

**THE PENNSYLVANIA STATE UNIVERSITY
ECONOMIC IMPACT STATEMENT
2003**

*Economic and Community Benefits Provided by The
Pennsylvania State University in the Commonwealth of
Pennsylvania and in each of the State's 67 Counties*

Executive Report

October 18, 2004



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I. Introduction

In addition to its recognition as one of the top comprehensive research universities in the United States, The Pennsylvania State University is the single largest generator of economic impact in the Commonwealth of Pennsylvania. In February 2004, The Pennsylvania State University retained the services of Pittsburgh-based Tripp Umbach & Associates, Inc., to measure the economic and social impact of the University on the Commonwealth of Pennsylvania and on each of the State's 67 Counties.¹ This report also presents the economic impact of each of the 24 University campuses on the Commonwealth of Pennsylvania and on the counties where each campus is located.

Goals of The Pennsylvania State University Economic Impact Study

Tripp Umbach was commissioned by Penn State to perform economic impact research and analysis to:

- Measure the business volume, employment, and government revenue impact of the University's operations.
- Measure the economic impact of visitors who attend conferences, sporting, cultural and alumni events at the 24 Penn State campuses.
- Quantify the economic and social impact of Penn State students, employees and alumni.
- Quantify the economic impact of businesses throughout the Commonwealth that are owned by Penn State alumni.
- Quantify the total value of services provided by Penn State to businesses throughout the Commonwealth.
- Quantify the spin-off effects of university research on new business venture formation and enterprise growth, employment, and government revenue in Pennsylvania.

¹ Tripp Umbach is the leading provider of economic impact analysis for universities and academic health centers, having completed two national studies for the Association of American Medical Colleges (1996 and 2003). Tripp Umbach has also completed statewide economic impact studies for all of the medical schools and their hospital affiliates in Pennsylvania (1995 and 2003), Virginia (1996) Ohio (2003) and Wisconsin (2004). Tripp Umbach has completed economic impact studies for more than 100 leading universities and for several state governmental agencies over the past ten years, including for the State System for Higher Education, The Ohio State University, and the University of Pittsburgh.

Methodology Employed in the Penn State Economic Impact Study

This economic impact analysis measures the effect of both direct and indirect business volume and government revenue impacts for the 24 Penn State campuses. The methodology employed in the calculation of these impacts is derived from the standard set of impact research tools developed by the American Council on Education (ACE)² for the measurement of college and university economic impact. The ACE-based methodology is well established, having been used in hundreds of impact studies throughout the United States.

The ACE methodology employs linear cash-flow modeling to track the flow of institution-originated funds through a delineated spatial area.³ For Pennsylvania State University impact analysis, computerized spreadsheet models were developed for the University as a whole and for each of the 24 locations of the University, with the models measuring impact on the state economy and government revenues.

By using this economic impact model, the Tripp Umbach research team has been able to provide Pennsylvania State University with a detailed quantification of the total direct and indirect impact of the University on the economy of Pennsylvania and on each of the state's 67 counties. The impact models provide measures of business volume and state government revenues allocable to the University, together with breakouts of the individual categories of spending that comprise the total impact (e.g. institutional capital spending, student spending, faculty spending, etc.).

² Caffrey, John and Isaacs, Herbert, "Estimating the Impact of a College or University on the Local Economy," American Council on Education, 1971.

³ The ACE methodology is highly adaptable to different geographic scales. It is suitable for measuring impact on neighborhoods, municipalities, counties, states, regions or nations. In the study reported herein for the State System of Higher Education, the impact of the universities is measured at the state and county scales.

II. Executive Summary

Penn State is the single largest contributor to the state's economy. The total impact of the University goes beyond the operations of 24 campuses located throughout the Commonwealth and education of more than 83,000 students. The operation of the university system generates \$6.14 billion annually in net economic impact to the Commonwealth of Pennsylvania and supports more than 60,000 total jobs (both direct and indirect). Every dollar invested in 2003 by the Commonwealth to support the operations of Pennsylvania State University returned \$19.42 in total economic impact to the Commonwealth.⁴

The Pennsylvania State University also generated more than \$492 million in tax revenue for the Commonwealth of Pennsylvania in 2003. Government revenue generated by the University included \$291.1 million as a result of its operations and payroll taxes and \$201.5 million in induced impacts resulting from additional income of Penn State alumni, business taxes paid by Penn State alumni who are business owners and income taxes paid by companies who benefit from Penn State's research. In 2003, the University returned \$1.56 in tax revenue for every \$1 it received in appropriation.

As demonstrated in this report, the economic impact of Pennsylvania State University's operations and employment is only the first chapter in a powerful economic story that affects every community within the Commonwealth. Induced economic impacts calculated by Tripp Umbach generated an additional \$6.9 billion in 2003. These additional impacts include the value of services provided to businesses, commercialization of research activities, increased earning power of Penn State alumni, and the impact of Pennsylvania businesses owned by Penn State graduates. With total direct, indirect, and induced annual economic impact equaling more than \$13 billion, no other single entity in the Commonwealth does more to drive the state's economy. Stated another way, Penn State generated approximately 2% of the state's business volume, or \$1 out of every \$50 dollars in the state's total economy.

Operational Impact of The Pennsylvania State University

The Penn State's operational impact of more than \$6 billion annually compares favorably with other universities (see Table 1).

Table 1 State Level Economic Impact of Selected Universities

Name of University	State Level Economic Impact
Pennsylvania State University	\$6.1 billion
The Ohio State University	\$4.9 billion
University of Florida	\$3.2 billion
University of Alabama, Birmingham	\$2.2 billion
Washington University St. Louis	\$2.2 billion
West Virginia University	\$1.4 billion

⁴ The Commonwealth provided \$316 million in operational support for The Pennsylvania State University in 2003.

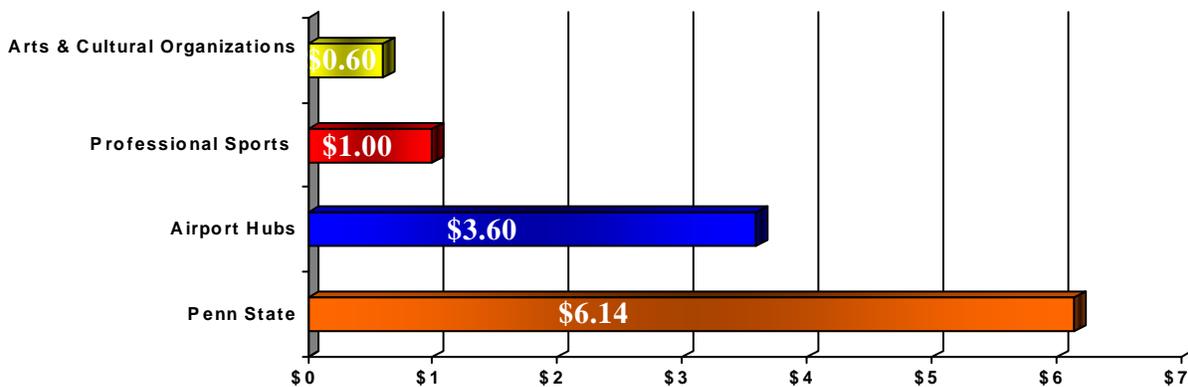
The total economic impact of Penn State's operations goes far beyond the main University Park campus, which Tripp Umbach estimates at \$3.4 billion. The other regional campuses generate more than \$2.7 billion of the University's total operational impact.

