The Economic Impact of the University of Notre Dame

September, 2013

appleseed

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Executive summary

The University of Notre Dame – a 170-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

- In the fall of 2011, the University of Notre Dame directly employed 5,590 people, making it the largest employer, public or private, in St. Joseph County.

- Between the fall of 2006 and the fall of 2011, the number of people employed at Notre Dame grew by 700 – an increase that helped to some extent to mitigate the loss of jobs and the rise in unemployment that occurred in St. Joseph County during the recession.

- From fiscal year 2007 through fiscal year 2012, Notre Dame invested $510 million in construction and renovation of University facilities, creating jobs for area residents and contracting opportunities for local businesses, and at the same time enhancing Notre Dame's ability to fulfill its mission of education, research and service to the community.

- Taking into account the number of people employed directly at Notre Dame, their wages and salaries, Notre Dame's payments to local vendors and contractors, and the indirect impact of University spending on payroll, purchasing and construction, we estimate that in fiscal year 2012, University spending directly and indirectly accounted for:

    - 9,288 jobs in St. Joseph County;
    - Approximately $587.9 million in wages and salaries; and
    - Approximately $842.8 million in County-wide economic output.

- In fiscal year 2012, students' off-campus spending directly and indirectly supported:

    - 1,535 full-time-equivalent jobs in St Joseph County;
    - $39.4 million in earnings; and
    - $120.4 million in County-wide economic output.

- Off-campus spending by visitors to the University directly and indirectly supported:

    - 2,943 FTE jobs in St Joseph County;
    - $78.0 million in earnings; and

- Nearly $204.1 million in County-wide economic output.

- Combining the impact of University spending with the impact of student and visitor spending, we estimate that in fiscal year 2012 (as shown in the table below), Notre Dame directly and indirectly accounted for:

  - 13,766 jobs in St. Joseph County;
  - $705.3 million in earnings; and
  - $1.167 billion in County-wide economic output.

Notre Dame's Economic Impact in St. Joseph County, FY 2012 (income and output in $ millions)

	Employment	Labor income	Output
Impact of University spending			
Direct	6,535	$475.5	$534.5
Indirect/induced	2,753	$112.4	$308.3
Subtotal	*9,288*	*$587.9*	*$842.8*
Impact of student spending			
Direct	1,187	$24.6	$81.0
Indirect/induced	348	$14.8	$39.4
Subtotal	*1,535*	*$39.4*	*$120.4*
Impact of visitor spending			
Direct	2,268	$48.8	$128.4
Indirect/induced	675	$29.2	$75.7
Subtotal	*2,943*	*$78.0*	*$204.1*
Total impact	***13,766***	***$705.3***	***$1,167.3***

Developing human capital

- 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, and by providing extensive opportunities to gain international experience.

- Several indicators demonstrate the value of a Notre Dame education. For example, in Payscale's survey of the earnings U.S. college graduates, Notre Dame is currently tied for 13th place among all U.S. colleges and universities, with an average mid-career salary of $111,000.

- Although most Notre Dame students come from outside the South Bend area and leave after they graduate, the University is still a significant contributor the area's college-educated workforce. As of 2011, Notre Dame graduates accounted for nearly 10 percent of all St. Joseph County residents who had at least a bachelor's degree.

The growth of University research

- Between 2007 and 2012, research spending at Notre Dame grew from $82.3 million to $157.7 million, an increase of 92 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.

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:

    - 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 supportive services for client companies;
    - Providing increased support for faculty research aimed at preparing new technologies for commercialization;
    - Expanding entrepreneurship education and development programs, including ESTEEM, a new one-year masters degree program focusing on the commercialization of new technologies;
    - Launching the Irish Innovation Fund, a new program that provides seed capital for new ventures created by Notre Dame students;
    - Providing access to a network of nearly 400 experienced entrepreneurs, advisors and investors through the Irish Entrepreneurs Network.

- We estimate that companies in North Central Indiana founded by Notre Dame faculty, students and alumni currently employ more than 1,300 people in the area.

Investing in and serving the community

- 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 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.

- As of the spring of 2013, 765 people (including 165 Notre Dame employees) were employed at Eddy Street Commons.

- Other recent off-campus investments have included development of the Notre Dame Center for Art and Culture, the purchase of the former St. Joseph High School building and the development of an environmental research and education center in St. Patrick's Park.

- In addition to these investments, Notre Dame works with a wide range of partners to serve the community that has been its home for 170 years – for example, through:

    - The University's continuing support for the Robinson Community Learning Center;
    - The work of more than 2,700 students who in 2011-2012 participated in community-based learning programs offered by the University; and
    - More than 500,000 hours of community service work performed by more than 7,300 Notre Dame students and more than 1,000 University faculty and staff in 2011-2012.

- As it has grown from a regional to a national and now a global university, Notre Dame's commitment to service has expanded as well. Its Alliance for Catholic Education, for example, provides teacher training, professional development, consulting and other services for 200 Catholic elementary and secondary schools throughout the U.S. ACE is also a partner in efforts to improve Catholic schools in Ireland, Chile and Haiti.

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 the 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 development of a new "entrepreneurial ecosystem" on and around its campus could translate into the development of additional new businesses and jobs, both in the South Bend area and elsewhere.

Investment of nearly $500 million in new construction and renovation of University facilities will provide jobs for local residents and business opportunities for local contractors, and will further enhance the University's ability to fulfill its mission.

Introduction and overview

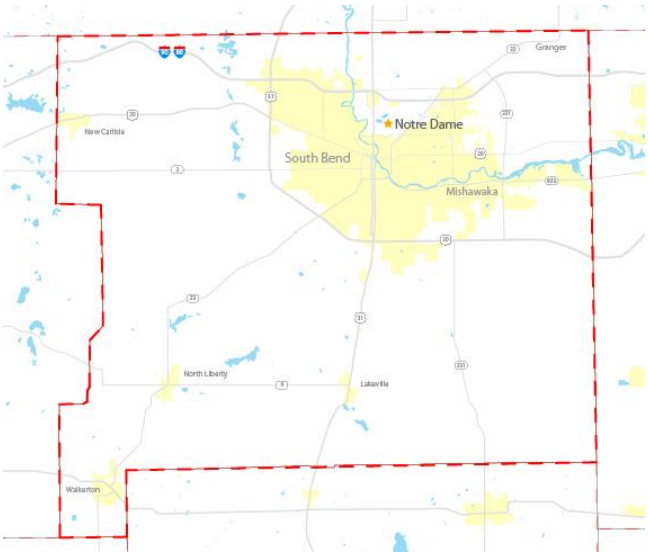
The University of Notre Dame du Lac is an independent Catholic institution of higher learning located on a 1,250-acre campus in South Bend, Indiana. The University was founded in 1842 by Rev. Edward Sorin, a member of the Congregation of the Holy Cross, and two years later was chartered by the state as a degree-granting institution. Today, Notre Dame is a major university with more than 12,000 undergraduate, graduate and professional students enrolled in seven colleges:

- College of Arts and Letters
- College of Science
- College of Engineering
- School of Architecture
- Mendoza College of Business
- Graduate School
- Law School

Notre Dame is a nationally recognized research university, with $157 million in research spending in fiscal year 2012. And through a network of partnerships with institutions, organizations and communities, the University is extending its impact throughout the U.S. and across the world.

Notre Dame is also a major contributor to the economy of South Bend and St Joseph County – the County's largest employer, a source of business for local companies, an investor both on and beyond its campus, and a source of innovation and new business development. At the same time, the University's development over the past 170 years and its continuing effectiveness today are in many ways rooted in its relationship to the communities in which it is located.

Figure 1: Map of South Bend, Indiana and the Michiana Region



Purpose and organization of the report

In order to understand more fully Notre Dame's economic impact, University administrators asked Appleseed, a New York City-based economic development consulting firm, to assess Notre Dame's role in the economy of the South Bend area, and in the ongoing transformation of the local economy. This report presents the results of Appleseed's analysis.

- To set a context for our analysis of Notre Dame's economic impact, Part One of the report provides a brief overview of current economic conditions and recent trends in South Bend and St. Joseph County.
- Part Two assesses the impact of the University as an enterprise – as an employer, a buyer of goods and services, and a sponsor of construction projects.
- Part Three analyzes the impact of spending by University students and by visitors to the University.
- Part Four discusses Notre Dame's role in the development of the region's human capital.
- Part Five discusses the impact of the University's growing research enterprise.
- Part Six discusses Notre Dame's role in the development of new businesses.
- Part Seven examines the various forms of community engagement at Notre Dame, including its role in the revitalization of neighborhoods near its campus.
- Part Eight briefly discusses several reasons why the University's economic impact – in South Bend, St. Joseph County and beyond – could be even greater during the next five to ten years than it is today.

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Part One: Notre Dame in context – the economy of St. Joseph County

Understanding Notre Dame's economic impact requires an understanding of the local context within which the University operates. This part of the report provides a brief overview of recent demographic and economic trends in South Bend and in St. Joseph County.

Years of decline and recovery

St. Joseph County is located in north central Indiana, just below the Michigan state line. The U.S. Census Bureau estimates that in 2011 the population of the County totaled 266,700 – an increase of about 0.4 percent since 2000. About two-thirds of the County's residents are concentrated in three adjoining communities:

- South Bend, the County's largest city, with a population of about 101,100 in 2011 – a decline of more than 6 percent since 2000;
- Mishawaka, a smaller city with a population of 48,252 in 2011 – an increase of 3.6 percent since 2000; and
- Granger, a suburban area with a population of 30,465 in 2011 – an increase of 7.7 percent since 2000.

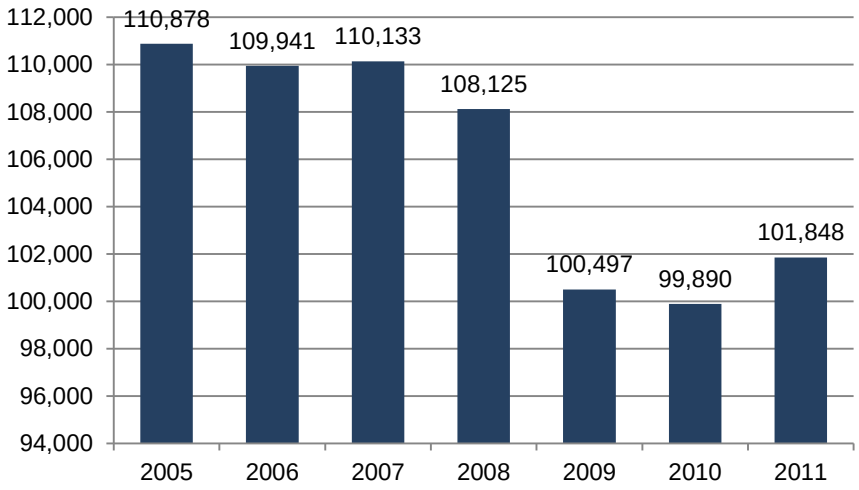
After never fully recovering from the economic downturn that occurred in 2000-2001, St. Joseph County was hit hard by the recession that began in 2008. Between 2007 and 2010 (as shown in Figure 2), private payroll employment fell by 9.3 percent – a loss of more than 10,000 jobs.

Manufacturing was especially hard-hit, with employment in that sector declining over the same three-year period by more than 20 percent – a loss of about 3,500 jobs. Several other industries also sustained heavy job losses, including construction (a loss of 1,600 jobs), retailing (more than 1,500 jobs), administrative and support services (more than 1,100 jobs) and wholesale trade (about 800 jobs).

Job losses were particularly severe in South Bend. Between 2007 and 2010, private employment in the city fell by 10.4 percent – a loss of about 5,900 jobs.

As job losses mounted, the County's unemployment rate rose from just 4.9 percent in 2007 to 11.6 percent in 2009. Unemployment in South Bend rose even higher, averaging 13.1 percent in 2010.

Figure 2: Total private employment in St. Joseph County, 2005-2011



Source: QCEW (Indiana Department of Workforce Development – Research and Analysis)

By 2011, the local economy had begun to recover. Between 2010 and 2011 the County gained back about 1,950 private payroll jobs, including nearly 1,300 manufacturing jobs; and by 2012, the unemployment rate among St. Joseph County residents had fallen to 9.7 percent.

Nevertheless, in order for employment in St. Joseph County to return to its pre-recession level – or to the higher levels of the late 1990's – several years of sustained growth will be needed.

Growth in higher education

As communities in St. Joseph County seek to create new jobs and build a stronger and more resilient economy, the County's colleges and universities can be a particularly valuable resource.

Higher education is in itself a major industry in St. Joseph County. In 2011, the County's private and public colleges and universities employed nearly 9,400 people – 8.1 percent of all private and public employment in the County. Higher education is one of the County's leading "export" industries, bringing in hundreds of millions of dollars in revenue each year from outside the County, much of which is then spent locally.

And while by no means immune to the effects of the recession, higher education was one of the few major industries in St. Joseph County that kept growing during the downturn in the nation's economy. Between 2007 and 2012, the County's private colleges and universities added more than 900 jobs.

Colleges and universities also contribute to the vitality of the St. Joseph County through activities related to their mission of education, research, and service to the community. In an economy that

is increasingly built on knowledge and innovation, higher education is critical to the County's continued growth. Colleges and universities can:

- Provide young residents of the County with the skills today's economy requires;
- Attract talented young people to St. Joseph County from elsewhere in Indiana and the U.S., and from around the world;
- Through the cultural, recreational and other opportunities they offer, enhance the community's ability to attract and retain talented people;
- Generate ideas that lead to the creation of new businesses, new products and new services;
- Provide services that support the growth of local businesses; and
- Help local communities and County residents adapt to the demands of a changing economy.

Among St. Joseph County's colleges and universities, none has a greater impact on the local economy than the University of Notre Dame du Lac. The next part of the report assesses the

University's impact as a major enterprise in its own right; and those that follow examine the multiple ways in which Notre Dame contributes to the local economy through activities related to its mission.

Part Two: Notre Dame as an enterprise

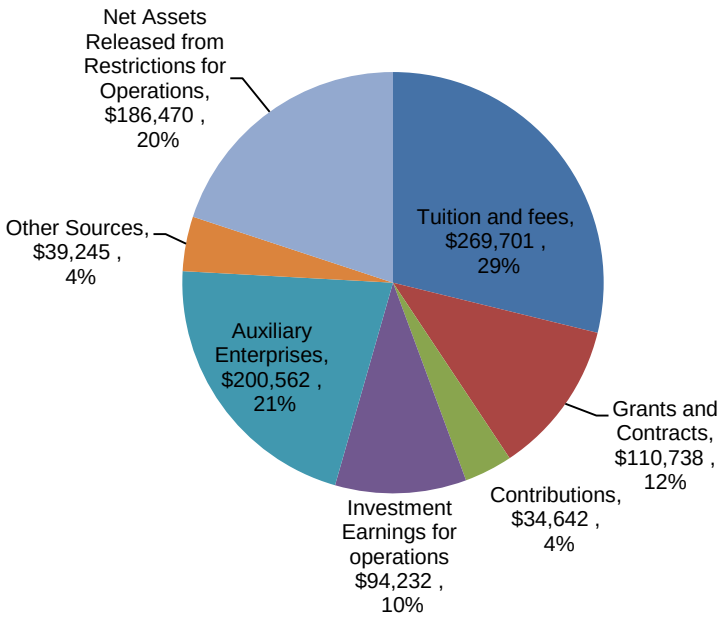
As a major enterprise in its own right, the University of Notre Dame contributes in several ways to the economy of South Bend and St. Joseph County – as a major income generator, a leading employer, a buyer of goods and services from local businesses and a sponsor of construction projects. This part of the report addresses the University's impact in each of these areas.

