

The Economic Impact of the University of Notre Dame

August 25, 2016

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Introduction

The University of Notre Dame – a 174-year-old independent Catholic institution of higher learning located in South Bend, Indiana – is a major contributor to the economy of the South Bend area, both as a major regional enterprise and through its mission of education, research and service to the community. And as a national (and increasingly, a global) institution, Notre Dame also has a growing impact on the world beyond South Bend.

Notre Dame as an enterprise

Notre Dame is one of the largest enterprises in St. Joseph County. University revenues in fiscal year 2015 totaled \$1.079 billion – an increase of 5.3 percent over fiscal year 2014. Notre Dame generates nearly all of its revenue from sources outside South Bend and St. Joseph County, much of which is spent within the local area. In fiscal year 2015, Notre Dame's spending within St. Joseph County (including wages and salaries paid to Notre Dame employees, payments for employee health care and payments to local vendors and contractors) totaled \$670.6 million.

Notre Dame as an employer

In the fall of 2014, the University of Notre Dame directly employed 5,792 people (excluding student employees), making it one of the largest employers, public or private, in St. Joseph County. In addition, the University employed 1,310 graduate students as research and teaching assistants, and 2,999 undergraduates in a variety of part-time jobs. Between the fall of 2006 and the fall of 2014, the number of regular, non-student University employees grew by 902 – an increase of 18.4 percent.

Wages and salaries paid to University employees (including graduate assistants) in fiscal year 2015 totaled nearly \$476.9 million.

Purchasing from local businesses

In fiscal year 2015, the University spent nearly \$168.5 million on purchases of goods and services (excluding construction) from businesses in St. Joseph County, and nearly \$22.7 million from businesses located elsewhere in Indiana. Using the IMPLAN input-output modeling system, we estimate that in fiscal year 2015, these expenditures directly supported 1,280 full-time-equivalent (FTE) jobs in St. Joseph County, and an additional 237 FTE jobs elsewhere in Indiana.

Construction of University facilities

In fiscal year 2015, Notre Dame invested \$155.2 million in construction of University facilities, of which nearly \$19.6 million was paid to contractors located in St. Joseph County and nearly \$31.6 million was paid to contractors located elsewhere in Indiana. Major projects completed or under way during the year included:

- The ***Campus Crossroads*** project – a \$495 million, multi-year project (the largest in the University’s history) involving the construction of three new buildings with a total of about 750,000 square feet of new space, to be located adjacent to Notre Dame Stadium.
- ***McCourtney Hall***, a \$68 million, 220,000 square-foot facility for research in molecular biology and biochemistry – the first building to be constructed as part of the planned East Campus Research Complex.

Using IMPLAN, we estimate that in fiscal year 2015, this investment directly supported 460 FTE jobs in construction and related industries in Indiana, including 166 jobs with contractors based in St. Joseph County.

From fiscal year 2016 through fiscal year 2020, construction spending is expected to total approximately \$935 million – an average of \$187 million each year for five years. In addition to creating jobs for local area residents and contracting opportunities for local businesses, these investments at the same time enhance Notre Dame’s ability to fulfill its mission of education, research and service to the community.

Indirect, induced and total impact of University spending

Notre Dame’s impact on the local economy goes beyond the direct impact of its spending on payroll, purchasing and construction. It also includes “indirect and induced” (or “multiplier”) effects. Local companies from which Notre Dame buys goods and services use some of the money paid to them by the University to buy goods and services from *other* local businesses; and those businesses in turn buy some of what they need from still other companies in St. Joseph County. The jobs, wages and sales generated by University suppliers’ spending within St. Joseph County make up the *indirect* impact of University spending.

Similarly, Notre Dame’s employees (and the employees of its local suppliers) spend part of their earnings within St. Joseph County – for housing, utilities, food, child care, entertainment and other routine household needs. The jobs, wage and salaries supported by employees’ household spending make up the *induced* effect of University spending.

