



The Difference a

University
Makes

UB **University at Buffalo**
The State University of New York

**An Impact Analysis of the
University at Buffalo**

August 2007





The Difference a University Makes:

An Impact Analysis of the University at Buffalo

2005-06 With Projections to 2020

August 2007

Report submitted to the
University at Buffalo by the:



The Regional Institute
University at Buffalo
The State University of New York

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Introduction

A powerful economic engine
in Western New York



The largest and most comprehensive public university in New York State, the University at Buffalo is a powerful economic engine for Western New York.

With nearly 8,500 faculty and staff and 4,000 student employees, UB is the region's 2nd largest employer. Offering 315 academic programs, the university has built an enrollment of more than 27,000 students. UB also draws more than 500,000 visitors annually to its sporting and special events, arts and cultural programs and commencement and other activities.

University operations, the living expenses of its employees and students, and the economic contributions of its visitor base represent more than a billion-dollar enterprise, even before these dollars reverberate through the local and state economy to leverage a grander total economic impact.

Yet even this number, large and significant as it is, captures only part of the university's impact. The University at Buffalo, like other major research centers around the nation and world, shapes a region in many difficult-to-quantify, but immensely valuable, ways.

Attracting increasing research dollars and generating hundreds of inventions, patents and start-up companies, UB is a center of innovation and the foundation for the region's competitive workforce. In a year, UB awards more than 6,700 academic degrees, representing a major supply of college-educated, trained workers for the regional economy.

The university's civic engagement programs, libraries and lectures, cultural offerings, recreational facilities and charitable activities demonstrate UB's integral role in regional quality of life. UB is the region's neighbor, as its faculty, staff and students reside across Western New York. The university also contributes to regional diversity, not only in ideas but in people. In the nation's top 10 for international enrollment, UB draws thousands to the region from across the world to enroll in its programs.

The edge UB provides to the Western New York region will grow sharper as the university implements its UB 2020 strategic plan to become one of the top research universities in the country. With plans to grow by as much as 40 percent in enrollment, staff and capital investments by 2020, the university will stimulate increased economic activity, foster significant job growth, generate more research funding and venture capital, and contribute to improved quality of life in the region.

This report, commissioned by the University at Buffalo and prepared by the UB Regional Institute, assesses the impact of UB on the region's economy and quality of life, now and as the university grows through 2020. **Element 1** reviews the quantitative economic and fiscal impacts of UB for the bi-county region and state; **Element 2** assesses the value of UB to the region's innovative edge, competitive workforce, community life, diversity and image; and **Element 3** considers how these impacts will change as UB implements its 2020 growth plan.

Scope & Methodology

Numerous underlying choices and assumptions reflecting best practices, requirements of economic impact modeling software and the availability of data shape economic impact analyses. Outlined below are several fundamental choices of project scope and methods employed in this study of the University at Buffalo. The **Appendix** reviews detailed assumptions for spending and growth projections.

Defining the University at Buffalo: For purposes of this study, the University at Buffalo is defined to include the University at Buffalo and all its operations (ranging from the Research Center on Addictions to the Jacobs Executive Development Center). Also included are those nonprofit entities whose missions are closely intertwined with the university. Some of these related entities collect revenues that support university expenditures, while others incur expenditures for programs and services that directly and solely support the university's mission and the UB community. These related entities are:

- *University at Buffalo Foundation, Inc.:* provides support services to the university through fundraising, grant management and other financial services
- *Research Foundation of the State of New York:* administers research revenues and expenditures sponsored by the federal, state or foreign governments for 30 SUNY locations including UB
- *Faculty-Student Association of the University at Buffalo:* provides support services to the campus community, including the operation of dining halls and shops, catering services, vending machines and campus ID cards
- *Clinical Practice Plans:* provide clinical instruction and supervision to UB medical students and interns through the provision of clinical services
- *Student Associations:* reflect numerous organizations on campus that represent a variety of UB student populations, including undergraduate, graduate, medical and dental students

Not captured by this study's economic impact assessment are the revenues and expenditures related to research projects involving UB faculty and scientists where these projects are fiscally administered by a UB research partner such as Kaleida Health, Roswell Park Cancer Institute, Hauptman-Woodward Medical Research Institute, VA hospital or CUBRC (Calspan-UB Research Center). This exclusion establishes a conservative scope for the economic impact findings of this analysis.

Geographic Scope: The economic impact analyses in Elements 1 and 3 assess the impacts of the University at Buffalo on the economies of New York State and a defined sub-region. For this study, the region is defined as Erie and Niagara counties to reflect the residential location of most university employees and students. Most local university expenditures also occur within this geographic boundary.

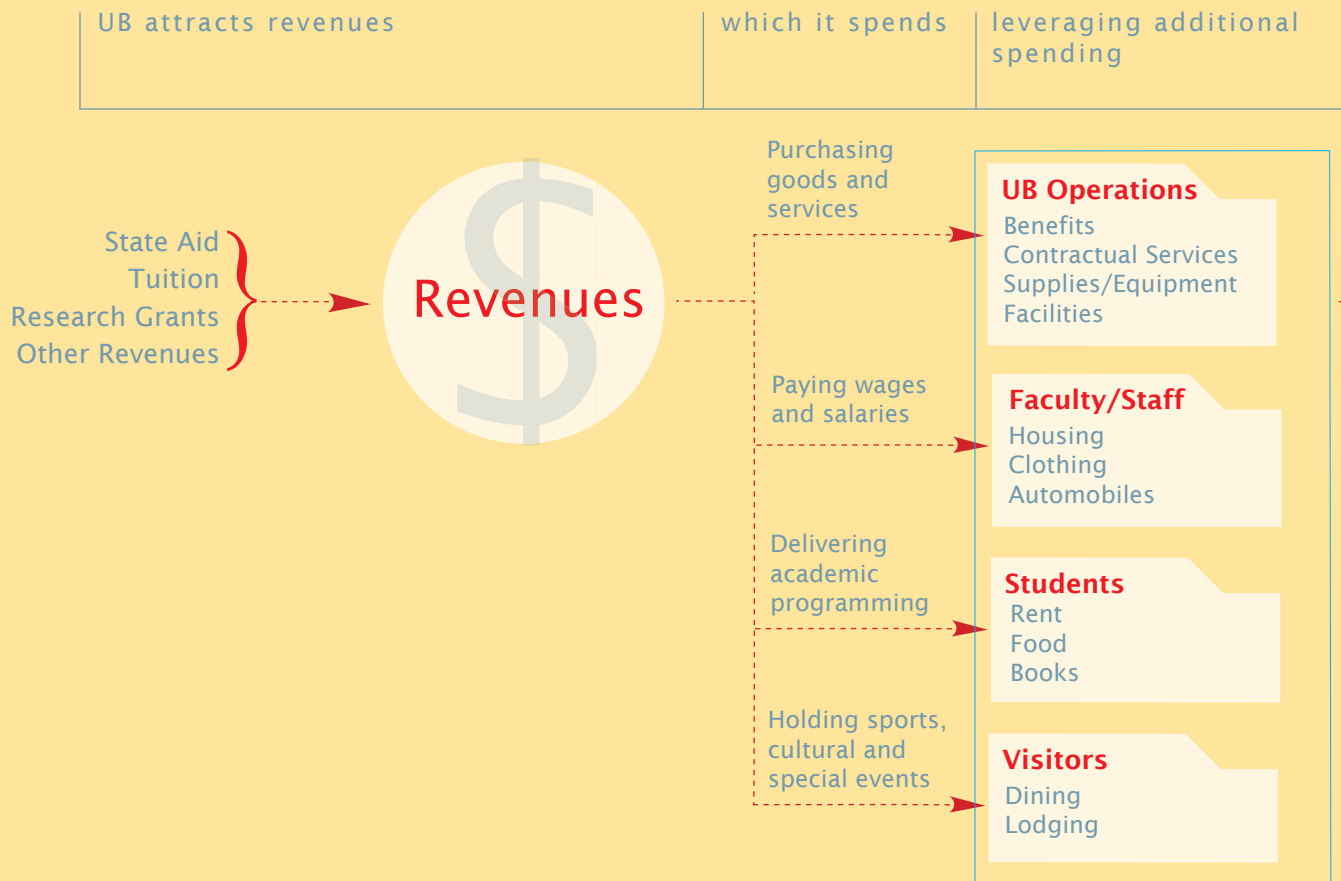
Timeframe: UB's current economic impact in Element 1 reflects data from fiscal year 2005-06, the latest complete fiscal year. Projected economic impacts evaluate university impacts at three time points: (i) 2011-12, (ii) 2015-16 and (iii) 2019-20. All economic impact numbers are expressed in 2006 dollars. Qualitative impacts in Element 2 rely on data from calendar year 2006.

Methods and Tools: Analyses in Elements 1 and 3 use IMPLAN (Impact Analysis for Planning) to estimate the economic impact of spending associated with UB. Developed by Minnesota-based IMPLAN Group, the program is one of the most widely used input-output models for calculating economic impacts. The model traces the flow of spending across 528 inter-related industrial sectors. In doing so, IMPLAN captures the multiplier effects of spending; that is, the ripple of transactions that occurs as dollars are spent and re-spent within a study area. IMPLAN relies on region-specific data to calculate direct and secondary impacts of spending.

The qualitative impact analysis of this study in Element 2 draws upon data collected through a random sample online survey of 250 UB faculty and professional staff soliciting information on their engagement in off-campus public and community service during the 2006 calendar year. The survey was conducted in February and March 2007, with 84 faculty and staff completing the survey. Other qualitative impact findings derive from personal interviews with UB academic deans or their representatives, and program data from the University at Buffalo Office of Institutional Analysis.

Element 1

The Difference a University Makes to the Economy



The Cycle of Economic Impact

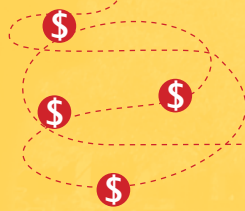
The basis for the University at Buffalo’s economic power is the revenues that flow into the university.

UB allocates these dollars to operate the university, pay wages and salaries to employees, build academic programming to draw students, and provide sports and cultural events to attract visitors. Faculty and staff, students and visitors then pump new dollars into the economy, which circulate through related industries to leverage additional economic activity and an impressive total economic impact.

and sending dollars into the economy to stimulate economic activity

Direct Spending

circulates and multiplies through the economy



Total Economic Impact

The Path of a Dollar

Direct Impacts

The university and its employees, students and visitors spend dollars directly on goods and services.

UB contracts with utility to provide heat and electricity

UB employee purchases clothing

Campus visitor buys lunch

Indirect Impacts

Direct expenditures maintain and create business and employment for related businesses which sell the goods and provide the services used by the university community.

Utility buys materials

Clothing store purchases inventory

Restaurant owner buys food

Induced Impacts

The employees of those businesses supporting the university spend their wages within the local economy to create even more economic activity and employment.

Utility worker pays for health care

Clothing store employee buys monthly groceries

Restaurant server pays rent

Revenues

The university's economic impact begins with the dollars it attracts. In 2005-06, revenues totaled \$1.1 billion from sources including research grants, tuition and fees and state aid (Fig. 1.1). These dollars are new to the Western New York economy—that is, they would not exist if not for the presence of the University at Buffalo.

