Association of Independent Colleges and Universities in Massachusetts

Economic Impact Report

March 2023



ESI ECONSULT SOLUTIONS INC.
economics | strategy | insight

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Executive Summary

The Association of Independent Colleges and Universities in Massachusetts (AICU Mass) is the leading voice on public policy matters affecting private, nonprofit colleges and universities in Massachusetts. AICU Mass is an association of 59 private nonprofit colleges and universities located throughout the Commonwealth. Members include large, nationally renowned research universities; smaller, highly regarded liberal arts colleges; religiously affiliated institutions; and colleges with special missions focused on business or music or allied health services. This report describes the aggregate regional and statewide impacts of these institutions.

Aggregate Economic Impact

The 59 member institutions of the AICU Mass are major contributors to the Commonwealth of Massachusetts in myriad ways. They are major employers, procurers of goods and services, and initiators of capital projects, all of which directly support jobs and economic activity throughout Massachusetts and which in turn create significant spillover impacts throughout the statewide supply chain of goods and services. Each institution also draws additional spending to the area beyond its own direct expenditures, in the form of student living expenditures and visitors coming to the area and bringing their purchasing power with them. Finally, in fulfilling their primary function of educating and credentialing students, these institutions often help graduates increase their earning potential, and since many alumni stay in the area, their higher household income levels support more discretionary spending, yielding economic activity all throughout the Commonwealth.

This report has used orthodox economic impact modeling techniques, data provided by member institutions, and publicly available data to estimate the magnitude of its economic impact across these impact categories. It is estimated that at the present AICU Mass members' aggregate annual statewide economic impact is $71.1 billion, supporting over 320,000 jobs (see Figure ES.1). It is also estimated that all that economic activity results in $2.4 billion a year in state tax revenues (see Figure ES.2).

Figure ES.1: Estimated Aggregate Annual Economic Impact of AICU Mass Member Institutions on the Commonwealth's Economy by Impact Category

	Annual Operations	Capital Investments	Ancillary Spending	Alumni Wage Premium	Total
Direct Output ($B)	$17.8	$2.6	$2.5	[$24.6]	$22.9
Indirect & Induced Output ($B)	$17.1	$1.9	$1.1	$28.1	$48.2
Total Output ($B)	**$34.9**	**$4.4**	**$3.6**	**$28.1**	**$71.1**
Annual Employment Supported (FTE)	**156,900**	**21,000**	**19,300**	**123,600**	**320,800**
Employee Compensation ($B)	**$14.1**	**$1.7**	**$0.9**	**$9.5**	**$26.2**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

Figure ES.2: Estimated Annual Tax Revenue from AICU Mass Member Institutions to the Commonwealth of Massachusetts Government by Impact Category

Tax Type	Annual Operations	Capital Investments	Ancillary Spending	Alumni Wage Premium	Total
Income ($M)	$434	$59	$30	$1,067	$1,590
Sales ($M)	$174	$19	$112	$362	$667
Business ($M)	$68	$9	$23	$106	$206
Total ($M)	**$645**	**$87**	**$164**	**$1,534**	**$2,430**

Source: IMPLAN (2021), Econsult Solutions, Inc. (2022)

Broader Catalytic Effects

These estimates indicate that the 59 member institutions of AICU Mass contribute significantly to their communities, regions, and the Commonwealth in terms of generating economic activity, supporting jobs, and producing tax revenues. But they do not fully account for the broader and catalytic gains produced by these institutions. Many of these colleges and universities are service-oriented, translating into thousands of hours of volunteer community service and addressing diverse community needs. The education provided by these institutions also contributes significantly to the vibrancy, resiliency, and competitiveness of Massachusetts, particularly as it trains up students in fields of study of strategic importance to the state and actively connects students to mentors and employers in Massachusetts' prominent industry sectors. Additionally, AICU Mass provides a public voice on key matters that concern their member institutions, advocating for increased need-based financial aid programs, economic and workforce development support, incentives for college savings programs, and the tax-exempt status of nonprofit colleges and universities. For all these reasons, AICU Mass and its 59 member institutions are critical contributors to the vitality of the Commonwealth of Massachusetts.

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1. Introduction

1.1. Report Purpose

The purpose of this study is to quantify the economic impact that the 59 private, nonprofit college and university members under AICU Mass have on the Commonwealth. This report will articulate impact in terms of economic output, jobs created, and tax revenues generated from member institutions' annual operations and large-scale capital projects, as well as from ancillary spending from students and visitors, and the induced impacts of alumni earnings.

Beyond the economic footprint described above, the 59 colleges and universities also generate additional economic benefits and social well-being for the communities throughout the Commonwealth. Where possible, the report identifies and quantifies those impacts at both the regional level and statewide. These quantifications represent the present impact of these institutions. AICU Mass members help Massachusetts to be an economically competitive region through their workforce development efforts and have a significant social influence through community service.

In all these ways, AICU Mass member institutions deliver annually a substantial return on investment in the form of economic activity, jobs, and tax revenues generated within the local and state economy. AICU Mass is also the leading voice on public policy matters affecting independent colleges and universities Massachusetts, advocating for increased funding for need-based financial aid programs, economic and workforce development support, incentives for college savings programs, additional funding for research and innovation, and to protect the tax-exempt status of nonprofit colleges and universities.

1.2. About AICU Mass and its Member Institutions

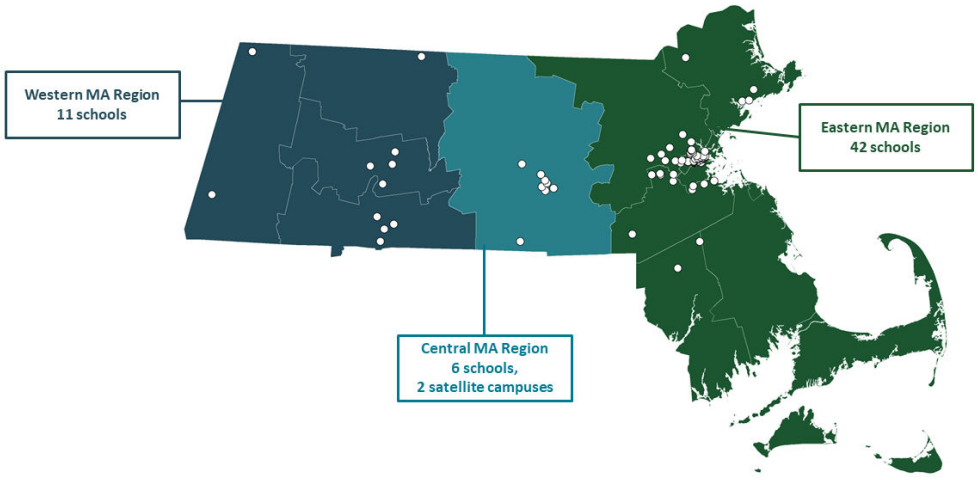
AICU Mass represents 59 private, nonprofit colleges and universities throughout the Commonwealth and works with these institutions to give voice to issues such as financial aid, research funding, and the talent pipeline for the state's knowledge-based economy. Its members comprise:

Amherst College
Anna Maria College
Assumption University
Babson College
Bard College at Simon's Rock
Bay Path University
Bentley University
Berklee College of Music
Boston Architectural College
Boston Baptist College
Boston College
Boston Graduate School of Psychoanalysis
Boston University
Brandeis University
Cambridge College
Clark University
College of the Holy Cross
Curry College
Dean College
Eastern Nazarene College
Elms College
Emerson College
Emmanuel College
Endicott College
Fisher College
Franklin Cummings Tech
Gordon College
Hampshire College
Harvard University
Labouré College of Healthcare

Lasell University
Lesley University
MCPHS University
Massachusetts Institute of Technology
Merrimack College
MGH Institute of Health Professionals
Montserrat College of Art
Mount Holyoke
New England College of Optometry
New England Conservatory of Music
Nichols College
Northeastern University
Olin College of Engineering
Regis College
Simmons University
Smith College
Springfield College
Stonehill College
Suffolk University
Thomas Aquinas College
Tufts University
Urban College of Boston
Wellesley College
Wentworth Institute of Technology
Western New England University
Wheaton College
William James College
Williams College
Worcester Polytechnic Institute

For the purposes of this study, AICU Mass member institutions have been grouped into three regions: Eastern MA, Central MA, and Western MA. Two institutions, MCPHS University and Tufts University, have a large presence in both the Eastern MA and Central MA regions. Impacts for these two institutions have been split between regions. There are 42 member institutions located in Eastern MA, 11 in Western MA, and 8 located in Central MA (including MCPHS – Worcester and the Cummings School of Veterinary Medicine at Tufts University). For schools located along the state border, leakage of spending into other states has been excluded from the analysis.

Figure 1.1: Location of AICU Mass Member Institutions and Definition of Regions



Source: MassGIS (2022), Econsult Solutions, Inc. (2022)

1.3. Economic Engine and Social Force

AICU Mass member institutions are a significant economic engine for the Commonwealth of Massachusetts. Direct spending by member institutions – in annual operations and capital outlays – supports employment and procurement opportunities, as does the significant student and visitor spending that is drawn into or retained in the area from various cultural, academic, and sporting events. Calculating the economic activity generated by these institutions helps establish the contribution they make on a local, regional, and statewide level. Alumni of these institutions gain credentials that results in greater household incomes today, as well as a more competitive labor market and unique innovation ecosystem tomorrow. In all these ways, the AICU Mass member institutions are making a huge impact on the regional economy now, while laying the foundation for sustained competitiveness and vitality in the years and decades ahead.

