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ECONOMIC AND SOCIAL CONTRIBUTIONS OF THE UNIVERSITY OF PITTSBURGH

PITT’S ANNUAL IMPACT ON THE PENNSYLVANIA ECONOMY

• $3.7 billion in total economic impact generated by PITT.

• 27,880 PITT supported jobs throughout the Commonwealth of Pennsylvania.

• One in 230 jobs within Pennsylvania is attributable to PITT.

• $187.8 million in tax revenue to state and local governments, including sales, property, and business tax payments.

• PITT faculty, staff, and students generate $70.1 million annually in charitable donations and volunteer services.
Since its founding on February 28, 1787, the University of Pittsburgh (“the University” or “PITT”) has established itself as one of the most comprehensive public research universities in the nation. With an enrollment of more than 35,000 students, the University is one of the largest institutions of higher education in Pennsylvania. The University of Pittsburgh is internationally respected as a center for learning and research. Supporting the needs and interests of the University are more than 13,300 faculty, research associates, and staff.

The University comprises five campuses. The 132-acre Pittsburgh Campus is located in Oakland. The University’s four regional campuses are located in western Pennsylvania — in Bradford, Greensburg, Johnstown, and Titusville. PITT also provides county Children and Youth Agencies across the Commonwealth through the Pennsylvania Child Welfare Resource Center in Mechanicsburg.

- PITT is the only Pennsylvania public college or university included in The Princeton Review-USA TODAY national "Best Value Colleges for 2014."
- The University of Pittsburgh is ranked No. 22 among 2,000 institutions of higher education, No. 16 nationally, and No. 7 among U.S. public universities for the quality and quantity of its scholarly publications, according to 2013-14 statistics released by the University Ranking by Academic Performance Research Laboratory.
- PITT ranked seventh overall and fourth among public institutions in the National Science Foundation’s most recent ranking of federally funded research. In a recent analysis of National Institutes of Health (NIH) funding, the Faculty of the University’s School of Medicine ranked fifth among U.S. medical schools and its School of Nursing ranked fifth among U.S. nursing schools in NIH funding. The University ranked third in funding from the National Institute of Mental Health.
- For four consecutive years, PITT has ranked as a top producer of U.S. State Department’s Fulbright Student Program grant winners, which provides valuable funding to pursue study or research abroad.
- Military Advanced Education magazine has named PITT one of the country’s top military-friendly universities.
The University continues to make great strides in offering quality education, research, and public service. Applications for admission to PITT have increased dramatically, rising from just slightly more than 7,800 applications in 1995 to over 30,000 applications in 2014. The University has also become a magnet for high achieving applicants with 53 percent of first-year students graduating in the top ten percent of their high school classes, compared to 19 percent in 1995. The average SAT score is now approaching 1300, an increase of 200 points above the average SAT score in 1995. The University consistently ranks in the top ten American higher education institutions in terms of federal funding, as reported by the National Science Foundation. PITT also ranks among the top ten universities nationally in annual research support awarded by the National Institutes of Health. The University is forging ahead, reaching new milestones in its goal to be one of the finest, most productive academic and research institutions in the world.

The University of Pittsburgh has served as an integral partner and key player in driving the growth of the education and health services super-sector in the Pittsburgh metropolitan region. PITT and its affiliate, the University of Pittsburgh Medical Center (UPMC), have been major contributors to that economic sector; the “eds and meds” sector now is responsible for more than one out of every five local jobs. University of Pittsburgh research has been a key source of economic growth, and since 1995, PITT has attracted nearly $9.5 billion of sponsored research support into this region.

The University of Pittsburgh’s research, combined with that of Carnegie Mellon University (CMU), also has provided the foundation for such future-oriented technology-based economic development initiatives as the Pittsburgh Digital Greenhouse, the Pittsburgh Life Sciences Greenhouse, the Pittsburgh Robotics Foundry, and the Technology Collaborative.

The growth and dynamism of the region is due in large part to the relationships forged by PITT, UPMC, Carnegie Mellon University, private industry, and the community. While other regions struggled through the Great Recession, the Pittsburgh area was able to continue on its path of growth and discovery.

The results presented in this economic impact study are generated on an annual basis. The economic impact in future years can either be higher or lower, based on the number of students, capital expansion, increases in external research, and the level of state appropriations. It is important to note that the economic and employment impacts stated in this report represent the “fresh dollar” impact of the University of Pittsburgh. The operations of the University of Pittsburgh and the regional campuses leverage $3.7 billion in economic impact and sustain 27,880 jobs throughout Pennsylvania.

**FIGURE 1:**

The Total Statewide Economic Impact of PITT

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1 This methodology looks at dollars that come into a region from outside of a region. For this study, the region has been defined as the Commonwealth of Pennsylvania. New revenue, often called “fresh dollars”, comes into the region in the form of external research funding and visitors traveling from outside the region and staying overnight: lodging, accommodations, restaurants, transportation, and other funds generated by attendance at other events associated with the University.
PROJECT OVERVIEW

In December 2013, Tripp Umbach was retained by Pitt to measure the economic, employment, and government revenue impacts of operations and research of all of its campuses. The overall economic and fiscal impact that the University of Pittsburgh has on the vitality of the region and state includes the following elements:

• Business volume impacts (analysis includes collection of information regarding capital expenditures, operational expenditures, salary data, and state and regional business volumes).

• The direct and indirect employment impacts of the University.

• The government revenue impact of Pitt at the local and state levels.

• The impact of University alumni on the economy (wages paid to high-skilled workers, job creation, and taxes paid).

• The economic impact of out-of-state research funding including research commercialization, patents and licensing, and business spinoffs.

STUDY OVERVIEW:

Fiscal Year 1995-1996 (FY 95-96)
Fiscal Year 2001-2002 (FY 01-02)
Fiscal Year 2007-2008 (FY 07-08)
Fiscal Year 2012-2013 (FY 12-13)

THIS STUDY INCLUDES THE UNIVERSITY OF PITTSBURGH CAMPUSES AND CENTERS:

• Pittsburgh
• Bradford
• Greensburg
• Johnstown
• Mechanicsburg
• Titusville

STUDY GEOGRAPHY:
Commonwealth of Pennsylvania

METHODOLOGY: IMPLAN
METHODOLOGY EMPLOYED IN THE ECONOMIC IMPACT STUDY

This economic impact analysis measures the effect of direct and indirect/induced business volume and government revenue impacts for all of PITT’s operations throughout Pennsylvania. The methodology employed in the calculation of these impacts is IMPLAN. Primary data used to conduct the analysis were collected from the University of Pittsburgh. Data included capital expenditures, operational expenditures, jobs, payroll and benefits, and taxes. The approach taken on this study was decidedly conservative. However, the impact findings compare favorably to other top research universities in the country.

Economic impact begins when an organization spends money. Studies measuring economic impact capture the direct economic impact of an organization’s spending, plus additional indirect and induced spending in the economy as a result of direct spending. Economic impact has little to do with dollars collected by institutions.

Total economic impact measures the dollars that are generated within Pennsylvania due to the presence of the University of Pittsburgh. This includes not only spending on goods and services with a variety of vendors within the state and the spending of its faculty, staff, students, and visitors, but also the business volume generated by businesses within Pennsylvania that benefit from PITT’s spending. It is important to remember that not all dollars spent by a university remain in its home state. Dollars that “leak” out of the state in the form of purchases from out-of-state vendors are not included in the University’s economic impact on the state (see Figure 2). The multipliers utilized in this study are derived from the IMPLAN software.

Key economic impact findings presented within the summary include the total current (FY 12-13) impact of PITT’s operations on employment in Pennsylvania, as well as the revenue impact on state and local governments. Economic analysis was also completed for three historical years—FY 95-96, FY 01-02, and FY 07-08.

Components of Economic Impact

What Is Included in the Economic Impact?
- Capital Spending
- Operational Spending
- Research Spending
- Number of Employees
- Salaries & Benefits
- Taxes
- Visitor Spending
- Student Spending

What Is Not Included in the Economic Impact?
- Research Commercialization
- In-State Alumni Impact
- Attraction Power
- Knowledge & Expertise
- Arts & Culture

---

2 Minnesota IMPLAN Group, Inc. (MIG) is the corporation that is responsible for the production of IMPLAN (Impact analysis for PLANning) data and software. IMPLAN is a micro-computer-based, input-output modeling system. With IMPLAN, one can estimate Input-Output models of up to 528 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model.

3 Fiscal Year 2012 – 2013 represents the period of time from July 1, 2012 to June 30, 2013.
UNIVERSITY OF PITTSBURGH IS INTEGRAL TO THE COMMONWEALTH’S ECONOMIC SUCCESS

Operations of the University of Pittsburgh directly or indirectly impact residents throughout Pennsylvania, generating $3.7 billion annually in overall economic impact. The University of Pittsburgh affects business volume in Pennsylvania in two ways:

1. Direct expenditures for goods and services by PITT, its faculty, staff, students, and visitors. This spending supports local businesses, which in turn employ local individuals to sell the goods and provide the services that University constituencies need.

2. Indirect or induced spending within the Commonwealth of Pennsylvania. The businesses and individuals that receive direct payments re-spend this money within the state, thus creating the need for even more jobs.

As a result of expenditures on goods and services by PITT, its faculty, staff, students, and visitors, the overall economic impact of University of Pittsburgh operations on the Commonwealth of Pennsylvania in FY 12-13 was $1.8 billion direct impact and $1.9 billion indirect and induced (a total of $3.7 billion; see Figure 3).

The table below shows the top ten industries in terms of economic output by industry.

| Top 10 Industries Supported by the University of Pittsburgh in terms of Total Economic Output, 2013 |
| Description                                                                 | Total Output      |
| Collected/Universities                                                      | $1,644,530,288    |
| Real estate establishments                                                  | $173,725,682      |
| Imputed rental activity for owner-occupied dwellings                       | $147,571,252      |
| Hotels and motels, including casino hotels                                 | $111,977,553      |
| Food services and entertainment establishments                              | $108,549,194      |
| Electric power generation, transmission, and distribution                  | $84,420,742       |
| Private hospitals                                                          | $82,764,396       |
| Wholesale trade businesses                                                 | $70,569,138       |
| Offices of physicians, dentists, and other health practitioners            | $68,016,708       |
| Monetary authorities and depository credit intermediation activities       | $67,082,043       |

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.
In FY 12-13, the University of Pittsburgh’s appropriation from the Commonwealth of Pennsylvania represented just 7 percent of its operating budget. As a result of the University’s expenditures and operations throughout Pennsylvania, the state realizes a significant return on its investment. Given PITT’s ability to effectively leverage this state appropriation beyond its fundamental education and research missions through strategic partnerships and relationships with UPMC, CMU and public and private institutions throughout the state, the return on the state’s investment is much greater.

The growth in the economic impact of the University of Pittsburgh since FY 95-96 is impressive, as illustrated in Figure 4 (all impacts are presented in 2013 dollars). Since 1995, the economic impact of the University has more than doubled (2.46 times greater in FY 12-13). This increase is due to the institutional commitment to providing the highest quality of education and research, administrative leadership, teaching, and intercampus and business collaborations, and research enterprise.

**FIGURE 4:**

Economic Impact of the University of Pittsburgh (FY 95-96 to FY 12-13)

<table>
<thead>
<tr>
<th>Year</th>
<th>Direct</th>
<th>Indirect/Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 95-96</td>
<td>$747.7 million</td>
<td>$733.6 million</td>
<td>$1.5 billion</td>
</tr>
<tr>
<td>FY 01-02</td>
<td>$1.1 billion</td>
<td>$1.0 billion</td>
<td>$2.1 billion</td>
</tr>
<tr>
<td>FY 07-08</td>
<td>$1.5 billion</td>
<td>$1.5 billion</td>
<td>$3.0 billion</td>
</tr>
<tr>
<td>FY 12-13</td>
<td>$1.8 billion</td>
<td>$1.9 billion</td>
<td>$3.7 billion</td>
</tr>
</tbody>
</table>

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.
UNIVERSITY OF PITTSBURGH CREATES AND SUSTAINS JOBS

The University of Pittsburgh supports 27,880 jobs in the Commonwealth of Pennsylvania. One out of every 230 jobs in the state is attributable to the University. These jobs (both full-time and part-time) include not only direct employment by the University, but also indirect and induced jobs created by supply and equipment vendors, contractors, and laborers for the construction and renovation of University facilities, and jobs created in the community at hotels, restaurants and retail stores in support of the University’s workforce and its visitors.