Notre Dame as an income generator

In fiscal year 2012, Notre Dame's operating revenues totaled $935.6 million – an increase of more than 41 percent since 2006. As Figure 3 shows:

- Tuition and fees (net of University scholarships and financial aid) totaled $269.7 million, accounting for 29 percent of all revenues.
- Auxiliary enterprises generated $200.6 million, about 21 percent of the total.
- Net assets released to support operations totaled $186.5 million, about 20 percent.
- Contracts and grants (primarily from federal agencies) totaling $110.7 million accounted for 12 percent of all revenues.
- Investment earnings for operations ($94.2 million) accounted for 10 percent.
- Current contributions ($34.6 million) accounted for 3.7 percent of the total and miscellaneous other revenues for 4.2 percent.

Figure 3: Notre Dame revenues by source, FY 2012 (in $000's)



Notre Dame generates almost all of its revenues (by Appleseed's calculation, about 95 percent) from sources outside South Bend and St. Joseph County. Much of this revenue, in contrast, is expended within the local area. In fiscal year 2012, the University's spending within St. Joseph County (including wages and salaries paid to University employees, payments for employee health care and, payments to local vendors and contractors) totaled $567 million – an amount equivalent to about 61 percent of total University revenues during the same period.

Notre Dame's endowment (valued as of June, 30 2012 at more than $6.44 billion) plays an important role in supporting University spending within the local community. In fiscal year 2012, more than $250.5 million was distributed from Notre Dame's endowment to support University operations. About 34 percent of this total was used to provide scholarships and other financial aid – 33 percent to support faculty chairs and other academic programs – 11 percent for other endowed programs – and 22 percent for general operating purposes.

The strength of Notre Dame's endowment is particularly important during economically difficult times. The resources provided by the endowment help to keep the University's operations on an even keel, and to keep education at Notre Dame affordable.

Notre Dame as an employer

In the fall of 2011, Notre Dame employed 5,590 people (excluding students and temporary workers), more than 92 percent of whom worked full-time. The University also employed 1,044 graduate students as research and teaching assistants; and also employed 5,039 undergraduates in a variety of part-time jobs. Wages and salaries paid to all University employees during fiscal year 2012 (including students and temporary employees) totaled $422.8 million.

As Table 1 shows, Notre Dame is the largest employer, public or private, in St. Joseph County.

Table 1: Largest employers in St. Joseph County, as of 2011

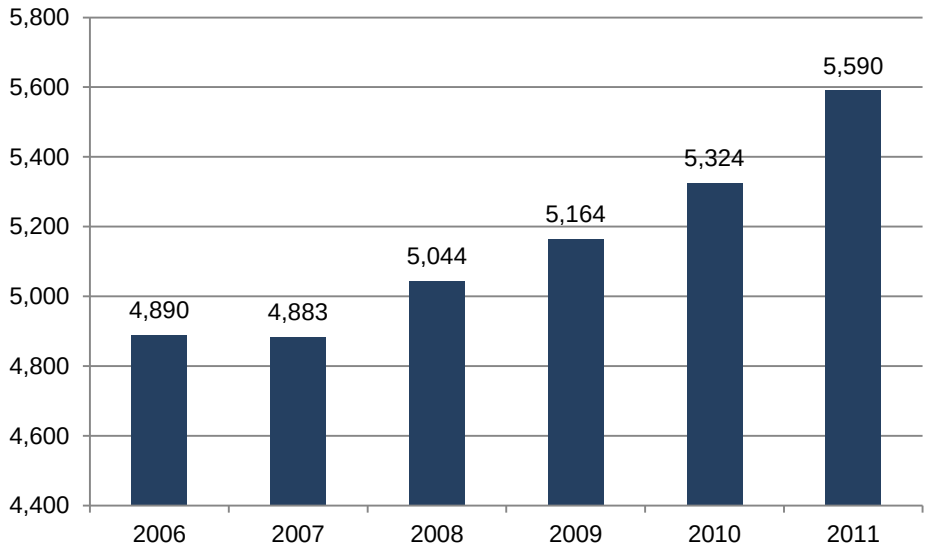
Employer	Number of employees
University of Notre Dame	*5,590*
Memorial Health System	3,545
South Bend Community School Corporation	3,212
AM General	2,400
Saint Joseph Regional Medical Center	2,123
City of South Bend	1,361
1st Source Bank	1,257
St. Joseph County	1,211
Diocese of Fort Wayne-South Bend	1,094
Martin's Supermarkets	1,062
Indiana University South Bend	1,050
Wal-Mart	1,031

Sources: University of Notre Dame, St Joseph County Chamber of Commerce

The University is also notable for its growth; between the fall of 2006 and the fall of 2011, the University added 700 jobs, an increase of 14.3 percent (Figure 4). Notre Dame's growth during

this period was thus to some extent able to mitigate the severe impact of the Great Recession on the local economy.

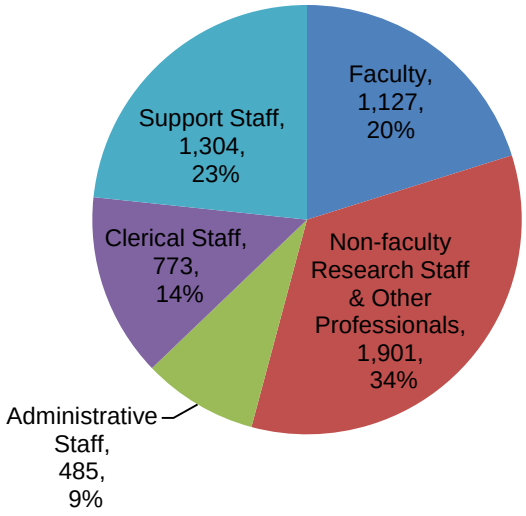
Figure 4: Growth in full- and part-time employment at Notre Dame, 2006-2011



The diversity and quality of employment at Notre Dame

University employees work in a wide variety of jobs. As Figure 5 shows, faculty positions accounted for 20 percent of all non-student employment in the fall of 2011; non-faculty research staff and other professionals for 34 percent; administrative staff for 9 percent; clerical workers for 14 percent; and supportive service workers for 23 percent.

Figure 5: Composition of employment at Notre Dame by occupational group, fall 2011



Notre Dame pays wages and salaries that are above average for north central Indiana, and provides a comprehensive array of benefits, including:

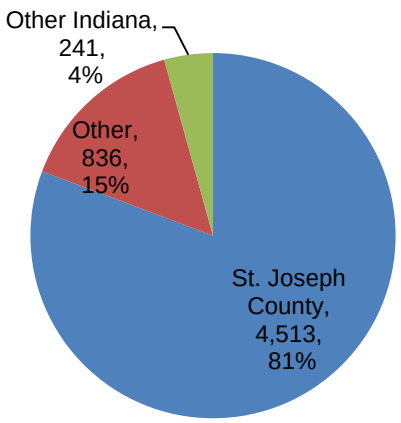
- Health, dental and vision care insurance;
- Flexible spending accounts;
- Life, disability and long-term care insurance;
- Retirement plans;
- Long-term disability and long-term care insurance;
- Adoption benefits; and
- An employee assistance program.

The University also provides extensive opportunities for its employees to develop their skills, through training programs in areas such as computer and software skills, management, project management and workplace safety. Participation in these programs during fiscal year 2012 totaled more than 7,200 – an average of about 1.3 programs per employee. Notre Dame also provides up to $1,500 per employee per year in tuition benefits for approved undergraduate or graduate courses at Notre Dame or at other institutions.

Where University employees live

As Figure 6 shows, 4,513 non-student employees of Notre Dame in the fall of 2011 (about 81 percent of all non-student employees) lived in St. Joseph County, and 241 (4 percent) lived elsewhere in Indiana. Other University employees (836, 15 percent of the total) lived outside the state.

Figure 6: Notre Dame employees by place of residence, fall 2011



In addition to being the largest employer in the county, the University is a major employer of county residents. In 2011, about 4.2 percent of all employed residents of St. Joseph County worked for Notre Dame.

The impact of purchasing and construction

In addition to the people it employs directly, Notre Dame generates jobs in South Bend, in St. Joseph County and elsewhere in Indiana through its purchases of goods and services from local companies, and through construction and renovation of University facilities.

Purchases of goods and services

In fiscal year 2012, Notre Dame spent $296.1 million on purchases of goods and services (excluding construction). Of this total:

- $64.4 million (21.8 percent) was paid to suppliers and contractors located in St. Joseph County; and
- $18.2 million to businesses located elsewhere in Indiana.

In addition to its direct payments to University suppliers and contractors, Notre Dame spent approximately $51.1 million in fiscal year 2012 on health care provided to University employees, of which $27.7 million was paid to health care providers in St. Joseph County, and nearly $3.2 million to providers elsewhere in Indiana

Leading categories of goods and services purchased in the county and the state are listed in Table 2.

Table 2: Leading commodities and services bought in Indiana, FY 2012

Commodity or service	Purchases in FY 2012, (in $000's)
St. Joseph County	
Health care[1] (including employee health care)	$29,623.3
Travel, entertainment, special events	$9,854.9
Printing, advertising, photography and duplication	$7,184.0
Subcontracts with other universities	$6,130.9
Food products and kitchen supplies	$4,632.6
Furniture and furnishings	$4,604.2
Books and periodicals	$3,664.8
Payments and donations to non-profit organizations	$2,952.2
MRO parts, supplies	$2,131.0

[1] For both St. Joseph County and the State of Indiana, the health care spending numbers included in Table 2 combine payments for employee health care, and other types of health care spending such as the cost of health services for University athletic teams.

Utilities	$2,014.8
Legal and professional services	$2,009.3
Audio and video equipment	$1,927.7
Other Indiana	
Health care (including employee health care)	$6,582.1
Subcontracts with other universities	$2,548.8
HVAC services	$2,408.6
Information technology, telecommunications	$2,123.0
Real estate	$905.8
Legal and professional services	$781.7
Travel, entertainment, special events	$750.1
Food products and kitchen supplies	$718.2
Utilities	$646,7

Using IMPLAN[2], we estimate that in fiscal year 2012, purchases of goods and services from local businesses, along with payments for employee health care, directly supported 734 FTE jobs in St. Joseph County, and 160 FTE jobs elsewhere in Indiana.

Construction

Notre Dame also generates business for local companies and jobs for local residents through construction and renovation of University facilities. Campus construction spending between fiscal year 2008 and 2012 – has averaged $94.9 million annually.

- ***Duncan Hall***, a 68,400 square-foot, three-story residence hall that houses 232 students. It was completed in the summer of 2008.

- ***Geddes Hall***, a $14 million, 65,500 square-foot building completed in August 2009 that is now home to the Center for Social Concerns (described in Part Seven) and the Institute for Church Life.

- ***Ryan Hall***, a 74,000 square-foot women's residence hall that houses 248 undergraduate students. Opened in the fall of 2009, it is the University's first LEED Gold Certified residence hall.

- The first building planned for ***Innovation Park at Notre Dame*** (described in Part Six) was completed in the fall of 2009. The $13 million, 55,000 square-foot building includes wet

[2] The IMPLAN input-output modeling system is an economic modeling tool commonly used in economic impact analysis. For this study, Appleseed used a version of the model that is tailored to the economy of St. Joseph County.

labs and dry research space, private offices, "greenhouse" space for aspiring entrepreneurs, and other shared resources.

- ***Stinson-Remick Hall***, a $69.4 million, 160,000 square-foot engineering research center that (among other facilities) includes a 9,000 square-foot nanoelectronics lab. The building was completed in September 2010.

- Renovation of and additions to ***The Joyce Center***, a multipurpose sports complex, including renovation of Purcell Pavilion (home to the University's men's and women's basketball and volleyball teams). The project was completed in 2010 at a cost of $26.3 million.

- ***Harper Hall***, a 72,000 square-foot building that houses the Mike and Josie Harper Cancer Research Center, a joint research program of Notre Dame and the Indiana University School of Medicine. The building was completed in the spring of 2011.

- ***Carole Sandner Hall***, a new home for the Alliance for Catholic Education (described in Part Eight) and other programs of the University's Institute for Educational Initiatives. The building was completed in the summer of 2011 in conjunction with the renovation of the historic IEI building, to which it is connected.

- ***The Compton Family Center Ice Arena***, a $50 million, 212,000 square-foot complex with two full-size hockey rinks – one in a main arena that seats 5,000 spectators and a second with bleacher-style seating for 350. The facility, which was completed in the fall of 2011, is used for intercollegiate, club and intramural hockey and figure skating, as well as high school games, Irish Youth Hockey League (IYHL) games and practices, other community programs and private events.

- ***The Notre Dame Wellness Center***, an on-campus medical clinic and pharmacy for University employees, completed during the summer of 2012.

- The ***Stayer Center for Executive Education***, a 54,000 square-foot, three-story building that will greatly expand and enhance the Mendoza College of Business's capacity to deliver executive education programs. The Stayer Center opened in the spring of 2013.

- ***The Notre Dame Center for Art and Culture***, a $1.5 million, 14,000-square-foot, complex (described below in Part Seven), completed in 2013.

Because spending on construction can vary greatly year-to-year, we have based our analysis of the impact of Notre Dame's construction spending on the average amount spent annually on University construction between fiscal 2008 and fiscal year 2012 – an average of $94.9 million. Based on data provided by Notre Dame, we estimate that this spending includes an average of:

- $25.2 million paid to contractors located in St. Joseph County; and
- $13.8 million paid to contractors located elsewhere in Indiana.

Using IMPLAN, we estimate that in fiscal year 2012, spending by Notre Dame directly supported 211 full-time-equivalent jobs with contractors in St. Joseph County, and 115 FTE jobs with contractors from other Indiana counties.

The economic impact of Notre Dame's investment in construction and renovation of University facilities, however, goes well beyond the business opportunities and jobs it creates. By enhancing the University's ability to fulfill its mission, these investments contribute in multiple ways to the growth of the local economy. Stinson-Remick Hall and Harper Hall, for example, have played an important role in enabling the University to expand its research enterprise, thus increasing the flow of federal and corporate research funds to South Bend. The construction of Duncan Hall has helped the University increase undergraduate enrollment; and the completion of Stayer Hall will allow the University to expand its executive education programs.

IP@ND is accelerating the translation of new University research into new products and new businesses; and has already "graduated" several businesses that are now growing in the South bend area. And since it opened in the fall of 2011, the Compton Family Center has become a major resource for both the University and the community, and has attracted thousands of new visitors to South Bend.

Notre Dame's construction spending is thus not only an investment in the University's future – it is also an investment in the economic future of South Bend and St. Joseph County.

Indirect and induced effects

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 the University buys goods and services use some of the money paid to them by Notre Dame 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 the 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 take-home pay within the County – for housing, utilities, food, child care, entertainment and other routine household needs. The jobs, wages and salaries supported by employees' household spending make up the *induced* effect of University spending.

Using the IMPLAN input-output modeling system – a tool of economic analysis commonly used in economic impact studies – we can measure the indirect and induced effects of University

spending. We estimate that through these effects, University direct spending in fiscal year 2012 on wages and salaries, purchasing and construction indirectly accounted for:

- 2,753 jobs in St. Joseph County;
- Approximately $112.4 million in earnings; and
- Approximately $308.3 million in County-wide economic output.

