

*Building a Stronger*  
New Orleans:

*The Economic Impact of*  
Tulane University

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This report was prepared by Appleseed, a New York City-based consulting firm, founded in 1993, that provides economic research and analysis and economic development planning services to government, nonprofit and corporate clients.

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# Tulane's Economic Impact: By the Numbers

**5,797**

Number of Tulane employees in the fall of 2012, up 33 percent since the fall of 2006

**\$36.1 million**

Investment in construction and renovation of university facilities in fiscal year 2013

**11,535/\$593 million/\$982 million**

Jobs, wages and regional economic output in the greater New Orleans area directly and indirectly attributable to university, visitor and student spending in FY 2013

**\$20.58 million**

State and local government revenues in FY 2013 directly attributable to Tulane

**13,486**

Undergraduate, graduate and professional student enrollment at Tulane, fall 2012—highest in the university's history

**29,700**

Number of Tulane alumni living in the New Orleans metropolitan area in 2013

**\$160.4 million**

Total university research spending, FY 2013

**30**

Number of licensing agreements, FY 2008 – FY 2013, for commercial use of technologies first developed at Tulane

**11**

Number of startup companies created, FY 2008 – FY 2013, to bring to market technologies first developed at Tulane

**2,018**

Alumni of the Tulane School of Medicine living in the New Orleans metropolitan area in 2013

**24,000**

Number of inpatients treated by Tulane School of Medicine faculty members, FY 2013

**308,400**

Number of outpatient visits to Tulane School of Medicine faculty members, FY 2013

**242,000**

Hours of community service work done by Tulane students in 2012-13, up 157 percent from 2006-07



# Highlights





**T**ulane University has long had a major impact on the economy of New Orleans and the greater New Orleans area. In the nine years since the city and many nearby communities were devastated by the flooding that followed Hurricane Katrina, the university has taken on an even greater role. This report assesses Tulane's role in the changing economy of New Orleans and the greater New Orleans area—as a major enterprise in its own right, and through its mission of education, research, innovation and business development, health care and community engagement.



## The impact of Tulane as an enterprise

- In the fall of 2012, Tulane directly employed 5,797 people (excluding student employees), of whom 72 percent worked full-time. Employment at Tulane has grown by 33.4 percent since the fall of 2006.
- Tulane also generates jobs and economic activity in New Orleans, in the surrounding region and elsewhere in Louisiana through its purchases of goods and services and its investments in university construction, and through off-campus spending by students and by visitors to Tulane. Taking into account the total direct, indirect and induced economic impact of university, student and visitor spending, we estimate that in fiscal year 2013, Tulane directly and indirectly accounted for:
  - > 9,967 FTE jobs in the city of New Orleans;
  - > Nearly \$522.2 million in wages and salaries; and
  - > Nearly \$811.7 million in citywide economic output.

In greater New Orleans, university, student and visitor spending directly and indirectly accounted for:

- > 11,535 FTE jobs in the greater New Orleans area;
- > \$592.6 million in wages and salaries; and
- > More than \$982.3 million in economic output in the greater New Orleans area.

At the state level, university, student and visitor spending directly and indirectly accounted for:

- > 11,784 FTE jobs in Louisiana;
- > Nearly \$591.3 million in wages and salaries; and
- > More than \$1.0 billion in statewide economic output.

Tulane impacts in New Orleans, in the region and in Louisiana are summarized on the following page.

- Tulane also contributes in multiple ways to state and local government revenues. In fiscal year 2013, the university's payments to state and local governments—including taxes withheld from the salaries and wages of university employees, payments to the Louisiana Patients Compensation Fund, water and sewer fees and other payments to local governments totaled nearly \$20.6 million.

## Developing human capital

- Tulane is a major contributor to the development of the New Orleans area's human capital—the accumulated knowledge, skills and experience of the region's residents.
- In the fall of 2012, Tulane enrolled a total of 13,486 undergraduate, graduate and professional students—the highest number in the university's history, and an increase of 27 percent since the fall of 2006.
- As of the summer of 2013, about 29,700 Tulane alumni—more than 21 percent of all university alumni—lived in the New Orleans metropolitan area.
- Tulane offers undergraduate, graduate and professional degrees in a wide range of fields that are well aligned to the needs of many of the city's and the region's leading industries, including industries that could in the years ahead help drive the region's growth. Examples include undergraduate majors and graduate and professional degree programs in fields such as computer science, digital media, sustainable real estate development, disaster resilience leadership, medicine, biomedical innovation and many others.
- Tulane also offers residents of the city and the region opportunities to build their skills and advance their careers through its School of Continuing Studies. In the fall of 2012, 1,975 students were enrolled in the School of Continuing Studies—nearly 15 percent of total enrollment at Tulane.
- Tulane is also collaborating with Delgado Community College and the University of New Orleans on the development of the New Orleans Culinary and Hospitality Institute (NOCHI), a new institution scheduled to open in 2016 that will help meet the professional education and training needs of the one of the most important sectors of the region's economy.



**Tulane's total economic impact in New Orleans, FY 2013, (wages and output in thousands)**

	Jobs	Wages	Output
<b>Impact of Tulane Spending</b>			
Direct	6,058	\$377,420.6	\$424,061.6
Indirect/induced	1,263	\$62,146.7	\$162,310.1
<i>Subtotal, Tulane spending impact</i>	<i>7,321</i>	<i>\$439,567.4</i>	<i>\$586,371.7</i>
<b>Impact of Student Spending</b>			
Direct	1,520	\$37,967.9	\$119,846.0
Indirect/induced	333	\$16,304.5	\$42,384.7
<i>Subtotal, student spending impact</i>	<i>1,853</i>	<i>\$54,272.4</i>	<i>\$162,230.7</i>
<b>Impact of Visitor Spending</b>			
Direct	641	\$20,613.7	\$43,790.6
Indirect/induced	152	\$7,743.8	\$19,271.1
<i>Subtotal, visitor spending impact</i>	<i>793</i>	<i>\$28,357.4</i>	<i>\$63,061.8</i>
<b>TOTAL IMPACT</b>	<b>9,967</b>	<b>\$522,197.2</b>	<b>\$811,664.2</b>

**Tulane's total economic impact in greater New Orleans, FY 2013 (wages and output in thousands)**

	Jobs	Wages	Output
<b>Impact of Tulane spending</b>			
Direct	6,675	\$411,305.6	\$481,111.2
Indirect/induced	2,147	\$98,125.1	\$268,337.7
<i>Subtotal, Tulane spending impact</i>	<i>8,823</i>	<i>\$509,430.8</i>	<i>\$749,448.9</i>
<b>Impact of student spending</b>			
Direct	1,520	\$37,967.9	\$119,846.0
Indirect/induced	375	\$16,841.9	\$47,191.6
<i>Subtotal, student spending impact</i>	<i>1,895</i>	<i>\$54,809.8</i>	<i>\$167,037.6</i>
<b>Impact of visitor spending</b>			
Direct	641	\$20,613.7	\$43,790.6
Indirect/induced	176	\$7,766.4	\$22,051.0
<i>Subtotal, visitor spending impact</i>	<i>817</i>	<i>\$28,380.1</i>	<i>\$65,841.6</i>
<b>TOTAL IMPACT</b>	<b>11,535</b>	<b>\$592,620.7</b>	<b>\$982,328.1</b>





