

Higher Education in Boston: Intellectual Capital as a Catalyst for Economic Growth



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HIGHER ED BOOSTS BOSTON'S ECONOMY

Boston's 35 colleges and universities are renowned for the quality of their educational offerings and the many contributions their faculty and graduates make in the fields of medicine, business, technology, and the arts. The city's diverse, international student population contributes greatly to the social and cultural life of Boston and its neighborhoods.

At the same time, Boston's colleges and universities create an intellectual capital that is a catalyst for economic growth – not just employing faculty and staff and attracting students who generate a demand for goods and services, but creating jobs and economic opportunities for all city residents.

As recent economic impact reports by Boston University and Harvard University make clear, each college and university generates significant economic benefits for the city. Together, the city's 35 institutions of higher education make up Boston's "education economy" – with a total economic impact of \$4.4 billion, 11% of the city's total economy.

In addition to teaching, faculty and staff conduct research that benefits local industries and leads to the creation of start-up businesses in emerging fields. The city's 135,000+ students, who provide an energy and dynamism that adds to the city's quality of life, also generate over \$700 million in spending for off-campus goods and services.

The presence of these students is a major reason that Fortune magazine has named Boston one of the best cities in the country for business in 6 of the last 8 years. Just last year, Fortune called Boston's college students the city's "secret weapon," not just because of the impact they have while in school, but because so many stay in the area after graduation, bolstering the city's highly educated workforce.

Boston is #1 Again.

Once more, among the nation's large cities, Boston leads the nation in per capita student enrollment. In the 1997-98 academic year, 135,480 students enrolled in one of Boston's four public and 31 private colleges and universities. New students come to live and study in Boston, not only from around the country but from around the world. Approximately 46% of new freshman arrive from out-of-state and 8% from other nations. Boston University ranks number two among the nation's universities in the number of foreign students.

**Top Ten Per Capita Student Populations
in Large U.S. Cities**
(students per 1,000 population)
1996-97

| | |
|------------------|-------------|
| Boston | 43.0 |
| New York | 40.0 |
| Atlanta | 37.2 |
| Chicago | 36.4 |
| Los Angeles | 34.7 |
| Philadelphia | 33.6 |
| Dallas | 29.9 |
| Washington, D.C. | 23.3 |
| Detroit | 21.5 |
| Houston | 18.1 |

Source: Atlanta Regional Consortium for Higher Education.
Data are for metro area.

Boston also graduates more students per capita than any other U.S. city. During the 1996-97 school year, the city's colleges and universities awarded 29,246 degrees, with over 26,000 at the baccalaureate level or higher. Just as important, Boston is a national leader in per capita graduation rates in many academic fields – medicine, physical and computer sciences, engineering, and business management – that are critical to the city's major employers.

Degrees Awarded in Boston's Colleges and Universities
1996-97 academic year

| | |
|----------------------|---------------|
| Associates/Technical | 3,151 |
| Baccalaureate | 13,167 |
| Masters | 8,945 |
| Professional | 3,428 |
| Ph.D. | 555 |
| Total | 29,246 |

Source: US Department of Education and individual schools.

Degrees Supporting Boston's Key Industries
(baccalaureate and higher)
1996-97 academic year

| | |
|--|-------|
| Business Management | 5,404 |
| Medicine and Health Care | 4,380 |
| Engineering, Math, & Computer Sciences | 1,959 |
| Law | 1,697 |
| Physical & Biological Sciences | 1,017 |

Sources: US Department of Education, Harvard University, Tufts University.

Catalyst for Local Economic Growth.

Higher education makes a significant contribution to the city's economy. Together, Boston's colleges and universities have operating budgets of over \$2.84 billion, making higher education one of the city's leading industries. Higher education is also one of Boston's leading employers – along with health care, financial and business services. In 1997, Boston's 35 colleges and universities employed 29,278 faculty and staff, with a combined annual payroll of \$1.364 billion in salary, wages and benefits. Two of Boston's universities (Boston University and Northeastern) as well as six university-affiliated hospitals are among the city's 15 largest employers.

Student spending for consumer goods and services – books, clothes, restaurants, entertainment, etc. – is another important element in Boston's education economy, contributing approximately \$707 million to the city's economy last year – an average of more than \$5,200 per student per year.

Altogether, Boston's education economy generates a total of \$3.5 billion in direct and \$900 million in indirect impact, a total infusion of \$4.4 billion in Boston alone. Boston's education economy also contributes to the rest of the state's economic well-being, producing \$7.1 billion in total statewide economic impact. Thirty-eight percent of that total (nearly \$2.8 billion) finds its way into the state economy beyond city limits.