The presence of these private, nonprofit institutions creates additional economic gains for Massachusetts. As a net attractor of human talent, the member institutions' educating and credentialing of students who then stay in and contribute to the regional economy, results in a stronger workforce and greater economic opportunity. Further, the member institutions undertake and catalyze many large-scale capital projects, which represent economic opportunity for the construction industry and related sectors. Additionally, each institution's commitment to its nonprofit mission, cultural enrichment and community engagement yields numerous social gains that benefit the state, such as communities served and formed social cohesion.

1.4. Report Scope and Methodology Overview

Econsult Solutions, Inc. (ESI) employed industry-standard economic modeling techniques to estimate the direct economic activity generated by AICU Mass member institutions, and to translate that activity into total economic output, employment, and earnings, as well as tax revenue impact. ESI also accounted for the social impact of the 59 colleges and universities, and both economic and social impacts were quantified at the institution level and in the aggregate. Geographically, economic impacts were sized to the region in which the school is located: the Eastern MA region (Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, and Suffolk Counties), the Central region (Worcester County), and the Western MA region (Berkshire, Franklin, Hampden, and Hampshire Counties). Impacts were also sized at the state level. For schools with campuses in multiple regions, estimated spend at each campus was allocated to the region in which the school is located. The appendices to this report describe in detail the approach and methodology utilized.

The member institutions have provided data inputs on institutional activity, which were verified and supplemented with other public data sources, and with assumptions as needed. For each input, the most recent and appropriate available dataset was utilized. In the case of operational expenditures and capital outlays, activity levels were averaged over three years to generate an appropriate assessment of typical annual activity. Therefore, the analysis should be understood to represent the current annualized level of activity for the member institutions, rather than representing the impact for any specific fiscal year.

Economic impacts are the sum of direct activity attributable to AICU Mass member institutions (either direct spending by institutions on operations and capital activity or spending drawn into the area by students and visitors, and the spillover impacts of that direct activity). Within an interconnected economy, each dollar of direct expenditures generates multiple waves of spillover impacts through spending on goods and services purchased within a given region ("indirect impacts") as well as spending resulting from the labor income generated by the initial activity that ripples through the region ("induced impacts"). ESI used IMPLAN modeling software to estimate indirect and induced impacts and sum them with the direct activity to produce total economic impact. IMPLAN also estimates the number of jobs that are supported by the spillover impacts (indirect and induced impacts). For ease of comprehension, ESI converted these jobs into Full-Time Equivalent (FTE) jobs, and all jobs expressed in this report are FTE jobs.

1.5. Report Organization

The subsequent sections of the report are organized as follows:

- Section 2: **Impact from Direct Spending – Annual Operations**. Annual operating expenditures represent direct dollars spent by AICU Mass member institutions, which in turn have a multiplier effect at all geographic levels. The first content section of this report concerns itself with the economic and fiscal impacts from the institutions as a major employer and a significant procurer of a wide range of goods and services.
- Section 3: **Impact from Direct Spending – Capital Outlays**. The third section estimates the economic impact produced by AICU Mass member institutions' large-scale capital projects.
- Section 4: **Impact from Student and Visitor (Ancillary) Spending**. This section looks at impacts from spending from students and visitors under various categories. Students at member institutions spend money on expenses such as transportation, room and board, rent, supplies and books, and entertainment. Student spending benefits the institutions at which they study and the nearby communities. AICU Mass member institutions also support economic activity by drawing in visitors from across the United States and around the world. Their spending represents additional dollars circulating in the regional economy, supporting a wide range of businesses and industries.
- Section 5: **Impact from Wage Premium**. The institutions' commitment to excellence in teaching and research creates a rigorous and open learning environment that then sends 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, and graduates from the 59 member institutions retained in the region contribute significantly to the local and state economy as a result.
- Section 6: **Broader Catalytic Impacts**. Beyond the above non-overlapping impact categories are myriad broader benefits that warrant exploration in an economic impact study of AICU Mass' member institutions. The first is the local impact from "Being a Good Neighbor." The second is

the regional impact from contributions to economic competitiveness. Last, students from the member institutions make significant contributions to the society through time spent on a number of service initiatives that provide benefits throughout the local communities.

- Section 7: **Conclusion**. The concluding section of the report summarizes economic impacts across sections and emphasizes the benefits to state taxpayers from the presence and impact of AICU Mass' member institutions.

2. Impact from Direct Spending – Annual Operations

2.1. Section Highlights

AICU Mass member institutions are a major economic engine for Massachusetts in their capacity as an employer and purchaser of local goods and services. This direct, local economic activity has several spillover effects on the broader Massachusetts economy, further supporting regional employment and tax revenue. This section uses annual operating expenditures across the 59 institutions, where operating footprint is expressed in terms of its economic impact at the statewide level using standard input-output modeling techniques.

It is estimated that direct and spillover impacts from the annual operations of the 59 AICU Mass member institutions support $34.9 billion in annual economic impact in Massachusetts, supporting nearly 157,000 FTE jobs with $14.1 billion in employee compensation.

Amherst College

Amherst College's commitment to need-blind admission, coupled with its no-loan financial aid, allows the College to seek and admit talented students from everywhere. Half of students identify as domestic students of color, 10% are international, 60% receive need-based financial aid, and 15% are the first members of their family to attend college.

LASELL UNIVERSITY

Lasell seeks to positively impact their community by responding to emerging and urgent workforce gaps. Recent examples include a new surgical technologist program designed to fill surgical technologist positions, and a $2.5 million grant from the U.S. Department of Education to enhance training for teachers of English learners to diversify the educator pipeline.

2.2. Direct Annual Operating Expenditures

Direct operations at each geographic level have spillover effects that increase economic activity and sustain employment across a variety of industries. Total economic impact constitutes the direct expenditures made by AICU Mass member institutions, the indirect impacts from institutional purchases of goods and services from vendors in each region, and the induced expenditures from employees redistributing their income as household spending.

To determine the magnitude of the direct, indirect, and induced impact within these economies, it is necessary to first understand the level and composition of annual expenditures within each of these geographies, since economic impact depends largely on where expenditures occur. In aggregate, the 59 institutions' annual operating expenditures are estimated to be nearly $19.9 billion (see Figure 2.1).

Figure 2.1: AICU Mass Member Institutions' Annual Operating Expenditures by Region

Region	Annual Operating Expenditures ($B)
Eastern MA Region	$17.7
Western MA Region	$1.2
Central MA Region	$0.9
Total	**$19.9**

Source: AICU Mass Member Institutions (2022), Econsult Solutions, Inc. (2022)

To determine the magnitude of the economic impact of AICU Mass members' operational activity, it is necessary to understand the composition of annual expenditures within the state economy. Since economic impact relates largely to where expenditures occur, deductions are made for budgetary items that do not represent spending within a given geography (see Figure 2.2).

Figure 2.2: Summary of AICU Mass Member Institutions' Annual Operating Expenditures

Category	Included in Model	Operating Expenses ($B)	Modeled Amount ($B)
All Salaries & Fringe Benefits	Yes	$11.0	$11.0
Operational Expenses	Yes	$6.8	$6.8
Interest & Depreciation	No	$2.0	$0
Total Expenses		**$19.9**	**$17.8**

Source: AICU Mass Member Institutions (2022), Econsult Solutions, Inc. (2022)

2.3. Economic Impact from Annual Operations

Direct operational spending impacts the regional economy, supporting local businesses and higher employment across various industries. The total economic impact is the sum of direct expenditures made by the 59 institutions, the indirect impacts generated from spending with a variety of local suppliers, and the induced impacts resulting from the institutions' employees spending wages within their local communities. Indirect and induced impacts grow with each geographic level, due to more purchasing and recirculation occurring within the larger geography as well as a larger multiplier effect.

Including these spillover impacts, operational activities have an economic impact of $34.9 billion within the Massachusetts economy each year, supporting over 156,900 FTE jobs with $14.1 billion in employee compensation (see Figure 2.3).

Figure 2.3: Economic Impact from AICU Mass Member Institutions' Annual Operations

	Massachusetts
Direct Output ($B)	$17.8
Indirect & Induced Output ($B)	$17.1
Total Output ($B)	**$34.9**
Annual Employment Supported (FTE)	**156,900**
Employee Compensation ($B)	**$14.1**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

Regis College

Regis College's Strategic Partnership program includes more than 100 partnerships with hospitals, area health systems, school districts, corporations, nonprofits, and other educational institutions, offering tuition discounts on fully online programs. The College works closely with its partners to tailor programs to the needs of working professionals.

LUX ET SPES STONEHILL COLLEGE

Stonehill College has their own farm, and they donate all the produce that they grow to their community partners each week. The College also continues to build on its robust sustainability framework and has built two large solar fields, along with roof-top installations, which combined, produces about 44% of the College's electrical energy.

2.4. Geographic Distribution of Economic Impact from Annual Operations

The economic impact produced from annual direct operations varies amongst regions within the Commonwealth. Each of the institutions has a significant impact on the region in which they are located. With approximately 70 percent of AICU Mass member institutions located in Eastern MA, the economic impact of this region generates $31.3 billion of economic impact (see Figure 2.4).

