $190 M

**ANCILLARY SPENDING**
- State of Georgia: $280 M
- Druid Hills Campus & City of Atlanta: $70 M

**WAGE PREMIUM**
- State of Georgia: $770 M
- Druid Hills Campus & City of Atlanta: $80 M
Emory’s own capital investments in new buildings, large-scale renovations, and infrastructure projects stimulate job creation and spending in the local construction sector and includes the following:

**ECONOMIC IMPACT**

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**Emory University Construction Projects**

**2015**
- Atwood Chemistry Center
- $52 million complete
- Manuscript, Archives and Rare Book Library
- $7 million complete
- Emory Point, Phase 2
- $70 million complete

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**2016**
- Oxford Science Building
- $29 million complete

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**2017**
- Emory University Health Bed Tower
- $400 million under construction
- Atlanta Hawks New Training Facility
- $50 million under construction

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**2019**
- Campus Life Center
- $98 million under construction
Emory is committed to engaging its local community and the City of Atlanta in profound and diverse ways. Emory has been actively investing within its campus to provide better amenities that are available to neighborhood residents and provides public service functions otherwise expected of municipal government. Additionally, Emory Healthcare maintains a network of medical facilities which give Georgia’s residents access to world class health care services, and providing tens of millions of dollars in uncompensated care each year. The local community also benefits from community service performed by various student organizations and service learning opportunities. All of these activities are an investment in the surrounding neighborhood and serve to benefit the greater Atlanta region as a whole. This continued investment acknowledges the unbreakable link between Emory and its host community.

ARTS AND CULTURE AS AN ECONOMIC DRIVER FOR THE REGION
Emory’s stewardship of and investments in key art, culture, and scholarship resources drives economic activity to the region. The Rose Library, the Michael C. Carlos Museum, and the Schwartz Center for Performing Arts serve as host and contributor for countless large-scale national gatherings, and contribute to the region’s creative vitality. In 2016, the Carlos Museum attracted over 100,000 visitors, including 22,000 school age children, with two-thirds visiting from Atlanta-area public schools. Combined together, the Schwartz Center and Rose Library saw an additional 41,000 visitors in 2016.
COMMUNITY ENGAGEMENT

COMMUNITY PARTNERS: AUDL
Since 1985, Emory and its renowned Barkley Forum have partnered with Atlanta Public Schools to host the Atlanta Urban Debate League (AUDL). This effort provides students with an interest in debate with a variety of educational programs and opportunities, from tournaments to debate workshops. With an average GPA of 3.23 at time of high school graduation, urban debaters are more likely to test as college ready and ultimately graduate from college than their peers. By fostering the development of skills such as critical thinking, reading proficiency, and conflict resolution, the AUDL empowers urban youth with the life skills necessary to make a profound positive impact on their communities. The Urban Debate League was replicated to 24 programs in other U.S. cities with over 40,000 participants.

COMMUNITY PARTNERS: Graduation Generation Atlanta
Starting with a $1 million donation by Emory Alumnus Rick Rieder in 2010, Graduation Generation was borne from a partnership between Emory, the Atlanta nonprofit Communities in Schools of Atlanta and Atlanta Public Schools. This K-12 cluster-based initiative is designed to equip students from predominantly low-wealth communities with the tools they need to succeed in school and to increase Georgia's high school graduation rates. At the Jackson-Coan cluster in East Atlanta, more than 200 Emory faculty, staff and students worked with 500 students. Next, Graduation Generation plans to expand into Lithonia in DeKalb County.

African American Theater
Emory is creating a new flagship in metro Atlanta for innovative work in Black Theater. Theater Emory, in close collaboration with other campus entities and artists across the city, will be creating a 'living laboratory' for new African American theater. Over the past decade, Emory’s Rose Library has assembled over 2500 African American written play scripts.

Serving Georgia’s Farm Workers
Each summer, Emory nursing students travel to Moultrie, Georgia to provide health care services to migrant farm workers and their families. By collaborating with the Ellenton Clinic, this unique program treats nearly 1,000 people each year out of the more than 100,000 migrant and seasonal farm workers in Georgia.
Emory Healthcare is the most comprehensive health care system in the state of Georgia and a leading academic health center nationally, serving over 600,000 unique patients in 2016. Including its network of affiliates, Emory has a physical presence in 27 counties within the state. In addition, it has provided $72 million in uncompensated care, which is a part of a larger $400 million in overall community benefits by Woodruff Health Sciences.

Emory is deeply invested in developing the next generation of physicians. Annually it contributes an estimated $11 million to supplement the training needed develop this future workforce. For the past few years, Emory Healthcare has paid the entire amount to fund 80 medical residents above the Graduate Medication cap, including salaries and benefits associated with resident education, medical malpractice insurance, and administrative costs. According to Emory School of Medicine, Emory trained physicians practice in 110 of Georgia’s counties and provide approximately 25% of the practicing workforce in Georgia.
Emory’s long-standing commitment to academic excellence produces an inter-disciplinary intellectual community that is highly productive in terms of scholarship, scientific discoveries, and entrepreneurial innovations. As a result, Emory is ranked in the Top 20 National Universities by US News & World Report, and university affiliates have been honored with awards including the Nobel Prize, Pulitzer Prize, and Presidential Medal of Freedom. This continued success is made possible by Emory’s commitment to affordability and accessibility.

Emory cultivates a vibrant on-campus community through its diverse and inclusive student body. The university dedicates extensive resources to financial aid and affordability programs to help families meet the cost of attendance, contributing more than $274 million to students’ financial need in 2016. As a result, Emory compares favorably to peer institutions, with 28% of its students coming from the bottom 60% of median household income.

28% of Emory students come from families in the bottom 60% of median household income
Emory draws the vast majority of its revenues from outside the region – non-local students’ tuition dollars and living expenses, federal research grants, visitor spending, and alumni donations. These revenues support local jobs and tax revenues while drawing in human capital from locations worldwide. Emory attracts bright and talented students to Georgia, and a significant number of them choose to stay here and contribute to the state. Their innovative contributions are vital in today’s environment of fast technological change and high market demands. While 24% of Emory’s students hail from Georgia, about 40% of alumni stay in the state after graduation.

81% of Emory students are from outside the Atlanta metro region; 15% from outside the U.S.

Federal sources represent 68% of Emory’s $575 million 2016 awarded research grants, supporting jobs and economic activity in Georgia.
Among Emory’s truly distinguishing features is the scale and uniqueness of its research efforts. Its world-class research assets and inter-disciplinary approach affords it opportunities to tackle local, national, and global challenges, particularly in the global health space. These research opportunities lead to medical cures and scientific breakthroughs that benefit society. They also attract notoriety, talent, and funding back to Emory, giving it a chance to make a global impact in ways that also benefit the regional economy. Each year for the past seven years, Emory has attracted half a billion dollars or more in research awards to metro Atlanta and Georgia.

In 2015, Emory Global Health Institute (EGHI) was awarded a $75M grant from the Bill and Melinda Gates Foundation to lead the implementation of the CHAMPS network. The network will gather data on how, where, and why children are getting sick and dying in order to better inform public health research and government policy. EGHI was chosen for this effort due to its robust research capacity and strong relationships with the CDC, international public health institutions, and the foundation community. As CHAMPS grows to encompass as many as 20 sites, Emory’s partnership with these organizations will benefit the developing network, aid the university’s own research, and support children worldwide.

The Winship Cancer Institute of Emory University, Georgia’s first and only NCI designated cancer center, is a world leader in cancer research. Winship at Emory University Hospital is ranked first in Georgia for cancer care, and more than 15,000 newly diagnosed cancer patients are seen annually by Winship physicians. In May 2017, it was awarded the NCI-Designated Comprehensive Cancer Center Status, placing it in the top one percent of all such centers in the U.S. With the NCI designation, Winship joins 68 cancer centers around the country, and gives Georgians unparalleled access to an array of resources in cancer care and complimentary services ranging from the Pain Management Clinic, the first of its kind in Georgia, to the Patient and Family Resource Center. Winship, with over 250 active clinical trials, is dedicated to taking cancer treatments from the laboratory to patients, while providing patients with attentive and compassionate care. Winship also serves Georgia by bringing clinical trials, training, education, and subspecialty care to community facilities throughout the state.
RESEARCH AND INNOVATION

Emory is at the epicenter of public health, with research initiatives that serve humanity. Its investment in global health and partnerships with health institutions worldwide put Emory at the forefront of fighting pervasive and resilient diseases like the Ebola and Zika viruses. The expertise provided by Emory’s Rollins School of Public Health and prominent public health agencies such as the U.S. Centers for Disease Control and Carter Center will allow Emory to continue to be a world leader in the fight against pathogen outbreaks both domestically and globally.

Emory’s Response to the Ebola Epidemic of 2014

Following the West African Ebola virus epidemic in 2014, Emory’s Serious Communicable Diseases Program (SCDP) led the US response to the outbreak, successfully treating the first patients with Ebola virus in the Western Hemisphere. Patients were treated in the nation’s first high-level biocontainment unit. Emory’s medical experts made their protocols available to the public health community to assist in the worldwide treatment of the Ebola virus. In 2015, the National Ebola Training & Education Center (NETEC) was established to help healthcare systems nationwide manage Ebola and other pathogen incidents. NETEC is co-lead by Emory and two other academic institutions, and has garnered $24 million in grant funding to support training and facilitate research.

Emory’s Ongoing Efforts in Containing the Zika Virus Threat

Since the worldwide onset of the Zika, Emory and its national partners have been engaged in attempting to understand and fight the ongoing threat of the virus. Distinguished staff, like Dr. Mehul Suthar (pictured top left), have made key discoveries on Zika’s affects, particularly those in unborn babies, while Dr. Mark Mulligan (pictured lower left) has led the charge at Emory to discover a vaccine. Emory is one of only three centers nationally that are conducting clinical trials on a potential vaccine. Emory’s Zika response is not limited to the laboratory. As part of a CDC grant, the Rollins School of Public Health has been engaged with foreign governments to help provide a better programmatic response and increase overall preparedness for health emergencies like Zika.
Emory’s prolific creation of innovation assets creates intellectual property in a number of different fields. It has created a vibrant ecosystem that supports a growing worldwide diaspora of Emory entrepreneurs. In a world in which human and financial capital are very fluid, it helps to anchor the Atlanta region’s ability to compete as a regional innovation destination.

**Start:ME**

Emory has partnered with local organizations to deliver an accelerator program in local metro Atlanta communities. Start:Micro-Entrepreneur Accelerator Program (Start:ME) is a free 14-week program that provides promising entrepreneurs the business training, network, mentorship support, and early-stage financing needed to develop their businesses. Since its inception in 2013, the program has supported 84 ventures, 94% of which have been minority or women-owned. In the summer of 2016, Start:Me made $50,000 in loans to microbusinesses (employing between one and four employees) in the Clarkston and East Lake communities. The program’s success has helped microbusinesses not only generate income for entrepreneurs, but also help build neighborhood vitality.

**Alumni as Entrepreneurs and Thought Leaders**

Left to right: Barry Silbert (Digital Currency Group), James Wetrich (The Wetrich Group), & Mike Dubin (Dollar Shave Club)

As part of Emory’s ongoing academic mission, the University has also cultivated a rich environment for the creation and proliferation of ideas that disrupt the status quo and advance industries in new and profound directions. Emory alumni like Barry Silbert and Mike Dubin have used their Emory education to create businesses worth hundreds of millions of dollars while changing the way the world thinks about concepts as simple as buying a razor or sending money online. These successes are a natural outcome of Emory’s effort to cultivate an inclusive and interdisciplinary educational environment on campus. Furthermore, they help propel Emory to a national and international audience and consequently attract attention and resources to Atlanta and Georgia.
Local Engagement

$1.2M in subsidized MARTA passes for faculty and staff.

As one of the largest independent transit systems in the state, Emory provided 3.4M rides to students, visitors, and local passengers – a $9.8M investment.

Over 90,000 hours of community service.

Regional Leadership

44 of 72 startups birthed from Emory-licensed technologies are located in the state of Georgia.

Ranked among the top 10 “Greenest universities” in the country.

Emory’s shuttle fleet is a 100% alternatively fueled system.

The WaterHub can recycle up to 400,000 gallons per day.

Statewide Impact

$9.1 billion annual impact.

64,000 jobs supported.

$200 million in state tax revenues generated.

Global Innovation

Emory has research partnerships in at least 159 countries, tackling such topics as HIV and Ebola.

Over 1,700 active clinical trials, with over 16,500 participants enrolled, the results of which have global implications.
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1.0 INTRODUCTION

1.1 PURPOSE OF REPORT

Emory University, which includes Emory Healthcare (collectively referred to as Emory), is a premier private teaching, medical, and research institution located in the Atlanta, Georgia region. It is a top-ranked research university, and a world-class healthcare system, that serves humanity and improves societal conditions – both locally and globally. Among its many attributes, it is well-regarded for providing an excellent educational experience, developing cutting-edge research, confronting global health challenges, and advancing the delivery of health care services.

The purpose of this report is to express these unique characteristics in economic and social impact terms, and to identify and where possible quantify those impacts at a citywide, regional, and statewide level. Specifically, this report will estimate the impact of the Emory’s annual operations, its capital investments, the student, patient, and visitor spending it attracts, and the additional earnings potential it confers on its graduates. This report will also highlight key areas of distinction, including but not limited to its local engagement, academic excellence, cutting edge research, and entrepreneurship successes. These points of pride represent unique ways in which it both achieves those economic impacts and produces broader gains to society as a whole.

1.2 ABOUT EMORY UNIVERSITY

Grounded in the roots of the Methodist Episcopal Church, Emory was founded as a college in Oxford, Georgia in 1836. In 1915, it relocated to its present location in DeKalb County with the help of local philanthropist Asa Candler, founder of the Atlanta-based Coca-Cola Company. As the small university grew in the 1900s, so did its impact and influence in the local and global community.

Today, Emory University has grown to a community of nearly 15,000 students and almost 30,000 faculty, staff, and other employees across Emory University and Emory Healthcare. Emory University offers a variety of degree programs through nine colleges and schools including, Emory College, Oxford College, Goizueta Business School, Nell Hodgson Woodruff School of Nursing, Laney Graduate School, School of Law, School of Medicine, Candler School of Theology, and the Rollins School of Public Health. Emory Healthcare is the most comprehensive healthcare system in the state and includes several major facilities: Emory University Hospital, Emory University Hospital Midtown, Emory University Orthopedics & Spine Hospital, Emory Rehabilitation Hospital, Emory Saint Joseph’s Hospital, Emory Johns Creek Hospital, Emory University Hospital Smyrna, as well as a network of offices called Emory Clinic.
Inaugurated in February 2017, President Claire E. Sterk is the 20th president and the first female chief executive officer of Emory. Building upon significant stakeholder outreach, President Sterk has laid out a clear vision to capitalize on Emory’s strengths in four strategic areas: academic excellence, deeper engagement with Atlanta, global health innovation, and enhancing the impact of Woodruff Health Sciences Center. These priority areas are fundamental to the mission and activities of the institution and can be found at the heart of all its daily activities and initiatives. As a result, they are prominently featured in the economic and social impact narrative contained in this report.

1.3 HOW EMORY SERVES AS AN ECONOMIC ENGINE FOR THE CITY, REGION AND STATE

Although they are tax-exempt entities committed to academic and social missions, institutions of higher education are increasingly understood to be important parts of a region’s economic competitiveness, drivers of economic growth and tax revenue generation. That is because their size and scope make them a major economic engine for their local, regional, and state economy.
While any large-scale employer and purchaser will generate a significant volume of economic activity, all such activity is not alike. Universities and health systems are in many respects unique in their ability to enhance the economic competitiveness of regions well beyond their campus boundaries, as will be described in manifold ways throughout this report.

This report will demonstrate that Emory is a significant economic engine at a citywide, regional, statewide, and global level in the following ways:

- Emory is a major employer – the 2nd largest in the Atlanta region and the largest in DeKalb County – as well as purchaser of goods and services, both of which supports additional local economic activity;

- Emory attracts and retains talented graduates within the local and state economy, thereby increasing the intellectual capital and household spending power within the region;

- Emory is an initiator of long term capital investments on its campuses, which represent economic opportunity for the construction industry and related sectors, and a counterbalance to the negative effects associated with the cyclical nature of those markets; and

- Emory attracts new spending into the region through its students, visitors, and patients and their family members, many of whom originate from outside the region.

1.4 BEYOND ECONOMIC IMPACT: DIMENSIONS OF SOCIAL IMPACT

Emory is further distinguished from other large-scale economic generators by the profound impact of societal contributions at the core of its activities:

- Emory’s local engagement seeks opportunities to improve the quality of life in our surrounding communities through cultural, operational and educational projects, and engages in community outreach and education.

- Emory’s commitment to academic excellence manifests itself by educating and credentialing students, which leads to higher earnings potential. But it also serves to develop cross-disciplinary thinkers that can lead the way for generations to come.

- As the state’s leading health care system, Emory not only provides health care services to the general population, but also offers resources to populations in need, including tens of millions of dollars each year in uncompensated care to the benefit of the local community.
• Emory’s research activity has a profound national and global impact by contributing to scientific, technological, and health-related innovations that enrich and save human life around the world.

While dimensions of social impact are often more challenging to aggregate and quantify than economic impacts, they are no less essential to understanding the overall impact of Emory. Institutions of higher education and research are uniquely positioned to extend their impact beyond their campus walls by applying their expertise and intellect to pressing societal challenges. This engagement, in turn, produces meaningful benefits to both immediate neighbors and the world at large.

1.5 ORGANIZATION OF REPORT

The chapters in this report are sequenced to highlight the interconnectivity of Emory’s economic and social impact work. An initial chapter addresses the scope and methodology of this analysis (Section 2).

The content sections commence with an exploration of Emory’s deepening engagement in Atlanta (Section 3). Emory is a significant presence in the region, and its commitment to serving and engaging its surrounding communities represents a meaningful set of benefits. Local hiring and sourcing, public services rendered, stewardship of arts and culture treasures, environmentally sustainable practices, and community service initiatives are all significant components of Emory’s economic and social impact footprint and an important way in which it practices leadership and enriches its immediate surroundings.

This is followed by two chapters on the economic impact of the annual operations of Emory University (Section 4) and of Emory Healthcare (Section 5), both of which represent a significant amount of direct employment and direct spending on a variety of goods and services, which in turn support additional spillover impacts throughout the city, region, and state.

Emory is an institution of higher education committed to academic excellence, the breadth of which is discussed in Section 6. That commitment is actualized by being inclusive and accessible, creating a rigorous and open learning setting, and sending forth graduates to do well and do good. One tangible consequence of that work is that alumni retained in the region have higher earning potential, which translates into more household earnings circulating in the local and state economy. This is known as the wage premium (Section 7), and Emory graduates in the region contribute significantly to the local and state economy as a result.

Emory also believes that an important function and consequence of its strong intellectual community is the production of research discoveries (Section 8) and commercialized technologies
(Section 9). Emory’s formidable human capital assets and its advanced research approaches give it a unique platform to tackle the world’s most difficult scientific challenges, particularly in the realm of global health. This advantage leads to breakthroughs that promote scientific knowledge and that draw additional human and financial capital into the state. Emory is also a major generator of human capital in the form of alumni entrepreneurs, and intellectual capital in the form of invention disclosures and patents, both of which create a large Emory innovation diaspora around the world and strengthen the state’s competitiveness as an innovation destination.

Emory is also responsible for two additional categories of economic impact at a local, regional, and state level. First, in addition to their annual operating expenditures, Emory University and Emory Healthcare both invest significant dollars into a variety of capital initiatives, including new buildings, major renovations, and large-scale maintenance projects. These capital investments represent a significant influx of dollars into the local construction industry and related sectors (Section 10). Second, Emory draws students, patients, and visitors from all over the world, whose spending represents additional dollars circulating in the regional economy that support a wide range of businesses and industries (Section 11).

The report concludes (Section 12) with a summation of Emory’s economic impact, which is the aggregation of its impact from operations (Sections 4 and 5), wage premium to local alumni (Section 7), capital investments (Section 10), and student/patient/visitor spending (Section 11). It also synthesizes how the many economic and social impact categories reviewed in this report together cement Emory’s status as a regional leader that is redefining the role of a premier research institution through local engagement and global innovation.
2.0 METHODOLOGY AND SCOPE

2.1 SECTION OVERVIEW

This section describes the methodology used to estimate the full range of economic activity, tax revenue generation, and social impact associated with Emory’s direct economic activity. Economic impact estimates are generated by utilizing standard input-output models to translate an initial amount of direct economic activity into the total amount of economic activity that it supports. This includes multiple waves of spillover impacts generated by spending on goods and services and by spending of labor income by employees.

The description that follows reviews the scope of that analysis, with regards to the geographies and time periods of interest. It also describes the basic methodologies, tools and concepts utilized to quantify the economic, fiscal and social impact of Emory, including an overview of input-output analysis and a description of the counterfactual scenario against which Emory is compared.

2.2 METHODOLOGY

Emory’s scale and scope of activities are significant economic contributors to the city of Atlanta, Fulton-DeKalb county region (referred to in this report as the two-county region), Atlanta MSA, and state of Georgia. This report quantifies the direct expenditure impacts at these geographic levels across a number of categories. Input-output modeling is then used to estimate the spillover economic impacts of the direct spending within the economy of these geographies. As described below, ESI uses standard input-output modeling techniques to estimate the full range of economic impact, employment impact, and tax revenue impact associated with the direct activity attributable to Emory, and develops a custom fiscal model to translate this economy activity into its tax revenue generation implications for the city and state. This process is described briefly below.

INPUT-OUTPUT THEORY

In an inter-connected economy, every dollar spent generates two spillover impacts:

- First, some amount of the proportion of that expenditure that goes to the purchase of goods and services gets circulated back into an economy when those goods and services are purchased from local vendors. This represents what is called the “indirect effect,” and reflects the fact that local purchases of goods and services support local vendors, who in turn require additional purchasing with their own set of vendors.

\[1\] See Appendix A.1 for additional detail on Econsult’s economic and fiscal impact methodology.
Second, some amount of the proportion of the expenditure that goes to labor income gets circulated back into an economy when those employees spend some of their earnings on various goods and services. This represents what is called the “induced effect,” and reflects the fact that some of those goods and services will be purchased from local vendors, further stimulating a local economy.

The role of input-output models is to determine the linkages across industries in order to model out the magnitude and composition of the spillover impacts to all industries of a dollar spent in any one industry. Thus, the total economic impact of Emory is the sum of its own direct economic footprint, plus the indirect and induced effects generated by that direct footprint.
Figure 2.1 – Economic Impact Methodology

**DIRECT**
- Total Direct Expenditures
  - Employee Compensation
  - All Non-Personnel Expenditures

**INDIRECT**
- Indirect Economic Activity & Jobs
  - Employee Compensation

**INDUCED**
- Induced Economic Activity & Jobs

**TOTAL**
- Total Economic Impact

Source: Econsult Solutions (2017)
INPUT-OUTPUT MODEL

To model the impacts resulting from the direct expenditures generated by Emory, ESI developed a customized economic impact model using the IMPLAN input/output modeling system. IMPLAN represents an industry standard approach to assess the economic and job creation impacts of economic development projects, the creation of new businesses, and public policy changes.2

These economic impacts in turn produce one-time or ongoing increases in various tax bases, which yield temporary or permanent increases in various tax revenues. While higher education institutions are non-profit and thus are typically exempt from some local tax types, the economic activity and employment generated by them produce increases across a number of tax bases and therefore produces tax revenues for the jurisdictions within which they are located.

To estimate these increases, ESI has created a custom fiscal impact model to translate total economic impacts into their commensurate tax revenue gains for the city of Atlanta and state of Georgia. Output from the IMPLAN model determines its impact on the relevant tax types and tax bases associated with the jurisdictions in which revenue impacts reside. These include income, sales, and business taxes at both the city and state levels.

GENERATING THE COUNTERFACTUAL (“COMPARSED TO WHAT?”)

Further, it is important for an economic impact study of this type to clearly define the counterfactual scenario against which the economic impact of the institution is being measured. Differing conceptual and methodological approaches to which impacts are appropriately attributable to universities can yield wide variation in reported results, yet these assumptions too often remain implicit rather than explicit within the study methodology.

Broadly, economic impact reports can estimate the magnitude of either the total gross impact of an institution (or project, policy, etc.) or its net impact. In a gross impact analysis, overall impact amounts are determined for an institution without regard to what activity would have otherwise taken place in the geography absent that institution. A net impact analysis develops a counterfactual scenario which attempts to estimate activity levels that would have occurred in place of the institution in question, and nets those activity levels out of the total institutional impact.

This analysis, like most standard economic impact analyses, broadly utilizes a gross impact approach. This methodology is appropriate in part because alternative development paths are

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2 IMPLAN is one of several popular choices for regional input-output modeling. Each system has its own nuances in establishing proper location coefficients. IMPLAN uses a location quotient to determine its regional purchase coefficient (RPC). This represents the proportion of demand for a good that is filled locally; this assessment helps determine the multiplier for the localized region. Additionally, IMPLAN also accounts for inter-institutional transfers (e.g., firms to households, households to the government) through its Social Account Matrix (SAM) multipliers. IMPLAN takes the multipliers and divides them into 440 industry categories in accordance to the North American Industrial Classification System (NAICS) codes.
largely speculative. For example, simulating alternative uses for Emory’s campus or the alternative development of the Greater Atlanta economy since the institution’s arrival in Atlanta in 1915 would produce a wide range of results that could not be reliably compared to the known activity level of the University. Indeed, it is unknown whether level of activity “replacing” the University would represent a net positive or negative for the local economy. While University activity may “crowd out” activity in other sectors (particularly with respect to the physical footprint of the campus), knowledge activity also generates significant spillovers into the broader regional economy, and the human and intellectual capital effects of premier research institutions are major business attractors.

In addition, this analysis employs a counterfactual in which Emory does not exist, rather than a scenario in which the identical activities are somehow transported to a different geography, or one in which other universities increase their activity levels by a commensurate amount to absorb this lost activity. Thus, the benefits to employees and students of the university are not understood to be simply shifted in their geographic scope, but representative of an overall increase in level of activity in the educational sector due to the existence of Emory.³ Further, from a geographic standpoint, benefits are not confined to those residents that would have been within the geographic boundaries absent of the university, but rather reflect the role of the institution in drawing activity into the region, which includes the importation of new students, faculty, administrators and researchers who would likely reside and work elsewhere absent Emory.

2.3 SCOPE

WHAT IS INCLUDED

Emory is a complex institution with a number of distinct parts. The scope of this report includes Emory University, inclusive of the nine schools and colleges that confer degrees, as well as Emory Healthcare, which includes seven major facilities and multiple clinics located throughout the state. For the purpose of this report, the naming convention of “Emory” is used to represent the entire institution, inclusive of Emory University and Emory Healthcare.

In addition, Emory has a number of affiliates that are discussed qualitatively throughout this report. These include the Carter Center, Grady Hospital, the VA Hospital, and Children’s Healthcare of Atlanta. Where there is overlap with the operations and expenditures of Emory and its affiliates, e.g. faculty of the Emory School of Medicine also working at affiliate hospitals, these are included in the analysis. However, in general, this report does not include the affiliates’ budget in the economic model.

³ Note that while specific Emory University students, faculty and administrators would more than likely find alternative universities absent Emory University, that shift would in turn “bump” students or employees from those universities to another university, and so on throughout the educational sector, until eventually a set of current students and employees were underserved due to the overall decrease in the size and activity of the sector.
**Geographies of Interest**

Emory’s economic and social impact is both very local and very global, and where the data permit it and where it is relevant to a particular aspect of its impact, this report describes impacts at multiple geographic levels. However, for the five economic impact sections, which sum to Emory’s aggregate economic impact, it makes the most sense to focus on city and state boundaries, since that is where the majority of its economic footprint lies and that is where the majority of the audience for this report is most interested. Therefore, economic impacts in this report are calculated at four concentric geographic levels (See Figure 2.2):

- Emory’s Druid Hills campus + city of Atlanta. This geography is chosen to capture the direct activity that occurs on campus in Druid Hills which is currently adjacent to the city of Atlanta as well as the direct, indirect, and induced impacts that occur in and spill over into the Atlanta economy.

- The two-county region consists of DeKalb County and Fulton County.

- The 30-county Metropolitan Statistical Area (MSA), which includes the following counties in Georgia: Barrow, Bartow, Butts, Carroll, Cherokee, Clayton, Cobb, Coweta, Dawson, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Haralson, Heard, Henry, Jasper, Lamar, Meriwether, Morgan, Newton, Paulding, Pickens, Pike, Rockdale, Spalding, Walton.

- The state of Georgia

Tax revenue impacts are modeled for the city of Atlanta and the state of Georgia. Importantly, while the city economy is wholly contained within the state economy, the city of Atlanta and the state of Georgia are separate and distinct government entities, with separate and distinct tax bases. Therefore, the fiscal impacts amount for the city and state are additive.  

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4 Note that the Emory footprint may produce other taxes for other jurisdictions, but it would likely be small in magnitude and is therefore excluded from this analysis.
This analysis seeks to quantify the current annual level of economic activity associated with Emory. To do so, it seeks to use the most appropriate and recent data available for each component for the calculation. Where available and appropriate, FY2016 data was utilized as it represents the most recently completed fiscal year. In some instances, however, multiple years of data are useful to establish a more appropriate baseline for metrics that may fluctuate on an annual basis or to illustrate a changing trend in the level of activity over time.

Data utilized throughout this report are largely provided by Emory and are verified by Emory as well as independently checked against publicly reported sources, where available.
ADDITIVE VS. ILLUSTRATIVE

While a variety of impacts associated with Emory’s activities are analyzed and described within this report, care has been given to understanding which impacts are unique and therefore sum to the total economic and tax revenue impact figures documented in the conclusion of the report.

- Methodologies used to estimate impacts in Sections 4, 5, 7, 10, and 11 (Emory University Operations, Emory Healthcare Operations, Wage Premium, Capital Investments, and Ancillary Spending, respectively) are chosen to ensure that these impacts are mutually exclusive and therefore additive.

- Impacts described in Sections 3, 6, 8, and 9 (Local Engagement, Academic Excellence, Research and Innovation, and Commercialization and Entrepreneurship) largely stem from programs and efforts originating within Emory’s operating budget. Therefore, these impacts cannot be added to impacts from operations calculated in Section 4 and 5 without some degree of double counting. These sections therefore focus on the qualitative implications of Emory’s activity and are illustrative of different ways Emory produces a local or global social impact.

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5 For example, Section 11 only includes spending by students and visitors that is “ancillary” (i.e. not accruing to Emory through categories like on campus room and board), and therefore are not reflected as part of the operations quantified in Section 4 and 5.
3.0 LOCAL ENGAGEMENT

3.1 SECTION OVERVIEW

The first content section of this report is devoted to Emory’s many avenues for local engagement. This is an important topic for all universities, and one that is of particular import for Emory as it seeks deeper engagement with Atlanta and beyond. The purpose of this section is to represent the depth and diversity of benefit accrued to the communities immediately surrounding the Emory campus, which are over and above the economic impacts produced by Emory for greater local and statewide gain and which emerge from an understanding of the reciprocal and shared nature of town/gown relations.