**Tulane's total economic impact in Louisiana, FY 2013 (wages and output in thousands)**

	Jobs	Wages	Output
<b>Impact of Tulane spending</b>			
Direct	6,724	\$414,072.8	\$487,785.9
Indirect/induced	2,215	\$101,065.9	\$277,080.8
<i>Subtotal, Tulane spending impact</i>	8,939	\$515,138.7	\$764,866.7
<b>Impact of student spending</b>			
Direct	1,542	\$31,609.6	\$112,698.4
Indirect/induced	422	\$17,501.8	\$54,348.0
<i>Subtotal, student spending impact</i>	1,964	\$49,111.4	\$167,046.4
<b>Impact of visitor spending</b>			
Direct	673	\$18,278.8	\$42,600.9
Indirect/induced	208	\$8,737.4	\$26,558.7
<i>Subtotal, visitor spending impact</i>	881	\$27,016.2	\$69,159.6
<b>TOTAL IMPACT</b>	<b>11,784</b>	<b>\$591,266.3</b>	<b>\$1,001,072.8</b>



## The impact of university research

- Between fiscal year 2006 and fiscal year 2011, total research spending at Tulane rose by 44 percent, to a high of \$171.7 million. Research spending declined somewhat in fiscal years 2012 and 2013 due to federal budgetary constraints, but as of 2013 was still significantly above pre-Katrina levels.
- Tulane's large and varied research enterprise attracts tens of millions of dollars in research funding from outside the region, most of which is then spent locally. In fiscal year 2013, federal research grants and contracts accounted for more than 61 percent of Tulane's total research spending; and corporate, foundation and other nonprofit sources for about 17 percent.
- Tulane conducts research in a variety of fields that are of particular significance to the region's economy, and to its future growth, including biomedical science and engineering, neuroscience, energy, coastal protection and the musical cultures of the Gulf region.
- Tulane is building The Tulane Center of Excellence for Coastal Protection and Restoration on its Riverfront Campus that will provide a university-wide focal point for research on the physical, biological, social and economic dimensions of coastal protection, water resources and related topics. The first phase of the new center will be completed in the spring of 2016.

## Innovation, entrepreneurship and economic development

- During the past several years, Tulane has placed new emphasis on encouraging and supporting innovation, entrepreneurship and economic development, both within the university and in the New Orleans area more broadly.
- Tulane now offers a range of courses and degree programs—from the undergraduate level to the university's groundbreaking PhD program in bioinnovation—aimed at educating the next generation of innovators and entrepreneurs.

- The university also offers several cocurricular programs, including the annual Tulane Business Model Competition, that provide students with opportunities to hone their skills as entrepreneurs and to develop plans for new ventures.
- Since 2008, Tulane has assisted the creation of 11 startup companies that are engaged in the further development and commercial use of technologies initially developed at the university. Six of these companies are located in the New Orleans area.
- The region is also home to dozens of other companies started by Tulane faculty members, alumni and students—in architecture, biotechnology, consulting, real estate development, e-commerce, environmental services, hospitality, social media, and many other industries.
- Tulane has also partnered with state and city agencies, other New Orleans institutions and other local organizations in developing the physical and organizational infrastructure, support services and public policies needed to sustain the growth of an “entrepreneurial ecosystem” in the New Orleans area. Examples include:
  - > Collaboration with the state, the Louisiana State University Health Sciences Center, Xavier University and the University of New Orleans in development of the New Orleans BioInnovation Center—a 66,000-square-foot building located in the city's biomedical district that provides space for new and growing companies in biotechnology, medical devices, health informatics and related fields. The center also provides business development and technology commercialization services, access to financing and other assistance—both to its tenants (who include several Tulane startups) and to other client companies in the region.
  - > Continuing participation in and support for the work of the Idea Village—a New Orleans nonprofit that is dedicated to identifying, supporting and retaining entrepreneurs in the New Orleans area.



## Health care

- Tulane also contributes to the vitality of the city's and the region's economy through its role in the delivery of health services.
- Tulane is a leading educator of the region's physician work force. As of the summer of 2013, more than 2,000 graduates of the Tulane University School of Medicine lived in the New Orleans metropolitan area, including 1,086 who lived in the city.
- As of the fall of 2012, 462 residents and fellows were enrolled in graduate medical education at the School of Medicine, developing their skills as physicians while also providing vitally needed services to the region's residents.
- In fiscal year 2013, Tulane faculty physicians treated more than 24,000 inpatients and handled more than 308,000 outpatient visits. About 45 percent of those treated by Tulane faculty physicians were city residents, 25 percent lived elsewhere in greater New Orleans, and 30 percent came from outside the region—highlighting Tulane's dual role as both a provider of needed local health services and a generator of “export” earnings for the city and the region.
- Tulane Medical Center, jointly owned by the university and the Hospital Corporation of America, is one of the region's leading hospitals—and with more than 1,400 employees, is one of the city's largest private employers.

## Strengthening the economy by strengthening communities

- Tulane also contributes to the economic vitality of New Orleans through its steadily growing commitment to engagement with the city's diverse communities.
- During the 2012-2013 academic year, Tulane students performed more than 242,000 hours of community service—through service-learning courses and internships and as volunteers. The total number of hours worked represented an increase of more than 150 percent since 2006-2007.



