

Education, Innovation and Opportunity:

The Economic Impact of Princeton
University

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appleseed 

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Executive Summary

Princeton University – one of the world’s leading educational and research institutions – is also a major contributor, both economically and in quality-of-life terms, to the community that shares its name, the surrounding area and the State of New Jersey. This report assesses the University’s impact from several perspectives:

- Its role in the education of undergraduate and graduate students
- How the University’s campus operations provide economic strength, growth and stability as a major employer and purchaser of goods and services
- How its research contributes to the vitality of the local, regional, statewide, and even national and international economy
- Princeton’s increasing efforts to encourage innovation and entrepreneurship
- The resources, services and opportunities that the University contributes to Princeton-area communities
- Why the University’s economic impact is likely to be even greater in the future than it is today

Educating students for tomorrow’s economy

The education of undergraduate and graduate students is central to Princeton’s mission – in the words of its mission statement, Princeton prepares them for meaningful lives and careers and for lives of service, civic engagement and ethical leadership.

- In the fall of 2014, 7,946 students were enrolled in degree programs at Princeton University, including 5,275 undergraduates and 2,671 graduate students.
- In the fall of 2014, approximately 16 percent of all Princeton undergraduates came from communities across New Jersey.
- Princeton enrolls students from a broad range of socioeconomic backgrounds. In fiscal year 2015, Princeton provided \$120.3 million in undergraduate student financial aid, including \$20.2 million to students from New Jersey.
- Princeton’s academic programs provide both undergraduate and graduate students with the knowledge and skills they will need to succeed in an economy that is increasingly knowledge-driven and globally integrated – and that increasingly requires an ability to think and work across traditional boundaries.

- Princeton prepares students for careers in many fields, including business, the professions, government and education; over the last 10 years, an average of 19.3 percent of graduating seniors pursued employment in non-profit or service-based organizations.
- As of the summer of 2015, 6,514 Princeton alumni (people with undergraduate or graduate degrees, or both) were living in New Jersey (about 7.9 percent of all University alumni), including 1,640 who lived in the Princeton area.

Research at Princeton – a foundation for the future

Princeton has long been a world leader in all the fields in which it supports teaching and research – in the arts, humanities, social sciences, natural sciences and engineering. Through its research, the University seeks to create and disseminate cutting-edge knowledge, and to help find solutions to some of the world’s most pressing problems. In addition to the government funding, charitable support and corporate grants it attracts, each year Princeton invests hundreds of millions of dollars from its own resources in University research – and in doing so helps to build a foundation for future economic growth, both nationally and at the state and local levels.

- Between fiscal year 2007 and fiscal year 2015, research spending at Princeton grew from \$255.4 million to \$457.6 million¹ – an increase of nearly 80 percent.
- Approximately 70 percent of University research spending in fiscal year 2015 – nearly \$318.9 million – was supported by federal funds or other external sources.
- The share of Princeton’s research spending that is funded from the University’s own resources has steadily increased during the past decade, reaching nearly \$138.8 million in fiscal year 2015 – more than 30 percent of total research spending.
- The largest research program at Princeton, with 486 employees and expenditures of \$119.5 million in fiscal year 2015, is the Princeton Plasma Physics Laboratory, one of the world’s leading centers for research in plasma physics and magnetic fusion energy.
- Princeton’s research spending has a positive impact on the local and regional economy, and the discoveries and insights of its faculty and students can stimulate economic

¹ The data on research expenditures included in this study are those that the University reports to the federal government through the latter’s Integrated Postsecondary Education Data System (IPEDS). The narrow criteria that govern IPEDS reporting lead to a significant understatement of the extent to which Princeton supports University research. Analyses that fully capture all of the University’s direct and indirect support for research show that Princeton’s total spending in fiscal year 2015 totaled nearly \$604 million. The University’s total research spending in fiscal year 2015 exceeded research-related revenues from government, philanthropic and corporate sources by approximately \$285 million.

activity in the area and throughout the world. The University also contributes to the strength of New Jersey's economy through research collaborations with New Jersey companies and with other academic institutions in the state.

Supporting innovation and entrepreneurship

Princeton supports programs in innovation and entrepreneurship to help prepare its students to make positive contributions to the world and to encourage its students and faculty to develop ways to solve problems and generate new ideas. The extent to which research universities contribute to the economic vitality of their local communities and regions depends not only on the quality of their educational programs and the scale of their research enterprise, but also on the extent to which new ideas are then used by businesses and other organizations to develop new products and services and create new jobs.

- Through the Keller Center for Innovation in Engineering Education, the University has greatly increased its commitment to preparing students for careers as innovators and entrepreneurs. In 2014-15, the Keller Center offered 12 courses on various aspects of innovation and entrepreneurship. Starting in the fall of 2016, the center is also offering undergraduates a “certificate of proficiency” in entrepreneurship.
- Princeton also offers aspiring entrepreneurs extensive opportunities for “learning by doing,” including:
 - Participation in TigerLaunch, a nationwide collegiate entrepreneurship competition managed by a student organization, the Princeton Entrepreneurs Club.
 - The Keller Center's eLab Summer Accelerator, an intensive 10-week summer program aimed at supporting the development of Princeton student start-up companies.
 - The Keller Center's eHub, established in 2015 as a focal point for entrepreneurship at Princeton. Located off-campus at 34 Chambers Street in Princeton, the eHub includes 15,000 square feet of learning, co-working, office and meeting space.
- Princeton also supports innovation and entrepreneurship through the Alumni Entrepreneurs Fund, a University program created by alumni which invests up to \$100,000 in promising new ventures started by recent Princeton graduates. Since it launched in the fall of 2014, the fund has invested in 18 alumni start-ups, including two located in New Jersey.
- Between fiscal year 2007 and fiscal year 2015, the University's Office of Technology Licensing secured 290 U.S. patents on technologies first developed by Princeton researchers and entered into 152 agreements for commercial use of these technologies.

- Since 2012, Princeton's Intellectual Property Accelerator Fund has helped researchers undertake proof-of-concept work, collect additional data and develop working prototypes so outside investors can more fully understand the potential impact of the researchers' discoveries and ideas.

The University as employer and purchaser of goods and services

As a major employer and operating enterprise in its own right, Princeton University contributes to the economic vitality of New Jersey and, in particular, the Princeton area in the following ways. It also contributes to the local economy through off-campus spending by students, employees and visitors to the University.

- In the fall of 2014, Princeton University directly employed 6,906 people (excluding student employees), of whom approximately 88 percent worked full-time. In fiscal year 2015, the University's payroll for these employees totaled nearly \$601.9 million.
- In addition to these regular full- and part-time employees, the University employed 2,786 undergraduate and graduate students in a variety of part-time positions, with wages totaling \$5.0 million.
- In the fall of 2014, more than 80 percent of the University's workforce lived in New Jersey, with 34.5 percent in the Princeton-area ZIP Codes, 23.5 percent elsewhere in Mercer County, and 22.7 percent elsewhere in New Jersey.
- In fiscal year 2015, Princeton spent more than \$453.6 million on purchases of goods and services, of which nearly \$137.3 million was paid to New Jersey companies. This included nearly \$35.0 million paid to businesses located within the Princeton-area ZIP Codes, and nearly \$16.5 million paid to businesses located elsewhere in Mercer County.
- The University spent more than \$318.1 million on construction and major maintenance in fiscal year 2015, of which approximately \$136.6 million was paid to New Jersey contractors. This included nearly \$10.3 million paid to contractors located in the Princeton-area ZIP Codes, and nearly \$11.9 million paid to contractors located elsewhere in Mercer County.
- The University supports the continued development of the Princeton-area economy through the Princeton Forrestal Center. Started by the University in the 1970s as a site that includes academic and corporate research facilities, the Forrestal Center today is a 2,200-acre, mixed-use complex (located partly in Plainsboro and partly in South Brunswick) with 6 million square feet of research and office space; six hotels; three residential developments; retail, restaurants and consumer services; recreational facilities; and 500 acres of dedicated open space. As of the spring of 2016, the Forrestal Center was home to nearly 200 companies – from technology start-ups to Fortune 500 companies – with more than 12,000 employees on-site.

- Taking into account the direct effects of University spending on payroll, purchasing and construction, as well as indirect and induced (or “multiplier”) effects, we estimate that in fiscal year 2015, spending by Princeton University directly and indirectly accounted for:
 - 9,092 full-time-equivalent (FTE) jobs in Mercer County, with earnings totaling \$705.1 million;
 - More than \$946.4 million in countywide economic output².

Statewide (including Mercer County), Princeton’s spending directly and indirectly accounted for:

- 12,201 FTE jobs in New Jersey, with earnings totaling \$922.6 million;
 - Nearly \$1.5 billion in statewide economic output.
- During fiscal year 2015, we estimate that off-campus spending in the Princeton area by Princeton University students totaled nearly \$59.7 million. We estimate that this spending directly and indirectly accounted for:
 - 602 FTE jobs in Mercer County, with \$22.2 million in earnings;
 - Nearly \$54.7 million in countywide economic output.
 - During fiscal year 2015, approximately 768,000 people visited the Princeton campus. We estimate that off-campus spending by visitors from outside Mercer County directly and indirectly accounted for:
 - 703 FTE jobs in Mercer County, with nearly \$27.7 million in earnings;
 - \$63.4 million in countywide economic output.

At the state level, we estimate that off-campus spending by visitors to the University from outside the state directly and indirectly accounted for:

- 647 FTE jobs in New Jersey, with nearly \$25.9 million in earnings;
 - \$59.2 million in statewide economic output.
- Combining the impacts of University, student and visitor spending, we estimate that in fiscal year 2015, Princeton directly and indirectly accounted for:
 - 10,397 FTE jobs in Mercer County, with earnings totaling more than \$755.0 million;
 - Nearly \$1.1 billion in countywide economic output.

² For the purposes of this report, “output” is defined as the total dollar value of the sale of goods and services by businesses and households that results directly or indirectly from University spending.

Statewide (including Mercer County), Princeton directly and indirectly accounted for:

- 13,450 FTE jobs in New Jersey, with earnings totaling \$970.7 million;
- Nearly \$1.6 billion in statewide economic output.
- Princeton University is also a significant source of revenue for state and local governments. In fiscal year 2015, the University directly paid:
 - Nearly \$25.3 million in New Jersey state taxes; and
 - Nearly \$16.4 million in taxes, fees and voluntary payments to municipalities and school districts in the Princeton area and to Mercer County.

Total impact of spending by Princeton University, students and visitors in Mercer County and New Jersey, FY 2015 (jobs in FTE, earnings and output in \$ millions)

	Mercer County			New Jersey		
	<i>Jobs</i>	<i>Wages</i>	<i>Output*</i>	<i>Jobs</i>	<i>Wages</i>	<i>Output*</i>
Impact of Princeton spending						
Direct	6,881	\$580.9	\$621.5	8,274	\$698.4	\$862.5
Indirect/induced	2,211	\$124.2	\$324.9	3,927	\$224.2	\$599.1
<i>Subtotal, Princeton spending impact</i>	<i>9,092</i>	<i>\$705.1</i>	<i>\$946.4</i>	<i>12,201</i>	<i>\$922.6</i>	<i>\$1,461.6</i>
Impact of student and visitor spending						
Direct	1,025	\$32.9	\$73.7	979	\$31.7	\$71.1
Indirect/induced	280	\$17.0	\$44.4	270	\$16.4	\$42.9
<i>Subtotal, student and visitor spending impact</i>	<i>1,305</i>	<i>\$49.9</i>	<i>\$118.1</i>	<i>1,249</i>	<i>\$48.1</i>	<i>\$113.9</i>
Total impact	10,397	\$755.0	\$1,064.5	13,450	\$970.7	\$1,575.5

* For the purposes of this report, "output" is defined as the total dollar value of the sale of goods and services by businesses and households that results directly or indirectly from spending by the University, students and visitors.

Serving Princeton-area communities

The University contributes to the vitality of the Princeton area in economic and non-economic ways through its commitment to investing in and serving the communities in which it operates.

- The University offers opportunities for educational enrichment and professional development to Princeton-area residents at all stages of life. These include programs for local K-12 students; continuing education programs and opportunities for adults to audit University courses on a non-credit basis; and professional development programs for educators at area schools and community colleges.

- The University is a cultural resource for the community, through its many public lectures and events in places such as the McCarter Theatre Center, the Princeton University Art Museum, Richardson Auditorium and the Lewis Center for the Arts.
- Many Princeton-area residents enjoy the University's intercollegiate athletic events and recreational athletic programs. Its athletic facilities are used by local schools as well as community youth and adult recreation groups, and area residents enjoy access to resources for outdoor recreation along Lake Carnegie and at the Princeton Forrestal Center.
- Princeton-area communities benefit from the University's student engagement in community service, whether on a volunteer basis or as part of community-based learning programs, as well as from the engagement of faculty and staff in a broad range of community agencies and activities.
- The University partners with surrounding communities to improve services and enhance the quality of life – for example, by supporting local bus service, maintaining public roads, collaborating with the municipality of Princeton in developing a bike-share program that serves the community as well as the campus, contributing to affordable housing in the community, and providing opportunities for University staff and students to serve as firefighters, rescue squad volunteers, tutors and mentors to public school students and other young children, among other roles.

Princeton and the future of the region's economy

As significant as Princeton University's contributions have been to the growth and vitality of the Princeton area and New Jersey economies, they could be even greater during the next five to 10 years. Factors that are likely to contribute to the continued growth of the University's economic impact include the following.

- Continued growth in both undergraduate and graduate student enrollment. This will increase the pool of well-educated, highly skilled students and graduates potentially available to Princeton-area and other New Jersey businesses and organizations. It will also result in increased University operating expenditures, and a rise in aggregate off-campus spending by students and their families.
- Continued growth of the University's research activities. Princeton's strengths in critical areas of federal research interest, including such fields as molecular biology, neuroscience, computer science, energy and the environment, and national security, mean that Princeton is well-positioned to continue to compete successfully for federal and other external funding.

- With \$1 billion in construction and maintenance spending already planned for the years 2016 through 2020, and a new 2026 Campus Plan now being prepared, the University is likely to maintain a high level of construction spending over the next five to 10 years.
- The University's increased emphasis on innovation has already begun to show results, but the cumulative impact of recent initiatives could increase during the next five to 10 years.

Introduction

Princeton University, founded in 1746, is one of America's oldest educational institutions, and is consistently ranked among the world's greatest universities.³ It is well-known for its excellence in both undergraduate and graduate education, and it is highly regarded for the strength of its research programs across a wide range of disciplines.

The University contributes to the vitality and growth of the economy by discovering and developing new knowledge that provides a foundation for economic activity; by equipping students with the knowledge and skills a rapidly changing economy requires; and through its spending as one of the area's largest private employers, a buyer of goods and services, and a sponsor of construction projects. The University also contributes to the quality of life in its neighboring communities through direct financial contributions, through the availability of University programs and other resources to community members and through service activities of various kinds.