State Comparisons to Other Industry Segments

The Penn State's annual economic impact on Pennsylvania is significant, especially when compared with other industries that are recipients of financial support from state government. For example, professional sports teams generate only a fraction of the impact generated by the University, but have attracted millions in state support for the building of sports facilities. Penn State currently generates more annual economic impact than the combined impact of all of the state's airport hubs, professional sports teams, and arts and cultural organizations (see Figure 1).

Although tourism is considered to be Pennsylvania's second largest industry, surpassed only by agriculture, with an estimated annual impact of \$23 billion, Penn State alone attracts nearly 875,000 visitors and generates \$1.36 billion for the state's economy. Stated another way, more than \$1 out of every \$17 tourism dollars generated annually in Pennsylvania is attributable to Penn State (see Figure 1).

Figure 1 Impact Comparisons with The Pennsylvania State University's Operations (in billions)



Projected Growth in the Economic Impact of Penn State's Operations

The total economic impact of Penn State is projected to continue to grow over the next five years. Tripp Umbach estimates that Penn State's total economic impact will grow from \$6.14 billion in 2003 to \$7.4 billion in 2008 (see Figure 2) based on the University's continued growth in operations and investment in capital expenditures. Proposed capital expenditures alone will generate an additional \$434.7 million annually in the state's economy over the next five years (see Figure 2).

Projected Annual Economic Impact of Penn State's Operations

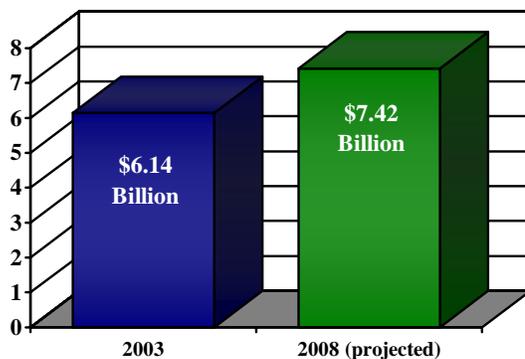


Figure 2 Increases in Total Statewide Economic Impact Generated by Penn State's Operations (2003 – 2008)

Statewide Employment Impact from Penn State's Operations

With more than 35,000 full and part-time employees in 2003, the total payroll and benefits provided to Penn State employees ranks it as the largest generator of total employment among non-governmental entities.⁵ Total employment, including direct employment and jobs within the Commonwealth that are in support of Penn State (indirect), is estimated at more than 60,000 persons. Total employment attributable to Penn State is projected to grow to 72,000 by 2008, based on the most recent capital growth projections provided to Tripp Umbach by the University (see Figure 3).

⁵ This number provided to Tripp Umbach by the University includes approximately 8,000 student workers. To avoid double counting, Tripp Umbach chose to include only non-student employees in the final economic impact and employment models. However, payroll taxes to the Commonwealth of Pennsylvania includes student employees as part of the nearly \$1 billion in total university payroll.

Projected Employment Generated by Penn State Operations

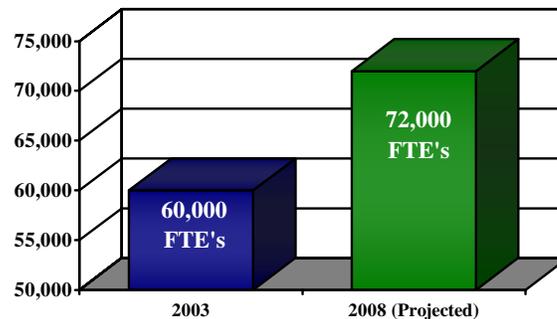


Figure 3 Statewide Employment Growth Generated by Penn State (2003 – 2008)

Government Revenue Impact from Penn State's Operations

It is a common misperception that public nonprofit organizations do not generate state tax revenue. While Penn State does not pay corporate income taxes directly to the state, its in-state spending and generation of economic impact from out-of-state sources has a significant impact on state tax revenue. Taxes created as a result of Penn State's operations, including payroll, institutional spending in the state's economy and generation of fresh taxable dollars equaled \$291 million in 2003. Tripp Umbach estimates that Penn State will generate \$350 million in-state tax revenue annually by 2008, based on capital budget projections provided by the University (see Figure 4).

Total Revenue Received by State of Pennsylvania

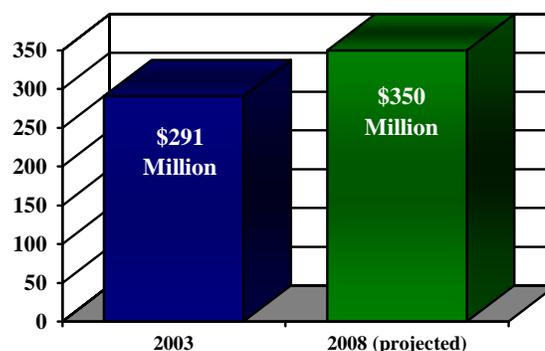


Figure 4 Projected Growth in State Government Revenue Generated by Penn State (2003 – 2008)

In 2003, the Commonwealth of Pennsylvania provided \$316 million to Penn State in operational support. Since Penn State's operations generate \$291 million in government revenue, the University returns \$.92 to the Commonwealth for every \$1 that the University receives. When you consider that the University generates more than \$201 million additional government revenue annually through additional earnings of Penn State alumni, business taxes paid by Penn State alumni who are business owners and companies that benefited from University research, the total return on investment of Pennsylvania State University's operations plus its induced impacts equals \$1.56 generated for every \$1 received.

The Impact of Penn State's Employees and Students

Penn State's 35,000 full and part-time employees and more than 83,000 students provide benefits to the Commonwealth beyond the more than \$6 billion annual operational impact presented above.⁶ Tripp Umbach estimates that Penn State employees donate more than \$116 million annually in charitable donations and volunteer services within the Commonwealth. Tripp Umbach estimates that Penn State students donate more than \$88 million annually in charitable donations and volunteer services within the Commonwealth.

Impacts of Penn State Alumni Living in Pennsylvania

The 200,000 alumni who reside in Pennsylvania generate \$1.3 billion annually in additional economic impact, and generate more than \$40.7 million in additional government revenue for the Commonwealth.⁷ With a Penn State campus within easy commuting distance of every Pennsylvanian, the economic and social power of the University reaches into every community.

Each Penn State alumnus volunteers more than 13.8 hours annually with charitable organizations throughout Pennsylvania. Tripp Umbach estimates the value of such services from all to be \$235 million annually, according to an alumni survey conducted by Tripp Umbach. Penn State alumni donate more than \$103.3 million annually to charitable organizations throughout Pennsylvania, according to the same alumni survey.