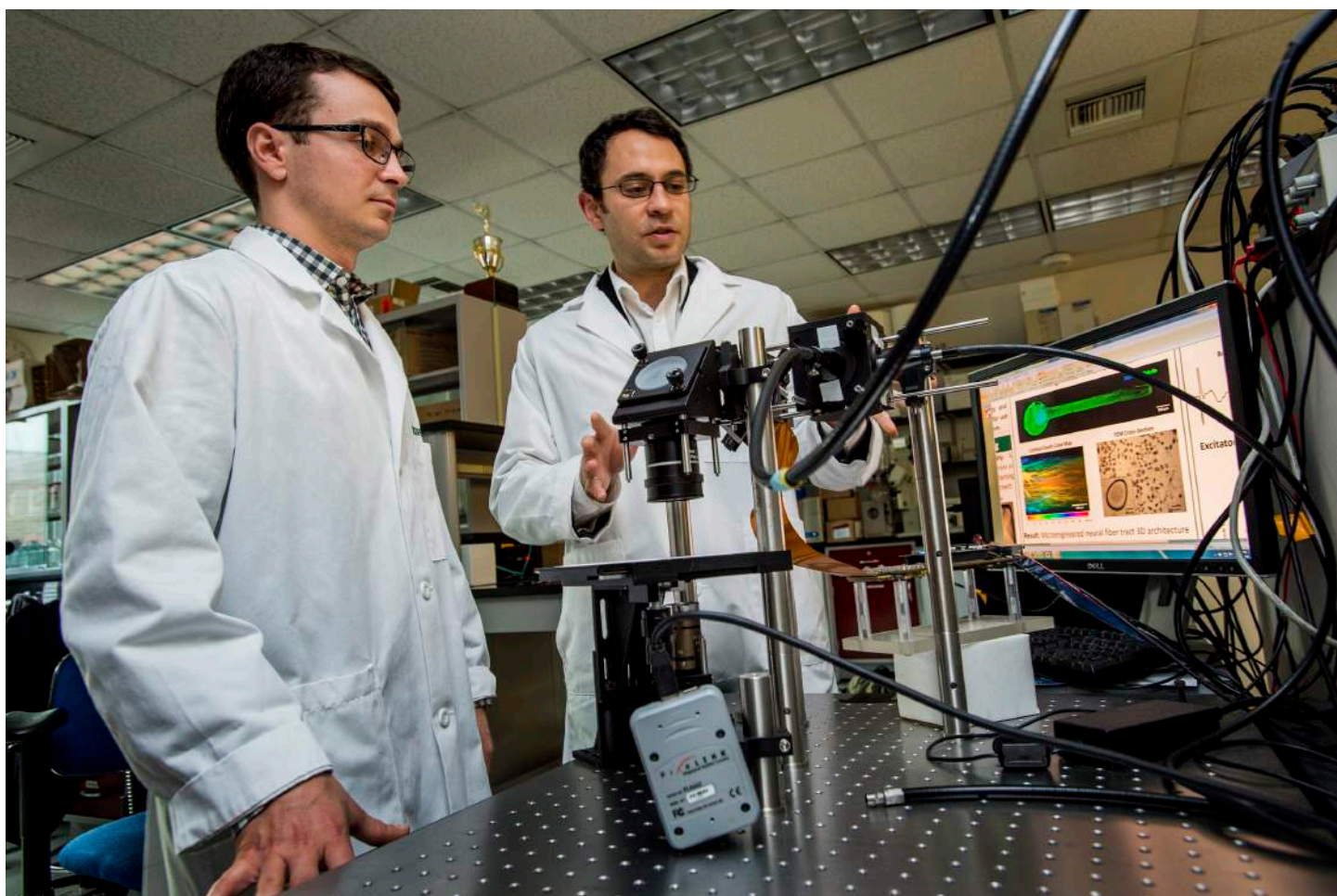
- Since 2007, the Cowen Institute for Public Education Initiatives has been engaged in multiple efforts aimed at strengthening public education in New Orleans and expanding educational opportunity for the city's young residents.
- The Cowen Institute has also taken the lead in developing a comprehensive strategy for addressing the needs of the city's “opportunity youth,” young people age 16 through 24 who are neither in school nor employed. As both a leading employer and a leading educational institution, Tulane is leading an “Earn and Learn” pilot project that provides both jobs and educational opportunities for these young New Orleans residents.
- Tulane is participating in rebuilding both the physical and social foundations of neighborhood life in New Orleans—for example, through the work of the School of Architecture's Tulane City Center, which assists community organizations in planning, designing and executing a wide range of neighborhood improvement projects.
- Through its programs that support both student and faculty engagement in social innovation and social entrepreneurship, Tulane is encouraging the development of innovative responses to some of the city's most difficult problems.



## A growing impact

As significant as Tulane University's impact on the economy of New Orleans and the greater New Orleans area has been, it could be even greater during the next five to 10 years and beyond, for several reasons.

- The growth of Tulane's enrollment during the last several years will result in an increase in the number of students earning Tulane degrees—and if recent trends continue, a cumulative increase in the number of graduates who choose to stay in the New Orleans area.
- New degree programs developed at Tulane in recent years will ensure that increasing numbers of these graduates will be well-prepared for careers in several of the region's largest and fastest-growing sectors.
- Tulane's research strengths are similarly well-aligned with industries and activities that are critical to the future of the region's economy, including health care, biomedical innovation, coastal protection and sustainability.
- The increased emphasis on innovation and entrepreneurship will help ensure that research conducted in university labs is translated into new products and services and new businesses and jobs—and that the number of new businesses launched by Tulane students, faculty and alumni in the New Orleans area continues to grow.
- Through its heightened commitment to community engagement, Tulane will continue to help build the strong communities that provide an essential foundation for the continued growth of the city's economy.





# Introduction





**A**s one of the city's oldest institutions, a leading center of education and research, and a leading private employer, Tulane University has long had a major impact on the economy of New Orleans and the greater New Orleans area. In the 10 years since the city and many nearby communities were devastated by the flooding that followed Hurricane Katrina, the university has taken on an even greater role. It has done so not only through its own recovery and growth, but through its involvement in the redevelopment of the city's public schools and health services, its ever-deepening engagement with the city's diverse neighborhoods, and its role in the emergence of New Orleans as a new center of innovation and entrepreneurship.

This report assesses Tulane's role in the changing economy of New Orleans and the greater New Orleans area—as a major enterprise in its own right, and through its mission of education, research, innovation and business development, health care and community engagement. The report was prepared by Appleseed, a New York City-based consulting firm. It updates a previous analysis of the university's economic impact that was completed by Appleseed in 2010.

## Organization of the report

Part One of the report provides a brief overview of Tulane University; and as a context for the analysis that follows, briefly discusses the economy of New Orleans and the surrounding region. Part Two assesses the impact of the university as an enterprise—a major employer, a buyer of goods and services and a sponsor of construction projects—and analyzes the indirect and induced (or “multiplier”) effects of spending by the university, its students and visitors.

Part Three of the report discusses how Tulane contributes to the development of the city's and the region's human capital. Part Four examines the impact of university research; and Part Five focuses on Tulane's role in promoting innovation, entrepreneurship and economic development.

Part Six describes the university's role in the delivery of health services in New Orleans; and Part Seven discusses the multiple ways in which Tulane is working to strengthen the city's diverse communities.

Part Eight briefly highlights several reasons why the university's impact in New Orleans and the surrounding region could be even greater during the next five to 10 years than it is today.

## Acknowledgments

This report could not have been completed without the active support and assistance of many people at Tulane. We would particularly like to thank recently retired university President Scott Cowen for his time and insights into Tulane's role in New Orleans. Debbie Grant, vice president for university communications and marketing, has provided support and guidance in the preparation of the report. Aryanna Gamble, communications and marketing coordinator, managed the collection of data from various university sources, scheduled interviews and greatly enriched our understanding of both the university and the city.

We would also like thank the many other people at Tulane who provided essential information and insights on the university's impact, including Michael Bernstein, Yvette Jones, Anthony Lorino, James Alty, Lara Levy, Anne Banos, Sharon Courtney, John Ayers, Andrew Lackner, Ralph Maurer, Vincent Illustre, James Stofan, LuAnn White, Ira Solomon, John Christie, Richard Marksbury, Lee Hamm, Nicholas Altiero, Ken Schwartz and Rick Dickson.