Using the IMPLAN input-output modeling system – a modeling tool commonly used in economic impact analyses – we can measure the indirect and induced effects of University spending. We estimate that through these effects, Notre Dame’s direct spending on payroll, purchasing and construction in fiscal year 2015 indirectly accounted for:

- 3,090 FTE jobs in St. Joseph County;
- Nearly \$133.7 million in wages and salaries; and
- \$371.2 million in County-wide economic output.

Taking into account the number of people employed directly by Notre Dame, their wages and salaries, Notre Dame’s payment to local vendors and contractors, and the indirect and induced impact of University spending, we estimate that in fiscal year 2015 (as shown below in Table 1), Notre Dame’s spending directly and indirectly accounted for:

- 10,329 FTE jobs in St. Joseph County;
- Nearly \$690.5 million in wages and salaries; and
- Nearly \$1.03 billion in County-wide economic output.

Table 1: Direct, indirect and induced impact of Notre Dame spending in St. Joseph County, FY 2015 (jobs in FTE, earnings and output in \$000s)

	Jobs	Wages	Output
Direct spending impact			
Payroll	5,792	\$476,895.5	\$476,895.5
Purchasing/construction	1,447	\$79,894.1	\$177,261.5
<i>Subtotal, direct impact</i>	<i>7,239</i>	<i>\$556,789.6</i>	<i>\$654,157.0</i>
Indirect and induced effects			
Employee spending	2,192	\$92,748.1	\$262,459.4
Contractor and vendor spending	899	\$40,923.0	\$108,773.4
<i>Subtotal, indirect/induced impact</i>	<i>3,090</i>	<i>\$133,671.1</i>	<i>\$371,232.7</i>
Total impact	10,329	\$690,460.7	\$1,025,389.8

The impact of student spending

Off-campus spending by University students also has a significant impact on the local economy. After netting out wages paid to graduate assistants who are employed by Notre Dame (which have already been included in the University’s spending on payroll), we estimate that during fiscal year 2015, off-campus spending by Notre Dame students totaled nearly \$106.6 million. Using IMPLAN, we estimate that in fiscal year 2015, Notre Dame students’ off-campus spending directly and indirectly accounted for:

- 1,446 FTE jobs in St. Joseph County;
- \$42.0 million in wages and salaries; and
- Nearly \$129.8 million in County-wide economic output.

The impact of visitor spending

Off-campus spending by visitors to Notre Dame similarly contributes to the vitality of the local economy. Based on data compiled by the University, we estimate that nearly 2.0 million visitors came to the Notre Dame campus during fiscal year 2015, approximately 44 percent of whom (nearly 870,000) came from outside St. Joseph County.¹

Using IMPLAN, we estimate that in fiscal year 2015, more than \$167.4 million in off-campus spending by non-local visitors to Notre Dame directly and indirectly accounted for:

- 2,825 FTE jobs in St. Joseph County;
- \$77.2 million in wages and salaries; and
- \$201.6 million in County-wide economic output.

Adding it all up

Combining the impact of University spending with the impact of student and visitor spending, we estimate that in fiscal year 2015 (as shown below in Table 2), Notre Dame directly and indirectly accounted for:

- 14,601 FTE jobs in St. Joseph County;
- \$809.7 million in wages and salaries; and
- Nearly \$1.4 billion in County-wide economic output.

¹ This estimate probably understates the total numbers of visitors to Notre Dame from outside the local area, since it leaves out several types of visitors for whom no data are available, such as friends and family members who visit Notre Dame students during the course of the year, and representatives of vendors, contractors, research partners and others who have business at the University.