Figure 2.4: Economic Impact from AICU Mass Member Institutions' Annual Operations

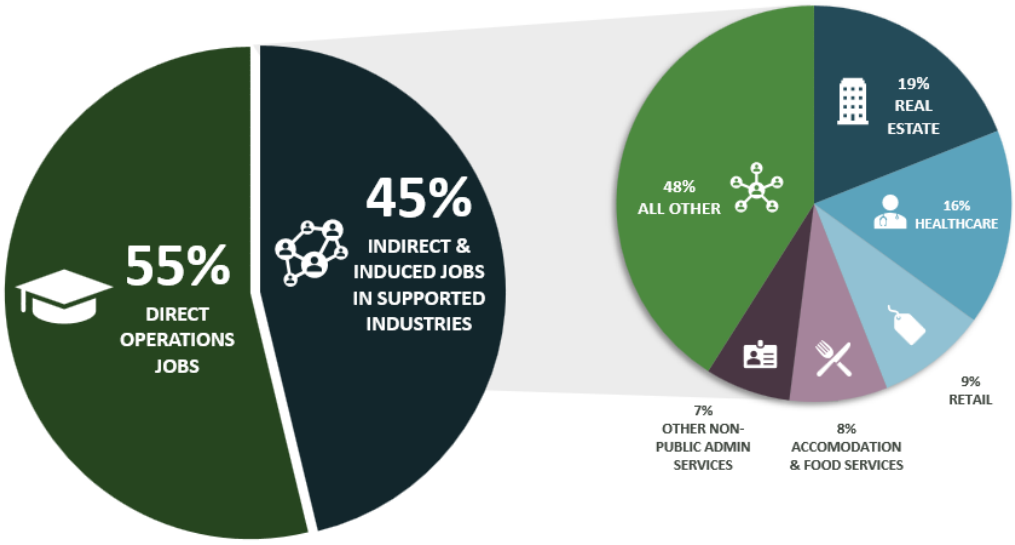
	Eastern MA Region	Western MA Region	Central MA Region	Massachusetts
Direct Output ($B)	$16.0	$1.1	$0.8	$17.8
Indirect & Induced Output ($B)	$15.3	$0.8	$0.9	$17.1
Total Output ($B)	**$31.3**	**$1.9**	**$1.7**	**$34.9**
Annual Employment Supported (FTE)	**135,400**	**12,200**	**9,300**	**156,900**
Employee Compensation ($B)	**$12.4**	**$1.0**	**$0.8**	**$14.1**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

2.5. Industry Distribution of Economic Impact from Annual Operations

While AICU Mass member institutions directly employ 95,800 people, their operating activity – including the purchase of goods and services and the induced spending created from labor income – impact a variety of sectors. Many of the indirect and induced jobs supported by operating activity are in Real Estate and Rental and Leasing (19 percent), Health Care and Social Assistance (16 percent), Retail Trade (9 percent), Accommodation and Food Services (8 percent), and Other Non-Public Administration Services[1] (7 percent).

Figure 2.5: Industry Distribution of Statewide Employment Impact from AICU Mass Member Institutions' Operations



Source: AICU Mass Member Institutions (2022), IMPLAN (2021), Econsult Solutions, Inc. (2022)

[1] The Other Services (except Public Administration) sector comprises establishments engaged in providing services not specifically provided for elsewhere in the classification system. Establishments in this sector are primarily engaged in activities, such as equipment and machinery repairing, promoting, or administering religious activities, grantmaking, advocacy, and providing drycleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.

2.6. Tax Revenue Impact from Annual Operations

Substantial tax revenue is generated from the operations of AICU Mass member institutions, even though they nonprofit institutions. The institutions increase the Commonwealth's tax bases directly by employing staff that generate taxable income, and indirectly via spending by vendors and employees in the private economy. It is estimated that economic impacts from the 59 institutions generate $645 million in tax revenue for the Commonwealth each year (see Figure 2.6).

Figure 2.6: Estimated Annual Tax Revenue Impact from AICU Mass Member Institutions' Operations to the Commonwealth of Massachusetts

Tax Type	Massachusetts
Income ($M)	$434
Sales ($M)	$174
Business ($M)	$68
Total ($M)	**$645**

Source: IMPLAN (2021), Econsult Solutions, Inc. (2022)

3. Impact from Direct Spending – Capital Outlays

3.1. Section Highlights

In addition to annual operations, the 59 member institutions contribute to the regional and state economy of Massachusetts through spending on capital projects, such as new buildings, renovations, maintenance, other campus enhancements, etc. This section quantifies AICU Mass members' footprint into their economic impact at a regional and statewide level using standard input-output modeling techniques via IMPLAN. The information provided by AICU Mass' 59 member institutions on major capital investments, supplemented with public data, were used for the estimation. The tax revenue impacts generated by capital investments are also described in this section at a statewide level.

AICU Mass member institutions currently have many large capital projects that are recently completed or underway. Currently, capital spending is estimated to average about $2.6 billion per year, yielding $4.4 billion in annual economic impact in the Commonwealth, supporting nearly 21,000 FTE jobs and $1.7 billion in employee compensation.

Assumption University

In fall 2020, Assumption University opened the Richard J. and Sophia Catrambone Health Sciences Building, a new state-of-the-art 41,000-square-foot facility. The building houses the university's nursing program, but benefits students in all disciplines.

BOSTON UNIVERSITY

Boston University opened their Center for Computing and Data Sciences in 2022, a 19-story structure with state-of-the-art installations and technologies to make advancements in the field of data sciences. The center is the largest fossil fuel free building in Boston.

3.2. Direct Annualized Capital Investments

Capital expenditures made by AICU Mass member institutions to improve campus infrastructure and facilities are another significant impact spending category.

The 59 institutions' average annualized capital spending is $2.6 billion. These project costs include renovations, state-of-good-repair expenses, and the purchase and procurement of materials and services. These expenditures touch a wide range of manufacturers and professional service providers in addition to construction companies within the Commonwealth (see Figure 3.1).

Figure 3.1: AICU Mass Member Institutions' Annualized Capital Expenditures by Region

Region	Annual Capital Expenditures ($B)
Eastern MA Region	$2.3
Western MA Region	$0.2
Central MA Region	$0.1
Total	**$2.6**

Source: AICU Mass Member Institutions (2022), Econsult Solutions, Inc. (2022)

Brandeis University will begin construction in 2023/2024 for a new science facility that will add approximately 100,000 square feet of state-of-the-art laboratories and classrooms. When completed, the project will enhance interdisciplinary connections across campus.

Clark University plans to open the Center for Media Arts, Computing, and Design (MACD) in fall 2023, an interdisciplinary building that will be a hub for innovation and collaboration. The University expects to rely primarily on geothermal wells to heat and cool the building.

Smith College opened New Neilson Library, their new "library of the future," in 2021. The library advances and celebrates learning, benefiting all who come to Smith with new features and more spaces for student and faculty use, including spaces to support active learning and scholarship, entrepreneurship, and innovation.

Springfield College is slated to open their new Health Sciences Center in 2023 that includes state-of-the-art, technology-rich classrooms and immersive learning laboratories that will empower transformative approaches to education, career enhancement, service, research, and leadership in healthcare.

Lesley University

Lesley University's Campus Plan will make significant investments over the next several years in their three Cambridge campuses, to enhance the student learning experience and better support their unique suite of programs around the human arts of education, counseling and psychology, and the visual arts.

MERRIMACK COLLEGE

Merrimack College opened the Center for Innovation and Research in Engineering and Computational Sciences in fall 2022. The investment is a big step forward in the College's STEM education.

3.3. Economic Impact from Capital Investments

ESI analyzed capital spending by AICU Mass member institutions. Figure 3.2 shows the aggregate economic impact from annualized average capital investments from AICU Mass.

In total, capital investments have a $4.4 billion economic impact within the Massachusetts economy each year, supporting nearly 21,000 FTE jobs with $1.7 billion in employee compensation.

Figure 3.2: Economic Impact from AICU Mass Member Institutions' Annualized Capital Expenditures

	Massachusetts
Direct Output ($B)	$2.6
Indirect & Induced Output ($B)	$1.9
Total Output ($B)	**$4.4**
Annual Employment Supported (FTE)	**21,000**
Employee Compensation ($B)	**$1.7**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

3.4. Geographic Distribution of Economic Impact from Capital Investments

The geographic distribution of the economic impact generated from capital investments is also significant. The institutions' continued investments have a substantial impact on the region they are located in. The economic impact generated in Eastern MA, Western MA, and Central MA are $3.9 billion, $280 million, and $240 million, respectively.

Figure 3.3: Economic Impact from AICU Mass Member Institutions' Annualized Capital Expenditures

	Eastern MA Region	Western MA Region	Central MA Region	Massachusetts
Direct Output ($B)	$2.3	$0.16	$0.11	$2.6
Indirect & Induced Output ($B)	$1.6	$0.12	$0.12	$1.9
Total Output ($B)	**$3.9**	**$0.28**	**$0.24**	**$4.4**
Annual Employment Supported (FTE)	**18,000**	**1,800**	**1,200**	**21,000**
Employee Compensation ($B)	**$1.6**	**$0.11**	**$0.08**	**$1.7**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

Dean College plans to open a new Admissions Visitor Center for prospective students to improve the college tour experience and better accommodate the thousands of visitors to Dean each year.