This report assesses Princeton University's impact on the Princeton area, the local region, throughout New Jersey and beyond. The report was prepared by Appleseed, a New York City-based consulting firm with extensive experience working with major U.S. universities.

A note on geography

In various sections of this report, the University's impact is addressed at three different geographic levels – the Princeton area, the rest of Mercer County and throughout New Jersey. We defined these three areas by ZIP Code, as follows:

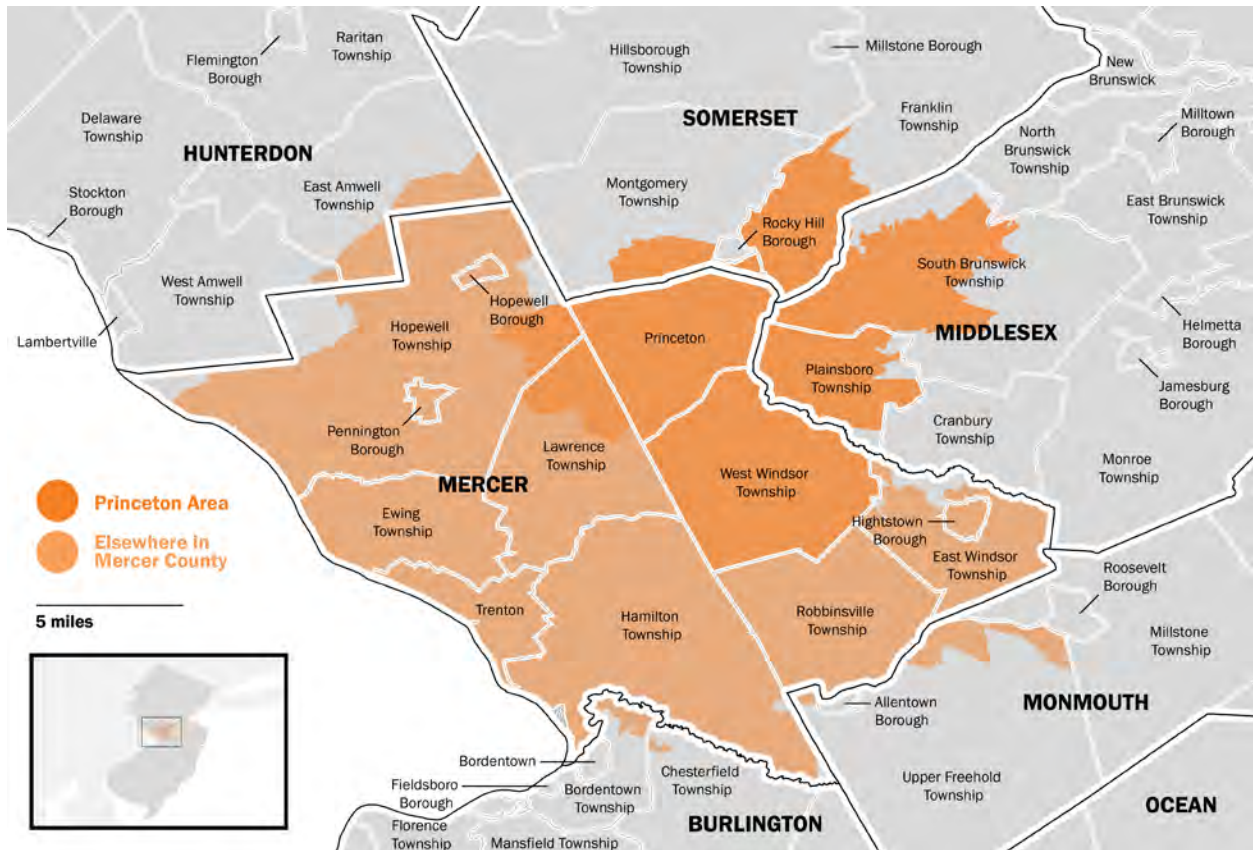
- Nine Princeton-area ZIP Codes (08528, 08536, 08540, 08541, 08542, 08543, 08544, 08550 and 08852);
- A group of ZIP Codes that roughly correspond to the portion of Mercer County that lies outside the Princeton-area ZIP Codes⁴; and
- The remainder of New Jersey.

See Figure 1 for a map defining these areas.

³ In 2015-16, for example, Princeton ranked seventh in *The Times Higher Education's* annual ranking of the world's 200 leading universities.

⁴ Throughout the report we refer to the portion of Mercer County that lies outside the Princeton-area ZIP Codes as "Elsewhere in Mercer County," as the majority of the ZIP Codes included in our definition of the Princeton area are located in Mercer County. However, it should be noted that our definition of the Princeton area also includes three ZIP Codes located outside of Mercer County: 08536 (Plainsboro), 08852 (South Brunswick) and 08528 (Rocky Hill).

Figure 1: Map showing the ZIP Code boundaries that approximate the Princeton area and Mercer County



When we discuss the impact of University, student and visitor spending on the economy of Mercer County in Part Four of the report, we include only the Princeton-area ZIP Codes that are located within Mercer County (08540, 08541, 08542, 08543, 08544 and 08550), and the ZIP Codes that correspond with the rest of Mercer County. We do not include ZIP Codes 08536 (Plainsboro), 08852 (South Brunswick) or 08528 (Rocky Hill), which are included in our definition of the Princeton area, but are located outside of Mercer County.

Part One: Educating Students for Tomorrow's Economy

Princeton's reputation as one of the world's great universities is built in part on its success in combining leadership in research with excellence in teaching at both the undergraduate and graduate levels. In a "strategic framework" adopted in January 2016 and intended to guide University planning and policy choices, Princeton listed among its "defining characteristics:"

...a focus on undergraduate education that is unique for a major research university, with a program of liberal arts that simultaneously prepares students for meaningful lives and careers, broadens their outlooks, and helps form their characters and values;

...a graduate school that is unusual in its emphasis on doctoral education, while also offering high quality masters programs in selected areas...

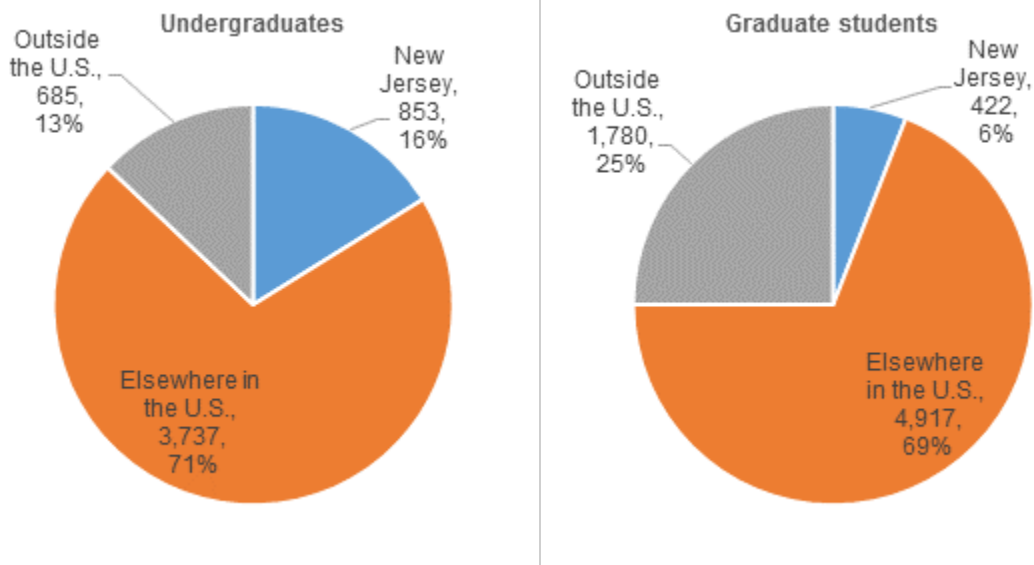
...a commitment to prepare students for lives of service, civic engagement, and ethical leadership.⁵

In the fall of 2014, a total of 7,946 students – 5,275 undergraduates and 2,671 graduate students – were enrolled at Princeton University. Both undergraduate and graduate enrollment have grown in recent years; undergraduate enrollment rose by 10.1 percent between the fall of 2006 and the fall of 2014, and graduate enrollment by 16.4 percent.

While the University draws students from across the U.S. and from more than 90 countries, enrollment figures also reflect its deep roots in New Jersey. As Figure 2 shows, in the fall of 2014, more than 16 percent of Princeton's undergraduates (and nearly 6 percent of all Princeton graduate students) were New Jersey residents. More undergraduates come to Princeton from New Jersey than from any other state.

⁵ Princeton University Strategic Framework, January 30 2016, p. 2-3

Figure 2: Enrollment by student's permanent residence, fall 2014



Preparing students for tomorrow's economy

Princeton's strengths in mathematics, physics, astrophysics, plasma physics, engineering, computer science, energy and the environment, molecular biology, chemistry, genomics, and neuroscience prepare students for the science and technology-based economy in New Jersey, in the nation, and throughout the world. The University's commitment to the social sciences provides opportunities for students to develop the knowledge and skills to pursue interdisciplinary solutions to challenges in public policy, economics and finance. Princeton's programs in architecture, the arts, humanities and languages provide a strong basis for careers and contributions across a broad spectrum of disciplines, creating a world view that contributes to the development of culture and civil societies worldwide.

Making a Princeton education more affordable

In an era of rising concern about the cost of higher education, Princeton's financial aid program awards grants, rather than loans, making it possible for students to graduate from Princeton without debt. In recent years, 84 percent of Princeton seniors have graduated debt-free, and for those who chose to borrow, the average debt at graduation was \$8,500. Princeton consistently ranks in the top 10 on lists of four-year universities with the lowest average debt at graduation.

Over the past decade, the percentage of students qualifying for financial aid has increased significantly, with an especially marked increase in the percentage of students from low-income backgrounds; in the fall of 2014, 60 percent of all incoming first-year students received financial aid and financial aid per recipient averaged \$44,700. For students receiving aid, the average

annual bill this year is expected to be \$12,930. For families with incomes up to \$140,000, the typical aid package fully covers tuition. For families with incomes below \$65,000, the grant typically fully covers tuition, room and board.

In the aggregate, financial aid to undergraduates from University sources totaled \$120.3 million in fiscal year 2015, including an estimated \$20.2 million provided to New Jersey residents.

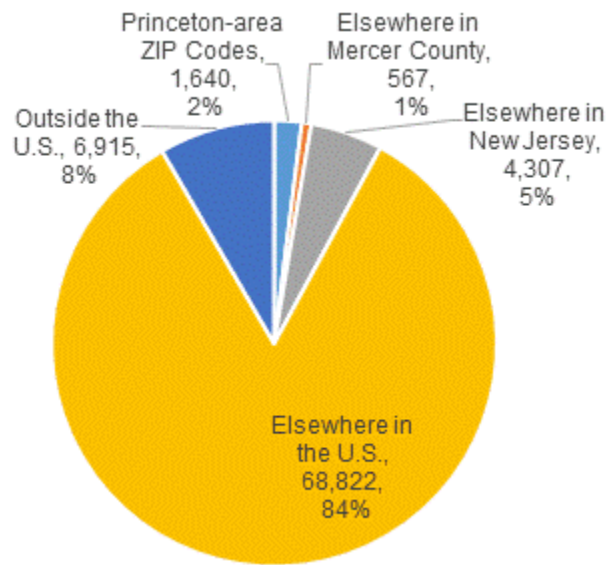
Building on a foundation of service and civic engagement

Princeton prepares its students for careers in many fields, including business, the professions, government and education. One of the ways in which the University fulfills its informal motto – “In the nation’s service and the service of humanity” – is by supporting student interest in careers in public service through internships based in the Princeton area, elsewhere in the U.S. and internationally. According to an analysis by Princeton’s Office of Career Services, over the last 10 years 19.3 percent of graduating seniors have pursued employment in the nonprofit and service sectors – about double these sectors’ share of all jobholders nationally.

Where Princeton alumni live

Just as Princeton draws students from all over the U.S. and the world, its alumni can be found across the globe. Nevertheless, a significant number of Princeton alumni remain in New Jersey after they graduate. As shown in Figure 3, 6,514 Princeton alumni – about 8 percent of all living alumni – were living in New Jersey as of the summer of 2015, including 1,640 who were living in the Princeton-area ZIP Codes. The knowledge, skills and experience these alumni gain at Princeton enhance their contribution to New Jersey’s economy and to the communities where they live.

Figure 3: Princeton alumni by place of residence, as of summer 2015



Part Two: The Impact of Research

Since the mid-20th century, university research has been a major contributor to the advancement of knowledge, technological innovation and economic growth in the United States. Research universities are uniquely positioned to make the kinds of long-range investments in basic research that frequently lead to new discoveries and new ideas that have practical applications that were not fully anticipated – sometimes not anticipated at all – when the research began. Other research focuses directly on the search for solutions to national problems and effective responses to global challenges. Research at Princeton contributes to the economic vitality of the Princeton area and the State of New Jersey by:

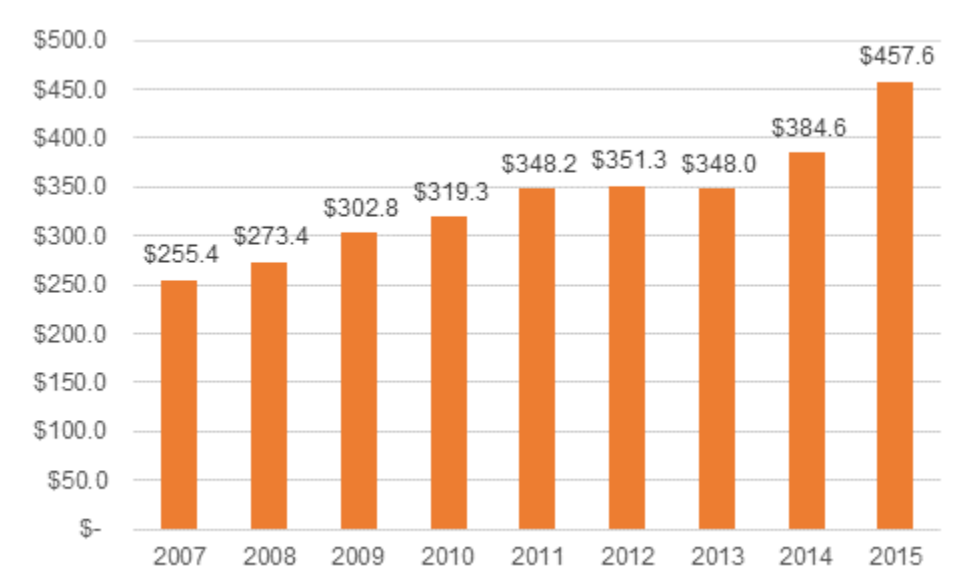
- Bringing hundreds of millions of dollars in federal and other external research funding to Princeton each year, much of which is then spent locally;
- Dedicating significant resources of its own to support the efforts of university researchers;
- Pursuing discoveries that can provide a basis for future economic growth, and lead to the development of new technologies, businesses and jobs; and
- Working with other universities, companies and government agencies in New Jersey to find new solutions to a wide range of practical problems.