Direct, indirect and induced effects of University spending

Taking into account the number of people employed at Notre Dame and their wages and salaries, the direct impact of Notre Dame's payments to local vendors and contractors, and the indirect and induced impact of University spending on payroll, purchasing and construction, we estimate that in fiscal year 2012, University spending directly and indirectly accounted for:

- 9,288 jobs in St. Joseph County;
- Approximately $587.9 million in wages and salaries; and
- Approximately $842.8 million in County-wide economic output.

Table 3: Direct, indirect and induced impact of Notre Dame spending in St. Joseph County, FY 2012 (employment in FTE, income and output in $ millions)

	Employment	Labor income	Output
Direct spending impact			
Payroll	5,590	$422.8	$422.8
Purchasing/construction	945	$52.7	$111.7
Indirect and induced effects			
Employee spending	2,127	$85.0	$238.1
Contractor and vendor spending	626	$27.4	$70.2
Total impact	***9,288***	***$587.9***	***$842.8***

Contributing to state and local revenues

Despite its tax-exempt status, Notre Dame's operations generate tax revenues for state and local government in several ways. In fiscal year 2012, for example, Notre Dame:

- Withheld $12.3 million in Indiana state income taxes from the wages and salaries paid to University employees;
- Paid nearly $1.2 million in water and sewer fees; and
- Paid more than $144,000 in miscellaneous fees to the State of Indiana.

In addition to the revenues it pays directly, Notre Dame also generates revenues indirectly through its spending on purchases of goods and services, and through household spending by its

employees. While we have not sought to quantify these revenues here, it is clear that University employees pay millions of dollars annually in local property taxes and in state sales taxes; and that Notre Dame's purchases of goods and services from local businesses indirectly generate several million dollars annually in additional state and local tax revenues.

Part Three: The impact of student and visitor spending

Like the money that Notre Dame itself spends on payroll, purchasing and construction, off-campus spending by University students and by visitors to Notre Dame also has an impact on the local economy.

The impact of student spending

In the fall of 2011, Notre Dame enrolled 12,004 students, including 8,452 undergraduates and 3,552 graduate and professional students. About 97 percent of all undergraduates and 96 percent of graduate and professional students came to Notre Dame from somewhere outside St. Joseph County.

The impact of student spending is determined in part by whether students live on-campus, or elsewhere in South Bend and the surrounding communities. In 2011-12, 77 percent of all undergraduates and 18 percent of graduate and professional students lived in University housing.

Table 5 provides Appleseed's estimates (based on data obtained from the University) of annual off-campus spending by undergraduate and graduate or professional students, based on whether they live on or off-campus. We estimate that in 2011-12, aggregate off-campus student spending – for off-campus housing, food, books and supplies, transportation, entertainment and other needs – totaled approximately $99.0 million.

Table 5: Estimated off-campus spending by University students, FY 2012

Type of student	Number of students	Per student off-campus spending	Total off-campus spending
Undergraduate			
On-campus students	6,489	$1,975	$12,815,775
Off-campus students	1,963	$13,363	$26,231,569
Total, Undergraduate	*8,452*	*$4,620*	*$39,047,344*
Graduate/Professional			
On-campus students	644	$7,900	$5,087,600
Off-campus students	2,908	$16,300	$47,400,400
Total, Graduate/Professional	*3,552*	*$14,777*	*$52,488,000*
Summer Session			
On-campus students	343	$598	$205,114
Off-campus students	1,635	$4,454	$7,282,290
Total, Summer Session	*1,978*	*$3,785*	*$7,487,404*
Total, All students	***13,982***		***$99,022,778***

Using IMPLAN, we estimate (as shown in Table 6) that students' off-campus spending directly and indirectly supported:

- 1,535 full-time-equivalent jobs in St. Joseph County;
- $39.4 million in earnings; and
- $120.4 million in County-wide economic output.

Table 6: Impact of off-campus spending by Notre Dame students in St. Joseph County, FY 2012 (employment in FTE, income and output in $000's)

	Employment	Labor income	Output
Direct	1,187	$24,573.0	$80,966.1
Indirect/induced	348	$14,797.9	$39,388.6
Total	***1,535***	***$39,370.9***	***$120,354.7***

The impact of visitor spending

Off-campus spending by visitors to Notre Dame similarly contributes to the vitality of the South Bend-area economy. Based on data compiled by the University, we estimate that at least 2.15 million people visited the Notre Dame campus during fiscal year 2012, more than 41 percent of whom (more than 894,000) came from outside St. Joseph County.[3]

Table 7 shows Appleseed's estimates of non-local visitors to Notre Dame by type of event or purpose for visiting. As the data show, people attending on-campus intercollegiate athletic events represented the largest group of non-local visitors, accounting for about 60 percent of the total. Other visitors included:

- High school students (and their parents) interested in applying for admission to Notre Dame;
- Participants in academic conferences;
- Commencement guests;
- People attending on-campus sports events not involving Notre Dame teams;
- People attending concerts and other performances;
- Visitors attending masses at the Basilica of the Sacred Heart;
- Participants in alumni reunions and other alumni events; and
- On-campus wedding guests.

Table 7: Estimated number of non-local visitors to Notre Dame by purpose of visit, FY 2012

[3] This estimate probably understates the total number 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 with the University.

Purpose of visit	Estimated number of non-local visitors
Football weekends	371,570
Other Notre Dame athletic events	128,810
Pre-admission visits, other admissions programs	220,340
Conferences	27,000
Commencement	21,200
Other athletic events	16,580
Performances	14,100
Alumni Association reunion	3,000
Weddings	5,100
Other Eck Visitor Center events	30,100
Masses	50,000
Sports camps	6,500
Total	***894,300***

Based on data obtained from the South Bend/Mishawaka Convention and Visitors Bureau, we estimate that visitors to the University spend an average of $178 per person per trip in the local area. Visitors to Notre Dame thus spent a total of nearly $159.5 million in fiscal year 2012 –about 36 percent of all visitor spending in St Joseph County.

Using IMPLAN, we estimate (as shown in Table 8) that off-campus spending by visitors to Notre Dame directly and indirectly supported:

- 2,943 FTE jobs in St. Joseph County;
- $78.0 million in earnings; and
- Nearly $204.1 million in County-wide economic output.

Table 8: Impact of off-campus spending by visitors to Notre Dame in St. Joseph County, FY 2012 (employment in FTE, income and output in $000's)

	Employment	Labor income	Output
Direct	2,268	$48,840.7	$128,335.5
Indirect/induced	675	$29,206.4	$75,725.0
Total	***2,943***	***$78,047.1***	***$204,060.5***

Notre Dame football as a generator of visitor traffic

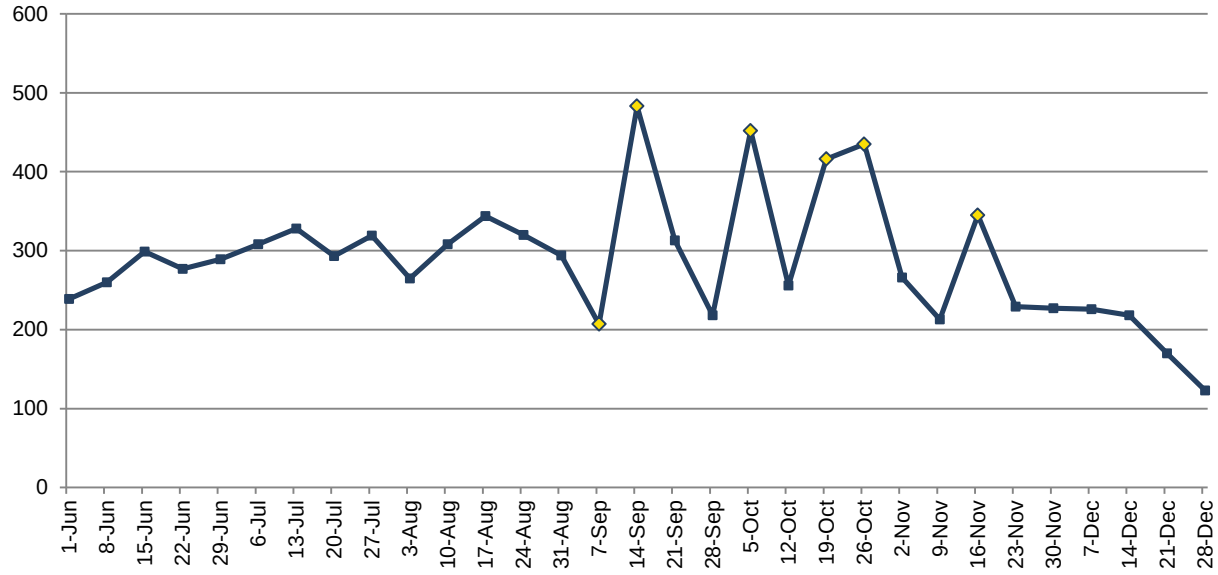
The number of people who come to South Bend for on-campus events at Notre Dame, and the multiple ways they affect the local economy, is most evident when we focus on the impact of one Notre Dame football weekend. Table 9 shows the typical numbers for different types of visitors who come from outside St. Joseph County to attend football games at Notre Dame during a football season containing six home games. We estimate that an average of nearly 61,900 non-local visitors come to South Bend each football weekend to attend the home game, for other on-campus events that are scheduled around home games, or both.

Table 9: Estimated number of non-local visitors to Notre Dame football games by type of visitor, 2011

Type of visitor	Estimated number of non-local visitors
Football fans	214,800
Football media	5,400
Football visiting teams	30,000
Other tailgaters	121,193
Spring football media	50
Sports recruits	130
Total	***373,573***

The surge of visitor traffic into South Bend is evident from data on general aviation into and out of South Bend-Mishawaka Regional Airport. As Figure 6 shows, the average weekly number of general aviation flights into South Bend airport is nearly 50 percent higher during weeks when Notre Dame has a home football game than it is during weeks without a home football game. (The gold diamonds in Figure 7 represent weeks during which Notre Dame played a home football game.)

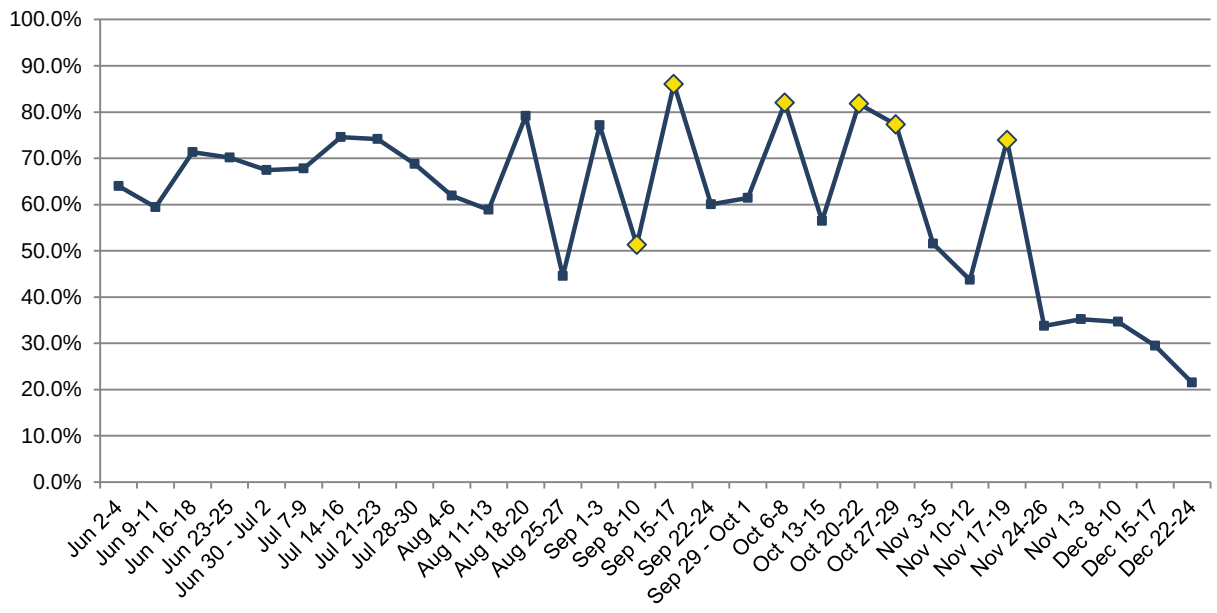
Figure 7: Weekly general aviation air traffic at South Bend Regional Airport, June 2011 – December 2011



Source: St. Joseph County Airport Authority

Home football games also have a significant impact on demand for hotel rooms. In 2011, as Figure 8 shows, occupancy rates at hotels in St. Joseph County spiked on weekends during which Notre Dame had a home game, reaching a high of 86.0 percent from September 15 through September 17. (The gold diamonds in Figure 8 represent weekends during which Notre Dame played a home football game.)

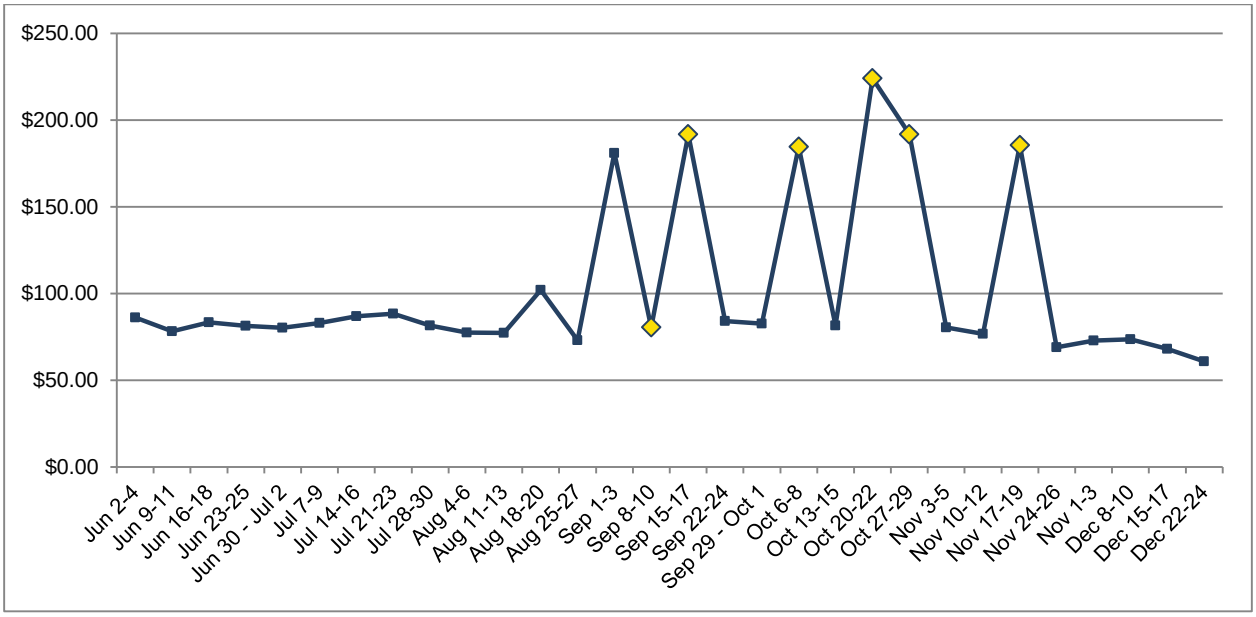
Figure 8: Weekend (Thursday-Saturday) occupancy rates at hotels in South Bend/Mishawaka, June 2011 – December 2011



Source: *South Bend/Mishawaka Convention and Visitors Bureau*

As Figure 9 shows, average daily room rates at hotels in St. Joseph County hotels also rose on weekends during which Notre Dame had a home football game in 2011. On six football weekends, the average cost of a hotel room in St Joseph County exceeded $180.00 – more than double the average for non-football weekends; and on one of these weekends, the average rate was more than $224.00. (The gold diamonds in Figure 9 represent weekends during which Notre Dame played a home football game.)