PART ONE

# Overview and context





**D**uring the past eight years, New Orleans and the greater New Orleans area have recovered from the devastation that followed Hurricane Katrina to an extent and in ways that would have been hard to envision in the months immediately following the storm.

- After declining by 51 percent between 2005 and 2006, the city's population grew by 65 percent between 2006 and 2012, from 223,000 to more than 369,000.
- Despite the adverse effects of a severe and prolonged national recession, private payroll employment in New Orleans grew 19 percent between 2006 and 2012—an increase of more than 23,300 jobs.
- From having one of America's worst-performing urban public school systems a decade ago, New Orleans has become a national leader in education reform.
- The percentage of the city's population age 25 and older with at least a bachelor's degree has increased from 31.7 percent in 2006 to 34.0 percent in 2012.
- From a city that lagged badly on measures of innovation and entrepreneurial development, once characterized by historian Douglas Brinkley as "the anti-Seattle," New Orleans has developed one of the most vibrant startup scenes in the country.

Despite its progress, New Orleans still faces a number of deep-seated problems. Some of these are rooted in the city's incomplete recovery from the effects of Hurricane Katrina; others, however, have plagued the city since long before the levees broke.

- In 2012, the median income of New Orleans households was \$34,361—a decline of 8.1 percent since 2000 (after adjusting for inflation), and about 67 percent of the median income for all U.S. households.
- In 2012, 28.7 percent of all New Orleans residents—and 41.2 percent of the city's children—lived in households with incomes below the federally defined poverty level.
- As of July 2013, the unemployment rate among city residents was 9.0 percent.

Ten years after the floodwaters began to recede and six years after the onset of the worst national recession in 70 years, New Orleans needs to stay focused on rebuilding its economy and ensuring that its residents have the opportunity to participate in (and profit from) that process.

One of the bright spots in the New Orleans economy in recent years has been higher education. In 2012, the city's private colleges and universities employed 7,433 people, accounting for 5.1 percent of all private employment in New Orleans, and 6.3 percent of all private-sector wages and salaries. Higher education is one of the city's leading "export" industries, a vitally important resource for building the skills and raising the incomes of its residents, and a source of innovation, entrepreneurship and new business development.

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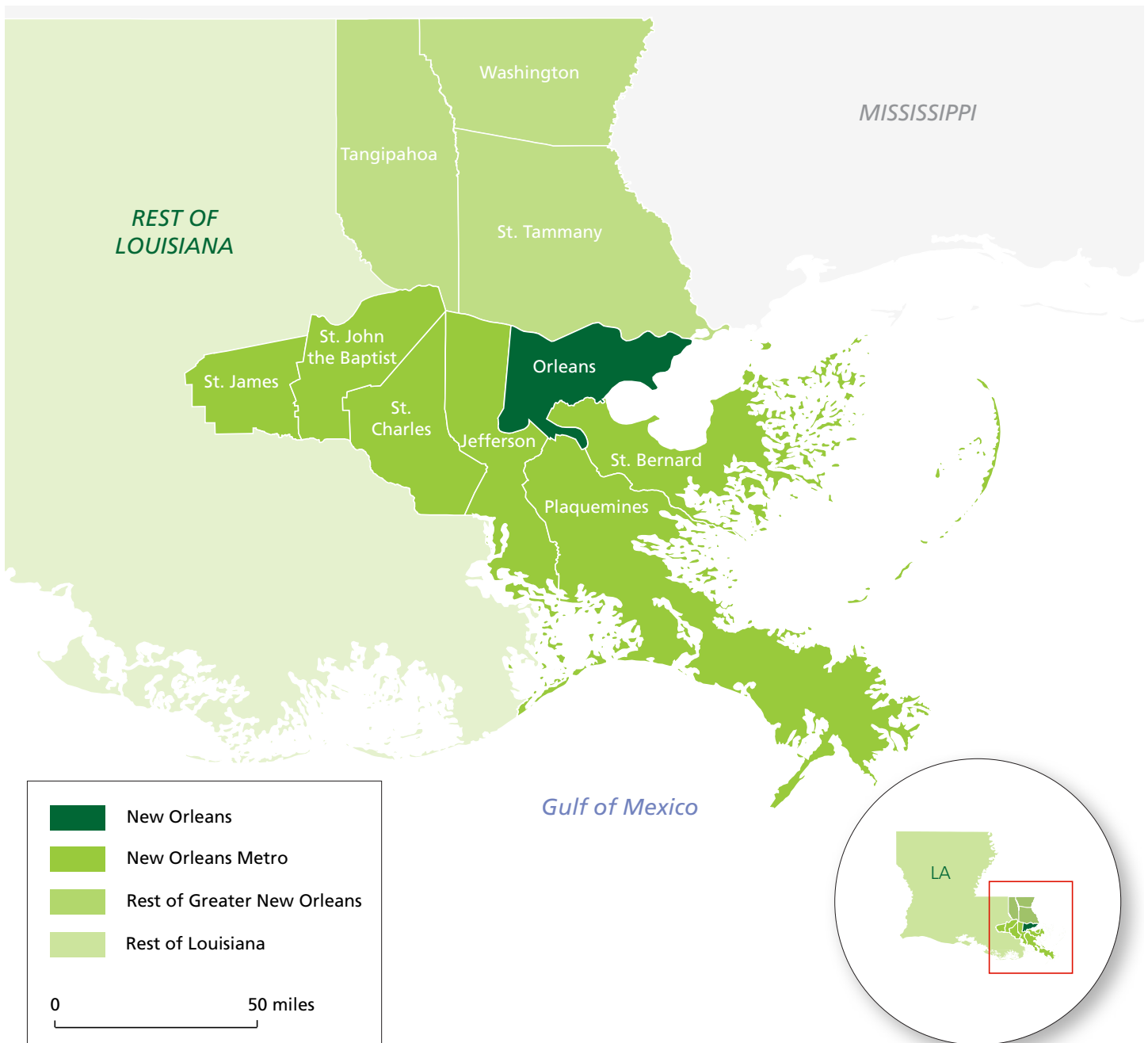


## Tulane University – an overview

Among the city's many educational institutions, none has a greater impact on the New Orleans economy than Tulane University. Tulane traces its history back to the Medical College of Louisiana, founded in 1834 by seven young doctors seeking to better understand and prevent yellow fever, cholera and other diseases that at the time were rampant throughout New Orleans. The college later

became part of a newly established public institution, the University of Louisiana; and in 1884, after a donation of \$1 million from Paul Tulane, a New Orleans merchant and philanthropist, Tulane once again became a private university, named for its benefactor.