Tripp Umbach estimates that more than 15,000 Penn State alumni own businesses in Pennsylvania. These businesses directly employ more than 425,000 residents. The average wage of employees at companies owned by Penn State graduates is \$8,500 higher than the average wage earner in Pennsylvania. This translates into more than \$3.6 billion in additional expansion of the state's economy and more than \$108 million in additional government revenue for the Commonwealth annually.

⁶ This number includes approximately 8,000 student employees. To avoid double counting, students are not included in economic impact calculations for employees.

⁷ Tripp Umbach conducted an alumni survey as a component of the economic impact project. Results of the survey indicated that Penn State alumni who are working full time earn \$9,854 per year more than the average college graduate within the Commonwealth.

The Impact of Penn State Research

Penn State annually attracts more than \$545 million to Pennsylvania from sources outside of the Commonwealth to support research activities. Research conducted at Penn State supports more than 16,000 additional jobs throughout the Commonwealth, which generates more than \$1.7 billion in additional economic impact and more than \$52.8 million in additional revenue for the Commonwealth annually.⁸ Penn State ranks nationally as one of the ten largest public research institutions. The total economic impact of research dollars from outside of the Commonwealth has grown dramatically over the past five years and is expected to exceed \$750 million by 2008.

University-based research has proved to have a substantial and measurable effect on business formation and economic development. Research performed by Adam Jaffe at Harvard found that "...a state that improves its university research system will increase local innovation both by attracting industrial R&D and augmenting its productivity."⁹ Other researchers have confirmed that geographic proximity to a university performing research is an important driver of the location of new business enterprises. Knowledge based research has been proven to create a multiplier of 3.22 within a state's economy.¹⁰ Stated another way, every research dollar generates an extra dollar in the state economy (3.22) than the standard multiplier of 2.3 dollars for every one dollar spent within the economy by an institution.

Given the findings of the Harvard study and other supporting investigations, it is logical to assume that Penn State will be generating and attracting new business enterprises for the Commonwealth. Indeed, Penn State does not just contribute to business enterprises through its research, it also actively promotes business enterprise formation and expansion via University business incubators and small business advisory services. These services and impacts are all the more important to Pennsylvania given the fact that Penn State campuses are dispersed throughout the state in generally small-town and rural settings which, historically, face greater challenges in attracting new business enterprises and fostering entrepreneurial business development. The University engages in research projects with more than 400 Pennsylvania companies annually, more than any other public university in the nation.

⁸ The Pennsylvania State University annually attracts more than \$545 million to the state of Pennsylvania from outside sources to for its on-going research activities. Of this amount, more than \$425 million of this support remains in the state's economy, generating an additional \$1.7 billion in economic expansion and more than 16,000 jobs.

⁹ Jaffe, Adam B., "Real Effects of Academic Research," *American Economic Review*, March 1991, pp. 957-970.

¹⁰ Martin, Fernand., "The Economic Impact of University Research," Association of Universities and Colleges of Canada, March 1998.

III. Economic Impact of The Pennsylvania State University On the Commonwealth of Pennsylvania

With combined economic impact in 2003 of \$6.14 billion, the annual operations of Penn State have a truly substantial economic impact on the state. Penn State has a tremendous direct impact on the state, and the benefits of these initial expenditures ripple through the Pennsylvania economy providing economic benefits, through the multiplier effect, to the majority of Pennsylvania's citizens.

A. Business Volume Impact

The Direct and Indirect Expansion of the State Economy Attributable to Penn State

Penn State's direct economic impact stems from the spending of seven principal groups: institutional expenditures for capital improvements, goods and services; the spending of staff, faculty and technical service employees; spending of students; and the spending of visitors to the University. In addition these direct, first-round expenditures, received as income by businesses and individuals in the state, re-circulate through the economy in successive rounds of re-spending. The end result is a multiplied economic impact that is a linear result of the university's presence and its spending patterns.

The results of this analysis include:

1. Total Business Volume Impact

In 2003, Penn State had a combined total economic impact on Pennsylvania of \$6.14 billion (see Table 2).

This economic impact comprised \$2.67 billion in direct business volume impact and a further \$3.47 in indirect economic impacts accruing to the economy through the multiplier.

Table 2
Total State Business Volume Impact of Penn State, 2003

Campus	Total Impact (Direct + Indirect)	Direct Impact	Indirect Impact
University Park	\$3,325,559,354	\$1,445,895,371	\$,1879,663,983
Abington	\$145,986,416	\$63,472,355	\$82,514,061
Altoona	\$181,038,197	\$78,712,260	\$102,325,937
Beaver	\$47,888,172	\$20,820,944	\$27,067,228
Berks	\$115,918,256	\$50,399,242	\$65,519,014
Delaware County	\$85,632,859	\$37,231,678	\$48,401,181
Dickinson School of Law	\$44,423,281	\$19,314,470	\$25,108,811
DuBois	\$52,736,529	\$22,928,926	\$29,807,603
Erie	\$158,862,510	\$69,070,656	\$89,791,854
Fayette	\$61,541,036	\$26,756,972	\$34,784,064
Great Valley	\$32,741,658	\$14,235,503	\$18,506,155
Harrisburg	\$106,171,032	\$46,161,318	\$60,009,714
Hazleton	\$60,275,984	\$26,206,950	\$34,069,034
Hershey Medical Center	\$778,588,440	\$338,516,713	\$440,071,727
Lehigh Valley	\$41,981,463	\$18,252,810	\$23,728,653
McKeesport	\$56,917,939	\$24,746,930	\$32,171,009
Mont Alto	\$44,478,845	\$19,338,628	\$25,140,217
New Kensington	\$56,602,969	\$24,609,987	\$31,992,982
Penn College	\$455,330,965	\$197,969,985	\$257,360,980
Schuylkill	\$58,663,068	\$25,505,682	\$33,157,386
Shenango	\$40,820,270	\$17,747,943	\$23,072,327
Wilkes-Barre	\$49,284,951	\$21,428,240	\$27,856,711
Worthington Scranton	\$67,319,559	\$29,269,374	38,050,185
York	\$69,991,804	\$30,431,219	\$39,560,585
Total Business Volume Impact:	\$6,138,755,557	\$2,669,024,156	\$3,469,731,401

Source: Tripp Umbach Economic Impact Model

The direct impact was comprised of the following impact components:

a. Direct spending by Penn State for capital improvements, goods, services and supplies.

This category of impact includes the spending by the University for improvements to their facilities and capital equipment purchases made with Pennsylvania contractors and vendors (an average of spending over the previous five years was used). In addition, the category also includes the purchase, from in-state vendors, of goods, services and supplies. These may include a broad range of purchases such as food and beverage supplies, administrative supplies, computer consulting, etc.

In 2003, this spending contributed \$796 million to Penn State's business volume impact (see Table 3).