Figure 9: Weekend (Thursday-Saturday) average daily room rates at hotels in South Bend/Mishawaka, June 2011 – December 2011



Source: South Bend/Mishawaka Convention and Visitors Bureau

Taking into account the higher cost of hotel rooms when Notre Dame is playing at home, we estimate that on football weekends in 2011, off-campus spending by visitors to Notre Dame averaged about $18 million, including an average of about $14 million in spending by visitors from outside St. Joseph County.

Impact of University, student and visitor spending: adding it all up

When the impact of Notre Dame's spending on payroll, purchasing and construction is combined with the impact of student and visitor spending, we estimate that in fiscal year 2012, Notre Dame directly and indirectly accounted for:

- 13,766 jobs in St. Joseph County;
- $705.3 million in earnings; and
- $1.167 billion in County-wide economic output.

These combined impacts are summarized below in Table 10.

Table 10: Notre Dame's economic impact in St. Joseph County, FY 2012 (employment in FTE, wages and output in $ millions)

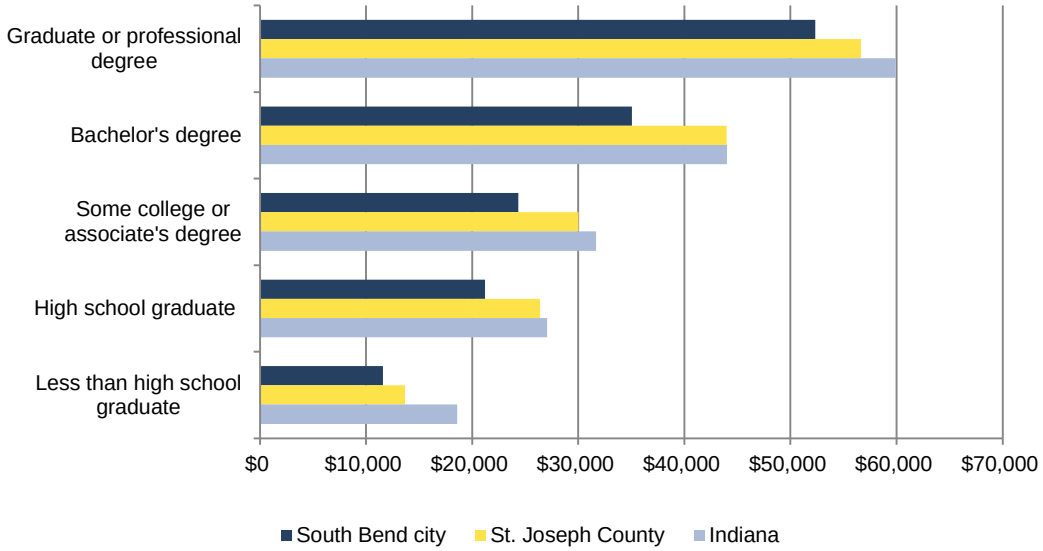
	Employment	Labor income	Output
Impact of University spending			
Direct	6,535	$475.5	$534.5
Indirect/induced	2,753	$112.4	$308.3
Subtotal	*9,288*	*$587.9*	*$842.8*
Impact of student spending			
Direct	1,187	$24.6	$81.0
Indirect/induced	348	$14.8	$39.4
Subtotal	*1,535*	*$39.4*	*$120.4*
Impact of visitor spending			
Direct	2,268	$48.8	$128.4
Indirect/induced	675	$29.2	$75.7
Subtotal	*2,943*	*$78.0*	*$204.1*
Total impact	***13,766***	***$705.3***	***$1,167.3***

Part Four: Attracting and developing human capital

Human capital – the totality of knowledge, skills and experience accumulated over time by a community's or a region's workforce – plays a central role in determining whether cities and regions flourish or falter economically. 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 shown in Figure 10, in 2011 the median earnings of St. Joseph County residents who had bachelor's degrees was nearly $17,600 greater than the median income of those who had only a high school diploma; and the median income of those with graduate or professional degrees was more than $30,200 greater (114.5 percent higher) than the median income of those who had no education beyond high school.

Figure 10: Median earnings (in 2011 inflation-adjusted dollars) by educational attainment for residents 25 years and older in South Bend, St. Joseph County and Indiana, 2011



Source: 2011 American Community Survey (Social Explorer)

The economic benefits of higher education are not limited to those who earn degrees. Researchers at the New York Federal Reserve Bank have found that "a one percentage point increase in the proportion of residents with a college degree is associated with a 2.3 percent increase in metropolitan-area GDP per capita." They cite two explanations for the powerful link between human capital and economic growth.

First, human capital increases individual-level productivity and idea generation. Second, the concentration of human capital within a region facilitates knowledge spillovers, which further enhance productivity and fuel innovation.[4]

Even non-college educated workers benefit from these spillover effects. University of California economist Enrico Moretti has shown that "the earnings of a worker with a high school education rise by about 7 percent as the share of college graduates in his [metropolitan area] increases by 10 percent."[5]

Students and alumni

In the fall of 2011, a total of 12,004 students were enrolled at Notre Dame, including 8,452 undergraduates and 3,552 graduate students. Table 11 shows undergraduate and graduate student enrollment by school.

Table 11: Undergraduate and graduate enrollment by school, fall 2011

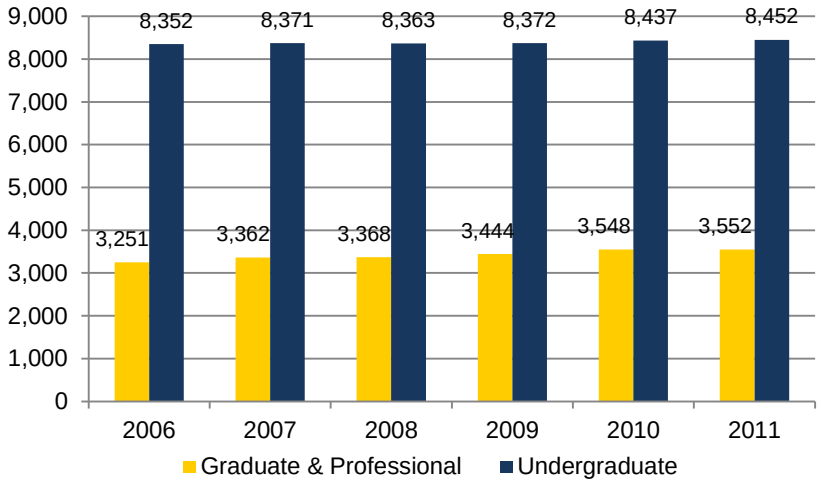
College/School	Enrollment
Undergraduate	
School of Architecture	164
College of Arts and Letters	2,132
Mendoza College of Business	1,894
College of Engineering	986
College of Science	1,229
First Year of Studies	2,039
Non-degree seeking	8
Total Undergraduate enrollment	*8,452*
Graduate & Professional	
School of Architecture	44
Mendoza College of Business	617
College of Engineering	467
College of Science	504
The Graduate School	1,288
The Law School	589
Non-degree seeking	43
Total Graduate enrollment	*3,552*
Total School Enrollment	***12,004***

As shown in Figure 11, between the fall of 2006 and the fall of 2011, total enrollment at the University grew by 3.45 percent—an increase of 401 students. During the same period, graduate and professional student enrollment grew by nearly 9.3 percent (301 students); and undergraduate student enrollment grew by about 1.2 percent (100 students).

[4] Jaison Abel and Todd Gabe, "Human Capital and Economic Activity in Urban America," Federal Reserve Bank of New York, staff report no. 332, July 2008, pp. 1-2.

[5] Enrico Moretti, *The New Geography of Jobs* (Houghton Mifflin Harcourt, 2012), p. 98.

Figure 11: Undergraduate and graduate enrollment, fall 2006 – fall 2011



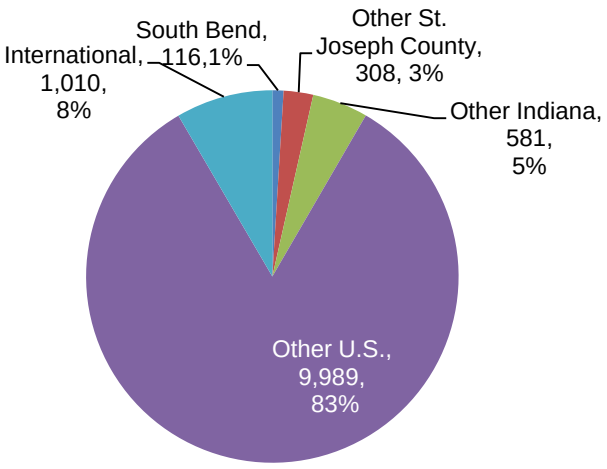
Enrollment growth was particularly strong in:

- The College of Engineering, where combined undergraduate and graduate enrollment grew by 24 percent between the fall of 2006 and the fall of 2011;
- The College of Science, with combined enrollment growth of 19 percent; and
- The Mendoza College of Business, where combined enrollment grew by 13.6 percent.

Where Notre Dame students come from – and where alumni live

As shown in Figure 12, of all those enrolled in the fall of 2011, about 4 percent (424 students) were residents of St. Joseph County, and about 5 percent (581 students) were from elsewhere in Indiana. A little more than 83 percent of all students (9,989) were from elsewhere in the U.S.

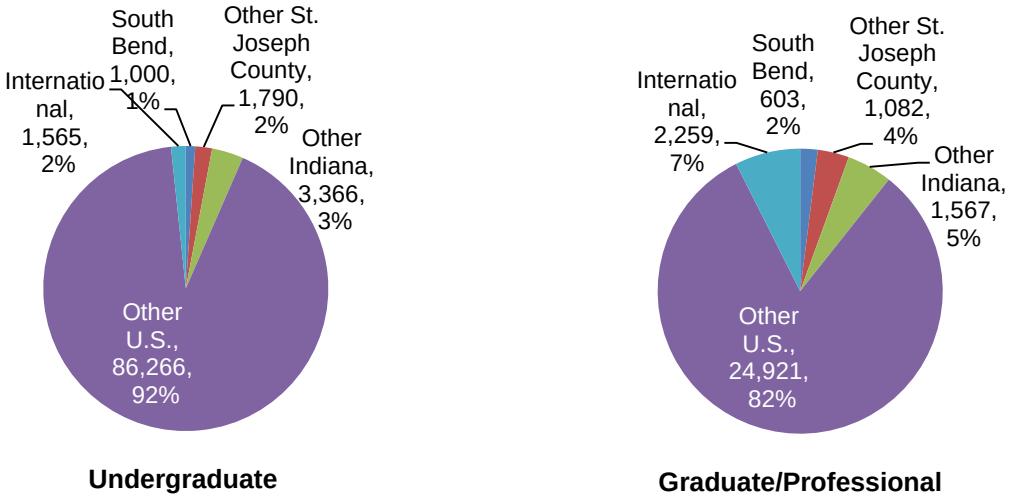
Figure 12: Total enrollment by student's place of residence, fall 2011



Between the fall of 2005 and the fall of 2011, international student enrollment at Notre Dame grew by nearly 9 percent to 1,010 – 8 percent of total enrollment. International students accounted for 4 percent of total undergraduate enrollment, and 18 percent of all graduate and professional enrollment.

As shown in Figure 13, as of the summer of 2012, of the 93,987 Notre Dame undergraduate alumni for whom current addresses are known, 2,790 (3.0 percent) lived in St. Joseph County; and an additional 3,366 (3.6 percent) lived elsewhere in Indiana. As of the same time period, of the 30,432 Notre Dame graduate alumni for whom current addresses are known, 1,685 (5.5 percent) lived in St. Joseph County; and an additional 1,567 (5.1 percent) lived elsewhere in Indiana.

Figure 13: Notre Dame alumni by place of residence, summer 2012



Undergraduate **Graduate/Professional**

Although most students come to Notre Dame from outside the South Bend area and leave after they graduate, the University is still a significant contributor the area's college-educated workforce. Based on 2011 ACS data, we estimate that about 9.8 percent of all residents of St. Joseph County with bachelor's or higher degrees (4,475 out of 45,770) received one or more degrees from Notre Dame.

In addition to educating students who stay in the South Bend area after graduation, Notre Dame contributes to the development of the region's human capital by attracting highly-educated faculty members, researchers and professional staff from elsewhere in the U.S. – and increasingly, throughout the world. University faculty and staff add to the region's talent pool, expand and strengthen its ties to other regions and other countries around the world, and contribute to the vitality of the local neighborhoods and communities where they and their families live.

Preparing students for a new economy

Education at Notre Dame has long been shaped, in the words of its President, Father John Jenkins CSC, by a commitment to "an unsurpassed undergraduate education that nurtures the formation of mind, body and spirit," and "post-baccalaureate programs that seek to heal, unify and enlighten." At the same time, Notre Dame seeks to ensure that its students are well-prepared for the world that awaits them after graduation.

Notre Dame offers its students a wide range of opportunities to work in fields that over the course of the next several decades are likely to be among the principal drivers of economic growth, both in the U.S. and around the world. Below we highlight just a few of these opportunities.

- Engineering undergraduates can select a concentration in ***Biomolecular Engineering***, focusing on how biologically active molecules interact with both living systems and inanimate chemical systems.

- The College of Engineering's bachelor's program in ***Computer Science*** prepares undergraduate engineering students with the knowledge and skills necessary to design, implement and evaluate computer-based systems using mathematical foundations, algorithmic principals and computer science theory. The program offers four different concentrations: Bioinformatics and Computational Biology, Media Computing, IT Leadership and Cloud Computing.

- Notre Dame's College of Science offers bachelor's, master's and doctoral degrees in ***Applied and Computational Mathematics and Statistics***. These programs prepare students to apply the resources and techniques of "big data" to a wide variety of problems, from cancer research to financial crises to improving our understanding of climate change.

- The College of Science offers a minor in ***Sustainability*** that is open to undergraduate students in all of Notre Dame's colleges and programs. The program allows students to integrate a focus on environmental issues into their work in other fields.

- Notre Dame also offers an interdisciplinary minor in ***Energy Studies***. The program aims to give students a basic understanding of energy sources, infrastructure and markets, as well as the political and societal dimensions of energy,

- In 2012, Notre Dame's Department of Economics introduced a new undergraduate major in ***International Economics,*** which seeks to equip students with "both the analytical and cultural skills needed to navigate today's interconnected global economy." The program combines at least eight economics courses with seven to ten courses in foreign languages, culture and history. As of the fall of 2013, language options will include Arabic, Chinese, French, German, Italian, Japanese, Russian and Spanish.

- The University's joint ***MBA/Engineering*** program gives undergraduate engineering students the opportunity to pursue an MBA degree and a B.S. degree in engineering

through a curriculum that integrates management and engineering. The first three years of the dual program focus on engineering, followed by a fourth year focused only on the MBA and a final fifth year during which the student takes courses for both degrees.

- In 2012, the College of Engineering, the College of Science and Notre Dame Law School launched a one-year professional master's degree program in ***Patent Law***, aimed at preparing students who have undergraduate degrees in science or engineering to work as registered patent agents.

- The College of Science's new cross-departmental ***Integrated Biomedical Sciences*** Ph.D. program, launched in the fall of 2013, offers students the opportunity to engage in biomedical research and training as part of one of the program's seven "thematic research and training clusters" that combine research being done across the College's different departments and disciplines, including work that is being done in collaboration with the Indiana University School of Medicine – South Bend. The research clusters focus on a variety of different topics, from genomics, cancer biology and immunology and infectious diseases to chemical biology and molecular pharmacology.