Table 2: Notre Dame’s total economic impact in St. Joseph County, FY 2015 (jobs in FTE, earnings and output in \$000s)

	Jobs	Wages	Output
Impact of University spending			
Direct	7,239	\$556,789.6	\$654,157.0
Indirect/induced	3,090	\$133,671.1	\$371,232.7
<i>Subtotal, University spending impact</i>	<i>10,329</i>	<i>\$690,460.7</i>	<i>\$1,025,389.8</i>
Impact of student spending			
Direct	1,097	\$26,771.0	\$88,002.1
Indirect/induced	350	\$15,273.3	\$41,773.9
<i>Subtotal, student spending impact</i>	<i>1,446</i>	<i>\$42,044.3</i>	<i>\$129,776.1</i>
Impact of visitor spending			
Direct	2,230	\$50,613.7	\$130,718.9
Indirect/induced	596	\$26,627.3	\$70,925.5
<i>Subtotal, visitor spending impact</i>	<i>2,825</i>	<i>\$77,241.0</i>	<i>\$201,644.4</i>
Total impact	14,601	\$809,746.1	\$1,356,810.2

Contributing to State and local tax revenues

Despite its tax-exempt status, Notre Dame’s operations generate tax revenues for state and local government in several ways. In fiscal year 2015, Notre Dame’s payments to state and local governments in Indiana totaled more than \$17.7 million, including:

- More than \$13.7 million in Indiana State income taxes withheld from the wages and salaries of University employees;
- \$226,521 in Indiana State unemployment insurance taxes;
- Nearly \$1.3 million in water and sewer fees;
- More than \$839,333 in other local government taxes and fees (including the St. Joseph County hotel tax); and
- More than \$1.6 million in miscellaneous taxes and fees to the State of Indiana.

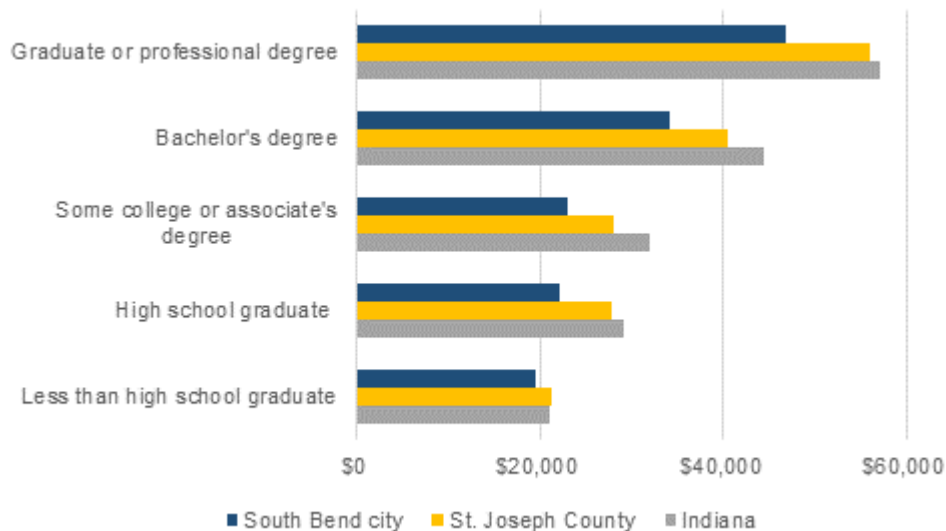
Developing human capital

Human capital – the accumulated knowledge, skills, and experience of a community’s or a region’s workforce – is perhaps the single most important contributor to economic growth. Human capital can be especially critical in determining how quickly and how successfully communities can adapt to changes in the broader economic environment.

Data published by the U.S. Census Bureau highlight the impact of education on individual workers’ earnings. As Figure 1 shows, in 2014, the median earnings of St. Joseph County residents who had bachelor’s degrees were more than \$12,650 greater (45.6 percent higher) than

the median earnings of those who had only a high school diploma; and the median earnings of those with graduate or professional degrees were \$28,130 greater (101.3 percent higher) than the median earnings of those who had no education beyond high school.

Figure 1: Median earnings (in 2014 inflation adjusted dollars) by educational attainment for residents 25 years and older in South Bend, St. Joseph County and Indiana, 2014



Source: 2014 American Community Survey (ACS) (1-Year Estimates), U.S. Census Bureau, Social Explorer

The economic value of education, however, is not limited to its impact on individual earnings. A study published by the Milken Institute in 2013 found that in U.S. metropolitan areas, increasing employed workers' average years of school by one year increased regional GDP per capita by 10.5 percent and increased average real wages by 8.4 percent.