Table 3
Penn State's Spending for Capital Improvements, Goods and Services, and Supplies, 2003

Campus	Spending for Capital Improvements, Goods and Services, and Supplies
University Park	\$503,853,581
Abington	\$2,342,214
Altoona	\$4,548,994
Beaver	\$2,137,501
Berks	\$7,622,468
Delaware County	\$1,752,703
Dickinson School of Law	\$1,862,141
DuBois	\$1,420,418
Erie	\$7,297,395
Fayette	\$2,401,616
Great Valley	\$2,129,604
Harrisburg	\$6,914,117
Hazleton	\$1,566,173
Hershey Medical Center	\$201,265,357
Lehigh Valley	\$791,790
McKeesport	\$2,481,715
Mont Alto	\$1,547,169
New Kensington	\$963,086
Penn College	\$38,760,456
Schuylkill	\$947,477
Shenango	\$699,158
Wilkes-Barre	\$685,486
Worthington Scranton	\$1,028,939
York	\$1,256,121
Total:	\$796,275,679

b. Direct spending on faculty, staff and technical service employees.

While universities such as Penn State spend substantial money in the state on goods and services, one of their biggest benefits to the economy is their direct payroll. Penn State has a combined payroll and benefits obligation to faculty, staff, and technical service employees of more than \$1 billion annually. The majority of this goes to Pennsylvania residents who spend the majority of their disposable income in the state. Adjusting for payroll to faculty, staff, and technical employees residing out-of-state, savings and taxes, the total payroll from Penn State generates more than \$522 million in direct impact through faculty, staff, and technical service employees spending (see Table 4).

Table 4
Penn State's Faculty, Staff, and Technical Service
Employee Spending, 2003

Campus	Faculty & Staff Spending
University Park	\$271,341,846
Abington	\$9,395,496
Altoona	\$12,867,256
Beaver	\$4,131,392
Berks	\$8,240,990
Delaware County	\$4,832,791
Dickinson School of Law	\$2,235,660
DuBois	\$3,963,004
Erie	\$13,063,043
Fayette	\$4,268,239
Great Valley	\$4,420,344
Harrisburg	\$12,565,662
Hazleton	\$4,936,581
Hershey Medical Center	\$99,367,615
Lehigh Valley	\$3,135,441
McKeesport	\$4,506,482
Mont Alto	\$4,074,358
New Kensington	\$4,508,231
Penn College	\$29,664,223
Schuylkill	\$3,924,201
Shenango	\$2,210,957
Wilkes-Barre	\$4,045,243
Worthington Scranton	\$4,703,105
York	\$5,999,091
Total:	\$522,401,881

c. Direct spending by students.

The spending by off-campus students, outside the university, for housing, food, supplies, entertainment and other items and services, as well as the spending by on-campus students outside of the University for entertainment and other items and services, comprise students' direct impact on the Pennsylvania economy. In total, student spending amounts to more than \$717 million in the state's economy (see Table 5).

Table 5
Penn State Student Spending, 2003

Campus	Student and Resident Spending
University Park	\$314,769,456
Abington	\$35,538,868
Altoona	\$37,118,756
Beaver	\$8,348,075
Berks	\$19,967,578
Delaware County	\$20,826,572
Dickinson School of Law	\$9,835,544
DuBois	\$11,356,952
Erie	\$26,112,824
Fayette	\$12,998,621
Great Valley	\$3,708,743
Harrisburg	\$15,451,615
Hazleton	\$11,006,264
Hershey Medical Center	\$1,372,944
Lehigh Valley	\$9,144,452
McKeesport	\$10,735,710
Mont Alto	\$7,032,155
New Kensington	\$12,280,948
Penn College	\$86,282,792
Schuylkill	\$13,582,472
Shenango	\$9,596,320
Wilkes-Barre	\$10,210,472
Worthington Scranton	\$15,616,798
York	\$14,792,804
Total:	\$717,687,735

d. Direct spending by out-of-state visitors.

As any person working at a university can confirm, universities are substantial visitor destinations. These visitors come to see employees and students who are friends and family, and when they are from out-of-state they bring with them spending in the Pennsylvania economy for accommodations, gifts, services and other items during their stay. In 2003, out-of-state visitors to Penn State generated more than \$632 million in the Pennsylvania economy (see Table 6).

Table 6
Spending by Visitors to Penn State for Conferences,
Sporting, Cultural and Alumni Events, 2003

Campus	Visitor Spending
University Park	\$355,930,488
Abington	\$16,195,777
Altoona	\$24,177,254
Beaver	\$6,203,976
Berks	\$14,568,207
Delaware County	\$9,819,612
Dickinson School of Law	\$5,381,125
DuBois	\$6,188,551
Erie	\$22,597,395
Fayette	\$7,088,496
Great Valley	\$3,976,812
Harrisburg	\$11,229,925
Hazleton	\$8,697,931
Hershey Medical Center	\$36,510,798
Lehigh Valley	\$5,181,128
McKeesport	\$7,023,023
Mont Alto	\$6,684,947
New Kensington	\$6,857,721
Penn College	\$43,262,514
Schuylkill	\$7,051,532
Shenango	\$5,241,508
Wilkes-Barre	\$6,487,038
Worthington Scranton	\$7,920,531
York	\$8,383,203
Total:	\$632,659,492

2. Additional Business Impacts Allocable to Penn State

In addition to the annual, recurring impacts of the spending categories outlined above, businesses in the state have invested heavily to support the business volume generated by Penn State. The Tripp Umbach impact model calculates the two principal components of business investments: business real property development and business inventories committed to academic health center-related business.

Pennsylvania businesses have invested a total of \$906.5 million in real property developments to support their business with Pennsylvania State University. Business inventories in the state allocable to Penn State --related business volume are calculated to be \$761.2 million.

B. Impact of Penn State's Operations on State Government Revenues

Revenues to the State of Pennsylvania Allocable to Penn State

A major misconception held by business leaders, elected officials, and the general public, is that universities do not generate government revenue. In 2003, Tripp Umbach estimates that \$291.1 million in State government revenue was generated directly or indirectly by Penn State. In addition, the substantial spending with Pennsylvania business generates large-scale revenues for the state in the form of sales tax, corporate net income tax and capital stock/franchise taxes. The Tripp Umbach model calculated the revenue benefits accruing to the state from these sources. The results of this analysis follow:

Total State Government Revenue

Penn State generated a total of more than \$291 million in revenue for Pennsylvania in 2003 (see Table 7).

Table 7
Penn State's Government Revenue Impact, 2003

Campus	Government Revenue Impact
University Park	\$154,457,857
Abington	\$6,764,119
Altoona	\$7,982,639
Beaver	\$3,353,887
Berks	\$5,798,846
Delaware County	\$4,666,022
Dickinson School of Law	\$3,233,436
DuBois	\$3,522,433
Erie	\$7,211,736
Fayette	\$3,828,508
Great Valley	\$2,827,342
Harrisburg	\$5,379,999
Hazleton	\$3,784,530
Hershey Medical Center	\$28,755,536
Lehigh Valley	\$3,148,550
McKeesport	\$3,667,793
Mont Alto	\$3,235,367
New Kensington	\$3,656,843
Penn College	\$17,517,997
Schuylkill	\$3,728,460
Shenango	\$3,108,183
Wilkes-Barre	\$3,402,444
Worthington Scranton	\$4,029,389
York	\$4,122,285
Total:	\$291,184,202

C. Impact of Penn State's Operations on Employment

The Direct and Indirect Expansion of Employment in the State Attributable to Penn State

Perhaps the benefit that comes closest to home is the sheer number of Pennsylvania's citizens who depend on Pennsylvania State University, either directly or indirectly, for their jobs and livelihoods. A total of 60,863 jobs in Pennsylvania in 2003 were directly and indirectly attributable to Penn State.