- Also starting in the fall of 2013, Notre Dame and the Indiana University School of Medicine – South Bend will offer a dual degree program, combining an MD degree from IUSM with an MS in Global Health from Notre Dame.

Through these and many other programs, Notre Dame helps ensure that its students are prepared to address the challenges of a fast-changing economy.

The value of a Notre Dame degree is reflected in survey data on the labor market experience of undergraduate students after graduation. Six months after graduation, 54 percent of survey respondents who graduated in 2011 were employed full-time; and only 2 percent were unemployed but looking for work. Of the remainder, 30 percent were in graduate or professional school, 9 percent were participating in some type of community service program, and 3 percent were in military service.[6]

The value of a Notre Dame undergraduate education is also reflected in the earnings of recent graduates. As Table 12 shows, the median earnings of 2011 graduates six months after graduation ranged from $45,000 for graduates of the College of Arts and Letters and the School of Architecture to $63,000 for Engineering graduates.

[6] University of Notre Dame Career Center, *Future Plans Survey* 2012

Table 12: Median salary of employed Notre Dame graduates (class of 2011) after six months

College	Median salary
Arts and Letters	$45,000
Architecture	$45,000
Science	$51,000
Business	$57,000
Engineering	$63,000

The economic advantages of a Notre Dame education are not limited to new graduates. In Payscale's annual ranking of U.S. colleges and universities in terms of the mid-career salaries of their graduates, Notre Dame tied for 13th place with Harvard, Dartmouth and Colgate, with an average mid-career salary of $111,000.[7] Payscale ranked Notre Dame behind Princeton, Cal Tech, MIT, Stanford and several other institutions on this score – but ahead of Yale, Columbia, the University of California, Duke and many other leading universities.

Living and working in a global community

One of the challenges confronting today's undergraduate and graduate students will be living and working in a world that is in many ways becoming more and more integrated year by year. Notre Dame has long been a leader in providing students with opportunities to experience first-hand the global context of their work. The University offers year-long, semester-long and summer programs at 45 locations in twenty countries. Locations available to students include:

- Global gateway facilities – centers for Notre Dame's international programs in London, Dublin, Rome and Beijing, and the Tantur Center for Ecumenical Studies, near Bethlehem.

- Partner institutions with which Notre Dame has ongoing, multidimensional relationships – examples include:

    - University College Dublin
    - Universidad Iberoamericana, Puebla, Mexico
    - Pontifica Universidad Catolica, Santiago, Chile
    - University of Western Australia, Perth

- Universities with which Notre Dame has ongoing student exchange programs, such as Hong Kong University.

- Study abroad programs at other institutions operated by other U.S. universities or by organizations such as the Council for International Educational Exchange.

[7] http://www.payscale.com/college-salary-report-2013

The University's commitment to international learning is evident in data on student participation. During the 2011-2012 academic year, 767 undergraduate students spent at least one semester studying abroad. In addition, 266 undergraduate students participated in summer study abroad programs. Among all those who were awarded bachelor's degrees in that year, 39 percent (about 800 students) had spent at least a semester abroad.

Overall, Notre Dame ranked ninth among U.S. doctoral universities in 2010-2011 in terms of the percentage of undergraduate students who participated in study-abroad programs (59.7 percent).[8]

Along with the opportunities the University provides to study abroad, Notre Dame students also benefit from living with and learning alongside fellow students who come to South Bend from other countries. In the fall of 2011, 1,010 international students were enrolled at Notre Dame – about 8.4 percent of total enrollment, and an increase of about 8.6 percent in international student enrollment since the fall of 2005.

Learning through experience

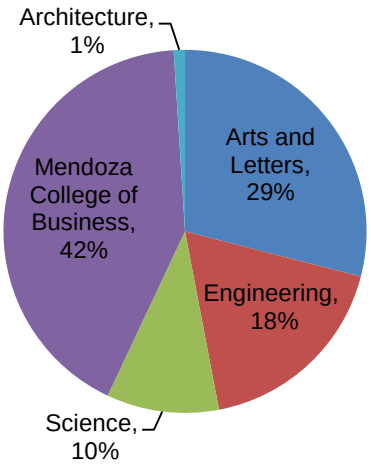
Experiential learning plays an important role in undergraduate education at Notre Dame. Programs that combine practical experience with academic learning can take several forms, including participation in research projects (discussed in Part Five), community-based learning (discussed in Part Seven) and internships.

In part because of the extent and intensity of Notre Dame students' academic commitments during the regular school year, most undergraduate internships occur during the summer. According to the University's 2012 Summer Internship Survey, 1,590 undergraduates reported that they had participated in some type of internship during the summer of 2012.

As Figure 14 shows, students in the Mendoza College of Business accounted for the largest share of summer internships (42 percent), followed by Arts and Letters (29 percent) and Engineering (18 percent).

[8] Institute of International Education, *Open Doors 2012*.

Figure 14: Notre Dame students participating in summer internships by college, summer 2012



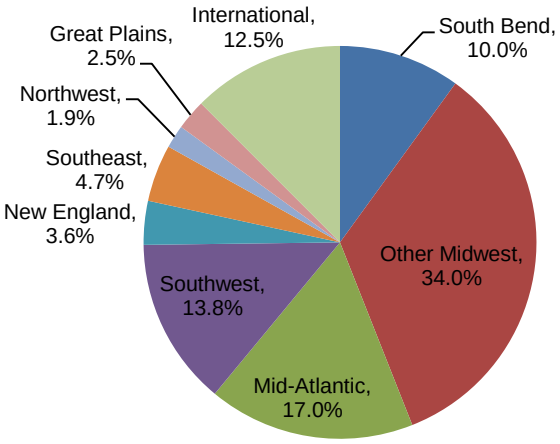
We estimate that 35 percent of all undergraduate Business students participated in an internship during the summer of 2012, 29 percent of all Engineering undergraduates, and 22 percent of all undergraduates in Arts and Letters.

The settings in which summer interns work are quite diverse. They include major corporations, financial institutions and professional service firms (especially for business, engineering and architecture students), public agencies, non-profit organizations and universities (including Notre Dame). About 69 percent of all summer internships in 2012 were paid positions; 18 percent were unpaid, volunteer positions; and in about 13 percent of all internships, students were unpaid but received academic credit for their work.

In the summer of 2012, 156 summer interns (nearly 10 percent of the total) worked in the South Bend area. They included 115 who worked for Notre Dame and its affiliates (such as the Robinson Community Learning Center), and 41 who worked for other local organizations and businesses, including the American Red Cross, Catholic Charities, the South Bend Heritage Foundation, the City of South Bend, Indiana University School of Medicine, Notre Dame Federal Credit Union, Inovateus Solar and Buccellato Design.

As shown in Figure 15, another 34 percent of all internships were located elsewhere in the Midwest, and 21 percent in New England and the Mid-Atlantic states. Consistent with growing student interest in international education and experience, 200 summer interns (12.5 percent of the total) worked outside the U.S. in 2012. Between 2007 and 2012, the number of Notre Dame students with internships outside the U.S. more than doubled.

Figure 15: Geographic distribution of Notre Dame student internships, summer 2012



As student interest in internships has grown, so has the assistance that Notre Dame provides to students seeking them. The University's Career Center assists students in the process of finding internships, and in some cases provides financial assistance as well – up to $3,000 for students taking unpaid summer internships, and up to $1,000 for paid interns. For students who need help in covering their expenses, this assistance can sometimes be the difference between taking and not taking an internship.

Executive education

In addition to its regular degree programs, Notre Dame offers a variety of executive education programs.

- Both on the South Bend campus and in Chicago, the Mendoza College of Business offers an Executive MBA program for working executives. During 2011-2012, 128 students participated in the program.

- The Mendoza College of Business has offered a master's degree in Non-Profit Administration since 1954. The oldest and one of the highest-rated programs of its type in the U.S., it combines intensive on-campus summer sessions with distance learning during the rest of the year. Each year, about 30 students enroll in the program.

- Mendoza also offers shorter executive education programs, both on an open-enrollment basis and for specific companies or organizations. During fiscal year 2012, 254 students participated in open-enrollment programs; and the College delivered 20 company-specific programs, with a total of 433 participants.

- The College also offers several on-line certificate programs in areas such as negotiation and intercultural management.

These programs allow the University to bring its strengths in management education to a wider audience, both in the South Bend area and beyond.

The University's most important product

As noted above, Notre Dame seeks to provide "undergraduate education that nurtures the formation of mind, body and spirit," and "post-baccalaureate programs that seek to heal, unify and enlighten," and at the same time to ensure that its students are well-prepared for the opportunities and challenges that await them after graduation. Indicators such as the percentage of entering students who graduate, the percentage of graduates employed within six months after graduation, and the percentage who enroll in graduate and professional degree programs all indicate that Notre Dame is succeeding in that goal.

While most Notre Dame students do not stay in the South Bend area after they graduate, those who do make up a significant fraction of the area's college-educated population. Both through their own increased earning power and through the spillover effects that a college-educated workforce creates, Notre Dame graduates are helping to build a stronger economy in the South Bend area and beyond.

Part Five: The impact of University research

Since at least the 1950's, scientific discovery and technological innovation have been among the most important sources of economic growth in the U.S. and America's research universities play an important role in this process. Universities – with strong financial support from the federal government – account for about 55 percent of all spending on basic scientific research in the U.S.,[9] and are playing an increasingly active role in the translation of new knowledge into new products and services, new businesses and new jobs.

One of the most notable trends at Notre Dame during the past decade has been the growth of the University's research enterprise. This growth contributes in several ways to the ongoing renewal of South Bend's (and the region's) economy.

- Each year, Notre Dame attracts millions of dollars in federal and other external research funding – most of which is spent in the South Bend area.
- Research conducted by University faculty, staff and students expands the boundaries of knowledge in areas that in the years ahead are likely to be continuing sources of innovation and economic growth.
- Opportunities to participate in significant research projects enhance the education of Notre Dame students – and the ability of the University's graduates to participate in the continued development of the region's economy.
- The "intellectual capital" created by Notre Dame researchers provides a foundation for the creation of new products and services, new businesses, and new jobs.

This part of the report addresses all but the last of these four dimensions of University research; technology transfer and new business development are discussed in Part Six.

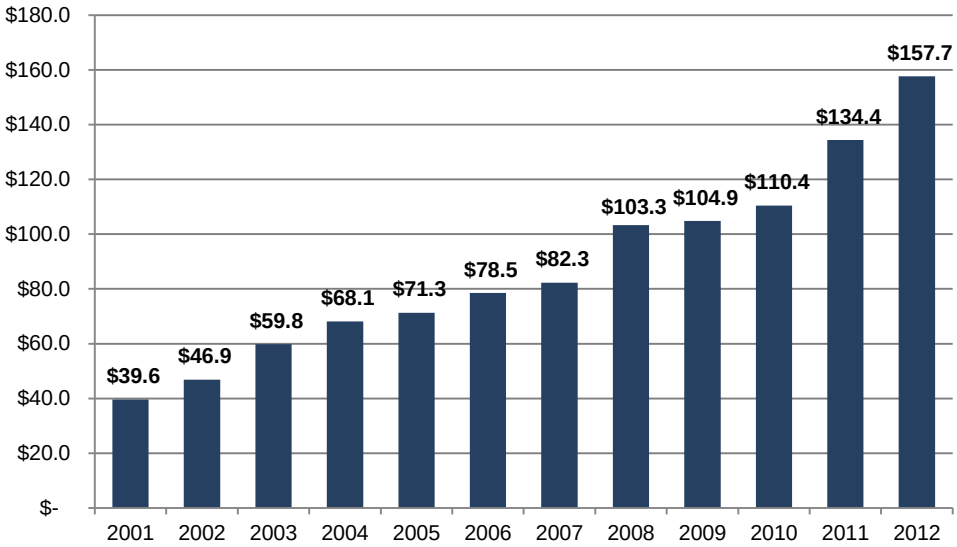
A growing research enterprise

Between fiscal year 2007 and fiscal year 2012, research spending at Notre Dame grew by 92 percent, to $157.7 million. This continued a pattern of strong growth that began earlier in the decade; since 2001, Notre Dame's research spending has grown nearly four-fold.

According to NSF's Higher Education R&D Survey, Notre Dame ranked 126th among U.S. universities in total research spending in 2011, up from 143rd in 2007. Among universities that do not have a medical school, Notre Dame ranked 45th, up from 52nd in 2007.

[9] The Science Coalition, *Sparking Economic Growth*, April 2010, p. 3.

Figure 16: University of Notre Dame research spending, FY 2001 – FY 2012 ($ millions)



As shown in Figure 17, the federal government is Notre Dame's leading source of research funding, accounting for 53 percent (nearly $83.3 million) of total research expenditures in fiscal year 2012. Private foundations and corporate partners accounted for 12 percent (almost $19.9 million), and state and local government accounted for less than 1 percent.

Internal funding accounted for 34 percent ($53.6 million) of Notre Dame's research spending. While federally-funded research spending grew by 53 percent between fiscal years 2007 and 2012 (in itself a sign of the University's success in competing for federal funds), corporate and foundation funding grew by 64 percent.

Figure 17: University of Notre Dame research spending by source of funding, FY 2012

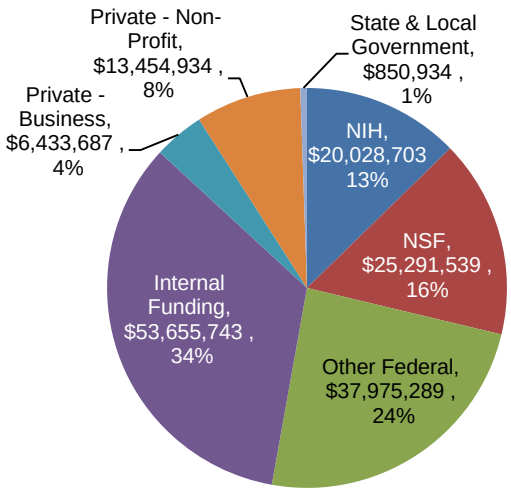
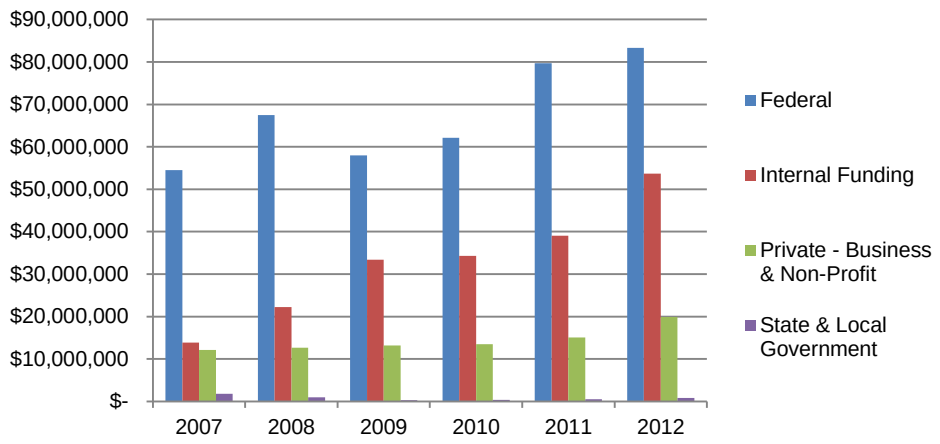


Figure 18: Trend in University of Notre Dame research spending by source of funding, FY 2007 – FY 2012



Notre Dame's Strategic Research Initiative (SRI) has played a central role in the growth of internally-funded University research. In 2008 Notre Dame committed $80 million to investments in new research initiatives in selected areas, including nanoelectronics, sustainable energy, environmental change and global health. Funds were used to provide additional research support for faculty members, to hire new faculty and to purchase needed equipment.