**FIGURE 1:** Map of greater New Orleans



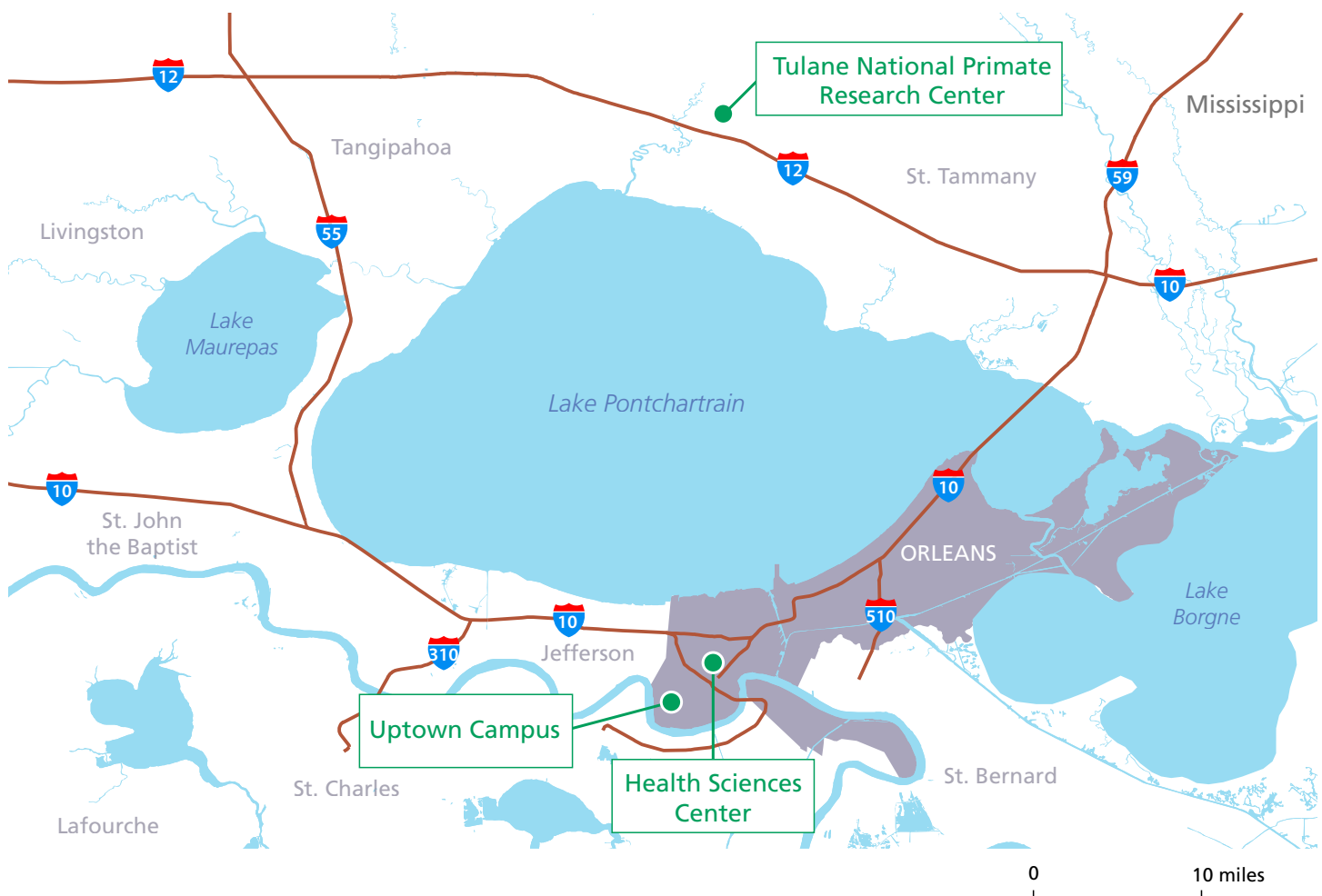


Today, Tulane is one of the leading private research universities in the United States. The university offers bachelor's, master's and doctoral degrees through 10 schools and colleges:

- School of Architecture
- A. B. Freeman School of Business
- Newcomb-Tulane College
- School of Continuing Studies
- School of Law
- School of Liberal Arts
- School of Medicine
- School of Public Health and Tropical Medicine
- School of Science and Engineering
- School of Social Work

Tulane's operations (as shown in Figure 2) are primarily located on three campuses. The university's main campus is located in the uptown neighborhood of New Orleans on St. Charles Avenue. The Health Sciences Campus is located in the medical district in downtown New Orleans. The third campus, the Tulane National Primate Research Center, is located in St. Tammany Parish along the north shore of Lake Pontchartrain.

**FIGURE 2:** Tulane's primary locations





Other Tulane locations in New Orleans (as shown in Figure 3) include University Square (where a number of administrative functions are clustered), the School of Architecture's Tulane City Center, the School of Medicine's Fertel Community Health Center, and the university's new Riverfront Campus.

In addition to the uptown campus, the School of Continuing Studies offers courses at three locations outside New Orleans—the Elmwood Campus in Harahan, Louisiana, the Mississippi Coast Campus in Biloxi, Mississippi, and the Madison Campus in Madison, Mississippi.

The next part of the report focuses on Tulane's role as a major regional enterprise, and on the direct and indirect impacts of university spending—in New Orleans, in the greater New Orleans area and throughout Louisiana.

**FIGURE 3:** Tulane's locations in New Orleans







PART TWO:

# Tulane University as an enterprise



**A**s a major enterprise in its own right, Tulane University contributes to the economic vitality of the city of New Orleans, the greater New Orleans area and Louisiana in several ways—as a major employer, a buyer of goods and services from Louisiana companies, a sponsor of construction projects and a generator of tax revenues. Tulane also contributes to the local economy through off-campus spending by students and visitors to the university. This part of the report addresses Tulane’s impact in each of these areas.