The growth of research spending at Princeton

Between fiscal year 2007 and fiscal year 2015 (as shown in Figure 4), research spending at Princeton⁶ grew from \$255.4 million to \$457.6 million – an average annual growth rate of approximately 7.6 percent.

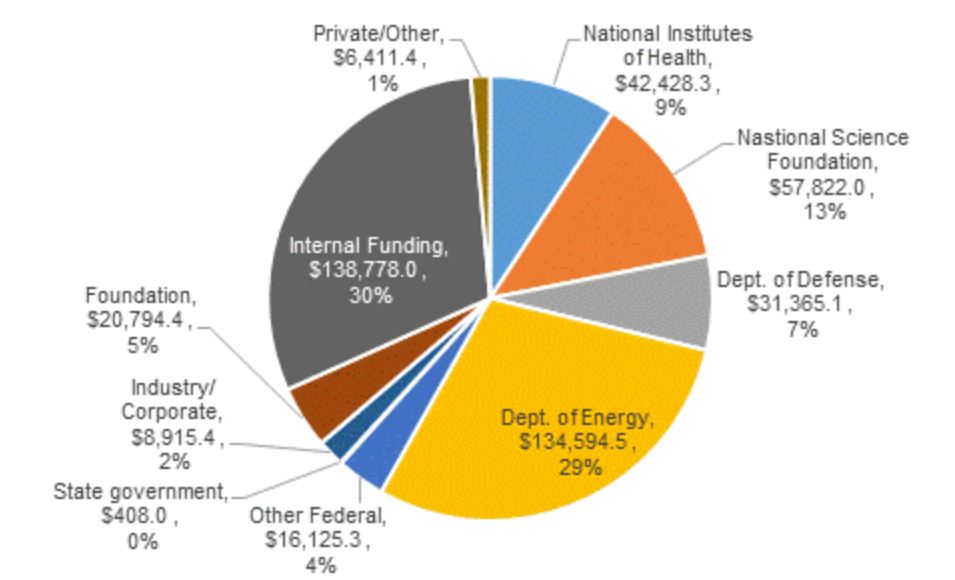
⁶ The spending totals cited here, as reported to IPEDS, include both research conducted in the University's own research centers and departmental labs, and at the Princeton Plasma Physics Laboratory – a federal laboratory managed by the University under a contract with the U.S. Department of Energy.

Figure 4: Princeton research expenditures, FY 2007 – FY 2015 (in \$ millions)



As Figure 5 shows, about 70 percent of all research spending at Princeton in fiscal year 2015 was funded from external sources; and about 30 percent was funded by the University from its own resources. Federal agencies – including the Department of Energy, the National Science Foundation, the National Institutes of Health and the Defense Department – accounted for most of the University’s external research funding.

Figure 5: Total research expenditures by source of funding, FY 2015 (in \$000s)



One of the most notable trends in research at Princeton in recent years has been the growing importance of internal funding as a source of support for University research spending. In fiscal year 2007, internal University funding accounted for 14.4 percent of total research spending; and in fiscal year 2015, 30.3 percent.

The growth of internally funded research spending reflects several factors – most notably, a decline since 2010 in overall federal funding of university research. In a context of declining federal support and heightened competition for federal funds, Princeton’s ability and willingness to finance the continued growth of its research programs from its own resources has become increasingly important. This commitment, for example, enables the University to:

- Cover gaps in federal funding of major research programs;
- Fund early-stage research in promising areas, thus enhancing researchers’ ability to compete successfully for federal or other external funding as their work progresses;
- Provide additional support to graduate research assistants and post docs; and
- Attract prospective faculty members.

Internally generated funds will never be sufficient to supplant external research funding. However, invested wisely, they can be used (as exemplified by the University’s Innovation Funds, described below) to make Princeton more competitive among major research universities, and to encourage creativity and collaboration.

As noted above, Princeton makes a substantial investment of its own resources to support basic research, in addition to the funding it receives from government, philanthropic organizations and corporate grants. The University’s internally funded research expenditures totaled \$138.8 million in fiscal year 2015 alone.

(The data on research expenditures cited above are those that the University reports to the federal government through the latter's Integrated Postsecondary Education Data System (IPEDS). The narrow criteria that govern IPEDS reporting lead to a significant understatement of the extent to which Princeton supports University research. Analyses that fully capture all of the University's direct and indirect support for research show that Princeton's total spending in fiscal year 2015 totaled nearly \$604 million. The University's total research spending in fiscal year 2015 exceeded research-related revenues from government, philanthropic and corporate sources by approximately \$285 million.)

Much of the University's investment is in "basic research," which the National Science Foundation defines as "study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind." As we note below, the University also supports efforts to encourage applications of research findings when those findings offer opportunities to develop new processes or products.

Innovation Funds open up new research opportunities

Launched in 2013-14 by Dean for Research Pablo Debenedetti, Princeton's Innovation Funds each year seek "to encourage bold new ideas" by providing up to \$250,000 over two years to support promising early-stage research. Funds are distributed through a series of competitions organized around particular themes or type of projects; in 2015-16 they included:

- New Ideas in the Natural Sciences
- New Ideas in the Humanities
- The Campus as Lab: Sustainability, Energy and the Environment
- Industrial Collaboration
- Research Collaboration between Artists and Scientists or Engineers

Winners to date have included:

- A project aimed at facilitating the re-growth of damaged brain and nerve tissue by creating an implantable "bridge" on which new tissue can grow.
- A project aimed at developing a methodology for estimating atmospheric carbon dioxide levels in the distant past by measuring carbon dioxide levels in fossilized phytoplankton shells.
- Collaboration with an industrial partner in improving the efficiency of butanol – a biofuel that could potentially avoid many of the problems associated with production and use of ethanol.
- A project aimed at controlling mosquito populations without the use of pesticides by using gene editing technology to interfere with the mating signals used by male and female mosquitos.
- An effort aimed at improving human health by examining the interplay between indoor and outdoor air environments to inform new building design concepts.

Building a foundation for future growth

The following are just a few examples of how researchers at Princeton are helping to develop knowledge that can address significant human needs and drive future economic growth.

- The ***Andlinger Center for Energy and the Environment*** focuses on research and teaching on sustainable energy, energy efficiency, and problems of environmental protection related to energy. Recent examples of research and development work conducted at the Andlinger Center have included:

- Creation of an experimental pavilion designed to demonstrate ways in which an enclosed space can be comfortably cooled without air conditioning;
 - Building a mathematical model of hurricane intensity for use in forecasting hurricane damage, based in part on greenhouse gas-induced changes in extreme weather patterns; and
 - Working with industry partners on the development of high-energy storage batteries.
- The **Princeton Neuroscience Institute** is home to a program of interdisciplinary research that draws on experts in and insights from molecular biology, chemistry, computer science, psychology and other fields. The institute's work is focused on developing a deeper understanding of brain functions, and how those functions relate to human behavior and the workings of the mind.
 - **Mid-Infrared Technologies for Health and the Environment (MIRTHE)** is a multi-institutional engineering research center initially funded by the National Science Foundation. Princeton is the lead university; its partners include Johns Hopkins, Rice, Texas A&M, the University of Maryland-Baltimore County and the City College of New York. MIRTHE researchers are engaged in the development of highly sophisticated sensor systems that are able to detect trace amounts of chemicals in the air, the soil and other settings that can signal the presence of various types of hazards – from pollutants to greenhouse gases to explosives.
 - The **Bendheim Center for Finance** sponsors several programs of collaborative research.
 - The center's **China Initiative** sponsors and facilitates collaboration between Princeton faculty and students and their counterparts in China. The initiative seeks to develop a better understanding of China's financial system – a system that year by year becomes more and more critical to the health of the world economy, but which is not well understood outside (or even within) the country.
 - The center's **Trinity Network Initiative** is developing an informal international network of researchers to study how the “trinity” of fiscal, monetary and financial system policies interact to affect macroeconomic conditions.
 - The **Julis-Rabinowitz Center for Public Policy and Finance**, established in 2011, explores the multiple ways in which financial markets and public policies intersect. Researchers affiliated with the center have focused on topics such as the effects of new markets and new financial instruments on macroeconomic stability, and how such innovations can affect specific areas such as housing finance, student loans and regulatory policies.
 - The Department of Psychology's **Princeton Baby Lab** conducts research on how infants and young children (age 0 to 7) learn to see, talk and understand the world, and

how early learning and experiences affect development. Research topics have included the impact of growing up in poverty on young children's learning, and how infants and toddlers who grow up in bilingual households are able to acquire two languages simultaneously. The lab's work can help parents and other caregivers understand how they can most effectively support early learning and development.

- ***The Bendheim-Thoman Center for Research on Child Wellbeing (CRCW)***, an interdisciplinary center at the Woodrow Wilson School and the Office of Population Research, delves into issues related to children's policies to inform policymakers and practitioners at the federal, state and local levels.
 - ***The Fragile Families and Child Wellbeing Study*** is following a cohort of nearly 5,000 children born in large U.S. cities between 1998 and 2000 (roughly three-quarters of whom were born to unmarried parents) to assess outcomes for these children and families over time and the effect of policy and environmental conditions that shape their lives. Unmarried parents and their children are referred to as "fragile families" to underscore that they are families that are at greater risk of breaking up and living in poverty than more traditional families.
- ***The Daniel Kahneman and Anne Treisman Center for Behavioral Science and Public Policy at Princeton***, based in the Woodrow Wilson School, is focused on studying real-life examples of informed, reasonable people making "poor" choices and how policy might be better designed and executed to make it easier to improve their outcomes. Research conducted at the center will directly influence local, national and global policy making, and ultimately result in policies that take into account the way people actually think and behave when making decisions.
- The ***Center for Information Technology Policy*** at the Woodrow Wilson School conducts interdisciplinary research on information technology and its effects on society, covering topics such as government transparency, privacy and the effects of digital technology on social and economic inequality. Recent projects have dealt with security problems on the "internet of things," and China's ongoing efforts to censor and control access to the internet.

Bringing the world closer to the goal of fusion energy

The Princeton Plasma Physics Laboratory (PPPL) is a national research center managed by the University under a contract with the U.S. Department of Energy. The laboratory's work is concentrated in two principal (and closely related) areas: the basic science of plasma physics, and creating the base of scientific and technical knowledge needed to develop nuclear fusion as a safe, economical and environmentally friendly source of energy.

Federally funded research on plasmas – the super-heated, electrically charged gases within which nuclear fusion occurs – began in the early 1950s, leading in 1961 to the establishment of the Plasma Physics Lab. Today PPPL is located on an 88-acre site at the Princeton Forrestal Campus, about three miles from the University's main campus. As of the fall of 2014, the lab employed 486 people. Its expenditures in fiscal year 2015 totaled \$119.5 million, nearly 99 percent of which were funded by the Department of Energy.

In addition to its work on plasma science, the lab focuses on development of the technologies needed to create, sustain and control fusion reactions for use in the production of energy. PPPL is developing components and generating scientific data for ITER, a joint project of the U.S., the E.U., China, Japan, Russia, India and South Korea that is developing a 500-megawatt fusion reactor at a site in France. ITER, which is expected to become operational in the late 2020s, is designed to demonstrate the feasibility of fusion as a source of energy.

In 2015, PPPL completed a three-year upgrade of its National Spherical Torus Experiment (NSTX-U). Over the next decade, the lab's work on NSTX-U will provide information essential to the design and development of fusion reactors – and will help bring the world closer to the goal of producing safe, economical, carbon-free fusion energy.

In the course of 60 years of work on plasma science and nuclear fusion, PPPL has developed knowledge and capabilities that are applicable to many other areas of science and technology, including astrophysics, advanced materials, nanotechnology and “big data” visualization and analysis.

Collaborations with New Jersey companies and institutions

Princeton contributes to the ongoing development of New Jersey's economy, and to the search for solutions to some of society's most pressing problems, through research collaboration with New Jersey companies and institutions. For example:

- The ***Rutgers-Princeton Center for Computational Cognitive Neuro-Psychiatry*** is a collaboration among the Princeton Neuroscience Institute, the Rutgers Brain Health Institute, the Rutgers Departments of Psychology, Psychiatry and Computer Science and Robert Wood Johnson University Hospital. The center's researchers seek to

develop a better understanding of the relationship between brain function (or dysfunction) and various forms of mental illness.

- In 2016 the Andlinger Center for Energy and the Environment signed an agreement with the U.S. Army's **Armament Research, Development and Engineering Center** and with Picatinny Arsenal, under which the Andlinger Center and the Army will collaborate on projects aimed at improving sustainability and energy efficiency in Army operations, and in understanding the effects of climate change on national security.
- In 2015, the University's Department of Chemistry and **Bristol-Myers Squibb** announced a new agreement under which Princeton and BMS scientists will collaborate on research in synthetic chemistry. The agreement includes creation of a Center for Molecular Synthesis.
- The Chemistry Department's **Merck Catalysis Center**, launched in 2006 with funding from Merck, is a state-of-the-art research facility that features a rapid set-up, monitoring, characterization and screening of thousands of chemical reactions to more quickly identify those with potential for use in synthesizing new bioactive compounds.
- **Janssen Research and Development LLC** has partnered with several University departments on projects aimed at developing nanoparticle-based drug delivery systems, and molecular probes for non-invasive medical imaging.
- **Massive Dynamics LLC** has supported research at Princeton in cognitive computing, an emerging field aimed at making computer algorithms function more like the human brain.

Part Three: The Impact of Innovation

The extent to which research universities contribute to the economic vitality of their local communities and regions depends not only on the quality of their educational programs and the scale of their research activities but also on how effective they are in encouraging and supporting the translation of their intellectual and human capital into new products and services, new businesses and new jobs.

During the past 10 years, Princeton has greatly increased its engagement in and support for this process.

Technology transfer

One of the ways in which the University promotes new product and business development is by licensing the results of its research to private companies to develop products and services that benefit society. At Princeton, this process is managed by the University's Office of Technology Licensing (OTL). As Table 1 shows, formal technology transfer efforts have increased significantly in recent years, although the number of patents granted remained consistent.

Table 1: Technology transfer activity, FY 2007 – FY 2015

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Invention disclosures	76	85	77	62	106	107	107	106	117
New patent applications filed	107	117	107	80	95	139	160	175	191
U.S.-issued patents	26	33	38	41	33	31	29	28	31
Licenses/options executed	23	15	14	22	16	19	15	12	16

In addition, from fiscal year 2011 through fiscal year 2015, OTL entered into licensing agreements with 13 start-up companies that were created for the purpose of further developing and bringing to market technologies initially developed at the University. Several of these companies (as well as other licensed start-ups launched in earlier years) are located in the Princeton area or elsewhere in New Jersey. Examples include:

- **Universal Display Corp.**, founded in 1994 and based in Ewing, is a leader in the development and application of organic light-emitting diode (OLED) technology.
- **Nanonex**, founded in 1999 and based in Monmouth Junction, makes nanoimprint lithography tools for use in nanoscale printing and manufacturing. The company has installed more than 100 of its systems worldwide.