Notably, although the University at Buffalo is a public state university, only slightly more than one-third of its budget comes from New York State, with most of these dollars used to lower tuition costs for students. After state aid, the university's research gifts, grants and contracts yield the largest share (20 percent) of UB revenues. Of the \$222 million in UB research income, more than half is awarded by the federal government. The university's medical, dental, legal and social services draw in \$164 million annually (15 percent of revenues) from the communities they serve. Tuition and fees, the main revenue source for many universities, represent a relatively small piece of UB income, at 14 percent of the total budget. UB also produces revenues from its investment strategies and auxiliary enterprises such as dining services and student housing.

Fig. 1.1

	Total Dollars in millions	% Total
NYS Appropriations	\$383	35%
Gifts, Grants & Contracts	\$222	20%
Clinical Revenues	\$164	15%
Tuition & Fees	\$150	14%
Auxiliary Enterprises	\$81	8%
Endowment/Investment Income	\$66	6%
Other Income	\$18	2%
Total	\$1,084	100%

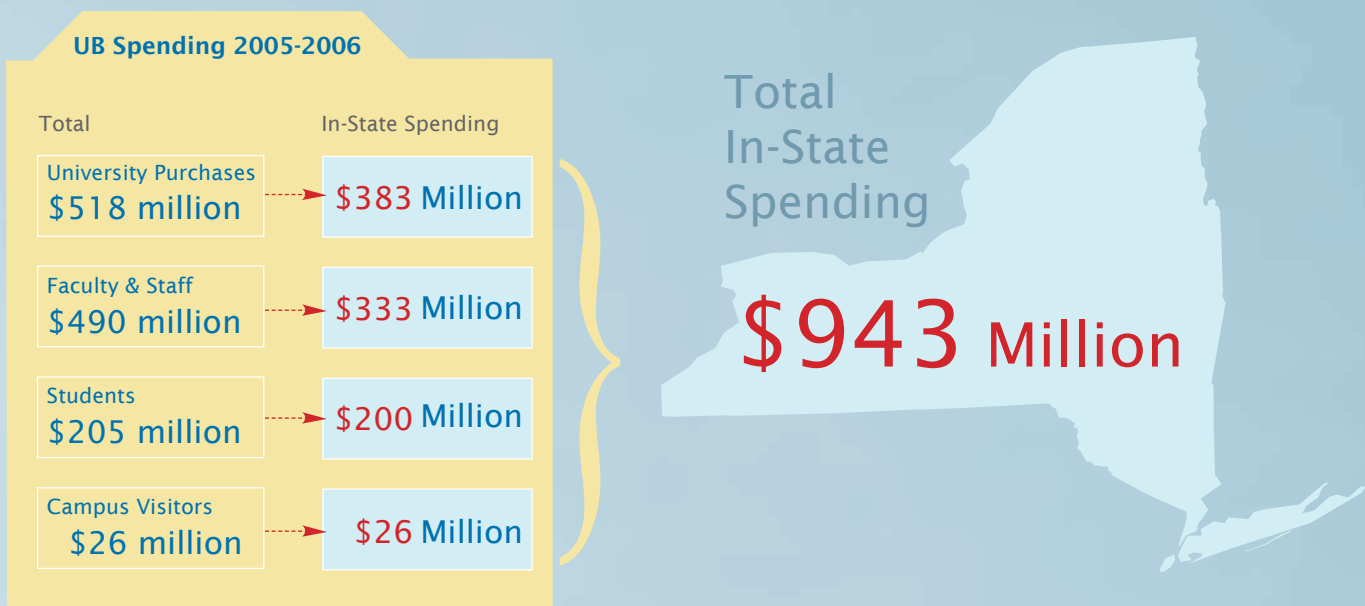


Spending

The power of UB as an economic generator is realized as the university pumps dollars into the economy, while leveraging additional spending by its employees and students and the visitors it draws to its campus (**Fig. 1.2**). UB-related spending totaled \$1.2 billion in 2005-06. A significant majority of this spending—**\$943 million**—remained within the New York State economy, while the remainder was directed to out-of-state suppliers and contractors.

While this report analyzes in-state and in-region impacts only, the \$297 million in UB-related spending on out-of-state goods and services reverberated through numerous other economies to generate additional economic activity throughout the nation and world.

Fig. 1.2



UB-related spending falls into four categories:

1 University Operations

The university itself pumps hundreds of millions into the economy to maintain its daily operations.

Fig. 1.3

UB Purchases (in millions)	
Employee Benefits	\$167
Contractual Services	\$86
New Capital Construction	\$55
Interest	\$50
Supplies	\$42
Other	\$32
Utilities	\$29
Equipment	\$21
Professional Fees	\$18
Travel	\$11
Library	\$2
Printing	\$1
Repairs/Maintenance	\$1
Telecommunications	\$1
Insurance	<\$1
Total	\$518 million

UB was the largest of the four sources of UB-related economic activity, with its 2005-06 operating expenditures totaling \$518 million (Fig. 1.3). University purchases include electricity, computers, paper, books and media, supplies and services. Three-quarters of the total, or \$383 million, was spent within New York State.

2 Faculty and Staff

The university's payment of salaries and benefits to nearly 8,500 faculty and staff (Fig. 1.4) represents important fuel for the economy, as these dollars are spent on houses and cars, food and clothes, medicine and taxes, and the myriad other goods and services people buy in daily life.

Faculty and staff salaries at UB are, on average, significantly higher than average salaries for the region and state (Fig. 1.5). These wage dollars, which totaled \$490 million before taxes, directly infused the state economy with \$333 million after-tax dollars.

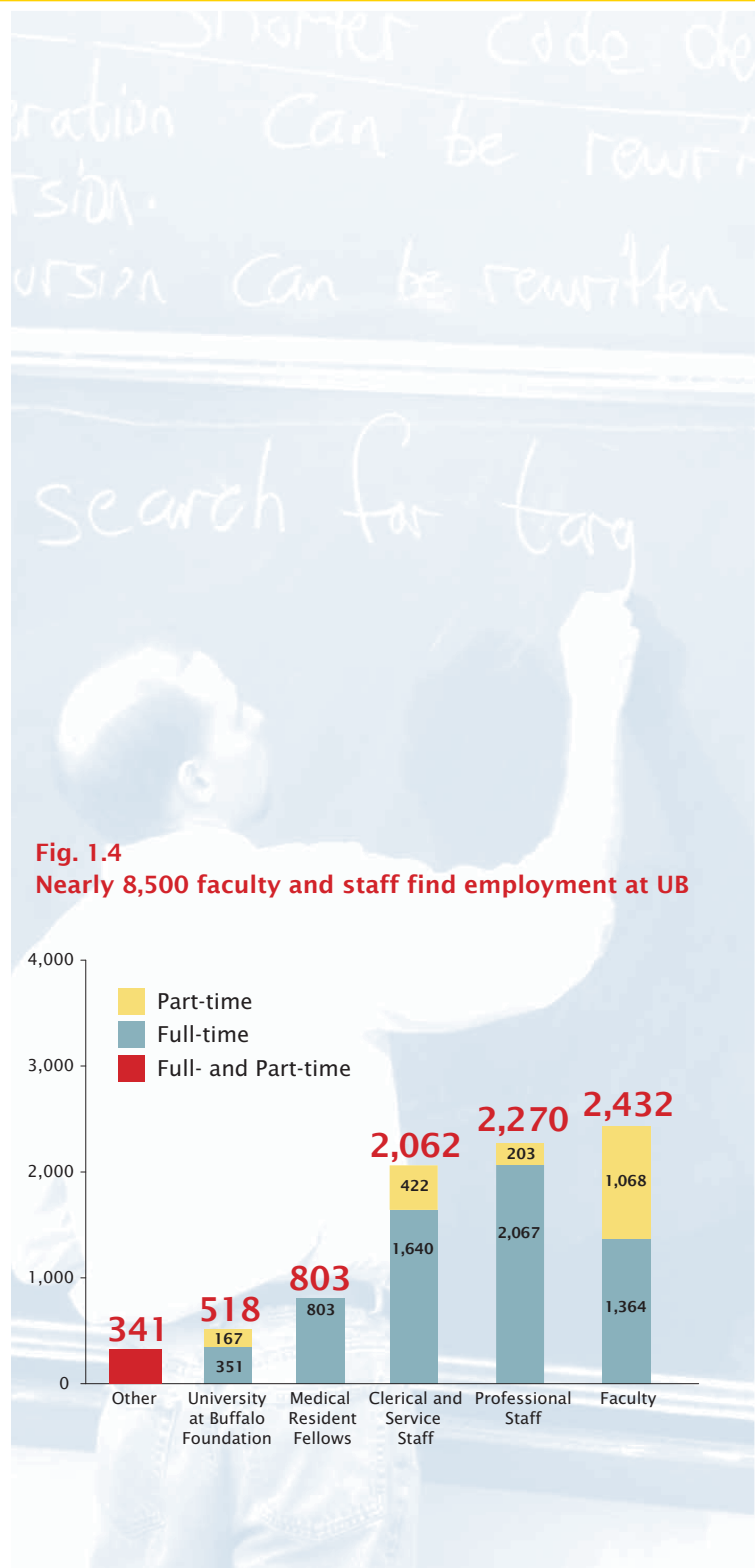


Fig. 1.4
Nearly 8,500 faculty and staff find employment at UB

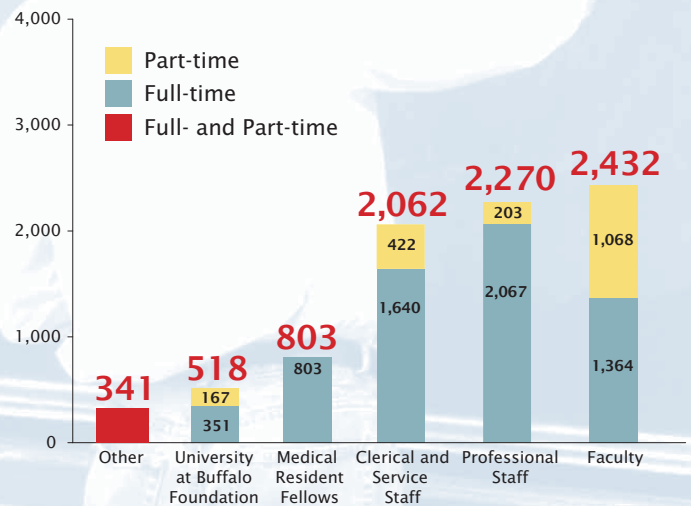


Fig. 1.5
Salaries Comparisons

Average Salaries, All Employees, 2005	Niagara County Residents	\$33,600
	Erie County Residents	\$35,600
	New York State Residents	\$51,900
Average Salaries, UB Employees, 2005-06	UB Clerical and Service Employees	\$32,300
	UB Professional Staff	\$59,200
	UB Faculty	\$91,000

3 Students

Off-campus spending by students on rent, books, laundry, gasoline, food and other living expenses provides another important source of university-related expenditures.

The University at Buffalo's 27,220 graduate, undergraduate and professional students (including the nearly 4,000 employed by UB) pumped **\$205 million** into the economy in 2005-06; \$200 million remained in New York State (Fig. 1.6).