3.2 THE CHALLENGE AND OPPORTUNITY OF TOWN/GOWN RELATIONS

Institutions of higher education are no longer just enclaves of intellectual pursuit. Today they play a much broader role in the economic, social, and physical development of cities and neighborhoods. Unlike industries that have driven growth in the past, however, these institutions are rooted in their host communities. At the same time, they must achieve their missions and develop in a highly competitive environment. This situation presents new challenges for universities and their host cities as the need for effective collaboration is increasing.

It is not uncommon for town-gown officials to have misunderstandings based on different priorities. Both entities have often come into conflict over housing demand, safety concerns, and student housing and behavior. When these relationships are strained, both entities fail to take advantage of the important benefits that come from a co-operative partnership. Higher institutions are a valuable asset that positively affects the availability of capital, consumers, jobs and educated residents. Additionally, host communities provide essential public services, social and cultural amenities and economic activities.

There are multiple opportunities for communities and schools to participate in mutually beneficial programs and projects. These positive practices reflect joint efforts where everyone benefits, including residents, students and school officials. For example, service learning opportunities can benefit the surrounding community while also providing academic credit for students who volunteer. Similarly, faculty can become part of local initiatives in a coordinated way and use their research skills to address local problems. One main consequence of these joint efforts is the resolution of mutual concerns before they become community issues.

A cooperative mindset in recent years has led to a new generation of college towns that promote positive interactions and developments. One of the best examples is Emory’s Clifton Community Partnership (CCP), which is designed to bring neighbors, students, employees, businesses and institutions together to work on quality of life problems. Formed in 2006, it provides a framework...
in which to engage the Clifton community (within three mile radius of Emory’s core campus) in productive dialogue to develop a vision for the future. The CCP focuses on quality of life initiatives that have a significant and positive impact on the community, including:

- **Live Locally** - encouraging housing options in the community that appeals to local employees so they can live closer to campus
- **Walk Anywhere** - creating safe, wider sidewalks to promote walkability and a healthy commute option
- **Commute Creatively** - improve transportation alternatives to reduce traffic congestion and improve air quality
- **Enhance Vibrant Neighborhoods** - improve activity centers such as entertainment, local shops and restaurants

In addition to CCP Advisory Group meetings, Emory hosts quarterly forums open to the community, where information on issues of mutual interest is shared and Q&A is welcomed and encouraged.

The future of schools and communities depends on the proper planning and management of their respective community and school resources through the best use of available town-gown practices. It is only through such cooperative processes like the Clifton Community Partnership that outstanding and emerging issues can be appropriately addressed, and that joint proactive efforts can be taken to appropriately plan for the future. Emory’s dedication in working together in a positive relationship will help achieve this goal.

### 3.3 THE CAMPUS AS A RESIDENTIAL AMENITY

An important manifestation of Emory’s service to and benefit for its immediate community is the campus it maintains, which is of great use to local residents. Emory’s main campus, located six miles northeast of Atlanta’s central business district, offers accessibility and convenience for students seeking a connection to a larger city. In turn, the campus has a variety of natural and cultural amenities that serve as resources for the surrounding community. Emory has well-planned spaces for socializing, recreation, and gathering that serve the needs of students, faculty, staff and visitors.

A prime example is Emory University’s Woodruff Library, which provides a variety of resources, including wireless internet and computer access. This is a vital resource for providing all types of information and communication services, especially for people without Internet services at home. For FY16, the number of unique visitors to the Main and Health Science libraries totaled 18,965.
With the establishment of a Preservation Office in 1985, the library has also served as a resource for the preservation of historical artifacts and information from the local community.

Emory also has a rich calendar of educational, cultural and social options that are freely available to the general public. Emory hosts a wide range of events including educational exhibits, films, music, and guest speakers. Specific examples include Ladies' Night Out, the Donna and Marvin Schwartz Center, Santa's Favorite Chamber Music, Haunted Harris, the Carlos Museum and exhibits at Pitts Theology Library.

Emory’s Conference Services supports the Emory and surrounding community by providing conference accommodations at Emory University. Every summer, the University offers a full-service conference operation. It is designed to serve the needs of both internal organizations and external, non-affiliated groups. These services host a variety of conferences catering to people of all ages, backgrounds, and interests. Conference Services assist groups with lodging, meals, meeting space, tours of Atlanta and visits to local attractions.

Even the physical campus itself is an amenity as it offers an abundance of natural beauty and green space. The main campus is situated within a heavily forested area with a number of rare and diverse species. As a result of the university’s efforts to maintain its forest canopy, more than half of its 700 acres of land has been left undeveloped. Preserves such as Lullwater and Wesley Woods are all part of this large ecosystem that serves as valuable aesthetic and scientific resources. They offer multiple scenic walking and running trail loops within a wildlife rich forest. Students have used the forests in different courses to explore concepts in Biology and Ecology. In addition, birdwatchers and naturalists have also used the landscape as a way to connect with nature.
The campus’ natural landscape supports the university and community’s commitment to sustainability by enhancing ecosystem services. For instance, plants and trees are vital to improving air quality within urban environments. They filter out harmful pollutants such as ozone and particulates from the air, directly enhancing local air quality. Similarly, vegetation can help reduce the urban heat island effect by lowering surface and air temperatures. Generally speaking, the campus’ natural resources help the university and its surrounding community through the cleansing of air and water, habitat enhancement, and improvement of human health and well-being.

3.4 A LEADER IN ENVIRONMENTAL SUSTAINABILITY PRACTICES

The state of Georgia faces a variety of environmental challenges that threaten the quality of life of its communities. As the state continues to grow, it must address a confluence of environmental issues such as air pollution, water quality and availability, energy use and climate change impacts. Economic development and future growth in Georgia requires a sustainable use and maintenance of its natural resources and environment. Sustainable development, generally defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs, is a holistic planning process that considers the
needs of the environment, economy and the community. Sustainability is related to the quality of life in a community—whether the economic, social, and environmental systems are providing a healthy, productive, and meaningful life for community residents, present and future. It serves as a medium to support or enhance ecological and communal vitality as well as a catalyst for economic growth. In sum, sustainability initiatives have tangible, positive effects on global as well as local environmental issues.

Institutions are increasingly recognizing the need for sustainable planning frameworks. In 2005, Emory adopted a sustainability initiative as part of its 2005 to 2015 Strategic Plan. Since the adoption of the strategic plan, sustainability has been a guiding principle of the University’s initiatives. Emory’s sustainability initiatives include climate action, energy conservation, green building, waste minimization, sustainable transportation, greenspace preservation, research and curriculum development, sustainable procurement, and water conservation.

Emory seeks to model best practices in sustainability to inspire and educate its students and broader communities, lead innovation in sustainability, and produce public health results that benefit the campus and local and global communities. Its innovative sustainability efforts have cut costs and increased the ecological and social well-being of the campus and surrounding communities. Emory is also a recognized leader in integrating sustainability into the curriculum, ensuring that graduates are exposed to sustainability principles and prepared as leaders for a sustainable future. Emory leads the Piedmont Project, a national faculty development program for campus educators across metro Atlanta and the United States, and, in this manner, has impacts far beyond its campus gates.

Emory University has one of the largest inventories by square footage of LEED-certification building space among campuses in the country. LEED certification, which stands for Leadership in Energy and Environmental Design, is part of an established program that was made by the US Green Building Council to promote environmentally-friendly design practices. Buildings that are LEED certified meet certain high standards for indoor air quality, energy and water conservation, and appropriateness of the siting. In addition, a certain percentage of the building materials need to be from recycled or other sustainable sources. LEED-certified buildings produce fewer waste products and are more energy efficient than would be otherwise. Since 2004, Emory has built or renovated over 30 buildings to LEED standards.

Program Spotlight: Oxford College
- Oxford College was accepted to Grants to Green, a local partnership that helps nonprofit organizations have environmentally efficient workplaces. Acceptance to the program will allow Oxford to further the school’s commitment to sustainability.
- The Oxford College Organic Farm was named one of the Top 30 Sustainable College-Run Farms just a year after opening. The fully operational farm has been integrated into curriculum across the sciences, social studies, and humanities, and produce from the farm is sold both to the dining hall and in the community.
Emory has aggressively implemented a variety of operational strategies to reduce energy use. In 2014, ahead of schedule, the university met its 10-year goal to reduce energy use by 25 percent per square foot by 2015 from 2005 levels. This was made possible by making buildings more energy efficient; establishing a temperature policy to conserve energy; and promoting conservation and sustainability culture throughout the university. Emory also has addressed water conservation with the WaterHub, an ecological water re-use system that uses plants and microorganisms to recycle up to 400,000 gallons of water per day. It reduces the campus’ use of municipal potable water by 40 percent, allowing more drinking water to be available to surrounding communities.

Both Emory's water and energy conservation efforts have resulted in cost savings to the University that can be channeled to mission-oriented efforts and provide benefits to surrounding and global communities through reduced air emissions, lower greenhouse gas emissions, reduced strain on municipal systems, and more resources made available to the community.

Emory University has committed to sustainable food initiatives through its purchasing guidelines. Emory sources its food from nearby producers, giving the highest priority to Georgia farmers and secondary priority to partners throughout the region. In FY16, Emory University spent over $1.57 million on Georgia food products. Supporting local and sustainable food purchasers is important because it reduces the environmental costs associated with transportation and strengthens Georgia’s agricultural economy, family farmers, farming communities, and the rural landscape of Georgia. By the end of 2017, Emory expects to purchase 50% of its food from local or sustainable sources. Other important efforts include the creation of 8 educational food garden projects, a farmer’s market, and an organic farm.
Increasing participation in alternative commute options has also been another important focus. Emory’s Cliff shuttle system, which provides extensive campus and off-campus service, is completely alternatively fueled. Its fleet runs on biodiesel fuel, made in part from hospital and campus used cooking oil. Emory’s use of biofuels is preferable because it produces lower levels of carbon dioxide and other emissions when burnt. As one of the region’s largest independent shuttle systems, Cliff takes an average of 3 million car trips off metro-Atlanta’s congested streets. Approximately 50% of Emory faculty, staff and students commute sustainably (not driving single-occupancy vehicle).

In FY16, Emory spent $1,220,000 on transit subsidies for its faculty and staff to use MARTA. This subsidizes a free pass to full and part-time employees, granting access to Atlanta’s principal public transport operator. The University has promoted sustainable commute options in a variety of other ways, including reducing petroleum use; conversion of waste product into an energy source; a bike rental program; a car share program; carpooling; and installation of electric vehicle charging stations.

In the over 10 years since the implementation of the Strategic Plan, Emory University has made significant progress in incorporating sustainability practices into its operations, curriculum, and research. The University has been recognized for these efforts, ranking third among tier 1 colleges and universities by the Association for Advancement of Sustainability in Higher Education. Studies have shown that a University's commitment to sustainability helps attract and retain the best and brightest students to the campus and community.

Following a decade of success, Emory devised a new sustainability strategic plan and vision for 2015 to 2025 period. The new Vision reinforces many of the commitments made in the 2005 initiative, such as sustainable and local food procurement, storm water management, and air quality improvement, while new aspects of the plan emphasize goals related to institutional culture change and the creation and expansion of community partnerships. The 2015 to 2025 Sustainability Vision is composed of four key strategic areas:

1. Supporting culture change across the institution
2. Expanding the network of sustainability champions to strengthen leadership
3. Using Emory’s landscape, buildings and operations as a model for sustainable development
4. Creating strategic partnerships with local, national, and international institutions

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Some of the goals within these areas focus on developing sustainability leadership programs for faculty, staff and students, improving rail and bus shuttle service to campus, and increasing food security in the Atlanta region through partnerships. Emory also notably aims to support sustainable local businesses using an “Emory preferred” scorecard system, as well as to support campus-based sustainability research activities with a data hub and interdisciplinary research hub.

Through the research, training and operational practices articulated in its revised Strategic Plan, Emory has shown its dedication to promoting a sustainable culture and implementing environmentally conscious policies. As a catalyst for sustainability in the immediate community and the region, Emory’s sustainability initiatives are exemplary of ethical approaches to creating a healthy and productive place to live, learn, and work. By modeling sustainability best practices and innovation, training faculty to integrate sustainability into the curriculum, graduating students prepared for leadership in sustainability, and reducing the impacts of its operations, Emory's sustainability initiatives benefit communities locally and globally, now and into the future.

3.5 STEWARD OF SIGNIFICANT SCHOLARLY, ARTISTIC, AND CULTURAL RESOURCES

Communities that invest in the arts reap benefits of economic growth, jobs, and a quality of life that positions them to compete in the 21st Century creative economy. Research has shown that the arts help cities attract talent, spur innovation, and grow their economies. In addition, art and cultural expression are important in a large city like Atlanta, as they provide a better understanding and appreciation for a community’s cultural diversity, and can facilitate connections among diverse groups. Emory invests significant resources in making art and culture assets accessible to residents. The arts at Emory enrich the surrounding Atlanta community through outreach and educational programming as well as the more than 300 events that are held each year. This is a profoundly important part of Emory’s deepening engagement with and service to Atlanta.

Emory’s Libraries system serves as a focal point for the preservation of knowledge, and is an important contributor to scholarship and the development of information literacy in society. The Libraries’ mission includes the preservation and promotion of intellectual and cultural heritage, the initiation and implementation of creative and impactful uses of technology, and the production of useful and distinctive services, information, and content. Emory Libraries are ranked 19th in the Association of Research Libraries with resources, expertise, spaces and programming developed to advance excellence in education and outreach, subject specialties, and technology. The Libraries have a campus and community relations program to advance scholarship, culture, and art with exhibitions and events, and programs that create a platform for exploration and engagement for the campus, the broader community, and the world.

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8 A recent national report by Americans for the Arts placed the revenue to local and state governments as approximately $8 to $9 billion.
The Stuart A. Rose Manuscript, Archives, and Rare Book Library is an internationally renowned special collections library that documents stories of human experience. Conservation is paramount to Rose Library and its mission is to preserve, organize and deliver information resources for students, scholars, historians, and the public. The library currently holds 150,000 print titles, and over 15,000 linear feet of manuscript material. The library’s collections include ancient cuneiform tablets; print material that document important aspects of African American history and culture; thousands of countercultural materials; and collections that explore political activism and reform in the 20th Century. With over 3,200 attendees in 2016 alone, Rose Library serves as a focal point for the preservation of knowledge, and is an important contributor to scholarship and the development of information literacy in society.

**Figure 3.3 – The Stuart A. Rose Library**

Pitts Theology Library of Candler School of Theology is one of America’s premier theological libraries, with more than 600,000 volumes, including 150,000 rare books in special collections. Pitts holds more than 100 volumes from the earliest days of printing, the oldest being from 1470—less than 20 years after the printing of the Gutenberg Bible. In addition to the celebrated Kessler Reformation Collection of 3,500+ books and manuscripts documenting the history of the Protestant Reformation in Germany, Pitts also holds special collections in English and American hymnody, John Wesley and the early history of Methodism, writings of Thomas Merton and Father Thomas Keating, and the archives of numerous Methodist churches and entities in north Georgia. In 2015, Pitts was one of just three sites in the United States chosen to mount official German exhibits celebrating the 500th anniversary of the Reformation.
Library staff makes more than 150 group presentations each year to 2,500 visitors, and more than 9,000 visitors annually tour the library’s exhibits. The Pitts Theology Library contains the third largest collection of theology and religious materials in the country, including extraordinary holdings in rare books and manuscripts. The Law Library, Health Sciences Library, Oxford, and Law have special collections as well.

The Michael C. Carlos Museum is a University-run museum that is located on main campus. Its mission is to collect, preserve and exhibit artifacts from antiquity to the present. It has one of the largest ancient art collections in the region, including objects from ancient Egypt, Greece, Rome, Africa and the Americas. In addition to its large collection, the museum is a source of educational programming, providing lectures, workshops, performances and festivals for adults and youth. The Museum connects the public with distinguished Emory faculty and brings national and internationally recognized scholars, authors and artists to campus for lectures, book signings, and residences. With more than 100,000 annual visitors, including 22,000 students, the Carlos Museum is an important regional institution because it serves as a vital artistic amenity for the surrounding community.  

The University opened the Donna and Marvin Schwartz Center for Performing Arts in 2002. The center provides a multidisciplinary teaching and performance center for the performing arts programs, including dance, music, and theater. It features an 830 seat concert hall, lab theater, dance performance hall, instrumental rehearsal hall and a gallery. Activities occur frequently throughout the year, including poetry readings, film screenings, and orchestra performances. With more than 37,000 annual visitors, the Schwartz Center serves as the centerpiece for artistic engagement on campus. It is a space that facilitates the collaboration of innovative and creative ideas. In addition, the center has an artist residence program that provides opportunities for meaningful contact between artists and expert performing artists, composers, and art scholars.

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9 The Carlos Museum website estimates that the total number of annual visitors exceeds more than 100,000.
Emory holds a number of cultural events that attract visitors into the area. Emory hosts many jazz concerts, which have featured well-renowned artists like Teodross Avery, Anat Cohen and Julian Septet, alongside educational workshops. Another great example is the International Festival and World Cup Tournament, which incorporates soccer matches, music and dance performances from Emory cultural student organizations. The event features international food, free giveaways, and activities throughout the festival and tournament. In 2014, there were more than 500 attendees.

Emory’s libraries also encapsulate the institution’s commitment to accessibility and collaboration within the city of Atlanta. In March 2016, the state-of-the-art Library Service Center (LSC) opened on Emory’s Briarcliff property. The Center is projected to house more than 2 million volumes by summer 2017. The materials housed in the 55,000-square-foot climate-controlled facility will be available to faculty, staff, and students of both schools, increasing access and enhancing collaboration between two of Atlanta’s leading educational institutions.
A thriving arts and cultural sector increases the vibrancy of the whole community. Additionally, creativity – like information – should be accessible to everyone in a community. Emory broadens access to the arts through its conservation efforts, live events, and community outreach programs. It cultivates an active arts community by leveraging both its creative and entrepreneurial resources. This rich collection of resources available at Emory attracts internationally-renowned scholars, artists, and students to the Atlanta area, further broadening Emory’s reach.

3.6 PUBLIC SERVICES PROVIDED BY EMORY

The majority of private and public universities and colleges in the United States are tax-exempt. As non-profit, tax-exempt entities, they are under no legal requirement to pay for public services. Many have questioned whether universities pay their fair share to the cities in which they reside,
especially in cases where government spending is strained. However, despite their tax-exempt status, universities generate taxes with student spending, payroll taxes, and spending on goods and services. In addition, universities provide for most of their own public services, and are often net contributors of public services.

As a large scale institution, Emory possesses within its operating capacity the ability to provide for itself many services that are usually rendered by a municipal government. In areas such as public safety, transportation and parking services, and emergency medical services, the University renders many of its own services within its campus, supplementing those provided by the City. Many of public services are provided by Emory’s Department of Public Safety, which provides administrative oversight to the police and fire department, as well as emergency medical services. Emory also extends its services beyond its own campus, thereby benefitting the adjacent neighborhood, which receives supplemental public services to those provided by the City.

The Emory Police Department (EPD) provides safety services to students, staff and guests to the Emory community which includes the Emory Campus, Midtown Campus and Oxford College campus. EPD works in conjunction with local law enforcement agencies to provide law enforcement services, physical facility services, and management oversight for electronic security systems. During the 2015 calendar year, the department responded to over 12,000 requests for emergency and non-emergency customer services. EPD has also participated in a variety of community service functions, such as assisting with serving lunch to a large gathering of senior citizens.

Emory is the only school in Georgia with a collegiate EMS program. Emory Emergency Medical Services (EEMS) is a student-operated, volunteer organization that serves the community 24 hours a day, 7 days a week during the academic year. Comprised of over 40 volunteers, it provides emergency and non-emergency medical care to students, faculty, guests on the Druid Hills campus and the surrounding community. EEEMS provides coverage to university and community events including Commencement and EMT courses. During FY16, EEMS responded to approximately 800 requests for medical service.
The University's Fire and Safety Division provides fire safety services to Emory, Oxford, and Grady area campuses. The division is responsible for the provision of community education programs, safety inspection, fire drills and system maintenance. The department provides fire safety and emergency response training for members of the Emory community, as well as local fire authorities.

The Emory Recycles program provides the surrounding community with an opportunity to recycle items such as clothing and electronic waste. Emory also provides shuttle service to the community, helping reduce the number of single occupant vehicles (SOVs) on the road. Total ridership between FY 2010 and 2016 was 3,447,778. This has reduced almost 16 million pounds of greenhouse gas emissions. These efforts have helped the University and the surrounding community to grow in an environmentally sensitive way.

In addition, Emory invests significant resources in road and streetscape improvements, which enhance the overall aesthetic and transportation experience for visitors to campus. For example, Emory embarked on a major public engagement process that yielded a $10 million investment by Emory to improve Clifton Road (a DeKalb County road), including new sidewalks, crosswalks, medians, and trees.

The Clifton Streetscape project is exemplary of Emory’s direct investment in the surrounding community. It is an extensive construction effort that centers on Clifton Road which includes widening of the road and sidewalks, a bike lane, repaving, new landscaping and improved visibility of intersections. Another notable project is a two-story pedestrian bridge which connects
Emory University Hospital with its J Wing. Consistent with urban design guidelines, the enhancements are meant to make travel for patients, students, faculty, staff and visitors along Clifton Road more accessible and enjoyable. This project improves accessibility and empowers visitors, residents and businesses.

**Figure 3.8 – Tree Planting Along Clifton Road**

![Tree Planting Along Clifton Road](source: Emory (2017))

Emory has been actively working to advance active forms of transportation that lessen environmental impact, encourage healthy lifestyles and strengthen sense of community. The University has a fleet of 40 buses that provide regular service to campus and the community. There are 21 different bus routes, including 4 routes that are specifically dedicated to commuters. Emory leases parking spaces at local malls where faculty and staff can park for free, and shuttle in to campus. As one of the largest privately-funded transit systems in the region, its shuttle system transported 3.4 million passengers and provided over 100,000 hours of service in 2016.
Additionally, Emory invested approximately $9.8 million in its Cliff shuttle fleet and network in FY16. By focusing on alternative modes of transportation, the University has increased communal health benefits, reduced impacts on fees and parking costs, and helped mitigate overall congestion.

3.7 HEALTH CARE PROVISION

Health care as an industry is growing in size and importance. By 2020, Georgia will have about 543,000 health care industry workers, up from 394,000 in 2010. Meeting the healthcare demands of a growing and diverse population is important priority for many state legislators, and Governor Nathan Deal. According to a 2016 nationwide study, Georgia ranks last in access to health care. In addition, the state has one of the highest rates for diabetes, obesity, and HIV-related mortality. As the most comprehensive health system in the state, Emory Healthcare offers patients access to innovative treatments and therapies. Emory Healthcare is comprised of hospitals, physicians and allied services dedicated to providing preeminent care throughout Georgia and beyond.


Emory Healthcare is an indispensable sponsor of treatment for communities in Georgia. It is committed to providing financial assistance and community services to improve access to care. Emory Healthcare is a significant source of charity care that provides health services free-of-charge, or at a reduced amount to individuals with no health insurance of resources on their own. It also extends care for individuals who may have some coverage but for whom health care bills are large relative to their financial situation. Emory Healthcare charity care programs remain vital and integral to the broader safety net of both service provision and coverage. In FY16, Emory Healthcare provided $72M in charity care, which is part of $400M in overall community benefits provided by Woodruff Health Sciences.

In addition, Emory faculty and residents provide 85 percent of the care at the publicly funded Grady Memorial Hospital, where patients receive extraordinary care, often in Emory-led programs not widely available in the region, including poison control, high-risk pregnancy, burns, HIV/AIDS, stroke, cancer, diabetes, and sickle cell disease. In FY16, Emory faculty provided $27.1 M in uncompensated care at Grady. These efforts highlight the economic significance of Emory’s charity care, as well as the scale of individual lives affected (see Table 3.1).
Service learning is an important focus for Emory’s schools of medicine, nursing, and public health. This form of educative civic engagement allows students to grasp a better understanding of broad concepts from the classroom and do more for the greater good in the local and global community. Medical students and residents spend much of their clinical training at Grady Hospital, the largest in the state of Georgia. Nursing students spend their spring providing care for local veterans and clinics for the poor in Caribbean countries. Public Health students learn the importance of serving others by spending their first day at Emory as “Rollinsteers,” preparing meals for people with AIDS, repairing homes for the elderly and cleaning streams and parks.

The Walden School is a great example of innovative treatment options and support for local communities throughout Georgia. It offers clinical, education and medical support for children with autism spectrum disorder (ASD). In the Walden School, a typical schedule consists of small group activities, independent self-care routines, dramatic play, and individual instruction. Additionally, the program brings together autistic and non-autistic children in toddler, preschool and pre-kindergarten classrooms. Cooperative social relationships are fostered through games and positive attention from well-trained and nurturing teachers.

More than 90 percent of Walden graduates with autism move on in regular education classrooms. Researchers and parents also find that graduates without autism leave Walden with more empathetic toward other children. By focusing on enhancing the social and academic

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development of both groups of children, the Walden School runs a successful program that has become a model for other programs across the country. The Walden School has been mentioned as a model program of early education treatment by the National Academy of the Sciences.  

Many assume the key to lower costs and better care lies in reconfiguring the insurance system. However, a more holistic approach for improved healthcare involves not only control over the delivery of healthcare, but also educational resources, social and community services, and economic opportunity for residents. In line with a more holistic approach to improving healthcare, Emory Healthcare is shifting its resources to make for a healthier and more whole surrounding community. In addition to charity care for indigent patients, Emory Healthcare provides numerous other services to help improve access to care, advance medical knowledge, and relieve or reduce dependence on tax-payer funded community efforts.

### 3.8 COMMUNITY SERVICE

The Emory community has established itself as a responsible and invested civic partner with a commitment to community engagement. Emory has a rich tradition of volunteerism, which activates students, faculty, and staff to a wide range of service opportunities that build leadership and instill civic pride in the volunteers while contributing to communities throughout the city. Programs that tracked students’ hours yielded a total of 90,263 aggregate hours of student service for the academic year. Traditional methods for voluntary worker hours place the per-hour value at $20 or more, meaning that Emory’s contribution through volunteer work is worth over $2 million.

Volunteer programs include tutoring, citizenship preparation services, and school programs. The list below is a sample of local institutions and departments on which members of Emory community lend their time and expertise.

#### Program Spotlight: Candler School of Theology

- Candler’s **Contextual Education** (Con Ed) program is a national model for service learning, where students work in social ministry settings, hospitals, correctional facilities, churches, and nonprofits for academic credit.

- From May 2015-May 2016, Con Ed students worked **64,000 hours** at their sites, contributing the equivalent of **32 full-time employees** to the Atlanta area’s workforce.

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16 For example, The Independent Sector estimated the value of volunteer time at about $23 per hour nationwide in 2015.
Volunteer Emory - makes a large portion of the university’s community involvement. It serves as a central point of contact for Emory students who are interested in service. It hosts an array of weekend and alternative break service trips.

Rollinsteers – a service learning program comprised of over 500 public health student volunteers who work with at least 25 local charities and organizations, including the Atlanta Community Food Bank and the West Oakland Community Park. This program strengthens Emory’s relationship with volunteer organizations, promotes public health, and serves as a service-learning opportunity for students.

**Figure 3.10 – Student Volunteers at Clarkston Community Center**

Source: Emory (2017)

Ethics and Servant Leadership – an eight week summer internship program that includes on-site work, weekly group meetings, readings and portfolio projects. Internship opportunities place students in Atlanta nonprofits, government agencies, and socially responsible businesses, including the Center for Disease Control (CDC), Eco Action, Trees Atlanta, and the Urban League.

Scholarship and Service – is a summer program that offers Emory Scholars an opportunity to work as an intern over the summer in an Atlanta non-profit organization. This program is designed to help expand the scholar’s knowledge about Atlanta, their service setting, themselves, and others. Internship placements include Sustainable Atlanta, the Atlanta Community Food Bank, and the International Rescue Committee.

Emory has been recognized for its considerable service efforts. In 2008, Emory received the Presidential Award for General Community Service, the highest federal recognition a college or
university can receive for volunteerism. More recently, in 2015, the University received the Carnegie Community Engagement Classification. The classification is based on documented aspects of institutional mission, identity and commitments, and highlights Emory’s sustained commitment to community engagements.

In addition to volunteering and community service, service learning is an important focus for Emory University and Emory Healthcare. This form of educative civic engagement allows students to not only grasp a better understanding of broad concepts from the classroom, but also to “do more” for the greater good. They are designed to simultaneously meet educational goals and community-identified needs. Emory students have volunteered for different organizations, schools and clinics.

3.9 K-12 EDUCATION

As an educational institution, urban education is one of the most important topics on which Emory interfaces with their local communities in truly engaging and reciprocal ways. In metro-Atlanta and statewide, Emory has a variety of programs that improves educational options and learning opportunities for students of all ages. In particular, the university works in close partnership with Atlanta Public Schools to bring resources to schools in the city. For instance, through the MLK Jr., and Benjamin E. Mays program, the university provides outstanding Atlanta students with scholarship awards covering 100 percent of tuition and fees when they attend Emory.

The Student Educational Experience Development (SEED) initiative promotes awareness of higher education among underprivileged students in the region. SEED consists of three main programs, which help students attend college through first-hand experience and establish research opportunities and one—on-one mentorship. The SEED initiative motivates and enables underserved K-12 students through guidance, support and academic development. It is exemplary of Emory’s commitment to the local community.

Health Career Academy is a program that offers mentoring opportunities to provide high school students with an engaging health related curriculum. It creates partnerships between mentors from graduate health professional programs at Emory and local high school students. The program targets schools that have graduation rates of 50 to 60 percent, in an effort to expose and inspire students who are interested in pursuing a career in the health profession.


The Michael C. Carlos Museum has a very active K-12 program that enhances public and private education across the state. In 2016, over 22,000 school age children visited, including two-thirds from public school and 8,000 from Title I schools. It educates students about art, archaeology, and history. It offers tours of the Museum’s permanent collection and special exhibitions, which include 20,000 artifacts from ancient Egypt, ancient Greece and Rome, South Asia, the Americas, and sub-Saharan Africa. The museum serves as a learning opportunity for those seeking to learn about art and the history of world cultures.

Since 1985, Emory and its Barkley Forum have partnered with Atlanta Public Schools to host the Atlanta Urban Debate League (AUDL). This effort provides students with an interest in debate with a variety of educational programs and opportunities, from tournaments to debate workshops. With an average GPA of 3.23 at time of high school graduation, urban debaters are more likely to test as college ready and ultimately graduate from college than their peers. By fostering the development of skills such as critical thinking, reading proficiency, and conflict resolution, the AUDL empowers urban youth with the life skills necessary to make a profound positive impact on their communities. The Urban Debate League was replicated to 24 programs in other U.S. cities with over 40,000 participants.