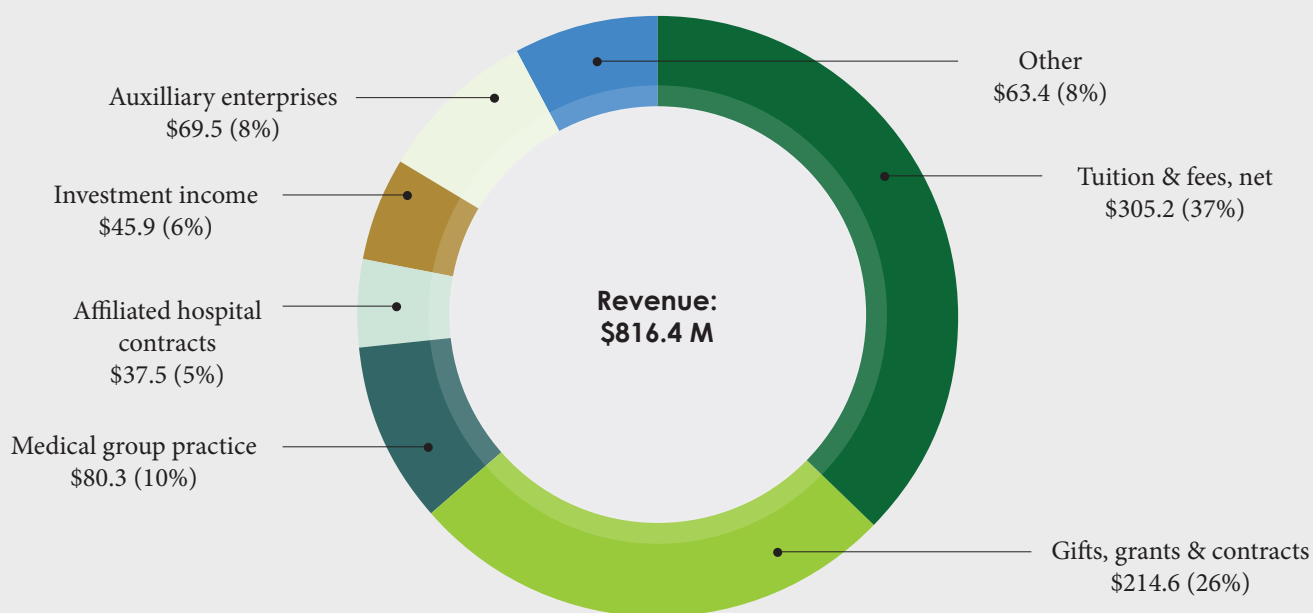
## Tulane as an income generator

In fiscal year 2013, Tulane’s revenues totaled \$816.4 million. As Figure 4 shows:

- Tuition and fees (net of institutional scholarships and fellowships) totaled \$305.2 million—37.4 percent of all revenues;

- Gifts, grants and contracts from government and private sources (\$214.6 million) accounted for 26.3 percent of all revenues;
- The School of Medicine’s medical group practice (\$80.3 million) and affiliated hospital agreements and contracts (\$37.5 million) together accounted for 14.4 percent;
- Auxiliary enterprises (\$69.5 million) accounted for 8.5 percent;
- Investment and endowment income (\$45.9 million) accounted for 5.6 percent; and
- Other sources of revenue (\$63.4 million) accounted for the remaining 7.8 percent.

**FIGURE 4:** Tulane University revenues by source, FY 2013 (in \$ millions)





## Tulane as an employer

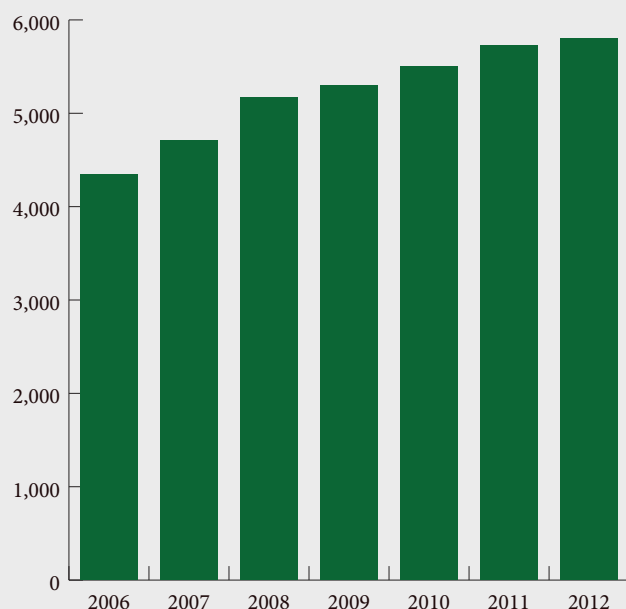
In the fall of 2012, Tulane employed 5,797 people (excluding student employees), of whom 72 percent worked full-time. In addition, the university employed 3,781 students in a variety of part-time jobs. As shown in Figure 5, employment at Tulane has grown by 33.4 percent since the fall of 2006.

In fiscal year 2013, wages and salaries paid to all Tulane employees totaled \$348.2 million, including \$4.8 million paid to student employees—an increase of 59 percent since 2006.

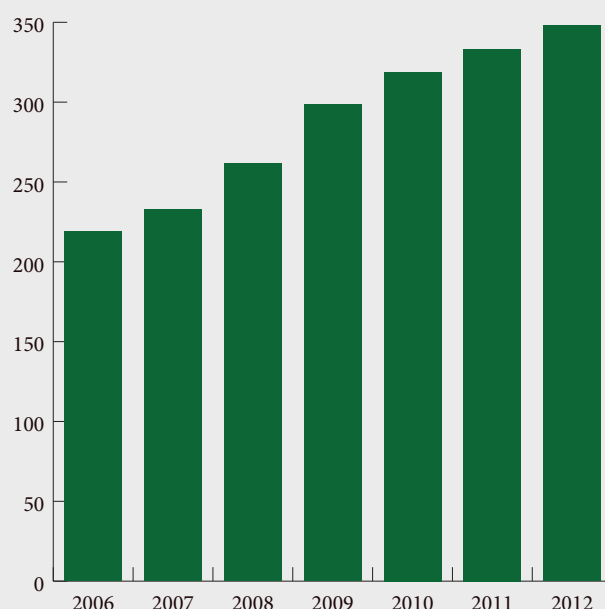
With 5,496 employees working at its New Orleans campuses, Tulane is the largest private-sector employer in the city. The university directly accounts for 3.74 percent of all private employment in the city, and 4.75 percent of all private-sector wages and salaries. The university has also been a major contributor to the city's economic recovery, directly accounting for 5.97 percent of all private-sector job growth between 2006 and 2012.

With 5,496 employees working at its New Orleans campuses, Tulane is the largest private-sector employer in the city. The university directly accounts for 3.74 percent of all private employment in the city, and 4.75 percent of all private-sector wages and salaries.

**FIGURE 5:** Tulane University full- and part-time employment, fall 2006-fall 2012



**FIGURE 6:** Tulane annual payroll, FY 2006-FY 2012 (in \$ millions)





## The diversity and quality of employment at Tulane

Tulane offers residents of the city of New Orleans and the greater New Orleans area a wide variety of high-quality jobs. As shown in Figure 7, in the fall of 2012, faculty and non-faculty research staff accounted for 47.4 percent of all non-student employment at Tulane; administrative and other professionals for 28.3 percent; and clerical and support staff for 24.3 percent.