Emerson College renovated a few of their facilities, such as the Little Building, the Journalism Production Center, 2 Boylston Place and Dining Center, and the Emerson Urban Arts Media Art Gallery.

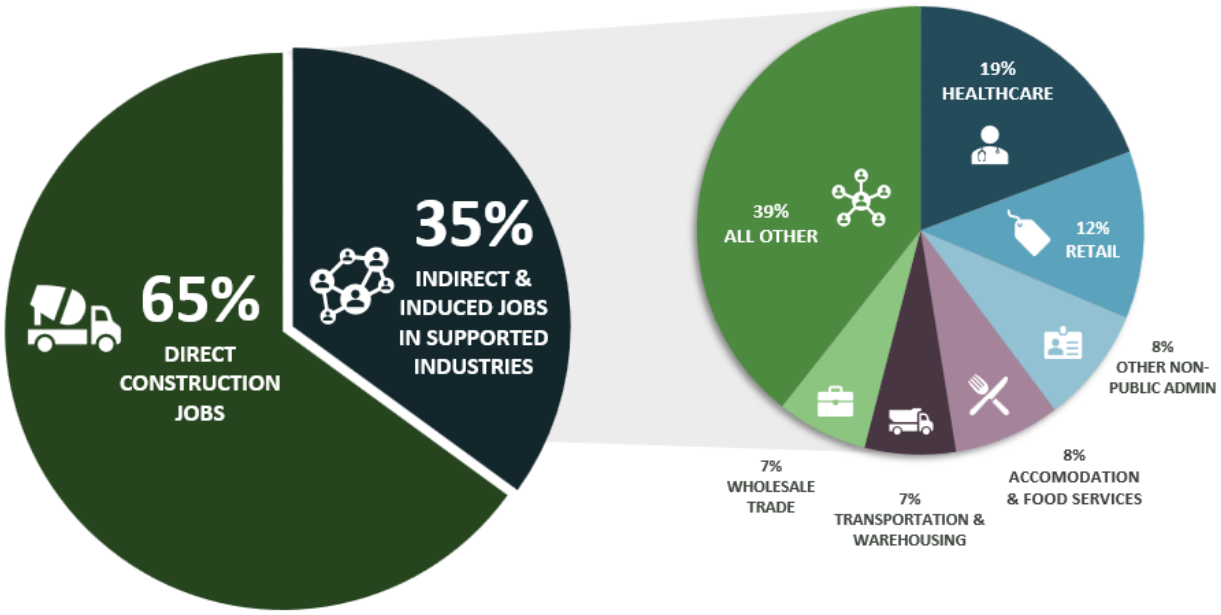
The Joanne DiGeronimo Migliaro and Anthony Migliaro Nursing Skills Laboratory simulates a real clinical setting, giving the chance to practice a range of skills. The labs host state-of-the-art equipment and allows faculty to control fast-paced patient scenarios and observe and guide students in real time.

Endicott College is completing construction on the new Cummings School of Nursing and Health Sciences building with state-of-the-art educational spaces that support professional development.

3.5. Industry Distribution of Economic Impact from Capital Investments

The economic impact associated with the institutions' capital spending expands beyond the construction sector as spending from construction, goods and services, and workers' salaries circulate in the local economy. The annualized capital spending into institutions' infrastructure and facilities support about 21,000 jobs each year, inclusive of the indirect and induced impacts. Major sectors supported include Health Care and Social Assistance (19 percent of the indirect and induced impact), Retail Trade (12 percent), Administrative and Support and Waste Management and Remediation Services (8 percent), Accommodation and Food Services (8 percent), Transportation and Warehousing (7 percent), and Wholesale Trade (7 percent).

Figure 3.4: Industry Distribution of Statewide Employment Impact from AICU Mass Member Institutions' Annualized Capital Expenditures



Source: AICU Mass Member Institutions (2022), IMPLAN (2021), Econsult Solutions, Inc. (2022)

3.6. Tax Revenue Impact from Capital Investments

The capital spending by AICU Mass member institutions also generates significant amounts of tax revenues for the Commonwealth. These capital outlays, in addition to the institutions' operating expenses, increase the state's tax bases in two ways: directly through employing personnel who produce taxable revenue, and indirectly through vendor and employee spending. It is estimated that these capital investments generate $87 million in personal income, sales, and business tax in Massachusetts each year (see Figure 3.5).

Figure 3.5: Estimated Annual Tax Revenue Impact from AICU Mass Member Institutions' Annualized Capital Expenditures to the Commonwealth of Massachusetts

Tax Type	Massachusetts
Income ($M)	$59
Sales ($M)	$19
Business ($M)	$9
Total ($M)	**$87**

Source: IMPLAN (2021), Econsult Solutions, Inc. (2022)

wheaton college massachusetts

Wheaton College opened the first "passive house," spanning four-stories and 45,000 square feet, that houses 178 undergraduates. The "passive house" cuts operating costs by 50 percent, with energy performance goals of Net Zero or even Net Positive standards and is a first of its kind in Massachusetts.

WELLESLEY

Wellesley College opened their new 97,000-square-foot, LEED Platinum-certified Science Complex to lead the way for women in STEM fields by offering state-of-the-art resources and facilities that support research and educational experiences.

Nichols College

Nichols College has their own golf course, pro shop, and campus bar. These capital investments are the epitome of experiential learning at Nichols, ensuring students are real world ready upon graduation.

SUFFOLK UNIVERSITY BOSTON

Suffolk University purchased the Ames Building for $63.5 million to be used as a residence hall, reflecting the University's commitment to its students and to Boston. The residence hall allows Suffolk to house more of its students, freeing up badly-needed housing units in the city for families and others.

BOSTON COLLEGE

In 2022, Boston College opened a 150,000-square-foot, $160 million integrated science facility at 245 Beacon Street, in the heart of the BC campus. The state-of-the-art facility is a central component of Boston College's $300 million investment in the sciences, which aims to advance research, promote the common good, and address society's most critical issues.

Simmons UNIVERSITY

Simmons University completed the first two of three phases for their One Simmons project in 2022 and will break ground on the final phase for their new Living and Learning Center (LLC) in summer 2023. The LLC will be the epicenter of their community and is expected to open in 2026.

4. Impact from Student and Visitor (Ancillary) Spending

4.1. Section Highlights

Beyond producing economic impact through their operations, AICU Mass member institutions also draw outside spending into the region through their diverse student population and their visitors. This section derives the economic impact from ancillary spending from both students and visitors.

The 59 colleges and universities host national and international students who spend on tuition, transportation, room and board, books and supplies, and entertainment. For instance, students spend a significant amount of money at restaurants and cafes, contributing to the local food and beverages industry. Students' spending also contributes to the local retail merchants and the transportation industry.

Visitors to the colleges and universities can be categorized as prospective students, visitors of current students, and visitors to athletic, cultural, and other events organized by the member institutions. A significant portion of visitor spending is circulated through the local economy and results in economic opportunity for local retail merchants, the food and beverage industry, and the hospitality sector. Impacts from visitor spending are based on a combination of direct information from the 59 member institutions and assumptions anchored by research. Conservative assumptions are used to arrive at these estimates to avoid overestimating the impacts from this category. The colleges and universities attract national and international visitors, who often spend multiple days in the region, supporting local merchants.

In aggregate, the economic impact of ancillary spending from students and visitors is $2.5 billion in total output within the Commonwealth, supporting 19,300 jobs and generating $164 million in tax revenue to the Commonwealth each year.

BABSON COLLEGE

Babson College hosts over 800 on-campus events annually. One major event that Babson hosts is the Pan-Mass Challenge, which is a fundraising bike-a-thon for the Dana Farber Cancer Institute, attracting many participants and volunteers. The Challenge raises more money than any other single athletic fundraiser in the country.

HARVARD UNIVERSITY

Harvard University's museums, with their timeless collections and cutting-edge research, attract more than 650,000 visitors and Harvard's historic campus helps attract millions of visitors annually to Harvard and the surrounding regions in Massachusetts.

4.2. Direct Annualized Student Spending

The students attending the 59 institutions bring about additional spending in the regional and state economy. Beyond tuition, and room and board expenses (for students living on campus), other spending categories such as rent (for students living off campus), transportation (especially for students who commute from their homes), food, and entertainment impact the region in which the institution is located.

ESI used information provided by the institutions on the number of students categorized as on-campus, off-campus, commuter, and information collected from other sources on annual student budgets for room and board, transportation, books and supplies, and miscellaneous expenses to estimate the aggregate economic impact. It is estimated that student spending represents $3.3 billion in spending that takes place in the state (see Figure 4.1).

Figure 4.1: Estimated AICU Mass Member Institutions' Annual Student Spending by Category

	Eastern MA Region	Western MA Region	Central MA Region	Massachusetts
Housing ($M)	$1,353	$16	$50	$1,419
Food ($M)	$821	$30	$38	$889
Transportation ($M)	$226	$18	$16	$260
Misc. Retail ($M)	$651	$54	$38	$743
Total Spend ($M)	**$3,051**	**$119**	**$142**	**$3,311**

Source: AICU Mass Member Institutions (2022), Econsult Solutions, Inc. (2022)

4.3. Estimated Visitor Spending – Prospective Students, Visitors of Students

This sub-section estimates the aggregate economic impact of visitors' spending activities. The categories of visitors included in this analysis are prospective students and their families who visit the institutions and tour the campuses, and visitors of current students including family and friends. The institutions provided information on attendance, which was supplemented by research and estimations on visitor spending. This helped categorize visitors into local, day-tripper, and overnighter. It is estimated that visitors to campus represent $209 million in spending within the state.