Starting with a $1 million donation by Emory Alumnus Rick Rieder in 2010, Graduation Generation was born from a partnership between Emory, the Atlanta nonprofit Communities in Schools of Atlanta and Atlanta Public Schools. This K-12 cluster-based initiative is designed to equip students from predominantly low-wealth communities with the tools they need to succeed in school and to increase Georgia’s high school graduation rates. At the Jackson-Coan cluster in East Atlanta, more than 200 Emory faculty, staff and students worked with 500 students. Next, Graduation Generation plans to expand into Lithonia in DeKalb County.

**Program Spotlight: Rollins School of Public Health**

- **Health Career Academy** provides mentorship, engaging health curriculum, and exposure to health careers to high school students from low-income, under-represented minority communities, serving over 200 Atlanta area high school students.

- More than 500 Masters students are employed through Rollins Earn and Learn, which partners with over 50 local nonprofit and for-profit organizations to give students valuable work experience.
3.10 INVESTMENT IN AND PARTNERSHIP WITH COMMUNITY SERVING ENTITIES

As anchor institutions, universities have a direct impact on their host communities because they serve as large revenue generators, goods and service purchasers, and service deliverers. They also indirectly contribute to urban revitalization. In partnership with its neighbors, the university invests in community enrichment and education.

The Center for Community Partnerships (CFCP) is the university’s primary partner in coordinating and connecting with the local community through teaching, research, and service. The CFCP works closely with local agencies in a variety of community-building projects in the Atlanta area. Each semester, the CFCP publishes the Roadmap to Community Service, which highlights the service-learning courses offered at Emory University. Community-focused courses are offered throughout many departments at Emory, and they provide students with learning experiences and theoretical background to learn effective community benefitting practices.

Project SHINE (Students Helping in Naturalization and English) is a service learning program that partners with different community organizations in Atlanta. It connects students with refugees and immigrants who are trying to learn English, become citizens, or succeed in school. SHINE volunteers function as tutors or teaching assistants in ESL courses, citizenship preparation classes or after school programs. According to data provided by Emory, students perform about 7,000 hours annually.

The Goizueta Business School has partnered with local organizations to deliver an accelerator program in local metro Atlanta communities. Start:Micro-Entrepreneur Accelerator Program (Start:ME) is a free 14-week program that provides promising entrepreneurs the business training, network, mentorship support, and early-stage financing needed to develop their businesses. Since its inception in 2013, the program has supported 84 ventures, 94 percent of which have been minority or women-owned. In the summer of 2016, Start:ME made $50,000 in loans to microbusinesses (employing between one and four employees) in the Clarkston and East Lake communities. The program’s success has helped microbusinesses not only generate income for entrepreneurs, but also build neighborhood vitality.

Program Spotlight: School of Law

- **Emory Law Legal Clinics**, led by clinical faculty and experienced attorneys, provide experiential learning opportunities for Emory Law students to work with the legislature, governor, and state agencies. Emory’s many clinics focus on subjects ranging from humanitarian to environmental law, and serve Atlanta clients from youth to veterans.

- Emory Law’s **Kessler-Eidson Program for Trial Techniques** actively engages local junior high and high school students as jurors, providing hands-on experience to youth interested in the legal profession. The Trial Techniques Program is one of the largest programs of its kind in the U.S., and has been repeatedly recognized for excellence.
Emory’s Impact Investing Group (EIIG) is a student run-initiative aimed at improving the economic vitality of the metro Atlanta community. EIIG was founded in 2014 by three undergraduates who sought out to create social and financial returns in underserved communities throughout Atlanta. The main goal of EIIG is to provide tangible impact for entrepreneurs and unparalleled educational experience that they do not have in the classroom. The organization provides short-term debt loans to local microbusinesses in historically underprivileged communities that do not have traditional access to capital. After a loan is made, EIIG consults with the business to ensure its continued success. Since its founding, EIG has invested $17,000 in 3 ventures.

3.11 COMMITMENT TO LOCAL HIRING AND SOURCING

Anchor institutions like Emory University wield an immense amount of economic power as they control significant resources both financial and in the form of human capital. In particular, the hiring practice of an institution is one such practice that can affect local community economic development. The University represents a significant base of potential economic opportunities for local and diverse businesses. It has a long standing commitment to instituting the internal policies to ensure local inclusivity and advancement of those opportunities.

**Figure 3.11 – Emory University and Healthcare Employee Geographic Earning Distribution**

*Source: Emory (2017)*
Emory’s commitment to local hiring and procurement reflects an understanding of the power of an institution’s economic footprint as a mechanism for inclusive opportunity. Local hiring ensures that tax dollars are invested back into the local economy. Data provided by Emory show that in FY16, over 66 percent of the Healthcare and University’s employees earned their income in the two-county region. Ninety-eight percent of annual earnings were within the state of Georgia.

Emory compliments its commitment to local hiring with a focus on being an employer of choice. It offers a variety of benefits to all employees, including subsidized MARTA passes, generous benefits, tuition assistance, and a minimum rate of pay that exceeds the state’s minimum wage.

Cultivating a strong local business sector is important as it has numerous benefits for local economies and citizens. Money spent at local businesses stays in the local economy much
longer, as local vendors are more likely to spend that money at other businesses in the community. Emory is committed to supporting the local business sector. Vendor data for FY16 identified about $2 billion in University and Healthcare spending within the state of Georgia. About 58 percent of that spending occurred within the two-county region. This commitment to local purchasing allows Emory to support local economic goals, health and civic vitality.

**FIGURE 3.13 – EMORY UNIVERSITY AND HEALTHCARE PROCUREMENT SPEND IN FY16**

Source: Emory (2017)
In an increasingly homogenized world, communities that preserve their local businesses and distinctive character have an economic advantage. Compared to chain stores, locally owned businesses recycle a much larger share of their revenue back into the local economy, enriching the whole community. Emory helps strengthen this by contributing to local procurement practices. One of the best examples is its local food sourcing initiative, which gives highest procurement priority to Georgia farmers and partners within surrounding states in the region. In FY16, Emory University spent $1.57 million on Georgia food products. The commitment to local purchasing allows the University to support economic goals, including the enhancement of rural economic health and civic vitality.

Emory is also committed to developing of business relationships with diversity suppliers and has been increasing their inclusion efforts. It actively tracks diversity spending in traditional categories such as minority, women, and disadvantaged businesses, but also tracks additional categories such as small business and veteran-owned businesses. In FY16, Emory directed over $42 million
in spending to diverse suppliers, an increase of 28 percent from 2010. This is in line with the understanding that diverse suppliers are essential for fostering healthy competition. Emory’s supplier diversity showcases its interest in and commitment to the economic growth of all communities. These supplier commitments allow diverse companies to take advantage of new opportunities for business expansion. In addition, they provide multiple channels from which to provide foods, services and solutions.
4.0 ECONOMIC IMPACT FROM ANNUAL OPERATIONS OF THE UNIVERSITY

4.1 SECTION OVERVIEW

By far the most significant way that Emory produces economic impact is through its annual operations. Emory is nearly a $5 billion enterprise, with the Emory University component making up $2 billion of that and Emory Healthcare comprised of the remaining $3 billion. Emory University represents the education, research, scholarship and related activities, and employs nearly 30,000 teaching, administrative, research, and support staff in its two locations (Druid Hills campus and Oxford). Emory University's operating expenditures, on salaries and wages as well as on goods and services, ripple through the local and state economy, supporting additional economic activity in a wide range of industry sectors. This section steps through the economic and tax revenue impact of Emory University, while the next section will review the economic and tax revenue impact of Emory Healthcare.

4.2 DIRECT UNIVERSITY OPERATING EXPENDITURES

Emory University's annual budget of $2 billion makes it an economic powerhouse for the city, two county region, MSA, and State. To determine the magnitude of the direct, indirect and induced impact within these economies, it is first necessary to understand the level and composition of annual expenditures within each of these geographies since economic impact depends largely on where expenditures occur (e.g. spending undertaken at a Georgia location will impact the Georgia economy, whereas spending and purchasing within Alabama or Tennessee will not materially impact the Georgia economy). To do so, deductions must be made for budgetary items that do not result in expenditures within a given geography. This analysis yields a total expenditure footprint within each geography (i.e. direct output), which can then be translated to additive indirect and induced impacts within each geography, as described in Section 2.

Adjustments from the initial budget level are made by geography in four categories:

- **Operations Outside of Geography**: Emory University has two locations, its Druid Hills campus, and a second campus in Oxford, Georgia (Newton County). While the Oxford campus is within the MSA, the estimated $91 million in expenditures made at the Oxford campus are unlikely to have much impact on the Fulton or DeKalb county economies. This means that direct operating expenditures are larger within the region and state than within Fulton and DeKalb County or Atlanta.
- **Net Purchasing Outside of Geography:** Vendor data by zip code provided by Emory was used to determine the local purchasing percentages for non-employee spending within each geography of interest. The proportion of expenditures for operating units based within each geography that accrue to vendors outside of the geographies is deducted, since it is not captured by the local economy. This “leakage” ranges from an estimated $120 million to $157 million by geography.

- **Student Aid:** The University provides tuition discounts to its students to the tune of $232 million per year. While this investment is crucial from the standpoint of the student, it does not manifest as a direct payment but rather a reduction in tuition collected by the University. It therefore does not represent new spending within the geographies of interest. This tuition discount does not include student aid that is paid out of the University budget. The University does offer fellowships, stipends, and other aid forms paid out of University's operating budget to the tune of $15 million that are included in the total operating expenses of the University.

- **Depreciation and Amortization:** Similarly, depreciation and amortization are standard accrual-method accounting practices that represent the reduction in the value of physical assets due to deterioration and use over the course of a year. In the case of the University, this represents between $175 and $187 million per year in value. While these effects are important to the balance sheet of the University, they do not represent expenditures that circulate within the economies of the geographies of interest.\(^\text{19}\)

Accounting for these factors yields the remaining operating expenditures which circulate through the local economy within each geography on an annual basis. These expenditures are those which are modeled to determine the total direct, indirect and induced economic effects. Annual modeled expenditures total $1.33 billion within the Druid Hills Campus and city of Atlanta geography, $1.34 billion within Fulton and DeKalb counties, $1.44 billion within the Atlanta MSA and $1.44 billion within the state of Georgia (see Table 4.1).

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\(^{19}\) This economic impact analysis concerns itself with actual dollars being spent into the economy. Depreciation and amortization represent accounting expenditures (e.g. booking over a period of time a one-time capital investment that took place in the past) rather than actual spending in the year being analyzed. Therefore, they are backed out of the operating budget amount and are not included in the input-output model.
4.3 ECONOMIC IMPACT FROM UNIVERSITY OPERATIONS

As an entity with over two billion dollars in annual operating expenditures by itself, Emory University is an economic engine within the city, Fulton & DeKalb Counties, the MSA, and the state. The institution’s direct expenditures have ripple effects through the local economy for a broad array of suppliers (indirect effects), and through the significant compensation for its employees (the majority of which are located in Fulton and DeKalb counties), which is in turn re-circulated through the local economy (induced effects). All of this activity stimulates and expands regional business activity and supports the employment base across a variety of sectors.

The overall economic impact of Emory University’s annual operations is the sum of its direct economic footprint plus the indirect and induced effects that that footprint creates. The larger the geography, the larger the direct footprint (e.g. there are parts of Emory’s University operations outside its Druid Hills campus and the city of Atlanta but inside the two-county region) and the larger the multiplier effect (e.g. there is additional spillover impact that occurs outside of the two-county region within the larger Atlanta MSA). That overall economic impact is estimated to generate on an annual basis:

- $1.82 billion in total output, supporting 16,410 jobs and $1.07 billion in earnings within the Druid Hills Campus & city of Atlanta;
- $2.59 billion in total output, supporting 20,730 jobs and $1.31 billion in earnings within Fulton & DeKalb Counties;

20 Total expenditures include all operating expenditure plus the $232 million in student aid that serves as a contra revenue to the University.
- $2.87 billion in total output, supporting 22,680 jobs and $1.42 billion in earnings within the Atlanta MSA; and

- $2.88 billion in total output, supporting 22,750 jobs and $1.42 billion in earnings within the State of Georgia (see Table 4.2).

### Table 4.2 – Estimated Annual Economic Impact of Emory University Operations within the City of Atlanta, Fulton & DeKalb Counties, Atlanta MSA, and State of Georgia

<table>
<thead>
<tr>
<th>Operations</th>
<th>Druid Hills Campus &amp; City of Atlanta</th>
<th>Fulton &amp; DeKalb County</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Output ($M)</td>
<td>$1,330</td>
<td>$1,340</td>
<td>$1,440</td>
<td>$1,440</td>
</tr>
<tr>
<td>Indirect and Induced Output ($M)</td>
<td>$500</td>
<td>$1,250</td>
<td>$1,430</td>
<td>$1,440</td>
</tr>
<tr>
<td>Total Output ($M)</td>
<td>$1,820</td>
<td>$2,590</td>
<td>$2,870</td>
<td>$2,880</td>
</tr>
<tr>
<td>Total Employment</td>
<td>16,410</td>
<td>20,730</td>
<td>22,680</td>
<td>22,750</td>
</tr>
<tr>
<td>Total Earnings ($M)</td>
<td>$1,070</td>
<td>$1,310</td>
<td>$1,420</td>
<td>$1,420</td>
</tr>
</tbody>
</table>

*Source: Emory (2016), IMPLAN (2016), Econsult Solutions (2017)*

#### 4.4 Industry Distribution of Economic Impact from University Operations

Emory University’s day-to-day operations affect a wide range of industries. Emory University is a direct employer of administrative, educational, research, and other support staff. Through the purchase of goods and services, and the spending of labor income it generates, the university also have impacts throughout on a variety of sectors, including health care & social assistance services, professional services, retail trade, and administrative & support services. Overall, these top five industries capture over 89 percent of the total employment impact in Atlanta, and 77 percent of the employment impact in Georgia.

In total, educational services\(^{21}\) represent 61 percent of the total employment impact from the university’s operations within the Druid Hills campus and Atlanta, but only 45 percent within the state. Generally, in larger and more economically diverse geographies, spending within a single industry ripples through that economy into other sectors and is captured more broadly (see Figure 4.1).

\(^{21}\)As defined by the North American Industry Classification System (NAICS) used by the Bureau of Labor Statistics (BLS) and other federal statistical agencies, the “Educational Services” sector comprises establishments that provide instruction and training (whether publicly or privately owned, degree or non-degree granting, etc.). Emory’s core educational functions fall within this category.
4.5 Tax Revenue from University Operations

While Emory, including the University, is a tax exempt organization by virtue of its non-profit status and public-serving mission, the scale of economic activity associated with its operations increases the tax base at the state and local level. Emory University is therefore a significant revenue generator for state and local government.

The volume of employee and associated wages attributable to Emory University (both directly and indirectly) make it a significant driver of income tax revenue for the state of Georgia. Additionally, private business activity spurred by the university generates a significant volume of sales tax and business tax revenues for the City and State. In aggregate, the economic activity attributable to the university’s ongoing operations generates an estimated $2 million in city of Atlanta tax revenues and an estimated $87 million in state of Georgia income tax revenues on an annual basis (see Table 4.3). On top of tax revenues to the City and State, Emory is also a large generator of tax revenues to DeKalb County and the municipalities within. Between property taxes and remitted sales taxes, Emory directly pays $6.7 million to DeKalb County and DeKalb County municipalities.

22 Other industries impacted by University operations include: real estate & leasing, administrative & waste services, finance & insurance, and transportation & warehousing.
Table 4.3 – Estimated Annual Fiscal Impact of Emory University Operations within the City of Atlanta and State of Georgia

<table>
<thead>
<tr>
<th>Tax Type</th>
<th>City of Atlanta</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income Taxes ($M)</td>
<td>$0.0</td>
<td>$74.0</td>
</tr>
<tr>
<td>Sales and Use Taxes ($M)</td>
<td>$1.3</td>
<td>$11.1</td>
</tr>
<tr>
<td>Business Taxes ($M)</td>
<td>$0.7</td>
<td>$1.8</td>
</tr>
<tr>
<td>Total ($M)</td>
<td>$2.0</td>
<td>$86.8</td>
</tr>
</tbody>
</table>


4.6 WHY THIS MATTERS

Emory is known as a premier education and research institution, and those are important functions in today’s economy. However, its role in the region as an economic engine must also be emphasized. By itself, Emory University is the second largest employer in metro Atlanta, and one of the largest in the State. The day to day functions of the university also support an entire network of Georgia businesses and workers through its procurement of about $126 million in goods and services within the State each year. Its direct economic footprint within the state economy is large, and it creates a large ripple effect of additional economic activity supporting additional businesses and jobs. Additionally, even though it is itself a tax-exempt institution, all of this direct and indirect economic activity grows various local and state tax bases, resulting in millions of dollars of tax revenues for the city of Atlanta, the state of Georgia, and other government jurisdictions. Importantly, Emory’s status as a world-class academic and research institution means that a very large proportion of its dollars are drawn from outside the region, whether tuition dollars from students coming from all over the world or research dollars secured from federal funding sources. This is an important way in which regions become economically vibrant – by attracting outside dollars to support local jobs and tax bases – and in that way Emory is a major part of its region’s vitality.

5.0 ECONOMIC IMPACT FROM ANNUAL OPERATIONS OF HEALTHCARE

5.1 SECTION OVERVIEW

While Emory is known primarily as an education and research institution, and those are important functions in today’s economy, it also has a world renowned healthcare system that has tackled some of the world’s most deadly illnesses. On its own, Emory Healthcare would be one of the largest employers in the Atlanta region, with 16,000 employees system wide. As such, Emory Healthcare’s role as a critical healthcare provider and economic engine in the region must also be emphasized. Since 2008, Emory Healthcare’s patient service revenue has increased by nearly 80 percent, in part due to a partnership with St. Joseph’s Hospital in Sandy Springs. This partnership and a recent strategic partnership Stratus Healthcare and other hospitals across the state have allowed Emory Healthcare to increase its service area and better serve the health needs of the greater Atlanta region. Beyond improved health outcomes, the activity generated by Emory Healthcare’s network of hospitals and clinics generates additional economic activity supporting local businesses, new jobs, and tax revenues to the city of Atlanta and state of Georgia.

5.2 DIRECT HEALTHCARE OPERATING EXPENDITURES

Emory Healthcare’s annual budget of about $3 billion budget makes it one of the largest health systems in the state. Across its various clinics, hospitals, and partner institutions, Emory Healthcare has over 3 million patient visits annually.\(^{24}\)

To determine the magnitude of the direct, indirect, and induced impact within the local community, two-county region, MSA, and state economy, it is first necessary to understand the level and composition of spending by Emory Healthcare within each of these geographies since economic impact depends largely on where expenditures occur (e.g. spending undertaken at a Georgia location will impact the Georgia economy, whereas spending and purchasing within Alabama or Tennessee will not materially impact the Georgia economy). To do so, deductions must be made for budgetary items that do not result in expenditures within a given geography. This analysis yields a total expenditure footprint within each geography (i.e. direct output), which can then be translated to additive indirect and induced impacts within each geography, as described in Section 2.

Adjustments from the initial budget level are made by geography in four categories:

\(^{24}\) Emory Healthcare provided data on the over 3 million patient encounters at its numerous locations.
• **Operations Outside of Geography:** Emory Healthcare has locations throughout the state of Georgia, with its largest hospital, Emory University Hospital, located in the Druid Hills neighborhood of DeKalb County. Emory Healthcare maintains one hospital within Atlanta, Emory University Hospital Midtown, and a full network of specialty and ambulatory care facilities in twenty-nine counties.\(^25\) While all of Emory Healthcare the vast majority of inpatient and outpatient visits do occur at facilities within Fulton and DeKalb counties, not all locations will have impacts within the city of Atlanta. Consequently, about $437 million in spending at Emory Healthcare non-Atlanta locations is excluded from the city of Atlanta impacts.

• **Net Purchasing Outside of Geography:** Vendor data by zip code provided by Emory Healthcare was used to determine the local purchasing percentages for non-employee spending within each geography of interest. The proportion of expenditures within each geography that accrues to vendors outside of the geographies is deducted, since it is not captured by the local economy. This “leakage” ranges from an estimated $450 million to $774 million by geography.

• **Depreciation and Amortization:** Similarly, depreciation and amortization are standard accounting practices that represent the reduction in the value of physical assets due to deterioration and use over the course of a year. In the case of Emory Healthcare, this represents between $98 and $130 million per year in value. While these effects are important to the balance sheet of Emory Healthcare, they do not represent expenditures that circulate within the economies of the geographies of interest.

Accounting for these factors yields the remaining operating expenditures which circulate through the local economy within each geography on an annual basis. These expenditures are those which are modeled to determine the total direct, indirect and induced economic effects. Annual modeled expenditures total $1.61 billion within the Druid Hills campus and city of Atlanta, $1.90 billion within Fulton and DeKalb counties, $2.26 billion within the Atlanta MSA and $2.34 billion within the state of Georgia (see Table 5.1).

\(^25\) For the sake of this analysis, Emory’s Healthcare’s Druid Hills locations are included in the city of Atlanta figures.
5.3 ECONOMIC IMPACT FROM HEALTHCARE OPERATIONS

As an entity with nearly $3 billion dollars in operations across several locations in the Atlanta region, Emory Healthcare is an economic engine within the city, Fulton & DeKalb counties, the MSA, and state. Emory Healthcare’s direct expenditures have ripple effects through the local economy for a broad array of suppliers (indirect effects), and through the significant aggregate amount of compensation that goes to its employees (the majority of whom are located in Fulton and DeKalb counties), which is in turn re-circulated through the local economy (induced effects). All of this activity stimulates and expands regional business activity and supports the employment base across a variety of sectors.

The direct, indirect, and induced effects of this operating activity are estimated to generate on an annual basis:

- $2.28 billion in total output, supporting 16,600 jobs and $1.37 billion in earnings within the Druid Hills campus & city of Atlanta;

- $3.85 billion in total output, supporting 26,930 jobs and $2.15 billion in earnings within Fulton and DeKalb counties;

- $4.61 billion in total output, supporting 30,090 jobs and $2.34 billion in earnings within the Atlanta MSA; and

- $4.84 billion in total output, supporting 31,420 jobs and $2.44 billion in earnings within the state of Georgia (see table 5.2).


### Table 5.2 – Estimated Annual Economic Impact of Emory Healthcare Operations within the Druid Hills & City of Atlanta, Fulton & DeKalb Counties, Atlanta MSA, and State of Georgia

<table>
<thead>
<tr>
<th>Operations</th>
<th>Druid Hills Campus &amp; City of Atlanta</th>
<th>Fulton &amp; DeKalb County</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Output ($M)</td>
<td>$1,610</td>
<td>$1,900</td>
<td>$2,250</td>
<td>$2,340</td>
</tr>
<tr>
<td>Indirect and Induced Output ($M)</td>
<td>$670</td>
<td>$1,950</td>
<td>$2,360</td>
<td>$2,500</td>
</tr>
<tr>
<td>Total Output ($M)</td>
<td>$2,280</td>
<td>$3,850</td>
<td>$4,610</td>
<td>$4,840</td>
</tr>
<tr>
<td>Total Employment</td>
<td>16,600</td>
<td>26,930</td>
<td>30,090</td>
<td>31,420</td>
</tr>
<tr>
<td>Total Earnings ($M)</td>
<td>$1,370</td>
<td>$2,150</td>
<td>$2,340</td>
<td>$2,440</td>
</tr>
</tbody>
</table>


### 5.4 Industry Distribution of Economic Impact from Healthcare Operations

Emory’s Healthcare’s operations affect a wide range of industries. Its clinics and hospitals are large procurers of surgical equipment, sanitary supplies, pharmaceuticals, and other specialty services. Through the purchase of goods and services from its vendors, and the spending of labor income by its employees, Emory Healthcare also has impacts on a variety of sectors, including professional services, administrative & support services, retail trade, finance & insurance and other support services. Overall, these top five industries capture over 91 percent of the total employment impact in the city of Atlanta, and 80 percent of the employment impact in the state of Georgia.

In total, healthcare and social assistance\(^{26}\) represent 77 percent of the total employment impact from the Emory Healthcare’s operations within the Druid Hills campus and Atlanta, but only 58 percent within the state. Generally, in larger and more economically diverse geographies, spending within a single industry ripples through that economy into other sectors and is captured more broadly (see Figure 5.1).

\(^{26}\)As defined by the North American Industry Classification System (NAICS) used by the Bureau of Labor Statistics (BLS) and other federal statistical agencies, the “Healthcare and Social Assistance” sector comprises of establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. Emory Health’s healthcare functions fall within this category.
5.5 TAX REVENUE IMPACT FROM HEALTHCARE OPERATIONS

While Emory Healthcare is a tax exempt organization by virtue of its non-profit status and public-serving mission, the scale of economic activity associated with its operations generate increases in important tax bases at the state and local level. Emory Healthcare is therefore a significant revenue generator for state and local government.

The volume of employee and associated wages attributable to Emory Healthcare (both directly and indirectly) make it a significant driver of income tax revenue for the state of Georgia. Additionally, private business activity spurred by Emory Healthcare generates a significant volume of sales tax and business tax revenues for the City and State. In aggregate, the economic activity attributable to Emory Healthcare’s ongoing operations generates an estimated $3 million in city of Atlanta tax revenues and an estimated $85 million in state of Georgia income tax revenues on an annual basis (see Table 5.3).

27 Other industries impacted by Emory Healthcare operations include: professional & technical services, real estate & leasing, administrative & waste services, transportation & warehousing, and wholesale trade.
5.6 WHY THIS MATTERS

Emory Healthcare is a large and growing enterprise that provides a wide range of health care resources to households throughout the state and beyond. This includes $72 million in uncompensated care to households that would otherwise struggle to access such care options. It is also responsible for $4.8 billion in annual economic impact within the state, supporting 31,420 jobs and generating $85 million in tax revenues for the state of Georgia. As health care grows in size and prominence within the national economy, Emory Healthcare’s continued high performance has meaningful implications for both quality of life and economic vitality statewide.

### Table 5.3 – Annual Fiscal Impact of Emory Healthcare Operations within the City of Atlanta and State of Georgia

<table>
<thead>
<tr>
<th>Tax Type</th>
<th>City of Atlanta ($M)</th>
<th>State of Georgia ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income Taxes</td>
<td>$0.0</td>
<td>$65.8</td>
</tr>
<tr>
<td>Sales and Use Taxes ($M)</td>
<td>$1.6</td>
<td>$16.0</td>
</tr>
<tr>
<td>Business Taxes ($M)</td>
<td>$0.9</td>
<td>$3.0</td>
</tr>
<tr>
<td>Total ($M)</td>
<td>$2.6</td>
<td>$84.8</td>
</tr>
</tbody>
</table>

6.0 ACADEMIC EXCELLENCE

6.1 SECTION OVERVIEW

For an increasingly global and knowledge-based economy, institutions of higher education have become extremely valuable sources of human capital and intellectual discovery. Both humanity’s thorniest global challenges and individual regions’ economic viability depend on the existence, productivity, and inter-connectivity of large research institutions. In this context, Emory’s long-standing commitment to academic excellence takes particular import. That Emory is among the world’s leading academic institutions is without dispute. What is less known is that its academic excellence helps to draw significant economic impact. High standards draw in the best and brightest and help to create an environment where innovation and productivity thrive. The purpose of this section is to explore how such an environment is cultivated and to articulate what positive benefits result from such an environment.

An overarching priority that touches on all that we do is academic excellence. By partnering with the deans, faculty, students and staff from across the university, Emory has a chance to remove barriers to working across school boundaries, to share ideas and collaborate across disciplines, and ultimately to make choices about how and where it will excel.

President Sterk

6.2 ACCESSIBILITY AND AFFORDABILITY

Given the fact that so much of our economy is knowledge-based, it’s important that college remain affordable for all students. As seen through the media on a regular basis, comments by government officials, students, and parents stress that a college education must become more relevant, accessible, and affordable. The issue is even more important at the local level because Georgia’s college age population is projected to increase 40% between 2012 and 2030.28 The state must produce enough college educated citizens to compete for skilled 21st Century jobs.

Consistent with Governor Deal’s focus on higher educational opportunities for Georgia residents, Emory plays its part by making world-class educational opportunities available to talented state residents.

Emory is dedicated to making college more affordable for prospective and current students. It takes seriously both the need to make higher education accessible for all and the need to be inclusive while constructing a vibrant campus community. It is committed to recruiting a high quality, socioeconomically diverse student body, and to financially help students manage their education expenses. Currently, more than 54 percent of undergraduate students receive financial aid, and Emory dedicates extensive resources to help families meet the cost. For the 2015 to 2016 academic year, more than $183 million in financial aid was awarded to undergraduate students. More than two-thirds of aid was provided by Emory.

Emory’s endowment is a dedicated and permanent source of funding that maintains the affordability mission of the University. Each year, a portion of the endowment is paid out as an annual distribution to support the University’s financial aid programs. Emory’s endowment distributed $230 million in the fiscal year ending in June 2016. The endowment’s returns have enabled leading financial aid programs, such as merit based scholarships awarded to first year students (see Table 6.1).

<table>
<thead>
<tr>
<th>Program</th>
<th>Award Amount</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emory Advantage</td>
<td>Up to $100,000</td>
<td>Helps students from families who demonstrate a need for financial aid</td>
</tr>
<tr>
<td>Emory College Grant</td>
<td>Varies</td>
<td>Awarded on the basis of financial need as reported on FAFSA/CSS Profile</td>
</tr>
<tr>
<td>Emory Opportunity Award</td>
<td>Varies</td>
<td>Renewable, merit-based award. Student must maintain cumulative GPA of 3.2 or higher</td>
</tr>
<tr>
<td>Emory Scholar Programs (incl. Woodruff Scholars)</td>
<td>Varies, up to full cost</td>
<td>Renewable, merit-based award for incoming freshmen</td>
</tr>
</tbody>
</table>

Source: Emory University (2017)


Emory University invests significant resources on affordability programs. For example, Emory Advantage is a financial aid initiative that increases affordability for low and middle-income families. The main goal of the program is to make a world class education affordable for any qualified student, regardless of income. Under the Emory Advantage, students from families with an annual assessed income of less than $100,000 can qualify. The program includes a loan replacement grant and a loan cap. It provides full tuition, room and board for some, while capping loans at $15,000 for others. The program offers students the opportunity to graduate with little or no debt, allowing students the opportunity to focus on academic and extracurricular activities.

Alumni giving is essential to Emory’s success and an important way Emory University cultivates and supports an inclusive academic community. The university launched Campaign Emory to raise funds for academic programs and research. Between 2006 and 2013, the campaign raised a total of $1.69 billion, including more than $349 million from alumni donors. An additional $105 million were from faculty and staff. Other alumni have contributed significant sums of money. Notably, former Coca-Cola president Robert Woodruff contributed more than $230 million over his lifetime. Donations from alumni have allowed Emory to provide more aid for students in need.

These initiatives reflect the university’s commitment to affordable and accessible education for students from much broader socioeconomic backgrounds. Efforts to maintain an affordable tuition and provide grants are essential to enabling students to access the opportunities afforded by the Emory educational experience. Emory has achieved national recognition for these efforts. It has consistently ranked high for value by well-renowned publications, including Kiplinger, the Wall Street Journal, and Princeton Review.

One of the greatest challenges facing higher education is the need to balance affordability and academic excellence. Emory honors its promise of access to an affordable education by identifying ways to help more students succeed. In addition, the University’s financial aid and scholarship programs help keep world-class education on campus accessible to all students.