- **Orthobond**, founded in 2004 and based in North Brunswick, is engaged in the further development of technology that, by altering the surface chemistry of medical implants, reduces the risk of rejection or infection.
- **Twin Leaf**, founded in 2007, develops specialized, precision sensor systems under contracts from government, corporate and university clients.
- **Liquid Light**, founded in 2009 and based in Monmouth Junction, converts carbon dioxide into several types of fuels and industrial chemicals.
- **Chiromics LLC**, a Princeton-based firm founded in 2009, has developed extensive libraries of small molecules that are used to accelerate the process of developing new drugs.
- **TAG Optics**, founded in 2011, is a Princeton-based manufacturer of specialty lenses.

Supporting translational research

University research often produces discoveries or inventions that require further research and development before they can begin to attract outside investment.

Since the fall of 2011, Princeton's **Intellectual Property Accelerator Fund (IPAF)**, administered by the Dean for Research and the Office of Technology Licensing, has provided the resources researchers need to undertake proof-of-concept work, collect additional data or develop working prototypes. Examples of work funded by IPAF include:

- Improving the efficiency and reliability of a new type of photovoltaic cell that can convert solar energy into electricity more efficiently than cells now in use.
- Building a prototype of a 3-D microscope using an innovative acoustically-tuned lens; this technology is now used in specialty lenses sold by TAG Optics, the Princeton-based start-up company cited above.
- Further testing and refinement of a portable sensor for measuring emissions of nitrous oxide, a greenhouse gas emitted by nitrogen-based fertilizers; the technology was first developed by a team of researchers affiliated with MIRTHE (described in Part Two).
- Further development of CYRUS, an innovative technology for improving the security of data stored in the cloud.

During the past four years, several of the technologies that Princeton has supported with IPAF funding have been licensed either to existing companies or to start-ups.

In addition to providing funds to bridge the gap between University research and commercial development, Princeton also seeks to bring promising marketable innovations to the attention of potential investors and licensees. The **Princeton Innovation Forum**, for example, is an annual

showcase sponsored by the Office of Technology Licensing and the Keller Center (described below) at which a selected group of University researchers get to make three-minute “elevator pitches” to a panel of judges and an audience of entrepreneurs, representatives of technology companies, angel investors and venture capitalists.

Educating and encouraging Princeton entrepreneurs

During the past 10 years Princeton has developed an array of programs for students with an interest in entrepreneurship. They include formal courses, opportunities for “learning by doing,” and other resources. A 2015 report issued by the Princeton Entrepreneurship Advisory Committee points out that education in entrepreneurship supports the University’s academic mission as it “help[s] students build the character they will need for taking risks, following their passions, and persisting through the inevitable failures that are necessary parts of entrepreneurial activity.”

The focal point for education in entrepreneurship at Princeton is the ***Keller Center for Innovation in Engineering Education***. While it is housed in the School of Engineering and Applied Science, the Keller Center’s programs are open to students from across the University. As of 2016, the center offered a dozen courses dealing with entrepreneurship, innovation and design. In addition to the for-credit courses, the center offers non-credit, workshop-style short courses on various practical aspects of entrepreneurship.

Princeton also offers extensive opportunities for aspiring entrepreneurs to learn by doing.

- Started by the Princeton Entrepreneurship Club in 1999 as a competition open only to Princeton students, ***TigerLaunch*** became a nationwide collegiate business competition in 2014. During the fall semester, teams submit a video pitch online. From among these entries, a panel of entrepreneurs and venture capitalists selects teams to participate in regional competitions in New York, Chicago and Los Angeles. The top teams from each region are then invited to a final “Demo Day” competition in Princeton in April. In 2015-16, TigerLaunch drew about 200 teams, with a total of about 400 students participating.
- ***Princeton Pitch*** is a three-minute “elevator pitch” competition, open only to Princeton students. In 2015-16, the program drew 40 teams with about 80 participating students.
- The Keller Center’s ***eLab Summer Accelerator***, now in its fifth year, is an intensive 10-week program that offers select teams of three to six students (both undergraduate and graduate) space and time to work on the development of promising business ideas, with the advice and guidance of experienced mentors. Team members also participate in workshop sessions on topics related to entrepreneurship.

Recent teams participating in the eLab Summer Accelerator have developed the following projects:

- ***BLOC***, an online professional network for minority college students;

- **Bodhi Tree Systems**, developer of a cloud-based platform designed to improve management of pharmaceutical clinical trials data;
 - **Volumetric Inc.** (formerly Clickstick), developer of an innovative drug-dispensing technology that offers improved dosage control along with a sharp reduction in packaging;
 - **SignSchool**, an online American Sign Language video-learning system designed for individuals and schools, aims to facilitate basic communication between the deaf and hearing communities by providing a high-quality online platform for hearing people to learn American Sign Language;
 - **Ultrasonyx**, a new system that improves resolution and accuracy of medical ultrasound imaging.
- **Tiger Challenge**, also housed in the Keller Center, is a year-round program that provides students the support they need to address complex, real-world problems through an innovation process known as design thinking. One ongoing student project, called **One Roof Princeton**, is examining how to make the affordable housing application process in the municipality of Princeton more streamlined and responsive to the needs of housing applicants.
 - During the academic year, the **eLab Semester Incubator** provides co-working space and services to teams of Princeton students. While the Summer Accelerator aims to take teams with already well-developed start-up plans to the next level, the incubator is designed to help students formulate and develop new business ideas. Teams are required to prepare and deliver a business pitch at the end of each semester.
 - In the fall of 2015, the Keller Center opened its **eHub** in 15,000 square feet of leased space at 34 Chambers Street in Princeton. The eHub provides a common home for many of the center's entrepreneurship programs – its eLab incubator and accelerator programs, workshops and other events. In addition, local community members are encouraged to attend public lectures and events at the eHub and to share their entrepreneurial expertise by mentoring students and student teams. It can thus serve simultaneously as a resource for the ongoing development of a local entrepreneurial ecosystem – and a way to strengthen Princeton entrepreneurs' connections to that ecosystem.
 - In the fall of 2014, three University alumni established the **Alumni Entrepreneurs Fund**. The fund makes matching investments of up to \$100,000 in recent alumni start-ups. Through four funding rounds completed to date, the fund has invested in 18 start-ups, two of which are located in New Jersey:
 - **Volumetric Inc.** – the eLab Accelerator venture cited previously, now located in Princeton, that has developed an innovative drug dispensing technology; and

- **SpaceTouch** – a Princeton-based venture started by three 2014 Princeton University graduates that has developed a patented technology that provides 3-D gesture-recognition technology for tablets, laptops, virtual reality goggles and other devices.

A new certificate in entrepreneurship

Starting in the fall of 2016, the Keller Center is offering a “certificate of proficiency” in entrepreneurship. This new program requires students to complete five courses in entrepreneurship or a related area, and at least one of the center’s workshop courses.

Students are also required to complete a practicum, in which they take a new business idea from inception through market research and testing through the development of a business plan. (Participation in TigerLaunch or the eLab Summer Accelerator can fulfill the practicum requirement, but students can pursue other avenues as well.)

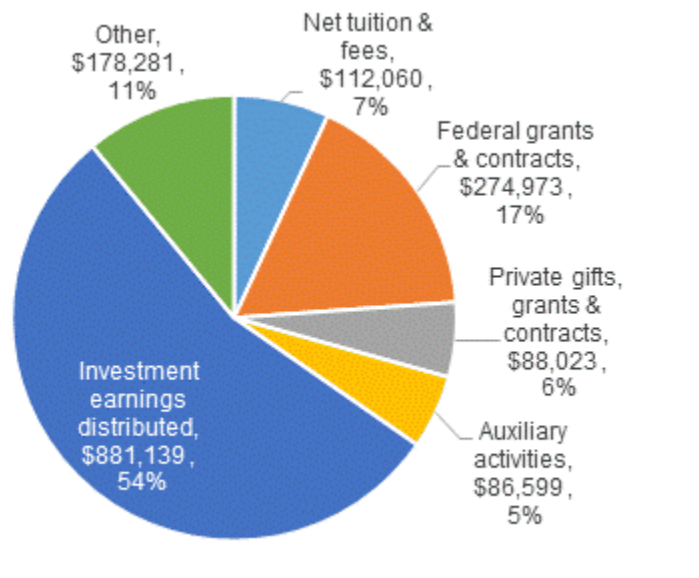
The certificate program will conclude with a colloquium at which students present their new ventures. While not required to do so, students will be encouraged to have their proposed new venture ready to launch (or already launched) at the conclusion of the program.

Part Four: The Impact of University Spending

Princeton University contributes to the economic vitality of New Jersey, and in particular the Princeton area, as a major employer, a buyer of goods and services from New Jersey companies, and a sponsor of construction projects.

In fiscal year 2015, Princeton University's operating revenues totaled more than \$1.6 billion. As Figure 6 shows, distribution of investment earnings accounted for 54 percent of total revenues, federal grants and contracts for 17 percent, net tuition and fees for 7 percent, and private gifts, grants and contracts for 6 percent.

Figure 6: Princeton University operating revenues, FY 2015 (in \$000s)



While most of the University's revenues come from sources outside the Princeton area, most of its income is spent within New Jersey on payroll, purchasing, investments in existing and new facilities, and other University purposes.

This part of the report addresses the University's impact as an employer, as a buyer of goods and services, and as a sponsor of construction projects. It also estimates the economic impact of off-campus spending by Princeton students and by visitors to Princeton, and assesses the University's impact on local government revenues in the Princeton area.

Employment at Princeton

In the fall of 2014, Princeton University directly employed 6,906 people (excluding student employees), of whom approximately 88 percent worked full-time. In fiscal year 2015, the University's payroll for these employees totaled nearly \$601.9 million.

In addition to these regular full- and part-time employees, in fiscal year 2015 the University employed 2,786 undergraduate and graduate students in a variety of part-time positions, with wages totaling nearly \$5.0 million.

Of the 6,906 people employed by Princeton in the fall of 2014, approximately 93 percent worked on the University's main campus, and 7 percent were employed at the Princeton Plasma Physics Laboratory.

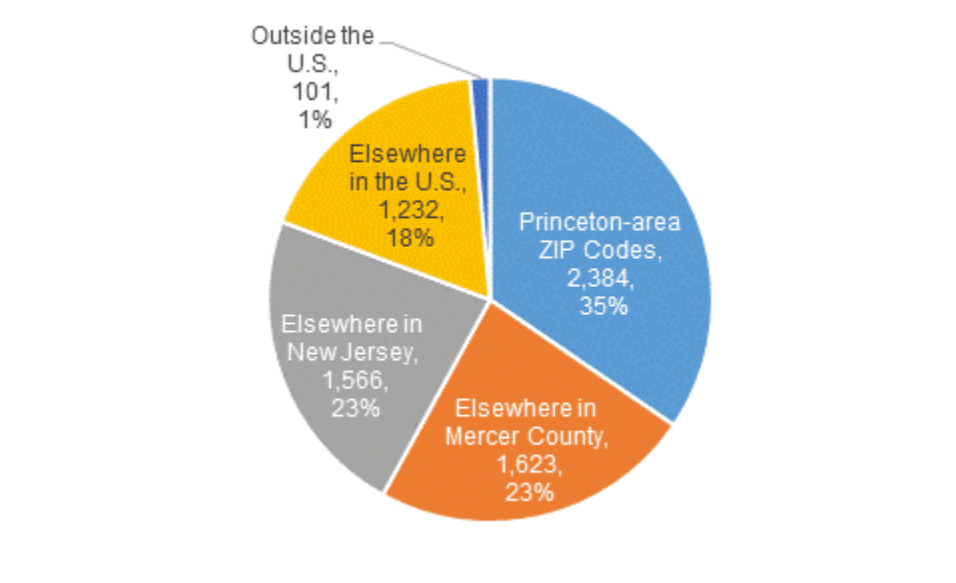
Based on municipal-level Quarterly Census of Employment and Wages data from the New Jersey Department of Labor and Workforce Development, in 2014 Princeton University accounted for 21.5 percent of total private employment in the Municipality of Princeton, and approximately 8.7 percent of total private employment in Princeton, West Windsor, Plainsboro and South Brunswick combined.

Where Princeton employees live

In the fall of 2014 (as shown in Figure 7), 2,384 University employees (34.5 percent) lived within the Princeton-area ZIP Codes, and an additional 1,623 (23.5 percent) lived elsewhere in Mercer County. Princeton University employees accounted for 4.8 percent of all employed residents of the Princeton-area ZIP Codes during 2014.⁷

⁷ Calculation is based on ZIP Code Tabulation Area level Longitudinal-Employer Household Dynamics Program (LEHD) data from the U.S. Census Bureau obtained using OnTheMap.

Figure 7: Total employment by place of residence, fall 2014



In fiscal year 2015, salaries and wages paid by Princeton University to its employees who live in the Princeton-area ZIP Codes totaled \$278.8 million, and salaries and wages paid to its employees who live elsewhere in Mercer County totaled nearly \$113.8 million.

The impact of purchasing and construction

In addition to the thousands of Princeton-area residents it employs directly, the University supports the Princeton area economy, and the economies of Mercer County and New Jersey, through its purchases of goods and services from local companies, and through construction and renovation of its facilities.

Purchasing goods and services

In fiscal year 2015, Princeton University spent \$453.6 million on the purchase of goods and services (other than construction), of which approximately \$137.3 million was spent on goods and services provided by New Jersey vendors. This included nearly \$35.0 million paid to businesses located within the Princeton-area ZIP Codes, and nearly \$16.5 million paid to businesses located elsewhere in Mercer County.

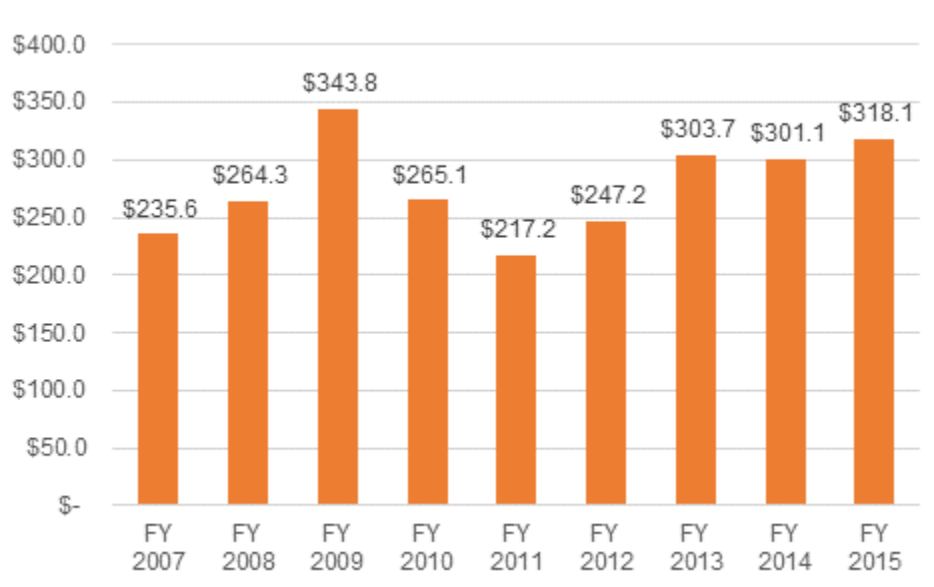
Using the IMPLAN input-output economic modeling system – a modeling tool commonly used in economic impact analyses – we estimate that in fiscal year 2015, Princeton’s purchases of

goods and services directly supported 366 full-time-equivalent (FTE) jobs in Mercer County, and an additional 430 FTE jobs elsewhere in New Jersey.