Tufts University hosts nearly 70,000 visitors annually, bringing along economic impact through visitors' spending at local businesses in the communities and throughout the Commonwealth.

Figure 4.2: Estimated AICU Mass Member Institutions' Annual Visitor Spending by Category

	Eastern MA Region	Western MA Region	Central MA Region	Massachusetts
Lodging ($M)	$77	$4	$3	$83
Food ($M)	$73	$5	$6	$84
Transportation ($M)	$23	$2	$2	$27
Misc. Retail ($M)	$14	$1	$1	$16
Total Spend ($M)	**$186**	**$12**	**$11**	**$209**

Source: AICU Mass Member Institutions (2022), U.S. General Services Administration (2022), IMPLAN (2021), Econsult Solutions, Inc. (2022)

4.4. Economic Impact from Ancillary Spending

Spending by students and visitors therefore yield $3.5 billion in spending – of which $2.5 billion circulates within the Commonwealth.[2] The influx of spending from students and visitors has a multiplier effect throughout the regional and state economies. In aggregate, the economic impact from ancillary spending is $3.6 billion in total output within the state, supporting 19,300 jobs, with $881 million in employee compensation.

Figure 4.4: Economic Impact from AICU Mass Member Institutions' Annual Annual Ancillary Spending

	Massachusetts
Direct Output ($B)	$2.5
Indirect & Induced Output ($B)	$1.1
Total Output ($B)	**$3.6**
Annual Employment Supported (FTE)	**19,300**
Employee Compensation ($B)	**$0.9**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

4.5. Geographic Distribution of Ancillary Spending

The geographic distribution of economic impacts generated from student and visitors spending are significant. Ancillary spending drawn in by each institution creates a multiplier effect in the region the institutions are located in. The aggregate economic impact in the Eastern MA region was estimated to be $3.3 billion; in Western MA, $140 million; and in Central MA, $150 million.

[2] Not all spending by students and visitors circulates within the state. Retail spending and retail spending on food, in particular, have large producer margins that do not benefit Massachusetts. 54% of spending on miscellaneous retail in Massachusetts stays in the state, while only 34% of retail spend on food stays within the state.

Figure 4.5: Economic Impact from AICU Mass Member Institutions' Annual Ancillary Spending

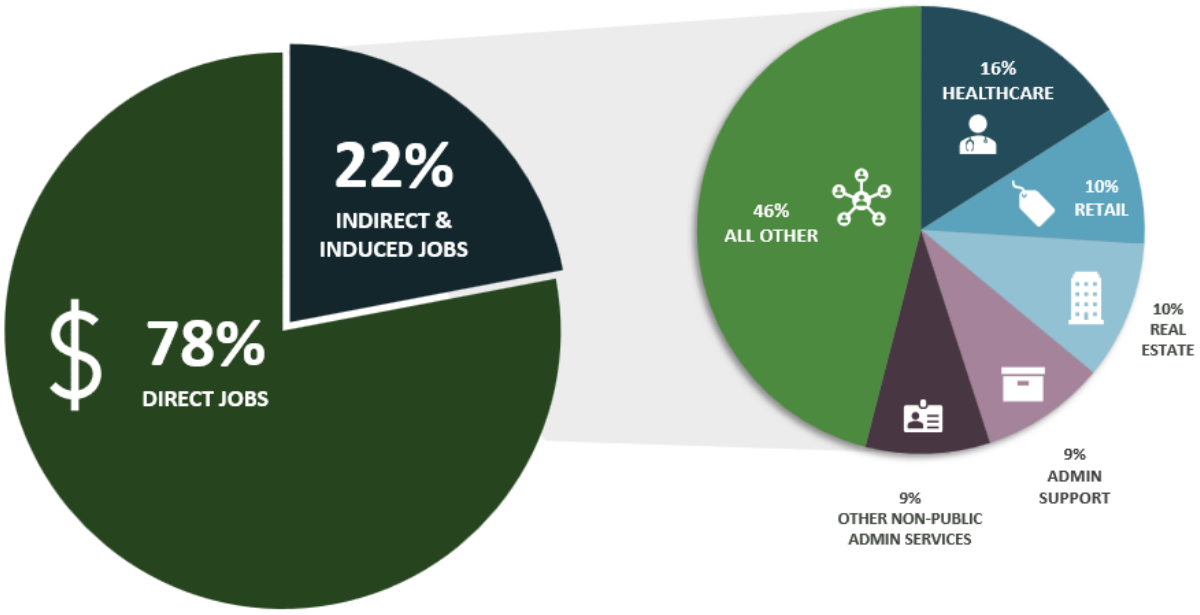
	Eastern MA Region	Western MA Region	Central MA Region	Massachusetts
Direct Output ($B)	$2.3	$0.09	$0.11	$2.5
Indirect & Induced Output ($B)	$1.0	$0.05	$0.04	$1.1
Total Output ($B)	**$3.3**	**$0.14**	**$0.15**	**$3.6**
Annual Employment Supported (FTE)	**16,900**	**1,200**	**1,200**	**19,300**
Employee Compensation ($B)	**$0.8**	**$0.04**	**$0.04**	**$0.9**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

4.6. Industry Distribution of Economic Impact from Ancillary Spending

Ancillary spending boosts economic activity in the regions where the institutions are located in and supports many industries as students and visitors spend money on a variety of things, including retail purchases, transportation, food, housing, and accommodations.

Figure 4.6: Industry Distribution of Statewide Employment Impact from AICU Mass Member Institutions' Annual Ancillary Spending



Source: AICU Mass Member Institutions (2022), IMPLAN (2021), Econsult Solutions, Inc. (2022)

4.7. Tax Revenue Impact from Ancillary Spending

The fiscal impact of spending by the institutions' students and visitors boosts various state tax bases, creating tax revenues for the Commonwealth of Massachusetts each year. It is estimated that the economic impact from ancillary spending produces $164 million in tax revenue for the Commonwealth.[3]

Figure 4.7: Estimated Annual Tax Revenue Impact from AICU Mass Member Institutions' Annual Ancillary Spending to the Commonwealth of Massachusetts

Tax Type	Massachusetts
Income ($M)	$30
Sales ($M)	$112
Business ($M)	$23
Total ($M)	**$164**

Source: IMPLAN (2021), Econsult Solutions, Inc. (2022)

[3] Massachusetts has a state room occupancy excise tax rate of 5.7%. Depending on the city or town, a local option room occupancy tax and other taxes and fees may also apply.

5. Impact from Wage Premium

5.1. Section Highlights

AICU Mass member institutions play an important role in preparing their graduates for lifelong success in a competitive landscape, offering a foundation of learning and skills for alumni to increase their earning power and professional opportunities. This section describes the increased earning potential that alumni of the 59 member institutions achieve (i.e., the wage premium) and quantifies the impact of those additional earnings on the regional, and state economies.

The colleges and universities educate, credential, and retain students within the regional and statewide economy, which translates into enhanced earning potential and therefore higher household income in those respective economies. Some of that additional household income is spent locally, producing additional economic activity, and supporting local jobs and tax revenues. Additional earnings attributable to the 59 institutions within these geographies are estimated and translated into additional spending power within the local economy.

In aggregate, the additional earning potential means millions of dollars more circulating in the regional and state economy. The member institutions have millions of alumni who now live all around the world; notably, many have stayed in Massachusetts itself. The estimated 1.2 million graduates of AICU Mass institutions living and working in the state are estimated to earn $24.6 billion more in income each year as a result of their education. This translates into an additional $28.1 billion in economic impact within the state economy annually, supporting more than 123,000 additional jobs throughout Massachusetts.

While the economic impacts of wage premiums can be measured, it does not account for the myriad impact from alumni choosing to pursue jobs that provide social value, such as teachers, social workers, or other jobs working in nonprofits.

BAY PATH UNIVERSITY

Bay Path University was ranked as a top school for an online bachelor's degree in nursing by the research group Online U. Bay Path University's nursing alumni earn an average of $97,800, which is above the median and more than most nursing grads across the country.

BENTLEY UNIVERSITY

Bentley University was named the No.2 undergraduate business school in the country for the highest future earning potential of its graduates, by PayScale. Bentley undergraduate alumni earn a median salary of $114,300 midway through their career, a 22 percent increase from 2016.

Labouré College of Healthcare was ranked No. 2 for Highest Paying Associate Degrees in 2021-2022, by PayScale. Labouré College alumni earn a median salary of $90,800 midway through their career.

Massachusetts Institute of Technology (MIT) was ranked No. 1 for Highest Paying Bachelor's Degree by salary potential in the U.S., by PayScale. The starting median salary for alumni is $93,700.

5.2. Estimated Aggregate Alumni Wage Premium

Data provided by the 59 institutions indicates that 1.2 million of their alumni live in the Commonwealth. The U.S. Bureau of Labor Statistics employment-population ratio of 71.41 percent estimates the proportion of alumni 25 or older with a college degree who are employed. This ratio is used to estimate the proportion of alumni who work within the state. This yields an estimate of 828,000 alumni working in the state.