Even on a direct employment basis (i.e., only counting those directly employed at the university), Penn State is responsible for a substantial component of statewide employment. During 2003, Penn State employed a total of more than 35,000 employees, of which 27,106 were non-student full-time equivalent persons.

While direct employment is significant, the actual extent of employment impact on the state stemming from the universities is considerably larger. The business volume generated by universities creates jobs in a broad range of sectors throughout the state's economy. These jobs are proportionate to the service needs of the universities themselves and their related populations (faculty, staff, technical service employees, students, etc.). In addition, the tax revenue generated at the state and local levels by Penn State and its business volume also create government employment opportunities (see Table 8).

Table 8
Total Employment Impact of Penn State, 2003

Campus	Total Employment Impact (Direct + Indirect)	Direct Impact	Indirect Impact
University Park	30,853	14,024	16,829
Abington	873	397	476
Altoona	1,256	571	685
Beaver	433	197	236
Berks	799	363	436
Delaware County	444	202	242
Dickinson School of Law	240	109	131
DuBois	359	163	196
Erie	1,313	597	716
Fayette	416	189	227
Great Valley	451	205	246
Harrisburg	1,263	574	689
Hazleton	488	222	266
Hershey Medical Center	15,114	6,870	8,244
Lehigh Valley	286	130	156
McKeesport	469	213	256
Mont Alto	405	184	221
New Kensington	400	182	218
Penn College	3,051	1,387	1,664
Schuylkill	374	170	204
Shenango	205	93	112
Wilkes-Barre	400	182	218
Worthington Scranton	420	191	229
York	550	250	300
Total Impact:	60,862	27,665	33,197

IV. Economic Impact of The Pennsylvania State University On the 67 Counties within the Commonwealth

Penn State impacts every county within the Commonwealth of Pennsylvania. The following tables show this impact on each of the 67 counties in the Commonwealth.

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Table 9 Total Business Volume Impact of Penn State by County, 2003

County	Total Impact	Direct Impact	Indirect Impact	County	Total Impact	Direct Impact	Indirect Impact
Adams	\$5,310,283	\$3,318,927	\$1,991,356	Lackawanna	\$40,069,060	\$25,043,163	\$15,025,897
Allegheny	\$140,681,992	\$78,156,662	\$62,525,330	Lancaster	\$72,932,575	\$45,582,859	\$27,349,716
Armstrong	\$2,626,900	\$1,641,812	\$985,088	Lawrence	\$1,362,718	\$851,699	\$511,019
Beaver	\$24,200,414	\$15,125,259	\$9,075,155	Lebanon	\$104,432,201	\$65,270,126	\$39,162,075
Bedford	\$2,729,306	\$1,705,816	\$1,023,490	Lehigh	\$23,714,411	\$14,821,507	\$8,892,904
Berks	\$72,452,168	\$45,282,605	\$27,169,563	Luzerne	\$68,233,458	\$42,645,911	\$25,587,547
Blair	\$152,961,229	\$95,600,768	\$57,360,461	Lycoming	\$255,505,972	\$159,691,232	\$95,814,740
Bradford	\$1,708,585	\$1,067,866	\$640,719	McKean	\$483,766	\$302,354	\$181,412
Bucks	\$10,223,465	\$6,389,665	\$3,833,800	Mercer	\$21,256,628	\$13,285,392	\$7,971,236
Butler	\$1,312,773	\$820,483	\$492,290	Mifflin	\$9,469,765	\$5,918,603	\$3,551,162
Cambria	\$4,076,565	\$2,547,853	\$1,528,712	Monroe	\$762,895	\$476,809	\$286,086
Cameron	\$178,985	\$111,866	\$67,119	Montgomery	\$123,284,346	\$68,491,304	\$54,793,042
Carbon	\$3,321,902	\$2,076,189	\$1,245,713	Montour	\$1,358,733	\$849,208	\$509,525
Centre	\$1,753,711,944	\$1,096,069,965	\$657,641,979	Northampton	\$1,658,927	\$1,036,829	\$622,098
Chester	\$87,661,257	\$51,565,446	\$36,095,811	Northumberland	\$4,229,537	\$2,643,460	\$1,586,077
Clarion	\$360,359	\$225,224	\$135,135	Pike	\$236,965	\$148,103	\$88,862
Clearfield	\$68,815,199	\$43,009,499	\$25,805,700	Perry	\$1,632,666	\$1,020,416	\$612,250
Clinton	\$9,713,042	\$6,070,651	\$3,642,391	Philadelphia	\$63,481,787	\$39,676,117	\$23,805,670
Crawford	\$3,132,315	\$1,957,697	\$1,174,618	Potter	\$407,555	\$254,722	\$152,833
Columbia	\$3,858,600	\$2,411,625	\$1,446,975	Schuylkill	\$37,949,043	\$23,718,152	\$14,230,891
Cumberland	\$43,565,812	\$27,228,633	\$16,337,179	Somerset	\$22,583,567	\$14,114,729	\$8,468,838
Dauphin	\$502,679,721	\$314,174,826	\$188,504,895	Sullivan	\$1,483,382	\$927,114	\$556,268
Delaware	\$60,304,656	\$35,473,327	\$24,831,329	Susquehanna	\$414,689	\$259,181	\$155,508
Elk	\$1,467,339	\$917,087	\$550,252	Snyder	\$3,997,499	\$2,498,437	\$1,499,062
Erie	\$121,104,592	\$75,690,370	\$45,414,222	Tioga	\$2,164,719	\$1,352,949	\$811,770
Fayette	\$34,238,670	\$21,399,169	\$12,839,501	Union	\$5,897,663	\$3,686,039	\$2,211,624
Forest	\$946	\$591	\$355	Venango	\$292,870	\$183,044	\$109,826
Franklin	\$22,526,730	\$14,079,206	\$8,447,524	Warren	\$242,325	\$151,453	\$90,872
Fulton	\$211,769	\$132,356	\$79,413	Washington	\$4,314,650	\$2,696,656	\$1,617,994
Greene	\$538,009	\$336,255	\$201,754	Wayne	\$270,780	\$169,237	\$101,543
Huntington	\$35,590,344	\$22,243,965	\$13,346,379	Westmoreland	\$31,837,163	\$19,898,227	\$11,938,936
Indiana	\$1,453,940	\$908,713	\$545,227	Wyoming	\$683,511	\$427,195	\$256,316
Jefferson	\$1,194,589	\$746,618	\$447,971	York	\$90,509,267	\$56,568,292	\$33,940,975
Juniata	\$1,284,561	\$802,851	\$481,710				