Higher education was found to have an even greater impact than education generally: Adding one year of schooling to the educational attainment of workers who already had a high school diploma increased average GDP per capita by 17.4 percent and average real wages by 17.8 percent.²

² Ross de Vol et al, *A Matter of Degrees: The Effect of Educational Attainment on Regional Economic Prosperity*, The Milken Institute, February 2013, p.1.

Notre Dame students and alumni

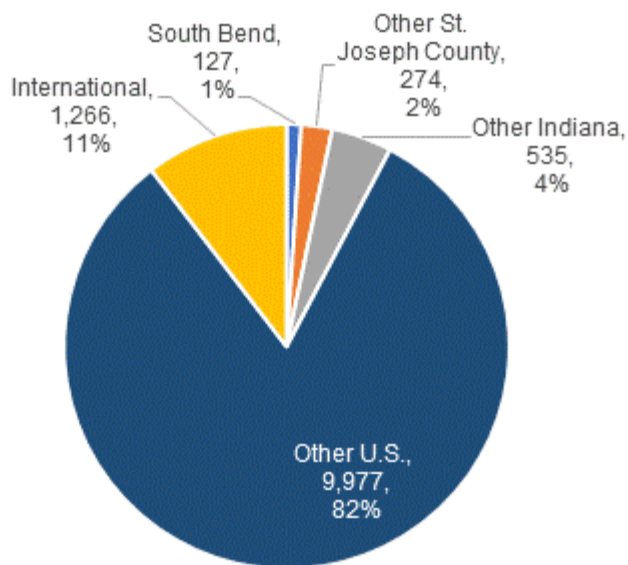
In the fall of 2014, a total of 12,179 students were enrolled at Notre Dame – an increase of 6.7 percent since the fall of 2005. Total enrollment in the fall of 2014 included 8,448 undergraduates and 3,731 graduate and professional students. Table 3 shows undergraduate and graduate and professional student enrollment by school.

Table 3: Undergraduate and graduate enrollment by school, fall 2014

College/School	Undergraduate	Graduate/ Professional
School of Architecture	129	37
College of Arts and Letters	1,847	1,144
Mendoza College of Business	2,049	683
College of Engineering	1,197	505
College of Science	1,180	574
First Year of Studies	2,025	–
The Law School	–	581
Non-degree seeking	21	207
Total	8,448	3,731

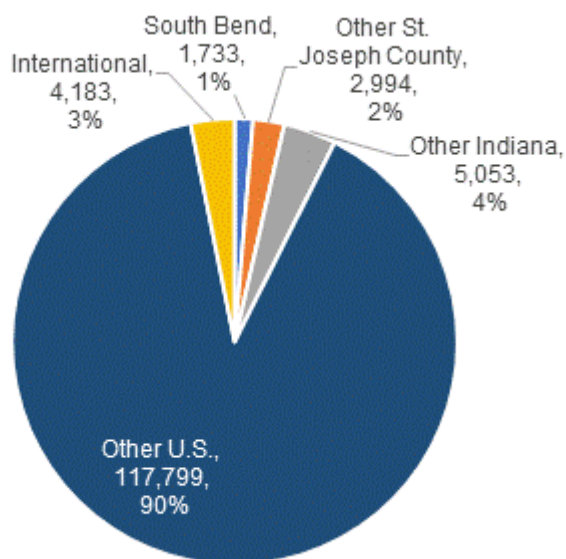
As shown in Figure 2, of all those enrolled in the fall of 2014, 401 students (3.3 percent of total enrollment) were residents of St. Joseph County, 535 students (4.4 percent) were from elsewhere in Indiana, and 9,977 students (81.9 percent of total enrollment) were from elsewhere in the U.S. International student enrollment totaled 1,266 – 10.4 percent of total enrollment.