Aggregate wage premium was determined by multiplying the estimated number of working alumni for each institution by an estimated wage premium amount for degree type from a given institution. That individual wage premium amount was determined to be the difference between average household income for alumni of a given institution different degree attainment levels and the average household income for all residents at one degree attainment level below. So, for example, the wage premium for an alumnus with a Bachelor's degree living in the state is the average household income for an alumni with Bachelor's degrees minus the average household income for a state resident with an Associate's degrees.

This yields an aggregate alumni wage premium of $24.6 billion within the state, meaning alumni from AICU Mass member institutions living and working in the Commonwealth collectively make over $24 billion more per year as a result of the education and credential they received from their alma maters.

MCPHS University was ranked No. 2 in New England and No. 5 in the U.S. for median salary. MCPHS graduates make a median income of $118,171 ten years after enrolling.

Master's degree recipients from MGH Institute of Health Professions earn an average salary of $81,457 during the early years of their career. The average is 39 percent higher than the national average of $58,425.

Boston Architectural College was ranked No. 1 for Best Graduate School for Earning Potential by GradReports. Comparing the median annual salary of students one year after graduation, Boston Architectural College students earn an average $61,200.

College of the Holy Cross was ranked No. 10 for Best Religious Schools by salary potential by PayScale. The starting median salary for 2021 graduates was $60,000.

5.3. Economic Impact from Alumni Wage Premium

Higher earning power derived from receiving an education and a credential from a higher education institution is a good thing for participating students. It is also good for the local economies in which they end up after graduating, because a portion of that higher earning power is spent back into a local economy and supports jobs and tax revenues.

Based on the calculations described above, it is estimated that the aggregate annual wage premium enjoyed by alumni of AICU Mass' 59 member institutions is about $24.5 billion. As noted above, not all of that extra personal income is spent back into the state economy; some is saved, and some is spent out of state or online. However, additional earnings that are spent within the state have a multiplier effect within the state economy. Accounting only for additional earnings that are spent within the state,

and for the multiplier effect that spending has within the state economy, it is estimated that the aggregate wage premium enjoyed by alumni living and working in the state generates $28.1 billion in economic impact within the state, supporting 123,600 jobs and $9.5 billion in earnings (see Figure 5.1).

Figure 5.1: Economic Impact from AICU Mass Member Institutions' Annual Alumni Wage Premium

	Massachusetts
Direct Wage Premium ($B)	[$24.6]
Indirect & Induced impact ($B)	$28.1
Total Impact ($B)	**$28.1**
Employment Supported (Total FTEs)	**123,600**
Employee Comp. ($B)	**$9.5**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

Northeastern University

A large majority of Northeastern University graduates earn a higher starting salary, upwards of $70,000, in their respective field of studies compared to graduates from other universities.

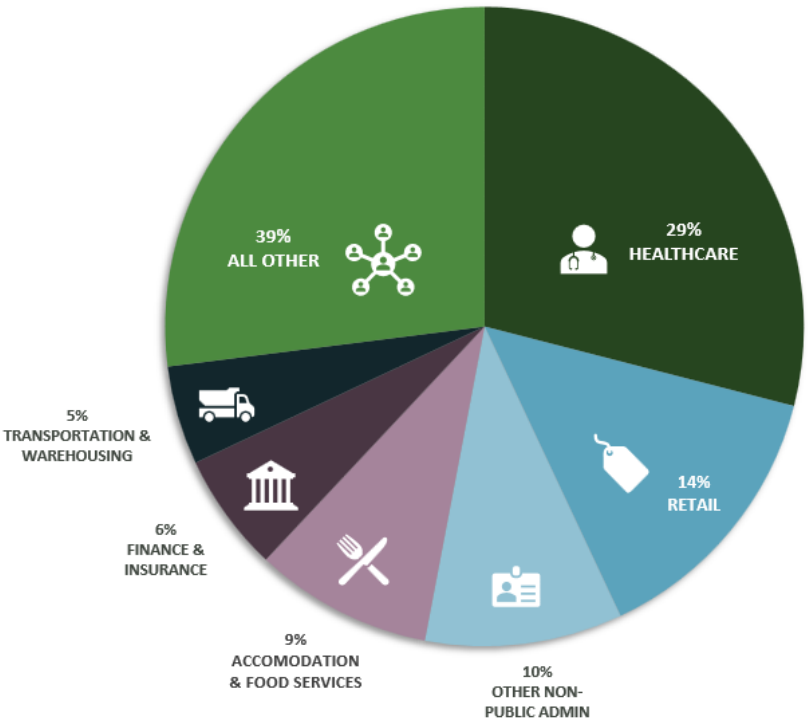
Olin College of Engineering

Olin College of Engineering was ranked No. 1 in salaries ten years after college by CollegeScorecard. As of 2022, Olin College alumni earn a median salary of $133,000 ten years after starting college.

5.4. Industry Distribution of Economic Impact from Alumni Wage Premium

The portion of alumni's additional household income that is spent in the regional economy supports a number of sectors, befitting the types of expenditures that are typically made by a household from its earned income. Hence, a large number of jobs in sectors such as Health Care and Social Assistance, Retail Trade, Other Administration Services (except Public Administration), Accommodation and Food Services, Finance and Insurance, and Transportation and Warehousing are supported by the higher aggregate household income enjoyed by the institutions' alumni.

Figure 5.2: Industry Distribution of Statewide Employment Impact from AICU Mass Member Institutions' Annual Alumni Wage Premium



Source: AICU Mass Member Institutions (2022), IMPLAN (2021), Econsult Solutions, Inc. (2022)

5.5. Tax Revenue Impact from Alumni Wage Premium

In addition to the economic impacts, the Commonwealth of Massachusetts benefits from additional tax revenue, generated directly and indirectly from the wage premium enjoyed by alumni of the member institutions through the education and credentialing they received. By having higher earning power, alumni pay more in state income tax. And, by spending a portion of that higher earning power back into the state economy, alumni create economic activity that generates additional income, sales, and business tax revenues to the Commonwealth. This sums to an estimated $1.4 billion per year in tax revenues to the Commonwealth (see Figure 5.3).

Figure 5.3: Estimated Annual Tax Revenue Impact from AICU Mass Member Institutions' Annual Alumni Wage Premium to the Commonwealth of Massachusetts

Tax Type	Massachusetts
Income (Directly Paid by Alumni) ($M)	$762
Income (from Induced Impact of Alumni Spending) ($M)	$305
Sales ($M)	$362
Business ($M)	$106
Total ($M)	**$1,534**

Source: IMPLAN (2021), Econsult Solutions, Inc. (2022)

6. Broader Catalytic Impacts

6.1. Section Highlights

In addition to the quantifiable impacts from direct spending, visitor and student spending, and wage premiums powering the careers of alumni, the AICU Mass member institutions contribute significantly to the fabric of communities across the Commonwealth. The purpose of this section is to elaborate on the broader catalytic impacts, further exploring the community impacts, regional commitments, and societal benefits supported by the member institutions' economic activities. This section focuses on the institutions' community engagement and neighborhood investment, marshalling its resources and students, faculty, and staff to engage with the communities within Massachusetts.

The engagement and investment take many forms, including commitment to local opportunity for residents and businesses, financial and academic resources for residents who want to attend the colleges and universities, investment in a campus that provides educational and cultural amenities to the local community, an emphasis on programs and services that support the community and region, partnering with local non-profit organizations and provision of municipal services and infrastructure around campus.

ANNA MARIA COLLEGE

Anna Maria College was awarded $1,075,000 in federal funding to increase the number of mental health first aid instructors across all public safety sectors.

Boston Baptist College

Boston Baptist College holds a Halloween night event call Trunk-or-Treat and a community yard sale annually for the community on their campus.

Boston Graduate School of Psychoanalysis

The Boston Graduate School of Psychoanalysis offers a Therapy Center that provides affordable psychotherapy to members of the surrounding community from a broad range of backgrounds with a wide range of concerns, including anxiety, depression, addictions, identity issues, difficult relationships, and persistent mental illness.

Eastern Nazarene College

Eastern Nazarene College entered a partnership with Quincy College to provide affordable on-campus housing for students in Quincy College's nursing program. This program expansion partnership will strengthen and help meet nurse demand in the community.

Wentworth INSTITUTE OF TECHNOLOGY

Wentworth Institute of Technology's Community Builders were honored for their impact on the local community, strengthening the bonds between the school and community.

WNE WESTERN NEW ENGLAND UNIVERSITY

Western New England University brings justice to the Springfield community by launching legal services in legal kiosks to serve people without the financial means or technology access to seek legal help and resources.

NECO | New England College of Optometry

New England College of Optometry partners with Boston public schools and 17 community health centers to provide affordable eye care for the local communities. The partnerships form the core of the university's education, training doctors to care for those in need, but are unable to afford the care.

NEC New England Conservatory

New England Conservatory of Music was awarded $1.25 million to continue growing their Bridge to Equity and Achievement in Music (BEAM) program, providing a pathway for middle and high school students into tertiary music education in underserved communities.

6.2. Local Impact from "Being a Good Neighbor"

Higher education institutions have long worked within a framework where they recognize they are anchored to the communities in which they reside, and as such, have a responsibility to engage with their neighbors and the regions they call home. Colleges and universities do not look inward but rather offer opportunities for growth and development for members in their broader communities. Institutions engage with their surrounding environs to be academically successful, relevant, and impactful.