### 6.3 CULTIVATING A DIVERSE ACADEMIC COMMUNITY

**Diverse Student Body**

A great university must encompass a universe of backgrounds and experiences, ideas and ideologies, theories and perspectives. Emory embodies this diversity by increasing access for talented and hardworking students of all backgrounds. Ethnic and socioeconomic diversity on college campuses confers a variety of benefits to universities and their surrounding communities.

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Learning with people from a variety of backgrounds encourages collaboration and fosters innovation, thereby benefitting all students. It also helps students to learn how to navigate adulthood in an increasingly diverse society. In addition, diversity and inclusivity efforts help to address the achievement gaps between races and economic groups. This ensures a thriving society and cultivates a vibrant on-campus community.

One of Emory’s greatest strengths lies in the diversity of its students and its commitment to support an inclusive community. The University prides itself on the mixture of beliefs and values that compose its campus communities. Emory students come from different geographical areas and represent differences in ethnicities and socioeconomic backgrounds. According to data provided by Emory, 55 percent of the total student body is ethnically diverse. IPEDs data also show that Emory University is more diverse compared to its statewide and national cohorts (see table 6.2). The emphasis on student diversity not only extends educational resources to more people but also gives all students a socially richer experience on campus (see Figure 6.1).

**FIGURE 6.1 – STUDENT DIVERSITY AT EMBRY UNIVERSITY**

*Source: Emory (2017)*
Emory has also worked hard to make sure higher education is accessible to lower-income families. According to a recently released data set from a new study on the income distribution of university student bodies around the US, Emory University has more students from families in the bottom 60 percent of median household income than peer research institutions in the south as well as other large universities in the state (see Table 6.2).

<table>
<thead>
<tr>
<th>Geography</th>
<th>White</th>
<th>Black</th>
<th>Asian</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>76%</td>
<td>13%</td>
<td>3%</td>
<td>13%</td>
</tr>
<tr>
<td>Georgia</td>
<td>63%</td>
<td>30%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Emory University</td>
<td>45%</td>
<td>10%</td>
<td>27%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: IPEDs (2017)

**Table 6.3 – Percentage of Students from Families in the Bottom 60 Percent of Median Household Income (~$65,000/Year), Emory University plus Selected Comparison Schools**

<table>
<thead>
<tr>
<th>Institution</th>
<th>% &lt;60% Median HH Income</th>
<th>% &gt;1% Median HH Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emory University</td>
<td>27.7</td>
<td>14.9</td>
</tr>
<tr>
<td>Georgia Institute of Technology</td>
<td>21.9</td>
<td>3.2</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>21.5</td>
<td>5.1</td>
</tr>
<tr>
<td>Tulane University</td>
<td>16.9</td>
<td>12.8</td>
</tr>
<tr>
<td>Duke University</td>
<td>16.5</td>
<td>19.2</td>
</tr>
</tbody>
</table>

Furthermore, Emory University has created a variety of programs and academic support to foster a diverse and inclusive spirit on campus:

- Diversity and inclusion are supported by a number of offices and student organizations, including the African Students Association; the Office of Lesbian, Gay, Bisexual, and Transgender Life; the Office of Multicultural programs and Services; the Center for Women; and the Latino Graduate Student Association.

- The Laney school’s Emory Diversifying Graduate Education (EDGE) program reflects Emory’s commitment to promote diversity awareness. It supports programming and community initiatives to engage student diversity on campus. The STEM Research and Career Symposium, an annual event that includes research presentations and networking, is the best example of this. Students that attend come from diverse backgrounds (including ethnicity, race, economic status, disability, educational experience, first generation status, and gender) and are eligible to apply for diversity travel awards that cover travel and housing.
In 2012, the University formed an ad-hoc committee to explore dialogue about issues of race, gender, privilege, sexual violence and oppression on campus. In line with Emory's commitment to tolerance and responsibility, the committee conducted an online survey to gather student feedback about diversity issues on campus. The results from the survey were summarized in a formal report, and informed the start of an educational initiative known as Creating Emory. The program informs first-year students about multicultural and identity awareness, and sexual assault and violence prevention.

Diverse Faculty and Staff

Diversity in employment makes Emory a better institution and helps it to offer an excellent educational experience. Data provided by Emory shows that, out of its total 14,026 university employees, racial minorities make up 42 percent of its workforce. Women make up nearly 57 percent of its workforce (see Figure 6.2). Developing inclusive hiring practices that target women and minorities further aligns human resource practices with community goals. Mirroring the diversity of the community in the institution itself demonstrates a commitment to equality that builds trust within the community.
In sum, diversity is a necessary component of academic excellence. In order for a university to thrive, it must mirror the diverse community and society in which it operates. A diverse student body, faculty and staff are a resource and a necessary condition for engagement with an increasingly diverse society. In addition, diversity has a variety of curricular implications, by creating opportunities that monoculture communities lack, and helping attract scholarship from a variety of different cultural groups.

6.4 THE POWER OF EMORY’S ALUMNI DIASPORA

Top research institutions like Emory draws students from their immediate region as well as from outside the region, both of whom benefit the city and the state. The majority of the university’s 15,000 students come from outside the region: 81 percent from outside of Atlanta, 76 percent from outside Georgia, and 16 percent come from outside the US. It is good for regions, which have invested in the primary and secondary education of their children, to retain that human capital for four or more years and then to be in a better position to retain that human capital beyond the college years. Furthermore, it is good for regions to draw in students from outside the region, whose living expenses during their college years will support local businesses and strengthen local tax bases.

**Figure 6.4 – Emory Students by Geographic Origin**

Source: Emory (2017)
Institutions of higher education often grapple with the phenomenon known as “brain drain” – the depletion of talent and highly skilled individuals. Brain drain presents a development challenge not only because cities lose out on the relatively high contributions to total output by high-skill workers, but also because of the positive externalities these workers generate. High-skilled workers generally provide key public services such as health and education. When these people leave their native cities, their level of participation in economic and social issues is diminished.

According to alumni data provided by Emory, there are an estimated 46,000 graduates of Emory University who live in Georgia. They, of course, are enriching the state economy through their participation in the state workforce, through their household spending, and through their paying of local and state taxes, which is discussed further in the ensuing section.

![Figure 6.5 – Emory Students by Geographic Origin](source: Emory (2017))

However, there are many other graduates of Emory University who live elsewhere, yet the lure and attraction of Georgia remains with them (see Table 6.4). Just as it is good for regions that universities educate both local residents and non-locals, it is good for regions when, upon graduation, students choose to stay local while others choose to go elsewhere.
This worldwide diaspora of Emory alumni contribute back to Emory and therefore to the state of Georgia economy. The importance of the Emory diaspora to the region is at least twofold. First, Emory alumni are more likely to return to Atlanta and Georgia either temporarily for an on-campus event such as Commencement or Homecoming, or permanently due to a familiarity with the region playing a role in the relocation of one’s residence and employment. Second, University alumni make financial contributions to Emory. According to bestcollegevalues.org, Emory’s alumni contribution rate is 36 percent. The vast majority of alumni giving represent a direct transfer of resources from educated alumni into Atlanta, to be spent on construction projects and operating expenditures that put people to work and that enrich the local and state tax base.

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Figure 6.6 — Emory Alumni Distribution

Source: Emory 2017
7.0 ECONOMIC IMPACT FROM WAGE PREMIUM

7.1 SECTION OVERVIEW

Emory contributes to the regional economy by educating and credentialing students, whose higher earning potential means millions of dollars more circulating in the regional economy. Emory alumni benefit from a “wage premium” that is a function of the degree they are conferred, as well as from the added earnings gained from attending a world-class institution. Further, many alumni graduate into fields that command higher salaries, such as business and medicine. The purpose of this section is to further define what that wage premium is, estimate the magnitude of aggregate wage premium commanded by Emory alumni living and working in the region, and quantify the impact of that aggregate increase in household earnings on the regional economy and on the local and state tax bases.

7.2 THE CONCEPTS BEHIND WAGE PREMIUM

The presence of Emory has a significant impact on the composition, educational attainment and skill level of the local workforce. Post-graduation location decisions are often impacted by educational experience, with a clear correlation between locations during and after schooling. From a regional workforce standpoint, Emory alumni living and working within the city, two county region, MSA and state are either imported to those geographies (in the case of students originating from around the nation and the world) or retained within those geographies (in the case of the students originating within those geographies who are retained due to the presence of the university.

The presence of these skilled graduates in the workforce has two quantifiable effects on earnings within the geography of interest:

- **A university increases the educational attainment level of the local workforce**, which can be translated into increased earnings based on the established relationship between educational attainment and wages.

- **Universities may have a specific wage premium associated with the knowledge and credentials they impart**, above and beyond earning power associated with a particular degree level. The selectivity of the Emory’s programs and the quality of the educational experience it offers manifests itself in an additional wage premium for its graduates.

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Estimating the magnitude of wage premium impacts from Emory on the volume of earnings and associated household spending within the city, two county region, MSA and state therefore proceeds in two steps. First, Emory alumni data is utilized to determine the current residential location of its alumni base by degree type, and the impact on overall attainment within the geographies of interest is modeled. It should be noted that throughout this section Druid Hills is not aggregated with the city of Atlanta, and therefore the smallest geography of interest is the city. Next, the impact on annual wage of this increased educational attainment as well as the specific wage premium associated with Emory above and beyond average earnings by degree level and geography is estimated. These components are then aggregated to estimate the annual increase in wages within the respectively geographies attributable to Emory.

### 7.3 ESTIMATING THE MAGNITUDE OF WAGE PREMIUM ASSOCIATED WITH EMORY UNIVERSITY

Data provided by Emory on more than 125,000 alumni, including 116,500 bachelor degree recipients or higher (associate’s degree recipients are not considered in the wage premium calculation), is utilized to estimate the geographic distribution of alumni currently within the workforce by degree level. Based on national benchmarks, it is conservatively estimated that 75 percent of Emory alumni are currently employed (as opposed to retired, unemployed, or otherwise out of the workforce). This calculation yields an estimated 87,300 Emory alumni (bachelor degree recipients or higher) within the workforce, of which 12,300 (or 14 percent) are estimated to be living within the city of Atlanta, 18,400 (or 21 percent) within the two-county region, 27,200 (or 31 percent) within the Atlanta MSA, and 31,100 (36 percent) within the state of Georgia (see Table 7.1).

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35 National data from the Bureau of Labor Statistics indicates that the labor force participation rate and employment to population ratio for adults 25 or older with a bachelor’s degree or higher are above 70%. BLS data also indicates that labor force participation in the Atlanta metro exceeds the national average. Further, just as selective institutions like Emory confer additional earnings potential on their alumni, they also increase their ability to secure employment. Absent an exact benchmark for localized factors, a 75% employment rate is conservatively estimated for Emory graduates across each geography of interest.

36 The calculations throughout Chapter 7 do not aggregate Druid Hills with the city of Atlanta. The wage premium section looks at alumni living and working in the city of Atlanta, Fulton and DeKalb counties, Atlanta MSA, and State of Georgia.

37 See Appendix B.4 for greater detail on the assumptions and methodology utilized in this calculation.
TABLE 7.1 – GEOGRAPHIC DISTRIBUTION OF EMMORY ALUMNI ESTIMATED TO BE WITHIN THE WORKFORCE

<table>
<thead>
<tr>
<th></th>
<th>Est. Total Alumni</th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. Undergrad Working</td>
<td>39,400</td>
<td>4,000</td>
<td>6,100</td>
<td>9,700</td>
<td>11,300</td>
</tr>
<tr>
<td>Alumni (000s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est. Graduate Working</td>
<td>47,900</td>
<td>8,300</td>
<td>12,300</td>
<td>17,500</td>
<td>19,800</td>
</tr>
<tr>
<td>Alumni (000s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est. Total Working</td>
<td>87,300</td>
<td>12,300</td>
<td>18,400</td>
<td>27,200</td>
<td>31,100</td>
</tr>
<tr>
<td>Alumni (000s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>14%</td>
<td>21%</td>
<td>31%</td>
<td>36%</td>
<td></td>
</tr>
</tbody>
</table>


The presence of these degree holders has a significant impact on the educational attainment levels of the city, two-county region, MSA, and state workforce. Absent these Emory alumni, local employers would have access to fewer bachelor’s and advanced degree holders. While any individual position currently held by an Emory graduate may be replaced by a graduate from another institution with the same degree level, the reduction in overall supply of skilled and credentialed workers is modeled to result in a “filtering down” of educational attainment, where jobs currently held by advanced degree holders are filled by bachelor’s degree holders and jobs currently held by bachelor’s degree holders are filled by associate’s degree holders. This process results in an overall reduction of the modeled educational attainment level of the city, regional and state workforce (see Table 7.2).

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38 Excludes about 9,300 alumni receiving an associate’s degree from Emory.

39 It should also be noted that while this analysis is focused on bachelor and advanced degree alumni, Emory also contributes to the knowledge and productivity level of the local workforce through its continuing education and certificate programs.

40 See Appendix B.5 for further discussion of this modeling approach.

41 To enhance the accuracy of the calculation in terms of its differentiation of different geographic levels, workers within the subsumed geographies are netted out of each successive calculation (i.e. Fulton and DeKalb County does not include the city, while the MSA does not include Fulton & DeKalb County, and the remainder of state of Georgia does not include the thirty counties in the Atlanta MSA).
This reduction in educational attainment is significant not only due to its impact on the productivity of the workforce, but on its earnings potential.\textsuperscript{42} Median earnings vary significantly by education level, both nationally and within the local geographies of interest. At the city of Atlanta level:

- Median earnings for workers whose highest level of attainment is a bachelor’s degree are $24,100 higher than median earnings for workers who hold an associate’s degree or have not completed a bachelor’s degree.

- Median earnings for advanced degree holders are an additional $18,300 higher than median earnings for workers holding a bachelor’s degree only.

Median earnings for workers vary across the four geographies in question. Of the four geographies, median earnings are the highest at the Fulton and DeKalb county level excluding the city of Atlanta (see Table 7.3).

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|}
\hline
\textbf{Education Level} & \textbf{City of Atlanta} & \textbf{Fulton & DeKalb Counties (non-city)} & \textbf{Atlanta MSA (non-counties)} & \textbf{State of Georgia (non-MSA)} \\
\hline
Bachelor's Degree $\rightarrow$ Associates Degree & 4,030 & 2,100 & 3,580 & 1,580 \\
Advanced Degree $\rightarrow$ Bachelor's Degree & 8,310 & 3,970 & 5,180 & 2,300 \\
\hline
\textbf{Net Change Modeled by Degree Type} & & & & \\
\hline
Associates Degree & 4,030 & 2,100 & 3,580 & 1,580 \\
Bachelor's Degree & 4,280 & 1,870 & 1,610 & 720 \\
Advanced Degree & (8,310) & (3,970) & (5,180) & (2,300) \\
\hline
\end{tabular}
\caption{Estimated Filtering of Regional Educational Attainment Absent Emory}
\end{table}

\textsuperscript{42} While the calculations that follow focus on the resulting loss in aggregate earning potential, it is likely that the reduction in aggregate workforce productivity would be an even greater blow to the regional economy.
Table 7.3 – Median Annual Earnings by Educational Attainment (Adults 25+)43

<table>
<thead>
<tr>
<th>Education Level</th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties (non-city)</th>
<th>Atlanta MSA (non-counties)</th>
<th>State of Georgia (non-MSA)44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some College / Associates Degree</td>
<td>$29,700</td>
<td>$32,200</td>
<td>$35,000</td>
<td>$35,000</td>
</tr>
<tr>
<td>Bachelor’s Degree (only)</td>
<td>$53,800</td>
<td>$55,300</td>
<td>$52,800</td>
<td>$52,800</td>
</tr>
<tr>
<td>Premium – Bachelor's vs. Associate’s</td>
<td>$24,100</td>
<td>$23,100</td>
<td>$17,800</td>
<td>$17,800</td>
</tr>
<tr>
<td>Advanced Degree</td>
<td>$72,100</td>
<td>$73,300</td>
<td>$62,400</td>
<td>$62,400</td>
</tr>
<tr>
<td>Premium – Advanced vs. Bachelor’s</td>
<td>$18,300</td>
<td>$18,000</td>
<td>$9,600</td>
<td>$9,600</td>
</tr>
</tbody>
</table>

Source: American Community Survey Five Year Estimates (2011-2015), Federal Reserve Bank of Atlanta

7.4 ESTIMATING THE MAGNITUDE OF AGGREGATE HOUSEHOLD INCOME GAIN FROM WAGE PREMIUM

In addition to variation in earnings observed by degree level, earnings will vary within degree levels for graduates of different universities. This variance is due to a number of factors, including the selectivity of a university, the quality of the education experience, its reputation with employers, the fields of study in which it specializes, etc. From the perspective of the regional economy, it is not necessary to separate these causal factors, but it is important to recognize that the presence of a highly selective university like Emory brings additional earnings potential to the regional workforce above and beyond its effects on educational attainment levels.

Longitudinal data from the federal Department of Education confirms that observed earnings for Emory undergraduate alumni exceed the national average. The latest “College Scorecard” released publicly by the Department of Education reports that earnings by institution based unique tracking of tax filings of students who applied for student loans ten years after they entered school. This comprehensive data source indicates that the median salary ten years after entering Emory is currently $59,400.45 Comparing this figure to the median national earnings for

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43 Earnings reported in the 2011-2015 ACS are adjusted to 2016 dollars by applying the annualized wage growth of 3.6 percent for workers with a bachelor’s degree or higher reported by the Federal Reserve Bank of Atlanta.

44 Emory alumni living in the remainder of the state of Georgia are understood to be disproportionately located in the metro areas of the state. Therefore, earnings data from the remainder of the Atlanta MSA (outside of Fulton and DeKalb counties) is utilized as the most appropriate proxy for earnings by attainment level elsewhere in the state.

45 Note that this figure is likely a highly conservative estimate of average earnings for Emory alumni for a number of reasons. First, it is calculated ten years after entering school and thus only a few years into the workforce for many graduates. These graduates are likely to see their wages increase over time as they stay in the workforce. Second, it includes only students who seek federal financial aid for school (since this forms one of the characteristics necessary for data collection). In doing so, it omits students from higher income families, a characteristic which may be correlated with higher earnings. Finally, it includes earnings of all attendees of the University ten years after entering Emory, regardless of whether they in fact graduated. An alternative analysis by Payscale.com estimates that the “median alumni mid-career salary” for Emory graduates is $88,000. However, this data source suffers from potential sources of bias as well, and the more conservative (and widely available)
bachelor’s or advanced degree holders of $53,400 yields an estimated “wage premium” to Emory undergraduate alumni of 11.2 percent relative to the average bachelor’s degree holder.\textsuperscript{46}

While it is clear that graduate degrees are associated with significant incremental earnings potential relative to bachelor’s degrees, rigorous studies of wage gains associated with graduate programs at a given university have not been identified, and returns to graduate education are likely to vary significantly by program and selectivity. It is clear, however, that median earnings for advanced degree holders vary significantly by field of study. For example, a national earnings analysis of advanced degree holders from the American Community Survey indicates a 27 percent earnings premium associated with an advanced degree in business relative to average.\textsuperscript{47} Similarly, science, technology, engineering, and math fields garner a nearly 35 percent premium. By accounting for field of study and location, quantifiable earnings premium for Emory advanced degree holders ranged from 9 percent – 24 percent by geography.

Percentage premiums by degree type and geography are then applied to the median wage by educational attainment within the geographies of interest to yield estimated earnings for Emory alumni by degree level within each geography (see Table 7.4). This approach accounts for the fact that average earnings vary by geographic area, and adjusts estimated Emory alumni earnings and the resulting wage premium accordingly (in dollar terms).

\textsuperscript{46} Note that the figure of $59,400 represents a blended average of bachelor’s and advanced degree holders, since Emory graduates in the College Scorecard data set may also hold additional advanced degrees.

### Table 7.4 - Estimated Earnings for Emory Alumni by Geography and Degree Type

<table>
<thead>
<tr>
<th></th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties (non-city)</th>
<th>Atlanta MSA (non-counties)</th>
<th>State of Georgia (non-MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s Degree – Average Earnings</td>
<td>$53,800</td>
<td>$55,300</td>
<td>$52,800</td>
<td>$52,800</td>
</tr>
<tr>
<td>Emory Bachelor’s Degree Wage Premium</td>
<td>11.2%</td>
<td>11.2%</td>
<td>11.2%</td>
<td>11.2%</td>
</tr>
<tr>
<td><strong>Est. Emory Bachelor’s Degree Earnings</strong></td>
<td><strong>$59,800</strong></td>
<td><strong>$61,500</strong></td>
<td><strong>$58,700</strong></td>
<td><strong>$58,700</strong></td>
</tr>
<tr>
<td>Advanced Degree – Average Earnings</td>
<td>$72,100</td>
<td>$73,300</td>
<td>$62,400</td>
<td>$62,400</td>
</tr>
<tr>
<td>Emory Advanced Degree Wage Premium</td>
<td>9.0%</td>
<td>10.1%</td>
<td>23.6%</td>
<td>23.6%</td>
</tr>
<tr>
<td><strong>Est. Emory Advanced Degree Earnings</strong></td>
<td><strong>$78,600</strong></td>
<td><strong>$80,700</strong></td>
<td><strong>$77,100</strong></td>
<td><strong>$77,100</strong></td>
</tr>
</tbody>
</table>


The aggregate increase in the earning potential for the workforce within the city region and state is then aggregated as a function of both increases in educational attainment and the additional premium accruing to Emory degree holders. The combined wage premium attributable to both of these factors varies by degree and geography, ranging from $23,700 to 30,100 annually. Applying these premiums to the Emory alumni estimated to be working within each geography yields an annual wage premium of $327 million within the city of Atlanta, $490 million in the two-county region, $700 million in the Atlanta MSA, and $794 million within the state of Georgia (see Table 7.5).

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48 Additional detail on the analysis used to calculate aggregate wage premium can be found in Appendix B.6

49 As previously noted, premiums are calculated separately for non-overlapping geographic areas, and then summed to represent the full wage premium inclusive of sub-geographies. Thus, the full wage premium for the Atlanta MSA is the sum of the wage premium for the City of Atlanta, the wage premium for Fulton and DeKalb counties (excluding the city), and the wage premium for the remainder of the MSA (excluding Fulton and DeKalb counties).
### Table 7.5 – Aggregate Earnings Increase Attributable to Emory Within the City of Atlanta, Two County Region, MSA, and State of Georgia

<table>
<thead>
<tr>
<th></th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties (non-city)</th>
<th>Atlanta MSA (non-counties)</th>
<th>State of Georgia (non-MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emory Employed Alumni – Bachelor's</td>
<td>4,030</td>
<td>2,100</td>
<td>3,580</td>
<td>1,580</td>
</tr>
<tr>
<td>Bachelor's – Educational Attainment Premium</td>
<td>$24,100</td>
<td>$23,100</td>
<td>$17,800</td>
<td>$17,800</td>
</tr>
<tr>
<td>Bachelor's – Emory Specific Premium</td>
<td>$6,000</td>
<td>$6,200</td>
<td>$5,900</td>
<td>$5,900</td>
</tr>
<tr>
<td>Bachelor's Degree Premium</td>
<td>$30,100</td>
<td>$29,300</td>
<td>$23,700</td>
<td>$23,700</td>
</tr>
<tr>
<td>Emory Employed Alumni – Advanced</td>
<td>8,310</td>
<td>3,970</td>
<td>5,180</td>
<td>2,300</td>
</tr>
<tr>
<td>Advanced – Educational Attainment Premium</td>
<td>$18,300</td>
<td>$18,000</td>
<td>$9,600</td>
<td>$9,600</td>
</tr>
<tr>
<td>Advanced – Emory Specific Premium</td>
<td>$6,500</td>
<td>$7,400</td>
<td>$14,700</td>
<td>$14,700</td>
</tr>
<tr>
<td>Advanced Degree Premium</td>
<td>$24,800</td>
<td>$25,400</td>
<td>$24,300</td>
<td>$24,300</td>
</tr>
<tr>
<td>Aggregate Earnings Increase</td>
<td>$327.4 M</td>
<td>$162.2 M</td>
<td>$210.7 M</td>
<td>$93.5 M</td>
</tr>
<tr>
<td>City Total</td>
<td>$327.4 M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fulton &amp; DeKalb (including city)</td>
<td></td>
<td>$489.7 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSA Total (including Fulton &amp; DeKalb)</td>
<td></td>
<td></td>
<td>$700.4 M</td>
<td></td>
</tr>
<tr>
<td>State Total (including MSA)</td>
<td></td>
<td></td>
<td></td>
<td>$793.9 M</td>
</tr>
</tbody>
</table>


#### 7.5 Economic Impact from Aggregate Household Income Gain from Wage Premium

While the additional earnings by Emory alumni within the local workforce are highly consequential to those households, their impact on economic activity throughout the city, region and state occurs when it is re-circulated within the economy. Due to savings rates, tax withholdings, and non-local spending, the impact of these additional earnings on total output is somewhat less than aggregate value of the wage premium itself.\(^5^0\) The injection of additional household spending into the economy is nevertheless significant at the city, regional, and state level.

\(^{50}\) Note that some of this value is in fact captured by residents within each geography (i.e. Emory alumni) in instances like savings and non-local purchases. The aggregate output approach is used to ensure that the wage premium calculation to other impact categories.
The direct, indirect and induced effects of this additional household spending are estimated to generate on an annual basis:

- $80 million in total output, supporting 570 jobs and $320 million in earnings within the Druid Hills campus & city of Atlanta;
- $270 million in total output, supporting 1,720 jobs and $520 million in earnings within Fulton & DeKalb Counties;
- $720 million in total output, supporting 4,960 jobs and $930 million in earnings within the Atlanta MSA; and
- $770 million in total output, supporting 5,390 jobs and $1.02 billion in earnings within the state of Georgia (see table 7.6).

<table>
<thead>
<tr>
<th>Economic Impact</th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb County</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Wage Premium ($M)</td>
<td>$327</td>
<td>$490</td>
<td>$700</td>
<td>$794</td>
</tr>
<tr>
<td>Total Output ($M)</td>
<td>$80</td>
<td>$270</td>
<td>$720</td>
<td>$770</td>
</tr>
<tr>
<td>Employment</td>
<td>570</td>
<td>1,720</td>
<td>4,960</td>
<td>5,390</td>
</tr>
<tr>
<td>Employee Compensation ($M)</td>
<td>$320</td>
<td>$520</td>
<td>$930</td>
<td>$1,020</td>
</tr>
</tbody>
</table>


7.6 FISCAL IMPACT FROM AGGREGATE HOUSEHOLD INCOME GAIN FROM WAGE PREMIUM

The aggregate increase in wages due to Emory’s presence in the Druid Hills area and city of Atlanta and state of Georgia generate additional tax revenues above and beyond those generated through its day to day operations. In particular, this activity translates into increased income tax revenue (due to increased earnings) and increased sales and business tax revenue (due to increased household spending. In aggregate, the economic activity attributable to wage premium effects generates an estimated $300,000 in city of Atlanta tax revenues and an estimated $29 million in state of Georgia income tax revenues on an annual basis (see Table 7.7).
TABLE 7.7 – ANNUAL FISCAL IMPACT ATTRIBUTABLE TO EMMORY WAGE PREMIUM EFFECTS WITHIN THE CITY OF ATLANTA AND STATE OF GEORGIA

<table>
<thead>
<tr>
<th>Tax Type</th>
<th>City of Atlanta</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income Taxes ($M)</td>
<td>$0.0</td>
<td>$23.4</td>
</tr>
<tr>
<td>Sales and Use Taxes ($M)</td>
<td>$0.2</td>
<td>$4.8</td>
</tr>
<tr>
<td>Business Taxes ($M)</td>
<td>$0.1</td>
<td>$0.9</td>
</tr>
<tr>
<td><strong>Total ($M)</strong></td>
<td><strong>$0.3</strong></td>
<td><strong>$29.1</strong></td>
</tr>
</tbody>
</table>


7.7 WHY THIS MATTERS

Today’s knowledge-based market economy places a premium on human and intellectual capital, which makes what universities do – and who they produce – more valuable. By educating, credentialing, and sending forth thousands of graduates each year in highly desirable and specialized fields, Emory is making a very large contribution to the global knowledge base. Many Emory alumni stay local, where their enhanced intellectual skills allow them to be meaningful participants in the regional economy and their higher earning potential translates into millions of dollars a year in additional purchasing power for the benefit of the regional economy. According to the estimates presented in this section, that higher amount of household spending means nearly $800 million more in economic activity in the state each year and supports $29 million in tax revenues to the state of Georgia.

This is a conservative estimate of the contribution of Emory as an educating and credentialing body to the regional economy, and not just because low-end assumptions were made where possible. It is also conservative because it does not account for the very important agglomeration effects that benefit a region when it contains a high concentration of knowledge workers. The presence of over 41,000 Emory alumni in the state economy means additional jobs created by businesses newly formed by Emory alumni or by businesses who have decided to stay in, move to, or grow in the region because of its density of knowledge workers. This additional economic activity likely far exceeds the economic impact experienced in the region due to the marginal increase in household earnings as a result of an Emory education and degree.
8.0 RESEARCH AND INNOVATION

8.1 SECTION OVERVIEW

One of Emory’s truly distinguishing features, which drives a large portion of its economic impact footprint, is the scale and uniqueness of its research efforts. By cultivating a rich intellectual community, including a number of innovative partnerships, Emory has created a platform from which it can tackle large and difficult research challenges in ways that can be rivaled only by a few other locations in the world. The scarcity of this concentration and combination of resources brings opportunities, notoriety, and funding back to Emory time and again, giving Emory numerous chances to make a global impact in ways that also benefit the regional economy. This section explores Emory’s role as a research and innovation hub and what that means for its global influence and regional economic footprint, with a particular profile of the Woodruff Health Sciences Center as a prominent example of such work.

8.2 A UNIQUE PLATFORM FOR TACKLING TODAY’S BIG RESEARCH CHALLENGES

Emory’s emphasis on global health innovation and its Woodruff Health Sciences Center exemplify Emory’s unique position to grapple with public health topics and advance individual care. Emory works hard to foster a rigorous intellectual community that prizes cross-disciplinary research and collaboration, as well as strong partnerships outside of the university. The groundbreaking work Emory does is leveraged to improve the lives of people around the world. At the center of Emory’s success is a deeply-held institutional philosophy of melding research, teaching, patient care, action, and inter-disciplinary efforts that knock down silos and enables different parts of the university to engage. This success is felt beyond Emory’s walls, through service to the local and global community.

Program Spotlight: Laney Graduate School

- The Institute for Developing Nations is a partnership with The Carter Center that is reshaping the role of higher education in international development by strengthening research and providing direct support to development efforts around the world.