UB students spend within the region nearly \$7,000 per student per year on books, supplies, housing, food, entertainment and other expenses.

Fig. 1.6

Student Purchases (off-campus)

Housing	\$76 million
Food/Dining	\$53 million
Transportation	\$27 million
Books/Supplies	\$26 million
Personal Items	\$22 million

Total \$205 million

Fig. 1.7

Campus Visitors

Visitors (rounded to nearest 1,000)	
Sporting Events	202,000
Special Events (Distinguished Speaker Series, Conferences)	105,000
Arts and Cultural Events	88,000
Guests of Students, Faculty and Decanal Units	82,000
Prospective Students and Guests	14,000
Commencement	21,000
Total	512,000

Visitors to UB

4 Campus Visitors

Finally, visitors attracted to the university campus for cultural performances, lectures, football games, graduation ceremonies, faculty networking and job interviews make off-campus purchases on hotels, restaurants, additional entertainment, taxicabs, souvenirs and more.

Visitors to the UB campus in 2005-06 totaled 512,000.

Most attended campus events; others came as guests, prospective students or to participate in commencement activities (Fig. 1.7).

Visitor spending on off-campus

entertainment, dining, shopping, transportation and accommodations totaled **\$26 million**.

Overnight Visitation
UB estimates that 22 percent of UB visitors spend the night in the region.

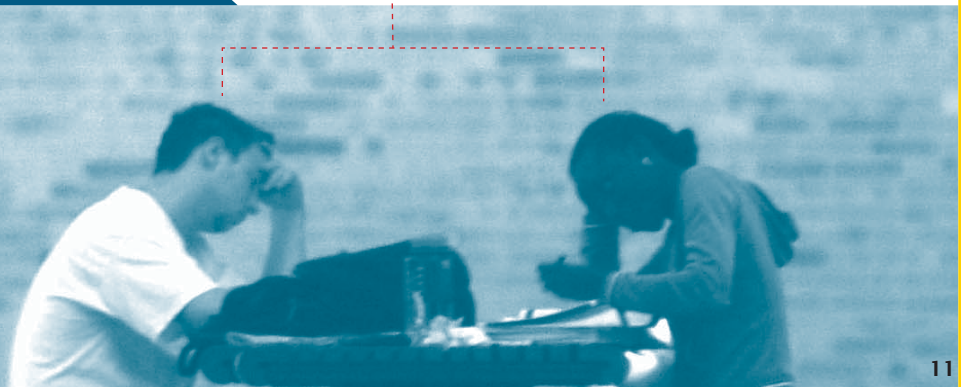
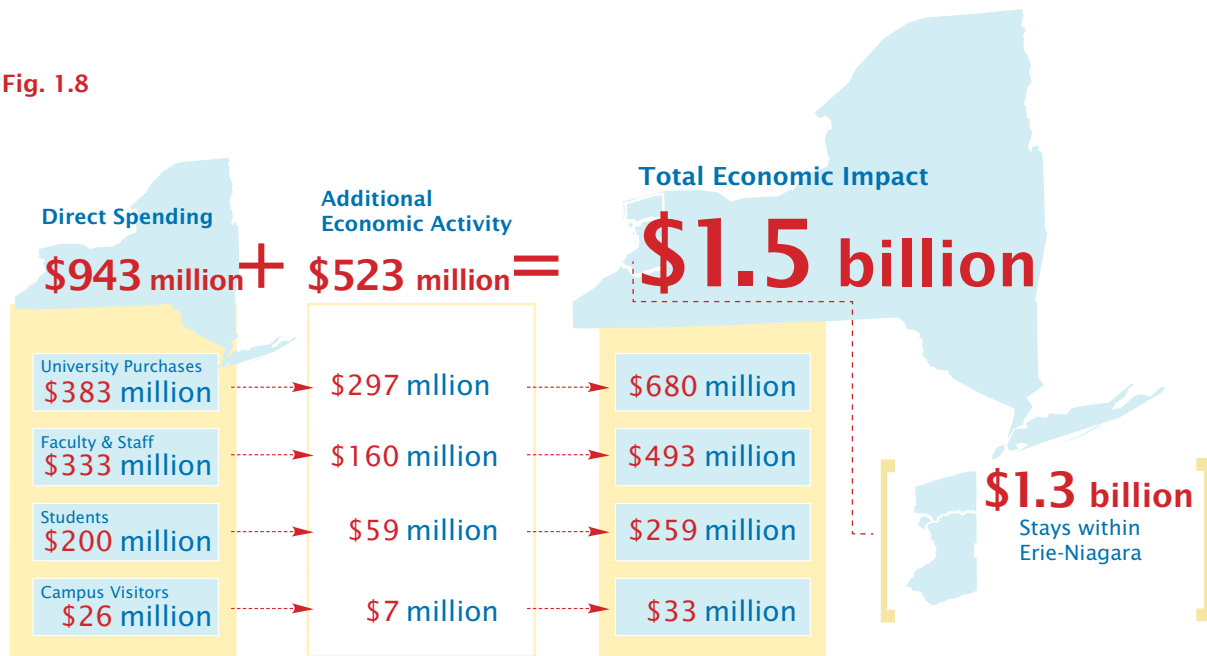


Fig. 1.8



Economic Impact

Dollars spent for university operations and by its faculty, staff, students and visitors ripple through the local and state economy to support additional economic activity and employment in related industries such as utilities, travel and transportation, printing and publishing and hospitality. These indirect and induced impacts accumulated in the 2005-06 academic year to yield a **total economic impact of \$1.5 billion (Fig. 1.8)**.

Each of the four sources of UB-related spending is a unique component of the UB economic engine.

- The \$383 million in university spending leveraged \$297 million in additional impacts to yield a **\$680 million** statewide impact.
- The \$333 million spent by UB faculty and staff traveled throughout the economy to related industries, spinning off another \$160 million in additional impacts for a total impact of **\$493 million** across New York State.
- After UB students spent \$200 million, these dollars circulated through related industries

to leverage \$59 million in additional impacts, bringing their total economic contribution to **\$259 million** statewide.

- Visitor spending of \$26 million leveraged \$7 million in additional impacts for a total statewide impact of **\$33 million**.

More than 85 percent of UB's \$1.5 billion statewide economic impact, or **\$1.3 billion**, remained within the bi-county region, where most UB spending occurs. For comparison, UB's annual impact is larger than the total of the region's tourism industry (\$1.1 billion according to a recent statewide study of the industry by Oxford Economics).

UB also generates economic activity outside New York State. In 2005-06, university-related spending on services on out-of-state goods and services totaled \$297 million, which reverberated through myriad other economies to general additional impacts.

20,200 Full-time jobs both directly provided and leveraged by UB in Erie and Niagara counties

Spinoff Impacts

Beyond the immediate infusion of dollars into the regional and state economies, UB generates spinoff impacts through jobs and tax revenues for the bi-county region and New York State, with only modest offsets from UB’s status as a public-sector institution.

UB economic activity **supported more than 11,700 full-time jobs** in the bi-county region over and above the approximately 8,500 faculty and staff directly employed by UB.

The public sector garners direct tax revenues from university-related activity (Fig. 1.9).

The Big Picture: Employment Return
Each faculty and staff job at UB supports another 1.4 jobs across the region, for a total impact of 2.4 jobs provided or supported for every one job at UB.

Fig. 1.9

Public Sector Tax Impacts		
	NYS	Erie and Niagara Counties
Sales Tax	\$12 M	\$12 M
Income Tax	\$25 M	n/a
Property Tax	n/a	\$20 M
Total	\$37 M	\$32 M

= \$69 M

In 2005-06, an estimated **\$37 million** in income and sales taxes were generated for New York State from UB and its employees. Within the bi-county region, **\$20 million** accrued directly to local governments in property taxes paid by the estimated 4,800 faculty and staff who are regional homeowners. Local sales taxes paid by UB employees, students and visitors totaled an estimated **\$12 million**.

As a public institution, the University at Buffalo, like other government entities, is exempt from most property taxes (it paid about \$650,000 to the

Town of Amherst in 2005-06, mostly for stormwater and sewer services). If UB’s nearly 1,400 total acres of property in the region were fully developed by private sources rather than by UB—a generous assumption—there would be an estimated \$14.0 million in additional revenues for public sector agencies.

Partially offsetting these community benefits was an estimated \$14.0 million in net property taxes foregone on the nearly 1,400 acres of tax-exempt land owned by UB.

Return on Investment

UB leverages an impressive return on investment, both in general and specifically for New York State government. The \$943 million in UB-related, in-state spending that generated a \$1.5 billion total impact translates into \$1.60 of economic activity generated for every UB-related dollar spent. The state’s net investment in 2005-06 of \$346 million dollars (\$383 million state appropriation minus \$37 million returned in taxes) realized a \$1.4 billion economic impact, representing **\$4 in economic activity returned for every \$1 of net state support provided to the university**.

In sum, the University at Buffalo is an important, robust component of the regional economy. UB attracts new revenues to the regional economy and, as it sustains operations, builds academic programs and supports athletic, cultural and other activities, prompts a powerful pattern of spending and impacts. As recurring economic activity, the region can count on the injection of these dollars into the economy year after year.

The Big Picture: Returns on Investment
Every \$1 in net state support to UB generated \$4 in economic activity for the region and state.

Element 2

The Difference a University Makes
to Regional Competitiveness



The Region's Economic Context

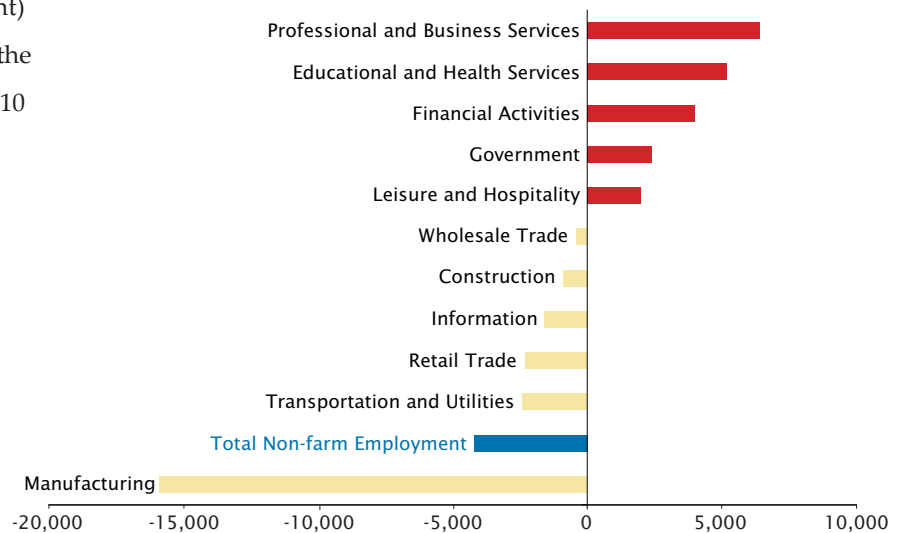
As Element 1 documents, large, comprehensive research universities like UB have a considerable financial impact on regional and state economies through their day-to-day operations. Their impact does not end there, however. Increasingly, universities have a broad and essential economic function to provide many of the key resources that ultimately determine the competitive positions of regions in the knowledge-based economy.