Figure 2: Total enrollment by student's place of residence, fall 2014



As of the spring of 2016 (as shown in Figure 3), of the 131,762 Notre Dame alumni for whom current addresses were known, 4,727 (3.6 percent) lived in St. Joseph County, and an additional 5,053 (3.8 percent) lived elsewhere in Indiana.

Figure 3: Notre Dame alumni by place of residence, as of spring 2016



Although most Notre Dame students come from outside the South Bend area and leave after they graduate, the University is still a significant contributor to the area’s college-educated workforce. Based on 2014 ACS data, we estimate that Notre Dame graduates accounted for approximately 9.7 percent of all St. Joseph County residents who had at least a bachelor’s degree.

Preparing students for tomorrow’s economy

Notre Dame is preparing its students to succeed in tomorrow’s economy, with high-quality programs in fields such as bioengineering, computer science, applied mathematics, nanoelectronics and energy.

The University also provides extensive opportunities for students to gain international experience. Among students who were awarded bachelor’s degrees during the 2014-15 academic year, nearly 34 percent had spent at least a semester abroad while enrolled at Notre Dame.

The value of a Notre Dame undergraduate education is also reflected in the earnings of recent graduates. As Table 4 shows, the median earnings of 2014 graduates six months after graduation was \$57,728 – ranging from \$47,091 for graduates of the School of Architecture to \$65,805 for graduates of the College of Engineering.

Table 4: Median salary of employed Notre Dame graduates (class of 2014) six months after graduation

College/School	Median salary
School of Architecture	\$47,091
College of Arts and Letters	\$53,751
Mendoza College of Business	\$58,028
College of Engineering	\$65,805
College of Science	\$48,189
<i>University Total</i>	<i>\$57,728</i>

In PayScale’s annual ranking of U.S. colleges and universities in terms of alumni mid-career salaries, Notre Dame tied for 39th place (out of more than 1,000 institutions) with a median salary of \$111,000 for alumni with at least ten years’ experience.³

³ PayScale, 2015-16 College Salary Report

Learning through experience

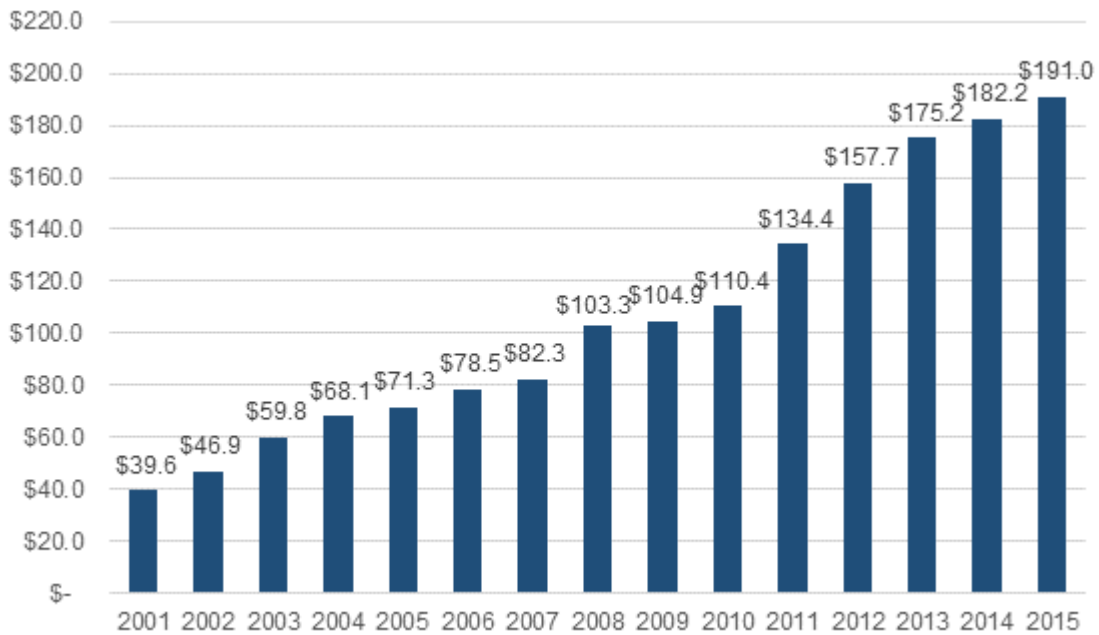
Experiential learning plays an important role in undergraduate education at Notre Dame. Programs that combine practical experience with academic learning can take several forms, including participation in research projects, service learning opportunities and internships.