Table 10
Penn State's Spending for Capital Improvements, Goods
and Services, and Supplies by County, 2003

County	Spending for Capital Improvements, Goods and Services, and Supplies	County	Spending for Capital Improvements, Goods and Services, and Supplies
Adams	\$62,520	Lackawanna	\$932,717
Allegheny	\$52,001,092	Lancaster	\$32,654,316
Armstrong	\$34,224	Lawrence	\$221,276
Beaver	\$1,291,594	Lebanon	\$13,726,783
Bedford	\$386,021	Lehigh	\$1,413,705
Berks	\$4,565,708	Luzerne	\$7,752,428
Blair	\$16,184,841	Lycoming	\$9,177,176
Bradford	\$46,517	McKean	\$2,034
Bucks	\$1,131,541	Mercer	\$691,371
Butler	\$243,516	Mifflin	\$181,180
Cambria	\$1,026,583	Monroe	\$124,781
Cameron	\$0	Montgomery	\$15,882,221
Carbon	\$66,736	Montour	\$278,275
Centre	\$221,095,737	Northampton	\$182,675
Chester	\$37,292,741	Northumberland	\$775,071
Clarion	\$2,700	Pike	\$53,876
Clearfield	\$19,016,443	Perry	\$97,658
Clinton	\$302,427	Philadelphia	\$35,870,001
Crawford	\$251,308	Potter	\$66,268
Columbia	\$192,128	Schuylkill	\$2,058,519
Cumberland	\$5,167,416	Somerset	\$13,816,823
Dauphin	\$220,571,403	Sullivan	\$574,545
Delaware	\$5,527,689	Susquehanna	\$16,064
Elk	\$8,810	Snyder	\$1,308,019
Erie	\$18,100,398	Tioga	\$54,413
Fayette	\$1,903,461	Union	\$1,840,243
Forest	\$591	Venango	\$9,942
Franklin	\$1,270,781	Warren	\$19,535
Fulton	\$1,645	Washington	\$2,308,144
Greene	\$1,865	Wayne	\$39,733
Huntington	\$15,658,070	Westmoreland	\$3,277,790
Indiana	\$58,719	Wyoming	\$89,311
Jefferson	\$468,764	York	\$26,481,606
Juniata	\$351,768	TOTAL:	\$796,264,256.00

Table 11
Penn State's Faculty, Staff and Technical Service
Employee Spending by County, 2003

County	Faculty & Staff Spending	County	Faculty & Staff Spending
Adams	\$2,614,303	Lawrence	\$510,067
Allegheny	\$10,853,910	Lebanon	\$38,650,322
Armstrong	\$1,285,405	Lehigh	\$3,079,151
Beaver	\$3,101,358	Lancaster	\$9,956,818
Bedford	\$1,056,540	Lawrence	\$510,067
Berks	\$99,11,150	Lebanon	\$38,650,322
Blair	\$18,863,134	Lehigh	\$3,079,151
Bradford	\$817,651	Luzerne	\$6,661,830
Bucks	\$4,271,279	Lycoming	\$23,427,634
Butler	\$454,333	McKean	\$228,353
Cambria	\$1,189,778	Mercer	\$1,749,084
Cameron	\$87,463	Mifflin	\$4,346,543
Carbon	\$1,632,262	Monroe	\$282,337
Centre	\$209,005,440	Montgomery	\$6,311,376
Chester	\$5,810,320	Montour	\$468,980
Clarion	\$177,855	Northampton	\$684,992
Clearfield	\$8,278,632	Northumberland	\$1,507,934
Clinton	\$4,439,443	Pike	\$70,445
Crawford	\$1,368,704	Perry	\$697,967
Columbia	\$1,822,447	Philadelphia	\$3,039,133
Cumberland	\$8,942,069	Potter	\$140,890
Dauphin	\$52,220,476	Schuylkill	\$4,898,723
Delaware	\$3,799,894	Somerset	\$234,211
Elk	\$733,117	Sullivan	\$287,015
Erie	\$12,360,018	Susquehanna	\$193,693
Fayette	\$3,538,073	Snyder	\$939,774
Forest	\$0	Tioga	\$1,048,309
Franklin	\$3,027,939	Union	\$1,514,917
Fulton	\$101,552	Venango	\$130,298
Greene	\$265,319	Warren	\$98,623
Huntington	\$5,093,329	Washington	\$313,444
Indiana	\$689,101	Wayne	\$104,481
Jefferson	\$223,052	Westmoreland	\$1,972,180
Juniata	\$341,064	Wyoming	\$268,816
Lackawanna	\$4,698,493	York	\$9,516,810
Lancaster	\$9,956,818	TOTAL:	\$496,510,152.00

Table 12
Penn State's Student Spending by County, 2003

County	Student Spending	County	Student Spending
Adams	\$0	Lackawanna	\$13,448,376
Allegheny	\$8,691,031	Lancaster	\$0
Armstrong	\$0	Lawrence	\$0
Beaver	\$6,363,703	Lebanon	\$0
Bedford	\$0	Lehigh	\$7,120,493
Berks	\$17,790,389	Luzerne	\$16,937,839
Blair	\$34,569,053	Lycoming	\$81,326,942
Bradford	\$0	McKean	\$0
Bucks	\$0	Mercer	\$7,562,275
Butler	\$0	Mifflin	\$0
Cambria	\$0	Monroe	\$0
Cameron	\$0	Montgomery	\$32,925,782
Carbon	\$0	Montour	\$0
Centre	\$305,645,443	Northampton	\$0
Chester	\$1,806,110	Northumberland	\$0
Clarion	\$0	Pike	\$0
Clearfield	\$9,147,494	Perry	\$0
Clinton	\$0	Philadelphia	\$0
Crawford	\$0	Potter	\$0
Columbia	\$0	Schuylkill	\$11,291,438
Cumberland	\$7,796,160	Somerset	\$0
Dauphin	\$14,727,826	Sullivan	\$0
Delaware	\$18,541,867	Susquehanna	\$0
Elk	\$0	Snyder	\$0
Erie	\$23,638,613	Tioga	\$0
Fayette	\$10,888,637	Union	\$0
Forest	\$0	Venango	\$0
Franklin	\$5,097,103	Warren	\$0
Fulton	\$0	Washington	\$0
Greene	\$0	Wayne	\$0
Huntington	\$0	Westmoreland	\$10,186,982
Indiana	\$0	Wyoming	\$0
Jefferson	\$0	York	\$12,642,773
Juniata	\$0	TOTAL:	\$658,146,329.00

Table 13
Spending by Visitors to Penn State for Conferences, Sporting, Cultural
and Alumni Events by County, 2003