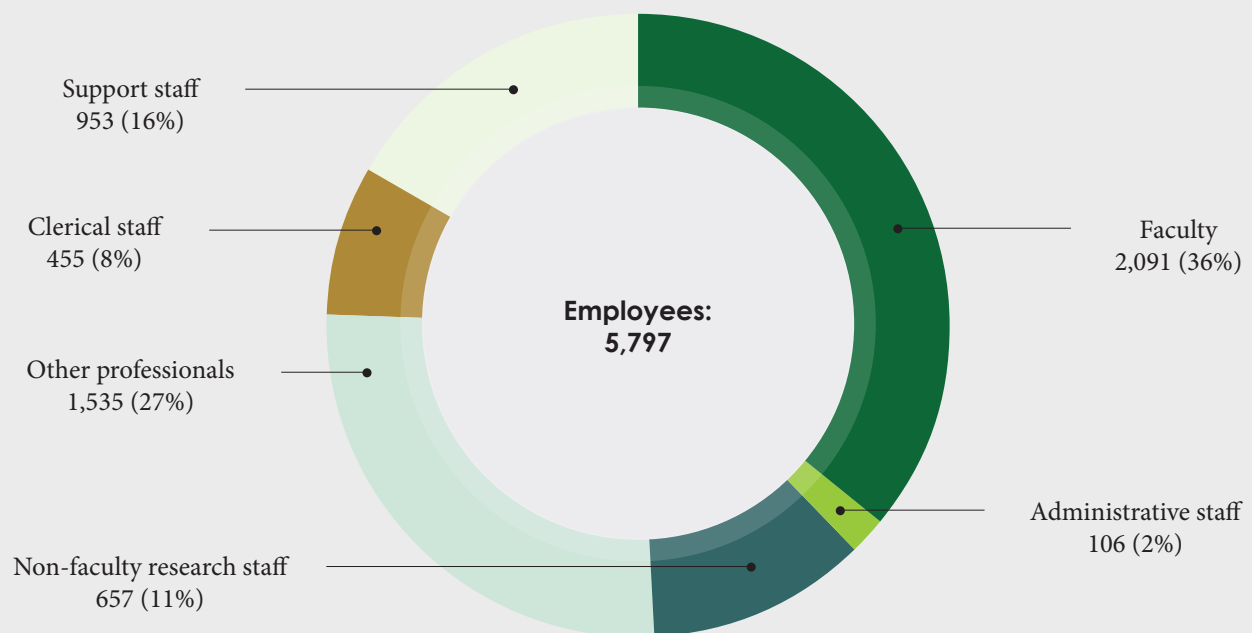
In fiscal year 2013, the average salary for full-time, full-year employees at Tulane was nearly \$98,000 significantly higher than average for all private-sector workers in New Orleans or in the greater New Orleans area.

In addition, Tulane provides a wide array of benefits to its employees, including:

- Health, dental and vision care insurance;
- Flexible spending accounts;
- Life and long-term disability care insurance;
- Retirement plans;
- Business travel accident insurance;
- Wellness programs; and
- An employee assistance program.

Tulane also provides opportunities for its employees to further their education through tuition waiver benefits. During the 2012-2013 academic year, 702 Tulane employees and their dependents participated in such tuition programs for a total value of nearly \$9.1 million.

**FIGURE 7:** Tulane full- and part-time employment by occupational category, fall 2012





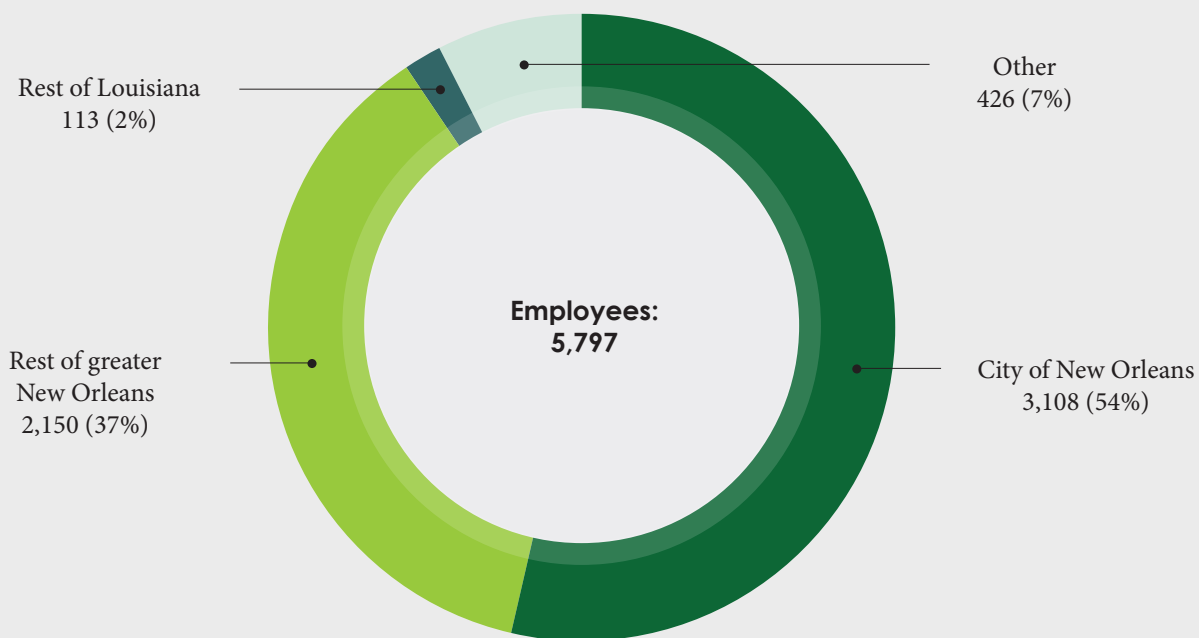
## Where Tulane employees live

As Figure 8 shows, 53.6 percent of Tulane's non-student employees lived in the city of New Orleans in the fall of 2012. Salaries and wages paid to these employees totaled nearly \$208.1 million in fiscal year 2013, or 60.6 percent of Tulane's total non-student employee payroll.

Another 2,150 non-student employees lived elsewhere in the greater New Orleans area, or 37.1 percent of all Tulane employees (excluding students). Salaries and wages paid to these employees totaled nearly \$120.9 million (35.2 percent of Tulane's total non-student employee payroll). In addition, 113 Tulane employees lived elsewhere in Louisiana.



**FIGURE 8:** Tulane employees by place of residence, fall 2012





## The impact of purchasing and construction

In addition to the people it employs directly, Tulane generates jobs in New Orleans, in greater New Orleans and elsewhere in Louisiana through its purchases of goods and services from local businesses and through construction and renovation of university facilities.

### Purchases of goods and services

In fiscal year 2013, Tulane spent nearly \$435.0 million on the purchases of goods and services (excluding construction). Of this total, 26.5 percent (\$115.1 million) was spent on goods and services provided by Louisiana companies, including:

- Nearly \$70.0 million spent on goods and services bought from companies located in New Orleans;
- Nearly \$42.6 million paid to companies located elsewhere in the greater New Orleans area; and
- \$2.7 million paid to companies located elsewhere in Louisiana.

Leading categories of goods and services purchased from companies located in New Orleans and elsewhere in the greater New Orleans area include employee health insurance, utilities, architectural and engineering services, legal services, and other professional services.

Using the IMPLAN input-output modeling system, we estimate that in fiscal year 2013, Tulane's purchases of goods and services from local businesses directly supported 433 full-time-equivalent (FTE) jobs with businesses in New Orleans, and an additional 300 FTE jobs with businesses located elsewhere in greater New Orleans. Purchases from businesses located elsewhere in Louisiana directly supported an additional 23 FTE jobs elsewhere in the state.