The impact of University construction

In addition to generating jobs and economic activity through its purchases of goods and services, Princeton also does so through its investment in its University facilities. As shown in Figure 8, between fiscal year 2007 and fiscal year 2015, Princeton invested a total of nearly \$2.5 billion in capital construction and major maintenance projects.

Figure 8: Princeton construction spending, FY 2007 – FY 2015 (in \$ millions)



In fiscal year 2015, Princeton spent more than \$318.1 million on capital construction and major maintenance projects, of which approximately \$136.6 million was with New Jersey contractors and vendors. This included nearly \$10.3 million paid to contractors located in the Princeton-area ZIP Codes, and nearly \$11.9 million paid to contractors located elsewhere in Mercer County.

Examples of major projects completed or underway during fiscal year 2015 (in addition to the Arts and Transit Project, described below) include:

- ***Andlinger Center for Energy and the Environment***, a new 129,000-square-foot building that includes research space, meeting rooms, offices and common spaces. The \$138.6 million building will support an expanding program of research and teaching in areas of sustainable energy development, energy conservation and environmental protection and remediation.

- The ***Childcare Center***, a new 17,000-square-foot facility that will provide indoor and outdoor teaching and play areas for approximately 180 children from infants to age five. The \$9.4 million facility will serve to expand and enhance the childcare services available to Princeton faculty, staff and students.
- ***Firestone Library Renovation***, a multi-year, \$165.6 million project that includes renovating reader and study spaces, exhibit spaces and shelving areas, upgrading the space for the Department of Rare Books and Special Collections, and replacing and updating HVAC, electrical, life-safety and data systems.

Using IMPLAN, we estimate that in fiscal year 2015, Princeton's spending on construction and renovation of facilities directly supported 95 FTE jobs with companies in construction and related industries in Mercer County, and an additional 477 FTE jobs with construction and related companies elsewhere in New Jersey.

Over the next five years, from fiscal year 2016 to fiscal year 2020, Princeton estimates that it will spend a total of more than \$1 billion in hard construction costs on new construction and renovation projects. This estimate does not, however, take into account several new projects that may be included in the University's 2026 Campus Plan, which is scheduled to be released in the fall of 2017. Total University spending on construction from 2016 through 2026 is therefore likely to be higher.

The Arts and Transit Project

One of the most notable features of Princeton's 2016 Campus Plan was the Arts and Transit Neighborhood, an initiative designed to strengthen an area on the western edge of the campus that plays an important role in the life of both the University and its neighbors. Several elements of the project have been completed, including:

- Construction of a new station for the train (known locally as "the Dinky") that connects Princeton to the New Jersey Transit main line at Princeton Junction;
- Development of a "transit plaza" adjacent to the station, providing improved pick-up and drop-off areas and bike facilities, as well as connections to taxis, NJT buses, campus shuttles and community jitney service;
- Construction of a new Wawa convenience store, also adjacent to the new station; and
- Renovation of the former north Dinky station building, which is now occupied by the new Dinky Bar and Kitchen cafe.

Other elements of the project are now under construction, and are scheduled to be completed before the end of 2017. Foremost among these are new buildings for the Lewis Center for the Arts, which will include a black box theater, gallery space, a dance studio and music rehearsal space. The project area will also include extensive landscaping and the development of "green infrastructure." The former south Dinky station building is being renovated and expanded into a full-service restaurant.

When completed and fully operational, the Lewis Center will complement the McCarter Theatre Center, and reinforce the neighborhood's character as an important center of culture not just for the campus and the community, but for the region as well. It will provide new cultural resources and opportunities for local residents, and also draw visitors from elsewhere in the region whose spending will help bolster the local economy.

Measuring the multiplier effect

The jobs and economic activity generated by Princeton University's spending on payroll, purchasing and construction are not limited to the direct impacts cited previously. Using a tool of economic analysis called an input-output model, we can also estimate the indirect and induced (or "multiplier") effects of spending by the University – the economic activity resulting from:

- Spending within Mercer County and elsewhere in New Jersey by the local suppliers and contractors from whom Princeton buys goods and services (the indirect effect); and

- Household spending within Mercer County and elsewhere in New Jersey by Princeton employees, and by employees of the University's suppliers and contractors (the induced effect).

Using IMPLAN, we estimate that in fiscal year 2015, spending by Princeton University on non-student payroll, purchasing and construction indirectly accounted for:

- 2,211 FTE jobs in Mercer County, with earnings totaling \$124.2 million;
- \$324.9 million in countywide economic output.

Statewide (including Mercer County), Princeton's spending indirectly accounted for:

- 3,927 FTE jobs in New Jersey, with earnings totaling \$224.2 million;
- Nearly \$599.1 million in statewide economic output.⁸

When we combine these indirect and induced effects with the direct effects cited previously, we estimate that in fiscal year 2015, spending by Princeton University on non-student payroll, purchasing and construction directly and indirectly accounted for:

- 9,092 FTE jobs in Mercer County, with earnings totaling \$705.1 million;
- \$946.4 million in countywide economic output.

Statewide (including Mercer County), Princeton's spending directly and indirectly accounted for:

- 12,201 FTE jobs in New Jersey, with earnings totaling \$922.6 million;
- Nearly \$1.5 billion in statewide economic output.

Table 2 summarizes the total impact of Princeton University's spending on payroll, purchasing and construction in Mercer County and New Jersey.

⁸ In essence, the University's economic output is the total dollar value of the sale of goods and services by businesses and households in New Jersey that results directly or indirectly from University spending on payroll, purchasing and construction.

Table 2: Direct, indirect and induced impacts of Princeton’s spending in Mercer County and New Jersey, FY 2015 (jobs in FTE, earnings and output in \$ millions)

	Mercer County			New Jersey		
	<i>Jobs</i>	<i>Wages</i>	<i>Output*</i>	<i>Jobs</i>	<i>Wages</i>	<i>Output*</i>
Direct spending impact						
Payroll	6,420	\$553.8	\$553.8	6,906	\$601.9	\$601.9
Purchasing/construction	461	\$27.1	\$67.7	1,368	\$96.6	\$260.6
<i>Subtotal, direct impact</i>	<i>6,881</i>	<i>\$580.9</i>	<i>\$621.5</i>	<i>8,274</i>	<i>\$698.4</i>	<i>\$862.5</i>
Indirect and induced effects						
Employee spending	1,965	\$109.2	\$286.8	2,739	\$151.8	\$404.5
Contractor and vendor spending	246	\$15.0	\$38.1	1,188	\$72.4	\$194.6
<i>Subtotal, indirect/induced effects</i>	<i>2,211</i>	<i>\$124.2</i>	<i>\$324.9</i>	<i>3,927</i>	<i>\$224.2</i>	<i>\$599.1</i>
Total impact	9,092	\$705.1	\$946.4	12,201	\$922.6	\$1,461.6

* For the purposes of this report, “output” is defined as the total dollar value of the sale of goods and services by businesses and households that results directly or indirectly from University spending.

Student and visitor spending

In addition to the impact of the University’s own spending on payroll, purchasing and construction, off-campus spending by Princeton students and non-local visitors to the University also contributes to the vitality of the Princeton-area economy.

The impact of student spending

The impact of student spending is determined in part by whether students live on campus, in off-campus University housing, or elsewhere in Princeton and the surrounding communities. During the 2014-15 academic year, approximately 96.4 percent of undergraduate students lived in University-owned housing. Among graduate students, 15.6 percent lived on campus, 54.1 percent lived in off-campus University-owned housing and 30.3 percent lived elsewhere.

Based on data provided by the University’s Office of Financial Aid on the average annual cost of living for students, we estimate that during fiscal year 2015, off-campus spending by Princeton University students totaled nearly \$59.7 million, most of which was spent in the Princeton area. This figure includes off-campus spending by all undergraduate and graduate students, excluding the estimated 20 percent of graduate students who live outside the Princeton area.

Using IMPLAN, we estimate that this spending directly and indirectly accounted for:

- 602 FTE jobs in Mercer County, with \$22.2 million in earnings;
- Nearly \$54.7 million in countywide economic output.

The impact of visitor spending

In addition to attracting faculty members, researchers, students and staff to the Princeton area, the University also attracts visitors who spend money within the local economy. Princeton University estimates that during fiscal year 2015, approximately 768,000 people visited the Princeton campus – for admissions visits, alumni events, commencement, lectures, athletic events, visits to the Art Museum, theater and other performances, academic conferences, and other purposes. (These numbers do not include visitors on tour buses that make brief stops in the Princeton area.)

Table 3: Visitors to Princeton by purpose of visit, FY 2015

Purpose of visit	Total visitors
Orange Key Tours	48,000
Other Admissions events	2,000
Alumni visits/reunions/homecoming	30,000
Commencement	10,000
Conferences/summer programs/sports programs	45,000
Princeton Plasma Physics Lab	11,000
Princeton Art Museum	145,000
McCarter Theatre Center	124,000
Princeton University Concerts	12,000
Other entertainment/performances/exhibits	48,000
Firestone Library	18,000
Cotsen Children’s Library	15,000
Athletic events	260,000
Total	768,000

Of these visitors, we estimate that approximately 166,500 (approximately 22 percent of all visitors) came from elsewhere in New Jersey, and an additional 150,685 (approximately 20 percent of all visitors) came from outside New Jersey.

During fiscal year 2015, we estimate that off-campus spending in the Princeton area by visitors to Princeton from outside Mercer County – on food, shopping, entertainment, lodging and travel – totaled approximately \$49.7 million. Using IMPLAN, we estimate that this spending directly and indirectly accounted for:

- 703 FTE jobs in Mercer County, with nearly \$27.7 million in earnings;
- \$63.4 million in countywide economic output.

For visitors who came to Princeton from outside New Jersey, we estimate that during fiscal year 2015, off-campus spending in the Princeton area totaled approximately \$46.4 million. Using IMPLAN, we estimate that this spending directly and indirectly accounted for:

- 647 FTE jobs in New Jersey, with \$25.9 million in earnings;
- \$59.2 million in statewide economic output.⁹

Adding it all up

When the impact of Princeton University's spending on payroll, purchasing and construction is combined with the impact of student and visitor spending, we estimate that during fiscal year 2015, Princeton directly and indirectly accounted for:

- 10,397 FTE jobs in Mercer County, with earnings totaling \$755.0 million;
- Nearly \$1.1 billion in countywide economic output.

Statewide (including Mercer County), we estimate that spending by Princeton, its students and visitors to the University directly and indirectly accounted for:

- 13,450 FTE jobs in New Jersey, with earnings totaling \$970.7 million;
- Nearly \$1.6 billion in statewide economic output.

These combined impacts in Mercer County and New Jersey are summarized below in Table 4 and Table 5.

⁹ In analyzing the impact of off-campus visitor spending in Mercer County, this report counts only spending by visitors who come from outside Mercer County, and at the state level, only spending by visitors who come from outside New Jersey. While relatively conservative, this approach helps ensure that we are not claiming as part of the University's impact spending that could still have occurred within Mercer County or New Jersey even if these people had not been visiting Princeton University's campus.

Table 4: Total impact of spending by Princeton University, students and visitors in Mercer County, FY 2015 (jobs in FTE, earnings and output in \$ millions)

	Jobs	Wages	Output*
Impact of Princeton spending			
Direct	6,881	\$580.9	\$621.5
Indirect/induced	2,211	\$124.2	\$324.9
<i>Subtotal, Princeton spending impact</i>	<i>9,092</i>	<i>\$705.1</i>	<i>\$946.4</i>
Impact of student spending			
Direct	472	\$14.5	\$34.3
Indirect/induced	130	\$7.7	\$20.4
<i>Subtotal, student spending impact</i>	<i>602</i>	<i>\$22.2</i>	<i>\$54.7</i>
Impact of visitor spending			
Direct	553	\$18.4	\$39.4
Indirect/induced	150	\$9.3	\$24.0
<i>Subtotal, visitor spending impact</i>	<i>703</i>	<i>\$27.7</i>	<i>\$63.4</i>
Total impact	10,397	\$755.0	\$1,064.5

* For the purposes of this report, "output" is defined as the total dollar value of the sale of goods and services in Mercer County by businesses and households that results directly or indirectly from spending by the University, students and visitors.

Table 5: Total impact of spending by Princeton University, students and visitors in New Jersey, FY 2015 (jobs in FTE, earnings and output in \$ millions)

	Jobs	Wages	Output*
Impact of Princeton spending			
Direct	8,274	\$698.4	\$862.5
Indirect/induced	3,927	\$224.2	\$599.1
<i>Subtotal, Princeton spending impact</i>	<i>12,201</i>	<i>\$922.6</i>	<i>\$1,461.6</i>
Impact of student spending			
Direct	472	\$14.5	\$34.3
Indirect/induced	130	\$7.7	\$20.4
<i>Subtotal, student spending impact</i>	<i>602</i>	<i>\$22.2</i>	<i>\$54.7</i>
Impact of visitor spending			
Direct	506	\$17.2	\$36.8
Indirect/induced	141	\$8.7	\$22.4
<i>Subtotal, visitor spending impact</i>	<i>647</i>	<i>\$25.9</i>	<i>\$59.2</i>
Total impact	13,450	\$970.7	\$1,575.5

* For the purposes of this report, "output" is defined as the total dollar value of the sale of goods and services in New Jersey by businesses and households that results directly or indirectly from spending by the University, students and visitors.

Contributing to state and local government revenues

Despite its tax-exempt status, Princeton University is a significant source of tax revenues for state and local government.

University payments to state government

At the state level, the most direct impact of Princeton's operations is through employment-related taxes and fees. During fiscal year 2015, Princeton employee wages contributed more than \$23.8 million in New Jersey state income taxes. The University also paid nearly \$842,700 in unemployment insurance taxes and more than \$295,700 to the New Jersey Workforce Development Partnership Fund, New Jersey Supplemental Workforce Administrative Fund and New Jersey Paid Family Leave Insurance.

As shown in Table 6, Princeton University directly paid nearly \$25.3 million in New Jersey taxes and fees during fiscal year 2015.