County	Visitor Spending	County	Visitor Spending
Adams	\$642,104	Lackawanna	\$5,963,576
Allegheny	\$6,610,629	Lancaster	\$2,971,725
Armstrong	\$322,183	Lawrence	\$120,357
Beaver	\$4,368,603	Lebanon	\$12,893,022
Bedford	\$263,255	Lehigh	\$3,208,158
Berks	\$13,015,358	Luzerne	\$11,293,815
Blair	\$25,983,740	Lycoming	\$45,759,480
Bradford	\$203,698	McKean	\$71,967
Bucks	\$986,845	Mercer	\$3,282,662
Butler	\$122,634	Mifflin	\$1,390,879
Cambria	\$331,491	Monroe	\$69,692
Cameron	\$24,403	Montgomery	\$13,371,924
Carbon	\$377,190	Montour	\$101,953
Centre	\$360,323,346	Northampton	\$169,162
Chester	\$6,656,274	Northumberland	\$360,456
Clarion	\$44,669	Pike	\$23,782
Clearfield	\$6,566,929	Perry	\$224,792
Clinton	\$1,328,781	Philadelphia	\$766,983
Crawford	\$337,685	Potter	\$47,564
Columbia	\$397,050	Schuylkill	\$5,469,472
Cumberland	\$5,322,987	Somerset	\$63,695
Dauphin	\$26,655,120	Sullivan	\$65,554
Delaware	\$7,603,877	Susquehanna	\$49,424
Elk	\$175,159	Snyder	\$250,644
Erie	\$21,591,340	Tioga	\$250,226
Fayette	\$5,068,998	Union	\$330,879
Forest	\$0	Venango	\$42,804
Franklin	\$4,683,382	Warren	\$33,295
Fulton	\$29,159	Washington	\$75,069
Greene	\$69,072	Wayne	\$25,023
Huntington	\$1,492,566	Westmoreland	\$4,461,275
Indiana	\$160,892	Wyoming	\$69,068
Jefferson	\$54,803	York	\$7,927,103
Juniata	\$110,019	TOTAL:	\$623,129,721.00

B. Impact of Penn State's Operations on County Government Revenues

Table 14
Penn State's Government Revenue Impact by County, 2003

County	Government Revenue Impact	County	Government Revenue Impact
Adams	\$86,939	Lackawanna	\$656,003
Allegheny	\$745,843	Lancaster	\$1,194,039
Armstrong	\$43,007	Lawrence	\$22,310
Beaver	\$396,205	Lebanon	\$1,709,745
Bedford	\$44,684	Lehigh	\$388,248
Berks	\$1,186,174	Luzerne	\$1,117,106
Blair	\$2,504,254	Lycoming	\$4,185,687
Bradford	\$27,973	McKean	\$7,920
Bucks	\$167,377	Mercer	\$348,010
Butler	\$21,492	Mifflin	\$155,037
Cambria	\$66,741	Monroe	\$12,490
Cameron	\$2,930	Montgomery	\$651,658
Carbon	\$54,386	Montour	\$22,245
Centre	\$30,311,456	Northampton	\$27,160
Chester	\$400,361	Northumberland	\$69,245
Clarion	\$5,900	Pike	\$3,880
Clearfield	\$1,126,630	Perry	\$26,730
Clinton	\$159,020	Philadelphia	\$1,039,312
Crawford	\$51,282	Potter	\$6,672
Columbia	\$63,172	Schuylkill	\$621,295
Cumberland	\$713,252	Somerset	\$369,734
Dauphin	\$8,598,404	Sullivan	\$24,286
Delaware	\$420,528	Susquehanna	\$6,789
Elk	\$24,023	Snyder	\$65,446
Erie	\$1,982,703	Tioga	\$35,440
Fayette	\$560,549	Union	\$96,555
Forest	\$15	Venango	\$4,795
Franklin	\$368,804	Warren	\$3,967
Fulton	\$3,467	Washington	\$70,639
Greene	\$8,808	Wayne	\$4,433
Huntington	\$582,679	Westmoreland	\$521,232
Indiana	\$23,804	Wyoming	\$11,190
Jefferson	\$19,558	York	\$1,481,801
Juniata	\$21,031	Total Revenue:	\$65,754,550.00

Table 15 Total Employment Impact of Penn State by County, 200

County	Total Employment Impact	Direct Impact	Indirect Impact	County	Total Employment Impact	Direct Impact	Indirect Impact
Adams	193.5	129	64.5	Lackawanna	304.5	203	101.5
Allegheny	759	506	253	Lancaster	922.5	615	307.5
Armstrong	97.5	65	32.5	Lawrence	36	24	12
Beaver	246	164	82	Lebanon	4060.5	2707	1353.5
Bedford	79.5	53	26.5	Lehigh	205.5	137	68.5
Berks	724.5	483	241.5	Luzerne	483	322	161
Blair	1599	1066	533	Lycoming	1699.5	1133	566.5
Bradford	61.5	41	20.5	McKean	22.5	15	7.5
Bucks	294	196	98	Mercer	121.5	81	40.5
Butler	37.5	25	12.5	Mifflin	436.5	291	145.5
Cambria	102	68	34	Monroe	21	14	7
Cameron	7.5	5	2.5	Montgomery	420	280	140
Carbon	112.5	75	37.5	Montour	30	20	10
Centre	16480.5	10987	5493.5	Northampton	51	34	17
Chester	403.5	269	134.5	Northumberland	108	72	36
Clarion	13.5	9	4.5	Pike	7.5	5	2.5
Clearfield	720	480	240	Perry	70.5	47	23.5
Clinton	414	276	138	Philadelphia	232.5	155	77.5
Crawford	102	68	34	Potter	15	10	5
Columbia	117	78	39	Schuylkill	376.5	251	125.5
Cumberland	721.5	481	240.5	Somerset	19.5	13	6.5
Dauphin	4995	3330	1665	Sullivan	19.5	13	6.5
Delaware	271.5	181	90.5	Susquehanna	15	10	5
Elk	52.5	35	17.5	Snyder	76.5	51	25.5
Erie	864	576	288	Tioga	75	50	25
Fayette	250.5	167	83.5	Union	97.5	65	32.5
Forest	0	0	0	Venango	13.5	9	4.5
Franklin	244.5	163	81.5	Warren	10.5	7	3.5
Fulton	9	6	3	Washington	22.5	15	7.5
Greene	21	14	7	Wayne	7.5	5	2.5
Huntington	463.5	309	154.5	Westmoreland	133.5	89	44.5
Indiana	48	32	16	Wyoming	21	14	7
Jefferson	16.5	11	5.5	York	805.5	537	268.5
Juniata	34.5	23	11.5	Total Impact:	41497.5	27665	13832.5

V. Methodology

A. Impact on State Business Volume and Government Revenue

Penn State expends more than \$2 billion annually. The University is a major employer in the Commonwealth and, as such, a major generator of personal income for state residents. Businesses operating within Pennsylvania in the wholesale, retail, service and manufacturing sectors benefit from the direct expenditures of the institutions and their faculty, staff, students and visitors on goods and services. In addition, many of these "direct" expenditures are re-circulated in the economy as recipients of the first-round of income re-spend a portion of this income with other businesses and individuals within the state. This re-spending is termed the "multiplier" or "indirect" effect.