In Buffalo Niagara, the transition to this new economy from one long-dominated by manufacturing has been prolonged and often difficult, with significant implications for the role of a research university. In 1970, shortly after UB became a public institution, nearly one of every three non-farm jobs in the region (30 percent) was in the manufacturing sector. By 2006, the sector's share had dwindled to only one in 10 jobs (11 percent).

The loss of factory work in the region has occurred alongside growth in other sectors, many of which require a higher level of education from their workers. Between 2001 and 2006, as the manufacturing sector shed almost 16,000 jobs, thousands were added in other sectors, including professional and business services, education and health services, and financial activities (Fig. 2.1). The growth in sectors requiring higher skills reflects the ongoing evolution of the region's economy and a notable rise in its educated workforce: in 1970, one in 10 adults (9.6 percent) had completed at least four years of college, compared to one in four (25.1 percent) in 2005.

More and more, universities are playing prominent roles—both direct and indirect—in efforts to spur and sustain development in the growing sectors of the new economy.

Fig. 2.1
Employment Changes in Buffalo Niagara, by Industry, 2001-2006



UB has been an important part of the region's educational gains and economic restructuring in recent years. Along with promoting innovation and workforce development, UB contributes to less tangible factors that make regions competitive today, such as community life, diversity and the region's image. These contributions are detailed in this element of the study.

Innovation

In the knowledge-based economy, where the speed of technological change requires a constant churning of new ideas and applications for those ideas, innovation is critical to the survival of firms and the resilience of regions. Naturally, research-intensive universities are key sources of innovation in their host communities. They attract and retain creative people, generate new ideas and help cultivate an entrepreneurial environment.

In Buffalo Niagara, with its long history of innovation from the grain elevator to the cardiac pacemaker, UB has become an innovation hub. Expenditures on research and development in the science and engineering fields have grown steadily in recent years, reaching \$267 million in 2005 (Fig. 2.2), including affiliated research activities at Roswell Park, Hauptman-Woodward and area hospitals. Most of the funding for these activities (\$151 million, or 57 percent) comes from federal research grants, and most of that funding (\$109 million, or 72 percent) goes toward research in the life sciences, an emerging economic niche in the region.

Fig. 2.2
Research & Development Expenditures in Science and Engineering, by source of funding, 2001-2005

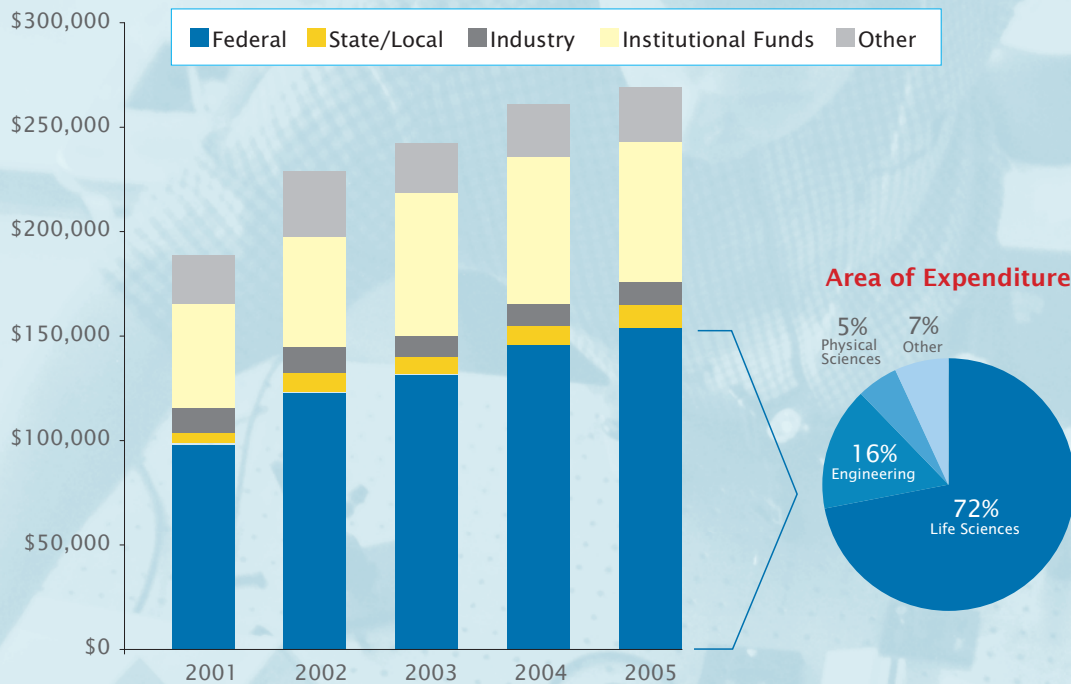


Fig. 2.3

UB Technology Transfer Metrics

5-year Total
01-02 through 05-06

New Technology Disclosures	385
New Patent Applications Filed	177
U.S. Patent Issued	61
Licenses and Options Executed	53
Start Up Companies: University-Generated Intellectual Property	14

Fees and Royalties	\$1,316,000
Patent Reimbursement	\$ 796,000
Total Revenues	\$2,112,000

Research spending that now annually exceeds a quarter of a billion dollars yields tangible results in the form of new ideas and economic activity. In the past five years, UB researchers disclosed 385 new technologies and received 61 patents from the U.S. Patent and Trademark Office, with fees, royalties and patent reimbursements to the university totaling \$2.1 million (Fig. 2.3). During the same period, the university spawned 14 spinoff companies using UB intellectual property.

Helping these and other new companies off the ground has been the mission of UB's Technology Incubator, a complex adjacent to the North Campus that provides companies with affordable office and laboratory space, administrative support and business assistance. The 63 graduate firms and the 32 current users have created over 1,000 jobs in the region since 1988 and have annual revenues in excess of \$60 million (Fig. 2.4). The Center of Excellence in Bioinformatics and Life Sciences in downtown Buffalo is also cultivating business in the region, including the March 2007 decision by Medcotek, a North Carolina medical technology firm, to relocate to the center.

Fig. 2.4

UB Technology Incubator, March 2007

100% Occupancy Rate

32 { 25 Tenants
7 Off-Site Affiliates

63 Companies Graduated

1,000+ Aggregate Local Employment
(tenants + graduates)

\$60 Million Aggregate Local Revenues
(tenants + graduates)

Competitive Workforce

In the past, raw materials like grains and iron ore and the mills that processed them were foundations of the Buffalo Niagara economy. In the knowledge-based economy, human capital is the most critical resource. Companies require a skilled workforce to compete in national and global markets, while hospitals, schools and other institutions need skilled workers to provide high-quality services. As Buffalo Niagara’s largest and most comprehensive center of higher learning, UB furnishes the region with professionals ready to work in a wide variety of sectors.

Fig. 2.6
Science & Engineering degrees as a share of all degrees conferred

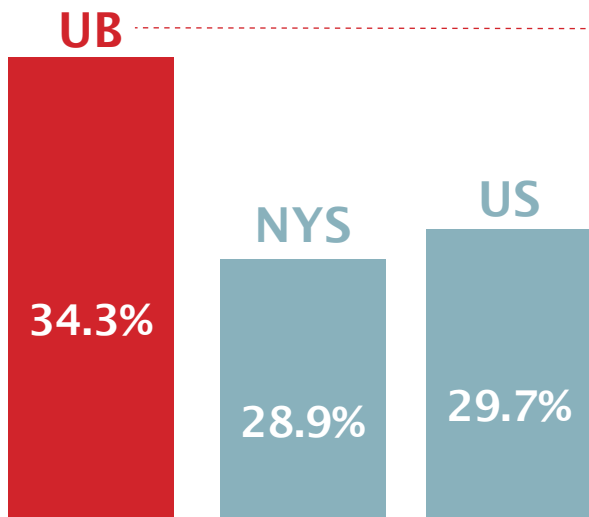


Fig. 2.5

6,774 Degrees granted, 2005-06

- 207 Architecture & Planning
- 2,415 Arts & Sciences
- 94 Dental Medicine
- 464 Education
- 835 Engineering & Applied Science
- 458 Informatics
- 252 Law
- 914 Management
- 308 Medicine & Biomedical Sciences
- 178 Nursing
- 129 Pharmacy
- 207 Public Health & Health Professions
- 258 Social Work
- 55 Other Degrees

Fig. 2.7

Ranking of Metros by Science & Engineering Graduate Students per 100,000 Residents

- Boston
- Hartford
- Providence
- Buffalo—Tied for 4th-place ranking**
- Albany
- Rochester
- Denver
- Chicago
- New York
- Salt Lake City

UB Impact on Health Care Delivery

Through education, research and clinical practice, UB’s School of Medicine and Biomedical Sciences benefits health care delivery in the region in invaluable ways.

- 69** medical, dental and fellowship training programs
- 450** UBMD physicians training next-generation physicians while serving over 100,000 patients per year
- 751** residents and fellows enrolled in training at 10 affiliated hospitals, community-based clinics and physician offices
- 4,479** volunteer hours donated by UB medical school students at four clinics across the region that serve thousands of patients annually, including homeless women and children, refugees and the uninsured

Millard Fillmore College (MFC) and the Educational Opportunity Center (EOC) focus on upgrading the skills of non-traditional students and retraining workers for careers in the new economy. In 2005-06, MFC enrolled 1,533 students and issued 109 certificates in programs ranging from international trade to health care administration. EOC offers vocational and remedial education programs. It is slated for a \$26 million facility in downtown Buffalo in a few years.

During the 2005-06 academic year, UB granted almost 6,800 degrees, from bachelor’s to PhDs (Fig. 2.5). Fully 45 percent of those degrees were granted at the graduate level, offering the region nearly 3,000 individuals with advanced training in fields such as nursing, pharmacy and engineering.

In minting science and engineering degrees, critical areas in the new economy, UB is ahead of state and national averages. Just over one-third of all degrees granted at UB are in those fields, compared to fewer than 30 percent nationwide (Fig. 2.6). This places Buffalo Niagara 4th among large U.S. metropolitan areas in the number of science and engineering graduate students per capita (Fig. 2.7).

In addition to issuing new degrees, UB has a major role in maintaining workforce skills through continuing education. In 2005-06, almost 40,500 people engaged in non-credit vocational and professional training through UB, including 8,300 from business and industry (Fig. 2.8). The schools with the most active non-credit professional programs included Medicine, Law, Dental Medicine, Engineering, Social Work and Pharmacy, each of which trained more than 1,000 individuals.

Fig. 2.8 UB Continuing Education Activities 2005-2006

Persons registered in non-credit professional training activities	40,498
Select Schools:	
Medicine	22,920
Dental Medicine	6,303
Engineering	3,500
Social Work	2,985
Pharmacy	1,046
Management	990
Law	354
Persons from business and industry	8,317

UB also adds to the region’s workforce by sending its students into the field to assist their host organizations and learn valuable skills. These experiences range from the 751 residents and fellows at the School of Medicine and Biomedical Sciences—25 percent of whom are placed at community-based sites—to the 93 engineering co-ops at local companies and 62 student teachers at schools throughout the region (Fig. 2.9).