The dramatic increase in Notre Dame's internally-funded research spending is important for several reasons – both for the University and for the local economy.

- The increased commitment of internal resources enabled Notre Dame to continue the growth of its research enterprise throughout the recession – and now, to keep doing so even as overall federal funding for university research has begun to decline. The local economy benefits from this increase in spending.

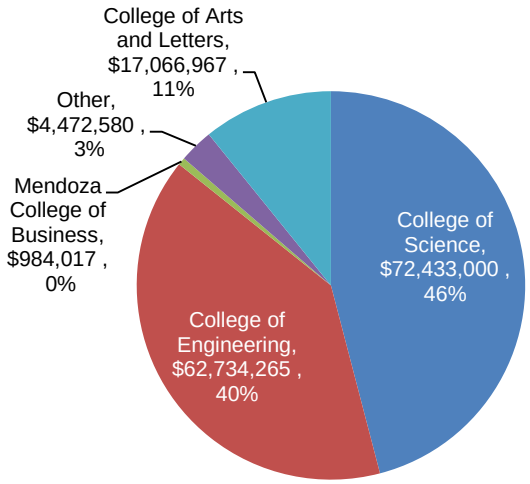
- The commitment of internal funding for early-stage work in emerging areas of research has enabled the University to compete more effectively for new (and in some cases large-scale) federal funding in these areas.

- Internal funding can be particularly useful in helping the University attract the most talented faculty members, researchers and graduate students in high-priority areas – which in turn enhances Notre Dame's ability to compete for funding from federal and other external sources.

- Just as it can help incubate new research projects before external funding becomes available, internal funding can also support the additional work that is often needed to advance promising new technologies to a stage at which they can begin to attract private investment.

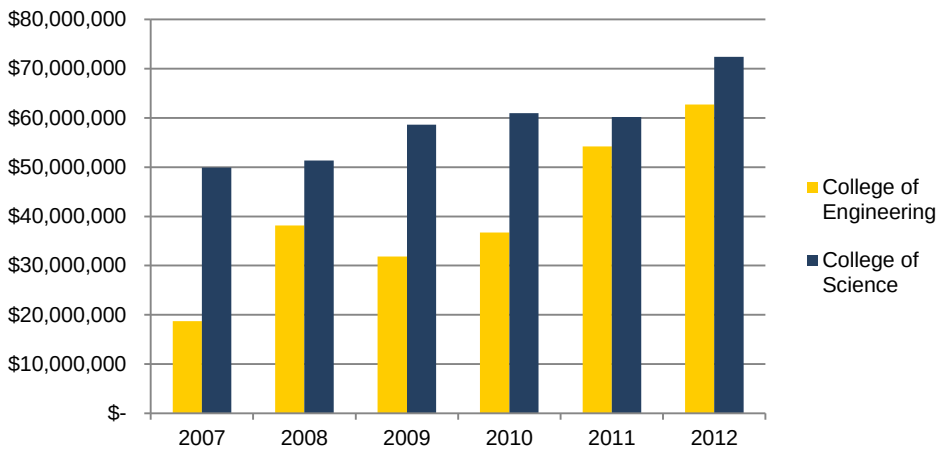
As Figure 19 shows, the College of Science led the University in research spending with $72.4 million in fiscal year 2012 – 46 percent of total research spending. The College of Engineering ranked second at $62.7 million – 40 percent of total spending. The College of Arts and Letters was also a contributor to Notre Dame's research enterprise, accounting for approximately 11 percent ($17.1 million) of all research spending in fiscal year 2012.

Figure 19: University of Notre Dame research spending by college, FY 2012



Between fiscal years 2007 and 2012, several Notre Dame colleges showed significant growth in research spending. As Figure 20 shows, the College of Engineering more than tripled its total research spending (235.4 percent growth) and research spending at the College of Science grew by 45 percent. In addition, research spending at the Mendoza College of Business grew by 93 percent between fiscal years 2007 and 2012; and at the College of Arts and Letters by 63 percent.

Figure 20: Trend in research spending for selected University of Notre Dame colleges, FY 2007 – FY 2012



Research at Notre Dame: A force for good

Behind the growth of Notre Dame's research enterprise has been the University's overarching commitment to being "a force for good in the world." In the context of this commitment, increasing research funding is not simply a means to grow the University; it provides the resources the University needs to have a positive impact.

With this emphasis on impact has come a heightened focus on research aimed at addressing some of the world's most pressing problems. Some of this research is being done in areas in which ND has long-established strengths – and some in areas in which the University's strengths are of more recent vintage.

- The University's ***Institute for Flow Physics and Control (Flow PAC)***, established in 2002, builds on more than a century of research in aerodynamics at Notre Dame. Among other projects, Flow PAC researchers are working on design changes that can increase the efficiency of aircraft engines, resulting in significant reductions in fuel consumption, greenhouse gas emissions and engine noise.

  Since 2010, the Institute's expertise in air flow physics and control has also been applied to the field of wind power. Its ***Lab for Enhanced Wind Energy Design (eWIND)*** is working to improve the efficiency of wind turbines, aimed at increasing their effectiveness in capturing the power of the wind and at the same time improving their durability. The Lab's facilities include two wind turbines that were installed in 2012 at White Field, the site of one of the Institute's research facilities.

- The ***Midwest Institute for Nanoelectronics Discovery (MIND)***, a collaborative research center led by Notre Dame and including researchers from Penn State, Purdue and the University of Texas-Dallas, is one of four university centers funded by the Semiconductor

Research Corporation's Nanoelectronics Research Initiative (NRI). The goal of NRI is to develop new devices that can replace the complementary metal oxide semiconductor (CMOS) transistor as a logic switch. CMOS technology has over the years supported dramatic increases in computing power, but within a few years is likely to reach its physical limits.

MIND researchers at Notre Dame and Penn State have responded to this challenge by developing *tunneling field-effect transistors* (TEFT). These new transistors operate at significantly lower voltage, thus reducing the energy consumption. Further work on TEFT technology is now under way at semiconductor industry R&D labs both in the U.S. and elsewhere.

- Following on the success of MIND, the Semiconductor Research Corporation and the federal Defense Advanced Research Projects Agency (DARPA) in January 2013 announced a five-year award of $30 million to a new Notre Dame-led, multi-university microelectronics research center, the ***Center for Low-Energy Systems Technology (LEAST)***. One of six new SRC-DARPA research centers that together make up the Semiconductor Technology Advanced Research Network (STARNet), LEAST explores the physics of new materials and devices, with the goal of developing more energy-efficient integrated circuits and systems.

- The ***Center for Sustainable Energy @ Notre Dame (cSEND)*** is a multi-disciplinary research center created in 2010 that focuses on making nuclear power safer, developing cleaner fossil fuel technology, and developing functional nanomaterials that can be used to improve the efficiency of solar energy cells.

- Notre Dame's ***Environmental Change Initiative***, launched in 2010, focuses on the interrelated problems of climate change, land use and invasive species, and their combined impact on water resources. ECI seeks "to provide solutions that minimize the trade-offs between human welfare and environmental health where trade-offs are inavoidable, and to discover win-win solutions where they are possible."

- Researchers at the ***Mike and Josie Harper Cancer Research Institute***, a collaboration between Notre Dame and the University of Indiana School of Medicine South Bend, seek to understand the causes of and to develop more effective treatments for cancer. They work in areas such as cancer genomics, tumor detection, computational modeling, drug development and behavioral oncology. HCRI researchers have, for example, developed a new diagnostic technology that could provide a basis for early detection of certain types of oral cancer, at much lower cost than existing tests.

- The University's ***Eck Institute for Global Health***, established in 2009, is a university-wide institute that seeks to promote research, training and service to advance health standards, especially for people in low-and middle-income countries, who are disproportionately impacted by preventable diseases.

The study of tropical infectious diseases and the biology of their arthropod vectors has a long history at Notre Dame. The Institute's ***Center for Rare and Neglected Diseases*** focuses on neglected diseases in the U.S. and elsewhere, and supports programs in discovery and development of treatments for an infectious (malaria and TB) and rare diseases.

- The ***Joint Institute for Nuclear Astrophysics (JINA)*** is a collaborative research center housed and led by Notre Dame, in partnership with Michigan State University and the University of Chicago. One of ten NSF Physics Frontier Centers, JINA seeks to foster interdisciplinary research in the areas of nuclear physics, astrophysics and astronomy. In 2011, the University's Nuclear Science Laboratory—one of JINA's core research laboratories—acquired a new nuclear particle accelerator through a $4 million NSF grant to further expand JINA's research program; it is the first nuclear accelerator NSF has funded in nuclear physics in almost 25 years. Since its founding in 2002, JINA has expanded into a multinational research center with participating institutions from the U.S., Europe, Australia and Brazil.

Notre Dame's research strengths, and its new research initiatives, are not limited to the physical sciences and engineering. For example:

- ***The Kroc International Institute for Peace Studies***, founded in 1986, is a leading center for study of the causes of violent conflict and of strategies for achieving sustainable peace. Research topics include sources of and responses to ethnic and religious conflicts, nonviolent social and political change and the effectiveness of economic sanctions.

- The ***Lab for Economic Opportunities***, started in the fall of 2012, is a partnership between Notre Dame and Catholic Charities USA that aims to develop more effective strategies and programs for reducing poverty, based on rigorous research. Current research topics include the effectiveness of emergency assistance in preventing homelessness, the effectiveness of high-quality pre-school programs in improving educational outcomes for young children and strategies for improving graduation rates among low-income community college students.

As the examples cited above suggest, one of the keys to the growth of Notre Dame's research enterprise has been its ability to collaborate effectively with a wide range of research partners – locally, throughout the U.S. and in other countries as well.

While economic development may not be a primary purpose of research programs such as those described above, they all contribute to the continued development of the knowledge base on which economic growth and expansion of economic opportunity are built.

Undergraduate research at Notre Dame

Student participation in faculty research has long been a hallmark of graduate education in the U.S. – and this is no less true at Notre Dame than at other major research universities. Notre Dame, however, is also notable for the extent to which the opportunity to collaborate in faculty research projects (or to undertake their own) is available to undergraduate students as well.

Whether or not they plan to pursue graduate studies or careers in science, undergraduates benefit in several ways from participation in research projects. They develop skills in "active learning" that are applicable in many other settings, and get to explore a topic of interest to them in greater depth than they can in classroom courses. And they gain valuable experience in working as part of a team – in collecting, organizing and analyzing data – and in communicating the results of their work.

Below we cite several examples of programs through which Notre Dame supports undergraduate research.

- The ***Center for Undergraduate Scholarly Engagement (CUSE)*** promotes and supports student involvement in research and creative endeavors. Through CUSE, students can apply for grant funding for a variety of different types of projects. They may be student- or faculty-initiated, but all are typically done under the guidance of a faculty mentor. In addition, the Center's online URND Undergraduate Research Connection system allows undergraduates and faculty to connect and find available on-campus research opportunities.

- Undergraduate students at Notre Dame have the opportunity to pursue independent research and creative projects through the ***Undergraduate Research Opportunity Program (UROP)*** offered through the University's Institute for Scholarship in the Liberal Arts. UROP provides both academic year grants, which can be used to fund independent research, creative projects, or the presentation of student research at conferences, and summer grants for research and creative projects pursued during the summer.

  Academic year grants are available up to $1,750 for research and materials, up to $2,250 for senior theses, and up to $1,500 for conference presentations. Summer grants are available for up to $1,500 per month, for a maximum of three months.

- Through the Graduate School's ***Research Experiences for Undergraduates (REU)*** programs, undergraduate students have the opportunity to gain research experience working on-campus with Notre Dame faculty during 10-week programs that take place during the summer. The REU programs, which are open to undergraduates from any university (not just Notre Dame), include programs in the areas of scientific cloud computing, experimental research on wireless networking, physics, cell bio, computational science, chemistry, biochemistry and biology and nanotechnology.

- In addition to a variety of on-campus undergraduate research opportunities available during the academic year, the College of Science also offers sophomore and junior students enrolled in the College of Science the opportunity to participate in the ***Summer Undergraduate Research Fellowships (SURF)*** program—offered with support from donors and in collaboration with Indiana University School of Medicine—South Bend and Harper Cancer Research Institute. Fellows participate in 9-10 week full-time research projects mentored by a Notre Dame College of Science faculty member during the summer while participating in campus workshops and other events and then give a formal presentation of their research at either a scientific conference or symposium during the following academic year. The program, which rewards fellows with a $4,000 stipend and $500 for supplies, will support at least 40 Notre Dame undergraduate science students to engage in summer research in 2013.

- During the academic year, each department in the College of Engineering offers hands-on research opportunities for undergraduates. In some cases students work as paid research assistants; and in others they can earn academic credit for their work.

- Students enrolled in the Mendoza College of Business have a variety of undergraduate research opportunities including the for-credit course ***Research: Foresight in Business & Society*** and a variety of faculty research assistantship opportunities in accounting, finance, management and marketing.

- Undergraduate students enrolled in the Colleges of Engineering, Arts and Letters, or Science interested in pursuing an interdisciplinary research or creative project during the summer may apply for funding through the ***Da Vinci Grant Program***. Students may apply as teams or alone and may design their own independent projects or propose a project related to their faculty mentor's research. The grant provides up to $4,500 per student for use for travel, living expenses and the purchase of research materials.

- The Kellogg Institute for International Studies' ***International Scholars Program (ISP)*** provides opportunities and funding for students to learn how to undertake scholarly research as faculty assistants, to undertake their own primary research in developing countries, and to write senior theses.

Increased support for undergraduate research, along with wider recognition among students of the value of research experience, has led in recent years to steady growth in the number of undergraduates engaged in research. In the College of Science, for example, the percentage of graduating seniors who complete senior thesis research projects has grown from 18 percent for the class of 2008 to 50 percent for the class of 2013.

Doing good and driving growth

Notre Dame's experience shows that university research can be a powerful force for good, and at the same time provide a source of growth in the local economy. The next part of the report examines several ways in which the University supports the translation of new knowledge into renewed economic growth.

Part Six: Business Development

The growth of Notre Dame's research enterprise has a direct impact on the economy of the South Bend area. Increased research funding supports the hiring of additional faculty, other researchers and support staff, and the growth of graduate student enrollment – all of which translates directly into increased local spending.

Over time, however, the University's research enterprise can have an even greater impact on the local economy. By serving as a source of new knowledge, ideas and innovations, and through its role in the development of human capital, University research can fuel the development of new products and processes and the creation of new businesses and jobs.

The translation of new knowledge into new products, businesses and jobs does not, however, occur automatically. It requires the creation of an environment – both within the University and in the surrounding community – that encourages faculty members, students, alumni, entrepreneurs and investors to collaborate in that process. This part of the report describes some of the multiple ways in which Notre Dame is helping to develop this kind of "entrepreneurial ecosystem" in the South Bend area and beyond. We focus in particular on:

- Notre Dame's technology transfer program;
- University support for the further research and development work that is often needed to bring new technologies to a stage where they can begin to attract outside investment;
- Programs that are educating the next generation of entrepreneurs;
- Innovation Park at Notre Dame – a development that since it opened in 2009 has become a highly visible hub for Notre Dame's entrepreneurial ecosystem; and
- Companies started by University faculty, staff, students and alumni.