The University of Pittsburgh directly employed 13,372 people during FY 12-13. To put this in perspective, the University of Pittsburgh is the second largest non-governmental employer in Allegheny County (seventh largest in the Commonwealth of Pennsylvania). The University supports thousands of jobs statewide in virtually every sector of the Pennsylvania economy, such as construction, business and professional services, restaurants and hotels, information technology, security, and temporary employment companies. These indirect/induced jobs (14,508 jobs) support the more than 13,000 jobs held by Pennsylvania residents directly employed by the University. (See Figure 5)

Table 2 on the following page shows the top ten industries impacted by the presence of the University of Pittsburgh in terms of employment.

While University related employment nearly doubled from FY 95-96 to FY 12-13, it also is important to note that indirect and induced jobs have increased throughout the state and region due to purchases made by the University and its employees (see Figure 6).

Top Employers* in Allegheny County

1. UPMC Presbyterian Shadyside
2. PITT
3. Giant Eagle, Inc.
4. PNC Bank, NA
5. Western Penn Allegheny Health System
6. University of Pittsburgh Physicians
7. Carnegie Mellon University
8. United States Steel corporation
9. Highmark, Inc.
10. Pittsburgh Public Schools

Source: Pennsylvania Center for Workforce Information and Analysis

*Non-Governmental

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.

1 Pennsylvania Department of Labor and Industry reported Pennsylvania Employment at 6.43 million in February 2014.
2 Pennsylvania Top 50 Employers, second quarter 2013. Center for Workforce Information & Analysis. 01/22/2014
### TABLE 2:

Top 10 Industries Supported by the University of Pittsburgh in Terms of Total Employment, 2013

<table>
<thead>
<tr>
<th>Description</th>
<th>Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleges and Universities</td>
<td>13,372 jobs</td>
</tr>
<tr>
<td>Food services and entertainment establishments</td>
<td>1,945 jobs</td>
</tr>
<tr>
<td>Hotels and motels, including casino hotels</td>
<td>1,055 jobs</td>
</tr>
<tr>
<td>Real estate establishments</td>
<td>1,028 jobs</td>
</tr>
<tr>
<td>Private hospitals</td>
<td>581 jobs</td>
</tr>
<tr>
<td>Offices of physicians, dentists, and other health practitioners</td>
<td>523 jobs</td>
</tr>
<tr>
<td>Wholesale trade businesses</td>
<td>383 jobs</td>
</tr>
<tr>
<td>Retail Stores - Food and beverage</td>
<td>378 jobs</td>
</tr>
<tr>
<td>Nursing and residential care facilities</td>
<td>365 jobs</td>
</tr>
<tr>
<td>Services to buildings and dwellings</td>
<td>355 jobs</td>
</tr>
</tbody>
</table>

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.

### FIGURE 6:

Economic Impact of the University of Pittsburgh (FY 95-96 to FY 12-13)

<table>
<thead>
<tr>
<th></th>
<th>FY 95-96</th>
<th>FY 01-02</th>
<th>FY 07-08</th>
<th>FY 12-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>9,671</td>
<td>11,088</td>
<td>12,420</td>
<td>13,372</td>
</tr>
<tr>
<td>Indirect/Induced</td>
<td>5,871</td>
<td>9,447</td>
<td>11,403</td>
<td>14,508</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15,542 jobs</td>
<td>20,535 jobs</td>
<td>23,823 jobs</td>
<td>27,880 jobs</td>
</tr>
</tbody>
</table>

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.
UNIVERSITY OF PITTSBURGH STRENGTHENS STATE AND LOCAL GOVERNMENTS

It is a common misperception that public universities do not generate tax revenue. State and local government revenues attributable to the presence of the University of Pittsburgh totaled nearly $187.8 million ($47.7 million direct taxes) in FY 12-13. Through its local spending, as well as direct and indirect support of jobs, the presence of the University stabilizes and strengthens the local and statewide tax base. PITT is an integral part of the state’s economy – generating revenue, jobs, and spending.

PITT’s contribution to the state and local coffers also has increased since FY 95-96. Figure 7 shows how PITT, its employees, and its suppliers contributed to the tax base of Pennsylvania.

TABLE 3:

University of Pittsburgh State and Local Government Revenue Impact, 2013

<table>
<thead>
<tr>
<th>Description</th>
<th>Employee Compensation</th>
<th>Tax on Products and Imports</th>
<th>Households</th>
<th>Corporations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends</td>
<td></td>
<td></td>
<td></td>
<td>$175,459</td>
</tr>
<tr>
<td>Social Security Tax- Employee Contribution</td>
<td>$1,134,839</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Security Tax- Employer Contribution</td>
<td>$2,011,761</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Sales Tax</td>
<td></td>
<td>$57,658,654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Property Tax</td>
<td></td>
<td>$51,970,752</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Motor Vehicle Lic</td>
<td></td>
<td>$1,067,441</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Other Taxes</td>
<td></td>
<td>$12,177,074</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: S/L NonTaxes</td>
<td></td>
<td>$3,971,578</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Profits Tax</td>
<td></td>
<td></td>
<td></td>
<td>$5,396,046</td>
</tr>
<tr>
<td>Personal Tax: Income Tax</td>
<td></td>
<td></td>
<td></td>
<td>$42,138,491</td>
</tr>
<tr>
<td>Personal Tax: NonTaxes (Fines- Fees)</td>
<td></td>
<td></td>
<td></td>
<td>$6,693,180</td>
</tr>
<tr>
<td>Personal Tax: Motor Vehicle License</td>
<td></td>
<td></td>
<td></td>
<td>$1,655,956</td>
</tr>
<tr>
<td>Personal Tax: Property Taxes</td>
<td></td>
<td></td>
<td></td>
<td>$803,433</td>
</tr>
<tr>
<td>Personal Tax: Other Tax (Recreational Permits/Licenses)</td>
<td></td>
<td></td>
<td></td>
<td>$945,603</td>
</tr>
<tr>
<td>TOTAL STATE AND LOCAL TAX</td>
<td>$3,146,600</td>
<td>$126,845,499</td>
<td>$52,236,663</td>
<td>$5,571,505</td>
</tr>
</tbody>
</table>

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.

FIGURE 7:

Government Revenue Impact of the University of Pittsburgh (FY 95-96 to FY 12-13)

<table>
<thead>
<tr>
<th></th>
<th>FY 95-96</th>
<th>FY 01-02</th>
<th>FY 07-08</th>
<th>FY 12-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>$75.2 million</td>
<td>$105.7 million</td>
<td>$149.1 million</td>
<td>$187.8 million</td>
</tr>
</tbody>
</table>

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.
The University of Pittsburgh generated $760 million in grants and awards for research and other sponsored programs during FY 12-13. These research dollars enter the Pennsylvania economy from a wide variety of agencies and organizations, including the National Institutes of Health and the National Science Foundation. The amount of sponsored research funding received by PITT illustrates the fact that the University is one of the leading centers of research in the nation, ranking among the top ten universities in terms of research funding received by its faculty members. This research funding is generated by a wide variety of departments and colleges throughout the University system. PITT’s research expenditures of $760 million resulted in an overall economic impact of $1.5 billion utilizing IMPLAN to calculate the total impact of research expenditures.

The University’s research operations make tangible and quantifiable economic contributions. Along with creating jobs for research staff and support personnel, PITT scientists are contributing to new product development and technology commercialization. Knowledge and technology transfers have helped to start commercial ventures that promote entrepreneurship, economic development, and job creation.

With 16 schools, thriving multidisciplinary centers, and close ties to the University of Pittsburgh Medical Center, PITT research extends across many disciplines. University researchers also collaborate with colleagues from more than 80 other universities—including nearby Carnegie Mellon University—and corporate partners near PITT’s urban campus. The following are multidisciplinary research areas where the University of Pittsburgh is a current or emerging leader.

- Aging
- Bioengineering
- Computer Modeling
- Drug Discovery
- Energy
- Global Health
- Humanities
- International Studies
- Nanoscience
- National Preparedness
- Neuroscience
- Philosophy
- Translational Medicine
- Biochemistry
- Organ Transplantation
PITT PEOPLE AND THEIR IMPACTFUL RESEARCH

PITT people ushered in the age of radio and television, developed the vaccine that beat polio, launched the first heavier-than-air flying machines, discovered quasars, and turned Pittsburgh into the world’s organ transplantation capital, among many other breakthroughs. PITT researchers carry on that tradition in areas ranging from neuroscience to advances in quantum computing. The sampling of innovations and discoveries below shows only a few of the many accomplishments of PITT’s faculty and research staff.

- Marlin Mickle, the Nickolas A. DeCecco Professor Emeritus in PITT’s Department of Electrical and Computer Engineering, has developed breakthrough innovations around radio frequency-based electronics. His innovations range from wireless ambient energy harvesting, burst switches, and tiny antennae to devices for deep-brain stimulation and safety packing for medication blister packs.

- American Cancer Society Research Professors Yuan Chang and Patrick Moore isolated the virus that causes four different human cancers, including the Kaposi’s sarcoma-associated herpes virus that causes epidemic cancer among HIV/AIDS patients and the Merkel cell polyomavirus that causes most Merkel cell carcinomas in older adults.

- Rory Cooper, Distinguished Professor and FISA-Paralyzed Veterans of America Chair, and his research team at the Human Engineering Research Laboratory dedicate themselves to improving the quality of life for older adults, people with disabilities, and the nation’s wounded warriors. Dr. Cooper and his research team count among their many advances an injection-molded pediatric chair, a wheelchair sensor system, a natural-fit hand rim for wheelchair wheels, and a “game cycle” exercise system.

- PITT surgeons have performed more than 17,000 organ transplants, establishing Pittsburgh as the world’s leading center of transplantation medicine and training.

- PITT’s School of Dental Medicine established what is believed to be the world’s only DNA bank to share data among colleagues. The Dental Registry and DNA Repository is a repository of clinical information linked to saliva samples from approximately 4,500 subjects (both children and adults) treated by all departments of PITT’s School of Dental Medicine. The registry and data are available for faculty and students to develop clinical research projects. To date, dental students and faculty have utilized data from the registry in the publication of 13 scientific papers. Data from the registry also have been used to secure three NIH grants and one American Association of Orthodontics Foundation grant.

- Neurology professor Andrew Schwartz is leading a team of PITT researchers in developing a robotic arm that can be controlled through thought. He has already successfully tested his research, which includes studying the many variable signals in the motor cortex section of the brain required to form the reaching movement.
• Albert and Vera Donnenberg are on a quest to find, and eventually kill or manipulate, dormant cancer stem cells. Research by Albert, a professor of medicine, and Vera, an assistant professor of surgery and pharmaceutical sciences, has led to the identification and characterization of specific cancer stem cells as well as the development of new flow cytometry-based tools and techniques.

• Professor Thomas C. Hales received the American Mathematical Society’s inaugural David P. Robbins Award in recognition of the “landmark achievement” in proving Kepler's Conjecture, one of the world’s great math problems that had stymied mathematicians for more than 400 years.

• Shaun Eack, an assistant professor in PITT’s School of Social Work, is working on a study evaluating the use of Cognitive Enhancement Therapy as a nondrug treatment for schizophrenia to help patients improve their adjustment, social functioning, and adaptive behavior.