While AICU Mass' 59 member institutions are incredibly diverse, they all share the same steadfast focus on community service as an integral part of their mission. AICU Mass's members are anchor institutions in their local communities, and as such, community engagement is embedded in their ethos. As anchor institutions, they take their role seriously, using institutional resources to serve and connect with their immediate communities.

"Being a good neighbor" for an AICU Mass member institution means synchronizing the fulfillment of an institution's mission with things that are respectful of and beneficial to the community in which the institution resides. This manifests itself in diverse ways, reflecting the different types of institutions represented within AICU Mass, and yields positive social impacts in communities throughout Commonwealth, as indicated illustratively by the vignettes contained in this section.

ELMS COLLEGE

Elms College's Athletics and Campus Ministry departments held food drives to combat the food insecurity and the increased need at local food pantries in 2021 and 2022. Over 700 pounds of food were collected to combat food insecurity in both years.

Montserrat COLLEGE OF ART

Montserrat College of Art's Solar Project will power their 18-building campus to cut back on carbon emissions and fight climate change as their way of giving back to the community.

GORDON COLLEGE

Gordon College has held a longstanding commitment to public engagement through fine arts and music. Every year they bring together the community through events like the Christmas Gala and holiday tree lighting as well as programs like Children's Choir and Music Mania workshops.

Hampshire College

Hampshire College has a farm and a Community Supported Agriculture (CSA) program that provides the community with local, sustainably raised produce and meat. The farm produces over 75,000 pounds of organic produce annually.

William James College launched the Behavioral Health Service Corps, a paid year-long service and learning opportunity for college graduates to earn master's degree credits and gain entry-level career experience in behavioral healthcare working in underserved communities.

Bard College at Simon's Rock is combating food insecurity in the region as part of their Growing Better Greater Barrington initiative, with the goal of donating food to local food banks with produce from the Simon's Rock farm on Bard College campus.

Berklee College of Music raised over $1.4 million for the Berklee City Music Program, which is their initiative to engage underserved public-school youths in a year-long, tuition-free music education program.

Worcester Polytechnic Institute prides itself in student projects like developing and marketing Stigma Free Worcester – a mobile app providing local resources for substance abuse recovery, mental health support, and housing – and creating a blueprint for a food pantry in partnership with Thrive Support & Advocacy.

6.3. Regional Impact from Contributions to Economic Competitiveness

The Commonwealth's higher education ecosystem is unique in the country. As locations throughout the U.S. continue to develop as employment and education centers, the ability to reliably draw investment and human interest is increasingly important. The locations of major companies, for instance, can positively impact the draw of a place. Similarly, concentrated hubs of activity generate a similar effect (e.g., the financial district of New York, government services in Washington, D.C., etc.). Storied research universities, liberal arts colleges, and art-oriented institutions, such as the those within AICU Mass' 59 member institutions list, are a similarly powerful draw for people and capital.

The COVID pandemic has served to reinforce the reality that both capital and labor are highly mobile and tend to seek out the locations that have the best opportunities to make a return on their resources. This means seeking out locations with well-establish institutions and infrastructure, highly developed centers for innovation and progress, and an educated and trained workforce. These factors signal the strength and robustness of an economy and show the promise of advancement and innovation; for both financial capital and talent; this directly signifies an abundance of opportunity.

AICU Mass' 59 members institutions are a cornerstone of the regional economy through their respective missions and abilities to push the growth and innovation of various industries and technologies. Through their resources, these institutions help to address many of the major factors which foster innovation and improvement all at once. As indicated in the various examples shared in this section, institutions' contributions of research efforts, workforce provision, and creative expression, yield a more robust and resilient regional economy.

Franklin Cummings Tech

Franklin Cummings Tech was awarded a $1 million grant to address racial wealth inequality in Greater Boston and the funds will be used to provide supports to students during the program.

Cambridge College

Cambridge College was awarded $210,000 to support its efforts to connect girls and students of color to careers in the emerging technology industry, specifically cybersecurity.

CURRY COLLEGE

Curry College hosted 30 female high school students in the Comput/her Conference to explore career opportunities in computing and data science through various skill-building workshops.

FISHER COLLEGE

Fisher College has been designated as a military-friendly college for over a decade, dedicated to assisting military and veterans who want to obtain and pursue an education to expand their careers.

MOUNT HOLYOKE

Mount Holyoke College's Master of Arts in Teaching program has developed a new program to provide low- or no-cost tuition for students and teachers pursuing a master's degree.

THOMAS AQUINAS COLLEGE

Thomas Aquinas College is one of the few Catholic schools that produces many priests, nuns, and other religious vocations year after year.

Urban College of Boston contributes to the local workforce and community in many ways, like providing educational opportunities for multilingual early childhood educators. UCB courses support students' attainment of the credentials required to enter into and/or advance in the early education and care field.

Williams College is the first in the nation to offer "all grant" financial aid for students, making a big step in allowing students to receive a truly affordable education and pursuing their dreams without going into debt.

6.4. Societal Impact from Value-Led Efforts

As private, nonprofit institutions, AICU Mass member institutions exist not for personal profit but for positive societal contribution. As noted above, the fulfillment of their respective institutional missions yields profound local benefit and regional vibrancy. But their social impacts extend to broader global and societal dimensions. Schools working hard to make higher education more financially accessible and college campuses more diverse are playing an important role in ensuring a more equitable society in which intellectual discourse is more inclusive and upward mobility is more broadly available. Thought leaders on campuses across the AICU Mass member base are courageously addressing social challenges head-on, advocating for and advancing a more civil and just society in the process. And many institutions coordinate service projects that bring people and resources to places of need all over the world. In all these ways, AICU Mass member institutions' social impact footprint extends beyond community, region, and state, fulfilling deep institutional values to serve humanity through scholarship, research, and action.

7. Conclusion

7.1. Aggregate Statewide Economic Impact

Care has been taken in calculating economic impact estimates for each of the four categories covered in this report to ensure that these categories do not overlap and are expressed in annual terms. This enables a summation of economic impact across categories. Currently the member institutions of AICU Mass produce an annual impact of over $71.1 billion on the state economy and support nearly 321,000 jobs throughout the state (see Figure 7.1).

Figure 7.1: Estimated Aggregate Annual Economic Impact of AICU Mass Member Institutions' on the Commonwealth's Economy by Impact Category

	Annual Operations	Capital Investments	Ancillary Spending	Alumni Wage Premium	Total
Direct Output ($B)	$17.8	$2.6	$2.5	[$24.6]	$22.9
Indirect & Induced Output ($B)	$17.1	$1.9	$1.1	$28.1	$48.2
Total Output ($B)	**$34.9**	**$4.4**	**$3.6**	**$28.1**	**$71.1**
Annual Employment Supported (FTE)	**156,900**	**21,000**	**19,300**	**123,600**	**320,800**
Employee Compensation ($B)	**$14.1**	**$1.7**	**$0.9**	**$9.5**	**$26.2**

Source: AICU Mass Member Institutions (2022); IMPLAN (2021); Econsult Solutions, Inc. (2022)

7.2. Benefit to the State Taxpayers

AICU Mass consists of member institutions that are private and nonprofit, whose funding is therefore largely from philanthropic sources. Yet, this report demonstrates that their positive effect – on society, state, and community – is immense. It takes the form of the economic activity generated by the member institutions, which in turn supports employment for many households in the state, revenue opportunities for many businesses in the Commonwealth, and tax revenues to fund public services used by all in the state. And, it takes the form of a considerable amount of social impact generated to community, region, and society, as practiced in varied ways by the diverse institutions that make up AICU Mass' membership base.

State capitols throughout the U.S. approve funding for public higher education systems to accomplish a number of public policy objectives: access to education, research output, economic development, job creation. This report demonstrates that AICU Mass members institutions, though private nonprofits, generate similar public benefits for the Commonwealth and its taxpayers.

Figure 7.2: Estimated Annual Tax Revenue Impact from AICU Mass Member Institutions to the Commonwealth of Massachusetts by Impact Category

Tax Type	Annual Operations	Capital Investments	Ancillary Spending	Alumni Wage Premium	Total
Income ($M)	$434	$59	$30	$1,067	$1,590
Sales ($M)	$174	$19	$112	$362	$667
Business ($M)	$68	$9	$23	$106	$206
Total ($M)	**$645**	**$87**	**$164**	**$1,534**	**$2,430**

Source: IMPLAN (2021), Econsult Solutions, Inc. (2022)

Appendix A – Report Methodology

The purpose of this appendix is to highlight the scope and methodology of this report and of the quantitative analysis tools used in it, so that its findings can be properly understood and interpreted. Additional detail on the methodology and data sources used to calculate the direct economic impact in each component category and the economic and fiscal modeling undertaken can be found in the appendices that follow.

Economic and fiscal impacts are calculated in four categories of activity: expenditures on operations, expenditures on capital outlays, student and visitor (ancillary) spending, and alumni wage premium. Impacts are calculated on an annual basis, and are undertaken in non-overlapping fashion, meaning that they can be summed to represent aggregate impact. The goal of this analysis is to quantify the current annual level of economic activity associated with the 59 member institutions of AICU Mass. Data inputs on institutional activity are largely provided by each member institution and are verified and supplemented with other public data sources. In addition, assumptions are at times required to estimate the level of activity where direct data are not available. These assumptions are anchored in research and available information and are detailed transparently throughout the report and appendices.