- The NIH-funded Atlanta BEST Program is another exciting collaboration with the Georgia Institute of Technology. The program provides professional experiential opportunities in Atlanta for program trainees and is designed to reshape the preparation of the biomedical workforce at Georgia's two top research universities.
Emory is an international leader in research, and the work Emory does improves lives in the region, nationally, and around the world. The unique combination of talent and partnerships that Emory has cultivated has positioned the university to tackle today’s biggest research challenges. This university has dedicated its significant resources to its institution-wide focus on high caliber research topics, and, as a result, has developed a reputation as distinctly able to achieve solutions to new problems. In this position, Emory is often asked to lead the response global health crises, and the inter-disciplinary nature of its research apparatus brings together every school in WHSC and across Emory to solve problems, and bring those solutions into the communities it serves.

Emory’s response to the outbreak of Zika virus in 2015 exemplifies Emory’s unique capacity to lead the response to an emerging health crisis. From the earliest days of the outbreak, Emory and its national partners have been engaged in attempting to understand and fight the ongoing threat of the virus. Distinguished staff, like Dr. Mehul Suthar, has made key discoveries on Zika’s affects, particularly those in unborn babies, while Dr. Mark Mulligan has led the charge at Emory to discover a vaccine. Emory is one of only three centers nationally that are conducting clinical
trials on a potential vaccine. Emory’s Zika response is not limited to the laboratory. As part of a CDC grant, the Rollins School of Public Health has been engaged with foreign governments to help provide a better programmatic response and increase overall preparedness for health emergencies like Zika. This is yet another example of how Emory’s research ability and reputation afford it unique opportunities that bring with it talent, funding, and attention from all over.

8.3 THE GLOBAL FOOTPRINT OF EMORY’S RESEARCH WORK

Emory has dedicated its significant institutional resources and focus to translating its work into action that benefits communities around the world. Emory researchers, investigators, healthcare providers, and students engage in partnerships that allow them to improve lives and collaborate with these communities, which in turn further informs their work. The ongoing nature of many of these commitments ensures the best results both for individuals and for faculty and student research, which benefits from strong relationships with those they are trying to help.

The global significance of Emory research and partnerships can be seen in the far reach of their operations. As shown in Figure 8.2, Emory research occurs in at least 159 countries around the world. While there are numerous examples of the breadth and depth of Emory’s work, the rest of this section will highlight just a few of the programs that embody Emory’s commitment being a leader in global health innovation.
Emory Global Health Institute

The Emory Global Health Institute (EGHI) was established by Emory in 2006, and is led by Dr. Jeffery P. Koplan to support global health research, training, and scholarship across the University. Dr. Koplan spent 26 years at the Centers for Disease Control and Prevention (CDC), serving as Director from 1998 to 2002. Dr. Koplan brought his considerable experience in the public health field to Emory, where he is Vice President for Global Health at Emory University, Principal Investigator for the Global Health Institute – China Tobacco Control Partnership, and Co-Founder of the International Association of National Public Health Institutes.

Emory has long been a leader in the global health field, and work in the field is done across the university’s schools and departments. Emory also maintains robust relationships with prominent public health organizations like the Carter Center, the Task Force for Global Health, and the Centers for Disease Control and Prevention (CDC). EGHI promotes the work and collaboration of these many groups to develop a strong academic infrastructure in global health at the University, develop global health partnerships, foster research and scholarship, and train the next generation of global health leaders.

Source: Emory Global Health Institute, Emory Department of Environmental Sciences (2017)
To advance Emory’s efforts to improve health around the world, EGHI supports faculty research, provides innovative, multidisciplinary learning opportunities to students, and gathers global health experts to the Emory to share their knowledge and expertise. EGHI is instrumental in recruiting and hiring top faculty with global health expertise across disciplines, and supports faculty research and scholarship by connecting them with program and funding partners. The institute also maintains a robust calendar of events and programs that highlight specific global health issues and advance the global health community at Emory. EGHI has a variety of programs for students, from global health case competitions, funding student research, and showcasing that scholarship in an annual symposium.

International Association of National Public Health Institutes

Concerns about infectious disease outbreaks such as Ebola, the health aftermath of disasters, slow progress in reducing maternal and child deaths and public health security have brought new attention to the need for strong national public health agencies such as the U.S. Centers for Disease Control and Prevention (CDC). Over 100 countries around the world have established CDCs – known internationally as national public health institutes (NPHIs) - to coordinate and lead their public health systems.

The International Association of National Public Health Institutes (IANPHI) was founded by Emory Vice President for Global Health Dr. Jeffrey P. Koplan and international colleagues in 2006. The U.S. Office of IANPHI, based at the Emory Global Health Institute, is working with more than 20 countries to help them to create CDCs and has funded over 55 CDC-strengthening projects in 37+ countries. IANPHI’s 108 member institutes provide peer-to-peer technical support on projects using an internationally recognized framework and tools. IANPHI’s investments have leveraged more than $65 million in contributions and in-kind donations.

While IANPHI’s members vary in scope and size—from fledgling institutes focusing only on infectious diseases to those with comprehensive responsibility for research, programs, and policy for almost all public health threats—they share a national scope of influence and recognition and focus on the major public health problems affecting the country. These NPHIs use scientific evidence as the basis for policy implementation and resource allocation and are accountable to national governments and the public. Their key functions—including disease surveillance, detection, and monitoring; outbreak investigation and control; health information analysis for policy development; research; training; health promotion and health education; and laboratory science—are particularly critical in low-resource nations.

Serious Communicable Diseases Program

Emory’s Serious Communicable Diseases Program (SCDP) was formed in 2002 with a grant from the CDC to treat patients with lethal and contagious diseases. It was Emory’s SCDP that led the US response to the 2014 Ebola outbreak, successfully treating the first patients with Ebola virus disease in the Western Hemisphere. The patients were treated in Emory’s Serious Communicable Disease Unit, a special isolation unit, which was built in partnership with the CDC.
The unit was the first high-level biocontainment unit in the United States. In addition, the program trains nurses, doctors, and laboratories on how to deal with infectious disease outbreaks, maintains on-call facilities and develops best practices for other programs to emulate.

Following the successful treatment, Emory experts have made their protocols and knowledge available to the public health community, through journal publications, training, and specially developed online resources. Beyond being a leader in Ebola research and clinical care, Emory’s successful model is being replicated regionally and nationally to create a national infrastructure for handling an array outbreaks. As a result, Emory has received significant grant funding to continue research on the disease and to provide training, educational resources, and consultation around the globe.

In 2015, the National Ebola Training & Education Center (NETEC) was formed to support a sustainable national infrastructure for managing suspected and confirmed Ebola and other special pathogen incidents across the United States. Established by the U.S. Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response and the CDC, NETEC is co-lead by Emory and two other academic institutions. The original five-year, $12 million grant was awarded in 2015 to develop and teach evidenced-based practices to care for patients with serious infectious diseases.

Then, in 2016, the initial grant was doubled, to $24 million, to expand the services NETEC provides and create a special pathogens research network. The network will include the ten regional Ebola treatment centers located throughout the U.S. that are specially trained and equipped to handle patients with highly infectious diseases and allow them to share resources and knowledge. The additional funding will allow NETEC to train more public health professionals and healthcare workers and facilitate research.

Childhood Health and Mortality Prevention Surveillance Network

In 2015, the Bill and Melinda Gates Foundation launched a new global health surveillance network focused on preventing childhood mortality in developing countries, and tapped EGHI as the lead partner. The Child Health and Mortality Prevention Surveillance network (CHAMPS), will gather data about how, where, and why children are getting sick and dying, in order to help governments and national public health institutes improve child health. The Gates Foundation’s initial commitment of $75 million will enable CHAMPS establish six sites from which public health researchers can quickly gather data that can be used to develop targeted prevention, diagnosis, and treatment.

EGHI will collaborate with IANPHI, the CDC, the Public Health Informatics Institute at the Task Force for Global Health, and the Barcelona Institute for Global Health. The first CHAMPS sites, selected in early 2017, will be Soweto, South Africa, Manhiça, Mozambique, and Bamako, Mali. CHAMPS will help train local staff at these sites and build surveillance infrastructure to support a field-based, data-driven understanding of the causes of under-five mortality. The information
gathered by CHAMPS will help direct research, funding, and advocacy at Emory and around the world.

Emory, with its strong relationships with the CDC, international public health institutions, and the Gates Foundation, was uniquely positioned to lead the implementation of the CHAMPS network. As CHAMPS grows to encompass as many as 20 sites, Emory’s partnerships with these organizations will benefit the developing network, and aid the university’s own research.

**Emory Global Diabetes Research Center**

The Emory Global Diabetes Research Center (EGDRC) leverages an extensive global network to develop and advance the abilities of Emory, US, and non-US researchers to engage in world-class research in diabetes and other related non-communicable diseases such as stroke, hypertension, heart disease, and co-morbid conditions such as tuberculosis, mental health, and HIV. EGDRC has over 30 projects that have a total of over $40 million in grants, and houses seven core and over 25 affiliated faculty plus nine fellows and staff at Emory.

EGDRC began as a collaboration between the Rollins School of Public Health and the Madras Diabetes Research Foundation (MDRF), in India, with a seed grant from EGHI to expand research and training for scientists in the US, South Asia, and throughout the world. The partnership gives Emory researchers access to MDRF’s extensive research base and diabetes patient medical record database. The partnership has grown to include long-term partnerships with institutions in India and around the world: Public Health Foundation of India, All India Institute of Medical Sciences, Aga Khan University, the National Public Health Institute, and the London School of Hygiene and Tropical Medicine. Through these robust partnerships, EGDRC has become a leader in policy and advocacy, training and capacity building, and implementation trials, in addition to the data collection and research EGDRC facilitates.

**Center for Global Safe Water, Sanitation, and Hygiene**

The Center for Global Safe Water, Sanitation, and Hygiene (CGSW) focuses on increasing access to safe drinking water, adequate sanitation, and appropriate hygiene as part of a global strategy to break the cycle of poverty and disease in developing countries. Housed in Emory University’s Rollins School of Public Health, the CGSW combines academic strength with a commitment to evidence-based action, advocacy, and policy development. Through CGSW, Emory is advancing solutions that improve the quality of life for humanity across the globe.

**Carter Center**

Emory is a key partner of The Carter Center, founded by former President Jimmy Carter and Rosalynn Carter. The Carter Center is committed to advancing human rights and alleviating human suffering through preventing and resolving conflicts, enhancing freedom and democracy, and improving health. The center was founded in 1982 in partnership with Emory, and Emory maintains a role in its governance and advancing its mission around the world. The two
institutions work together in a number of ways, including through the Institute of Developing Nations (IDN), which was formed to leverage the strengths of the partnership between The Carter Center and Emory. IDN promotes inter-disciplinary scholarship that engages with a range of development stakeholders beyond higher education. IDN focuses on problem, strengthening capacity with in-country partners, and enhancing graduate student education, and has worked in over 20 countries.

In sum, as a leader in global research, Emory attracts funding, talent, and renown to Atlanta, and exports groundbreaking research, solutions, and action around the world. As will be explored in the next section, this concentration of research assets also provides commercializable intellectual property and feeds a robust entrepreneurship ecosystem that strengthens the state’s economic competitiveness.
8.4 RESEARCH AS A DRAW FOR FUNDING

Research dollars attracted by Emory University not only generate important discoveries that advance the body of knowledge, but also bring significant economic activity to the Atlanta region that otherwise would likely be deployed elsewhere. Research funding is mobile, and when these dollars are awarded to Emory in the basic and clinical research and in the humanities, they are spent locally, supporting Georgia jobs and tax revenues. In each of the last seven years, Emory has attracted a half billion dollars or more in research awards to metro Atlanta and Georgia. In FY 2016 specifically, Emory received over 2,900 research grants totaling more than $574 million (see Table 8.1). Of that amount, 68 percent was awarded from the federal government, and more than 92 percent were funded from sources outside of Georgia.

This influx of funding represents a remarkably high proportion of Emory’s annual operating budget, which reflects its status as a premier research institution. It is also good for the state economy, because the multiplier effect of research spending is, at 1.63, higher than the multiplier effect of general university operations (1.26). This means that while a dollar spent on general university operations produces an additional 26 cents of impact throughout the state economy, a dollar spent on research produces an additional 63 cents of impact. Additionally, much of that research spending is funded by sources that are located outside of the state of Georgia. This makes research one of the state’s most important export industries, and is a vital part of the state’s overall economic competitiveness.

From an economic standpoint, this activity is beneficial in large part due to its source. The majority of research funding (68 percent in FY16) comes from federal sources, which is above the national average of 63 percent.51 The largest single sponsor of funds is the National Institute of

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Health (NIH), accounting for $333.0 million in awards in 2016, or 58 percent of total funding, and 85 percent of all federal funding. NIH funding alone at Emory accounts for over 5,500 jobs. In fact, Emory University consistently ranks in the top 20 of NIH-funded universities. In 2016, the Nell Hodgson Woodruff School of Nursing ranked first in the nation in NIH funding among all nursing schools for the first time ever.\textsuperscript{52} Yerkes also ranked first in NIH funding among its peers, Rollins School of Public Health ranked ninth, and the School of Medicine ranked 17\textsuperscript{th}. Federal research projects are highly competitive, and are awarded regardless of geography, meaning that, absent Emory, these investments would likely occur outside of the region and state.

<table>
<thead>
<tr>
<th>Research Sponsor Type</th>
<th>Funding (SM)</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>$389.7</td>
<td>68%</td>
</tr>
<tr>
<td>Non-Federal</td>
<td>$184.9</td>
<td>32%</td>
</tr>
<tr>
<td>Total</td>
<td>$574.6</td>
<td></td>
</tr>
</tbody>
</table>

\textit{Source: Emory (2016)}

The Woodruff Health Sciences Center received 94 percent of total dollars awarded in FY16, which includes awards to the School of Medicine, the Rollins School of Public Health, the Yerkes National Primate Research Center, the Winship Cancer Institute, and the Nell Hodgson Woodruff School of Nursing (see Table 8.2). Additionally, Emory College received $28.7 million in awards, including awards from the Marcus Foundation, the Andrew W. Mellon Foundation, and the United Way of Metro Atlanta, among others, which is 5 percent of the total.

TABLE 8.2 – FISCAL YEAR 2016 EMMORY SPONSORED RESEARCH AWARDS BY SCHOOL / ENTITY ($M)

<table>
<thead>
<tr>
<th>Entity</th>
<th>Expenditures ($M)</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodruff Health Sciences Center</td>
<td>$540.2</td>
<td>94%</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>$348.0</td>
<td>61%</td>
</tr>
<tr>
<td>Rollins School of Public Health</td>
<td>$94.8</td>
<td>16%</td>
</tr>
<tr>
<td>Yerkes National Primate Research Center</td>
<td>$79.1</td>
<td>14%</td>
</tr>
<tr>
<td>Nell Hodgson Woodruff School of Nursing</td>
<td>$15.1</td>
<td>3%</td>
</tr>
<tr>
<td>Health Affairs</td>
<td>$3.1</td>
<td>1%</td>
</tr>
<tr>
<td>Emory College</td>
<td>$28.7</td>
<td>5%</td>
</tr>
<tr>
<td>Remaining University</td>
<td>$5.7</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>$1.6</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>$574.6</td>
<td></td>
</tr>
</tbody>
</table>

Source: Emory (2016)

It is significant that the vast majority of research funding goes to the Woodruff Health Sciences Center (WHSC), the umbrella organization for all of Emory’s health sciences work. WHSC integrates Emory’s education and training of medical students and nurses, research, drug innovation, and clinical trials, public health, and patient care. WHSC, which will be explored more fully in the next section, exemplifies Emory’s strengths as an education and research institution, care provider, and collaborator.

Another considerable source of funding for Emory comes from donations from health care benefactors. Hundreds of thousands of people are treated by Emory physicians each year, and some, because of their experience, are moved to make donations to support Emory faculty, research, and programs. Between 2012 and 2016, donations of more than $330 million illustrate the immense value these individuals and families place on their personal experiences and the work that Emory does. Further, donations made to Emory from outside Atlanta and Georgia are a transfer of money that would be spent outside the region, if not for Emory.
8.5 LEVERAGING THE IMPACT OF THE WOODRUFF HEALTH SCIENCES CENTER

The Woodruff Health Sciences Center (WHSC) was founded in 1966 and has become one of the nation’s largest and most comprehensive academic health centers. It brings together all of Emory’s work in the health sciences, from teaching to research to clinical care. WHSC exemplifies Emory’s emphasis on breaking down institutional silos to do truly innovative work. The center is comprised of the Emory University School of Medicine, Nell Hodgson Woodruff School of Nursing, Rollins School of Public Health, Yerkes National Primate Research Center, Winship Cancer Institute, and Emory Healthcare. The center is a pioneer in innovating ways to prevent and treat disease, preparing the next generation to save and improve lives, provide the highest-quality clinical care, and serve the community. With 24,067 employees across all missions, including 3,035 faculty, and 5,207 students and trainees, WHSC brings together educators, researchers, students, and healthcare providers to tackle today’s most pressing health issues. The center draws from significant resources in the University and Emory Healthcare to achieve global impact through research and innovation. WHSC encapsulates Emory’s unique contribution to the health science field by merging its groundbreaking research with training and extensive patient care through Emory Healthcare, the most comprehensive health system in Georgia.

WHSC contains a wide variety of research centers, including: the Winship Cancer Institute, the Emory Vaccine Center, one of the world’s largest academic vaccine research centers, the Emory Center for AIDS Research, the Atlanta Clinical & Translational Science Institute, the Influenza Pathogenesis & Immunology Research Center, the Alzheimer’s Disease Research Center, and the Chemical and Biology Discovery Center. WHSC multidisciplinary centers include the Emory Transplant Center, Emory/Georgia Tech Predictive Health Institute, Emory Global Health Institute, Heart and Vascular Center, Center for Comprehensive Informatics, Center for Regenerative Medicine (a partnership with GA Tech), and Emory Brain Health Center. Through these centers and initiatives, WHSC pursues groundbreaking research, innovations, and patient care, the effects of which are felt locally and globally.

Program Spotlight: Nell Hodgson Woodruff School of Nursing

- African Health Profession Regulatory Collaborative (ARC) is a School of Nursing-based initiative to scale up HIV services by strengthening regulation of nursing and midwifery education and practice in 17 nations. Working with a range of community partners, ARC brings together teams of nurses in participating countries to develop strategies and solutions to expand access to life-saving antiretroviral therapy.

- For over 20 years, the Farmworker Health Project has brought nursing and physician assistant students and faculty to South Georgia to provide health care to migrant farm workers and their families. Working with community partners, the program sets up in fields and housing complexes to provide physical examinations and health screenings, serving a population that has limited access to health care.
While WHSC tackles difficult research questions in a variety of fields, its innovation can be clearly seen in its extensive clinical trials. One important way it brings the best care to patients is by offering a wide variety of clinical trials designed to develop new ways to prevent and treat disease. Emory offers access to clinical trials developed by Emory researchers, and many multi-institutional trials developed by pharmaceutical companies, the NIH, the CDC, and other federal agencies. To ensure patient safety, all trials must go through a rigorous review process conducted by the Emory University Institutional Review Board. As of November 2016, Emory had over 1,700 active clinical trials, with over 16,500 participants enrolled.

Emory’s unique ability to translate research into effective patient care is exemplified by the Winship Cancer Institute, Georgia’s first and only National Cancer Institute designated cancer center. In May 2017, it earned the prestigious Comprehensive Cancer Center designation from NCI, placing it in the top one percent of all such centers in the U.S. The designation, awarded after a rigorous evaluation, recognizes Winship’s outstanding work in cancer research and treatment. The Winship Cancer Institute of Emory University is a world leader in cancer research, with four full research programs: Cancer Cell Biology, Cancer Genetics and Epigenetics, Cancer Prevention and Control, and Discovery and Developmental Therapeutics. In 2016, Winship received $83.9 million in research funding, and published over 1,600 peer-reviewed articles. Translating that research into world-class patient care, Winship physicians see more than 15,000 newly diagnosed cancer patients each year. Winship was designated Georgia’s first and only National Cancer Institute (NCI) designated cancer center, after an extensive, peer review process and five years. With the NCI designation, Winship joins 68 cancer centers around the country, and gives Georgians access to clinical trials and resources not available elsewhere. Winship also serves the Georgia by providing public information, education, and outreach to other health care professionals and the community.

Winship is a part of Emory’s Woodruff Health Sciences Center, and as such can offer patients unparalleled access to an array of resources in medical oncology, surgical oncology, radiation oncology, diagnostic imaging, complementary therapies, and social services. Winship’s 437 faculty members represent 37 departments within Emory University and collaborating institutions, including the CDC, American Cancer Society, Georgia Tech, and Morehouse School of Medicine. The institute offers a wide range of complimentary services to its patients, from the Pain Management Clinic, the first of its kind in Georgia, to the Patient and Family Resource Center, with library, lounge, and computer access, to financial services.

Program Spotlight: Yerkes National Primate Research Center

- Yerkes is committed to sharing its research and discoveries with the community and between 2011 and 2015 conducted tours that reached nearly 7,000 individuals. These tours allow the public, from school children to senior citizens, to appreciate the important contributions of nonhuman primate research to help people across generations and the world live longer, healthier lives.

- Yerkes participates in the NIH-funded Institute on Neuroscience for high school students and middle and high school teachers, an eight-week summer program where talented students and teachers conduct research within Yerkes labs.
Clinical trials are a prime example of how Winship combines the research capacity of Emory with patient care to benefit patients. In 2015, Winship enrolled nearly 800 patients in over 250 clinical trials. Emory continues to expand access to Winship research and care, and launched the Winship Cancer Network to bring clinical trials, training, education, and multi-disciplinary and subspecialty cancer care to community cancer facilities throughout Georgia and adjacent states.
9.0 COMMERCIALIZATION AND ENTREPRENEURSHIP

9.1 SECTION OVERVIEW

Research and innovation leads to the commercialization of intellectual property and catalyzes a vibrant regional entrepreneurship ecosystem that produces breakthroughs that can save lives and change the world. The focus of this section is Emory’s role in the commercialization of new technology, the creation of new jobs and companies, and how that role plays a crucial part in the region’s economic competitiveness. Where and how innovation happens increasingly involves large-scale research institutions in urban settings, and Emory is one such example for Greater Atlanta and the state of Georgia as a whole, with positive implications for attracting new businesses, human capital, and venture funding.

9.2 THE IMPORTANCE OF INNOVATION AND ENTREPRENEURSHIP TO TODAY’S GLOBAL ECONOMY AND TO REGIONAL ECONOMIC COMPETITIVENESS

The importance of innovation and entrepreneurship to today’s global economy and to a region’s economic competitiveness cannot be overstated. Indeed, in an increasingly knowledge-based economy, premier research institutions have grown in stature in regional economic development strategies, especially ones in metropolitan regions and connected to industry through various partnership initiatives. They are a source of both discoveries that can be commercialized and of the entrepreneurial talent to see that intellectual property into existence through licensing agreements and start-up ventures.

This is true of Emory University, which anchors a flourishing innovation ecosystem in the Atlanta region and contributes to the region’s business attraction efforts in multiple sectors, including business, science, and engineering. While it is important for every state to have a diversified economy, innovation work is particularly essential to cultivate, because related human and financial capital is fluid and past advantages can easily give way to stagnation. Emory’s continual investments in its physical setting and intellectual community help make the Atlanta region vibrant, contributing to regional economic growth that has outpaced statewide growth over the past generation (see Figure 9.1).
9.3 INTELLECTUAL PROPERTY OUTCOMES

The tangible and monetized outcome of a rich knowledge-based community is intellectual property, which Emory excels in. Emory’s commitment to research can be seen in the breadth and depth of the university’s intellectual property and tech transfer successes. Emory’s Office of Technology Transfer (OTT) serves as a resource for researchers and faculty to advance their work into the marketplace. Emory has directly or indirectly helped to foster 82 start-up companies (see Figure 9.2).
WHSC research has had considerable commercial impact and success, making it a leader in technology transfer. At least 82 startup companies have resulted from the licensing of Emory technologies, with 44 companies based in Georgia. Over the past three decades, Emory has received more than $854 million in licensing revenues from drugs, diagnostics, devices, and consumer products.

Emory’s leadership in this area has been nationally recognized. In 2011, a study published in the New England Journal of Medicine found that Emory is the fourth largest contributor in the nation to the discovery of new drugs and vaccines by public-sector research institutions. Emory’s discoveries include the HIV/AIDS drugs lamivudine and emtricitabine, which are among the most commonly used and most successful HIV/AIDS drugs in the worlds, taken in some form by more than 94 percent of U.S. patients on life-saving antiviral therapy.

Emory devotes significant time and resources to this sort of research, tech transfer, and commercialization work, which is reflected in the operations number in Section 4, and in turn generates even more money that is drawn into Emory from the licensing of intellectual property.

9.4 COMMERCIALIZATION AND ENTREPRENEURSHIP SUCCESSES

Research at Emory has led to the discovery and commercialization of numerous drugs, perhaps most prominently the discovery by Emory scientists of two compounds that are now the basis of
several of the most successful HIV treatments. Software developed by Emory researchers has also driven the patient care, like the Emory Cardiac Toolbox, a collection of software tools developed to help doctors diagnose and treat coronary artery disease. Emory promotes entrepreneurship across disciplines, and has also had successes outside of the medical field. The school fosters creative thinkers who challenge the status quo and disrupt existing power structures. The Dollar Shave Club, founded by Emory alumni Mike Dubin, has changed the way consumers buy razors, creating a billion dollar company in the process. The Anti-Recidivism Coalition, a non-profit started by a Goizueta Business School graduate that assists formerly incarcerated men and women with reentry, is one such example. All of these successes illustrate the range of influence Emory has in improving lives, from the global to the personal.

**HIV Antiretrovirals**

Emory leapt to the forefront of HIV antiviral research in the early 1990s when three researchers, Dr. Raymond Schinazi, an infectious disease and antiviral expert, Dr. Dennis Liotta, a chemist, and Dr. Woo-Baeg Choi, at the time a postdoctoral research associate, discovered the molecule FTC and the chemically similar 3TC. FTC and 3TC, patented by Emory, became the basis for some of today’s most successful antiviral drugs.

In 1996, FTC was licensed to a biotech company founded by Dr. Schinazi, which was acquired by Gilead Sciences in 2003 for $482 million. Shire and GlaxoSmithKline jointly licensed Emory’s patents related to 3TC, which is contained in at least five FDA-approved therapeutics, including a drug used to treat chronic hepatitis B.

In 2005, Gilead Sciences and Royalty Pharma bought Emory’s FTC royalty interest for $525 million, and Gilead Sciences paid Emory an additional $15 million to develop FTC for use against another disease. The combined $540 million deal was the largest royalty sale at the time in higher education. The proceeds went on to benefit Emory College and the School of Medicine, along with the departments of chemistry and pediatrics. Today, more than 94 percent of HIV positive individuals in the U.S. on life-saving antiviral therapy take at least one of the drugs based on Emory researchers’ discovery of FTC and 3TC.

Emory continues to lead HIV and AIDS research with Emory University’s Center for AIDS research, which has more than 100 investigators working on basic, clinical, translational and behavioral projects, including vaccine research. Further, Emory School of Medicine faculty and physicians staff and direct one of the country’s largest outpatient HIV treatment facilities, Grady Health System’s Infectious Disease Program. Finding a vaccine for HIV/AIDS is a primary focus of the scientists at the Emory Vaccine Center, which conducts research and clinical trials. The search for a vaccine is aided by non-human primate research conducted at Emory’s Yerkes National Primate Research Center. Finally, public health researchers studying infection in communities analysis how HIV mutates, adding to scientists understanding of the disease. Together, Emory’s unique collection of scientists, public health researchers, and healthcare providers are advancing our understanding of HIV/AIDS and leading in the quest for an effective HIV vaccine.
Emory Cardiac Toolbox

The Emory Cardiac Toolbox (ECTb) is one of the most widely applied cardiac imaging systems in the world. Developed by Ernest Garcia, PhD, a professor of radiology in the School of Medicine, the software program is a powerful tool that helps doctors diagnose coronary artery disease. Since its introduction in 1993, ECTb has grown to include a number of tools that allow physicians to diagnose and treat heart failure, and even predict which patients will benefit from specific treatments.

The ECTb has also been a commercial success, and the new editions of ECTb continue to translate academic research into lifesaving technology. Together with his collaborators, including researchers at Cedars-Sinai and Georgia Tech, Garcia began licensing versions of ECTb to companies like General Electric and Siemens, and, in 1999, formed Atlanta-based Sintered, Inc. continue licensing and selling the technology. Emory and Georgia Tech remain shareholders in the firm, and a portion of the revenue returns to Garcia’s lab and used to fund projects. ECTb has sold over 10,000 licenses and is one of the most widely applied methods of cardiac imaging in the world, and exemplifies how partnerships between academic researchers and private industry can thrive.

Dollar Shave Club

The idea for Dollar Shave Club came out of Emory College alumni Mike Dubin’s own experience, and frustration, with buying razors. Beyond a convenient way to order razors online, Dollar Shave Club set out to build a brand with a strong point of view and products for the whole bathroom. Dubin, with his co-founder Mark Levine, succeeded in growing the company to 3.2 million members who identified with the brand’s fun packaging and marketing strategy. In 2016, Dollar Shave Club was bought by Unilever for $1 billion.

Anti-Recidivism Coalition

The Anti-Recidivism Coalition (ARC) is a support and advocacy network that helps the formerly incarcerated with reentry and advocates for a fairer criminal justice system. Started by Emory University graduate Scott Budnick in 2013, ARC now has a network of over 300 formerly incarcerated men and women and hundreds of volunteer mentors and allies dedicated to giving those in the reentry process the best chance at success. Budnick, who graduated from Emory University in 1999 with degrees in Business and Film, began his career in the film industry and, as Executive Vice President of Green Hat Films, executive produced many successful movies, including The Hangover series.

Budnick’s work with incarcerated youth began in 2003, when he attended a writing workshop led by InsideOUT Writers at a juvenile facility outside of Los Angeles. As Budnick remained involved with incarcerated youth, he saw the challenges they face when released, and started ARC to build the community and support system needed to help those formerly incarcerated stay out of the prison system. Members commit to living crime-free, gang-free, and drug-free, enrolling in
school, working, or actively looking for work, and being of service to the community and the ARC network. ARC supports members through counseling, case management, mentoring, supportive housing, and employment and education assistance.

ARC has seen significant success with its model, as evidenced by the low recidivism rate for members, which, at five percent, is drastically lower than California’s recidivism rate of more than 54 percent. ARC has also been a leader in reforming the criminal justice system, and has contributed to numerous reforms and legislation that improves how the system treats young people.

In sum, because of the depth and breadth of Emory’s past successes, it is not as subject to the volatile whims of the entrepreneurship world. In fact, it is well-equipped to weather the changes in market interests, venture capital trends and federal funding priorities. Hence, it is likely it will continue to bolster the regional economy and not fall victim to stagnation.

9.5 AN ANCHOR FOR THE REGION’S INNOVATION ECOSYSTEM

Emory contributes to the region’s economy by helping students and faculty move their research outside of the university and into the marketplace. By promoting entrepreneurship and new ventures, Emory brings innovation, jobs, and renown to the Atlanta area. Woodruff Health Sciences Center is successful generating patents and commercializing research, and Drug Innovation Ventures at Emory, a non-profit biopharmaceutical company, helps scientists bridge the gap between innovation and commercialization. Further, Emory’s innovative partnership with the Atlanta Hawks Basketball Club on a new sports medicine complex will expand access to the top physicians of Emory Physical Therapy.