• Dietrich School Neuroscience and Psychiatry Professor Bita Moghaddam studies the mechanisms that maintain cognitive and emotional functions in key brain regions that have been implicated in symptoms of schizophrenia, attention deficit/hyperactivity disorder, anxiety, and addictive disorders. Her research has expanded to include the study of adolescence as a key time to study neuronal systems as the symptoms of most major psychiatric disorders such as depression, bipolar disease, and schizophrenia begin to appear during this period, with an ultimate goal of being able to stop the progression of those conditions in genetically vulnerable individuals.

• Professor and Pitt alumnus Terrance Hayes, who received the 2010 National Book Award for poetry, was one of 21 recipients of the prestigious MacArthur fellowships awarded in 2014 to individuals “who show exceptional creativity in their work and the prospect for still more in the future.” The Foundation described Professor Hayes as “a poet who reflects on race, gender, and family in works marked by formal dexterity and a reverence for history and the artistry of crafting verse.”

• Professor Jane Iverson, from the Department of Psychology in the Dietrich School of Arts and Sciences, is a developmental psychologist and the director of PITT’s Infant Communication Lab, where she and her research team study the progress of, and connections between, gestures and language in infants and toddlers. One of the primary research activities currently under way at the Lab is the Pittsburgh Early Autism Study. Through this National Institutes of Health-funded initiative, Iverson and her students and colleagues are assessing the younger siblings of children who have already been diagnosed with an autism spectrum disorder to identify potential predictors of a later autism diagnosis.

• The Homewood Children’s Village, designed by PITT’s School of Social Work professor John Wallace and inspired by the successful Harlem Children’s Zone created by Geoffrey Canada, engages faculty, students, community members, the Pittsburgh Public Schools, nonprofit organizations, and government officials in carving out comprehensive community initiatives in this Pittsburgh neighborhood.

• The Mascaro Center for Sustainable Innovation in the Swanson School of Engineering links engineering to building sustainable neighborhoods through initiatives that include the Vandergrift Improvement Project, a long-term commitment and partnership in collaboration with the community, the state, nonprofit foundations, and other organizations to help “green” the revitalization of this community based on the plans and designs first conceived by the legendary Fredrick Law Olmstead in 1895.

• The Health Sciences Library System serves as the regional medical library for the Middle Atlantic Region of the National Network of Libraries of Medicine—one of only eight regional medical libraries in the country. The library provides health professionals with access to biomedical information, and improves the public’s access to information that will help in making informed health decisions.
RESEARCH AT THE UNIVERSITY OF PITTSBURGH CREATES HIGH-QUALITY JOBS

In FY 12-13, PITT’s operational and capital expenditures for sponsored research and other sponsored programs supported 9,218 jobs. These research employment numbers represent 33.1 percent of PITT’s total employment impact of 27,880 jobs.

These jobs include not only PITT’s direct employment of research professionals, but also indirect jobs created by supply and equipment vendors, contractors, and laborers for the construction and renovation of laboratory facilities; administrators and managers who support the research infrastructure; and jobs created in the community by the disposable income of the scientific workforce.

By maintaining and growing its strong faculty base, PITT will continue to attract, and consequently spend, increasingly higher levels of research dollars, and the number of jobs supported will see similar growth. With continued high levels of research funding and consequent expenditures, PITT will remain a source of support for thousands of local jobs based on its research funding alone.

TABLE 5:
Employment Impact of the University of Pittsburgh Research Enterprise

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Employment Impact of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 95-96</td>
<td>2,854 jobs</td>
</tr>
<tr>
<td>FY 01-02</td>
<td>5,260 jobs</td>
</tr>
<tr>
<td>FY 07-08</td>
<td>7,788 jobs</td>
</tr>
<tr>
<td>FY 12-13</td>
<td>9,218 jobs</td>
</tr>
</tbody>
</table>

Source: Tripp Umbach, using IMPLAN results from data obtained through the University of Pittsburgh.
INNOVATION COMMERCIALIZATION AT PITT

The University of Pittsburgh remains fully committed to fostering innovation commercialization among its faculty, staff, and student researchers; building strong industry partnerships; promoting an entrepreneurial culture; and contributing proactively to regional economic development as part of its educational mission. Facilitating this broad range of innovation-centered endeavors is the University’s recently established Innovation Institute, the umbrella organization for three University departments:

- the Office of Technology Management (OTM), which serves as the hub of all innovation development and commercialization activities at PITT;
- the Office of Enterprise Development (OED), which facilitates the development of start-up companies around PITT innovations; and
- the Institute for Entrepreneurial Excellence (IEE), which helps businesses to harness the power of innovation, collaboration, and knowledge to increase profit margins; create jobs; diversify revenue streams; connect to emerging markets; and secure new research and development funding.

In addition, every year, PITT assists many start-up companies launching operations in the region.

PITT’s Innovation Institute works to facilitate the development of products and processes produced at the University. The Institute’s overarching mission is to effectively and efficiently transform PITT’s vast and diverse research endeavor into patent-protected, useful, and often lifesaving or life-changing products/processes that can be brought to market through technology license agreements and/or start-up companies. The commercialization activities of the University of Pittsburgh are impressive and its success in this arena continues to grow (see Table 6).

TABLE 6:

<table>
<thead>
<tr>
<th>Technology Commercialization</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invention disclosures received</td>
<td>254</td>
<td>225</td>
<td>257</td>
<td>254</td>
</tr>
<tr>
<td>Licenses/Options executed</td>
<td>41</td>
<td>80</td>
<td>105</td>
<td>155</td>
</tr>
<tr>
<td>U.S. Patents Issued</td>
<td>32</td>
<td>33</td>
<td>37</td>
<td>51</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>$6.5 million</td>
<td>$6.1 million</td>
<td>$6.2 million</td>
<td>$6.5 million</td>
</tr>
</tbody>
</table>

Source: University of Pittsburgh.
INNOVATION COMMERCIALIZATION AT PITT

- **$760 Million** - PITT researchers imported $760 million in total sponsored research funding into the region during FY 12-13. OTM's goal is to facilitate the commercialization of innovations that emerge from those research projects.

- **98 Start-Up Companies** - A total of 98 start-up companies have been launched around PITT innovations since OTM was established in 1996, including nine new companies in FY 12-13:
  - Boston Mountain Biotech
  - Formabone, Inc.
  - Panther Learning Systems, Inc.
  - Peca Labs, Inc.
  - Iron Horse Diagnostics, Inc.
  - DiaVacs, Inc.
  - 3Storm, Inc.
  - NanoPhoretics, Inc.
  - Wellbridge Health, Inc.

- **254 Invention Disclosures** - PITT Innovators submitted 254 Invention Disclosures to OTM for commercial consideration in FY 12-13, generating numerous opportunities for potential partners.

- **51 U.S. patents** - PITT received 51 U.S. patents in FY 2013 for PITT innovations, bringing PITT’s patent portfolio up to 541 U.S. patents issued since 1996.

- **155 Licenses/Options** - OTM and its partners executed 155 licenses or options to outside partners for PITT innovations in FY 12-13, including start-up companies.

- **$6.5 Million in Total Revenue** - PITT received more than $6.5 million in total revenue from its commercialization activities in FY 12-13, including $4.1 million in licensing revenue.
UNIVERSITY OF PITTSBURGH TECHNOLOGY COMMERCIALIZATION: LICENSING AND PATENT HIGHLIGHTS THROUGHOUT THE YEARS

• The first clinical study of Pittsburgh Compound B using human subjects took place in 2002, with a report on the study published in 2004 in the Annals of Neurology. Pittsburgh Compound B is a radioactive imaging technology used in positron-emission tomography scans to image beta-amyloid plaques in neuronal tissue in the brain, providing an early diagnosis of Alzheimer’s disease. It was developed by psychiatry professor William Klunk and radiology professor Chester Mathis, both of whom were recognized with the American Academy of Neurology’s Potamkin Prize (known as the “Nobel Prize of neurology”) for their pioneering work.

The technology was licensed for commercialization that same year to GE Healthcare, which then developed what it now calls Vizamyl. The University received a patent for the technology (US7270800) in September 2007. In October 2013, GE Healthcare received FDA approval to market Vizamyl as a tool for pharmaceutical companies to help advance treatment options by assisting in enrolling patients who might benefit from treatment in appropriate clinical trials.

• ALung Technologies, Inc., was formed in 2001 around artificial lung technology developed by bioengineering professor William Federspiel and the late cardiac surgery professor Brack Hattler. The Pittsburgh-based start-up struggled for many years because of technology limitations of the time. But in 2005, Federspiel and his research team overcame those hurdles and developed a new respiratory assist device, called the Paracorporeal Respiratory Assist Lung, which was then licensed by ALung. The resulting product is the Hemolung Respiratory Assist System, which the company refers to as “respiratory dialysis.”

The company has since raised millions of dollars in capital investment and is now led by veteran life sciences entrepreneur and PIT&T alumnus Peter DeComo, who joined the company in 2008. In 2013, the company received its CE Marking for marketing its Hemolung product in Europe. ALung is currently working on obtaining FDA approval for marketing Hemolung in the United States. In 2013, the company announced its 45th hire, with 38 employees – including eight PIT&T graduates, based in Pittsburgh.

The CE Marking, formerly the EC Marking, indicates that a product complies with European Union legislation, meets the requirements of the applicable European Commission directives (particularly in the areas of safety and performance), and can be sold throughout the European Economic Area.
UNIVERSITY OF PITTSBURGH TECHNOLOGY COMMERCIALIZATION:
LICENSING AND PATENT HIGHLIGHTS THROUGHOUT THE YEARS

• The Occupational Cohort Analysis Program (OCMAP-PLUS), a computer software program had been developed by biostatistics professor Gary Marsh to perform statistical analysis for epidemiological studies, particularly among occupational groups. It became the premier tool for the study of mortality and cancer incidence in relation to specified occupational factors and generated considerable licensing interest in 2007 and 2008. All told, it has been licensed at least 29 times to universities and private companies throughout the world.

• In 2005, Pittsburgh-based Cohera Medical, Inc., was launched based on medical adhesive technology and related methods of tissue adhesion that were developed originally by Eric Beckman, the George M. Bevier Professor of Engineering, in collaboration with former oral and maxillofacial surgery professor Michael Buckley. PITT received a U.S. patent for the technology (US7264823) in September 2007. The company now markets its TissuGlu, a bio-absorbable medical adhesive for use in lipoplasty surgery, along with its own applicator, and is building sales in Europe after receiving a CE Marking in 2011. It also has raised millions of dollars in venture capital as it vies for FDA approval in the United States.

2012-2013

• Formabone, Inc., is a start-up based on a novel injectable bone cement and similar pastes that contain proteins, cells, plasmid DNA, and drugs to promote bone regeneration. The technology was developed by a collaboration between bioengineering professor Prashant Kumta and dental medicine professor Charles Sfeir.

• Wellbridge Health, Inc., is working to reduce the number of unplanned readmissions to the hospital of older adults with chronic illness using a tablet-based program developed by Associate Professor Daniel Rosen, of PITT’s School of Social Work. The program – which includes apps for medication management, weight monitoring, and monitoring of symptoms following surgery – will enable users to communicate their progress and other information to their health care providers.
PITT BENEFITS THE COMMONWEALTH BEYOND ITS OPERATIONS

PITT’s total impact on the Commonwealth of Pennsylvania goes beyond its annual operational expenditures. Economic impact studies often capture only the impact that can be assigned a quantitative number, but the qualitative value and impact of the University goes far beyond its annual multi-billion dollar economic impact. Through its academic programs, PITT is helping to grow the Commonwealth by educating the highly-skilled workforce that will be needed to compete in a global economy, providing the next generation of innovators with a firm foundation upon which to grow their own ideas, and helping to build the next generation of scholars. Moreover, PITT provides the larger community with access to faculty experts, adds richness and diversity to the region’s cultural offerings, has provided the research expertise that is quickly making Western Pennsylvania the “New Center of American Energy,” and has earned well-deserved global recognition as a center of cutting-edge medical research. It is challenging to assign a dollar amount to the outreach and community activities of a major public research university such as PITT, but on a daily basis, the lives of those in the surrounding communities are significantly enhanced by its presence in a multitude of ways.