For each input, the most recent and appropriate available dataset is utilized. In the case of institution data, this information often but not always covers FY 2022 (the most recently completed fiscal year). Therefore, the analysis should be understood to represent the current annualized level of activity, rather than representing the impact for any specific fiscal year.

The geographies of interest for this study are the state as a whole, as well as three regions within the state: the Eastern MA region (Barnstable, Bristol, Dukes, Essex, Middlesex, Norfolk, and Suffolk Counties), the Central region (Worcester County), and the Western MA region (Berkshire, Franklin, Hampden, and Hampshire Counties). Economic impacts are calculated for each of these geographies, while tax revenue impacts are calculated at the state level.

Economic impact analyses can estimate the magnitude of either the net or gross impact of its subject. A net impact analysis, which sometimes takes the form of a cost-benefit analysis, develops a "counterfactual" that overall impact amounts are netted against impact levels that might have occurred anyway in place of the subject's existence and operations. This form of analyses, while appealing in its economic logic, is often highly speculative. In this case, such an analysis would require modeling an alternative development path for the local and regional economy over decades absent of the 59 member institutions. This report takes a gross, rather than net, approach to measuring AICU Mass member institutions' economic impact. With this approach, the direct, indirect, and induced activity associated with these institutions is estimated without accounting for potential offsetting increases in activity in other institutions or sectors absent of these institutions. Therefore, economic impact figures implicitly represent a comparison of current activity levels to a scenario in which the institutions do not exist, and all other activity within the economy is held constant.

It should also be noted that impacts are only estimated in four categories that are common to economic impact studies, and for which data sources and calculation frameworks are well-defined. However, these

categories do not represent the only potential economic impacts of AICU Mass and its 59 member institutions, which contribute to knowledge activity in ways that defy straightforward quantification. Thus, while aggregate results in this analysis are gross rather than net, they are conservative as to the categories of impact that can be reliably measured.

Additional detail on methodology sources can be found in the appendices that follow:

- Appendix B provides the text of the data request list distributed to the 59 member institutions, as well as the full list of institutions in the study.
- Appendix C provides detail on the methodology for annual operations.
- Appendix D provides detail on the methodology for capital investments.
- Appendix E provides detail on the methodology for student and visitor (ancillary) spending.
- Appendix F provides detail on the methodology for alumni wage premium.

Appendix B – Data Collection

The majority of the data used for the economic impact analysis came directly from the institutions. Each of the 59 AICU Mass member institutions was asked to submit data corresponding to an informaiton request list created by ESI. Through this request, ESI collected important details related to the operations, faculty, and students at each school.

The responsive rate from the AICU Mass member institutions allowed ESI to complete a more accurate analysis on the schools. Where needed, ESI used publicly available data to supplement data provided by the schools.

Figure B.1: Information Request List

1. Overall
    A. Access to representatives from AICU Mass and member institutions who can obtain (and answer any follow-up questions pertaining to) requested information listed below
    B. Logos for all member institutions
    C. Approved quotes from and images of member institution leadership, students, alumni, and events/activities
    D. Prior or In Process Economic Impact Analysis Studies

2. Annual Operations
    A. Annual operating expenditure detail (multiple actual and/or projected years if possible)
    B. Annual research budget
    C. Employment head count
    D. Labor income (i.e. salaries, wages, benefits)

3. Capital Investments
    A. Spending by year on new construction, major renovations, and large-scale capitalized maintenance (projected and/or historical, 3+ years)
    B. Points of pride on illustrative capital projects

4. Student and Visitor Spending
    A. Enrollment count, sorted by residential type[4]
    B. Distribution of student body by home residence[5]
    C. Number and distribution of home residence for prospective students who visit campus[6]
    D. Total spectator attendance across all sports and estimated distribution of home residence[7]
    E. Total spectator attendance across all non-athletic events and estimated distribution of home residence[8]

[4] On-campus = lives in university-owned housing. Off-campus = lives in private housing. Commuter = lives at home.
[5] Local = lives within commuting distance of campus. Regional = lives within a day trip of campus. Out-of-town = a visit to campus would require spending the night.
[6] Same taxonomy as above: local vs. regional vs. out of town.
[7] Same taxonomy as above: local vs. regional vs. out of town.
[8] Same taxonomy as above: local vs. regional vs. out of town.

5. Alumni Wage Premium
    A. Number of living alumni
    B. Distribution by home residence[9]
    C. Distribution by degree attainment level
    D. Distribution by field of study
    E. Points of pride on alumni success stories

6. Broader Impacts
    A. Points of pride on (and any available itemization of)[10] local volunteer service and service-learning initiatives
    B. Points of pride on engagement with and investment in surrounding community
    C. Points of pride on (and any available itemization of)[11] innovation and entrepreneurship
    D. Points of pride on financial aid and other accessibility initiatives
    E. Points of pride on employee diversity initiatives
    F. Points of pride on supplier diversity initiatives
    G. Points of pride on research efforts that support social issues of state importance
    H. Points of pride on research efforts that support social issues of societal importance

[9] Same taxonomy as above: local vs. regional vs. out of town.
[10] E.g. number of programs, aggregate number of volunteers, aggregate number of people served, aggregate number of volunteer hours served. Please differentiate between in-state and out-of-state.
[11] E.g. research funding received, invention disclosures, patents, licensing agreements/revenue, startup ventures formed, spinoff businesses served, venture capital raised.

Figure B.2: AICU Mass 59 Member Institutions

Amherst College
Anna Maria College
Assumption University
Babson College
Bard College at Simon's Rock
Bay Path University
Bentley University
Berklee College of Music
Boston Architectural College
Boston Baptist College
Boston College
Boston Graduate School of Psychoanalysis
Boston University
Brandeis University
Cambridge College
Clark University
College of the Holy Cross
Curry College
Dean College
Eastern Nazarene College
Elms College
Emerson College
Emmanuel College
Endicott College
Fisher College
Franklin Cummings Tech
Gordon College
Hampshire College
Harvard University
Labouré College of Healthcare
Lasell University
Lesley University
Massachusetts Institute of Technology
MCPHS University
Merrimack College
MGH Institute of Health Professions
Montserrat College of Art
Mount Holyoke College
New England College of Optometry
New England Conservatory of Music
Nichols College
Northeastern University
Olin College of Engineering
Regis College
Simmons University
Smith College
Springfield College
Stonehill College
Suffolk University
Thomas Aquinas College
Tufts University
Urban College of Boston
Wellesley College
Wentworth Institute of Technology
Western New England University
Wheaton College
William James College
Williams College
Worcester Polytechnic Institute

Source: AICU Mass (2022), Econsult Solutions, Inc. (2022)

Appendix C – Annual Operations Impacts Methodology

ESI pulled publicly available audited budgets for FY19, FY20, and FY21 for all institutions. Where available, ESI used FY22 or FY23 proposed budgets provided by schools. A three year average was taken and the analysis should be understood to represent the current annualized level of activity, rather than representing the impact for any specific fiscal year.

To determine the magnitude of the economic impact of AICU Mass members' operational activity, it is necessary to understand the composition of annual expenditures within the state economy. Since economic impact relates largely to where expenditures occur, deductions are made for budgetary items like depreciation and interest that do not represent spending within a given geography.

Appendix D – Capital Investments Impacts Methodology

AICU Mass member institutions provided multiple years of large capital expenditures. If this data was not provided by schools, audited financial statements were used. If neither of these were available, capital spending for a school was excluded from the analysis. A three year average was taken and the analysis should be understood to represent the current annualized level of activity, rather than representing the impact for any specific fiscal year.

Appendix E – Student and Visitor Spending Impacts Methodology

Ancillary spending includes spending by both students and visitors of the 59 member institutions. To estimate student spending, ESI used information provided by the institutions on the number of students categorized as on-campus, off-campus, commuter. If not provided by the institutions, estimates were made based on publicly available data about the number of on-campus housing units available and permanent address location of students. ESI used information published by schools on annual student budgets for room and board, transportation, books and supplies, and miscellaneous expenses. Several categories of spending were excluded: room and board for students on campus is considered revenue to the school and housing expenses were zeroed out for those commuting from home.

Visitors to the colleges and universities can be categorized as prospective students, visitors of current students, and visitors to athletic, cultural, and other events organized by the member institutions. Where provided, ESI used visitor counts and locations to estimate ancillary spending by visitors. This was supplemented by publicly available information, assumptions, and estimates about graduation visitors, family weekend visitors, and students having a friend visit them during the year. Visitors were categorized as local, regional, and out of town. Local visitor spending was excluded, as this spending would have occurred regardless of the presence of an institution. Regional visitors were assumed to be day-trippers, while out of town visitors were assumed to stay overnight, incurring a larger amount of spending in the region. Conservative assumptions were used to arrive at these estimates to avoid overestimating the impacts from this category.

Appendix F – Alumni Wage Premium Impacts Methodology

Institutions provided total living alumni in Massachusetts by degree type. If schools only provided a total count and not by degree type, estimates were made based on enrollment. Wage premium was determined by multiplying the estimated number of working alumni for each institution by an estimated wage premium amount for degree type from a given institution. That individual wage premium amount was determined to be the difference between average household income for alumni of a given institution different degree attainment levels and the average household income for all residents at one degree attainment level below. This difference in the direct wage premium. Total impact is the induced economic impact of these increased earnings as some of that extra personal income is spent back into the state economy.

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.


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