Table 6: Direct taxes and fees paid by Princeton University to the State of New Jersey, FY 2015

Type of tax/fee/payment	Amount
State income taxes withheld	\$23,833,450
Unemployment insurance taxes	\$842,699
NJ Paid Family Leave Insurance	\$202,091
NJ Workforce Development Partnership Fund	\$38,552
NJ Supplemental Workforce Administrative Fund	\$55,091
NJ license and permit fees	\$303,106
Total	\$25,274,990

In addition to these state taxes and fees, Princeton offers its employees short-term disability benefits paid at 100 percent of an employee's salary for a maximum of 12 weeks, and up to an additional 14 weeks at 75 percent pay. In the absence of this University benefit, the state would have incurred \$2.4 million in short-term disability benefit payments to Princeton University employees in fiscal year 2015.

University payments to local governments

At the local level, the University contributes to local government revenues in several ways, including real property taxes on properties it owns that are not used for tax-exempt purposes, as well as real property taxes it voluntarily pays on various properties that are used for exempt

purposes, sewer fees, voluntary contributions, and a variety of other taxes and fees. In fiscal year 2015 (as shown in Table 7), Princeton University directly paid nearly \$16.4 million in taxes, fees and voluntary payments to municipalities and school districts in the Princeton area and to Mercer County.

Table 7: Direct taxes, fees and other payments paid by Princeton University to local governments, FY 2015

Type of tax/fee/payment	Amount
Real property taxes on non-exempt (and some exempt) property	\$10,160,472
Real property tax portion of rents paid on leased property	\$47,589
Sewer fees	\$2,191,820
Local license and permit fees	\$855,876
Other taxes and fees	\$172,017
Voluntary contributions	\$2,934,266
Total	\$16,362,040

As noted, the nearly \$10.2 million in property tax payments included taxes on properties that would qualify for tax-exempt status under New Jersey law, including all University-owned non-dormitory housing for graduate students.

The University's practice of leaving all non-dormitory student housing on the tax rolls, and to remove a building from the tax rolls only when 100 percent of the building is used for educational purposes, goes beyond what is required under New Jersey state law, which exempts colleges and universities from paying taxes on housing related to its educational mission and any portion of a building used for academic purposes.

In addition to these taxes, fees and voluntary contributions paid directly by the University, visitors to the University account for a portion of the Municipality of Princeton's roughly \$3.2 million in annual municipal parking revenues.

Voluntary Contributions to the Municipality of Princeton

In 2014, Princeton University and the Municipality of Princeton, N.J. signed a seven-year agreement under which the University will make a total of \$21.72 million in voluntary unrestricted contributions to the municipality, as well as one-time contributions valued at \$2.59 million to several identified municipal projects.

In calendar year 2014, the University made a cash contribution of \$2.75 million. In each subsequent year, the University increases its contribution by 4 percent annually through 2020. In calendar year 2015, the University's voluntary nontax contribution to Princeton was \$2.86 million.

Over the course of the seven-year term of the agreement, the University will also make one-time contributions to the following community initiatives:

- \$500,000 toward construction of a new Princeton First Aid and Rescue Squad facility on municipal land
- \$250,000 toward the expansion of the Witherspoon Fire Station (in addition to the \$300,000 already committed by the University to this project)
- \$500,000 toward the purchase of replacement fire-fighting apparatus
- \$250,000 toward construction of a new storage facility for Municipality Department of Works equipment
- Donation of the University-owned Franklin Street Lot for municipal use (valued by Princeton University in the range of \$1 million)
- \$90,000 toward the purchase of a new freeB vehicle (town jitney)

Supporting public services in the Princeton area

The University also supports public services in the Princeton area in a variety of ways. Examples of these include:

- In 2015, the University spent approximately \$500,000 maintaining nine miles of University-owned roads in Princeton that are open to the public.
- The University makes a \$35,000 annual contribution to the Princeton First Aid and Rescue Squad (PFARS). Of the 109 PFARS volunteer members in 2015, 20 were University students and four were university staff. Each summer, the University also provides free housing for up to six students so they can actively volunteer with PFARS.

- All in-service training held on campus and sponsored by the University's Department of Public Safety is open to the Princeton Police Department.
- Through the Fire Department Associate Member Program, University staff serve as Princeton Fire Department volunteers during weekday work hours. In fiscal year 2015, associate members responded to 200 calls totaling 877 hours of service and participated in 525 hours of training during regular work hours. The program currently has 32 University employee participants.
- Mercer County's countywide public safety communications systems are located at the University's Fine Hall. This includes a full radio receiver site, receivers for Mercer County Central Dispatch, and a microwave link site.
- The University has eight wireless carrier cell towers on University buildings, both reducing the need for monopoles in Princeton and improving cell service to the community.
- The University also contributes – both financially and in-kind – to community organizations including the Princeton Public Library, Plainsboro Public Library, West Windsor Arts Council, Princeton Public Schools, Arts Council of Princeton, Princeton Community Park Pool, Corner House, Morven Museum and Garden, and the University Medical Center of Princeton at Plainsboro.

A full list of University contributions made to the community in 2015 is attached to this report (see Appendix A).

A source of stability for the region and the community

The combination of University employment, local purchasing, on-campus construction, student and visitor spending, and financial support for local governments and community organizations makes Princeton an important source of economic stability for the region. University employment held steady in the early years of the 2008 recession, and then increased through 2012.

The University's role as a source of stability in hard times was further reinforced by its investment of hundreds of millions of dollars each year in new campus construction and renovation throughout the worst years of the recession – a total of \$1.07 billion from 2009 through 2012. We estimate that during this four-year period University construction spending directly supported an average of about 1,100 FTE jobs per year from 2009 through 2012.

The stability the University provides also benefits local governments and community organizations. According to a 2013 report by Moody's, for example, the Municipality of Princeton's Aaa bond rating "reflects ... the stabilizing presence of Princeton University." This strong bond rating leads to significant savings in borrowing costs for the municipality.

Princeton Forrestal Center: A regional economic asset

The University also supports the continued development of the Princeton-area economy through the Princeton Forrestal Center. Created by the University in the 1970's, the Princeton Forrestal Center was one of the nation's first major university research and business parks – and is still one of the most successful.

Today the Forrestal Center is one of the Princeton area's most important economic assets – a 2,200-acre mixed-use complex with more than 6 million square feet of office and research space, three residential developments, six hotels, retailing, restaurants, consumer services, recreational facilities and 500 acres of dedicated open space. The property is located partly in Plainsboro and partly in South Brunswick.

As of the spring of 2016, the Princeton Forrestal Center was home to nearly 200 companies with more than 12,000 employees on-site. They range from small technology start-ups and professional services firms to major pharmaceutical companies such as Novo Nordisk and Bristol Myers Squibb.

Part Five: Investing In and Serving the Community

The impact of Princeton University on communities in the Princeton area is not limited to contributions that can be measured in financial terms. The University also contributes to the economic vitality and quality of life of the Princeton area through its commitment to investing in and serving the communities in which it is located.

This part of the report examines the wide range of activities and programs through which Princeton students, faculty, staff members and the University engage with the community, with a particular focus on four dimensions of that engagement:

- Expanding educational opportunity for area residents of all ages;
- The University's role as a cultural resource;
- Engagement of University students, faculty and staff members in volunteer activities, outreach and public service; and
- Involvement in community development initiatives and other collaborative efforts aimed at addressing specific community needs.

The University as an educational resource

Princeton University offers opportunities for educational enrichment and professional development to Princeton-area residents at all stages of life.

Serving local K-12 students

Princeton University offers a wide range of programs aimed at expanding opportunities for educational enrichment for local K-12 students and their teachers. For example:

- Since 2001, the **Princeton University Preparatory Program (PUPP)** has provided academic and cultural enrichment opportunities for high-achieving, economically disadvantaged high school students from Ewing, Hamilton, Lawrence, Princeton and Trenton public high schools. Through a combination of intensive, six-and-a-half week summer programs and weekly academic and cultural enrichment programming during the school year, PUPP aims to prepare its participants for admission to, and success within, some of the nation's most selective colleges and universities. Once selected, PUPP Scholars participate in the program throughout the remainder of their high school career, as well as receive support with their transition to college and guidance throughout their college career. Each year, approximately 72 local high school students participate in this three-year, tuition-free program.

- Through the **High School Program at Princeton University**, qualified high school juniors and seniors from Princeton-area high schools have the opportunity to enroll in classes at the University. Class options include courses in mathematics, physics, chemistry, geosciences, world languages, computer science and music. During 2014-15, 86 students from area high schools participated in the program.
- The Princeton Plasma Physics Laboratory (PPPL) hosts a variety of science education programs and events, such as **Science on Saturdays** – a nine-week lecture series geared towards high school students in which scientists, engineers and other professionals discuss varying scientific topics – and the annual **New Jersey Regional Science Bowl** for middle and high school students. PPPL scientists and engineers also make visits to K-12 schools throughout the region, presenting on science topics and conducting hands-on science activities for groups varying from classroom-sized to science fair crowds.
- Each year, the **PPPL High School Internship Program** offers a limited number of research internships for outstanding high school seniors from central New Jersey high schools. During the internship, students have the opportunity to work on a project with a member of PPPL’s research or engineering staff. PPPL offers both a semester-long program during the school year, in which the students earn credit from their local high school, as well as a summer paid internship program. During 2014-15, eight high school students participated in these programs.
- The **Cotsen Children’s Library** offers a variety of free, year-round public programs for children of all age groups, including interactive book readings, book discussions and creative writing resources. Cotsen’s visiting schools program travels to any public, private or home school within a 10-mile radius of the campus.
- The Princeton University Art Museum hosts a wide-range of educational programs, such as **Art for Families** – a program offered each Saturday that includes an engaging gallery activity and a related art project on that week’s theme. The museum also offers free tours for K-12 student group visits, and provides free online resources to help teachers develop lesson plans and tailor their visits to meet the needs of their groups.

Opportunities for educational enrichment

The University also provides opportunities for educational enrichment to adults living in the Princeton area.

- Through the University’s **Community Auditing Program (CAP)**, community residents have the opportunity to audit selected University courses and lectures. Each semester, approximately 200 classes and lectures are available on a non-credit basis. During the 2014-15 academic year, 1,165 people participated in these non-credit courses, of whom

651 (more than half of all participants) were residents of the Princeton area, and an additional 175 were residents of other Mercer County communities.

- Through the University's **Program in Continuing Education**, qualified area residents may enroll in and receive credit for undergraduate and graduate courses at the University, which may then be used toward a degree at another institution of higher education. The program is primarily aimed to serve students who are preparing for a career change or entrance into graduate or professional school, students pursuing advanced training in their field, and students resuming their educations. During the 2014-15 academic year, 47 students were enrolled in the program, 27 of whom were residents of the Princeton area.

Professional development for New Jersey educators

Princeton University offers professional development programs for teachers and educational leaders in New Jersey elementary and high schools. For example:

- The University's **Program in Teacher Preparation (Teacher Prep)** prepares undergraduates, graduates and alumni to become certified teachers at the middle and/or secondary school levels. During the 2014-15 academic year, 45 students were enrolled in the program.
- **QUEST**, a professional development institute for elementary and middle school teachers focused on enhancing teachers' knowledge of science and mathematics through laboratory experiments and field experiences. During the 2014-15 academic year, 26 participants were enrolled in the program.
- In partnership with six surrounding school districts and several private schools, the **Teachers as Scholars** program holds seminars for teachers that are taught by University faculty and staff on a wide range of topics and subject areas. During the 2014-15 academic year, 152 teachers attended these seminars.
- Through the **Administrators as Scholars** program, Teacher Prep offers a yearly seminar taught by a University faculty member for administrators from the Teachers as Scholars member schools.

To support these efforts, the University currently partners with 14 public school districts, including the Princeton, Trenton and West Windsor-Plainsboro school districts, as well as a number of private schools.

In addition to these elementary- and high-school-level programs, Princeton University offers professional development opportunities for New Jersey community college faculty members and administrators through its **Community College Faculty Program**. Through this program, selected faculty from the participating community colleges have the opportunity to audit Princeton courses related to their disciplines and consult with scholars in a variety of fields.

Princeton as a cultural and recreational resource

The University also helps make Princeton and the surrounding communities more attractive places to live and work through the cultural resources that are available to residents of these communities. We include here just a few examples.

- The **McCarter Theatre Center**, which includes a 1,100-seat main theater and a smaller, 360-seat performance space, is one of central New Jersey's leading performing arts centers; its resident theater company is widely recognized as being among the best in the nation. During the 2014-15 academic year, more than 123,000 people attended performances at McCarter, more than half of whom were residents of Mercer County.
- The **Princeton University Art Museum** is one of New Jersey's leading museums. The museum is free and open to the public year-round. During the 2014-15 academic year, attendance totaled more than 145,000.
- Princeton presents a variety of concerts, lectures, other performances and exhibits that are open to the public – some involving University artists and groups, and some performers and other artists from outside the University. During the 2014-15 academic year, such events attracted nearly 60,000 visitors to the campus.
- Princeton Public Library cardholders can apply for a free access card to use the Princeton University Library and other community residents can obtain access to the resources of **Firestone Library** for a modest annual fee. The **Cotsen Children's Library** is a specialized library with an international collection of children's books and other related material that is free and open to the public year-round. The library presents a variety of free programs throughout the year at which the public is welcome. The two libraries are estimated to have drawn more than 32,700 visits during the 2014-15 academic year.

The University offers opportunities to attend high-quality intercollegiate athletic competitions, frequently at little or no cost. It also organizes community events around some of the athletic events. Some of the University's athletic and recreational facilities are made available to community organizations and groups, including high school athletic teams and community-based youth and adult athletic groups. Outdoor recreational resources are also available along Lake Carnegie and at the Princeton Forrestal Center.

Students, faculty and staff in the community

Princeton University students are engaged in a wide range of community service activities, both through volunteer work and through participation in community-based learning programs.

- The **Pace Center for Civic Engagement** provides a focal point for civic engagement among Princeton students. Through a wide range of student-led, student-driven

programming, the Pace Center helps Princeton students engage with and give back to the local community. For example:

- The ***Student Volunteers Council (SVC)*** sponsors more than 30 ongoing volunteer projects that work with community organizations in Princeton, Trenton and the surrounding area, including five tutoring programs, eight health and emergency services programs, eight mentorship programs, three criminal justice programs, arts and athletics outreach programs, hunger and homelessness programs, and special needs programs.
 - Throughout the school year, more than 200 students volunteer through ***Community House*** to provide academic enrichment and cultural and social opportunities for underrepresented youth in the Princeton area. In addition, Community House sponsors STEAM Summer Camp, at which 45 middle-school students from the Princeton area have the opportunity to explore science, technology, engineering, arts and math through a hands-on curriculum developed by Princeton students.
 - Hundreds of incoming freshmen participate in civic engagement from the very beginning of their time at Princeton through ***Community Action***, in which students are introduced to the local community with an immersive week of service and learning experiences as part of Orientation.
 - The Pace Center also supports more than 20 independent student organizations focused on a broad set of social and societal issues that range from advocating for prison education reform to community-based immigration rights to global hunger.
- Students have the opportunity to connect their academic work with their interest in serving the local community through the ***Community-Based Learning Initiative (CBLI)***. Through CBLI, students work with local nonprofits, providing research, data collection and analysis, and literature reviews through specially developed Princeton courses, independent projects and internships. During the 2014-15 academic year, 597 students participated in 21 CBLI courses, working with more than 30 community organizations in the Princeton and Trenton area. Collaborating organizations include the Latin American Legal Defense and Education Fund, St. Francis Medical Center and the Princeton Nursery School.
 - Through the ***Engineering Projects in Community Service (EPICS)*** program, students have the opportunity to earn academic credit while working in multidisciplinary design teams to solve technology-based problems for local governments and nonprofit organizations. Students have the opportunity to participate in a project for up to six semesters. One of the recent projects involved designing a new type of open-source, solar powered magnetic water pump. The goal is to create a blue-print for an affordable, easily manufactured water pump that could be built anywhere and run in remote, off-grid areas.