Fig. 2.9 “In-the-Field” Learning from Select UB Units, 2006-07

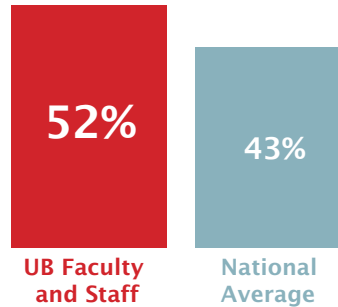
Medicine	751 residents
Social Work	396 field placements
Education	206 clinical interns, 62 student teachers
Management	203 interns
Public Health	169 clinical interns
Engineering	54 interns, 93 co-ops
Nursing	70 interns

Community Life

From the completion of the Erie Canal in 1825 until well into the 20th century, the Buffalo Niagara region thrived on its strategic location. Superior water and rail connections, and eventually hydroelectricity, provided the region with significant advantages over others. Technological advancements have largely leveled the geographic playing field, diminishing these past advantages. Today even isolated locations can tap into the digital infrastructure of the knowledge-based economy. Now that location is a far more flexible matter, the competition for talented individuals and businesses often boils down to quality-of-life and livability issues. Businesses want to be in places where their workers want to be.

Universities are major contributors to quality of life in their host communities. With 8,100 employees residing in Erie and Niagara counties, UB has a considerable daily presence in neighborhoods throughout the region. In a random sample survey of UB faculty and professional staff, 52 percent reported engaging in off-campus community service activities in 2006, from churches to local school boards. This exceeds the 43 percent

Fig. 2.10
Engagement in Community Service



national average for volunteerism among college graduates (Fig. 2.10). In addition, the 2006 State

84% of the senior class at UB volunteered while at UB
36% of the senior class volunteered 'often or very often'

Fig. 2.11

UB Amenities

455,000 community visitors
at UB events in 2006

May 2006	MS Walk, 1,500
June 2006	Ride for Roswell, 2,850
July 2006	Amherst July 4th Celebration, 40,000
Sep 2006	Dalai Lama, 18,000
Oct 2006	Beyond the Bachelor Degree seminar, 400

6,600 books borrowed by
community guests

1,200 recreation passes sold to
local residents

SEFA

\$911,981 raised in 2006

83% stayed in Erie-Niagara

Employees Federated Appeal raised \$911,000 from UB employees, with 83 percent going to charities and organizations in Buffalo Niagara. Among UB seniors, 36 percent volunteered often or very often during their time at UB, while 84 percent had volunteered at some point in their college careers, according to a spring 2007 survey.

In addition to the personal efforts of employees and students, UB also contributes to quality of life in the region by offering amenities to the community. In 2006, 455,000 community members, not including UB employees or students, attended special events at UB, from football games and art galleries, to the Distinguished Speaker Series and charity events (Fig. 2.11). Also, 6,600 books were borrowed from UB libraries by community guests in 2006, and almost 1,200 local residents purchased recreation permits to use UB athletic facilities.

Diversity

In a globalized economy, open-mindedness to all varieties of people and cultures is an important quality-of-life factor and a contributor to regional economic competitiveness. Talented workers who can choose their location want to live and work in places where they feel welcome and diversity is celebrated.

With a major international presence in its student-body and faculty, UB is one of the strongest agents for diversity in the region. In fall 2006, 3,640 international students were enrolled at UB, giving it the 10th highest international enrollment of all

colleges and universities in the U.S. (in terms of total international students) (Fig. 2.12). Most of these students hail from the burgeoning economies of southern and eastern Asia, including India, South Korea, China and Singapore (Fig. 2.13).

UB's Study Abroad program aids this international exchange, sending 472 undergraduates to study at foreign universities in 2005-06.

The university's international character extends to its faculty. In 2005, 17 percent of UB faculty were nonresident aliens, compared to 2 percent of the region's total population (Fig. 2.14).

Fig. 2.12 International Enrollment

Term	Enrolled	% of Total Enrollment	National Ranking
Fall 2003	3,463	12.7%	17
Fall 2004	3,315	12.2%	15
Fall 2005	3,314	12.2%	11
Fall 2006	3,640	13.1%	10

Fig. 2.13 Top 10 Senders of International Students Fall 2006

Students	Country
849	India
547	South Korea
494	China
312	Singapore
251	Taiwan
199	Canada
194	Japan
128	Malaysia
55	Turkey
54	Indonesia

Fig. 2.14 Faculty Diversity, 2005-06

	% Minority	% Nonresident Aliens
UB Faculty	18.3%	17.0%
Buffalo Niagara Residents	18.0%	2.0%

Fig. 2.15

UB in the News, 2006

400-plus stories reported by national and global media outlets

1,900-plus stories generated by wire service coverage

Earthquakes in Buffalo?

In November 2006, a two-story house was rattled by a 6.7 magnitude earthquake at UB’s Structural Engineering and Earthquake Simulation Laboratory. As the largest wooden building ever tested by an earthquake simulator, the event attracted national media attention from *USA Today*, *The New York Times*, *Los Angeles Times*, National Public Radio and numerous smaller outlets.

Diversity in Athletics

With the hiring of Turner Gill to lead the football program, UB became the first NCAA Division I school in history to have African-Americans occupying the posts of athletics director, men’s basketball coach, and head football coach, simultaneously. *USA Today* first reported the story to a national audience in February 2006, while an Associated Press story in August 2006 was carried by *The Los Angeles Times*, MSNBC and ESPN.com.

Fig. 2.16

UB Alumni Chapters

Location	Alumni Served
Atlanta	2,078
Baltimore	1,547
Boston	2,083
Charlotte	1,013
Chicago	1,828
Cleveland	1,232
D.C.	5,100
Dallas	1,058
Detroit	1,298
Houston	1,055
New Jersey	1,890
NYC and Long Island	16,380
Philadelphia	1,935
Phoenix	1,342
Raleigh-Durham	1,269
Rochester	12,008
San Diego	1,037
San Francisco	2,987
Seattle	1,113
Tampa Bay	1,421

Regional Image

With the heavy international presence at its campuses, UB plays an important role in expanding the global awareness of Buffalo Niagara. For many overseas, the first time they hear of Buffalo is when they hear about UB. This association helps to cultivate an international image of Buffalo Niagara as a region that is plugged into the knowledge-based economy. Closer to home, UB’s national profile assists efforts to re-brand the region from a snowy factory town to a center for innovation.

More and more, UB is burnishing the region’s image through the general media. In 2006, over 400 original stories on people and research at UB were reported by national and global media outlets, a number that swells to over 1,900 when wire service coverage is included (Fig. 2.15). One of the most widely reported stories in 2006 was a November earthquake simulation at UB’s Structural Engineering and Earthquake Simulation Laboratory. The event was covered by national newspapers, including *The New York Times* and *USA Today*, as well as National Public Radio. Similar coverage surrounded the hiring of Turner Gill as head football coach, which shined a spotlight on the diversity of UB’s Athletics Department.

Another major source of national and international awareness that UB provides the region comes through its graduates. With alumni chapters around the country and around the world, UB alumni are important ambassadors for Buffalo Niagara (Fig. 2.16).

The Difference a University Makes

a Sampling of Contributions to Regional Competitiveness, Unit by Unit

Regional Impact

Element 2

Architecture & Planning

Studios and workshops seek solutions to a variety of planning and design issues in the region, including the award-winning **Small Built Works** studio that produces small but innovative civic improvements.

Contributing to the quality of the built environment are research centers such as the **Urban Design Project**, which played a leading role in the development of The Queen City Hub, Buffalo's downtown master plan.

Arts & Sciences

Creative arts programs enliven the cultural scene with live performances and gallery exhibitions, and a new **Arts Management program** that trains innovative leaders for the region's cultural institutions.

Natural and social science programs contribute to regional priorities through outreach on neighborhood environmental issues, research on the binational economy and a new B.S. in Bioinformatics.

Dental Medicine

Dental clinics attract 48,000 patient visits per year to UB, with another 72,000 visits to affiliated clinics throughout the region. These uncompensated or subsidized services are valued at \$6.1 million annually.

"**UB the Dentist**" program reaches out to high school students in underserved areas, encouraging them to consider careers in oral health care through hands-on experiences and career mentoring.

Education

The Leadership Initiative for Tomorrow's Schools (LIFTS) identifies and supports future leaders in the region's schools and includes 20 current administrators in the Buffalo Public Schools among its graduates.

Research in curriculum and policy development supports innovation at area schools. This includes the **Bioinformatics High School**, an effort to develop a bioinformatics program at Buffalo's East High School.

Engineering & Applied Sciences

The Center for Industrial Effectiveness uses UB's technical resources to find engineering solutions for local companies. Last year, 55 companies contracted with the center for design reviews, product testing and other services.

Buffalo-Area Engineering Awareness for Minorities (BEAM) cultivates minority and female involvement in engineering through its Saturday Academies and Summer Institutes for middle and high school students.

Law

Over the past 20 years, the **Affordable Housing Clinic** has identified and leveraged \$165 million in development funding for 2,000 units of affordable housing in the region.

In partnership with the region's Economic Self-Sufficiency Coalition, the Community Economic Development Clinic operates the **Free Tax Preparation Network** to serve low-income residents in the Buffalo area.

Management

The **Center for Entrepreneurial Leadership** provides training to build the talents of local business owners. Over 600 owners—representing 20,000 local jobs and \$2.5 billion in revenues—have participated in CEL’s Core Program.

In the past four year, over 60 teams have vied for the top prizes in the **Panasci Technology Entrepreneurship Competition**, with eight of those teams creating businesses that are still in operation.

Medicine & Biomedical Sciences

The **Mini Med School** provides the community with lectures by the school’s top teachers and researchers. The four sessions in fall 2006 averaged 156 attendees, ranging in subject from coronary disease to sleep apnea.

At the **Lighthouse Free Clinic** on Buffalo’s East Side, 100 students provide health services to 1,500 patients every year. Similar services are provided through the school’s **Refugee Health and Cultural Awareness Program**.

Nursing

A partnership with the Catholic Health System and Kaleida Health provides community health screenings and flu shots, with 129 students providing **services to 1,500 community members** in 2006.

To stem the nursing shortage, students and faculty participate in efforts to interest young people in the nursing profession, including **attendance at career fairs** at Buffalo Public and other local schools.

Pharmacy & Pharmaceutical Sciences

As part of their training, students participate in **wellness clinics** that provide blood pressure screenings, blood testing and important health information to residents in underserved communities.

Bolstering the region’s reputation in the life sciences with its high ranking among the nation’s pharmacy schools, the School will be moving into state-of-the-art space in **Acheson Hall** on UB’s South Campus in 2010.

Public Health & Health Professions

With state funding to promote worker health and lower health care costs, the **Western New York Worksite Wellness Program** has completed health risk assessments for 3,000 employees at 13 organizations in the region.

Through the Western New York Public Health Alliance, the **school assists public health agencies** by providing technical guidance on regional projects and the formation of public health policy.

Social Work

Nearly **400 students provided services** at over 250 field locations in the region and statewide in 2006-07, including schools, addiction treatment centers and hospice programs.