PITT EDUCATES THE FUTURE WORKFORCE OF PENNSYLVANIA

PITT educates the workforce that Pennsylvania needs to successfully compete in the 21st century global economy. Approximately 9,000 students graduate every year from the University of Pittsburgh and are essential to meeting the state’s human capital and workforce needs. In FY 12-13, the University conferred 8,839 degrees. It is estimated that 74 percent of PITT’s graduates will stay in Pennsylvania and contribute to the state economy.

PITT is a global talent magnet, attracting top students in a wide range of disciplines. The University counts more than 307,000 alumni who reside in all 50 states, the District of Columbia, four U.S. territories, and 160 foreign countries. Many PITT students choose to make their home in Pennsylvania following graduation, with more than half of PITT’s alumni now residing in the state.

FIGURE 9:
Salary Comparisons by Degree Type

Source: Tripp Umbach
PITT ALUMNI PLAY A VITAL ROLE IN THE PENNSYLVANIA ECONOMY

By educating students, PITT adds to the talent pool of human capital in Pennsylvania. A PITT degree increases a graduate’s value, productivity, and earning potential in the job market. Based on data on median annual earnings for university graduates in 2008 from the U.S. Department of Commerce’s Bureau of Economic Analysis, a bachelor’s degree earned at a university increases a graduate’s salary by an average of $20,748 a year compared with a high school graduate’s salary (from $32,552 to $53,300), while a graduate degree earned at a university increases a graduate’s salary, when compared to a bachelor’s degree, by an average of $15,756 a year (from $53,300 to $69,056 ; see Figure 9 on page 21). Considering the average individual’s work life is roughly 40 years, the benefit of earning a college degree provides about $829,920 more in total lifetime wages over an individual whose education stopped after earning a high school diploma.

The 5,438 undergraduate degrees PITT awarded in the 2012-2013 academic year equate to the creation of $15.6 billion of future value over 40 years (only counting the graduates from a single year). A similar analysis applied to the 3,401 advanced degrees awarded in the 2012-2013 academic year equates to another $9.8 billion of value created. Therefore, on an annual basis, PITT creates $25.4 billion ($15.6 billion + $9.8 billion) of incremental lifetime earnings for members of each graduating class. This impact is above and beyond the impact of the University’s operations.

To calculate the economic impact of PITT alumni on a continuing basis in Pennsylvania, the study assembled figures on the distribution of the alumni for whom PITT has current address information and used this distribution for the body of more than 174,000 alumni who have graduated in the past 30 years and are living in Pennsylvania. Based on an average of $8,5327 in additional salary earned each year as a graduate of the University, it is estimated that PITT alumni in the workforce support $56.1 billion in additional income in the state’s economy (assuming that 70 percent are in the workforce; see Figure 10).

FIGURE 10:
Economic Impact of Earnings of PITT Alumni

\[\text{Total Impact of Alumni} = \text{Undergraduate Impact} + \text{Graduate/Professional Impact}\]

Source: Tripp Umbach

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7 This number is the average amount of additional income that a graduate of a school with a similar profile to that of the University of Pittsburgh earns over the average college graduate. It is based upon an average of the studies that Tripp Umbach has completed for peer universities in which primary survey analysis was conducted.
PITT PROVIDES SUPPORT TO THE COMMUNITY

It is estimated that PITT employees and students generate more than $70 million annually in charitable donations and volunteer services. These benefits are in addition to the $3.7 billion annual impact and include the following:

• $53.9 million in value of volunteer time provided to area communities by PITT employees and students.

• $16.1 million donated to local charitable organizations by PITT employees and students.

PITT COMMUNITY PROGRAMS:

• Alternative Break: PITT’s Alternative Break offers its students the opportunity to participate in meaningful service projects over the spring break. During the week of Alternative Break, teams of PITT students participate in service projects with a nonprofit organization or community partner. Students travel to parts of the country that they might otherwise not visit and experience learning that cannot be found in a traditional classroom setting. They interact with members of the host community and learn about the customs and culture of the region, as well as the challenges being faced by its residents. At the same time as they are expanding their horizons, PITT students also are experiencing the heartwarming and humbling sense of gratitude that comes from helping others.

• America Reads Challenge: The mission of America Reads Challenge (ARC) is to help kindergarten to third grade students improve their reading ability so that they are independent readers by the end of third grade. PITT’s ARC Corps includes both federal work-study students and student volunteers who serve as reading tutors in local schools and after-school programs. America Reads tutors serve approximately 11,200 hours in the Pittsburgh community annually.

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8 Primary data collection via survey research where faculty, staff, and students provide estimates on spending patterns, including information on the number of volunteer hours and charitable donations. A conservative assumption of $22.14 per hour was used to calculate the value of volunteer services. This amount was calculated independently by the Points of Light Foundation.
• JumpStart: A national nonprofit early education organization, Jumpstart’s mission is to help children in underserved neighborhoods develop the essential skills they will need as they prepare to begin their education. This early exposure to success is a vital component of closing the achievement gap that often exists in our nation’s urban school districts. During the course of the academic year, Pitt’s Jumpstart Corps utilizes Jumpstart’s high-quality early education programming to help young children develop the literacy and language skills essential for success in kindergarten and in life. Jumpstart has been a proud partner of the Corporation for National and Community Service since 1995 and is now one of the nation’s largest part-time AmeriCorps programs.

• Dr. Martin Luther King Jr. Day of Service: Dr. Martin Luther King Jr. once said, “Life’s most persistent and urgent question is: ‘What are you doing for others?’” At the University of Pittsburgh, students and staff gather annually to participate in a full day of community service at various nonprofit agencies located in the local community.

• PMADD: Pitt Make A Difference Day (PMADD) is the University of Pittsburgh’s chapter of National Make A Difference Day, the most encompassing day of service in the United States. PMADD provides more than 13,000 hours of service to more than 90 community service sites in the greater Pittsburgh area. In 2013, more than 3,200 students participated in this important form of service to the Pittsburgh region.

• SCEC: The Student Civic Engagement Council (SCEC) serves to enhance the educational experience of Pitt students by connecting them to civic engagement and volunteer opportunities in the community. SCEC functions to assist student organizations, including cultivating ideas for various service projects, recruiting the necessary amount of volunteers needed for an event, and providing financial resources in the form of service grants to help augment service programs.

• The School of Dental Medicine: The School provides general and specialty dental care to the region’s diverse patient population at a significantly reduced cost. The School’s Center for Patients with Special Needs provides dental care to adult and pediatric special needs patients, including anesthesia services when needed. Over 1,800 special needs patients consider the Center to be their “dental home” and the Center routinely welcomes new patients. The School of Dental Medicine has been a contributor to the national “Give Kids A Smile” program for more than a decade, and has increased its donated labor, services, and supplies each year. Moreover, the Department of Pediatric Dentistry, in partnership with the Dental Hygiene Program, has contributed free dental care to the children of the region, providing not only preventive services but comprehensive dental care to approximately 1,500 children and adolescents.

• Day of Caring: As part of the University’s annual United Way campaign, members of the Pitt community (including faculty, staff, students, and alumni) devote a day of service to critically needed projects identified by community partners.

• Pitt Volunteer Pool: The Pitt Volunteer Pool brings together faculty and staff, along with their family and friends, to provide much-needed help to nonprofit community organizations throughout the year.
The University of Pittsburgh, its regional campuses, and its Pennsylvania Child Welfare Center in Mechanicsburg have a significant economic impact across Pennsylvania. Economic impact analysis was completed for the University of Pittsburgh overall as well as for each of its four regional campuses and the Pennsylvania Child Welfare Center (see Table 7).

**TABLE 7:**

<table>
<thead>
<tr>
<th>Campus</th>
<th>Economic Impact</th>
<th>Employment Impact</th>
<th>Government Revenue Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittsburgh Campus</td>
<td>$3.4 billion</td>
<td>26,212 jobs</td>
<td>$177,565,229</td>
</tr>
<tr>
<td>Bradford Campus</td>
<td>$47.2 million</td>
<td>358 jobs</td>
<td>$2,300,452</td>
</tr>
<tr>
<td>Greensburg Campus</td>
<td>$38.1 million</td>
<td>337 jobs</td>
<td>$1,951,639</td>
</tr>
<tr>
<td>Johnstown Campus</td>
<td>$77.4 million</td>
<td>627 jobs</td>
<td>$3,835,779</td>
</tr>
<tr>
<td>Titusville Campus</td>
<td>$13.4 million</td>
<td>140 jobs</td>
<td>$670,637</td>
</tr>
<tr>
<td>Pennsylvania Child Welfare Resource Center in Mechanicsburg</td>
<td>$34.0 million</td>
<td>206 jobs</td>
<td>$1,476,531</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$3.7 billion</td>
<td>27,880 jobs</td>
<td>$187,800,267</td>
</tr>
</tbody>
</table>
UNIVERSITY OF PITTSBURGH - CAMPUS CONCLUSIONS

UNIVERSITY OF PITTSBURGH - PITTSBURGH CAMPUS

INTRODUCTION

Founded in 1787, the University of Pittsburgh is one of the oldest institutions of higher education in the United States. PITT people have defeated polio; synthesized vitamin C; developed CPR; founded the discipline of critical care medicine; developed the science of magnetic resonance imaging; determined that breast cancer is a systemic, not a local, disease—one of the most significant advances in the history of women’s health; unlocked the secrets of DNA; and led the pioneering efforts in developing surgical techniques and therapies that made human organ transplantation possible, among numerous other accomplishments. From research achievements to the quality of its academic programs, the University of Pittsburgh ranks among the best in higher education. Faculty members have expanded knowledge in the humanities and sciences, earning such prestigious honors as the National Medal of Science, the John D. and Catherine T. MacArthur Foundation’s “genius” grant, the Lasker-DeBakey Clinical Medical Research Award, and election to the National Academy of Sciences and the Institute of Medicine.

PITT students have successfully competed in the most prestigious and most competitive national and international scholarships, including Rhodes, Goldwater, Marshall, Udall, and Truman Scholarships. Alumni have developed pioneering MRI and TV technology, won Nobel and Pulitzer Prizes, led corporations and universities, served in government and the military, produced Hollywood blockbusters, topped the New York Times best-sellers list, and won Super Bowls and NBA championships.

THE UNIVERSITY OF PITTSBURGH — PITTSBURGH SUPPORTS THE STATE ECONOMY

OVERALL ECONOMIC IMPACT OF THE UNIVERSITY OF PITTSBURGH — PITTSBURGH CAMPUS ACROSS THE STATE WAS $3.4 BILLION.

THE PITTSBURGH CAMPUS DIRECTLY OR INDIRECTLY SUPPORTED 26,212 JOBS THROUGHOUT THE STATE OF PENNSYLVANIA.

THE PITTSBURGH CAMPUS GENERATED APPROXIMATELY $177.6 MILLION IN STATE AND LOCAL GOVERNMENT REVENUES FOR THE STATE OF PENNSYLVANIA.
ECONOMIC IMPACT

The overall economic impact of the University of Pittsburgh – Pittsburgh Campus on the Commonwealth in FY 12-13 was $3.4 billion ($1.7 billion direct impact and $1.7 billion indirect and induced; see Figure 12).

EMPLOYMENT IMPACT

The total employment impact of the Pittsburgh Campus in Pennsylvania was 26,212 jobs (12,428 direct jobs). As a result of the Pittsburgh Campus operations, 13,784 indirect and induced jobs are created in Pennsylvania (see Figure 13).

GOVERNMENT REVENUE IMPACT

The operations of the Pittsburgh Campus generate $177.6 million ($45.6 million direct) per year in state and local tax revenue.