In addition to these programs, Princeton students participate in a variety of volunteer work and outreach through activities organized by independent student organizations, eating clubs, academic departments, residential colleges and athletic teams.

The University's service mission extends to the faculty and staff who volunteer their time and expertise in support of efforts including:

- Providing post-secondary education to over 200 incarcerated individuals in state prisons annually through the **Prison Teaching Initiative (PTI)**; volunteer instructors include faculty, staff, postdoctoral fellows, students and alumni.
- Supporting the all-volunteer Princeton Fire Department with roughly 30 staff members in the **Princeton University Volunteer Fire Program** who can respond to emergencies in the community during business hours.
- Raising \$148,726 from faculty, staff and retirees for the **United Way Campaign** in fiscal year 2015.
- Collecting and donating 3,375 pounds of non-perishable food to the Mercer Street Friends Food bank during its annual **Holiday Food Drive**.

Princeton as a community partner

Princeton University is also a partner in efforts to improve services and enhance the quality of life in the local community. In transportation, for example, the University:

- Operates **TigerTransit**, a free bus service that serves the main campus and connects to other locations such as the Princeton Plasma Physics Lab, Forrester Center, regional shopping centers and the University Medical Center of Princeton at Plainsboro. This service is open to the public.
- Contributed \$500,000 to establish a municipal **Transportation Trust Fund** in Princeton.
- Provided vehicles for use by the municipally-operated **freeB** jitney service.
- Through its investment in a campus bike share system, enabled the Municipality of Princeton to secure a \$196,000 federal grant that will support development of a **bike-share program** in town that will coordinate with the campus system.

The University has also supported efforts to develop and maintain affordable housing available to the public. In the past decade, it has spent more than \$4 million toward the construction of affordable housing in Princeton, including 65 units in conjunction with the development of faculty-staff housing at Merwick Stanworth.

Over the years, the University has invested in or contributed to a variety of community projects. For example, the University:

- Provided initial “seed” funding for transformative programs like ***Send Hunger Packing***, which sends food home with school children to address food instability in the Princeton area.
- Provided start-up funding for the first three years of freeB jitney service.
- Renovated and installed digital projection systems at the ***Garden Theatre***, and selected a community-oriented non-profit organization, Renew Theaters, to operate it; the theater building is owned by the University.
- Helped bring ***Labyrinth Books***, an independent bookstore, to Princeton.

As indicated earlier, the University’s contributions agreement with the municipality includes a commitment of \$500,000 toward construction of a new headquarters for the Princeton First Aid and Rescue Squad and \$500,000 towards the purchase of new firefighting apparatus for the Princeton Fire Department. It also includes \$550,000 toward the expansion of the firehouse.

The University is a founding board member of the ***Greater Trenton*** initiative, committing \$250,000 over five years to support a collaborative effort with community development organizations to attract economic investment and improve the quality of life for residents in Trenton.

Part Six: Driving Sustainable Growth

As significant as Princeton University's contributions to the growth and vitality of the Princeton area and New Jersey economies have been, they could be even greater during the next five to 10 years. Below we discuss several factors that are likely to contribute to the continued growth of the University's economic impact.

Growth in enrollment

A framework for the University's strategic planning process that was released in January 2016 sets a goal of increasing undergraduate enrollment by 500 students. The document also anticipates continued incremental growth in graduate student enrollment.

Enrollment growth will reinforce the University's economic impact in several ways. It will increase the number of undergraduate and graduate students coming to Princeton each year and the number who earn degrees.

Increased enrollment is likely to translate into an increase in the University's operating expenditures, which will also have a positive impact on the region's economy, and on New Jersey's. It will also lead to an increase in off-campus spending by Princeton students.

Growth in University research

Although the outlook for federal funding of university research remains uncertain, Princeton is well-positioned to maintain the growth of its research programs. Princeton's financial strength is such that, more than most institutions, it can supplement sponsored research funding from its own resources. Internally generated funds can directly help to sustain research spending – and perhaps even more important, selective use of these funds can enhance Princeton's ability to compete more effectively for federal research funds.

Beyond the leverage provided by its internal financial strength, Princeton can also benefit from the fact that some of its strongest research programs are well-aligned with national needs in areas such as energy and the environment, molecular biology, computer science, neuroscience and national security.

Increased investment in University facilities

As noted in Part Four, Princeton expects to invest approximately \$1 billion in renovation and new construction from fiscal year 2016 through fiscal year 2020. Planned construction spending could, however, increase significantly beyond that estimate when the University's 2026 Campus

Plan is completed. In addition to the Arts and Transit Neighborhood, scheduled to be completed in 2017, major projects under consideration include a new residential college (to accommodate undergraduate enrollment growth), new graduate student housing, an expansion of the engineering school and improved space for environmental studies.

These investments will create new business opportunities for New Jersey companies in construction and related industries, and will directly support hundreds of full-time-equivalent jobs every year. Even more important, they will enhance the University's long-term capacity to fulfill its mission of education, research, innovation and service to the community.

While Princeton will thus continue to grow physically as well as intellectually, it is important to note that – as was the case with the University's 2016 Campus Plan – the current campus planning process is strongly focused on ensuring that new and substantially renovated facilities are sustainable both in their design and in their ongoing operations.

Promoting innovation

In just the past few years, Princeton has greatly increased its investment in encouraging and supporting innovation within the University community. The impact of this investment is already starting to become visible in measures such as increased student enrollment in courses on entrepreneurship, the number of new ventures started by students participating in the Keller Center's eLab program, and the number of start-ups funded by the Alumni Entrepreneurs Fund. Over the next five to 10 years, the cumulative impact of these and other programs could increase dramatically.

Not all of these new ventures, of course, will be launched or remain in the Princeton area. Over time, however, a sufficient number could stay and take root, and that would have a significant impact on the economic vitality of Princeton and the surrounding communities. The University is working to support a local ecosystem that would attract growing numbers of innovators and entrepreneurs who want to be associated with the kinds of opportunities the University helped to foster. During the next decade, this could prove to be a significant contribution to the growth of the region's economy, and New Jersey's.

The New Jersey Council on Higher Education's 2015 report says: "There is universal agreement that an excellent higher education system is key to New Jersey's future – to its economy, to the jobs of today and tomorrow for our students, and to the quality of New Jersey culture." Princeton University sets a standard of excellence that is recognized throughout the world, and has a significant and growing impact on the state's economy, the creation of jobs, and the quality of its intellectual and cultural life.

Appendix A: Report to Mayor and Council, December 2015



Office of Community and Regional Affairs

Princeton, New Jersey 08540
609.258.3018
Fax 609.258.9000

December 10, 2015

To: Mayor and Council

From: Kristin Appelget, Director of Community and Regional Affairs

Re: Background Material for your December 14, 2015 Meeting

In advance of your meeting with President Eisgruber on December 14, I have been asked to share with you the attached updated summary of University contributions to the community. I hope it provides helpful background for the conversation.

At the time of your 2014 meeting with President Eisgruber we were preparing for the opening of the new Princeton Station and Wawa. Since then, the coordinated effort of the University and the town to install new muni-meter pay stations in the commuter parking lot has gone smoothly, giving commuters multiple options to pay for their parking and providing the town with an opportunity to test a state-of-the-art parking management system. We were pleased that the pilot bike rental program established by the University at the new station provided a catalyst for the town to secure \$196,000 of grant funding that will enable this bike rental pilot program to expand in town and on campus as a bike share program. We also look forward to coordinating with the town as you undertake the Princeton Bike Master Plan project that we all anticipate will provide a vision and blueprint to create a place where it is safe, convenient and appealing to travel by bike.

While we were disappointed that NJTRANSIT discontinued its Route 655 bus after three years of service connecting Princeton to the new hospital location in Plainsboro, we were pleased to be able to establish a new stop at Palmer Square on an existing TigerTransit bus route, thus enabling local residents to use this service as a way to get to and from the hospital. We appreciate the cooperation of the management team at Palmer Square who approved the installation of route maps at the kiosk to advise local passengers of this transportation option.

We were delighted that many of you were able to join us recently for the ribbon cutting ceremony at the Princeton Entrepreneurial Hub at 34 Chambers Street. The work that is already taking place there to connect the innovative spirit on campus with the local and regional entrepreneurial network is exciting.

These and other recent developments are included in the attached summary. If you have any questions about any of the items, or anything that has not been included, please let me know.

Contributions to Princeton

- Voluntary Payments (calendar year basis)
 - \$2.475 million in 2013 to Princeton
 - \$2.75 million in 2014 to Princeton
 - \$2.86 million in 2015 per 2014 contribution agreement; contribution escalates by 4% annually over seven-year term of agreement
 - Seven-year contribution agreement signed in 2014 includes the following pledges to major community initiatives:
 - \$500,000 toward construction of a new Princeton First Aid and Rescue Squad facility on municipal land
 - \$250,000 toward the expansion of the Witherspoon Fire Station (in addition to \$300,000 already committed to this project under a prior agreement)
 - \$500,000 toward the purchase of fire-fighting apparatus
 - \$250,000 toward the construction of a new storage facility for municipal Department of Public Works equipment
 - Donation of the University-owned Franklin Street Lot for municipal use
 - \$90,000 toward new FreeB vehicle
- Taxes Paid (calendar year basis)
 - 2015: \$7.9 million property tax payment to Princeton (this does not include sewer payments)
 - Of the \$7.9 million, \$2.8 million is for graduate student housing that could have been taken off the tax rolls for the past year
 - Of this \$2.8 million, \$625,000 goes directly to the municipality for municipal taxes, municipal open space taxes and Princeton Library taxes
- The town's Aaa bond rating is partially based on the "stabilizing presence of Princeton University"
 - Moody's cites "the stabilizing presence of Princeton University" and notes that "Princeton University (7,912 students) contributes to the municipality's strong local economy." Its Aaa rating reduces the town's borrowing costs below the costs of many other municipalities
- Contributions to important community organizations/initiatives
 - Princeton Public Library, construction and endowment
 - Princeton Public Schools, including renovation of the high school auditorium/library
 - Technology for the new JW Middle School Media Center

- Princeton Charter School
- Arts Council of Princeton building renovation/expansion
- Hinds Plaza
- Princeton Community Pool reconstruction
- Princeton Recreation skate park
- Battle Monument renewal and lighting project
- Support for new Princeton hospital
- Founding sponsor of Send Hunger Packing
- Brainfuse program at Princeton Public Library
- Sustainable Princeton Energy Smart Homes Campaign
- Morven Museum and Garden Endowment Campaign
- Garden State on Your Plate program in Princeton Public Schools
- Affordable housing
 - Constructed 9 units on Leigh Avenue (occupied)
 - Constructed 16 units as part of phase one of Merwick-Stanworth project (occupied)
 - 40 additional units are being constructed as part of phase two for occupancy in 2016
 - Contributions to Princeton Community Housing for Shirley Court and Harriett Bryan House
 - Donation of land for Karin Court
- Police
 - Joint training/meetings:
 - Any in-service training held on campus and sponsored by the Department of Public Safety (DPS) has been, and will continue to be, offered to the Princeton Police Department (PPD)
 - February 2, 2015: DPS Sponsored Crisis Intervention Training at 701 Carnegie Center. Thirteen PPD officers attended.
 - March 3, 2015: DPS Sponsored Traffic Incident Management Training at 701 Carnegie Center. Twenty one PPD officers attended
 - August 17, 2015: DPS Sponsored Bulletproof Leadership Training at 701 Carnegie Center. Nine PPD officers attended
 - October 6, 2015: DPS Sponsored Bulletproof Leadership Training at 701 Carnegie Center. Ten PPD officers attended
 - Both DPS and PPD Command Staff meet monthly on a rotating basis between Princeton Police headquarters and Princeton Public Safety headquarters. These meetings are used to review issues and plan for upcoming town or Princeton University events.
 - Executive Director Paul Ominsky, Director of Operations Stef Karp and Chief Nick Sutter meet monthly.