Girard Place, a volunteer program of the School, provides transitional housing for single parent families on Buffalo’s East Side, assisting residents in their searches for jobs, education, healthcare and other needs.

Element 3

The Difference a University Makes as it Grows

By 2020, the University at Buffalo expects to have achieved status as one of the top research universities in the country. Toward that end, UB will pursue an aggressive and strategic plan to grow.

In implementing its strategic growth plan, UB will hire more faculty and staff, draw additional students, and spend more on physical and intellectual capital through new construction and renovation projects, and investment in research and faculty resources. Augmented programming for special events and cultural and athletic activities will draw additional visitors to the university.

The impact of this investment, to be made over the next dozen years, will be tangible and impressive, yielding significant economic gains for the region and state. More students equal more academic degrees, and thus a larger pool of skilled, educated labor to fuel the region's knowledge-driven economy. UB investment in research will result in more inventions, patents and start-up ventures, strengthening the university's role as a regional center of innovation. A larger UB will also enhance the region's quality of life by offering more educational, cultural and recreational resources and programming to the public, and by having a greater presence in the community.



Growth in Revenues

The foundation of the university’s economic impact—its revenue base—will grow by over \$800 million by 2020. As an elite public research institution, UB will attract the bulk of these additional revenues from sponsored research grants and other gifts, grants and contracts. Other significant revenue boosts will stem from tuition, new state appropriations and income generated by endowments, clinical services and auxiliary programs (Fig. 3.1).

Growth in Spending

A larger university with a larger revenue base will yield additional direct and university-related spending. By 2020, UB operating expenditures and spending by university employees, students and visitors are projected to grow by \$911 million, of which nearly 80 percent, or \$698 million, will remain in New York State (Fig. 3.2). This represents a 77 percent increase from 2005-06 spending levels.

*Note:
For purposes of comparison, all future dollars are reported in 2006 dollars.*

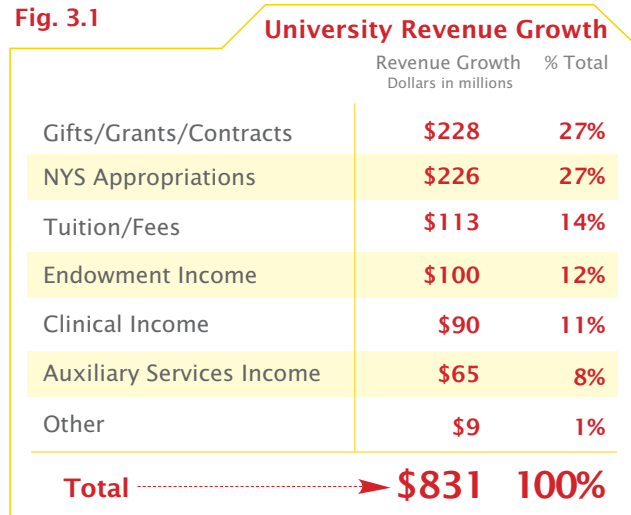
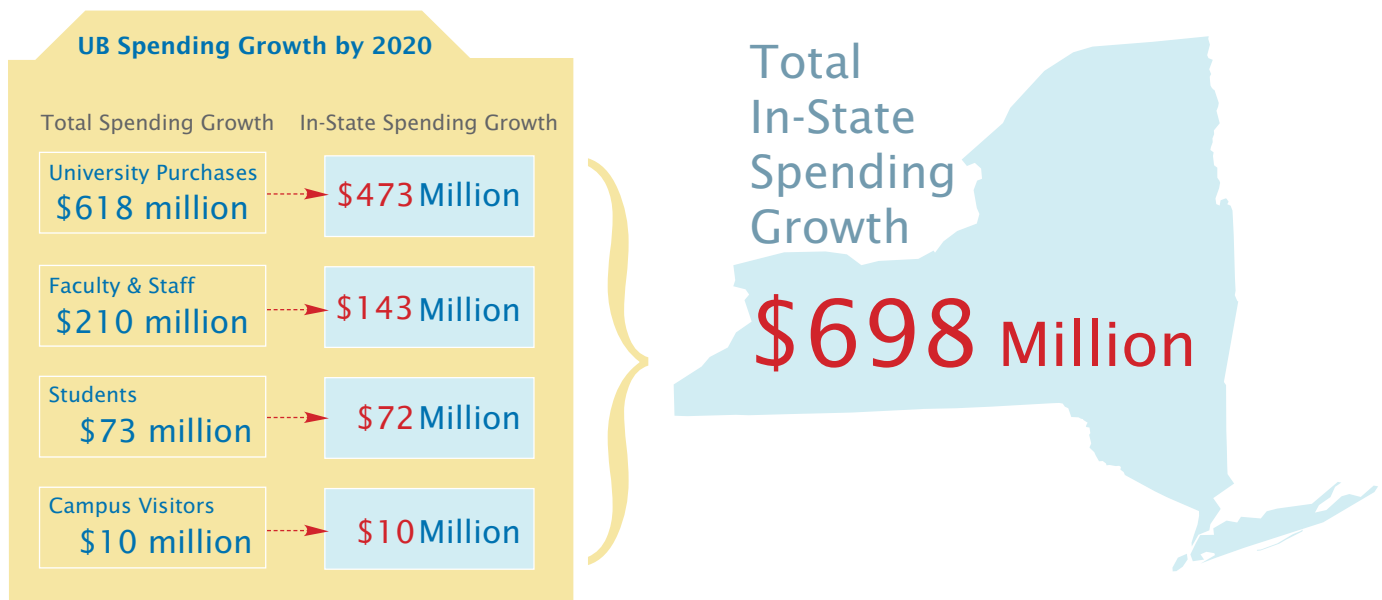


Fig. 3.2



New economic impact by 2020 starts with projected increases in the four categories of university-related spending:

1 Expanded Operations

The university itself will dominate UB growth-related spending as it pumps new dollars into research, operating expenses and scholarships for students and benefits for employees. By 2020, UB will spend an additional **\$618 million** annually on its daily operations, of which approximately **\$473 million** will remain within New York State. About one-quarter of the spending increase will accrue from higher investments in research (Fig. 3.3).

Fig. 3.3
UB Spending Growth by 2020

Research	\$163 M
Scholarship/Stipends	\$108 M
Employee Benefits	\$66 M
Other than Personnel/ Temp Services	\$281 M
<hr/>	
Total Spending Growth	+\$618 M
<hr/>	
Spending Growth in NYS +\$473 M	

2 New Faculty and Staff

UB will pay an additional **\$210 million** in gross wages to 1,000 new faculty, 1,920 new staff and additional faculty employees. After taxes and out-of-state purchases, approximately two-thirds of total wages, or **\$143 million**, will be spent in New York State (Fig. 3.4).

Fig. 3.4
Faculty and Wage Growth by 2020

1,000 new faculty @ \$100,000	\$100 M
Add'l geographic full-time faculty	\$14 M
1,920 new staff @ \$50,000	\$96 M
<hr/>	
Total Wage Growth	+\$210 M
<hr/>	
Spending Growth in NYS +\$143 M	

3 Additional Students

With 10,000 more UB students paying rent, purchasing food, books and supplies and engaging in entertainment, student spending will grow by **\$73 million**, with nearly all, or **\$72 million**, spent in New York State (Fig. 3.5).

Fig. 3.5
Student Spending Growth by 2020

10,000 New Students	
X \$7,300	Spending per student for off-campus housing, food, supplies, other
<hr/>	
+\$73 M	Total Spending Growth
<hr/>	
+\$72 M	Spending Growth in NYS

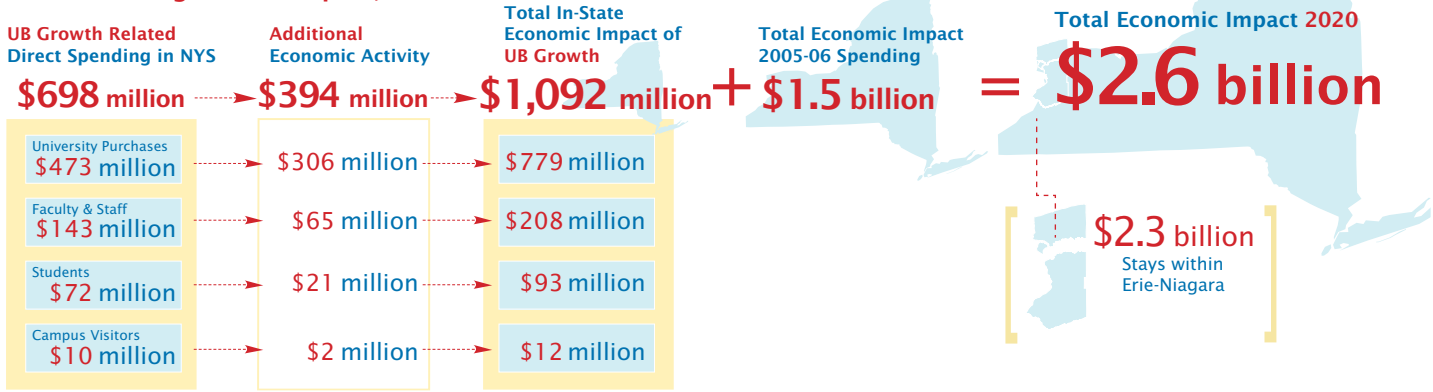
4 Increased Campus Visitors

As UB expands its programming, campus visitation is expected to increase by about nearly 200,000 visitors, nearly 40 percent above 2005-06 levels. The additional UB visitors will contribute an estimated **\$10 million** to the regional economy by shopping, dining and lodging in the area. Virtually all visitor spending growth is expected to stay in the state and region (Fig. 3.6).

Fig. 3.6
Visitor Spending Growth by 2020

188,000 Visitors	
X \$52	Average per-person spending per visit for food, accommodations, shopping, other
<hr/>	
+\$10 M	Total Spending Growth
<hr/>	
+\$10 M	Spending Growth in NYS

Fig. 3.7
Recurring Annual Impact, 2020



Economic Impact by 2020

As with current spending, the additional \$698 million in direct in-state spending will circulate through the economy, inducing additional economic activity. By 2020, UB-related spending will accumulate from each of the four spending sources to yield a total economic impact of **\$2.6 billion (Fig. 3.7)**. This significant economic impact leveraged by the university recurs annually and represents a 73 percent increase in overall economic impact from 2005-06.

As with the baseline impact, an overwhelming majority of the \$2.6 billion UB 2020 impact, or **\$2.3 billion**, will accrue to the bi-county region given the concentration of UB-related spending there.

In addition to recurring annual impacts, a one-time economic impact of \$2.7 billion will flow from UB construction and other capital costs (Fig. 3.8).

Amortized over 13 years, capital impacts would represent an additional **\$209 million** in economic activity each year between now and 2020. By 2020, UB will pump more than **\$2.8 billion** into the state economy from recurring and one-time impacts.

The economic impact of UB outside New York State will grow as well. By 2020, annual UB-related spending outside the state will rise by 42 percent, to \$510 million. One-time out-of-state capital purchases will add another \$170 million by 2020.