Emory University’s Goizueta Business School maintains strong ties to the region’s business community, and is a driver of innovation in the business sector. Goizueta takes full advantage of its location in Atlanta, both to educate students and to put scholarship into action. Furthermore, Goizueta has birthed Start:ME, an accelerator program that provides entrepreneurs with business training and early financing to develop their businesses. In 2016, Start:ME made $50,000 in loans available to microbusinesses – the majority of which are minority and women-owned local businesses. Numerous programs at Goizueta teach and promote entrepreneurship, like Emory Entrepreneurship & Venture Management, and promote inter-disciplinary exploration, like the Technological Innovation: Generating Economic Results program.
Goizueta Impact

Another way that Goizueta reaches outside of the academic environment is Goizueta IMPACT, a partnership that brings local businesses together with students and faculty to design innovative solutions to real world challenges. For over 20 years, client projects, brought by businesses, have given students the opportunity to connect what they learn in the classroom with leadership and client management. Because of Goizueta’s close relationships in the Atlanta business community, businesses involved in the project include Fortune 500 companies to international nonprofits to successful start-ups.

The challenges companies approach Goizueta with range from issues of strategic importance to complex, multi-disciplinary problems. Teams of MBA candidates are coached by faculty to bridge theory to practice, and deliver to clients creative solutions and actionable recommendations. Goizueta IMPACT both supports the Atlanta business community and prepares its graduates to use the lessons of the classroom in real world situations.

Emory Entrepreneurship & Venture Management

Emory Entrepreneurship & Venture Management (EEVM) is Emory’s first campus-wide organization to promote an entrepreneurial atmosphere on campus. The organization engages leading entrepreneurs, venture capitalists, and enthusiasts in the Greater Atlanta area. Events include the Siperstein Business Plan Competition, StartupCrunch, hackATL, Innovation Series, and the Startup Career Fair.

Drug Innovation Ventures at Emory

Drug Innovation Ventures at Emory (DRIVE) was created to help Emory’s research community translate scientific discoveries into drugs to treat viral diseases. Building off the tremendous success Emory has had discovering and developing antiviral drugs, used to treat diseases from HIV, HBV, and HCV, DRIVE is specially positioned to help researchers bring the next generation of drugs to market. Emory has invested over $20 million in foundational funding for DRIVE to
create the infrastructure needed to accelerate the drug development process. As a non-profit biotechnology company, DRIVE can spin-off companies focused on addressing commercial demands, as well as receive funding to address unmet need in the developing world.

**Technological Innovation: Generating Economic Results**

Technological Innovation: Generating Economic Results (TI:GER) is a partnership between Emory and Georgia Institute of Technology that brings together MBA and JD students to focus on the commercialization of a Science or Engineering PhD student’s research. These partnerships give students with promising research access to the business and legal expertise need to take an idea from the lab to market. The program combines classroom instruction, team-based activities, externships, and networking opportunities for a unique educational experience. This interdisciplinary approach gives students a unique platform to overcome the hurdles to transforming research into economically viable products. TI:GER has had considerable success in producing entrepreneurs that have gone on to win numerous business plan and entrepreneurship competitions.

**Emory at Executive Park**

In 2016, Emory purchased approximately 60 acres of property at Executive Park, including nine office buildings and 400,000 square feet of office space. The property will be an anchor for research innovation, exemplifying how Emory’s academic research translates into innovative ways to treat patients and commercialize ideas. Emory had a significant presence at the site prior to its purchase, including successful programs in Orthopedics, Brain Health, Medical Science Education, Continuing Education, and Health Information Technology.

Since the purchase, Emory has taken the first step in utilizing the property by beginning construction on the Emory Sports Medicine Complex, a part of Emory’s innovative partnership with the Atlanta Hawks Basketball Club. The 90,000 square-foot complex will house state-of-the-art practice facility, training center, and sports medicine complex, integrating the Hawks operation with advanced sports medicine. Emory Healthcare Courts will serve as the official training and practice facility for the Atlanta Hawks, with two full-length basketball courts, performance training areas, and a fully-dedicated recovery area. Emory’s entire sports-medicine division, including the Emory Sports Medicine Center and Emory Physical Therapy, will move into the new complex, giving the Hawks and the greater Atlanta community access to world-class medical care. As the hub for Emory’s Sports Medicine Program, the complex will be a resource for all athletes, from professional to weekend warrior. The complex's innovative technology will include a 3 Tesla MRI scanner, diagnostic imaging technology, recovery technology, 3-D motion capture analysis, and blood/sweat testing.

Emory at Executive Park has already exhibited the draw an anchor institution can have to attract new businesses and jobs. P3, the Peak Performance Project, a California company that is a world-leader in applied sports science, has announced that it will establish its East Coast
headquarters in the completed Emory Sports Medicine Complex. This magnet effect is essential for Atlanta’s continuing competitiveness in today’s global economy.

RENDERING OF THE EMOY SPORTS MEDICINE COMPLEX

Source: Emory (2017)
10.0 ECONOMIC IMPACT FROM CAPITAL INVESTMENTS BY EMMORY

10.1 SECTION OVERVIEW

In addition to the economic impact it generates from its own spending on its annual operations, Emory also spends millions of dollars a year on a variety of capital investment projects, including new buildings, major renovations, and maintenance projects. For example, Emory Healthcare’s new bed tower on Clifton Road reflects the kind of large-scale construction project that infuses hundreds of millions of dollars directly into the region’s economy, with attendant ripple effects to a variety of vendors and industries throughout the state. The purpose of this section is to estimate the economic and tax revenue consequence of these investments.

10.2 ENABLING AND ADVANCING EMMORY’S MISSIONS

Across Emory’s University and Healthcare operations, they both share a common goal of educating, pursuing discovery, and providing the best care to the world. These missions are advanced and supported not only by the staff, faculty, and students that Emory educates, but by the investments Emory has made in its campuses and healthcare locations. Since 2013, Emory has made over $685 million in direct capital investments and facilitated an additional $70 million in third-party investments, for a total of over $750 million. Emory’s capital investments included the purchase of new equipment, renovation of existing spaces, and the construction and acquisition of new facilities. These investments give members of the Emory community access to the latest technological innovations, state-of-the-art facilities, and new spaces to create and advance academic and healthcare research in new directions. Furthermore, they bring recognition to the region and state as a leader in these fields. During Emory’s last Master Plan implementation period, from 2005 to 2015, Emory invested approximately $1 billion in capital projects. Many of these projects are not captured in this report since they preceded the time period of interest, but the investment illustrates the degree and import of Emory’s capital spending.

In the absence of these investments, Emory would struggle to keep up in a competitive academic, research, and healthcare environment that is rapidly changing. Therefore, Emory must make annual capital investments to not only maintain the facilities and equipment it has, but also advance its capabilities to remain modern and relevant. As Emory continues to invest in its campus and community, these facilities will help attract, retain, and better the lives its students, faculty, staff, Georgia residents, and the world as a whole.
10.3 DIRECT CAPITAL INVESTMENTS

In supporting its educational, research, sustainability, and healthcare missions, Emory has made consistent investments in its campuses in recent years. Over the past four years, the University, Healthcare, and together with related third–parties, have invested over three quarters of a billion dollars in current and new facilities, all within the Atlanta MSA (See Table 10.1). To account for the uneven spending from year to year on capital projects, spending across Emory’s various operating units have been annualized to get a better idea of the impact to Atlanta, two county region, MSA, and the state from year to year. On average, Emory spends about $190 million annually on capital projects in Georgia, of which 82 percent are on its Druid Hills campus (see Table 10.1).
### Table 10.1 – Summary of Annualized Capital Expenditures by Emory Operating Unit within the State of Georgia

<table>
<thead>
<tr>
<th></th>
<th>University</th>
<th>Healthcare</th>
<th>Third Party</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Period</td>
<td>4 Year (FY 2013-2016)</td>
<td>4 Year (FY 2013-2016)</td>
<td>4 Year (FY 2013-2016)</td>
<td></td>
</tr>
<tr>
<td>Total Capital Spending</td>
<td>$299 million</td>
<td>$389 million</td>
<td>$70 million</td>
<td>$758 million</td>
</tr>
<tr>
<td>Annualized Capital</td>
<td>$75 million</td>
<td>$97 million</td>
<td>$18 million</td>
<td>$190 million</td>
</tr>
<tr>
<td>Spending</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Emory University (2017), Econsult Solutions (2017)*

#### 10.4 Signature Capital Projects

In recent years Emory has undertaken or completed significant capital projects. Most notably, Emory Healthcare is anticipating the completion of the Emory University Hospital Bed Tower in the fall 2017. The $400 million addition will add 450,000 square feet of new space for the Winship Cancer Institute, the only National Cancer Institute in Georgia, the Emory Transplant Center, and other purposes. This space will add new patient space, and allow the hospital to add over 500 new staff members.  

Emory has also committed significant funds to educational structures on its campuses, as well as, historical preservation and the arts. Both the Druid Hills and Oxford campuses have seen the completion of new science buildings on their campuses in 2016 and 2015, respectively. Furthermore, Emory dedicated a permanent space within the Robert W. Woodruff Library to the Stuart A. Rose Manuscript, Archives, and Rare Books Library ("MARBL"). This new space offers new reading rooms, research space, and exhibition to display the various treasures found among the various collections within the Rose MARBL Library.

Directly bordering Emory’s Druid Hills campus, Emory has also engaged with third party developers to create a retail corridor on the north side of Clifton road. This project was an outgrowth of community feedback to the Clifton Community Partnership requesting more walkable destinations and retail close to Emory. It also supports Emory’s Sustainability Vision which called for more residential and retail options close to campus to reduce driving by students and staff. With the completion of its second phase in 2015, Emory Point has become a campus destination for dining, retail, and residential opportunities (see Table 10.2).

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**TABLE 10.2 – SELECTED RECENTLY COMPLETED AND ONGOING CAPITAL PROJECTS AT EMMORY**

<table>
<thead>
<tr>
<th>Project</th>
<th>Unit</th>
<th>Status</th>
<th>Completion Yr</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atwood Chemistry Center</td>
<td>University</td>
<td>Complete</td>
<td>2015</td>
<td>$52m</td>
</tr>
<tr>
<td>Oxford Science Building</td>
<td>University</td>
<td>Complete</td>
<td>2016</td>
<td>$29m</td>
</tr>
<tr>
<td>Emory University Health Bed Tower</td>
<td>Healthcare</td>
<td>Under Construction</td>
<td>2017</td>
<td>$400m</td>
</tr>
<tr>
<td>Manuscript, Archives and Rare Book</td>
<td>University</td>
<td>Complete</td>
<td>2015</td>
<td>$7m</td>
</tr>
<tr>
<td>Library (MARBL)</td>
<td>Third Party</td>
<td>Complete</td>
<td>2015</td>
<td>$70m</td>
</tr>
<tr>
<td>Emory Point (Ph II)</td>
<td>Third Party</td>
<td>Under Construction</td>
<td>2017</td>
<td>$50m</td>
</tr>
<tr>
<td>Atlanta Hawks Training Facility</td>
<td>Third Party</td>
<td>Under Construction</td>
<td>2017</td>
<td>$50m</td>
</tr>
<tr>
<td>Campus Life Center</td>
<td>University</td>
<td>Under Pre-Construction</td>
<td>2019</td>
<td>$98m</td>
</tr>
</tbody>
</table>


Some of the signature projects have attracted third-party investment. Table 10.2 is inclusive of these third-party expenditures because they would not have been made possible without Emory’s involvement in the transaction.
10.5 FUTURE CAPITAL PROJECTS

Emory is also committed to growing and expanding its campus to fit the needs of its students, staff, and faculty, as well as to provide better services to the local community, and greater Atlanta region. Due to this commitment, it is likely that the high capital investment levels of the recent past will continue into the future. In the immediate near term, Emory’s immediate capital plan includes a new Campus Life Center (“CLC”), and a training facility for the Atlanta Hawks basketball franchise that will house a new state-of-the-art facility for Emory Sports Medicine. While the new CLC will be funded by the University, the basketball facility will be funded by third party sources at Emory’s Executive Park Location.

Scheduled to break ground in 2017 for a 2019 completion, the CLC will greatly expand and modernize the current Dobbs University Center. This expansion was not only necessitated by a lack of space for campus activities, collaboration/study space, and dining, but also to better fulfill Emory’s sustainability, inclusivity, programmatic goals. This $98 million facility will refresh the campus aesthetic and provide flexibility to the University for future needs.
10.6 ECONOMIC IMPACT FROM CAPITAL INVESTMENTS

Across all operating units Emory’s annualized capital investment into projects within the state of Georgia was $190 million. These projects include hard construction costs on new on and off campus facilities, renovation and state of good repair expenses, equipment purchases, and the purchase and procurement of materials and services associated with Emory’s capital plan. These expenditures touch a wide base of wholesalers, manufacturers, and professional services providers in addition to construction companies within the State. In total, Emory’s annual capital expenditure activity generates the following direct, indirect and induced effects:

- $190 million in total output, supporting 1,100 jobs and $50 million in earnings within the Druid Hills campus & city of Atlanta;
- $280 million in total output, supporting 1,630 jobs and $80 million in earnings within Fulton & DeKalb Counties;
- $330 million in total output, supporting 1,890 jobs and $100 million in earnings within the Atlanta MSA; and
- $330 million in total output, supporting 1,920 jobs and $100 billion in earnings within the state of Georgia (see table 103).

<table>
<thead>
<tr>
<th>Capital Expenditures</th>
<th>Druid Hills Campus &amp; City of Atlanta</th>
<th>Fulton &amp; DeKalb County</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Output ($M)</td>
<td>$150</td>
<td>$170</td>
<td>$180</td>
<td>$180</td>
</tr>
<tr>
<td>Indirect and Induced Output ($M)</td>
<td>$40</td>
<td>$110</td>
<td>$150</td>
<td>$150</td>
</tr>
<tr>
<td>Total Output ($M)</td>
<td>$190</td>
<td>$280</td>
<td>$330</td>
<td>$330</td>
</tr>
<tr>
<td>Total Employment</td>
<td>1,100</td>
<td>1,630</td>
<td>1,890</td>
<td>1,920</td>
</tr>
<tr>
<td>Total Earnings ($M)</td>
<td>$50</td>
<td>$80</td>
<td>$100</td>
<td>$100</td>
</tr>
</tbody>
</table>

10.7 INDUSTRY DISTRIBUTION OF ECONOMIC IMPACT FORM CAPITAL INVESTMENTS

Emory’s continual investment in its campus affects a wide range of industries. Ongoing renovation, new construction, and planning draw in various construction and professional services businesses. These businesses in turn purchase of goods and services, and pay their staff which generate far reaching indirect and induced impacts that flow through the local and state economy. Emory’s annualized capital expenditures has its largest impacts on the construction, professional services, retail trade, healthcare and social services, and administrative and support services industries. Overall, these top five industries capture over 87 percent of the total employment impact in Atlanta, and 75 percent of the employment impact in Georgia.

In total, the construction industry will benefit the most from Emory capital expenditures. The construction industry represents 63 percent of the total employment impact within Atlanta, but only 44 percent within the state. Generally, in larger and more economically diverse geographies, spending within a single industry ripples through that economy into other sectors and is captured more broadly (see Figure 10.1).

**Figure 10.1 – Employment Industry Distribution of Emory’s Capital Investments within the Druid Hills Campus and City of Atlanta and State of Georgia**

Druid Hills and City of Atlanta

State of Georgia


10.8 TAX REVENUE IMPACT FROM CAPITAL INVESTMENTS

Emory’s annualized capital investments are also a significant contributor of tax revenues to the City and State. Direct capital investments help create construction jobs, support local construction companies, and suppliers, all of which generate sales taxes and business taxes to the City and income, sales, and business taxes to the State. Additionally, a portion of total sales
tax revenue generated goes to DeKalb County. In aggregate, direct capital investments by Emory generate about $0.2 million in City tax revenues and an additional $3.1 million in State tax revenues (see Table 10.4).

**TABLE 10.4 – ANNUAL FISCAL IMPACT OF EMMORY UNIVERSITY CAPITAL INVESTMENTS WITHIN THE CITY OF ATLANTA AND STATE OF GEORGIA**

<table>
<thead>
<tr>
<th>Tax Type</th>
<th>City of Atlanta</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income ($M)</td>
<td>$0.0</td>
<td>$2.0</td>
</tr>
<tr>
<td>Sales ($M)</td>
<td>$0.1</td>
<td>$1.0</td>
</tr>
<tr>
<td>Business ($M)</td>
<td>$0.1</td>
<td>$0.2</td>
</tr>
<tr>
<td><strong>Total ($M)</strong></td>
<td><strong>$0.2</strong></td>
<td><strong>$3.1</strong></td>
</tr>
</tbody>
</table>


10.9 WHY THIS IMPACT MATTERS

These capital investments provide a steady level of economic opportunity for a construction industry that is very sensitive to changes in the business cycle. In particular, construction projects support thousands of local jobs that are accessible across education backgrounds. These workers also indirectly support the hyper local economy through retail and food purchases while on the worksite.

Investment in Emory’s physical location in which it conducts all of its work is enhanced, and thus also supports Emory’s ability to attract outside human and financial capital. In the ever competitive landscape for research dollars, student, and faculty talent, access to world class facilities and state-of-the-art equipment is an important factor. Therefore, universities and healthcare systems must actively invest in their facilities to maintain a competitive edge and stay relevant in the academic, research, and healthcare fields. By supporting these missions, Emory also improves the economic vitality of the campus area, creating demand for additional private investment nearby that in turn produces additional economic activity and adds to local property tax bases. This private investment includes neighborhood amenities such as retail, entertainment, and food & beverage locations that are available to students, faculty, staff, and local residents that also generate employment opportunities in the neighborhood.
11.0 ECONOMIC IMPACT FROM ANCILLARY SPENDING DRAWN IN BY EMORY

11.1 SECTION OVERVIEW

The fourth and final category of economic impact produced by Emory is ancillary spending. In addition to its own spending, on annual operations and on capital investments, and to the wage premium enjoyed by alumni living and working in the region, Emory can take credit for a significant amount of spending that occurs in the region as a result of its presence in the region. The largest category of ancillary spending is Emory students, who spend money in a variety of categories during their academic careers, including transportation, retail, and (for those students living off-campus) real estate. In addition to students, Emory’s presence in the region draws in spending by patients and their companions, as well as by a wide range of visitors, including friends and family of students, prospective students, attendees of various conferences, as well as, other educational, cultural, and recreational events. The purpose of this section is to estimate the overall annual ancillary spending drawn into the region by Emory and the economic and tax revenue impact of that aggregate spending.

STUDENTS ON EMORY’S CAMPUS

Source: Emory University (2017)
11.2 ESTIMATED ANNUAL STUDENT SPENDING

Emory attracts a highly selective student body from around the country and around the globe. Data on current undergraduate class indicates that about as many students hail from Georgia as those that come from outside of the U.S. Furthermore, over 60 percent of students come from states other than Georgia. Including graduate students, Emory’s student body largely originates many hours away from Atlanta. Therefore, the spending power brought by these students is therefore largely new to the city, two-county region, MSA, and state.

Emory has 14,200 degree program students at its two Georgia campuses, of which approximately 6,900 are undergraduate and over 7,300 are graduate students. Approximately 4,300 students (almost exclusively undergraduates) live in on-campus housing, while the remaining 9,900 (primarily graduate students) live off-campus. While specific spending profiles will vary for each individual student, the Emory Office of Student Aid provides “cost of attendance” data on an annual basis that reflects estimated spending for a typical student, including both tuition and non-tuition spending. This information is utilized to develop average spending profiles per student for on-campus and off-campus students, respectively.\(^{55}\)

Next, it is necessary to estimate the portion of that spending that is captured by Emory, with the remainder represented the estimated ancillary spending per student. Aggregate annual ancillary spending for on-campus students is estimated at $2,625, and for off-campus students is estimated at $14,650, with housing costs representing the largest driver of the differential (see Table 11.1).

<table>
<thead>
<tr>
<th></th>
<th>On-Campus (4,320 students)</th>
<th>Off-Campus (9,880 students)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Budget</strong></td>
<td><strong>$7,900</strong></td>
<td><strong>$7,200</strong></td>
</tr>
<tr>
<td><strong>% to Emory</strong></td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Ancillary Spend</strong></td>
<td>$0</td>
<td>$7,200</td>
</tr>
<tr>
<td><strong>Annual Budget</strong></td>
<td><strong>$5,600</strong></td>
<td><strong>$5,600</strong></td>
</tr>
<tr>
<td><strong>% to Emory</strong></td>
<td>100%</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Ancillary Spend</strong></td>
<td>$0</td>
<td>$4,480</td>
</tr>
<tr>
<td><strong>Annual Budget</strong></td>
<td><strong>$2,300</strong></td>
<td><strong>$2,300</strong></td>
</tr>
<tr>
<td><strong>% to Emory</strong></td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Ancillary Spend</strong></td>
<td>$1,725</td>
<td>$2,070</td>
</tr>
<tr>
<td><strong>Annual Budget</strong></td>
<td><strong>$900</strong></td>
<td><strong>$900</strong></td>
</tr>
<tr>
<td><strong>% to Emory</strong></td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Ancillary Spend</strong></td>
<td>$900</td>
<td>$900</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$16,700</strong></td>
<td><strong>$16,000</strong></td>
</tr>
<tr>
<td><strong>% to Emory</strong></td>
<td>84%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Ancillary Spend</strong></td>
<td><strong>$2,625</strong></td>
<td><strong>$14,650</strong></td>
</tr>
</tbody>
</table>

Source: Emory University (2017), Econsult Solutions (2017)

\(^{55}\) See Appendix C.1 for greater detail on the assumptions and methodology utilized to estimate annual ancillary student spending.
While all of this ancillary spending takes place outside of Emory, all of it does not necessarily occur within each local geography of interest (city, two-county region, MSA, and state) either. Most notably, a significant volume of retail purchases take place online, and transportation costs may reflect travel to and from the campus, a portion of which takes place in other locations. Secondly, for retail purchases made within the relevant geographies, production and transportation costs are backed out to account for the portions of spending that exported out of the geography. In total, Emory students are estimated to spend $230 million on an annual basis, of which $33 million is estimated to be captured within the city of Atlanta, $122 million within the two county region, $135 within the Atlanta MSA, and $136 million within the state of Georgia (see Table 11.2).  

### Table 11.2—Estimated Annual Aggregate Emory Ancillary Student Spending Captured Within the City of Atlanta, Two County Region, Atlanta MSA, and State of Georgia ($M)

<table>
<thead>
<tr>
<th></th>
<th>On-Campus (3,250 students)</th>
<th>Off-Campus (12,540 students)</th>
<th>Total (15,790 students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Ancillary Spend</td>
<td>$2,625</td>
<td>$14,650</td>
<td>$10,992</td>
</tr>
<tr>
<td>Aggregate Ancillary Spend ($M)</td>
<td>$72.1</td>
<td>$158.1</td>
<td>$230.2</td>
</tr>
<tr>
<td>Within Atlanta ($M)</td>
<td></td>
<td></td>
<td>$33.1</td>
</tr>
<tr>
<td>Within Fulton &amp; DeKalb Counties ($M)</td>
<td></td>
<td></td>
<td>$121.8</td>
</tr>
<tr>
<td>Within Atlanta MSA ($M)</td>
<td></td>
<td></td>
<td>$135.4</td>
</tr>
<tr>
<td>Within Georgia ($M)</td>
<td></td>
<td></td>
<td>$135.9</td>
</tr>
</tbody>
</table>

Source: Emory University (2017), Econsult Solutions (2017)

11.3 ESTIMATED ANNUAL VISITOR AND PATIENT SPENDING

Emory also attracts visitors to its campus and medical facilities for a variety of recreational, academic and health care related reasons. Many of these visitors are local or regional, but still may have a small volume of spending associated with their trip which supports local businesses in Atlanta and the surrounding area. Others come from out of town and may stay overnight and support Atlanta’s lodging and hospitality industry. Estimates of ancillary spending are developed

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56 In contrast with Emory’s own spending, on its annual operations and capital investments, all of which takes place on campus and are therefore accounted for in the geography of “city of Atlanta, including the Druid Hills campus,” a much smaller proportion of ancillary spending drawn by Emory from students, patients, and visitors actually takes place within that geography. Some spending is still captured within the city of Atlanta, such is by restaurants, retail stores, transportation companies, and residential landlords located there; but other spending in those and other categories takes place in areas near campus that are outside the city. Therefore the “within Atlanta” spending estimate is much smaller than the spending estimates for the other, larger geographies.
by matching industry benchmarks for per visitor spending with attendance data tracked by Emory for several categories of visitors:\footnote{See Appendix C.2 for greater detail on the assumptions and methodology utilized to estimate annual ancillary visitor spending.}

- **Prospective students** who visit the campus and the city, often with their families;
- Spectators of Emory’s various Division III sports programs;
- **Visitors of current students** including friends and family who visit the campus both for social purposes and to assist with moving in and out;
- **Orientation and convocation** at which friends, family and alumni gather on campus to welcome new students and celebrate the graduating class;
- **Alumni events** which draw graduates back to the Atlanta campus;
- **Conferences** participating in business or academic activities across Emory’s operating units;
- **Cultural and athletic event and attraction attendees** including visitors to Emory’s variety of cultural amenities and sports facilities; and
- **Visitors of Medical Center patients** who are brought to the area through their connection with patients undergoing treatment.

Attendance data collected by Emory for each visitation category are translated into a total visitor estimate by local, regional and out of town visitor distribution. These distributions are then matched with visitor spending estimates by visitor type to develop a weighted per visitor spend for each category and an associated annual visitor spend.\footnote{This approach therefore recognizes, for example, that a family accompanying a prospective student visit and staying in a hotel has a different spending profile from a patient visiting the facilities of the Medical Center for an outpatient visit.} For patients and visitors of Emory Healthcare, an estimate the number of unique visitors was estimated based on the total patient encounters by Emory Healthcare clinicians. Based on national and regional metrics for the number of annual visits per capita, Emory Healthcare served nearly 3 million inpatients and outpatients in 2016.\footnote{Emory Healthcare had 51,000 inpatient visitors and 2,907,000 outpatient visitors across all of its hospitals, clinics, and specialty care centers in 2016.}

As with student spend, portions of these expenditures are estimated to take place outside of the geographies of interest. In total, Emory visitors are estimated to spend $166 million on an annual basis, of which $77 million is estimated to be captured within the city of Atlanta, $148 million within the two country region, $156 million within the Atlanta MSA, and $161 million within the state of Georgia. This vast majority of this spending comes from outpatient visitors. All of the spending from these various visitor categories represents millions of dollars over and above
Emory’s own spending on operations and capital investments, its presence draws this much in additional spending into the region by students and visitors (see Table 11.3).

**Table 11.3 – Estimated Aggregate Annual Emory Ancillary Visitor Spending within the City of Atlanta, Two County Region, Atlanta MSA and State of Georgia**

<table>
<thead>
<tr>
<th>Type of Visitor</th>
<th>Attendees</th>
<th>Visitors per Attendee</th>
<th>Average Spend per Visitor$^{60}$</th>
<th>Total Spend ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move- in/ Convocation</td>
<td>5,630</td>
<td>2</td>
<td>$77</td>
<td>$0.9</td>
</tr>
<tr>
<td>Move Out</td>
<td>5,630</td>
<td>2</td>
<td>$77</td>
<td>$0.9</td>
</tr>
<tr>
<td>Commencement</td>
<td>12,000</td>
<td>2</td>
<td>$112</td>
<td>$2.7</td>
</tr>
<tr>
<td>Family Weekend</td>
<td>1,072</td>
<td>2</td>
<td>$79</td>
<td>$0.2</td>
</tr>
<tr>
<td>Homecoming</td>
<td>848</td>
<td>1</td>
<td>$86</td>
<td>$0.1</td>
</tr>
<tr>
<td>Prospective Student Visits</td>
<td>26,538</td>
<td>2</td>
<td>$88</td>
<td>$4.7</td>
</tr>
<tr>
<td>Sporting Events</td>
<td>18,101</td>
<td>1</td>
<td>$31</td>
<td>$0.6</td>
</tr>
<tr>
<td>Special Olympics GA</td>
<td>6,050</td>
<td>1</td>
<td>$77</td>
<td>$0.5</td>
</tr>
<tr>
<td>Summer Conferences- overnight</td>
<td>9,845</td>
<td>1</td>
<td>$83</td>
<td>$0.8</td>
</tr>
<tr>
<td>Day Camps- Athletics and Carlos Museum</td>
<td>15,000</td>
<td>1</td>
<td>$31</td>
<td>$0.5</td>
</tr>
<tr>
<td>Carlos Museum, Schwartz Event Center, and Rose Library$^{61}$</td>
<td>141,170</td>
<td>1</td>
<td>$13</td>
<td>$1.9</td>
</tr>
<tr>
<td>Student Activity and Academic Center community visits</td>
<td>27,790</td>
<td>1</td>
<td>$26</td>
<td>$0.7</td>
</tr>
<tr>
<td>Student Activity and Academic Center community memberships</td>
<td>5,200</td>
<td>1</td>
<td>$17</td>
<td>$0.1</td>
</tr>
<tr>
<td>Visitors of Students</td>
<td>14,205</td>
<td>1</td>
<td>$64</td>
<td>$0.9</td>
</tr>
<tr>
<td>Inpatient Visitors</td>
<td>51,416</td>
<td>1</td>
<td>$54</td>
<td>$2.8</td>
</tr>
<tr>
<td>Outpatients</td>
<td>2,907,001</td>
<td>1</td>
<td>$51</td>
<td>$147.8</td>
</tr>
<tr>
<td>Total</td>
<td>3,247,496</td>
<td>3,298,366</td>
<td>$51</td>
<td>$165.8</td>
</tr>
</tbody>
</table>

**Within Atlanta ($M)** | **$76.6** |
**Within Fulton and DeKalb Counties ($M)** | **$148.1** |
**Within Atlanta MSA ($M)** | **$156.3** |
**Within Georgia ($M)** | **$161.1**


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$^{60}$ Weighted average of spending per visitor across different spending profiles within that visitor type (e.g. day trip, overnight)

$^{61}$ Visitors of the Carlos Museum, Schwartz and Rose Library include a large amount of direct members of the Emory community, and regional elementary, middle, and high school students that are unlikely to bring new spending to the region.
Student and visitor spending estimated can be aggregated by category to yield total ancillary spending estimates by category for each geography. Within the city of Atlanta, visitor and student spending combined totals $110 million, $270 million for the two county region, $292 million for the MSA, and $297 million for the state of Georgia (see Table 11.4).