According to data collected by Notre Dame on undergraduate's summer experiences, 1,424 undergraduates (56 percent of the total reported summer experiences) reported that they had participated in some type of internship or externship during the summer of 2015. Other reported undergraduate summer experiences included a full- or part-time job (15.7 percent of the reported summer experiences), research (13 percent), service or volunteer work (nearly 11 percent) and study abroad programs (nearly 4 percent).

The growth of University research

Between fiscal year 2011 and fiscal year 2015, research spending at Notre Dame grew from \$134.4 million to nearly \$191.0 million – an increase of 42.1 percent. In addition to supporting additional jobs and income, the growth of the University's research enterprise is helping to lay the groundwork for creation of new businesses and new jobs in the South Bend area.

Figure 4: Notre Dame research spending, FY 2001 – FY 2015 (in \$ millions)



Federal agencies such as the National Institutes of Health and the National Science Foundation accounted for the largest share of research spending in fiscal year 2015 – nearly 44 percent of Notre Dame’s total research spending – followed by internal University spending (nearly 38 percent) and private foundation and industry spending (10 percent). State and local government funds accounted for less than 1 percent of total research spending.

The following examples highlight several areas in which Notre Dame is conducting research that can help to address critical needs – regionally, nationally and globally – and at the same time provide a foundation for future economic growth.

- **ND Energy** – an umbrella organization created in 2014 to oversee and integrate energy research and education at Notre Dame – is conducting research on topics such as:
 - Improving energy efficiency;
 - Smart power distribution and storage systems;
 - Sustainable and secure nuclear power;
 - Sustainable biofuels; and
 - Transformative wind and solar technologies.
- The **Notre Dame Turbomachinery Lab** focuses on research, testing and training in a wide range of applications of turbomachinery technology. One of the Lab’s goals is to shorten the time from initial development to successful deployment of new turbine technologies. In 2016 the Lab moved into a new 25,000 square-foot facility located in Ignition Park in downtown South Bend, where it employs 35 full-time employees and 10 graduate assistants.
- The **Center for Stem Cells and Regenerative Medicine** seeks to identify potential approaches to the use of adult stem cells to treat a variety of diseases. A major focus of the Center’s work has been on the development and use of “induced pluripotent” stem cells – adult cells that can be induced to behave like embryonic stem cells, while avoiding the ethical issues in use of stem cells from human embryos.
- Through rigorous research and analysis, the **Wilson Sheehan Lab for Economic Opportunities (LEO)** seeks to identify innovative, effective and scalable programs for helping people move out of poverty – for example, through development and evaluation of *Stay the Course*, a joint program of Catholic Charities of Fort Worth and Tarrant Community College, aimed at helping low-income community college students stay in school and earn degrees.

Innovation and entrepreneurship at Notre Dame

During the past decade, Notre Dame has greatly expanded its efforts to see that the results of its research are translated into new products, new businesses and new jobs. These efforts have included:

- Strengthening the University’s formal technology transfer program;
- Expanding entrepreneurship education and development programs;
- Development of the first building planned for Innovation Park at Notre Dame – a 55,000 square-foot building offering office, lab and meeting space for start-up companies, an “entrepreneurial greenhouse” for aspiring Notre Dame entrepreneurs, and a variety of support services for client companies; and
- Providing other forms of support for aspiring student, faculty and alumni entrepreneurs.