Technology transfer at Notre Dame

Like other research universities, Notre Dame maintains a formal process for moving the products of University research that may have commercial or other practical value from the lab to the marketplace. The University's Technology Transfer office is responsible for identifying new technologies that may have commercial potential, applies for patents, and connects with businesses (either established companies or new ventures) that might be interested in licensing these technologies for commercial use.

By several measures, the level of technology transfer activity at Notre Dame rose significantly between fiscal years 2002 and 2012.

- The number of inventions reported to the Technology transfer Office by University researchers more than tripled, from 17 to 55;
- The number of patent applications filed rose from 7 to 14;
- The number of patents awarded from 4 to 12; and

- The number of licensing agreements executed rose from 4 to 10.

North central Indiana companies that have in recent years licensed technologies first developed at Notre Dame include:

- ***F Cubed LLC***, South Bend – founded in 2008, F Cubed has developed a "lab-on-a-chip" technology that can provide fast, on-site testing for the presence of E. coli and other harmful bacteria in drinking or recreational waters.

- ***Indiana Integrated Circuits***, South Bend – IIC, founded in 2009, is using its patented chip interconnection and packaging technology, called Quilt Packaging, to greatly improve the performance of integrated circuits.

- ***Emu Solutions***, South Bend – Emu's "enhanced memory utility" technology is designed to provide much more efficient high-speed processing of "big data." The company was founded in 2010.

- ***U.S. Nano***, a maker of semiconducting nanowires for use in nanoelectronics, solar energy and chemical and biological sensors. The company was co-founded by a Notre Dame faculty member in 2011.

Supporting the transition from the lab to the marketplace

University researchers often find that even the most promising new technologies need further work before they can be developed for commercial purposes, and before they can begin to attract outside investment. Notre Dame's ***Proof of Technology Demonstration Center*** was created in 2011 to help bridge this gap. The Center provides three or four grants each year (typically in the range of $35,000 to $100,000) to University researchers to build prototypes, perform additional testing, etc. Of the seven grants awarded as of the spring on 2013, four had already resulted in University technologies being licensed for commercial purposes.

Established in 2010 through a $1 million gift from 1st Source Bank, the annual ***1st Source Commercialization Award*** is presented to a Notre Dame faculty member (including those affiliated with the Indiana University School of Medicine – South Bend) who has succeeded (or is likely to succeed) in commercializing a new technology. In addition to the $20,000 award, the 1st Source gift also funds an annual lecture series or symposium on technology commercialization, featuring experts in university technology transfer, commercialization and company formation.

Developing the next generation of entrepreneurs

Universities contribute to the development of new businesses by helping students acquire knowledge and develop the skills they will need to succeed as entrepreneurs. Notre Dame offers its students a variety of opportunities to do so.

- The Mendoza College of Business offers an ***undergraduate major in entrepreneurship***, with required courses in areas such as new venture funding, innovation and design, business problem solving and social entrepreneurship, and a final-year business plan competition.

- Mendoza also offers an ***MBA concentration in entrepreneurship***, with advanced courses in areas such as launching new ventures, commercialization analytics, and fundamentals of venture capital financing.

- The ***Gigot Center for Entrepreneurship*** offers a wide range of programs and services for Mendoza students with an interest in this area. The Center's services include entrepreneurship training, mentoring and networking assistance for aspiring entrepreneurs.

- The Center also sponsors the annual ***McCloskey Business Plan Competition***, in which ventures that have not yet launched (or are in the earliest stages of launch) 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.

  The competition begins during the fall semester with submission of initial business concepts, and along the way provides assistance in developing more detailed business plans. It concludes in April with a University venture fair and awarding of prizes. In 2012-2013, 148 teams of aspiring Notre Dame entrepreneurs participated in the program.

- In 2009, Notre Dame launched its ***Engineering, Science and Technology Entrepreneurship Excellence Master's (ESTEEM)*** program, 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 2012-2013, 32 students were enrolled in the program.

- In 2013, the University announced creation of a new $3.5 million ***Irish Innovation Fund,*** which will provide seed-stage investments in new ventures led by Notre Dame undergraduate or graduate students. Funds will be awarded on a competitive basis, with competing proposals reviewed by ESTEEM students.

Innovation Park at Notre Dame

In the fall of 2009, Notre Dame opened the first building planned for Innovation Park at Notre Dame (IP@ND), a 12-acre site directly across from the University campus. The primary purpose of the 55,000 square-foot building is to serve as an accelerator for new businesses, including some that have roots at Notre Dame as well as others attracted by the advantages that proximity to the University offers. The building includes office, meeting and lab space, along with an "entrepreneurial greenhouse," shared space where University students can work on the

development of new business ventures. Several Notre Dame programs, including ESTEEM, also have space in the building.

Since its opening in 2009, several start-up businesses have "graduated" from IP@ND. They include:

- ***F Cubed LLC*** (described previously), a start-up based on technology licensed from Notre Dame. In 2012, the company moved from IP@ND to Hillcrest Hall – the former St. Joseph's High School in South Bend, which was bought by the University in 2012.

- ***Data Realty***, a firm that provides data center services to mid-sized companies. Data Realty's headquarters is in South Bend, and it is building a new 50,000 square-foot data center in Ignition Park – a business and technology park that is being developed by the City of South Bend on a 140-acre property that was once the site of Studebaker Corporation.

- ***Nexus RV***, a direct-sale manufacturer of recreational vehicles. The company graduated from IP@ND in 2010 and is now located in Elkhart, Indiana.

IP@ND currently serves about 25 client companies. They include tenants at Innovation Park, as well as some companies that utilize IP@ND services but are located elsewhere. Indiana Integrated Circuits, U.S. Nano and Emu Solutions (described above) are all IP@ND tenants; other examples include:

- ***Ionic Research Technologies***, founded in 2011 by a team of Notre Dame faculty members, specializes in the development of ionic liquids for use in a variety of energy-related applications.

- ***Oak Financial Software***, founded by a University faculty member in 2012, provides a set of on-line products and services designed to improve Hispanic consumers' access to financial services.

- ***Medical Multimedia Technologies*** provides animations, visual displays and other graphic art for the medical industry.

- ***Graham Allen Partners***, founded by a Notre Dame alumnus, invests in early-stage, high-growth technology businesses, providing funding, incubator and management services.

- ***3 Circle Growth***, founded by two University faculty members, provides a model for building growth strategy using a Software-as-a-Service platform that helps guide clients in determining strategic and tactical plans to help build customer satisfaction.

As of the spring of 2013, IP@ND client companies together employed approximately 90 people.

Other companies with roots at Notre Dame

Formal licensing of University technologies and space, support and services provided by IP@ND are not the only mechanisms by which the intellectual and human capital developed at Notre Dame are translated into new businesses and new jobs. Faculty members, alumni and students have also contributed to the growth of the entrepreneurial economy, both in the South Bend area and beyond.

Companies founded by University faculty members or graduates have a long history in the region. Crowe (an accounting firm founded in 1942) and Press Ganey (a consulting firm founded in 1985) both rank among the largest private employers in St. Joseph County; and Enzyme Research Laboratories and Omicron Biochemicals were pioneers in the development of the region's life sciences sector. Since 2000, however, the pace of entrepreneurial development appears to have accelerated. In addition to the examples cited above, companies in North Central Indiana founded by faculty, students or alumni include the following:

- ***Better World Books,*** located in Mishawaka, was started by three University graduates in 2003, based on a business plan that had won that year's McCloskey Business Plan Competition in the social venture category. The company accepts donated books and either sells them or ships them to countries and organizations that need them. In ten years, it has grown to become one of the largest on-line sellers of used books, with $60 million in annual revenues and 400 employees, including 200 in the South Bend area.

- ***Scientific Methods, Inc***, founded in 2003, conducts research in environmental microbiology. The firm is located in Granger and has 7 employees.

- ***Global Access Point***, founded in 2003 by a Notre Dame alumnus, provides high-speed telecommunication and digital services through its two carrier hotels. The company offers businesses low cost machine space, connectivity, data transport and other digital services including disaster recovery operations, network security, web hosting, and storage networking through its three off-site data centers and their Global Access Point Network, GAPNet, a regional Wide Area Network. The company has two data centers in South Bend and a third in Indianapolis and has 7 employees.

- ***EmNet***, founded in 2004 by two Notre Dame alumni, develops and designs water collection systems that use novel real time monitoring and real time data analysis and control tools for a wide variety of uses including maximizing wastewater capture, managing sewage overflow events and eliminating infiltration. The company is located in South Bend and has 8 employees.

- ***Lono***, located in South Bend, was founded in 2007 by three Notre Dame students after winning top honors for their business plan in that year's McCloskey Business Plan Competition. The company has developed a durable, lower-cost "aftermarket window

treatment" that allows the user to adjust the level of tinting on a window using a remote control. Located in South Bend, the company has 3 employees.

- ***SorbaShock***, founded in 2007 by a Notre Dame alumnus, manufactures a "safer floor" using patent-pending Dual-Stiffness™ sub-flooring—a novel force reduction floor technology aimed at reducing injuries as a result of falls in hospitals, nursing homes, rehabilitation facilities and active adult communities. The company is based in Fort Wayne.

- ***Slipstream Projects***, founded in 2009, is focused on the design and development of an ultra-efficient, low-cost vehicular hybrid propulsion system that uses an alternative energy source (rather than lithium based batteries) that will improve the vehicle's energy efficiency and reduce the vehicle's emissions (as well as reduce dependence on imported energy sources). The company is based in Mishawaka and has 3 employees.

- ***American Green Technology***, founded in 2009, manufactures and supplies energy efficient AGT induction lighting through independent professional lighting representatives. The company is headquartered in South Bend and has 35 employees.

Table 13 lists selected companies in north central Indiana – large and small, well-established and very new – that have roots at Notre Dame. Together these companies employ more than 1,300 people in the area.

Table 13: Selected North Central Indiana companies started by Notre Dame alumni or faculty – or licensing Notre Dame technology

Firm	*Location*	*Year founded*	*Industry*
Crowe Horwath, LLP	South Bend	1942	Accounting
The Troyer Group	Mishawaka	1972	Architecture
Enzyme Research Laboratories	South Bend	1981	Life sciences
Press Ganey Associates, Inc.	South Bend	1985	Consulting
Omicron Biochemicals	South Bend	1986	Life sciences
Better World Books	Mishawaka	2003	Used book distribution
Scientific Methods, Inc.	Granger	2003	Life sciences
Global Access Point	South Bend	2003	Telecommunications
EmNet LLC	South Bend	2004	Wireless networks
Lono, LLC	South Bend	2007	Green technology
SorbaSHOCK, LLC	Fort Wayne	2007	Floor manufacturing
F Cubed LLC	South Bend	2008	Life sciences
Slipstream Projects	Mishawaka	2009	Energy
American Green Technology	South Bend	2009	Lighting manufacturer
Graham Allen Partners LLC	South Bend	2009	Venture capital fund
Ionic Research Technologies, LLC	South Bend	2011	Energy
LightSprite, LLC	South Bend	2011	Nanotechnology
Indiana Whiskey Company	South Bend	2011	Distillery
Luminary Digital Media	South Bend	2012	iPad app

Linking Notre Dame's entrepreneurs to a wider network

One of the resources available to aspiring entrepreneurs at Notre Dame is access to a network of entrepreneurs, investors and others with an interest in the development of new businesses. The ***Irish Entrepreneurs Network***, based at the Gigot Center, consists of alumni and other friends of the University who have experience in founding or managing entrepreneurial businesses. As of the spring of 2013, the network had approximately 400 members.

The Irish Entrepreneurs Network serves as a source of information, business contacts, advice and mentoring for those interested in starting new ventures – current students, alumni, faculty members and staff. Moreover, while it is not intended in itself to serve as a source of funding, some of its members are accredited investors, and can be a valuable source on information on this topic.

As the number of South bend-area businesses with roots at Notre Dame grows, the Irish Entrepreneur's Network illustrates how Notre Dame's nationwide and international connections can work to benefit the local economy.

Part Seven: 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. This part of the report highlights two dimensions of Notre Dame's engagement with the community:

- Its collaboration with the City of South Bend, community residents and organizations and others in revitalizing the city's Northeast Neighborhood, and in other community development initiatives; and
- Its relationships with community organizations and institutions that provide a wide range of services to local residents, and at the same time provide Notre Dame students with opportunities for community-based learning.

Revitalizing the Northeast Neighborhood

In 2000, Notre Dame joined together with the City of South Bend, neighborhood residents and several other South Bend institutions to create the Northeast Neighborhood Revitalization Organization (NNRO). The mission of the new organization was to plan and coordinate the physical and economic revitalization of the Northeast – a once-thriving but slowly declining neighborhood that had not seen any major new investments in fifty years. The City and the institutional partners committed $3 million in seed money to get the project under way.

The first tangible result of the revitalization effort was the Robinson Community Learning Center (described below), which opened in February 2001. Notre Dame covered the up-front cost of establishing the Center, and continues to help support its operations.

NNRO's board (comprised of seven representatives of the participating institutions and seven neighborhood residents) selected the South Bend Heritage Foundation to implement a plan for the area. After extensive consultation with local groups, a plan was developed that envisioned:

- Major infrastructure improvements, including the reconstruction of State Route 23;
- The development of a new mixed-use, commercial/residential district across from the Notre Dame campus, centered on Eddy Street;
- Several phases of residential development in adjoining areas; and
- In a later phase, the development of a second commercial district in the Five Points area.

Notre Dame played a key role in the earliest phases of development. The University acquired and cleared the property required to create the Eddy Street development area, and in 2007 chose Kite Realty Group to serve as the master developer. The University had also committed to the simultaneous development of Innovation Park at Notre Dame on a site adjacent to the Eddy Street area, thus providing additional momentum to the redevelopment process.

Through the University's partnership with Kite, the first phase of the $215 million, 500,000 square-foot Eddy Street Commons – including ground floor retail and restaurants with offices and apartments above – was completed in September 2009. Fairfield Inn and Suites – a 119-room limited-service hotel – followed in June 2010; and additional residential development is under way. (The plan for the Eddy Street area also includes a second, full-service hotel, which has been delayed as a result of the recession.)

The Eddy Street development has been a major success both for the community and for Notre Dame. As of the spring of 2013, the project's commercial space was 95 percent occupied, and 765 people were employed in the area (including 165 University employees who were moved off-campus to offices on Eddy Street). Like the growth of Notre Dame itself, the construction of and development of new businesses at Eddy Street Commons helped mitigate the effects of the recession, and provided a foundation for continued growth. At the same time, Notre Dame benefits from the creation of a neighborhood environment that helps the University compete more effectively for talented faculty, staff and students.

More broadly, the Northeast Neighborhood Revitalization plan provided a framework for other investment as well, including State and City infrastructure investments, the development of a new home for the Indiana University School of Medicine South Bend on East Angela Boulevard, the construction of Harper Hall (described in Part Two), and new private investment in residential development. The South Bend Heritage Foundation recently estimated that since the beginning of the revitalization effort, public, institutional and private investments in the neighborhood have totaled $625 million.

Figure 21: Map of the Northeast Neighborhood Redevelopment Zones

Other community investments

Notre Dame's recent community investments are not limited to the Northeast Neighborhood. They also include:

- ***Hillcrest Hall,*** the former St. Joseph's High School building, was acquired by the University in 2012. Part of the building is now the home of F Cubed LLC, a Notre Dame start-up company.

- ***The Notre Dame Linked Experimental Ecosystem Facility (ND-LEEF)*** is an environmental research and education facility being developed by Notre Dame on 28 previously-undeveloped acres within a County park, St Patrick's Park. In addition to its use by University, ND-LEEF will be available for use by local schools and by the community as an environmental education center.