- Tours of campus buildings:
 - Between January 2015 and April 24 of 2015, PPD officers were given tours of campus buildings to improve emergency response and promote regular interaction between the PPD officers and the campus community.
 - 4 sessions conducted (Several additional sessions were planned but cancelled due to heavy snow or incidents in town that would not allow participation)
 - Engineering complex was toured; tour included 7 buildings
 - Sports complex was toured; tour included 3 buildings
- As a result of the DPS/PPD operating agreement signed in 2013, call volume for PPD response to campus-related incidents has been minimal
 - Request for police assistance for specific crimes/serious incidents (violence, domestic violence, sexual assaults, aggravated assaults, homicide, unattended deaths, fires, bomb threats, incidents involving a firearm, report of person with firearm):
 - 2013-total of 7calls
 - 2014 - 1 Domestic Violence call that PPD responded to and assisted DPS
 - 2015 (to date)- total of 4 calls: 1 unattended death on campus, 1 bomb threat on campus, two sexual contact incidents co-investigated with PPD
 - Police co-operation reports are filed when there is an interaction of any kind between municipality and public safety that is not investigated by DPS or does not fall into DPS jurisdiction. This includes requests by municipality for DPS to assist in a case or investigation (i.e. assistance in locating missing individual, assistance with traffic control, traffic accidents, assistance with serving subpoenas, use of Spanish-speaking DPS officer for interview purposes, transportation from PPD to campus for students).
 - 2013-total of 135 calls
 - 2014-total of 64 calls
 - 2015 (to date)-total of 72 calls
- Upon request, DPS provides assistance to PPD for staffing of large community events (i.e. Princeton Half Marathon)
- Emergency Services
 - University staff participates on Princeton's Local Emergency Preparedness Committee (LEPC)
 - University provided salt and sand to Princeton Department of Public Works to replenish municipal supply during shortage in winter 2015.
 - Princeton Fire Department

- \$250,000 pledged toward the expansion of the Witherspoon Fire Station (in addition to \$300,000 already committed to this project under a prior agreement)
- \$500,000 pledged toward the purchase of fire-fighting apparatus.
- DPS leadership has regular meetings with Fire Department leadership to discuss collaboration, operations, response and emergency management.
- Fire Department Associate Member Program: University staff serve as Princeton Fire Department volunteers during weekday work hours
 - Program currently has 32 university employees participating
 - For fiscal year July 2014 to June 2015, associate members responded to 200 calls totaling 877 hours
 - For fiscal year July 2014 to June 2015, associate members participated in 525 hours of training during regular work hours
 - For fiscal year July 2014 to June 2015, associate coordinators spent 124 hours administering the program
 - Firefighter One Class being considered for Fall 2016
- In January 2015 the University hosted a continuing education program for firefighters and fire inspectors, featuring water-based fire protection systems, inspection, and testing; attended by 125 fire inspectors from the Princeton area. Similar training is scheduled for January 7, 2016
- In March 2015 the University hosted a continuing education/lecture program featuring a nationally known fire-training professional; attended by 140 firefighters from the Princeton region. Similar training planned for winter 2016
- In December of 2014, the Princeton University Art Museum and Jadwin Gym were provided for a preplanning drill
- In March 2015, the former Wawa building was provided for roof operations and search and rescue training
- In September of 2015, Lakeside Graduate Apartments was provided for a preplanning drill
- In October of 2015, the University's Associate Fire Marshal and the University's Portable Fire Extinguisher trainer unit assisted at the Princeton Fire Department Open House
- In November of 2015, University Elevator Shop personnel hosted an elevator entrapment training exercise at Frick Chemistry
- The automatic gate control at the Nassau Street campus entrance was reconfigured to allow fire apparatus to enter campus without the need for firefighters to manually open the gate
- Provided "Knox KeySecure" units so that all Princeton Fire Department apparatus are able to securely carry Knox Box Master Keys

- Engine 6 from Princeton University’s Plasma Physics Laboratory has responded to Princeton for fire calls 57 times in 2015 (to date)
- PFARS
 - \$500,000 pledged toward construction of a new Princeton First Aid and Rescue Squad facility on municipal land
 - \$35,000 annual contribution to Princeton First Aid and Rescue Squad to support squad operations
 - DPS leadership has regular meetings with PFARS leadership to discuss collaboration, operations, response and emergency management
 - The University, through DPS, provides a parking space with accessible power for an ambulance next to 200 Elm Drive
 - Of 109 volunteer members, 20 are university students and 4 are university staff
 - Students are some of the most active/”top responder” volunteers in the EMT corps
 - We provide free campus housing for up to 6 students each summer so they can actively volunteer with PFARS during the summer months
 - The University has provided radio equipment that is installed in all PFARS apparatus, as well as portable radios for use on the University encrypted radio system. This radio equipment was upgraded by the University to allow PFARS operation on the new countywide radio system, providing this key communications capability without the need to purchase additional apparatus or portable radios
 - The University is assisting PFARS with technical advice and guidance associated with a major upgrade of their internal communications system. This will include providing a dedicated data link at Fine Hall and support to the Princeton Police Department Communications Center for dispatch of PFARS resources
 - Frick Chemistry was provided as a location for a confined space rescue drill
- Communication Systems
 - Mercer County’s countywide public safety communications systems continue to be supported at Fine Hall
 - A full radio receiver site for Mercer County’s countywide public safety communications system is installed to provide mobile and portable public safety radios with the ability to be clearly heard on this system when operating throughout the Princeton area. A multi-year agreement with Mercer County continues to be in place to support this into the future.

- Receivers for Mercer County Central Dispatch to be able to monitor all on-scene ground communications during fire incidents in the Princeton area continue to be supported
 - A microwave link site to connect not only this site, but two (2) additional sites into the new communications network, continues to be supported. This support includes electronics infrastructure installed in a secured room, as well as rooftop antennae
 - Equipment and antenna support for Princeton Police, PFARS and Princeton Fire Department at Fine Hall:
 - A radio repeater is installed in a secured room and connected to an antenna located on Fine Tower to alert PFARS ambulance and rescue department pagers of a call. This same repeater is used for operations associated with PFARS calls. (We do not maintain this radio equipment or the antenna; we just provide secure space and power.) A multi-year agreement with the Town of Princeton is in place to support this into the future
 - Mercer County Central Dispatch uses this same repeater to alert the Princeton Fire Department pagers of a call
 - PFARS has a dedicated repeater and antenna at Fine Tower that is used as their tactical/special-operations channel. A multi-year agreement with PFARS is in place to support this into the future
 - Princeton Police Department has been provided with three (3) encrypted talkgroups on the University radio system for use in tactical/special-operations throughout Princeton (not on campus)
 - Princeton Police Department has access to our encrypted campus Public Safety radio communications system for interoperability with all their cars and portable radios
 - Dedicated radio link equipment and antenna are installed at the Princeton EOC for use during an emergency, as well as daily use by Princeton Police for interoperability with University Public Safety
 - The University maintains a second base radio for fire department response and operations on the Mercer County Public Safety Communications System at the Princeton Fire Department sub-station at 306 Alexander Road
- Education Outreach
 - PHS students who have exhausted the coursework in the high school can take classes at the University; coordinated by PHS guidance department

- Tutoring for Princeton Public Schools students through Community House Programs; including the Graduate Molecular Biology Outreach Program “Science on Thursdays”
- Princeton University Preparatory Program (PUPP), a college prep program for economically disadvantaged students, is open to Princeton High School students
- Princeton Center for Complex Materials (PCCM) holds special events open to the community including a Holiday Science Lecture, Material Science Nano Days and State of Material Science Lecture
- Princeton Plasma Physics Laboratory (PPPL) hosts Science on Saturday lectures in the winter months, the New Jersey Regional Science Bowl and the Young Women in Science, Technology, Engineering and Mathematics program for middle and high school students
- Cotsen Children’s Library presents “Cotsen in the Classroom” programs in local elementary schools and literary programs for children ages 3 to 17 on campus and in local venues
- Many lectures and other intellectual and cultural offerings on campus are open to the public and almost always free of charge
- Access to Firestone Library is available for a fee
 - Firestone exhibits and Cotsen Children’s Library available for free
- Community Auditing Program
 - 40% of the roughly 750 program participants each semester are from Princeton
 - The program includes special courses and lectures designed especially for auditors
- Cultural Offerings on Campus
 - Princeton University Art Museum
 - Free and open to the public
 - Provides a wide variety of free educational and family programming, including Art for Families workshop programs and a summer outdoor movie series
 - Theaters
 - McCarter and Berlind theaters are owned and financially supported by the University
 - Theater Intime provides academic year programming open to area residents in Hamilton Murray Theater
 - Princeton Summer Theater series in Hamilton Murray Theater open to area residents
 - Additional theater, dance and visual arts programming available at other locations on campus, including 185 Nassau Street

- Musical Performance
 - Performances at Richardson Auditorium and Taplin Auditorium
 - Summer Carillon Concerts at the Graduate College
- Chapel
 - Weekly “After Noon” organ concerts
 - Special performances sponsored by the Chapel Music program
- Princeton University Concerts
 - Hosts annual music series featuring classical music performed by professional musicians in Richardson Auditorium. Also presents a family concert series and special events.
- Entrepreneurship
 - Princeton University opened the Princeton Entrepreneurial Hub at 34 Chambers Street in 2015
 - Space intended to be a location for the exchange of ideas; a place where creative and talented entrepreneurs from the University and the community can come together to learn from one another, establish connections, and make contributions to the local and regional entrepreneurial ecosystem
- Worship
 - Community members participate in Chapel services on a regular basis and special occasions
 - Community members also participate in services by religious groups associated with the University through chaplaincy programs and the Center for Jewish Life
 - Special religious services take place in Richardson Auditorium
- Community Events on Campus
 - Communiversity (on campus and in town)
 - Community and Staff Day (fall football game); free tickets to local residents offered, nearly 15,000 attended in 2015
 - Princeton Adult School holds spring lecture series, fall lecture series, and “Last Chance” film series on campus
 - University hosts the annual Community Works Program attended by 500
 - Spirit of Princeton July 4th Fireworks
 - Community invited free of charge to Reunions fireworks
 - John Witherspoon graduation hosted in Richardson Auditorium
 - Two Princeton election polling districts hosted on campus
 - Princeton Symphony Orchestra BRAVO concert in Richardson Auditorium
 - Princeton Recreation Department Dillon Basketball League in Dillon Gymnasium
 - Princeton Regional Chamber of Commerce Annual Einstein Lecture
- Athletics
 - Free or low price access to collegiate athletic events on campus.

- In the past year there were 258 regular season games, of which 205 were free and required no tickets
 - Dillon League Saturday morning youth basketball program has existed for 45 years with nearly 300 participants each year
 - Carnegie Lake open to the public for recreational ice skating in collaboration with Princeton Recreation Department
 - Dillon Gym access provided to YMCA fitness members during their annual YMCA facility shutdown week (August 2015)
 - Provide scholarships to Princeton youth to attend Princeton University Summer Sports Camps in collaboration with Corner House; 8 participants in summer 2015
 - Campus athletic facilities used by Princeton High School hockey (boys and girls) and track, Princeton Youth Hockey Association, Carnegie Lake Rowing Association, Princeton masters swimming, Princeton Recreation Department squash and youth wrestling programs, and Princeton junior squash
 - Princeton student-athletes undertake numerous volunteer efforts through the Princeton Varsity Club and as teams:
 - Participation in Communiversity, Community and Staff Day, National Girls and Women in Sports Day, Princeton School Gardens Project, Harriett Bryan House
 - Volunteer with Princeton-based organizations including: Princeton YMCA, Princeton Public Schools (elementary, middle, and high schools), Princeton Youth Hockey
- Community Resources
 - Garden Theater
 - Owned by the University, operated by separate non-profit organization, Renew Theaters, which was selected partially because of their commitment to community engagement; upgrade at cost of approximately \$400,000 to sound systems and installation of digital projection system
 - Historical Society
 - Lease Nassau Street building for \$1 a year
 - The Historical Society will be relocating operations from Bainbridge House to Updike Farm by the end of 2015
 - Labyrinth Books
 - Helped bring an independent bookstore to Princeton
 - Nassau East
 - Own and manage properties along the south side of Nassau Street just west of 185 Nassau Street which include a variety of local business

- Provide off-site parking, at no cost to municipality, on the University-owned Franklin Avenue parking lot for municipal employees and Community Park Pool staff.
- Provide space for local non-profit organizations' fundraising events. Recent organizations hosted on campus include Fund 101, Princeton Education Foundation, Princeton Nursery School, Mercer County Community College Jim and Fannie Floyd Scholarship Fund, Arts Council of Princeton, Princeton Public Library, Stony Brook Millstone Watershed Association, Princeton Symphony Orchestra, Princeton Adult School, Princeton Unity Walk, Princeton Child Development Institute
- Host Corner House summer leadership program on campus
- Provide temporary storage for Princeton Public Library collection during renovation of library second floor
- Cell Towers
 - There are 8 wireless carrier cell towers on University buildings
 - Reduces visual impact of/need for monopoles in town and improves service to the community
- Maintenance of approximately 9 miles of roads in Princeton used by the public
 - Annual cost to the university is approximately \$500,000; more than \$200,000 of additional expense in 2015 to make repairs to Faculty Road
- Collaboration on regional planning issues
 - Contributed land to make construction of new left hand turn lane at Harrison Street/Route One possible
 - Provided half of the funding for the Alexander Street/University Place Traffic and Transportation Task Force
 - Contributed \$500,000 to community's Transportation Trust Fund
- Transportation
 - Tiger Transit is "free and open to the public"
 - Provided multi-year financial subsidy for NJ Transit 655 bus connecting Princeton to the new hospital
 - Added stop at Palmer Square to the Tiger Transit Forrestal/PPPL line for access to the hospital when NJ Transit 655 service was discontinued in September 2015
 - Princeton Station is a multi-modal transportation hub providing for mass transit connectivity in Princeton
 - Bike rental program at Princeton Station has provided opportunity to partner with community; University commitment to expand bike rental program part of successful 2015 grant application by Municipality of Princeton for bike share program that will expand to include campus and town

- Provide GIS mapping data to Princeton Pedestrian and Bicycling Advisory Committee for the community bike map project
- Work collaboratively with the community on expansion and improvement of bike and pedestrian paths and on the Princeton Bike Master Plan project
- Surplus Equipment Program
 - Access provided for area non-profit organizations to the University surplus equipment program. Items given free of charge to area non-profits for their organizational use.
- Volunteer Support
 - Students, faculty and staff volunteer their time and talents with many Princeton non-profit organizations including:
 - Corner House, Dillon Youth Basketball League, Princeton Fire Department, Princeton First Aid and Rescue Squad, Princeton Healthcare System, Princeton Regional Schools (elementary, middle school, high school), Princeton Nursery School, Princeton Senior Resource Center, Princeton Young Achievers, Princeton YMCA, SAVE Animal Shelter, YWCA Princeton
 - The Community Service Interclub Council (CSICC), a collaborative initiative of the eating clubs, coordinates volunteer activities undertaken by the clubs with numerous local organizations; in 2015 the eating clubs worked in partnership to present “TruckFest” and “Princetoween,” events that raised funds to support TASK, Send Hunger Packing, and Meals on Wheels
 - Through the Community Based Learning Initiative (CBLI) faculty and students provide in-depth research and studies for community organizations through specially developed Princeton courses and internships. In the past year CBLI courses included work with the Crisis Ministry, Princeton Future, the Human Services Commission, the Latin American Legal Defense and Education Fund, Centurion Ministries, and Sustainable Princeton. Students in Physics 104 demonstrated principles of electricity and magnetism at many local schools and organizations, including the Princeton Nursery School. In addition CBLI supported a summer intern working with Sustainable Princeton
 - The Pace Center for Civic Engagement undertakes a wide-variety of programming in the local community including:
 - Tutoring, mentoring, academic enrichment, social-emotional support for school-aged youth
 - Community House After School Academy (middle school); Community House After School Scholars, Gen1 and SAT Prep (high school)
 - One-on-one at St. Paul’s Roman Catholic Church (elementary and middle school)

- Big Brothers and Big Sisters of Mercer County (elementary and middle school)
- Big Sibs and Nursery School Project, literacy and social-emotional support (nursery and elementary)
- Effective dialogue and conflict resolution through Community House small group sessions (middle and high school)
- Health education through HIPS (Health Education in Princeton Schools) (elementary)
- PEEK (Princeton Engineering Education for Kids)(elementary)
- Community House STEAM summer camp (middle and high school)
- Princeton Young Achievers (elementary)
- Community House Princeton family dinner series to support social-emotional wellness and academic success (youth and their families)
- Cognitive rehabilitation using different media with residents of Merwick Care and Rehabilitation Center through Creative Minds project
- Crisis referral and suicide intervention hotline for callers in Princeton and beyond through campus-based site for CONTACT of Mercer County
- Princeton Senior Resource Center – Senior Center Geek Squad
- SAVE Animal Shelter