Technology transfer

By several measures, the pace of technology transfer activity at Notre Dame increased significantly between fiscal year 2010 and fiscal year 2015. As Table 5 shows:

- The number of inventions disclosed by Notre Dame faculty and researchers doubled, from 39 to 78;
- The number of new patent applications filed rose from 17 to 22;
- The number of patents awarded rose from 12 to 21;
- The number of licensing agreements executed rose from 7 to 17; and
- The number of start-ups based on Notre Dame technologies rose from 2 to 5.

Table 5: Technology transfer activity at Notre Dame, FY 2010 – FY 2015 (gross licensing income in \$000s)

	2010	2011	2012	2013	2014	2015
Gross licensing income	\$557.0	\$559.0	\$423.0	\$466.0	\$695.0	\$803.0
Invention disclosures	39	57	55	67	62	78
New patent applications filed	17	10	14	16	19	22
Patents issued	12	10	12	20	12	21
Licenses/options executed	7	5	10	6	12	17
Start-up companies formed	2	1	3	2	3	5

Educating the next generation of entrepreneurs

Notre Dame offers an extensive array of academic programs, co-curricular activities and other resources for students interested in entrepreneurship.

- The Mendoza College of Business offers an undergraduate ***minor in entrepreneurship***. At the graduate level, the College offers an ***MBA with a concentration in Innovation and Entrepreneurship***, in which students can select one of four tracks – business start-ups, venture capital investing, corporate intrapreneurship and social entrepreneurship.
- The ***Engineering, Science and Technology Entrepreneurship Excellence Master's (ESTEEM)*** is an intensive one-year master's program for students with undergraduate degrees in science or engineering, with a strong focus on commercialization of new technologies. In fall 2014, 34 students were enrolled in the program.
- The University's ***Gigot Center for Entrepreneurship*** sponsors the annual ***McCloskey Business Plan Competition***, in which ventures that have not yet launched (or are in the earliest stages of launching) compete for \$300,000 in cash and in-kind prizes. Each participating team must be led by a Notre Dame student, alumnus or faculty member. In 2014-2015, 146 teams of aspiring Notre Dame entrepreneurs, with more than 400 participants, took part in the Competition.
- The ***Irish Innovation Fund***, a \$3.5 million fund launched in 2013, provides investments (generally in the range of \$20,000 to \$100,000) in carefully selected Notre Dame student start-ups.
- Through ***Innovation Park at Notre Dame (IP@ND)***, students also have access to a wide range of internship opportunities with start-ups in the South Bend area.

Innovation Park @ Notre Dame

From its opening in 2009 through 2015, IP@ND has assisted 77 start-ups, including 20 that had licensed technology from Notre Dame. During that time, 250 Notre Dame students have worked as interns at IP@ND companies. "Graduates" from IP@ND in 2015 that have remained in the area include:

- ***Supplier IQ***, South Bend – founded in 2014 by a Notre Dame alumnus, the company developed and operates an on-line service that matches corporate buyers (especially in manufacturing) with potential suppliers.
- ***Trek 10***, South Bend – founded in 2014 by a Notre Dame graduate, the company designs, builds and supports new systems for its customers, using the Amazon web services (AWS) platform.

Current IP@ND tenants and clients include:

- **Lightsprite**, a company that has developed and sells systems for detecting, identifying and analyzing nanoparticles in liquids.
- **Go Informatics**, founded by a Notre Dame faculty member, developed and operates a cloud-based system for managing (and collaborating on) research and development projects.
- **South Bend Code School**, an organization that helps low-income students and other area residents learn to code, and acquire other skills that can help them find jobs in the technology sector.
- **Trion Coatings**, started in the spring of 2015 by a Notre Dame alumnus, offers an environmentally friendly alternative to highly-toxic hexavalent chromium for use in metal plating and surface coatings.