COMMUNITY BENEFITS

It is estimated that the Pittsburgh Campus faculty, staff, and students generate more than $59.6 million annually in charitable donations and volunteer services. These benefits are in addition to the $3.4 billion annual impact and include the following:

- $14.0 million donated to local charitable organizations by Pittsburgh Campus faculty, staff, and students.
- $45.6 million in value of volunteer time provided to area communities by Pittsburgh Campus faculty, staff, and students.
UNIVERSITY OF PITTSBURGH – BRADFORD CAMPUS

INTRODUCTION

Established in 1963, Pitt-Bradford offers more than 40 majors and 50 minors, concentrations, and pre-professional programs in Western Pennsylvania. Located in the foothills of the Allegheny Mountains, the campus provides students with the opportunity to combine traditional learning with outside-the-classroom experiences in a beautiful, natural setting. Pitt-Bradford’s close proximity to the New York State border (approximately five miles) attracts a significant out-of-state student population (19 percent).

Pitt-Bradford faculty are dedicated to teaching and work closely with their students. A degree from Pitt-Bradford is a valuable and affordable investment in the future of students and their families. The Princeton Review named Pitt-Bradford one of the 150 Best Value Colleges in the United States for 2012, one of only two public colleges in Pennsylvania to be named to the list, as well as recognizing the campus as one of the best colleges in the Northeast for the 10th year in a row. In 2013, thebestcolleges.org named Pitt-Bradford as one of the 10 best regional campuses in the United States. Additionally, U.S. News & World Report ranked Pitt-Bradford in the top tier of its list of best baccalaureate colleges in the North.

Pitt-Bradford has been described as the “Pride of the Region,” and this can be felt through the many ways in which the University impacts the area. This study has quantified and documented a wide variety of economic and social means by which Pitt-Bradford impacts five counties in Northwestern Pennsylvania and extends into Southwestern New York.

THE UNIVERSITY OF PITTSBURGH – BRADFORD SUPPORTS THE STATE ECONOMY

OVERALL ECONOMIC IMPACT OF THE UNIVERSITY OF PITTSBURGH – BRADFORD CAMPUS ACROSS THE STATE WAS $47.2 MILLION.

$47.2 million

THE BRADFORD CAMPUS DIRECTLY OR INDIRECTLY SUPPORTED 358 JOBS THROUGHOUT THE STATE OF PENNSYLVANIA.

358 jobs

THE BRADFORD CAMPUS GENERATED APPROXIMATELY $2.3 MILLION IN STATE AND LOCAL GOVERNMENT REVENUES FOR THE STATE OF PENNSYLVANIA.

$2.3 million
**ECONOMIC IMPACT**

The overall economic impact of Pitt-Bradford’s operations on Pennsylvania in FY 12-13 was nearly $47.2 million ($24.1 million direct impact and $23.1 million indirect and induced impact). (See Figure 14)

**EMPLOYMENT IMPACT**

The total employment impact of the Bradford Campus on the Commonwealth was 358 jobs (222 direct jobs). As a result of its operations, Pitt-Bradford creates 136 indirect and induced jobs in the economy. (See Figure 15)

**GOVERNMENT REVENUE IMPACT**

The Bradford Campus operations generate $2.3 million ($580,261 direct) per year in state and local tax revenue.

**COMMUNITY BENEFITS**

The University is a valuable resource to the community that makes many contributions to the culture and diversity of the region. It is estimated that Pitt-Bradford faculty, staff, and students generate more than $2.4 million annually in charitable donations and volunteer services. These benefits are in addition to the $47.2 million in annual economic impact outlined above and include the following:

- $505,000 donated to local charitable organizations by Pitt-Bradford faculty, staff, and students.
- More than $1.9 million in value of volunteer time provided to area communities by Pitt-Bradford faculty, staff, and students.

*Figure 14:*

University of Pittsburgh at Bradford Economic Impact, FY 2012-2013

*Figure 15:*

University of Pittsburgh at Bradford Employment Impact, FY 2012-2013
Examples of Community Activities and Outreach include:

- **Bromeley Family Theater**: This beautiful performing arts theater offers a wide variety of productions for both the Bradford Campus community and the surrounding community – from classical theater productions to programs for children of all ages.

- **Science in Motion**: Using funds provided by the Pennsylvania Department of Education, Pitt-Bradford purchases materials, equipment, and other resources to bring high-quality, state-of-the-art equipment into schools to enhance existing science programs. There is a mobile science lab that travels between local schools to give students the opportunity to experience and experiment with high-tech science equipment. As part of the Science in Motion program, Pitt-Bradford personnel logged more than 4,800 miles to deliver education science equipment to 165 labs in 21 public schools located in the Bradford Campus region. These state-of-the-art, high quality laboratory kits, instrumentation, and materials often are difficult for public schools to obtain. To date, Science in Motion has helped to enhance the science education experience of more than 7,800 middle and high school students in nearly 400 classes.

- **BRIDGES**: The BRIDGES program allows high school students to experience college-level coursework, as well as the campus environment by attending classes on campus and earning college credit that will make it possible for them to complete their college studies in advance of their peers.

- **The Seneca Building**: With the acquisition and renovation of the Seneca Building on Bradford’s Main Street, Pitt-Bradford has greatly expanded its presence in the City, while also bringing more people to an area that had been plagued by blight and longstanding economic decline. An important new addition to this University-owned facility will be the Marilyn Horne Museum and Exhibit Center, which will allow students of all ages to gain a greater appreciation for the musical genre of opera and the incredible life of Marilyn Horne, a Bradford native who achieved international prominence as one of the world’s greatest opera stars. The Marilyn Horne Museum and Exhibit Center will be a vital addition to the community’s ongoing revitalization efforts and will serve an anchor attraction for tourists and art enthusiasts, many of whom will come specifically to Bradford to view the Marilyn Horne archive collection.

- **Center for Rural Health Practice**: Also located in Seneca Building, Pitt-Bradford’s Center for Rural Health Practice is an important resource for the citizens of the region. The Center conducts health needs assessments and wellness programs for the community. The Center also provides Pitt-Bradford, faculty, students and staff with the opportunity to work with PITT’s colleges and schools to advance studies in rural health and formulate policy recommendations for the improvement of rural health systems. In addition, the Center maintains formal relationships with the UPMC Health System and serves as rural health liaison between PITT and federal, state and local governments, and rural health partners.

- **The Harry Halloran Jr. and American Refining Group Energy Institute**: Dedicated to serving the region as a primary locus for new knowledge and innovative approaches to the strategic development of renewable energy sources, Pitt-Bradford’s Energy Institute also collaborates closely with the energy industry in developing and delivering vital workforce training. Building on its long-term strengths, Pitt-Bradford’s has reinvigorated its Petroleum Technology program, an associate degree program, conforms to national standards and to the personnel needs of the local, regional and nationwide petroleum industry.
UNIVERSITY OF PITTSBURGH – GREENSBURG CAMPUS

INTRODUCTION

Established in 1963, the University of Pittsburgh at Greensburg offers a four-year liberal arts and sciences curriculum. Pitt-Greensburg offers 25 baccalaureate degree programs as well as 19 minors, and numerous preprofessional options. The faculty at Pitt-Greensburg emphasize teaching excellence while maintaining a commitment to scholarship and public service.

An important component of the undergraduate educational experience is acquiring a certain depth and breadth of knowledge in a specific discipline or area that defines a student’s major focus of study. Equally important is the opportunity for each student to acquire the fundamentals of a liberal arts and sciences education.

Pitt-Greensburg recognizes that good citizenship, civic leadership, and full participation in an information-based global society are a function of educational excellence. Accordingly, in all curricular and cocurricular matters, including its unique academic village structure, the Greensburg Campus fulfills its mission by providing its students with opportunities to develop leadership, a sense of civic engagement and public service, global awareness, and a commitment to academic excellence.

The University of Pittsburgh – Greensburg supports the state economy.

The Greensburg Campus directly or indirectly supported 337 jobs throughout the state of Pennsylvania.

The Greensburg Campus generated approximately $2.0 million in state and local government revenues for the state of Pennsylvania.

Overall economic impact of the University of Pittsburgh – Greensburg Campus across the state was $38.1 million.
**ECONOMIC IMPACT**

The overall economic impact of Pitt-Greensburg’s operations on the Commonwealth in FY 12-13 was $38.1 million ($18.5 million direct impact and $19.6 million in indirect and induced impact; see Figure 16).

**EMPLOYMENT IMPACT**

The total employment impact of Pitt-Greensburg’s operations in Pennsylvania was 337 jobs (189 direct jobs and 148 indirect and induced jobs; see Figure 17).

**GOVERNMENT REVENUE IMPACT**

The operations of the University of Pittsburgh at Greensburg generate nearly $2 million ($440,242 direct) per year in state and local tax revenue.

**COMMUNITY BENEFITS**

In addition to providing high-quality academic programs, Pitt-Greensburg is recognized as a valued community partner that plays an important role in a number of charitable and volunteer activities. In addition to its mission to educate students and its collaboration with corporations and area businesses to enhance regional economic development, the University also allows the community to use space on campus for events.

It is estimated that the faculty, staff, and students at Pitt-Greensburg generate $2.6 million in charitable donations and volunteer services. These benefits are in addition to the $38.1 million annual impact and include the following:

- $532,500 donated to local charitable organizations by the University of Pittsburgh – Greensburg Campus faculty, staff, and students.
- More than $2.1 million in value of volunteer time provided to area communities by the Greensburg Campus faculty, staff, and students.
EXAMPLES OF COMMUNITY ACTIVITIES AND OUTREACH AT PITT-GREENSBURG

• Center for Applied Research (CFAR): Established in 2012, CFAR is a resource for research and data collection, analysis, and program evaluation for both the campus and surrounding Westmoreland County communities. Its primary activities involve the quantitative and qualitative performance of empirical research. CFAR promotes multidisciplinary collaboration, allows faculty to work on applied projects that have a direct impact on improving the local community, and allows students to gain paid experiential research experience.

• Into the Streets: This event, held each spring and fall, is one of the many ways that Pitt-Greensburg gives back to the greater Westmoreland County region. During a one-week period, approximately 200 students, as well as faculty and staff, volunteer at local nonprofit organizations. Projects include “clean-ups,” assembling craft kits for children with life-threatening chronic illnesses, serving meals to those in need, and sorting and packing food boxes at the local food bank. Capping the week is the students vs. faculty/staff charity basketball game that raises money to support Jamie’s Dream Team and its work to lift the spirits of those suffering from, and ease the burden caused by, serious illness, injury, disability or trauma.

• Habitat for Humanity: Pitt-Greensburg’s Habitat for Humanity (HFH) campus chapter works with the Central Westmoreland HFH. In 2013, the Pitt-Greensburg Chapter participated in its tenth HFH Collegiate Challenge. During PITT’s Alternative Spring Break, 23 students and two staff members traveled from Greensburg to Marion County, South Carolina, to help build a Habitat house. The students also raised $2,000 to donate to the Marion County HFH to aid in the construction of the home. Participation in the trip has tripled since it began in 2004. The students are active throughout the academic year, participating in local build projects; advocating for simple, decent, affordable housing; and fundraising to support HFH projects.

• Outdoor Adventure and Community Service (OACS): OACS is a residential living community that combines outdoor adventure with community service. The goal is to develop interpersonal and leadership skills while instilling responsibility and engaging students in the community around them. This year, the members of OACS completed more than 20 service projects that included making homemade cat and dog treats for the local Humane Society, selling daffodils for the American Cancer Society’s Wall of Hope fundraiser, as well as volunteering at a local soup kitchen and the county food bank. When not doing community service, the group planned ice-skating, skiing, and snow tubing outings. OACS also hosted two outings open to the entire campus: a white-water rafting trip and a trip to Frank Lloyd Wright’s Fallingwater.

• Summer Science & Math Experience (SSME): Since 2009, students entering the ninth grade have been exploring the wonder and excitement of science through SSME. Students spend five days on campus participating in a wide range of science-related activities that provide hands-on, inquiry-based learning opportunities. Whether the students are involved in performing an analysis of the campus stream, discovering the science that makes popular toys work, or visiting a nuclear reactor, all of the activities seek to open students’ minds and eyes to exciting career possibilities in STEM fields. SSME is supported entirely by grants.