<table>
<thead>
<tr>
<th>Table 11.4 – Estimated Aggregate Annual Ancillary Spending Attributable to Emory within the City of Atlanta, Two County Region, Atlanta MSA and State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Atlanta</td>
</tr>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Visitor</td>
</tr>
<tr>
<td><strong>Total Ancillary Spending</strong></td>
</tr>
<tr>
<td>Fulton &amp; DeKalb Counties</td>
</tr>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Visitor</td>
</tr>
<tr>
<td><strong>Total Ancillary Spending</strong></td>
</tr>
<tr>
<td>Atlanta MSA</td>
</tr>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Visitor</td>
</tr>
<tr>
<td><strong>Total Ancillary Spending</strong></td>
</tr>
<tr>
<td>State of Georgia</td>
</tr>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Visitor</td>
</tr>
<tr>
<td><strong>Total Ancillary Spending</strong></td>
</tr>
</tbody>
</table>

11.4 ECONOMIC IMPACT FROM ESTIMATED STUDENT, VISITOR, AND PATIENT SPENDING

Spending by Emory students, visitors and patients on categories like lodging, food & beverage, retail and transportation generates significant revenues for local business owners and merchants. The portion of that spending that contributes to local economic activity is estimated to be $110 million within the city of Atlanta, $270 million within the two county region, $292 million within the Atlanta MSA, and $297 million within the state of Georgia.\(^6^2\) This spending is in turn re-circulated by local businesses to their suppliers and to their employees in the form of wages.

The direct, indirect and induced effects of this ancillary spending is estimated to generate on an annual basis:

- $70 million in total output, supporting 680 jobs and $20 million in earnings within the city of Atlanta;
- $250 million in total output, supporting 1,950 jobs and $60 million in earnings within Fulton and DeKalb counties;
- $270 million in total output, supporting 2,150 jobs and $70 million in earnings within the Atlanta MSA; and
- $280 million in total output, supporting 2,180 jobs and $70 million in earnings within the state of Georgia (see table 11.5).

\(^6^2\) A portion of the direct spending estimated in this category is excluded from the economic impact from ancillary spending because it is not likely to circulate through the local economy. Most notably, with respect to retail sales, many local stores originally buy goods from wholesalers and manufacturers outside of the region. In those instances, our model conservatively attributes only the "retail margin" (the difference between purchase price for the retailer and the sales price to the customer) as contributing to local economic activity.
11.5 TAX REVENUE IMPACT FROM ANCILLARY SPENDING

Student and visitor spending represents an infusion of spending in the local economy attributable to Emory. In addition to supporting suppliers and employees this increase in direct, indirect and induced economic activity grows various tax bases at the local and state level, increasing tax revenues for these jurisdictions. In aggregate, the economic activity attributable to ancillary spending generates an estimated $300,000 in city of Atlanta tax revenues and an estimated $2.1 million in state of Georgia tax revenues on an annual basis (see Table 11.6).

### Table 11.6 – Annual Fiscal Impact of Emory University Operations within the City of Atlanta and State of Georgia

<table>
<thead>
<tr>
<th>Tax Type</th>
<th>City of Atlanta</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income Taxes ($M)</td>
<td>$0.0</td>
<td>$1.4</td>
</tr>
<tr>
<td>Sales and Use Taxes ($M)</td>
<td>$0.2</td>
<td>$0.6</td>
</tr>
<tr>
<td>Business Taxes ($M)</td>
<td>$0.1</td>
<td>$0.1</td>
</tr>
<tr>
<td>Total ($M)</td>
<td>$0.3</td>
<td>$2.1</td>
</tr>
</tbody>
</table>

11.6 WHY THIS IMPACT MATTERS

Ancillary spending categories represent an important form of export for the region, which is to say that people from outside the region are spending money in the region, to the benefit of local jobs and local tax bases. A large proportion of this spending can be considered new to the region, and much of it is subject to various taxes at the local and state level. Furthermore, it is important to note that a lot of this spending is to merchants in low-margin sectors, such as restaurants and retail, and so the demand represented by students, patients, and visitors can mean the difference between a viability and obsolescence for many merchants. Furthermore, by supporting a larger number and better mix of merchants than might otherwise exist, the spending power of Emory students, patients, and visitors is making for a better retail environment for local residents, which is a hugely attractive quality of life amenity.
12.0 CONCLUSION

12.1 AGGREGATE ECONOMIC IMPACT

Emory is a world-class academic institution and the most comprehensive health care system in the state of Georgia. It contributes greatly to its local and state economy, through its operations, its capital investments, ancillary spending by students, patients, and visitors, and the wage premium enjoyed by alumni living and working in the region.

It is estimated that on an annual basis, Emory produces a $9.1 billion economic impact for the state economy and supports approximately 64,000 jobs statewide (see Table 12.1). Eighty percent of this annual economic impact and 85 percent of the jobs supported are within Fulton and DeKalb counties. All of this economic impact grows various local and state tax bases, yielding $5.3 million a year to the city of Atlanta government and an additional $200 million a year to the state of Georgia government (see Table 12.2).

**TABLE 12.1 – AGGREGATE ECONOMIC IMPACT OF EMMORY, INCLUSIVE OF IMPACT FROM OPERATIONS, CAPITAL, ANCILLARY, AND WAGE PREMIUM**

<table>
<thead>
<tr>
<th>Operations</th>
<th>City of Atlanta and Druid Hills Campus</th>
<th>Fulton &amp; DeKalb County</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Output ($M)</td>
<td>$3,140</td>
<td>$3,570</td>
<td>$4,050</td>
<td>$4,140</td>
</tr>
<tr>
<td>Indirect and Induced Output ($M)</td>
<td>$1,300</td>
<td>$3,660</td>
<td>$4,760</td>
<td>$4,980</td>
</tr>
<tr>
<td>Total Output ($M)</td>
<td>$4,440</td>
<td>$7,230</td>
<td>$8,800</td>
<td>$9,110</td>
</tr>
<tr>
<td>Total Employment</td>
<td>35,350</td>
<td>52,970</td>
<td>61,770</td>
<td>63,680</td>
</tr>
<tr>
<td>Total Earnings ($M)</td>
<td>$3,010</td>
<td>$4,350</td>
<td>$5,090</td>
<td>$5,290</td>
</tr>
</tbody>
</table>

*Source: Emory (2017), Econsult Solutions (2017), IMPLAN (2016)*
Importantly, a significant proportion of the revenues that support Emory’s direct expenditures originate from outside the state, in the form of the tuition payments and living expenses of students hailing from all over the world (76 percent of Emory students hail from outside the state) as well as research grants from federal and other non-local sources (federal sources represent 68 percent of Emory’s research awards). Emory’s status as a premier university and health care system therefore not only has significant reputational benefits for the state, but also helps it to attract dollars into the state to support employment within the state economy and tax revenues for the State government.

Emory’s proximity to the city of Atlanta and its deep engagement with communities and partners throughout the city result in a significant economic and tax revenue impact at a local level. Including the direct expenditures on Emory’s campus itself, the annual economic impact of Emory within the city and Druid Hills economy is $4.4 billion, supporting over 35,000 jobs and generating over $5 million in tax revenues for the Atlanta government. By dint of its geographic location as well as its policy commitments to local hiring and sourcing, Emory’s employees and its vendors are located throughout the city and surrounding region, further enriching those communities economically.

12.2 WHY THIS IMPACT MATTERS

An important takeaway from this analysis is the set of headline expenditure, employment, and tax revenue impacts produced by Emory’s annual operations, the wage premium enjoyed by graduates who stay in the region, its capital investments, and ancillary spending by students, patients, and visitors. This report utilized standard university economic impact methodologies and found that Emory is a major economic engine for the state of Georgia, responsible for $9.1

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**TABLE 12.2 – SUMMARY OF ANNUAL TAX REVENUE GENERATION ATTRIBUTABLE TO EMMORY**

<table>
<thead>
<tr>
<th>Tax Type</th>
<th>City of Atlanta ($M)</th>
<th>State of Georgia ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income Taxes</td>
<td>$0.0</td>
<td>$161.1</td>
</tr>
<tr>
<td>Sales and Use Taxes</td>
<td>$3.4</td>
<td>$33.5</td>
</tr>
<tr>
<td>Business Taxes</td>
<td>$1.9</td>
<td>$6.0</td>
</tr>
<tr>
<td><strong>Total ($M)</strong></td>
<td><strong>$5.3</strong></td>
<td><strong>$200.6</strong></td>
</tr>
</tbody>
</table>


---

63 These figures do not include the $6.7 million in direct sales and property taxes collected by DeKalb County and its municipalities, nor the $120,000 in property taxes to municipalities in other Georgia counties.
billion in annual economic impact statewide, supporting nearly 64,000 jobs and generating $200 million in tax revenues for the state of Georgia.

Between Emory University and Emory Healthcare (and the nearby Centers for Disease Control and Children’s Healthcare of Atlanta), this is an extraordinary confluence of high-end knowledge activity that drives the regional economy. By itself, Emory is the Atlanta region’s 2nd largest employer, trailing only Delta, and its operating footprint creates substantial economic impact throughout the state as well as tax generation for the city of Atlanta and the state of Georgia.64

As a powerful economic engine, it’s important to recognize how Emory’s impacts matter at a local, regional, and global level. Emory’s social impacts are borne of its present thrust, building on long-standing institutional commitments, to serve and engage its immediate neighborhoods as well as to play a unique role in today’s most pressing and vexing global challenges:

1. Its local engagement efforts are anchored in the belief of a shared destiny with its surrounding neighborhoods and therefore a desire to serve and engage those neighborhoods in ways that advance the institution’s educational and social mission. They manifest themselves in a wide array of initiatives and investments, which simultaneously fulfill Emory’s institutional mission and provide significant benefits to its host communities. Emory’s commitment to making its campus an amenity for others, its funding of a wide range of public-serving functions otherwise expected of municipal government, its provision of tens of millions of dollars in uncompensated care each year, and its deployment of students for tens of thousands of hours of community service and service learning efforts are an investment in the communities in which it is located.

2. Its commitment to academic excellence is intertwined with its commitment to affordability and accessibility so as to create a compelling campus environment that produces scientific breakthroughs and attracts human and financial capital from all around the world. Emory’s long-standing commitment to an inclusive and inter-disciplinary approach to education yields the sort of intellectually rich community that can sustain high levels of productivity for the long run. As students and faculty are activated for a wide range of high-end academic endeavors, it creates a virtuous cycle by attracting in additional human talent and financial capital to maintain such levels of excellence.

3. Its world-class research assets and inter-disciplinary research approach affords it unique opportunities to tackle difficult research questions, particularly in the global health space, drawing attention and resources into Georgia and sending forth innovations that save lives and improve humanity. Quite simply, there are very few places that can do what Emory does on a daily basis, making its research and innovation efforts good for the world by yielding cures and other breakthroughs, as well as good for the region by attracting human and financial capital that would otherwise go elsewhere.

4. Its prolific creation of innovation assets create commercialized intellectual property, feed a growing worldwide diaspora of Emory entrepreneurs, and anchor the Atlanta region’s ability to compete as a regional innovation destination in a world in which human and financial capital are fluid. Importantly, Emory’s strengths are numerous and diverse, positioning it and the region as a destination for both venture capital and federal dollars regardless of how funding priorities may evolve over time. In today’s global knowledge economy, anchor research institutions play an increasingly important and inter-connected role in regional competitiveness, making Emory’s continued productivity of utmost concern to the city and state, and in turn, the city and state’s vitality is of relevance to Emory’s continued success.

All of these social impacts are what make Emory’s economic impacts possible, and they are also what make Emory’s economic impacts matter. These efforts are not ancillary to Emory’s institutional mission but rather are at their core, and in the process of pursuing local engagement, academic excellence, research breakthroughs, and entrepreneurial success, Emory is able to have a significant economic impact throughout the state of Georgia, and to attract from all over the world the additional intellectual and financial capital to continue to do so.
APPENDIX A – DETAILED ECONOMIC AND FISCAL IMPACT METHODOLOGY

A.1 OVERVIEW

Economic impact estimates are generated by utilizing input-output models to translate an initial amount of direct economic activity into the total amount of economic activity that it supports, which includes multiple waves of spillover impacts generated by spending on goods and services and by spending of labor income by employees. This section summarizes the methodologies and tools used to construct, use, and interpret the input-output models needed to estimate this project’s economic impact.

A.2 INPUT-OUTPUT MODEL THEORY

In an inter-connected economy, every dollar spent generates two spillover impacts:

- First, some amount of the proportion of that expenditure that goes to the purchase of goods and services gets circulated back into an economy when those goods and services are purchased from local vendors. This represents what is called the “indirect effect,” and reflects the fact that local purchases of goods and services support local vendors, who in turn require additional purchasing with their own set of vendors.

- Second, some amount of the proportion of that expenditure that goes to labor income gets circulated back into an economy when those employees spend some of their earnings on various goods and services. This represents what is called the “induced effect,” and reflects the fact that some of those goods and services will be purchased from local vendors, further stimulating a local economy.

The role of input-output models is to determine the linkages across industries in order to model out the magnitude and composition of spillover impact to all industries of a dollar spent in any one industry. Thus, the total economic impact is the sum of its own direct economic footprint plus the indirect and induced effects generated by that direct footprint.

A.3 INPUT-OUTPUT MODEL MECHANICS

To model the impacts resulting from the direct expenditures, Econsult Solutions, Inc. developed a customized economic impact model using the IMPLAN input/output modeling system. IMPLAN represents an industry standard approach to assess the economic and job creation impacts of economic development projects, the creation of new businesses, and public policy changes within a county its surrounding area.
IMPLAN has developed a social accounting matrix (SAM) that accounts for the flow of commodities through economics. From this matrix, IMPLAN also determines the regional purchase coefficient (RPC), the proportion of local supply that satisfies local demand. These values not only establish the types of goods and services supported by an industry or institution, but also the level in which they are acquired locally. This assessment determines the multiplier basis for the local and regional models created in the IMPLAN modeling system. IMPLAN takes the multipliers and divides them into 536 industry categories in accordance to the North American Industrial Classification System (NAICS) codes.

The IMPLAN modeling system also allows for customization of its inputs which alters multiplier outputs. Where necessary, certain institutions may have different levels of demand for commodities. When this occurs, an “analysis-by-parts” (ABP) approach is taken. This allows the user to model the impacts of direct economic activity related to and institution or industry with greater accuracy. Where inputs are unknown, IMPLAN is able to estimate other inputs based on the level of employment, earnings, or output by an industry or institution.

A.4 EMPLOYMENT AND WAGES SUPPORTED

IMPLAN generates job estimates based on the term “job-years,” or how many jobs will be supported each year. For instance, if a construction project takes two years, and IMPLAN estimates there are 100 employees, or more correctly “job-years” supported, over two years, that represents 50 annual jobs. Additionally, these can be a mix of a full and part-time employment. Consequently, job creation could feature more part-time jobs than full-time jobs. To account for this, IMPLAN has a multiplier to covert annual jobs to full-time equivalent jobs.

Income to direct, indirect, and induced jobs is calculated as employee compensation. This includes wage and salary, all benefits (e.g., health, retirement) and payroll taxes (both sides of social security, unemployment taxes, etc.). Therefore, IMPLAN’s measure of income estimates gross pay opposed to just strictly wages.

A.5 TAX REVENUE IMPACT

The economic impacts in turn produce one-time or ongoing increases in various tax bases, which yield temporary or permanent increases in various tax revenues. To estimate these increases, Econsult Solutions, Inc. created a tax revenue impact model to translate total economic impacts into their commensurate tax revenue gains. These tax revenue gains only account for a subset of the total tax revenue generation that an institution or industry may have on the economy. Furthermore, where institutions are tax exempt, only the tax revenue generation from supported indirect and induced industries is accounted for.
APPENDIX B – DETAILED WAGE PREMIUM METHODOLOGY

B.1 OVERVIEW

While anchor institutions of higher education such as Emory University have significant economic footprints through their direct expenditures and through students and visitors they draw into the local economy, it is important not to lose sight of the core mission of these institutions in educating its students. This primary function, in addition to helping foster a more enlightened society, has a significant economic component as well, increasing the productivity and earning power of the local workforce.

The link between educational attainment and earnings power is well-established, and a “wage premium” associated with additional education is often conceptualized and calculated from the perspective of the student, who can compare the costs associated with various educational (or non-educational) options with the expected return. This analysis utilizes this framework to estimate the gain not to the student, but rather to the local geographies (city, two county region, region and state) in which Emory alumni are located. The additional earnings attributable to Emory within these geographies are estimated, and translated into additional spending power within the local economy, which supports local employment and earnings.

Central to this exercise is the link between workforce location and location of employment. While the proportion of college graduates retained within a local workforce varies based on the particulars of the institution, its student body, and the geographies in question, institutions of higher education typically supply a significant volume of skilled workers into the local economy through their presence. This talent attraction impact is clear from alumni data supplied by Emory University, which indicates that over 16,000 Emory alumni with baccalaureate degrees or higher currently live within Atlanta, and over to 41,000 live in the state of Georgia. The presence of these skilled graduates in the workforce has two quantifiable effects on earnings with a given geography:

1) A university increases the educational attainment level of the local workforce, which can be translated into increased earnings based on the established relationship between educational attainment and wages.

2) Universities may have a specific wage premium associated with the knowledge and credentials they impart, above and beyond earning power associated with a particular degree level. The selectivity of Emory and the quality of the educational experience it offers manifests itself in an additional wage premium for its graduates.

The section that follows details the data, assumptions and calculations utilized to estimate the impact of Emory on household spending within the city, two county region, MSA, and state, via additional earning power within those geographies.
B.2 EMORY’S CONTRIBUTIONS TO THE EARNING POTENTIAL OF THE LOCAL WORKFORCE

The presence of Emory University also has a significant impact on the composition, educational attainment and skill level of the local workforce. Post-graduation location decisions are impacted by educational experience, with a clear correlation between locations during and after schooling. From a regional workforce standpoint, Emory alumni living and working within the city, two county region, MSA and state are either imported to those geographies (in the case of students originating from around the nation and the world) or retained within those geographies (in the case of the students originating within those geographies who are retained due to the presence of the university.

Graduates retained within the local workforce enhance local earnings potential in multiple ways. First, academic research and government data indicate a clear return to educational attainment in the form of advanced earnings potential. Census Bureau data documents a linear relationship between median wages and educational attainment, with each additional level of schooling yielding increased average earnings. Academic studies have explored this phenomenon from the perspective of an individual student evaluating the returns to investments in additional schooling in terms of their expected lifetime financial position. However, these educational attainment gains accrue not only to the student, but to the region in which they are employed. Increased earnings enjoyed as a result of schooling are a market-based representation of the additional productivity associated with those workers, and ultimately result in additional household spending within the local economy on other goods and services.

Returns to education are also impacted by the specific university that a student attends, due to variance in both institutional quality and fields of study offered. Institutions of higher education vary widely in selectivity, curricular rigor and reputation. These qualitative factors are also reflected in the earnings potential of graduates above and beyond the level of degree they attain. Academic research has demonstrated a clear correlation between the selectivity of higher education institutions and the earnings of its graduates, which again reflects a market-based valuation of enhanced productivity. From the perspective of regional economy, the presence of


a selective university like Emory University that attracts and trains talented students from around the country and the world has additional additive effects on the earnings potential of the local workforce above and beyond the increase in degree attainment.69

B.3 MODELING INCREASED EARNINGS WITHIN A GEOGRAPHY

The modeling approach undertaken in this calculation conforms to the gross impact approach set forth in Section 2.3 and utilized throughout the report. Since a gross analysis does not include a counterfactual in which impacts are replaced through market forces in the absence of the institution, the alumni attracted and retained within the geography are all considered additive to the region. However, the level of local employment is also considered to be fixed even in the absence of the university. The benefit to the region is therefore not the full salary of those workers, but the productivity and wages associated with their additional educational attainment and skills/knowledge premium. A portion of these additional earnings (after accounting for taxes, savings, etc.) results in additional household spending which circulates through the local economy, generating indirect and induced impact and supporting employment and earnings.

As with other impact categories, a net rather than gross impact approach would require a speculative projection of broad labor market impacts within various geographies in the absence of Emory University. In practice, it is likely that if Emory graduates were removed from a labor force with a fixed pool of jobs, some importation of similarly credentialed graduates from outside of the labor force would likely occur. However, it is equally true that absent Emory, it is unlikely that the local economy would retain the same level of jobs currently held by Emory alumni. Academic research has demonstrated a clear link between the presence of high-level research universities like Emory and regional job growth, which is credited in large part of the agglomeration and spillover benefits associated with knowledge activity,70 and as a general matter, business location decisions are increasingly understood to follow talent rather than the other way around. Accordingly, it is likely that a non-trivial proportion of the jobs held by Emory graduates in the local economy may not exist at all within the city, two county region, MSA and state absent Emory. The gross impact approach utilized in this analysis assumes these jobs to exist with or without the university, and estimates only the effects of the existence of Emory on the education and skill level of the local workforce and its attendant impact on wages.


69 Note that evidence is mixed on the extent to which selective universities are causally responsible for the observed increase in wages, and the extent to which the underlying characteristics of the student body they admit would lead to students achieving some or all of that premia at a less selective university. From the perspective of a regional workforce, however, this causality question is irrelevant, since the students that are attracted to the region by the selective institution and enjoy the associated wage gains would not otherwise be in the region absent the institution.

B.4 GEOGRAPHIC DISTRIBUTION OF EMORY ALUMNI

Understanding the impacts of Emory on the earnings potential of the local workforce begins with understanding the current distribution of Emory alumni within the city, region and state economies. Data provided by Emory yields the residential location of the approximately 116,000 active members of the alumni database.71

- More than 16,000 alumni (14 percent) are estimated to be living in the city of Atlanta
- 24,000 alumni (21 percent) are estimated to be living within the two-county region
- About 36,000 alumni (31 percent) are living within the Atlanta MSA
- Over 41,000 alumni (36 percent) are estimated to be living within the state of Georgia (see Table B.1).

### Table B.1 – Active Emory Alumni by Geographic Location

<table>
<thead>
<tr>
<th>Alumni Location</th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Undergrad Alumni w/ Known Locations</td>
<td>10.2%</td>
<td>15.6%</td>
<td>24.6%</td>
<td>28.6%</td>
<td></td>
</tr>
<tr>
<td>% of Graduate Alumni w/ Known Locations</td>
<td>17.3%</td>
<td>25.6%</td>
<td>36.4%</td>
<td>41.2%</td>
<td></td>
</tr>
<tr>
<td>% of Total Alumni w/ Known Locations</td>
<td>14.1%</td>
<td>21.1%</td>
<td>31.1%</td>
<td>35.5%</td>
<td></td>
</tr>
<tr>
<td>Total Undergrad Alumni</td>
<td>5,380</td>
<td>8,180</td>
<td>12,950</td>
<td>15,060</td>
<td>52,570</td>
</tr>
<tr>
<td>Total Grad Alumni72</td>
<td>11,080</td>
<td>16,370</td>
<td>23,280</td>
<td>26,350</td>
<td>63,920</td>
</tr>
<tr>
<td>Est. Total Alumni</td>
<td>16,460</td>
<td>24,550</td>
<td>36,230</td>
<td>41,410</td>
<td>116,490</td>
</tr>
</tbody>
</table>

Source: Emory University (2017), Econsult Solutions (2017)

Next, it is necessary to estimate the proportion of alumni within each geography that are actively employed (and therefore generate an annual wage premium), and to divide those alumni by education attainment. The proportion of Emory alumni in the workforce within each geography is estimated based on the Bureau of Labor Statistics’ labor force participation rate for adults aged 25 and older with a bachelor’s or advanced degree nationally.73 Applying this proportion across all four geographies of interest yields an estimated distribution of Emory alumni currently employed within these geographies by degree level (see Table B.2).

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71 Excludes 9,000 Emory Alumni with Associates degrees
72 Alumni who have received both an undergraduate and advanced degree from Emory are likely included in this count. In this analysis, the wage premium conferred to these alumni is assumed to be the wage premium associated with an advanced degree only.
73 National data from the Bureau of Labor Statistics indicates that the labor force participation rate and employment to population ratio for adults 25 or older with a bachelor’s degree or higher are above 70 percent. BLS data also indicates that labor force participation in the Atlanta metro exceeds the national average. Further, just as selective institutions like Emory confer additional earnings potential on their alumni, they also increase their ability to secure employment. Absent an exact benchmark for localized factors, a 75 percent employment rate is conservatively estimated for Emory graduates across each geography of interest.
**TABLE B.2 – ESTIMATED EMBER ALUMNI WITHIN THE WORKFORCE BY EDUCATIONAL ATTAINMENT AND GEOGRAPHY**

<table>
<thead>
<tr>
<th>Metric</th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s Degree Alumni</td>
<td>5,380</td>
<td>8,180</td>
<td>12,950</td>
<td>15,060</td>
</tr>
<tr>
<td>(x) Est. Proportion within Workforce</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>(=) Est. Employed Bachelor’s Alumni</td>
<td>4,040</td>
<td>6,140</td>
<td>9,710</td>
<td>11,300</td>
</tr>
<tr>
<td>Advanced Degree Alumni</td>
<td>11,080</td>
<td>16,370</td>
<td>23,280</td>
<td>26,350</td>
</tr>
<tr>
<td>(x) Est. Proportion within Workforce</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>(=) Est. Employed Graduate Alumni</td>
<td>8,310</td>
<td>12,280</td>
<td>17,460</td>
<td>19,760</td>
</tr>
</tbody>
</table>


American Community Survey data can be used to understand the overall educational attainment of the workforce within each of these geographies. Table B.3 below shows the highest level of educational attainment for the civilian workforce ages 25-64 within each geographic level.\(^{74}\) Emory graduates represent a significant portion of the labor force with advanced degrees within the city of Atlanta in particular.\(^{75}\)

---

\(^{74}\) To enhance the accuracy of the calculation in terms of its differentiation of different geographic levels, workers within the subsumed geographies are netted out of each successive calculation (i.e. the Fulton & DeKalb counties (excluding Atlanta) reflects the remaining portion of the counties outside of the city, and the Atlanta MSA reflects the remainder of the MSA excluding Fulton and DeKalb counties). The full wage premium for the State is ultimately calculated as the sum of the wage premium for the City, two county region, MSA, and remainder of the State (as shown in Table B.9).

\(^{75}\) Note that the analysis in Tables B.2 and B.3 utilize available information on the residential population as a proxy for the workforce in each geographic region. Due to commute patterns, the educational attainment of a residential population is not necessarily equivalent to the educational attainment of workers employed within this geography. This mismatch is generally larger at smaller geographic levels like a city, and less consequential for a region or state. For the city of Atlanta, data from the Longitudinal Employer-Household Dynamics (LEHD) program produced by the U.S. Census Bureau indicates a significant net inflow of workers into the city (i.e. more commuters live outside of and work inside of the city than live inside but work outside), suggesting that residential data utilized in this analysis is likely understates the impacts of Emory alumni on the educational attainment of the city’s workforce.
TABLE B.3 – EDUCATIONAL ATTAINMENT OF LOCAL CIVILIAN WORKFORCE (AGES 25-64)

<table>
<thead>
<tr>
<th>Education Level</th>
<th>City of Atlanta</th>
<th>Fulton and DeKalb Counties (excluding Atlanta)</th>
<th>Atlanta MSA (excluding Fulton &amp; DeKalb Counties)</th>
<th>State of Georgia (excluding MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Civilian Employed</td>
<td>178,000</td>
<td>522,000</td>
<td>1,510,000</td>
<td>1,465,000</td>
</tr>
<tr>
<td>Some College / Associates Degree</td>
<td>38,000</td>
<td>132,000</td>
<td>590,000</td>
<td>485,000</td>
</tr>
<tr>
<td>Bachelor’s Degree (only)</td>
<td>63,000</td>
<td>164,000</td>
<td>537,000</td>
<td>222,000</td>
</tr>
<tr>
<td>Advanced Degree</td>
<td>46,000</td>
<td>105,000</td>
<td>292,000</td>
<td>147,000</td>
</tr>
<tr>
<td>% Some College / Associates Degree</td>
<td>21.4%</td>
<td>25.4%</td>
<td>39.1%</td>
<td>33.1%</td>
</tr>
<tr>
<td>% Bachelor’s</td>
<td>35.2%</td>
<td>31.5%</td>
<td>35.6%</td>
<td>15.1%</td>
</tr>
<tr>
<td>% Advanced</td>
<td>25.7%</td>
<td>20.1%</td>
<td>19.4%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Est. Emory Bachelor’s Alumni</td>
<td>5,380</td>
<td>2,800</td>
<td>4,770</td>
<td>2,110</td>
</tr>
<tr>
<td>Est. Emory Advanced Alumni</td>
<td>11,080</td>
<td>5,290</td>
<td>6,910</td>
<td>3,070</td>
</tr>
</tbody>
</table>


B.5 IMPACT OF EMORY ON EDUCATIONAL ATTAINMENT IN THE LOCAL WORKFORCE

Next, the impact of removing Emory graduates on the overall educational attainment of the workforce is estimated at each geographic level. As described in Section B.4 above, this analysis assumes that the volume of jobs within each geography remains fixed when Emory alumni are removed, and that the supply of graduates from alternative four-year higher education institutions remains fixed as well. The loss of Emory alumni therefore represents a substantial loss in the educational attainment level of the local workforce. In order to absorb this loss, while maintaining a fixed employment level, jobs held by Emory alumni with bachelor’s degrees are assumed to “filter down” to employees with associate’s degrees, while jobs held by Emory alumni with advanced degrees are assumed to “filter down” to employees with bachelor’s degrees.

This process generates a new modeled distribution of the local workforce absent Emory (see Table B.4). Net changes in educational attainment are shown for each geography, as well as the net change in the percentage of the workforce at each geographic level estimated to be within each level of attainment. The net difference between the attainment levels of the workforce with

76 Note that the open enrollment practices of many Community Colleges or non-selective four year institutions suggest that the supply of these workers is likely relatively unconstrained. It is alternatively possible that positions would be filled by workers with High School degrees or less, which would yield an even larger wage premium.

77 Note that the “filtering” process many in practice involve a long sequence of steps, where a highly skilled position held by an alumnus with an advanced degree is first replaced with a slightly less skilled advanced degree holder, whose position is then replaced by a slightly less skilled advanced degree holder, until a position currently held by a worker with an advanced degree is replaced by a worker with a bachelor’s degree. This sequential process is mathematically equivalent to, and more easily conceptualized as, the replacement of one advanced degree worker with one bachelor’s degree worker.
and without Emory graduates represents the educational attainment impact attributable to the University.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>City of Atlanta</th>
<th>Fulton and DeKalb Counties (excluding Atlanta)</th>
<th>Atlanta MSA (excluding Fulton &amp; DeKalb Counties)</th>
<th>State of Georgia (excluding MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor's Degree → Associates Degree</td>
<td>4,030</td>
<td>2,100</td>
<td>3,580</td>
<td>1,580</td>
</tr>
<tr>
<td>Advanced Degree → Bachelor’s Degree</td>
<td>8,310</td>
<td>3,970</td>
<td>5,180</td>
<td>2,300</td>
</tr>
</tbody>
</table>

Net Change by Degree Type

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>City of Atlanta</th>
<th>Fulton and DeKalb Counties (excluding Atlanta)</th>
<th>Atlanta MSA (excluding Fulton &amp; DeKalb Counties)</th>
<th>State of Georgia (excluding MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associates Degree</td>
<td>4,030</td>
<td>2,100</td>
<td>3,580</td>
<td>1,580</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>4,280</td>
<td>1,870</td>
<td>1,610</td>
<td>720</td>
</tr>
<tr>
<td>Advanced Degree</td>
<td>(8,310)</td>
<td>(3,970)</td>
<td>(5,180)</td>
<td>(2,300)</td>
</tr>
</tbody>
</table>


B.6 EARNING POTENTIAL FOR UNIVERSITY OF EMORY GRADUATES

Next, it is necessary to estimate the incremental earnings associated with each level of educational attainment within each geography of interest, as well as the additional wage premium associated with Emory above and beyond an average degree. Data from the American Community Survey is used to define the median earnings by educational attainment for adults 25+ within the geographies of interest. Median earnings can vary greatly by geography. In particular, the median earnings for bachelors and graduate degree recipients in Fulton & DeKalb counties (excluding Atlanta) are the highest of the four geographies..