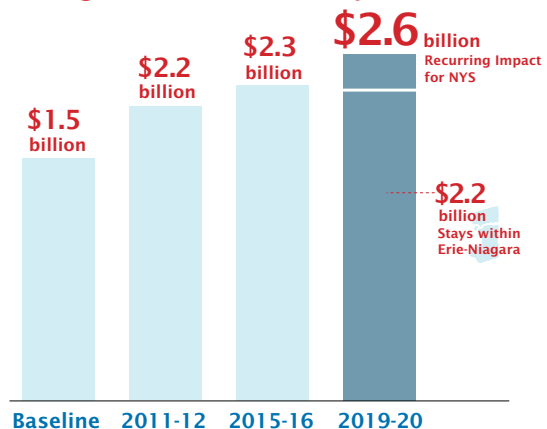
The economic benefits of a larger and stronger UB will be realized incrementally as the university implements its growth plan. By 2011-12, the recurring total statewide impact of UB will jump 47 percent to **\$2.2 billion**. Over the next five years—by 2015-16—the impact will increase slightly to **\$2.3 billion** as expansion spending, construction and start-up activity moderates, before reaching the **\$2.6 billion** level by 2020 (Fig. 3.9).

Fig. 3.8
One-Time Capital Investments Generate Additional Economic Activity



Over the next dozen years, UB will spend **\$1.5 billion** on new construction and renovation projects, and **\$225 million** on materials, supplies and classroom space to accommodate the hundreds of newly-hired university faculty. By 2020, these expenditures will leverage a **\$2.7 billion** one-time economic impact for New York State, of which **\$2.4 billion** will directly benefit the bi-county region.

Fig. 3.9
Recurring Annual Economic Impact



Spinoff Impacts

UB operations and activities of the future will continue to have spinoff effects in jobs and taxes over and above the university's economic impact.

Due to invigorated economic activity as it grows, UB will support an increasing number of jobs within the bi-county region. By 2020, UB-related spending will support nearly 19,800 full-time jobs in the region over and above its own employment base of over 11,300 full-time faculty and staff, a total of over 31,100 jobs.

Year 2020
11,300 Faculty and staff employed by UB in 2020
19,800 Additional full-time jobs leveraged by UB in Erie and Niagara counties

The Big Picture: Employment Return

Each faculty and staff job at UB will support another 1.7 jobs across the region for a total impact of 2.7 jobs provided or supported for every one job at UB.

The public sector will also see increased returns from a larger University at Buffalo as tax benefits associated with UB increase by nearly 50 percent by 2020 (Fig. 3.10).

Due to a larger sum of faculty and staff wages and greater spending activity by the university and its employees, students and visitors, New York State will see an estimated **\$54 million** in UB-generated income and sales taxes, a nearly 50 percent increase from the \$37 million generated in 2005-06.

Within the bi-county region, UB will leverage **\$45 million** in property and sales taxes for local government, a 41 percent jump from 2005-06. The property tax offset by 2020 will increase only slightly from \$14.0 million to reflect modest expansion in the university footprint around the downtown campus center.

Partially offsetting these community benefits will be an estimated \$14.0 million in net property taxes foregone on the nearly 1,400 acres of tax-exempt land currently owned by UB.

While the general return on investment will remain the same (\$1.60 in economic activity generated by every UB-related dollar spent), New York State will recoup an even healthier return on its investment in UB by 2020. The state's projected net investment in 2020 of \$555 million dollars (\$609 million state

Fig. 3.10

Public Sector Tax Impacts, 2020		
	NYS	Erie and Niagara Counties
Sales Tax	\$17 M	\$19 M
Income Tax	\$37 M	n/a
Property Tax	n/a	\$26 M
Total	\$54 M	\$45 M

= \$99 M



appropriation minus \$54 million returned in taxes) will realize a \$2.6 billion economic impact by 2020 and annually thereafter. This translates to a **return on investment of more than \$5 in annual economic activity for every \$1 of net state support provided to the University at Buffalo.**

Impact on Regional Competitiveness

As UB expands, its impact on factors that determine regional competitiveness in the knowledge-based economy can be expected to grow as well. With higher investments in research and development, UB will increase its capacity to generate and commercialize new ideas. As part of its long-term facilities planning, UB will build a new incubator at its downtown Buffalo campus, doubling the capacity of its incubator program and leveraging investments in research for job creation. With more students, new businesses—at the incubators and elsewhere—will draw from a growing pool of skilled workers.

UB's growth can also be expected to bolster its current impact on community features that attract and retain talented people. Additional faculty will strengthen UB's presence in the region's neighborhoods, and its investments in downtown Buffalo will add vitality to the region's core. A more vibrant urban environment with an innovative, knowledge-based economy, combined with a larger, higher-profile UB, will project a stronger image of the region to the rest of the world.

In sum, by implementing its 2020 strategic vision for growth, UB will play an increasingly integral role in the state and regional economy. UB will make substantial investments not only in human capital, but also intellectual and physical capital, each of which will prompt economic activity that translates into support for regional businesses and employment and, in turn, a healthier, stronger region.

The Big Picture: Returns on Investment

Every \$1 in net state support to UB will generate \$5 in economic activity for the region and state.



Summary of Findings

The Difference a University Makes

The University at Buffalo is a major institution with substantial impacts on the bi-county region and New York State as a whole. It is a powerful economic engine and a boon to quality of life and regional competitiveness. And it's growing. The UB 2020 plan to expand its faculty and staff and student enrollment, as well as capital investment, will significantly increase the UB economic impact while strengthening its relationship to the vitality of the region.



to the Economy, 2005-06

Element 1

- \$1.1 billion** revenue generated by UB
- \$1.2 billion** spent directly by UB, its employees, students and visitors
\$943 million UB dollars spent in New York State
- \$1.5 billion** total UB annual recurring economic impact in New York State
\$1.3 billion economic impact accruing to Erie and Niagara counties
- 20,200** jobs provided and supported by the University at Buffalo in the bi-county region
- \$69 million** direct fiscal benefits to state and local government in property, sales and income taxes
- \$1.60** economic activity generated for every \$1 of UB-related, in-state spending
- \$4** economic activity generated for every \$1 in net support from New York State

to Regional Competitiveness

Element 2

- 6,800** total academic degrees awarded, 2005-2006
3,000 graduate degrees
2,260 science and engineering degrees (graduate and undergraduate)
- 8,100** UB employees residing in Erie and Niagara counties
- 385** new technologies disclosed, 2001-2005
- 1,000** jobs created by UB Technology Incubator businesses since 1988
- 52%** UB faculty and staff engaging in off-campus community service, 2006
- 400** UB news stories reported by national and global media outlets, 2006
- 10th** in international enrollment, out of all colleges and universities in the U.S.

As it Grows to 2020

Element 3

+10,000 students **+188,000 visitors** **+1,000 faculty** **+1,920 staff** **+capital improvements**

- \$1.9 billion** revenues generated by UB
- \$2.1 billion** spent directly by UB, its employees, students and visitors
\$1.6 billion UB dollars spent in New York State
- \$2.6 billion** total UB annual recurring economic impact in New York State
\$2.3 billion economic impact accruing to Erie and Niagara counties
- 31,100** jobs provided and supported by the University at Buffalo in the bi-county region
- \$99 million** direct fiscal benefits to state and local government in property, sales and income taxes
- \$1.60** economic activity generated for every \$1 of UB-related, in-state spending
- \$5** economic activity generated for every \$1 in net support from New York State

Appendix: Sources and Assumptions

Element 1

Data & Assumptions

Source and Notes

University Purchases

University purchases	\$518 million reflects off-campus purchases of goods and services by the university, excluding wages, internal transfers and tax payments.	UB Financial Services and UB Facilities
% spending in NYS	74%	Based on overall in-state totals estimated by UB Financial Services
% spending in region	70%	Based on overall in-region totals estimated by UB Financial Services

Faculty and Staff Spending

Faculty and staff wages	\$490 million reflects gross wages paid to faculty and staff	UB Financial Services
% disposable income	76%	Disposable income reflects gross wages minus withholdings for federal and state income taxes and a 1% union due, as provided by UB Financial Services. Not accounted for are non-income taxes (such as sales and property).
% disposable income in NYS	90%	Liberal estimate from IMPLAN matrices that does not take into account 401k or other savings
% disposable income in region	80%	Liberal estimate from IMPLAN matrices that does not take into account 401k or other savings
% employees living in state	99%	UB employee Zip code data
% employees living in region	96%	UB employee Zip code data

Student Spending

Student spending	\$205 million reflects off-campus spending by 27,220 students on housing, food, books, supplies, transportation and personal items	Based on student budgets prepared by Student Academic Records and Financial Services, which vary by academic department and for students living on and off campus. The distribution of students across departments comes from UB Academic Planning and Budget. All off-campus spending by full-time students attributable to UB student status. Part-time student spending estimated at half that of full-time students, with spending only on books and transportation attributable to UB student status. Total student spending reflects off-campus purchasing by 27,220 students enrolled for the 2005-06 academic year and 6,561 summer school students enrolled during summer 2006.
% off-campus spending (versus on campus)	Percentages vary by spending category	Housing: estimated 7,516 students, or 40% of undergrads, live on campus, as provided by UB Academic Planning and Budget. Meals/Food: estimated 90% off-campus spending for students living off campus, while estimated 45% off-campus for students living on campus, as consistent with sales totals provided by UB Dining Services. Books: estimated 95% of spending is off campus, based on information from UB Office of Student Financial Services. The UB bookstore and businesses in the UB Commons are private enterprises treated as "off campus" entities. Transportation: estimated 100% of spending is off campus. Personal: estimated 100% of spending is off campus.
% in NYS	97%	Estimate from UB Student Financial Services
% in region	92%	Estimate from UB Student Financial Services

Campus Visitor Spending

Visitor spending	\$26 million reflects off-campus spending by 512,000 visitors on food/dining, accommodations, transportation and off-campus entertainment.	Visitor spending estimates come from a survey of arts and cultural visitors to the region conducted in 2006 by Niagara University, which found day-only visitors spend \$27 per day per event on food/dining, shopping and transportation, and overnight visitors spend \$132 per person per 24-hour period on food/dining, shopping, transportation, accommodations and entertainment. Visitor counts provided by UB's Division of Athletics, Center for the Arts, Lippes Concert Hall, Office of Special Events and Admissions Office. Guest counts estimated as two out-of-town guests per year per student (not including commencement) and one out-of-town guest per year per faculty member; commencement guests estimated at three guests per graduating student. Academic visitors estimated at 2,000 per year per academic unit based on counts provided by the School of Medicine and Biomedical Sciences. In some cases, event ticket sales served as a proxy for visitor counts. Where possible, UB students, staff and faculty were backed out of visitor counts to avoid double counting their expenditures.
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Data & Assumptions

Source and Notes

% visitors staying overnight	22%	Campus visitors staying overnight in the region and incurring higher levels of off-campus expenditures estimated at: (i) 5% of UB athletic visitors, (ii) 5% of special event visitors, (iii) all prospective students from outside Western New York and (iv) all out-of-town guests of students and faculty. Overnight guests estimated to stay one night in the region, with the following exceptions: (i) prospective students from outside NYS (2 nights), (ii) guests of non-NYS graduating students (2 nights) and (iii) guests of international graduating students (3 nights).
% in NYS	99%	Estimate that most visitor spending will be purchased within NYS, with the exception of a small percentage of transportation expenses.
% in region	96%	Estimate that most visitor spending will be purchased within the region, with the exception of a small percentage of transportation expenses.