• Quest: Finding Your Future: Quest is a series of single-day themed day camps that are designed to help high school students explore their career options. Approximately 500 high school students have participated in the program since its inception in summer 2009. Quest provides hands-on activities that offer a sampling of key skills and knowledge needed to be successful in a professional field, as well as opportunities to interact with professionals representing a number of different occupations within the field. Four themed days, which change each year, are offered, as well as Discovery 101, a day camp designed for the student interested in career-oriented self-exploration.
UNIVERSITY OF PITTSBURGH - JOHNSTOWN CAMPUS

INTRODUCTION

Established in 1927, the University of Pittsburgh at Johnstown is the first and largest regional campus of the University of Pittsburgh. A vital knowledge center and a foremost contributor to the region’s social, cultural, and economic development, Pitt-Johnstown provides a high-quality educational experience that is purposefully designed to prepare students for the 21st-century global economy.

Pitt-Johnstown’s record of excellence is reflected, in part, through the accomplishments of its faculty, staff, and students; the record of achievements of more than 20,000 alumni; the respect of area employers; and commendations from many external organizations. Pitt-Johnstown offers a high-quality educational experience in a supportive living-learning environment that is grounded in the liberal arts and sciences and is responsive to students’ personal and professional needs, as well as the needs of the community.

Pitt-Johnstown has been recognized by the Princeton Review as a “Best in the Northeast” college, by G.I. Jobs as a “Military Friendly School,” by AC Online as one of the “Highest ROI (“Return On Investment”) Colleges in Pennsylvania,” and by Pennsylvania Business Central as a “Top 100 Organization.” In its last year of eligibility for ranking by U.S. News & World Report, Pitt-Johnstown climbed seven points to achieve Tier One status. Additionally, Pitt-Johnstown has been presented with the Seven Seals Award by the U.S. Department of Defense’s Office of Employer Support of the Guard and Reserve, and was named to the President’s Higher Education Community Service Honor Roll three years in a row.

Pitt-Johnstown also has received national recognition for its signature RealWorld Action Program, the centerpiece of cocurricular learning and student development initiatives. The program consists of several levels of engagement, including civic and community engagement. Students develop customized action plans with specific goals on how to become agents of positive change in our communities and beyond while acquiring the key attributes of leadership, involvement, service, and teamwork.
ECONOMIC IMPACT

The overall economic impact of the Johnstown Campus on operations in the state in FY 12-13 was $77.4 million ($38.9 million in direct impact and $38.5 million in indirect and induced impact; see Figure 18).

EMPLOYMENT IMPACT

The total employment impact of the Johnstown Campus in Pennsylvania was 627 jobs (341 direct jobs). As a result of its operations, the University of Pittsburgh at Johnstown also created 286 indirect and induced jobs (See Figure 19).

GOVERNMENT REVENUE IMPACT

The University of Pittsburgh – Johnstown’s operations generate more than $3.8 million ($776,401 direct) per year in state and local tax revenue.

COMMUNITY BENEFITS

The University is recognized as an important partner by the community, with many Pitt-Johnstown faculty, staff, and students engaging in service for residents and nonprofit organizations. Students contribute more than 10,000 hours of volunteer service to the community on an annual basis.

It is estimated that Pitt-Johnstown faculty, staff, and students generate more than $4.5 million annually in charitable donations and volunteer services. These benefits are in addition to the $77.4 million annual economic impact and include the following:

- $922,950 donated to local charitable organizations by the Johnstown Campus faculty, staff, and students.

- More than $3.6 million in value of volunteer time provided to area communities by Pitt-Johnstown faculty, staff, and students.
EXAMPLES OF COMMUNITY ACTIVITIES AND OUTREACH INCLUDE THE FOLLOWING:

- **Pitt-Johnstown @ Your Service**: Service to community has become a distinctive part of its campus culture through its signature Pitt-Johnstown @ Your Service program. Through @ Your Service, students, faculty, and staff are provided with volunteer opportunities that are strategically developed to address areas of vital importance to both Pitt-Johnstown and the Greater Johnstown community, including health promotion, veteran outreach, K-12 education, and support of the elderly.

- **Free Medical Clinic of Johnstown**: Nursing students participate in a clinical rotation at the Free Medical Clinic of Johnstown, a nonprofit organization consisting of volunteer doctors, nurses, and pharmacists who provide free medical and pharmaceutical care to low-income, uninsured adults.

- **Tutoring Services for Local School Children**: The Education Division at Pitt-Johnstown established a formal articulation agreement with the Greater Johnstown School District, providing intensive tutoring for PreK-8 students as a structured component of teacher preparation and the district’s “Response To Intervention” program.

- **HUGS Program**: The Help, Understanding, Guidance, and Support (HUGS) Program is helping to minimize the impact of divorce, separation, and custody disputes on children. Pitt-Johnstown developed and offers the program through a partnership with the Cambria County Court of Common Pleas. Since the program was launched in 1996, 6,700 parents, guardians, and grandparents have completed the four-hour educational seminar.

- **Pasquerilla Performing Arts Center**: The Pasquerilla Performing Arts Center advances the region’s cultural development through a wide range of programming. Events, including full-scale Broadway performances, large musical groups (the Center is home to the Johnstown Symphony Orchestra), dance troupes, and internationally known speakers, attract an average of 20,000 patrons annually. The Center also offers the very popular Stage Door Series for school-aged children in grades K-4. The Center’s Executive Director also is an active member of the Arts Coalition of the Alleghenies, which advocates for the arts community in the Allegheny region.
INTRODUCTION

Established in 1963, the University of Pittsburgh at Titusville provides students with a quality educational experience offered in a supportive environment conducive to learning, self-discipline, and mutual respect. Pitt-Titusville combines the advantages of a small college with the resources of an internationally respected institution. The campus offers excellent undergraduate education with an emphasis on personalized attention, providing associate degrees as prerequisites for professional or baccalaureate programs, and serving as an education, cultural, and economic resource for northwest Pennsylvania.

Pitt-Titusville plays an important role in the local economy and community. The University benefits the region in a myriad of ways, including as a prominent employer; by offering opportunities for continuing education; by providing arts, culture, and entertainment opportunities; and adding to the richness and diversity of the community. The Campus has been called the “Community Cornerstone of Titusville.”

THE UNIVERSITY OF PITTSBURGH – TITUSVILLE SUPPORTS THE STATE ECONOMY

OVERALL ECONOMIC IMPACT OF THE UNIVERSITY OF PITTSBURGH – TITUSVILLE CAMPUS ACROSS THE STATE WAS $13.4 MILLION.

THE TITUSVILLE CAMPUS DIRECTLY OR INDIRECTLY SUPPORTED 140 JOBS THROUGHOUT THE STATE OF PENNSYLVANIA.

THE TITUSVILLE CAMPUS GENERATED APPROXIMATELY $671,000 IN STATE AND LOCAL GOVERNMENT REVENUES FOR THE STATE OF PENNSYLVANIA.

The Helene Barco Duratz Plaza at Pitt-Titusville.
ECONOMIC IMPACT

The overall economic impact of the operations at the Titusville Campus on the Commonwealth in FY 12-13 was $13.4 million ($6.7 million in direct impact and $6.7 million in indirect and induced; see Figure 20).

EMPLOYMENT IMPACT

The total employment impact of the Titusville Campus on Pennsylvania was 140 jobs (93 direct jobs). As a result of Pitt-Titusville’s operations in the state, 47 indirect and induced jobs were created (See Figure 21).

GOVERNMENT REVENUE IMPACT

The University of Pittsburgh at Titusville’s operations generate more than $670,637 ($145,483 direct) per year in state and local tax revenue.

COMMUNITY BENEFITS

The Titusville Campus is committed to the community and the northwestern Pennsylvania region it serves. Many of its academic programs include service learning components through community engagement, creating synergy between the campus and the community. In addition, faculty, staff, and students regularly volunteer their personal time to a number of community organizations and events. It is this commitment to the community that strengthens the ties between the Titusville Campus and the region.

It is estimated that the faculty, staff, and students at Pitt-Titusville generate more than $677,000 annually in charitable donations and volunteer services. These benefits are in addition to the $13.4 million annual economic impact and include the following:

- $145,200 donated to local charitable organizations by the Titusville Campus faculty, staff, and students.
- $532,467 in value of volunteer time provided to area communities by the Titusville Campus faculty, staff, and students.
EXAMPLES OF COMMUNITY ACTIVITIES AND OUTREACH INCLUDE THE FOLLOWING:

• The Tarbell House: Located in Titusville, the Tarbell House was the childhood home of Ida Minerva Tarbell, the pioneering American author and journalist whose book, *The History of the Standard Oil Company*, often is cited as one of the factors that contributed to the passage of America’s first antitrust legislation. The home is an important part of the region’s history. During Freshman Orientation Week, many students engage in gardening, organization, building, and cleaning of the house to maintain the historical structure. Pitt-Titusville has “adopted” this valuable community resource, and throughout the school year, faculty and students serve as docents, leading tours and educating the public on the history of the house, its occupants, and its place in American history.

• Students in the Physical Therapy Assistant Program (SPTA) Club: The Club’s mission is to promote personal and professional growth while encouraging learning and involvement in health care. Club members participate in various events, including SPTA’s National Student Conclave, and sponsor local events such as the Wellness Series held on PITT’S Titusville Campus.

• The Titusville Promise: The Titusville Promise is a scholarship foundation developed by the Titusville Alumni Association. The monies have been donated by alumni and friends of Titusville High School to support Titusville High School graduates pursuing postsecondary education at the University of Pittsburgh at Titusville.

• March of Dimes: The University of Pittsburgh at Titusville campus engages with the March of Dimes organization for the March for Babies walk every year, to raise money to ensure the health of expectant mothers, support families, and provide much-needed funding for research into the problems that threaten the health of babies.

• Massage-A-Thon: Physical Therapy Program students hold an annual massage therapy day with a bake sale to raise funds for local charities.

• Walk Against Racism: Titusville is a very diverse community. To ensure that the community continues to unite against racism and respect cultural diversity, the YWCA and Pitt-Titusville partner to hold an annual walk to raise awareness and address issues related to race in the Titusville community.

• United Way: Pitt-Titusville faculty, staff, and students also conduct numerous service projects through the United Way each year.
INTRODUCTION

The Pennsylvania Child Welfare Resource Center is an award-winning, nationally recognized leader in advocating for an enhanced quality of life for Pennsylvania’s children, youth, and families. In partnership with families and communities, as well as public and private agencies, the Center prepares and supports exceptional child welfare professionals and systems through education, research, and a commitment to best practices.

PITT’s Pennsylvania Child Welfare Resource Center provides county Children and Youth Agencies across the Commonwealth with individualized training and technical assistance services. These services are provided through ongoing collaborative partnerships with county Children and Youth Agencies, the Pennsylvania Department of Public Welfare, Pennsylvania Children and Youth Administrators, private provider agencies, children, youth, families, community members, and other system partners.

Through cross-system collaboration, the Resource Center facilitates county-specific assessment, planning, implementation, evaluation, and monitoring that lead to improved knowledge, skills, and practices. This method helps to ensure that the training and technical assistance needs of child welfare professionals are met across the state and to better prepare the state system to facilitate the outcomes of safety, security, and well-being of children, youth, and families.
ECONOMIC IMPACT

The overall economic impact of the University of Pitt—Pennsylvania Child Welfare Resource Center’s operations in Pennsylvania in FY 12-13 was $34 million ($19.3 million in direct impact and $14.7 million in indirect and induced impact; see Figure 22).

EMPLOYMENT IMPACT

The total employment impact of the Pennsylvania Child Welfare Resource Center in Pennsylvania was 206 jobs (99 direct jobs). As a result of the operations of the University of Pittsburgh Pennsylvania Child Welfare Resource Center in Mechanicsburg, 107 indirect and induced jobs were created (See Figure 23).