---

78 As previously noted, comprehensive data available for this analysis is based on the residential location, rather than work location, of employees. While the residential and workforce populations are largely interchangeable at the regional and state level, the city of Atlanta has a significant net inflow of workers from outside of the city. It is likely that median earnings for workers employed in Atlanta exceed the median earnings of workers living in Atlanta (which is shown in Table B.5). This understatement suggests that the wage premium attributed to Emory within the city is likely understated in dollar terms.
Longitudinal data from the federal Department of Education indicates that Emory graduates earn a considerable premium above median earnings by education level. The latest “College Scorecard” released publicly by the Department of Education reports that earnings by institution based unique tracking of tax filings of students who applied for student loans ten years after they entered school. This comprehensive data source indicates that the median salary ten years after entering Emory is currently $59,400.

This figure is likely conservative relative to the true average earnings of Emory alumni currently in the workforce for a number of reasons. First, it is calculated ten years after entering school and thus only a few years into the workforce for many graduates. These graduates are likely to see their wages increase over time as they stay in the workforce. Second, it includes only students who seek federal financial aid for school (since this forms one of the characteristics necessary for data collection). In doing so, it omits students from higher income families, a characteristic which may be correlated with higher earnings. Finally, it includes earnings of all attendees of the University ten years after entering school, regardless of whether they in fact graduated.\(^79\)

Despite these caveats, this figure can be compared to national earnings by degree type as reported in the ACS to estimate the differential between earnings for Emory alumni and the average degree holder (i.e. the Emory “wage premium”). Since students may have completed advanced studies within ten years after undergraduate enrollment, the $59,400 figure is most appropriately compared to a blended average of the median salaries for bachelors and advanced degree holders nationwide, which is $53,400. This differential indicates that an undergraduate degree from Emory is associated with a wage premium of 11.2% (see Table B.6).

\(^79\) Earnings reported in the 2011-2015 ACS are adjusted to 2016 dollars by applying the annualized wage growth of 3.6 percent for workers with a bachelor’s degree or higher reported by the Federal Reserve Bank of Atlanta.

\(^80\) Emory alumni living in the remainder of the state of Georgia are understood to be disproportionately located in the metro areas of the state. Therefore, earnings data from the remainder of the Atlanta MSA (outside of Fulton and DeKalb counties) is utilized as the most appropriate proxy for earnings by attainment level elsewhere in the state.

\(^81\) An alternative analysis by Payscale.com estimates that the “median alumni mid-career salary” for Emory graduates is $88,000. This approach suggests a premium of 65 percent for Emory, well above the premium calculated from College Scorecard and ACS data. However, this value may be biased due to self-reported unverified data. Secondly, it does not establish a linkage between degree types, graduation year, degree field. For the reasons described above, the methodology utilized in this analysis may well be conservative with respect to the both the premium and salary level enjoyed by Emory graduates.
No similar data source has been identified to calculate the incremental earnings potential associated with advanced degrees from specific institutions (with returns likely to vary significantly by program and selectivity). However, median earnings for advanced degree holders vary significantly by field of study. This is particularly significant for Emory, because the majority of Emory’s graduate degree recipients are in high earning fields like health, business, and law. A national earnings analysis from the Georgetown Center on Education and the Workforce indicates that median earnings for advanced degree holders in business, law, and health fields are command a 40 to 50 percent premium over bachelor’s degrees overall. As a proxy, this premium is applied to the proportion of Emory advanced degree holders that hold degrees in these fields within each geography to develop a blended advanced degree premium by geography based on this indicator. This approach is highly conservative, as it does not include any additional premium associated with the quality and selectivity of Emory’s advanced degree programs, additionally it aggregates advanced degrees into wide categories. The wage premium associated with health fields includes doctors of medicine, dental medicine, as well masters of nursing degree recipients. This average may be less than Emory’s true wage premium due to the number of medical doctors that the University produces. Nonetheless, Emory’s graduate programs yield a quantifiable earnings premium for advanced degree holders, which ranges from 9 to 24 percent by geography (See Table B.7).

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82 See: Carnevale, Cheah, and Hanson (2015) “The Economic Value of College Majors: 2015.” Georgetown University Center on Education and the Workforce, McCourt School of Public Policy
The percentage premiums by degree type and geography are then applied to the median wage by educational attainment within the geographies of interest to yield estimated earnings for Emory alumni by degree level within each geography (see Table B.8). This approach accounts for the fact that average earnings vary by geographic area, and adjusts estimated Emory alumni earnings and the resulting wage premium accordingly (in dollar terms).

### Table B.7 – Estimated Wage Premium For Emory Advanced Degree Holders by Geography

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>City of Atlanta</th>
<th>Fulton and DeKalb Counties (excluding Atlanta)</th>
<th>Atlanta MSA (excluding Fulton &amp; DeKalb Counties)</th>
<th>State of Georgia (excluding MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor Degree – Median Earnings</td>
<td>$53,800</td>
<td>$55,300</td>
<td>$52,800</td>
<td>$46,400</td>
</tr>
<tr>
<td>Advanced Degree – Median Earnings</td>
<td>$72,100</td>
<td>$73,300</td>
<td>$62,400</td>
<td>$55,200</td>
</tr>
<tr>
<td>Advanced Degree – Business</td>
<td>$75,400</td>
<td>$77,400</td>
<td>$74,000</td>
<td>$65,000</td>
</tr>
<tr>
<td>Advanced Degree – Arts, Humanities, Other</td>
<td>$76,400</td>
<td>$78,500</td>
<td>$75,000</td>
<td>$65,800</td>
</tr>
<tr>
<td>Advanced Degree – Law</td>
<td>$78,100</td>
<td>$80,200</td>
<td>$76,600</td>
<td>$67,300</td>
</tr>
<tr>
<td>Advanced Degree – Health</td>
<td>$80,800</td>
<td>$83,000</td>
<td>$79,300</td>
<td>$69,600</td>
</tr>
<tr>
<td><strong>Est. Emory Advanced Degree Weighted Average</strong></td>
<td><strong>$78,600</strong></td>
<td><strong>$80,700</strong></td>
<td><strong>$77,100</strong></td>
<td><strong>$67,900</strong></td>
</tr>
<tr>
<td><strong>Est. Emory Advanced Degree % Premium</strong></td>
<td><strong>9.0%</strong></td>
<td><strong>10.1%</strong></td>
<td><strong>23.6%</strong></td>
<td><strong>23.1%</strong></td>
</tr>
</tbody>
</table>


### Table B.8 – Estimated Earnings for Emory Alumni by Geography and Degree Type

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>City of Atlanta</th>
<th>Fulton and DeKalb Counties (excluding Atlanta)</th>
<th>Atlanta MSA (excluding Fulton &amp; DeKalb Counties)</th>
<th>State of Georgia (excluding MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor's Degree – Average Earnings</td>
<td>$53,800</td>
<td>$55,300</td>
<td>$52,800</td>
<td>$52,800</td>
</tr>
<tr>
<td>Emory Bachelor's Degree Wage Premium</td>
<td>11.2%</td>
<td>11.2%</td>
<td>11.2%</td>
<td>11.2%</td>
</tr>
<tr>
<td><strong>Est. Emory Bachelor's Degree Earnings</strong></td>
<td><strong>$59,800</strong></td>
<td><strong>$61,500</strong></td>
<td><strong>$58,700</strong></td>
<td><strong>$58,700</strong></td>
</tr>
<tr>
<td>Advanced Degree – Average Earnings</td>
<td>$72,100</td>
<td>$73,300</td>
<td>$62,400</td>
<td>$62,400</td>
</tr>
<tr>
<td>Emory Advanced Degree Wage Premium</td>
<td>9.0%</td>
<td>10.1%</td>
<td>23.6%</td>
<td>23.6%</td>
</tr>
<tr>
<td><strong>Est. Emory Advanced Degree Earnings</strong></td>
<td><strong>$78,600</strong></td>
<td><strong>$80,700</strong></td>
<td><strong>$77,100</strong></td>
<td><strong>$77,100</strong></td>
</tr>
</tbody>
</table>

B.7 AGGREGATE EARNINGS IMPACT FROM WAGE PREMIUM

Finally, the effects of the Emory on the educational attainment of the local workforce are combined with the wage premia associated with increased educational attainment in general and with Emory in particular to estimate the total annual wage premium attributable to the University within the geographies of interest. Table B.9 below shows:

- The estimated number of employed Emory alumni within each geography by degree level (as calculated in Section B.4);
- The estimated premium in dollar terms associated with the increased educational attainment attributable and the additional Emory-specific premium for both graduate and undergraduate degree holders by geography (as calculated in Section B.8). 83

Multiplying the number of alumni by the premium within each degree type and geography yields the total annual premium attributable to Emory within each geography of interest (see Table B.9).

- Within the city of Atlanta, the estimated annual wage premium attributable to Emory totals $327 million;
- Within the two county region, the estimated annual wage premium attributable to Emory totals $490 million;
- Within the Atlanta MSA, the estimated annual wage premium attributable to Emory totals $700 million; and
- Within the state of Georgia, the estimated annual wage premium attributable to Emory totals $794 million. 84

83 Note that this method implicitly assumes that all non-Emory alumni earn the average salary for their degree level within their respective geographies.

84 As previously noted, premiums are calculated separately for non-overlapping geographic areas, and then summed to represent the full wage premium inclusive of sub-geographies. Thus, the full wage premium for the Atlanta MSA is the sum of the wage premium for the city of Atlanta, the wage premium for Fulton and DeKalb counties (excluding the city), and the wage premium for the remainder of the MSA (excluding Fulton and DeKalb counties).
<table>
<thead>
<tr>
<th>Emory Employed Alumni – Bachelor’s</th>
<th>City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties (excluding Atlanta)</th>
<th>Atlanta MSA (excluding Fulton &amp; DeKalb Counties)</th>
<th>State of Georgia (excluding the Atlanta MSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,030</td>
<td>2,100</td>
<td>3,580</td>
<td>1,580</td>
</tr>
<tr>
<td>Bachelor’s – Educational Attainment Premium</td>
<td>$24,100</td>
<td>$23,100</td>
<td>$17,800</td>
<td>$17,800</td>
</tr>
<tr>
<td>Bachelor’s – Emory Specific Premium</td>
<td>$6,000</td>
<td>$6,200</td>
<td>$5,900</td>
<td>$5,900</td>
</tr>
<tr>
<td><strong>Bachelor’s Degree Premium</strong></td>
<td><strong>$30,100</strong></td>
<td><strong>$29,300</strong></td>
<td><strong>$23,700</strong></td>
<td><strong>$23,700</strong></td>
</tr>
<tr>
<td>Emory Employed Alumni – Advanced</td>
<td>8,310</td>
<td>3,970</td>
<td>5,180</td>
<td>2,300</td>
</tr>
<tr>
<td>Advanced – Educational Attainment Premium</td>
<td>$18,300</td>
<td>$18,000</td>
<td>$9,600</td>
<td>$9,600</td>
</tr>
<tr>
<td>Advanced – Emory Specific Premium</td>
<td>$6,500</td>
<td>$7,400</td>
<td>$14,700</td>
<td>$14,700</td>
</tr>
<tr>
<td><strong>Advanced Degree Premium</strong></td>
<td><strong>$24,800</strong></td>
<td><strong>$25,400</strong></td>
<td><strong>$24,300</strong></td>
<td><strong>$24,300</strong></td>
</tr>
<tr>
<td>Aggregate Earnings Increase</td>
<td><strong>$327.4 M</strong></td>
<td><strong>$162.2 M</strong></td>
<td><strong>$210.7 M</strong></td>
<td><strong>$93.5 M</strong></td>
</tr>
<tr>
<td>City Total</td>
<td><strong>$327.4 M</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fulton &amp; DeKalb Counties (including city)</td>
<td><strong>$489.7 M</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSA Total (including Fulton and DeKalb Counties)</td>
<td><strong>$700.4 M</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Total (including in-state MSA)</td>
<td><strong>$793.9 M</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX C – DETAILED ANCILLARY STUDENT AND VISITOR SPENDING METHODOLOGY

C.1 ANCILLARY STUDENT SPENDING

Ancillary student spending within the geographies of interest (city of Atlanta + Druid Hills Campus, two-county region, Atlanta MSA, and state of Georgia) represents dollars that are brought into the area by students attending Emory that are spent not with the University itself (as in the case of tuition, meal plan, purchases at the campus bookstore, etc.) but rather by merchants within the local community. Estimating the magnitude of this spending requires:

1) Information on the volume and composition of students at the Druid Hills campus;
2) Estimated annual spending for those students by category;
3) An estimate of the proportion of that spending captured by the University; and
4) Among spending that is ancillary, an estimate of the proportion that is captured within each of the geographies of interest.

Data from Emory indicates that the vast majority of enrolled students are at the Druid Hills campus. Emory’s Oxford campus accounts for about 978 students in a given semester, with the remaining 14,205 at the Druid Hills campus (see Table C.1).

<table>
<thead>
<tr>
<th>Location</th>
<th>Undergrad</th>
<th>Graduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Campus</td>
<td>4,314</td>
<td>8</td>
<td>4,322</td>
</tr>
<tr>
<td>Off-Campus</td>
<td>2,557</td>
<td>7,326</td>
<td>9,883</td>
</tr>
<tr>
<td>Total</td>
<td>6,871</td>
<td>7,334</td>
<td>14,205</td>
</tr>
<tr>
<td>Oxford Campus</td>
<td></td>
<td></td>
<td>978</td>
</tr>
</tbody>
</table>

Source: Emory University (2017)

While specific spending profiles will vary for each individual student, the Emory Office of Financial Aid provides “cost of attendance” data on an annual basis that reflects estimated spending for a typical student, including both tuition and non-tuition spending. This information forms the basis for estimating annual spending in the categories of room, board, retail and transportation for on-campus and off-campus students. Data from Emory indicates that approximately 4,320 students (all undergraduates) live in on-campus housing, while the remaining 9,880 (primarily graduate students) live off-campus.

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85 Throughout this section, Emory’s Druid Hills campus is considered to be part of the city of Atlanta.
86 Emory also has an additional 978 students at its Oxford campus in Newton County. Most of these students transfer to the Druid Hills campus after two years. Their uncaptured spending is estimated to be negligible compared to students at the Druid Hills campus.
It is further necessary to account for the proportion of this spending that is captured by Emory itself. Since the revenue generated by the institution through means like student housing is ultimately reflected in its operating budget, impacts from this spending are represented in the calculations of Emory’s annual operating impact detailed in Section 4 & 5 of this report. This spending must therefore be excluded from student spending estimates, which reflect only ancillary spending not captured by the University, and is therefore a fully additive component of the aggregate economic impact. Table C.2 below shows the proportion of spending estimated to Emory by category for on-campus and off-campus students.

- Room and board for on campus students are assumed to be fully captured by Emory via student housing and the on-campus meal plan.
- A proportion of retail spending for all students and of food spending for off-campus students is also estimated to be captured by Emory through its various food and retail establishments.
- The remainder of spending is estimated to accrue to non-university merchants, and is therefore considered ancillary.

Aggregate annual ancillary spending for on-campus students is estimated at $2,625, and for off-campus students is estimated at $14,650, with housing costs representing the largest driver of the differential (see Table C.2).

<table>
<thead>
<tr>
<th>Table C.2 – Estimated Annual Ancillary Spending per Student</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-url" alt="Table Image" /></td>
</tr>
</tbody>
</table>

The estimates in Table C.2 represent annual spending by students outside of the university, but some of that spending may take place outside of the geographies of interest.
While the majority of room and board spending is expected to take place in the city, some portion of students may live in nearby suburbs outside of the city limits, and some proportion of food spending is also likely to take place outside of the city.

Many retail purchases take place online, and therefore do not occur within the local economy. Based on data from the National Association of College Stores on the shopping patterns of millennials, it is estimated that the majority of retail spending is not captured within the local geographies.\(^\text{87}\)

Finally, the transportation category includes costs getting to and from campus as well as getting around town, some of which may occur outside of the local economy.

Estimated local capture proportions by geography are applied to ancillary spending by category (as estimated in Table C.2) to yield aggregate spending by category and geography. Annual ancillary spending captured within the city of Atlanta is estimated at $33.1 million, $121.8 million with the two-county region, $135.4 million within the Atlanta MSA, and $135.9 million within the state of Georgia (see Table C.3).

### Table C.3 – Estimated Ancillary Student Spending Captured Within the City of Atlanta, Two County Region, Atlanta MSA, and State of Georgia

<table>
<thead>
<tr>
<th>% Captured</th>
<th>Druid Hills Campus &amp; City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>20%</td>
<td>90%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Board</td>
<td>20%</td>
<td>90%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Retail</td>
<td>20%</td>
<td>30%</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td>Transportation</td>
<td>35%</td>
<td>75%</td>
<td>80%</td>
<td>82%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$ Captured</th>
<th>Druid Hills Campus &amp; City of Atlanta</th>
<th>Fulton &amp; DeKalb Counties</th>
<th>Atlanta MSA</th>
<th>State of Georgia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room ($M)</td>
<td>$14.2</td>
<td>$64.0</td>
<td>$71.1</td>
<td>$71.1</td>
</tr>
<tr>
<td>Board ($M)</td>
<td>$8.9</td>
<td>$39.8</td>
<td>$44.3</td>
<td>$44.3</td>
</tr>
<tr>
<td>Retail ($M)</td>
<td>$5.6</td>
<td>$8.4</td>
<td>$9.8</td>
<td>$10.0</td>
</tr>
<tr>
<td>Transportation ($M)</td>
<td>$4.5</td>
<td>$9.6</td>
<td>$10.2</td>
<td>$10.5</td>
</tr>
<tr>
<td>Total ($M)</td>
<td>$33.1</td>
<td>$121.8</td>
<td>$135.4</td>
<td>$135.9</td>
</tr>
</tbody>
</table>

Source: Emory University (2017), Econsult Solutions (2017)

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\(^{87}\) See: “Student Watch: Behavior and Trends of Student Consumers” National Association of College Stores. [https://www.nacs.org/research/studentwatch.aspx]
C.2 ANCILLARY VISITOR SPENDING

Emory also attracts visitors to its campus and medical facilities for a variety of purposes. These visitors also contribute dollars into the local economy, supporting low-margin food, retail and hospitality businesses. Estimating the ancillary spending by visitors and patients occurring within the geographies of interest (city, two county region, MSA, and state) requires:

1) Estimates of spending by category for different visitor types;
2) Information on the annual volume and composition of visitors; and
3) An estimate of the proportion of spending that is captured within each of the geographies of interest.

Spending profiles can be developed from a mix of government and hospitality industry sources. Spending patterns vary by point of origin, with local visitors likely to spend relatively little, day visitors (those with a significant commute from around the region) spending further, and overnight visitors spending the most, due both to their extended length of stay and to their potential need for paid lodging. Data from Smith Travel Research indicates that average hotel rates in the metro Atlanta area in 2016 were $97 per room night. Food and beverage, retail and transportation spending for overnight visitors were drawn from US General Services Administration guidelines on travel allowances for federal employees, with reductions made for day trip and local visitors reflecting their shorter trip duration. Local and day trip visitors are also assumed by definition not to have any lodging costs (see Table C.4).

<table>
<thead>
<tr>
<th>Type of Visitor</th>
<th>Local</th>
<th>Day Trip</th>
<th>Overnight Visitor</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodging (Hotel)</td>
<td>$0</td>
<td>$0</td>
<td>$97</td>
<td>Smith Travel Research, 2016</td>
</tr>
<tr>
<td>Food &amp; Beverage</td>
<td>$10</td>
<td>$41</td>
<td>$59</td>
<td>US General Services Administration</td>
</tr>
<tr>
<td>Retail</td>
<td>$2</td>
<td>$10</td>
<td>$10</td>
<td>US General Services Administration</td>
</tr>
<tr>
<td>Transportation</td>
<td>$5</td>
<td>$23</td>
<td>$23</td>
<td>US General Services Administration</td>
</tr>
</tbody>
</table>


Attendance and visitation counts were then developed across number of categories of visitation:

- Prospective students who visit the campus and the city, often with their families;
- Spectators of Emory’s various Division I sports programs;
- Visitors of current students including friends and family who visit the campus both for social purposes and to assist with moving in and out;
Orientation and convocation at which friends, family and alumni gather on campus to welcome new students and celebrate the graduating class;

Alumni events which draw graduates back to the Druid Hills campus;

Conference and affiliated lab visitors participating in business or academic activities across Emory’s operating units;

Cultural and athletic event and attraction attendees including visitors to Emory’s variety of cultural amenities and sports facilities;

Visitors of Inpatients at Emory Healthcare who are brought to the area through their connection with patients undergoing treatment; and

Outpatients at Emory Healthcare, who may have some ancillary spending outside of the Emory’s Healthcare’s various hospitals and clinics before or after their visit.

Attendance figures in each category were provided by Emory, with the exception of visitors of current students, for which one visitor per year per student at the Druid Hills campus was assumed. In addition, prospective students and students at orientation and convocation frequently are joined by family, increasing the spending footprint of the travel party. Each prospective, orienting or graduating student is conservatively assumed to represent one additional visitor. Finally, while some outpatients at Emory Healthcare’s various locations in the Atlanta MSA may have ancillary spending during their trip.

Next, visitation proportions by geography were developed for each visitor type.

Information from Emory on the residential location of their current student body indicates that only 24 percent of students come from Georgia, and only 7 percent of students from Atlanta, meaning that the vast majority of the student body is from outside of the city, region and state. However, it is reasonable to assume that prospective students that are local are more likely to visit than those who are non-local due to the ease of access, and visitors of current students for various reasons are likely to skew more local than the composition of the student body for the same reason. In addition, visitors from out of town may pair the trip with other destinations (such visiting multiple schools), meaning that they may be day trippers from the perspective of the local economy if they are staying overnight elsewhere. Therefore, unlike Emory’s current student body, we estimate that 20 percent of student visitors and prospective student visits will be local in nature.

Similarly, while it is known that approximately 15 percent of alumni reside within the city and approximately 33 percent within the state, local alumni would reasonably be considered more likely to attend on-campus alumni events.
• Cultural and athletic event attendance is likely to feature a high volume of students, faculty and staff, and a minority of more traditional visitors from outside of the Emory community. 80 percent of these attendees are conservatively estimated to be local.

• Finally, the geographic distribution for Emory Healthcare encounters is drawn from analysis of zip code data provided by Emory to estimate total unique patient visits. Approximately 50% of inpatient and outpatient visitors are residents of the City and therefore are considered local, while 15 to 24 percent originate from outside of the region and state.

Finally, among out of town visitors, it is necessary to estimate what proportion stay in a hotel room, which represents the largest expenditure driver. This estimate depends in part on the nature of the visitor category - for example, visitors of students are likely to be highly price sensitive and are likely to stay with the student, while conference visitors are business travelers likely to stay in hotels. It also depends on the assumed travel party size, recognizing for example that while prospective students are likely to travel with their families and stay in a hotel, separate rooms may not be required for each additional visitor associated with that trip.

Table C.5 combines estimated attendance, visitors per attendee, the geographic distribution of visitors and the estimated proportion of visitors staying overnight to yield total visitor estimates by geography and for hotel stays. Of the 3.3 million estimated visitors, 1.5 million are estimated to be local, with 1.2 million day trippers and 519,000 overnight stays. These overnight stays are estimated to result in 32,800 hotel rooms, with all overnight trips conservatively assumed to last for one night only (see Table C.5).88

88 It is also assumed that the Emory Conference Center and Hotel will capture a sizeable portion of hotel stays which is already included in the ongoing operations of the University.
TABLE C.5 – ESTIMATED QUANTITY OF ANNUAL VISITORS BY TYPE

<table>
<thead>
<tr>
<th>Type of Visitor</th>
<th>Attendees</th>
<th>Visitors per Attendee</th>
<th>Student/ City / Local</th>
<th>Regional / Day</th>
<th>Non-Local / Overnight</th>
<th>% of Overnight in Hotel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move- in/ Convocation</td>
<td>5,630</td>
<td>2</td>
<td>18%</td>
<td>47%</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td>Move Out</td>
<td>5,630</td>
<td>2</td>
<td>18%</td>
<td>47%</td>
<td>34%</td>
<td>35%</td>
</tr>
<tr>
<td>Commencement</td>
<td>12,000</td>
<td>2</td>
<td>7%</td>
<td>19%</td>
<td>74%</td>
<td>60%</td>
</tr>
<tr>
<td>Family Weekend</td>
<td>1,072</td>
<td>2</td>
<td>18%</td>
<td>47%</td>
<td>34%</td>
<td>40%</td>
</tr>
<tr>
<td>Homecoming</td>
<td>848</td>
<td>1</td>
<td>24%</td>
<td>19%</td>
<td>58%</td>
<td>40%</td>
</tr>
<tr>
<td>Prospective Student Visits</td>
<td>26,538</td>
<td>2</td>
<td>20%</td>
<td>35%</td>
<td>45%</td>
<td>60%</td>
</tr>
<tr>
<td>Sporting Events</td>
<td>18,101</td>
<td>1</td>
<td>75%</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Special Olympics GA</td>
<td>6,050</td>
<td>1</td>
<td>17%</td>
<td>33%</td>
<td>50%</td>
<td>10%</td>
</tr>
<tr>
<td>Summer Conferences- overnight</td>
<td>9,845</td>
<td>1</td>
<td>10%</td>
<td>10%</td>
<td>80%</td>
<td>0%</td>
</tr>
<tr>
<td>Day Camps- Athletics and Carlos Museum</td>
<td>15,000</td>
<td>1</td>
<td>75%</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Carlos Museum, Schwartz Event Center, and Rose Library(^9^)</td>
<td>141,170</td>
<td>1</td>
<td>80%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Student Activity and Academic Center Community Visits</td>
<td>27,790</td>
<td>1</td>
<td>85%</td>
<td>15%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Student Activity and Academic Center Community Memberships</td>
<td>5,200</td>
<td>1</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Visitors of Students</td>
<td>14,205</td>
<td>1</td>
<td>20%</td>
<td>75%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Inpatient Visitors(^9^)</td>
<td>51,416</td>
<td>1</td>
<td>51%</td>
<td>25%</td>
<td>24%</td>
<td>35%</td>
</tr>
<tr>
<td>Outpatients(^9^)</td>
<td>2,907,001</td>
<td>1</td>
<td>45%</td>
<td>39%</td>
<td>15%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,247,496</strong></td>
<td><strong>3,298,366</strong></td>
<td><strong>1,536,617</strong></td>
<td><strong>1,242,766</strong></td>
<td><strong>518,983</strong></td>
<td><strong>32,771</strong></td>
</tr>
</tbody>
</table>

Source: Emory University (2017), Econsult Solutions (2017)

The visitation estimates from Table C.5 are then paired with the spending profiles by visitor type from Table C.4 to develop an estimated total visitor spend. As with student spending, it is necessary to recognize that not all of this spending may be captured within the geography of interest, with some portion of transportation spending in particular likely to take place on the way to the geography. However, unlike student retail spending, retail spending associated with a trip is estimated to be captured entirely within each geography.

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\(^{9^6}\) Of the 141,170 visitors, a large portion is comprised of direct members of the Emory community, neighborhood residents, and regional elementary, middle, and high school students. Therefore, the average spend per visitor for Carlos Museum, Schwartz Event Center, and the Rose Library is lower than other visitor categories.

\(^{9^7}\)Estimates are based off of 51,400 unique patients conservatively assumed to have one visit per year.

\(^{9^8}\)Outpatient visits are based off of 564,800 unique outpatients with 5.15 visits per year based off of estimates provided by the American Academy of Family Physicians (2007), and the Centers for Disease Control and Prevention (2013).
Applying estimated local capture proportions to the estimated annual ancillary visitor spending yields an estimate of aggregate ancillary visitor spending captured within each geography. Annual aggregate ancillary spending for visitors associated with Emory is estimated at $76.6 million within the city of Atlanta, $148.1 million within the two-county region, $156.3 million within the Atlanta MSA, and $161.1 million within the state of Georgia (see Table C.6).

<table>
<thead>
<tr>
<th>% Captured</th>
<th>Hotel</th>
<th>Food &amp; Beverage</th>
<th>Retail</th>
<th>Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Druid Hills Campus &amp; City of Atlanta</td>
<td>Fulton &amp; DeKalb Counties</td>
<td>Atlanta MSA</td>
<td>State of Georgia</td>
</tr>
<tr>
<td>Hotel</td>
<td>75%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Food &amp; Beverage</td>
<td>65%</td>
<td>95%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Retail</td>
<td>65%</td>
<td>95%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Transportation</td>
<td>55%</td>
<td>75%</td>
<td>80%</td>
<td>90%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$ Captured</th>
<th>Hotel ($M)</th>
<th>Board ($M)</th>
<th>Retail ($M)</th>
<th>Transportation ($M)</th>
<th>Total ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$76.6</td>
</tr>
<tr>
<td>Druid Hills Campus &amp; City of Atlanta</td>
<td>$1.5.</td>
<td>$46.0</td>
<td>$9.8</td>
<td>$19.4</td>
<td>$76.6</td>
</tr>
<tr>
<td>Fulton &amp; DeKalb Counties</td>
<td>$2.2</td>
<td>$90.9</td>
<td>$19.4</td>
<td>$35.7</td>
<td>$148.1</td>
</tr>
<tr>
<td>Atlanta MSA</td>
<td>$2.2</td>
<td>$95.7</td>
<td>$20.4</td>
<td>$38.1</td>
<td>$156.3</td>
</tr>
<tr>
<td>State of Georgia</td>
<td>$2.2</td>
<td>$95.7</td>
<td>$20.4</td>
<td>$42.8</td>
<td>$161.1</td>
</tr>
</tbody>
</table>

Source: Emory University (2017), Econsult Solutions (2017)
APPENDIX D - ABOUT ECONSULT SOLUTIONS, INC.

This report was produced by Econsult Solutions, Inc. ("ESI"). ESI is a Philadelphia-based economic consulting firm that provides businesses and public policy makers with economic consulting services in urban economics, real estate economics, transportation, public infrastructure, development, public policy and finance, community and neighborhood development, planning, as well as expert witness services for litigation support. Its principals are nationally recognized experts in urban development, real estate, government and public policy, planning, transportation, non-profit management, business strategy and administration, as well as litigation and commercial damages. Staff members have outstanding professional and academic credentials, including active positions at the university level, wide experience at the highest levels of the public policy process and extensive consulting experience.