Total Economic Impact

| | |
|------------------------------|------------------------|
| City (within city limits) | \$4.417 billion |
| State (not including Boston) | \$2.757 billion |
| Total | \$7.174 billion |

Source: BRA Policy Development and Research.

Leader in Federal Grants and R&D Awards.

Boston's colleges and universities are among the nation's most successful competitors for federal grants, contracts, and research dollars, bringing in more than \$500 million a year.

Boston's research universities are national leaders in the sciences, engineering, and medical fields – reflected in the consistent flow of federal research and development grants they receive each year. In 1997, the federal government awarded over \$338 million in R&D grants to 11 of Boston's colleges and universities.

**Federal R&D Awards to Boston's
Colleges and Universities**
FY1997

| | |
|------------------------------------|----------------------|
| Harvard Graduate Schools | \$179,937,000 |
| Boston University | 97,015,000 |
| Tufts Graduate Schools* | 34,586,606 |
| Northeastern University | 13,298,000 |
| Boston College | 8,187,000 |
| University of-Massachusetts/Boston | 3,048,000 |
| N.E. College of Optometry* | 1,190,404 |
| Wheelock College | 533,000 |
| Simmons College | 490,073 |
| Wentworth Institute | 50,000 |
| Suffolk University | 18,000 |
| Total | \$338,353,083 |

* NIH awards only.

Data for Tufts and Harvard graduate schools reflect only those programs located in the City of Boston.

Sources: National Science Foundation, National Institutes of Health, Harvard University.

The largest percentage was awarded by the National Institutes of Health to the city's medical and health science schools, and Boston invariably ranks 1st in the nation in receipt of these NIH funds.

Ten other federal agencies, ranging from the Department of Energy to NASA, also provide support to Boston's important R&D industry. R&D grants also have a direct impact on the area's economy through their support of research jobs, the purchase of supplies and equipment, and their increasing importance to spurring private sector industrial activity and outside investments.

In addition to R&D grants, the federal government

awarded more than \$199 million in grants and contracts to the city's post-secondary schools in 1996, grants which support institutional activities as well as a range of individual student grants and fellowships.

Boston's Top 10 Recipients for Federal Grants and Contracts
1995-96 academic year

| | |
|------------------------------------|----------------------|
| Boston University | \$112,303,148 |
| Northeastern University | 23,956,000 |
| Boston College | 19,613,820 |
| University of Massachusetts/Boston | 12,969,619 |
| Roxbury Community College | 5,292,279 |
| Fisher College | 4,220,115 |
| Bunker Hill Community College | 3,959,510 |
| Wentworth Institute | 3,018,097 |
| Simmons College | 2,843,233 |
| Suffolk University | 2,102,005 |
| All Others | 8,816,712 |
| Total | \$199,094,538 |

*Note: Data for Harvard and Tufts graduate programs unavailable
Source: US Department of Education.*

Serving the City's Workforce.

In addition to their economic contribution, Boston's colleges and universities also play a crucial role in expanding and upgrading the region's workforce.

At Boston's private colleges and universities, which attract more out-of-state students, it is estimated that at least one-third of all graduates find their first full-time jobs and remain in the Boston area. At Boston's public higher education institutions, which attract more local students, it is estimated that two-thirds or more of all graduates enter the Boston workforce.

In addition, many of the city's nearly 46,000 part-time students are already in the workforce. The region's workers are also able to take advantage of the many and varied opportunities to pursue high-quality advanced degrees or continuing professional development. This combination of college students, college graduates, and the

availability of quality continuing education provides Boston employers with the educated employees they need to keep pace with new ideas and technologies.

New Buildings and Construction.

University expansion and campus construction also play an important role in the city's economy. Some recent examples include Boston University's new \$75 million Photonics Center, Suffolk University's recently opened \$65 million downtown law school building, Emerson College's \$21 million conversion of the Little Building into new dormitory space, and Northeastern University's \$32 million Material Sciences Building and their 700-bed, \$40 million West Campus dormitory.

With millions of dollars of additional construction in the pipeline, projects like these enhance the local economy by creating construction and permanent jobs, attracting students and faculty, and sponsoring research that stimulates potential new business and investment.

Planning for the Future.

The Boston Redevelopment Authority is working with several of the city's colleges and universities to update their institutional master plans. The Wentworth Institute of Technology, Emmanuel College, Northeastern University, Boston University, and Boston College are all planning for a variety of institutional needs, ranging from the creation of additional student housing, classroom space, faculty offices, student recreational facilities, and parking, as well as for linking their campuses to the surrounding communities with new open space. Each of these initiatives will enhance the campuses and surrounding neighborhoods, as well as make an important economic contribution to the city.