Other resources available to aspiring or fledgling entrepreneurs include:

- **Irish Angels**, a network of more than 140 angel investors who provide seed funding and Series A venture capital investments to new businesses in which the founder, a board member or an active investor is a Notre Dame student, student's parent, faculty member or alumnus.
- The **Irish Entrepreneurs Network** is a network of approximately 400 alumni and other friends of the University, managed by the Gigot center for Entrepreneurship, who serve as mentors and advisors, and provide business connections to student and alumni entrepreneurs.

Investing in and serving the community

During the past decade, Notre Dame has broadened and deepened its commitment to the community that has been its home for more than 170 years, and that contributed much to making the University the institution it is today.

Revitalizing the Northeast Neighborhood

Since 2000, Notre Dame has worked closely with the City of South Bend, Kite and other local institutions and community partners to revitalize the City's Northeast Neighborhood. In particular, the University took the lead in development of the **Eddy Street Commons**, a \$215 million mixed-use development project that includes ground-floor retail and restaurants with apartments and offices above, other residential development, a hotel and parking.

The first phase of development at Eddy Street Commons neared completion in 2015, with the completion of 62 townhouse units at **Champions Way** (the development's first ownership units) – and **Legends Row**, featuring 66 condo units wrapped around a parking structure. **Victory View Flats**, a 57-unit condo apartment building, was also under construction in 2015, with completion scheduled for 2016.

Plans for completion of the final element of Phase I of Eddy Street Commons were also announced in 2015 – a six-story, 164-room, full-service **Embassy Suites Hotel**, with a restaurant, fitness center, rooftop terrace and 8,000 square feet of meeting space.

In consultation with the City of South Bend and local community organizations, Notre Dame was also engaged in 2015 in planning for Phase II of Eddy Street Commons. This second phase will involve mixed-use redevelopment of the blocks on both sides of Eddy Street. From Napoleon Boulevard to South Bend Avenue.

Other community investments

Notre Dame's recent community investments are not limited to the Northeast Neighborhood. For example:

- In September 2015, Notre Dame and the City of South Bend announced the creation of a partnership aimed at using technology and data analyses to develop innovative solutions to pressing community problems. As part of this effort, Notre Dame and South Bend at the same time joined MetroLab Network, a nationwide consortium of 34 university-city partnerships that are using technology to develop their local economies, improve public services.

Serving the community

In addition to these investments, Notre Dame works with a wide range of community organizations and institutions that provide services to local residents, and at the same time provide Notre Dame students with opportunities for community-based learning – for example, through:

- The University's continuing support for the Robinson Community Learning Center, which during the 2014-15 academic year served 4,221 South Bend area children, youth and adults;
- The work of more than 3,691 Notre Dame students who during the 2014-15 academic year participated in one of the 250 community-based learning courses offered by the University; and
- More than 945,850 hours of community service work performed by more than 2,250 Notre Dame students and more than 360 University faculty and staff during the 2014-15 academic year.

Building the future at Notre Dame

As great as Notre Dame's impact has been – in the South Bend area, nationally and increasingly around the world – it could for several reasons be even greater in the future:

- The growth of enrollment at Notre Dame during the past five years means that in years ahead, the pool of University graduates will continue to grow – especially those with degrees in engineering, science, business and special programs such as ESTEEM.
- A growing research enterprise will directly create new jobs for faculty members, other researchers, research technicians and support staff, and will also expand the base of new knowledge from which new products and services, businesses and jobs are developed.
- Over the next decade, Notre Dame's investments (described above) in the development of a new "entrepreneurial ecosystem" on and around its campus will translate into the development of additional new businesses and jobs, both in the South Bend area and elsewhere.
- Investment of approximately \$935 million in new construction and renovation of University facilities between fiscal year 2016 and fiscal year 2020 will provide new employment opportunities for local residents and business opportunities for local contractors, and will further enhance the University's ability to fulfill its mission.
- During the next several years, Phase II of the Eddy Street Commons project will provide new job opportunities both in construction and in restaurants and retail businesses.