GOVERNMENT REVENUE IMPACT

Pennsylvania Child Welfare Resource Center’s operations in Pennsylvania generate nearly $1.5 million ($152,136 direct) per year in state and local tax revenue.

COMMUNITY BENEFITS

It is estimated that the University of Pittsburgh—Pennsylvania Child Welfare Resource Center’s faculty, staff, and students generate more than $161,000 annually in charitable donations and volunteer services. These benefits are in addition to the $34 million annual economic impact and include the following:

- $60,450 donated to local charitable organizations by the Pennsylvania Child Welfare Resource Center’s faculty, staff, and students.
- $100,737 in value of volunteer time provided to area communities by the University of Pittsburgh—Pennsylvania Child Welfare Resource Center’s faculty, staff, and students.

Beyond these numbers, the Center’s central mission to train and educate the next generation of child welfare professionals and to strengthen and expand services to children and families has a far-ranging impact on the 67 counties that make up the Commonwealth that cannot be quantified or assigned a dollar value.
The impact of a great university is perhaps best measured by its contributions to the quality of life it makes in the region it serves as a center of education, as a vital partner in economic development, through its contributions to arts, and in many other ways. The University and the City of Pittsburgh share more than a name; they share a history that dates back to the 18th century. The University was founded just 29 years after the village that grew to become the City of Pittsburgh was established at the junction where the Allegheny and Monongahela Rivers join to form the Ohio River. In fact, it was not until 1816 that the city was formally incorporated. As the city grew, so did the University, and it was graduates of PITT who taught in the city’s schools, treated its sick, provided the engineering knowledge that built its factories, and formed the core of its civic leadership. Therefore, the fortunes of the city, its namesake University, the region, and the Commonwealth have been linked for more than two centuries. A more recent example of this important connection can be found in the rise of the Pittsburgh region’s economy, which “bottomed out” in 1983 with an unadjusted unemployment rate of 18.2 percent. It was PITT that was among the primary drivers of the region’s transition to a new knowledge economy. Thus, a true qualification of how the University drives the community is methodologically challenging. This section seeks to provide a side-by-side qualitative analysis of how the rankings of both of the “Pittsburghs” have improved over the period from 1995 through 2013. National and international rankings of both the University and the City of Pittsburgh over this period make a compelling case that both the University and the city drive each other and that both are recognized nationally and internationally for excellence among their academic and municipal peers.

As a component of the economic impact study, Tripp Umbach analyzed three municipal status measures: 1) Quality of life scores, nationally and internationally; 2) Regional “intelligence” through multiple measures, including educational attainment; and 3) Potential for upward mobility of citizens. Because Pittsburgh, the community, is at or near the top in all three of these important measures, this section evaluates the role that the University of Pittsburgh has in helping the community to reach the top spot in each of these measures.
QUALITY OF LIFE: PITTSBURGH CONSISTENTLY RANKS AS THE BEST CITY FOR QUALITY OF LIFE IN THE UNITED STATES

The Pittsburgh region has been listed at or near the top in national Quality-of-Life rankings, most notably by Places Rated Almanac, Forbes, and Money magazines. Tripp Umbach completed a review of Pittsburgh’s quality-of-life rankings using Places Rated Almanac scores over the period 1995 through 2013 and found that Pittsburgh had the highest total composite ranking of all U.S. metropolitan areas over this period. In the area of “quality of life,” Pittsburgh has held the top position more times than any other city.

Tripp Umbach’s analysis shows that Pittsburgh is the top U.S. city for quality-of-life measures, as Pittsburgh’s principal quality-of-life competitors during this period – Portland, Minneapolis, and San Francisco – have composite scores 30 percent below Pittsburgh’s. Based on this analysis, it is not surprising that Pittsburgh is the highest-ranked U.S. city among all cities in the world for quality of life. The Economist Intelligence Unit of The Economist magazine released its 2013 Livability Ranking, and Pittsburgh had the highest score of all U.S. cities (29th in the world), beating out Honolulu (30th), Los Angeles (44th), and New York (56th). The livability ranking examines the living conditions in 140 cities around the world and rates each city across five categories: stability, health care, culture and environment, education, and infrastructure. Pittsburgh ranked highest among U.S. cities in all of these measures except infrastructure and environment.
UNIVERSITY CONTRIBUTIONS TO QUALITY OF LIFE

PITT students regularly distinguish themselves through their commitment to community. For example, in 2013, “PITT Make A Difference Day” saw more than 3,200 students devote more than 13,200 hours of service to more than 90 community service projects throughout the greater Pittsburgh area. The President of PITT’s Graduate and Professional Student Government served as the first Chair of the Sociable City Initiative, which developed standards to encourage greater responsibility and accountability for entertainment and nightlife activities engaged in by students throughout the city.

In 1995, the highest PITT priority, as articulated by city government and neighboring residents, was the construction of more on-campus housing. PITT responded by adding 2,500 residence hall beds on its Pittsburgh Campus.

A key variable in quality of life is educational infrastructure and economic development. From 1995 to 2013, and including projects under way but not yet completed, the University has invested more than $1 billion to add 3.6 million additional gross square feet of space. Those projects have helped to dramatically enhance all five PITT campuses and also have been a very important source of construction-related jobs in each of the University’s five home communities. Certain other signature initiatives from this same period did not involve the addition of facilities space but were transformational, not only for PITT but also for the community. Two key examples are the cleaning and repair of the exterior of the Cathedral of Learning and the construction of Schenley Plaza – transforming an asphalt parking lot into a park that has changed the look and tone of Oakland, creating a picturesque green space that serves as a community gathering place.

The education and health services supersector, with PITT and UPMC sitting at its heart, is the largest source of employment in the Pittsburgh metropolitan area. From 1995 until 2013, it was the only sector that has added jobs every year, and the sector now is responsible for more than one out of every five local jobs. University research has been a key source of economic growth and PITT has attracted nearly $9.5 billion of sponsored research support into the Pittsburgh region. The University of Pittsburgh’s research, combined with Carnegie Mellon’s, also has provided the foundation for such future-oriented technology-based economic development initiatives as the Pittsburgh Digital Greenhouse, Pittsburgh Life Sciences Greenhouse, Pittsburgh Robotics Foundry, and Technology Collaborative.

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
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<tbody>
<tr>
<td>1</td>
<td>Pittsburgh, PA</td>
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<tr>
<td>2</td>
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<td>3</td>
<td>Washington, D.C.</td>
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<td>Chicago, IL</td>
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<td>5</td>
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<tr>
<td>6</td>
<td>Miami, FL</td>
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<td>7</td>
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<td>9</td>
<td>Seattle, WA</td>
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<td>10</td>
<td>Minneapolis, MN</td>
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PITTSBURGH IS THE SMARTEST CITY IN THE UNITED STATES

While quality-of-life measures include education and opportunity, a better measure of how a university impacts its community may be found in a ranking of the “smartest cities,” where again Pittsburgh has improved its position over the past 20 years. In 2013, Pittsburgh was named the Smartest City in the United States, according to the real estate website Movoto.9 The following criteria were used to formulate its rankings: universities and colleges per person, libraries per person, education level, media per person (newspapers, TV, radio, magazines), museums per person, and public school rank. The research firm Scarborough revealed that Pittsburgh has the highest newspaper readership rate in the nation.

As illustrated in Table 9, data from the users of Lumosity, an online brain-training program, show that Pittsburgh ranked in the top five for “brain performance” among metro areas of 1 million or more.10 Analysis based on data from 2.4 million Lumosity users looked at five key measurements: memory, processing speed, flexibility, attention, and problem solving. Pittsburgh ranked ahead of cities such as Seattle, San Francisco, Chicago, and Philadelphia.

TABLE 9:

Lumosity Ranking of Top 20 Large Metros (more than one million) in Brain Performance

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<th>Metro</th>
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<td>2</td>
<td>Minneapolis-St. Paul-Bloomington, Minnesota-Wisconsin</td>
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<td>3</td>
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<td>Indianapolis-Carmel-Anderson, Indiana</td>
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<td>San Jose-Sunnyvale-Santa Clara, California</td>
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<td>153</td>
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<td>Philadelphia, Pennsylvania</td>
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UNIVERSITY OF PITTSBURGH
INTELLECTUAL CONTRIBUTIONS

The record of honors bestowed upon members of PITT faculty is extraordinarily impressive. Faculty members have been elected to membership in such prestigious organizations as the National Academy of Sciences, the Institute of Medicine, the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the American Society for Clinical Investigation, the National Academy of Education, and the American Academy of Nursing. Individual faculty members also have claimed such prestigious awards as the National Medal of Science, the Lasker-DeBakey Clinical Medical Research Award, the MacArthur Foundation’s “genius award,” the Charles S. Mott Prize in cancer research, and the Andrew W. Mellon Foundation Distinguished Achievement Award for exemplary contributions to humanistic studies. Equally important is the fact that more junior faculty members continue to claim national awards for their exceptional potential. These include Presidential and National Science Foundation Early Career Award, the Howard Hughes Medical Institute Physician-Scientist Early Career Award, the Pew Foundation Early Career Award, and the Beckman Young Investigator Award.

In 1995, PITT ranked 24th among the nation’s universities in terms of the federal research support attracted by members of the faculty. But by 2010, the University had risen as high as fifth nationally, passing the following fine universities as part of that climb: Arizona, Berkeley, Colorado, Columbia, Cornell, Duke, Harvard, Minnesota, MIT, North Carolina, Penn State, Stanford, UCLA, UC San Diego, UC San Francisco, USC, Washington University in St. Louis, Wisconsin, and Yale. The University continues to rank among the top ten in terms of federal research support.

From 1995 to the current academic year, University-wide enrollment grew from just slightly more than 27,000 to more than 35,000; an increase of more than 21 percent, and more than 147,000 PITT degrees have been awarded since 1995. Applications for admission to the undergraduate programs in Pittsburgh have increased three and one-half times from more than 7,800 applications in 1995 to over 30,000 applications in 2014. The average SAT score of students who have paid a deposit is 185 points higher than the average of enrolled students in 1995, and 53 percent of those who have deposited ranked in the top ten percent of their high school graduating classes, compared to 19 percent in 1995.

Since 1995, PITT undergraduates have claimed four Rhodes Scholarships, five Truman Scholarships, six Marshall Scholarships, seven Udall Scholarships and 43 Goldwater Scholarships. PITT also is among the nation’s leading producers of Fulbright Scholars, Boren Scholars, Whitaker International Fellows, National Science Foundation Fellows, Critical Language Scholars, and Humanity in Action Scholars.
PITTSBURGH IS ONE OF THE BEST U.S. MARKETS

Although Quality of Life and “Intelligence” are great measures, perhaps the greatest measure of how universities impact their communities is in the area of upward mobility – the ability for persons in lower socioeconomic ranks to climb to higher levels.

*The Atlantic* ranks Pittsburgh second on a list of the ten best places to pursue the American dream. To quote the authors, “The relative strength of the region’s economy, coupled with strong community and family networks throughout the region, provides an economic climate that encourages intergenerational upward mobility.” Those traits are among the reasons why *The Atlantic* ranked Pittsburgh at the top of their list of the “10 best places to pursue the American dream.” Researchers from Harvard and Berkeley ranked regions according to “intergenerational upward mobility,” cities where children are able to move ahead of and do better than their parents. As shown in Table 10, Pittsburgh ranked second, right after Salt Lake City and ahead of San Jose, Boston, and San Francisco – placing it among cities that *The Atlantic* calls the “capitals of the land of opportunity.”

UNIVERSITY CONTRIBUTIONS TO UPWARD MOBILITY

PITT has been a leader in designing programs to enhance the overall growth experiences of its students. Efforts that stand out include the launch of the PITT ARTS program, which exposes students to the cultural richness of the greater Pittsburgh region; a pioneering partnership with the Port Authority of Allegheny County, giving students fare-free access to public transportation and giving practical meaning to the belief that “the city is our campus”; and the design of the Outside the Classroom Curriculum program, providing a structure for students to pursue important learning experiences not tied to classroom activities.