University Revenues

Current revenues	\$1.1 billion includes NYS appropriations, tuition, fees, clinical revenues, auxiliary enterprises, endowment, gifts, grants, contracts and other revenues.	UB Financial Services. Amounts may vary just slightly from final revenue numbers after reconciliation.
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University Employment

Jobs - faculty and staff	8,426 reflects full- and part-time non-student employees at UB in 2005-06, including medical resident fellows and temporary employees working under a union contract.	UB Financial Services
Jobs - students	3,743 reflects all students employed full- and part-time at UB, 2005-06	UB Financial Services

Tax Benefits

Sales tax rate	4.25% in Erie County; 4.0% in Niagara County, and 4.0% in NYS	NYS Department of Taxation and Finance, based on rates in effect December 2005
Taxable sales	Varies by category of spender	Estimated 50% of faculty and student purchases and 100% of visitor purchases subject to sales tax. Taxable sales at the university provided by UB Dining and Shops.
NYS income tax rate	5%	Estimate from UB Financial Services based on average employee wage withholding (actual tax rate varies depending on employee income level).
NYS taxable income	\$508 million represents gross wages of faculty, staff and students employed by UB	UB Financial Services
Property tax rate	\$3,372 property tax levy per homeowner	Office of the NYS Comptroller's "Property Taxes in New York State," April 2006. Assumption reflects a weighted average of per household property taxes in Erie County (\$3,282) and Niagara County (\$3,784).
% faculty and staff owning a home in the region	75%	U.S. Census reports home ownership rates of 66% for Erie County and 72% for Niagara County. Estimate for UB employees reflects assumption that a higher than average percentage of UB employees will own homes, given salaries above the average per worker in the region.

Property Tax Offsets

Acres of land owned by UB	UB occupies nearly 1,400 acres of land in Erie County: 1,192 on the North Campus in Amherst; 154 acres on the South Campus in the City of Buffalo and 5 acres for its other holdings in the City of Buffalo (Anderson Art Gallery, Educational Opportunity Center, Ross Eye Institute, Jacobs Executive Development Center and the Research Institute on Addictions).	UB master plan analysis provided acreage data for the North and South Campus. Total combined acreage for UB's other holdings in City of Buffalo from GIS data provided by Erie County Department of Environment and Planning.
Foregone property taxes on UB's holdings	\$14.0 million	To calculate property taxes foregone, UB 2005-06 property tax payments (\$0.6 million) were subtracted from taxes it would pay if it wasn't tax-exempt and its land was developed in a manner similar to surrounding property (within 2.5 mile radius for the North Campus and a 0.75 mile for the South Campus and downtown holdings). Taxable value of UB-owned land calculated by multiplying the taxable value of surrounding property by the ratio of UB's land area to the total land area within radius. Taxable values come from the data provided by Erie County Department of Environment and Planning. All applicable property tax rates (including school district, municipal and county) were applied; calculations divided total property tax assessments in the municipality/district for 2005 (the latest data available from the NYS Comptroller) by the full valuation of real property per \$1,000. Resulting property tax rates account for differences in homestead and non-homestead rates as well as property tax exemptions (such as STAR and Veterans).

Element 2

Data & Assumptions

Source and Notes

Economic Context

Employment change, by industry	Data for 2001 to 2006, shown in Fig. 2.1	Current Employment Statistics, Bureau of Labor Statistics
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Innovation

Research and development expenditures	Data for 2001 to 2005, shown in Fig. 2.2. Federal funding in 2005 categorized by field of expenditure	National Science Foundation, <i>Academic Research and Development Expenditure, 2001-2005</i>
Technology transfer metrics	Aggregated data for FY 2001-02 to 2005-06, shown in Fig. 2.3	UB Office of Science, Technology Transfer and Economic Outreach
Technology incubator metrics	Data as of March 2007, shown in Fig. 2.4	UB Office of Science, Technology Transfer and Economic Outreach

Competitive Workforce

Degrees granted	Degrees granted in 2005-06, by unit, shown in Fig. 2.5	UB Office of Institutional Analysis
Science and engineering degrees	Science and engineering as a share of all degrees granted at UB (2004-05) and within NYS and US (2003), in Fig. 2.6	UB data: Analysis of degrees granted by Classification of Instructional Programs category, 2004-05, from UB Office of Institutional Analysis; NYS/US: National Science Foundation, Science and Engineering Indicators, 2006
Metropolitan rankings	U.S. metros with highest rate of science and engineering graduate students per 100,000 residents, in Fig. 2.7	Beacon Hill Institute, <i>Metro and State Competitiveness Report, 2004</i>
Continuing education activity	Registration in non-credit professional and vocational activities, 2005-06, in Fig. 2.8	UB Office of Institutional Analysis reports total number of registrations, by type of training, by unit or school and by persons from business or industry (in any unit or school)
In-the-field learning	Participation in internship or related professional development experiences in 2006-07, in Fig. 2.9	UB professional schools

Community Life

Community service engagement	Measures of community engagement, in Fig. 2.10	Comparison of UB and U.S. community service levels based on random sample survey of 250 UB faculty and professional staff and national figures on volunteerism by college graduates in the U.S. Census Bureau's 2005 American Community Survey. Service by UB seniors based on spring 2007 UB Institutional Analysis survey of seniors, with results as of March 22, 2007. SEFA data provided by United Way of Buffalo & Erie County.
UB amenities	Community participation in events and activities, in Fig. 2.11	UB Office of Special Events, UB Libraries, UB Athletics and analysis by UB Regional Institute

Diversity

International enrollment	Data for 2003 to 2006, shown in Fig. 2.12	Enrollment and share of enrollment data from UB Office of Institutional Analysis. National ranking from Institute of International Education, Open Doors, 2003-2006.
Top Senders of International Students	Data for fall 2006, shown in Fig. 2.13	UB Office of Institutional Analysis
Faculty diversity	Data for 2005-06, shown in Fig. 2.14	Analysis based on figures from UB Office of Institutional Analysis. Minority includes all non-white and Hispanic faculty.

Regional Image

News stories	Data for 2006, shown in Fig. 2.15	Non-comprehensive count of media citations provided by UB News Services
Alumni chapters	Data as of 2006, shown in Fig. 2.16	UB Alumni Association

Unit-based Civic Engagement

Civic engagement activity	Data and examples provided by individual UB units
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Element 3

Data & Assumptions

Source and Notes

University Purchases

University purchases, recurring	\$618 million spending growth reflects additional research spending (\$163 million), employee benefits (\$66 million), undergraduate scholarships, TA/GA stipends and TA/GA tuition scholarships (\$108 million combined), and temporary services/OTPS (Other than Personnel Services) (\$281 million).	Employee benefits projected to cost the university an additional \$23,000 per new employee hired or \$66 million total. Additional sponsored research spending calculated as difference between current \$137 million and projected \$300 million. Other expenditure projections were provided by UB Academic Planning and Budget.
% spending in NYS	77%	Assumes new student employees and service workers will live in NYS and therefore 100% of expenditures are in-state; in-state rate for other new expenditures estimated at 74%, consistent with Element 1, yielding weighted average of 77%.
% spending in region	72%	Assumes new student employees and service workers will live in the region and therefore 100% of expenditures are in-region; in-region rate for other new expenditures estimated at 70%, consistent with Element 1, yielding weighted average of 72%.
University purchases, one-time	One-time capital expenditures of \$1.7 billion reflect \$1.02 billion for capital build-out, \$413 million for student living space, \$39 million for facilities maintenance (representing an additional \$3 million per year over 13 years, on top of the annual \$37 million reflected in the baseline), and \$225 million for new faculty start-up.	UB Academic Planning and Budget (one-time capital purchases reflect those related to UB's 2020 growth plan, which are in addition to UB's regular, recurring capital spending.
% spending in NYS	90%	Consistent with Element 1, as provided by UB Financial Services
% spending in region	81%	Consistent with Element 1, as provided by UB Financial Services

Faculty and Staff Spending

Faculty and staff wages	\$210 million in new faculty and staff wages reflects 1,000 new faculty at \$100,000 per year, 1,920 new staff at \$50,000 per year and \$14 million for geographic full-time faculty.	UB Academic Planning and Budget. Geographic full-time faculty are those whose professional services are conducted at the medical center and/or its affiliated hospitals.
% disposable income	76%	Consistent with Element 1
% disposable income in NYS	90%	Consistent with Element 1
% disposable income in region	80%	Consistent with Element 1
% employees living in state	99%	Consistent with Element 1
% employees living in region	96%	Consistent with Element 1

Student Spending

Student spending	\$73 million reflects spending by an additional 10,000 students	Spending by new students projected at \$7,300 annually in off-campus purchases of housing, food, books, supplies, transportation and personal items, consistent with student budgets used to calculate current student expenditures.
% off-campus spending (versus on campus)	Percentages vary by spending category	Consistent with Element 1 assumptions for percentage of students living in University housing and percentage of students enrolled part time and in summer programs
% in NYS	97%	Consistent with Element 1
% in region	92%	Consistent with Element 1

Campus Visitor Spending

Spending	\$10 million growth in visitors spending reflects off-campus purchasing by an additional 188,000 visitors.	Assumes visitor increases follow growth in students and faculty using rates consistent with Element 1
% in NYS	99%	Consistent with Element 1
% in region	96%	Consistent with Element 1

Data & Assumptions

Source and Notes

University Revenues

Projected revenues	\$831 million growth reflects \$228 million increase in gifts, grants and contracts, consistent with UB's goal to double income in this category. New York State appropriations are projected to increase \$226 million (direct support, fringe benefits and debt service allocation). The \$113 million increase in tuition and fees reflects additional student enrollment and predictable tuition increases. Endowment income gains (\$100 million) conservatively reflect university goals to double endowment by 2010 and quadruple the corpus by 2020. Clinical income increases (\$90 million) account for anticipated increases in faculty number and productivity. Other income of \$9 million reflects a 50% increase from the baseline.	Revenue projections from UB Academic Planning and Budget
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University Employment

Jobs - faculty and staff	2,920 new employees reflect 1,000 new faculty and 1,920 new staff	UB Academic Planning and Budget
Jobs - students	1,375 new student employees	Assumes rate of student employment at UB remains at 14%, consistent with Element 1

Tax Benefits

Sales tax rate	4.75% in Erie County; 4.0% in Niagara County, 4.0% in NYS	Assumes sales tax rates remain at 2007 levels through 2020
Taxable sales	Varies by category of spender	Consistent with Element 1
NYS income tax rate	5%	Assumes state income tax rates remain at 2006 levels through 2020
NYS taxable income	\$660 million reflects wages paid to additional faculty, staff and student employees	UB Academic Planning and Budget
Property tax rate	\$3,372	Consistent with Element 1
% faculty and staff who own homes in the region	75%	Consistent with Element 1

Property Tax Offsets

Acres of land owned by UB	Consistent with Element 1	Consistent with Element 1
Foregone property taxes on UB's holdings	Consistent with Element 1	Consistent with Element 1

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