- ***The Notre Dame Center for Arts and Culture*** opened in the spring of 2013. The newly-renovated building includes space for an after-school program, art classes and other community programming, a contemporary art gallery, a new studio for Joseph Segura, a commercial printmaker, and offices for the University's Office of Community Relations.

These and other University investments are continuing to provide valuable resources for the community.

Serving the community

Notre Dame is a Catholic university with a deep commitment to being "a force for good in the world." Closely intertwined with this commitment is the University's view of community-based learning as an important dimension of undergraduate education. From both these perspectives, engagement with the community – locally, nationally and globally – thus appears to be written into the University's DNA.

The scale, scope and impact of community engagement at Notre Dame are not easy to capture in a brief report. We will focus here on a few aspects of this engagement:

- Community-based learning and community service programs;
- The Robinson Community Learning Center; and
- Community engagement beyond the South Bend area.

Community-based learning and community service

Community-based learning (CBL) and community-based research courses offer students an opportunity to learn about a topic they are studying while providing services to or in other ways directly engaging with a local community. At Notre Dame, the number of courses offering

opportunities for community-based learning has increased steadily in recent years – from 80 in 2005-2006 to 166 in 2011-2012. Enrollment in these courses in 2011-2012 totaled 2,745 – 23 percent of all University students.

Students also engage in community service work on a volunteer basis, without any formal connection to their academic work. In 2011-2012, the University estimates that 7,300 students performed more than 209,000 hours of volunteer community service. In addition to these student volunteers, Notre Dame estimates that more than 1,000 faculty members and other University employees participated in approximately 350 community projects in 2011-2012 – some as volunteers, and some as part of their work for the University. Based on information provided by these employees, Notre Dame estimates that faculty members and staff collectively committed more than 300,000 hours to these projects in 2011-12.

Together, Notre Dame faculty members, staff and students thus performed more than 500,000 hours of work in and with the local community in 2011-12.

The Center for Social Concerns (CSC), established in 1983, serves as a focal point for both community-based learning and community service at Notre Dame. It assists faculty members in developing community-based courses and in conducting community-based research, helps students connect with community service programs and helps community organizations get access to University resources.

CSC maintains ongoing relationships with six local partner organizations that help connect the University to communities in the South Bend area. Each of these organizations has a full-time Community-Based Learning coordinator, funded by Notre Dame to oversee the work of students in CBL courses and manage relationships with faculty members, and to oversee student volunteers as well. The six organizations are:

- AIDS Ministry/AIDS Assist, South Bend
- Center for the Homeless, South Bend
- La Casa de Amistad, a community center serving the Hispanic community in South Bend
- LOGAN Center, South Bend, a program that provides services and resources for disable children and adults and their families
- The Robinson Community Learning Center, South Bend (described below)
- St Joseph's Regional Medical Center Community Outreach, Mishawaka

In addition to these core organizations, CSC maintains working relationships with more than fifty other organizations that provide community-based learning and volunteer service opportunities for University students.

The Robinson Community Learning Center

Among the partner organizations cited above, the Robinson Community Learning Center (RCLC) is unique in that (as noted above) it was established by Notre Dame, and continues to operate as a division of the University's Office of Public Affairs. The Center's director and its full-time staff

are University employees, and in fiscal year 2012 the University funded roughly one-third of the Center's $780,000 operating budget. Notre Dame is also by far the largest source of the volunteers who staff many of the Center's programs.

Other sources of support for RCLC in fiscal year 2012 included state and federal funds, foundation grants, donations from companies and individuals, and income from use of the Center's parking area for Notre Dame game-day parking. The Center's programs have also been greatly strengthened by a three-year grant of AmeriCorps funds through the state of Indiana that in fiscal year 2012 supported six full-time and fourteen part-time Americorps workers.

While the Center is administratively part of the University, its programs operate under the guidance of a program advisory board whose members include Notre Dame faculty members and students, representatives from RCLC partner organizations and community residents. Programs offered by the center serve a broad spectrum of neighborhood residents, from pre-school children to older adults. Notable programs in 2012 included:

- ***Talk with Your Baby***, an early learning program for parents and very young children;
- Classes in ***English as a new language***, for pre-school children and for adults;
- After-school and evening tutoring, at RCLC and at four partner sites;
- Music and photography classes;
- An award-winning ***Lego Robotics team*** for middle-school students;
- An ***Advanced Skills and Entrepreneurship*** program for high school students, developed in collaboration with the Gigot Center for Entrepreneurship at Notre Dame, offered at RCLC and at four local high schools;
- ***Take Ten***, a violence prevention and conflict resolution program offered at RCLC, 13 area schools, and other locations such as Boys and Girls Clubs and the South Bend Juvenile Correctional Facility; and
- Book club, computer training, craft and exercise programs for older adults.

Through these programs, RCLC in fiscal year 2012 served nearly 2,300 South Bend area children, youth and adults. Beyond the local community, the Center also reached more than 1,500 participants in Take Ten programs offered elsewhere in Indiana, in Chicago and in other communities.

Along with the funding made available by Notre Dame and other partners, the Center's work in fiscal year 2012 was made possible by the participation of nearly 400 volunteers, about three-quarters of whom were affiliated with Notre Dame.

Serving national and global communities

As Notre Dame has grown from a regional to a national and now a global university, its commitment to service has expanded as well. We cite here just a few examples of how Notre Dame uses its intellectual and human resources to serve communities throughout the U.S. and in other countries.

- The ***Alliance for Catholic Education***, founded at Notre Dame in 1993, works to strengthen and sustain Catholic elementary and secondary schools in the U.S. and in several other countries. Its "foundational program" is Service through Teaching (STT); the program allows participants to earn a master's degree in education from Notre Dame at no cost through a combination of intensive summer studies on the Notre Dame campus and two years of teaching experience in an "under-resourced" Catholic school. The program currently has about 180 participants each year (about half of whom are Notre Dame graduates) working in Catholic schools in thirty U.S. cities.

  Other ACE programs include leadership training for Catholic school principals, a one-year certificate program for teachers of disabled children, and assistance for Catholic schools in marketing and fund-raising. Across all its programs, ACE is currently engaged with approximately 200 schools throughout the U.S.

- Since the late 1990's, ACE has also been bringing its services to Catholic school systems outside the U.S. It is currently active in teacher training in Ireland and Chile; and for the last three years has been working closely with the Ministry of Education in Haiti to improve the quality of the nation's Catholic schools.

- Drawing on the University's strengths in research on poverty, Notre Dame's ***Lab for Economic Opportunities*** (described in Part Five) is working with Catholic Charity organizations in a number of U.S. cities to improve the design and strengthen the delivery of programs aimed at reducing poverty in the U.S. and alleviating its effects.

- Each year, the Center for Social Concerns' ***International Summer Service Learning (ISSL)*** program provides funding for students to undertake community-based learning projects at sites outside the U.S. Since its founding, the program has grown both in scale and popularity. Starting from 8 students in the summer of 1998, the program grew in 2012 to sponsor 58 students working at 30 sites in seventeen countries. For the summer of 2013, ISSL received applications from 400 Notre Dame students for 60 available slots. CSC is aiming to raise sufficient funds to increase the number of participating students to 100 each summer.

Figure 22: Map of Notre Dame's Alliance for Catholic Education (ACE) U.S. locations

Beyond graduation: Notre Dame alumni serving the community

Some Notre Dame students' commitment to community service extends beyond graduation. Annual surveys of graduating seniors from 2007 through 2012 found that 11 percent of all graduates – about 200 graduates each year – committed to at least a year of some type of community service. Areas of post-graduate service typically include youth services, community organizing, teaching programs (such as the Alliance for Catholic Education and Teach for America), health care, environmental work and human rights. About 75 to 80 percent of these graduates engage in community service in the U.S., and 20 to 25 percent serve overseas.[10]

Other alumni also participate in community service programs. Each year, under the Notre Dame Alumni Association's ***Hesburgh Month of Service*** program, local alumni clubs organize hundreds of local service projects. Recent examples have included working with Habitat for Humanity, community clean-up after severe storms and tornados, working in local homeless shelters, and packaging food for distribution in Haiti. In 2011-12, 12,235 University alumni participated in Hesburgh Month of Service projects.

Among the University's newest partnership initiatives is the post-graduate service program, ***enFocus.*** A non-profit organization established in 2012, enFocus aims to strengthen both the

[10] Center for Social Concerns

South Bend community and the local economy by providing opportunities for graduates of the ESTEEM program (described in Part Six) to stay and work in South Bend.

During the summer of 2012, seven ESTEEM graduates (called Michiana Venture Fellows) were selected. In exchange for a $36,000 stipend plus a $4,000 housing allowance, the fellows committed to staying in South Bend for a year, working on projects for local public agencies, organizations or businesses. The seven fellows live together and work as a team, with each fellow taking the lead on one project. The team's work in its first year has included working with the South Bend School Corporation on improving and reducing the costs of its information technology systems; and working with St Joseph Regional Medical Center, Memorial Hospital and the South Bend Clinic on using social media to encourage healthy behavior among chronically ill patients.

EnFocus team members spend 70 percent of their time working on these sponsored projects, and 30 percent on other projects that they develop themselves, aimed at addressing a specific need or opportunity in the community. South Bend Mayor Pete Buttigieg has characterized the work of enFocus team members as "a kind of human seed capital."[11]

Through enFocus, Notre Dame and its partners are seeking to develop new products and services that can have immediate, tangible benefits for the sponsoring organizations and for the community, in terms of reduced costs, greater efficiency, greater profitability and improved quality of life. And perhaps even more important in the long run, they hope to show that through a program of active engagement with local organizations and companies, the University, the City and the community can induce more talented graduates to stay in the area, and to participate in the rebuilding of its economy.

[11] *South Bend Tribune*, July 8 2012.

Part Eight: 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.

A growing research enterprise

Between fiscal years 2001 and 2012 research spending at Notre Dame grew by 298 percent, from $39.6 to $157.7 million – a compound annual growth rate of 13.3 percent. The growth of research funding has had a direct impact on the local economy, in terms of increased hiring of faculty members, other researchers and support staff, and increased enrollment of graduate students who also spend money locally. Longer-term, a growing research enterprise also helps produce the new knowledge that can lead to the development of new products and services, new businesses and new jobs.

The growth of Notre Dame's research enterprise during the next ten years may not match its growth during the past ten, but it should grow nevertheless. The University is particularly strong in several fields that are likely to remain priority areas for both the federal government and for industry, such as nanoelectronics, energy, climate change and infectious diseases. Moreover, through the University's commitment of its own internal resources, Notre Dame has in the past five years built a foundation of talent, technology and teamwork that will in the future enable the University to compete even more effectively for federal philanthropic and industry research funding.

The impact of increased enrollment

As noted in Part Four, enrollment at Notre Dame increased by more than 400 students between the fall of 2006 and the fall of 2011. In the near term, this means increased student spending in the South Bend area. Even more important in the long run, it will over time increase the total number of graduates produced by the University – and thus the University's contribution to the region's (and the nation's) college-educated workforce.

The potential impact of increased enrollment is particularly evident, given that (as noted previously) the increase has been concentrated among engineering, science and business students, and in new programs such as ESTEEM that are directly related to economic development.

Increased support for innovation and entrepreneurship

Translation of new knowledge into new products and services, new businesses and new jobs requires more than a strong research base. It also requires development and maintenance of an environment that supports that process of translation.

Notre Dame has done much during the past ten years to create this type of "entrepreneurial ecosystem." It's most visible manifestation has been the development of Innovation Park at Notre Dame, where the first building, which opened in 2009, has become in many ways the heart of that ecosystem. Other recent initiatives have included:

- Funding a new program of financial support for translational research – the additional R&D work that faculty members often need to undertake in order to move promising new technologies to a stage where they can begin to attract private investment;

- Creation of the ESTEEM program, a master's degree in technology entrepreneurship that has attracted talented students from South Bend, from around the U.S. and from other countries;

- Establishment of the Irish Innovation Fund – a new program that will on a competitive basis provide seed money investments in new ventures proposed by Notre Dame students;

- The Irish Entrepreneurs Network, a network of approximately 400 alumni and other friends of Notre Dame – including entrepreneurs, investors and others with an interest in the development of new businesses – who can provide invaluable information, advice, mentoring and business connections to the University's aspiring entrepreneurs.

Over the next decade, the impact of these initiatives will be compounded, as more faculty members engage in the work needed to bring new technologies from the lab to the marketplace, as year after year more aspiring entrepreneurs graduate from the ESTEEM program, as more students get help in launching new businesses and as more start-ups like Data Realty and F Cubed "graduate" from IP@ND.

At the same time, the University is likely to undertake further investments in the development of South Bend's entrepreneurial ecosystem. Planning is now under way, for example, for the next phase of development at Innovation Park.

Investments on and off the University campus

Notre Dame will also contribute to the vitality of the South Bend area economy through its continued investment in construction and renovation of University facilities. From fiscal year 2013 through fiscal year 2017, Notre Dame anticipates spending a total of $499 million on construction

– an average of nearly $100 million each year. Major projects already under way or on the drawing board include:

- Expansion and renovation of the Morris Inn;
- Relocation and realignment of Douglas Road, a project that will improve both the flow of traffic and pedestrian safety, and at the same time create new walking and bike trails along the northern perimeter of the campus;
- The first phase of a new multi-disciplinary research building;
- A new building for the social sciences and for international studies;
- A new building for the School of Architecture;
- A multi-year renovation of campus libraries;
- A new student activities center; and
- As noted above, the next phase of development at Innovation Park.

An investment of $499 million over this five-year period would mean that between 2007 and 2017, the University will have invested more than $1 billion in construction and renovation of University facilities. In addition to creating jobs for South Bend area residents and business opportunities for local contractors, these investments strengthen Notre Dame's capacity to fulfill its mission, by enhancing its ability to attract talented students, faculty members and other researchers to its South Bend campus, by providing the space needed to support a growing research enterprise and by expanding its capacity to accommodate growing numbers of visitors to South Bend.

In addition to the investments it funds directly, Notre Dame's partnership with the City, other local institutions and local community organizations will continue to attract new private investments to the Northeast Neighborhood. New investments during this period could include a new full-service hotel, additional residential development in the Eddy Street area and the Triangle district, and development of a new commercial district centered on the Five Points intersection. These developments will provide new jobs and new housing opportunities for South Bend residents – and will help both the University and the City retain and attract the talented people that both need in order to thrive.

A more global University

Over time, Notre Dame has evolved from a regional to a national university – and especially in this century, into a university with truly global reach. This evolution is likely to continue in the years ahead.

During the next ten years, the University will be expanding the network of institutions outside the U.S. with which it regularly collaborates, and deepening its relationships with several of them. The number of Notre Dame students who spend time outside the U.S. studying, conducting research, participating in service projects or working as interns will continue to increase, as will the number of international students studying on the South Bend campus.

The increasingly global character (and global visibility) of the University can benefit the local economy in several ways.

- By attracting scholars and students from around the world, Notre Dame helps make South Bend a more international city.

- By undertaking leading-edge research on topics of global significance, Notre Dame is laying the groundwork for creation of new businesses that – even though they start out small – have the potential to serve global markets, and to have a global impact.

- By providing opportunities to live, study and work in other countries, the University helps prepare its students – some of whom will stay in the South Bend area after graduation – for a world in which virtually every community, every business and every individual will be operating in a global context.

Notre Dame's experience shows that a university that strives to be a force for good in the world can also be a force for growth in its local community – and at the same time, that the University's capacity to do good in the wider world is directly affected by the strength and vitality of the community that has been its home for 170 years.