Over the course of the past 19 years, PITT has become a model of community engagement, making its expertise available in ways that are consistent with its teaching and research missions. As one sign of the University’s impact on the community, PIT T was the top-ranked public university in the most recent edition of *Saviors of Our Cities: A Survey on Best College and University Civic Partnerships*. The University also has been the recipient, for three consecutive years, of the Good Neighbor Award from the United Way. And, most recently, PITT was recognized by President Barack Obama with inclusion on the 2013 National Community Service Honor Roll for extraordinary and exemplary community service contributions.

The Pittsburgh region has achieved the status of being the smartest place in the U.S., the best place to live, and one of the best places to achieve the American Dream. The University of Pittsburgh clearly has played a central role in these measures and will continue to drive the region in the future as Pittsburgh moves on to challenge other world cities in these and other measures.

**TABLE 10:**

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Salt Lake City, UT</td>
</tr>
<tr>
<td>2</td>
<td>Pittsburgh, PA</td>
</tr>
<tr>
<td>3</td>
<td>San Jose, CA</td>
</tr>
<tr>
<td>4</td>
<td>Boston, MA</td>
</tr>
<tr>
<td>5</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>6</td>
<td>San Diego, CA</td>
</tr>
<tr>
<td>7</td>
<td>Manchester, NH</td>
</tr>
<tr>
<td>8</td>
<td>Minneapolis, MN</td>
</tr>
</tbody>
</table>
## APPENDIX A: DEFINITION OF TERMS

<table>
<thead>
<tr>
<th>STUDY YEAR</th>
<th>Fiscal Year 2012-2013 (FY 12-13), July 1, 2012 – June 30, 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL ECONOMIC IMPACT</td>
<td>The total economic impact of an institution includes both the direct impact and the indirect impact generated in the economy as a result of the institution.</td>
</tr>
<tr>
<td>DIRECT ECONOMIC IMPACT</td>
<td>Direct impact includes items such as institutional spending, employee spending and spending by visitors to the institution.</td>
</tr>
<tr>
<td>INDIRECT ECONOMIC IMPACT</td>
<td>Indirect impact, also known as the multiplier effect, includes the respending of dollars within the local economy by vendors/suppliers and households.</td>
</tr>
<tr>
<td>MULTIPLIER EFFECT</td>
<td>The multiplier effect is the additional economic impact created as a result of the institution’s direct economic impact. Local companies that provide goods and services to an institution increase their purchasing by creating a multiplier.</td>
</tr>
<tr>
<td>DIRECT TAX PAYMENTS</td>
<td>Direct tax payments made by an institution to a unit of government.</td>
</tr>
<tr>
<td>INDIRECT TAX PAYMENTS</td>
<td>Government revenue that is collected by governmental units in addition to those paid directly by an institution, including taxes paid directly by employees of the institution, visitors to the institution and vendors who sell products to the institution.</td>
</tr>
<tr>
<td>DIRECT EMPLOYMENT</td>
<td>Total employees based on total jobs.</td>
</tr>
<tr>
<td>INDIRECT EMPLOYMENT</td>
<td>Indirect employment is the additional jobs created as a result of the institution’s economic impact. Local companies that provide goods and services to an institution increase their number of employees as purchasing increases, thus creating an employment multiplier.</td>
</tr>
</tbody>
</table>
APPENDIX B: METHODOLOGY

IMPACT ON STATE BUSINESS VOLUME AND GOVERNMENT REVENUE

The University of Pittsburgh, its four regional campuses, and its Mechanicsburg Center (hereinafter referred to collectively as “PITT”) are major employers in the state and, as such, major generators 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. Additionally, many of these direct expenditures are recirculated in the economy as recipients of the first round of income respends a portion of this income with other businesses and individuals within Pennsylvania.

METHODOLOGY AND DATA UTILIZED FOR THE ESTIMATION OF THE ECONOMIC IMPACT OF THE UNIVERSITY OF PITTSBURGH SYSTEM

The economic impact of PITT was estimated using IMPLAN (IMpact Analysis for PLANing), an econometric modeling system developed by applied economists at the University of Minnesota and the U.S. Forest Service. The IMPLAN modeling system has been in use since 1979 and is currently used by more than 500 private consulting firms, university research centers, and government agencies. The IMPLAN modeling system combines the U.S. Bureau of Economic Analysis’ Input-Output Benchmarks (U.S. BEA) with other data to construct quantitative models of trade flow relationships between businesses and between businesses and final consumers. From this data, one can examine the effects of a change in one or several economic activities to predict its effect on a specific state, regional, or local economy (impact analysis). The IMPLAN input-output accounts capture all monetary market transactions for consumption in a given time period. The IMPLAN input-output accounts are based on industry survey data collected periodically by the U.S. BEA and follow a balanced account format recommended by the United Nations.

IMPLAN’s Regional Economic Accounts and the Social Accounting Matrices were used to construct state-level multipliers, which describe the response of the state economy to a change in demand or production as a result of the activities and expenditures of PITT. Each industry that produces goods or services generates demand for other goods and services, and this demand is multiplied through a particular economy until it dissipates through “leakage” to economies outside the specified area. IMPLAN models discern and calculate leakage from local, regional, and state economic areas based on workforce configuration, the inputs required by specific types of businesses, and the availability of both inputs in the economic area. Consequently, economic impacts that accrue to other regions or states as a consequence of a change in demand are not counted as impacts within the economic area.

The model accounts for substitution and displacement effects by deflating industry-specific multipliers to levels well below those recommended by the U.S. Bureau of Economic Analysis. In addition, multipliers are applied only to personal disposable income to obtain a more realistic estimate of the multiplier effects from increased demand. Importantly, IMPLAN’s Regional Economic Accounts exclude imports to an economic area, so the calculation of economic impacts identifies only those impacts specific to the economic impact area, in this case the Commonwealth of Pennsylvania. IMPLAN calculates this distinction by applying Regional Purchase Coefficients (RPC) to predict regional purchases based on an economic area’s particular characteristics. The RPC represents the proportion of goods and services that will be purchased regionally under normal circumstances based on the area’s economic characteristics described in terms of actual trade flows within the area.

MODEL INPUTS AND DATA SOURCES

Model inputs included actual FY 12-13 expenditures provided by each of the PITT Campuses.
WHAT IS ECONOMIC IMPACT?

Economic impact begins when an organization spends money. Economic impact studies measure the direct economic impact of an organization’s spending, plus additional indirect spending in the economy as a result of direct spending. Economic impact has nothing to do with dollars collected by institutions, their profitability, or even their sustainability as all operating organizations have a positive economic impact when they spend money and attract spending from outside sources.

Direct economic impact measures the dollars that are generated within Pennsylvania due to the presence of PIT&T. This includes not only spending on goods and services with a variety of vendors within the state and the spending of its employees and visitors but also the business volume generated by businesses within Pennsylvania that benefit from spending by PIT&T. It is important to remember that not all dollars spent by PIT&T stay in Pennsylvania. Dollars that “leak” out of the state in the form of purchases from out-of-state vendors are not included in the economic impact that PIT&T has on the Commonwealth of Pennsylvania.

The total economic impact includes the “multiplier” of spending from companies that do business with PIT&T. Support businesses may include lodging establishments, restaurants, construction firms, vendors, temporary agencies, etc. Spending multipliers attempt to estimate the ripple effect in the state economy where the spending occurs. For example, spending by PIT&T with local vendors provides these vendors with additional dollars that they respond in the local economy, causing a “multiplier effect.”

WHAT IS THE MULTIPLIER EFFECT?

Multipliers are a numeric way of describing the secondary impacts stemming from the operations of an organization. For example, an employment multiplier of 1.8 would suggest that for every 10 employees hired in the given industry, eight additional jobs would be created in other industries, such that 18 total jobs would be added to the given economic region. The multipliers used in this study range from 1.8 to 2.0.

The Multiplier Model is derived mathematically using the input-output model and Social Accounting formats. The Social Accounting System provides the framework for the predictive Multiplier Model used in economic impact studies. Purchases for final use drive the model. Industries that produce goods and services for consumer consumption must purchase products, raw materials, and services from other companies to create their product. These vendors also must procure goods and services. This cycle continues until all the money has leaked from the region’s economy. There are three types of effects measured with a multiplier: the direct, the indirect, and the induced effects. The direct effect is the known or predicted change in the local economy that is to be studied. The indirect effect is the business-to-business transactions required to satisfy the direct effect. Finally, the induced effect is derived from local spending on goods and services by people working to satisfy the direct and indirect effects.

- Direct effects take place only in the industry immediately being studied.
- Indirect effects concern interindustry transactions: because PIT&T is in business; it has a demand for locally produced materials needed to operate.
- Induced effects measure the effects of the changes in household income; employees of PIT&T and its suppliers purchase from local retailers and restaurants.
- Total Economic Impacts are the total changes to the original economy as the result of the operations of PIT&T, i.e., Direct effects + Indirect effects + Induced effects = Total Economic Impacts
WHAT METHODOLOGY WAS USED IN THIS STUDY?

IMPLAN (IMpact analysis for PLANning) data and software.

Using classic input-output analysis in combination with region-specific Social Accounting Matrices and Multiplier Models, IMPLAN provides a highly accurate and adaptable model for its users. The IMPLAN database contains county, state, zip code, and federal economic statistics, which are specialized by region, not estimated from national averages, and can be used to measure the effect on a regional or local economy of a given change or event in the economy’s activity.

WHAT IS EMPLOYMENT IMPACT?

Employment impact measures the direct employment (employees, staff, faculty, administration) plus additional employment created in the economy as a result of the operations of PITT.

Indirect and Induced employment impact refers to other jobs throughout the region that exist because of the University’s economic impact. In other words, jobs related to the population — city services (such as police, fire, EMS, and sanitation, among others), employees at local hotels and restaurants, clerks at local retail establishments, and residents employed by vendors used by PITT.

WHAT IS THE DIFFERENCE BETWEEN DIRECT AND INDIRECT TAXES?

Direct tax dollars include sales taxes and net corporate income taxes paid directly by the institution to the state, while indirect taxes include taxes paid to the state by vendors that do business with PITT and individuals.

IS THIS A ONE-TIME IMPACT OR DOES THE IMPACT REPEAT EACH YEAR?

The results presented in the University of Pittsburgh economic impact study are generated on an annual basis. The economic impact in future years can either be higher or lower based on number of employees and students, capital expansion, increases in external research, and state appropriations. Most notably, as a direct consequence of a drastic reduction in its state appropriation in Fiscal Year 2012-2013, the University implemented cost reduction initiatives, including a voluntary early retirement program that eliminated more than 350 positions. However, those actions have been balanced by PITT’s continuing assessment and introduction of measures to enhance the productivity of employees within what might be described as growing its “lines of business.” A key example can be found in PITT’s research accounting group, which has not grown since 1995, even though the University’s research expenditures now are more than three times what they were back then.

WHAT ARE TRIPP UMBACH’S QUALIFICATIONS TO PERFORM AN ECONOMIC IMPACT STUDY FOR THE UNIVERSITY OF PITTSBURGH AND THE REGIONAL CAMPUSES?

Tripp Umbach is the national leader in providing economic impact analysis to major health care organizations, universities, and academic medical centers. We have completed more than 150 economic impact studies over the past 20 years for clients such as: The Pennsylvania State University, The Ohio State University, the University of Washington, The University of Iowa, The University of Alabama at Birmingham, the Cleveland Clinic, the University of Florida Health Shands Hospital, the University of North Carolina Hospitals, the University of Pennsylvania Health System, the University of Pittsburgh Medical Center, and The Ohio State University Medical Center.
The University of Pittsburgh is an affirmative action, equal opportunity institution.