This economic impact analysis measures the effect of both direct and indirect business volume and government revenue impacts for the 24 campuses. The methodology employed in the calculation of these impacts is derived from the standard set of impact research tools developed by the American Council on Education (ACE)¹¹ for the measurement of college and university economic impact. The ACE-based methodology is well established, having been used in hundreds of impact studies throughout the United States. Tripp Umbach has previously used the same methodology in Pennsylvania in a multi-university study of the impacts of medical schools¹².

The ACE methodology employs linear cash-flow modeling to track the flow of institution-originated funds through a delineated spatial area.¹³ For Penn State impact analysis, computerized spreadsheet models were developed for the University as a whole and for each of the 24 locations of the University, with the models measuring impact on the state economy and government revenues. Figure 1. shows the general structure of the impact models used, which Tripp Umbach developed initially for the Pennsylvania State System for Higher Education in 1998.

By using this economic impact model, the Tripp Umbach research team has been able to provide Penn State with a detailed quantification of the total direct and indirect impact of the University on the economy of Pennsylvania and on each of the State's 67 counties. The impact models provide measures of business volume and state government revenues allocable to the university,

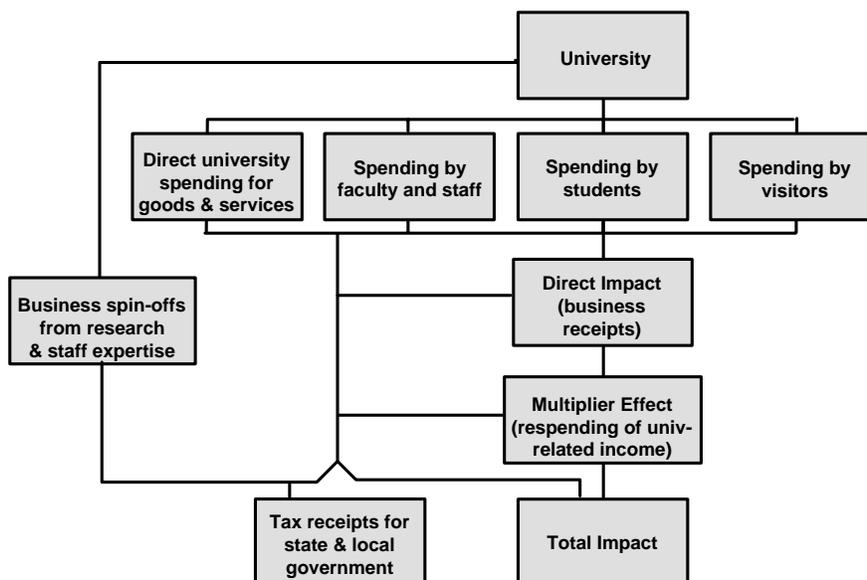
¹¹ Caffrey, John and Isaacs, Herbert, "Estimating the Impact of a College or University on the Local Economy," American Council on Education, 1971.

¹² Tripp Umbach & Associates, Inc., "The Economic Impact of Medical Centers of Excellence on the Commonwealth of Pennsylvania". Harrisburg, Pennsylvania. The Economic Development Partnership Taskforce on Medical Centers of Excellence, 1995. Pennsylvania academic medical centers sponsoring the study included the Allegheny Health Education and Research Foundation (AHERF: incorporating Hahnemann University and the Medical College of Pennsylvania), Penn State Hershey Medical Center, the University of Pennsylvania Health System, University of Pittsburgh Medical Center, Thomas Jefferson University and Temple University.

¹³ The ACE methodology is highly adaptable to different geographic scales. It is suitable for measuring impact on neighborhoods, municipalities, counties, states, regions or nations. In the study reported herein for the State System of Higher Education, the impact of the universities is measured at the state and county scales.

together with breakouts of the individual categories of spending that comprise the total impact (e.g. institutional capital spending, student spending, faculty spending, etc.).

Figure 1
Pennsylvania State System of Higher Education
Economic Impact Model



B. Employment Impact

The research reported here, measures the direct employment impact of the University. In addition, the research quantifies the indirect employment generated at in-state businesses by expenditures emanating from the University. An employment multiplier of 2.20 was generated by Tripp Umbach for the Penn State project. While employment multipliers at the state level range from as low as 1.4, the multiplier for Penn State is comparatively higher due to the large amount of out-of state visitors and research grants and the impact of out- of-state students and their visitors.

C. Data Sources

As noted above, this research project closely follows the ACE methodology for the performance of impact analysis for a higher education institution. The methodology requires that a university supply detailed information related to expenditure levels and geographic location of expenditures, together with staffing and other related economic information. The main sources of data used in the Penn State economic impact study are as follows:

1. Penn State Supplied Data

The University's finance office maintains a broad range of operational and financial data for Penn State. During initial consultations between Tripp Umbach and the university it was determined that, where possible, these central databases should be used to avoid overburdening the individual campuses with data collection requirements.

2. Data Supplied by Individual Campuses

The majority of information required for the individual campus visitors section of the models was provided by each university campus directly. Tripp Umbach developed a data collection form which was distributed to each of the campuses for completion – all 24 campuses completed the form in time for inclusion in the study.

3. Data Collected by Surveys Administered to Alumni and Business Owners

Data on alumni and business owners in the Commonwealth of Pennsylvania was collected via quantitative surveys administered via mail. These surveys gathered information on campus visits, volunteer activities, charitable contributions and other key data required for the impact modeling.

4. Secondary-Sourced Data

Census data from the economic census, together with Bureau of Labor Statistics information were required for completion of the models. Tripp Umbach gathered budgetary information from each of the counties containing a Penn State campus to facilitate the modeling of government revenue impacts allocable to the University. To complete the economic impact models, Tripp Umbach used student, faculty, and staff spending data from other studies completed for the State System of Higher Education and other recent projects throughout the Commonwealth.

Appendix: Glossary of Terms

Business Volume Model	Calculates capital account, goods and service, staff, student and visitor spending, as well as the value of business property.
Government Revenue Model	Calculates the amount of tax (e.g., income, sales) received by the Commonwealth of Pennsylvania from The Pennsylvania State University-related businesses and populations.
Total Business Volume Impact	Direct impact multiplied by indirect impact multiplier.
Direct Impact	Sum of total expenditures for capital, and goods and services, and staff, patients and visitors spending.
Indirect Impact	Standard multiplier as recommended by American Council on Education representing the re-spending taking place in the study area (2.3 times direct impact).
Capital Account Expenditures	A five-year average of spending on equipment, buildings and land.
Goods, Services and Supplies Expenditures	Total non-capital and non-payroll spending for the 12-month period of the study (2003).
Total Expenditures by Staff	Sum of spending for rental housing and non-housing items by those residing in the area and general spending in-area by those not residing in the area.
Value of Business Property	Calculates the value of business real property and business inventory committed to The Pennsylvania State University's business volume.
Pennsylvania State Model	Calculates the impact on the entire state of Pennsylvania.
Study Period	2003 - 2004