### Construction

Tulane also generates jobs for local residents and business for local companies through its investments in university facilities. Between fiscal years 2009 and 2013, Tulane invested \$131.9 million in construction of new and renovation of existing campus facilities. Major projects completed or underway during this period are described below.



**Yulman Stadium**, a new \$75 million, 25,000-seat on-campus football stadium. The facility will be used for the Tulane football program's practices and games, as well as other university-sponsored recreation and academic events. The stadium was completed for the 2014 football season.





Source: Woodward Design+Build

**Donna and Paul Flower Hall for Research and Innovation**, an \$11 million, 24,000 square-foot building that provides “a contemporary space for studies that bridge academia and industry.” The building houses 15 research laboratories, offices for faculty and space for graduate and undergraduate students.



A two-story addition to the **Howard Tilton Memorial Library** to replace space lost in the basement during Hurricane Katrina. The \$31.2 million FEMA-financed library addition is expected to be finished by fall 2015.



Source: Gould Evans

**Hertz Center**, a \$12.6 million, 43,000- square-foot practice and development facility for Tulane’s men’s and women’s basketball and volleyball teams. The facility includes two courts, locker rooms, office suites, training and weight rooms, video and conference rooms and equipment storage. Completed in 2012, the LEED Gold Certified facility was Tulane’s first athletic building to pursue LEED Certification for new construction.



Renovation of the historic **Devlin Fieldhouse**, a basketball and volleyball arena originally built in 1933.





**The Barbara Greenbaum House at Newcomb Lawn**, a \$28 million, 78,903-square-foot residence hall that houses 256 undergraduate students opened in August 2014.



**Ruth U. Fertel/Tulane Community Health Center and Brinton Family Health and Healing Center** (described in Part Six), an 11,000-square-foot health clinic built within the former home of Ruth's Chris Steak House in Mid-City New Orleans. The project was completed in 2012 at a cost of \$2.9 million.



**Weatherhead Hall**, a \$28 million, 80,747-square-foot residence hall that houses 269 sophomore undergraduate students. After delays in construction due to Hurricane Katrina, the energy-efficient LEED Gold Certified residence hall opened in August 2011.



Renovation of **Dinwiddie Hall** in 2010 to LEED Gold certification. Originally constructed in 1923, the building houses the anthropology department plus the Middle American Research Institute and its museum exhibits of ancient and modern Indian life in Mexico and Central America.



Renovation of a 20,000-square-foot space on two floors at **127 Elk Street** in downtown New Orleans that in 2014 became the new home of the Tulane School of Social Work.



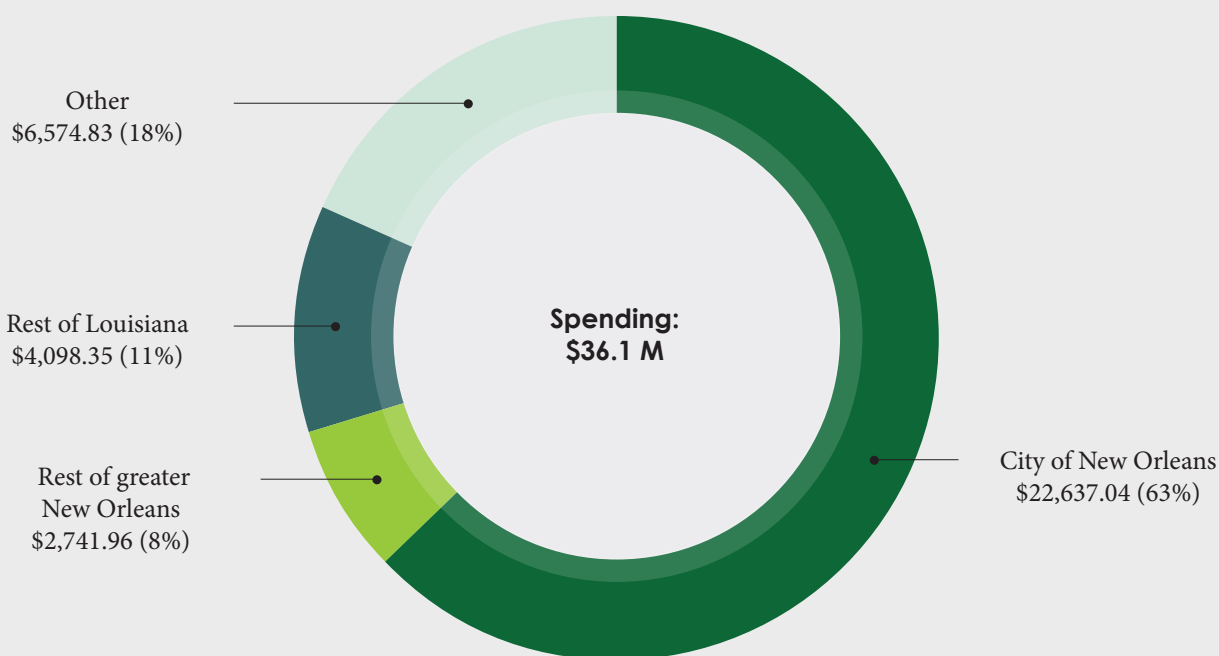
In fiscal year 2013, Tulane spent nearly \$36.1 million on construction and renovation of campus facilities, of which nearly 82 percent (\$29.5 million) was paid to contractors in Louisiana, including:

- \$22.6 million paid to contractors in New Orleans;
- \$2.7 million to contractors located elsewhere in the greater New Orleans area; and
- Nearly \$4.1 million to contractors located elsewhere in Louisiana.

Using the IMPLAN input-output modeling system—a tool of economic analysis commonly used in economic impact studies—we estimate that in fiscal year 2013, construction spending by Tulane directly supported 128 FTE jobs with contractors in New Orleans; an additional 17 FTE jobs with contractors located elsewhere in greater New Orleans; and 26 FTE jobs with contractors located elsewhere in Louisiana.

The impact of university construction spending goes beyond the immediate opportunities it creates for the region's contractors and construction workers. Tulane's investment in construction and renovation of campus facilities enhances its ability to attract faculty members and students to New Orleans, and to fulfill its mission of education, research, innovation and service to the community, which in turn enhances its capacity to contribute to the ongoing development of the city's and the region's economy.

**FIGURE 9:** Tulane construction spending by location of vendor, FY 2013 (in thousands)





## Indirect and induced effects

The jobs and economic activity generated by Tulane's spending on payroll, purchasing and construction are not limited to the direct impacts cited above. Tulane's local suppliers and contractors use some of the money they receive from the university to buy goods and services from other local companies, and the latter companies in turn buy goods and services from still other local businesses.

Tulane employees and the employees of its suppliers and contractors similarly use part of their earnings to buy a wide variety of goods and services—housing, utilities, food, personal services, and other household needs—from local businesses, and the employees of those businesses do the same.

Using IMPLAN, we can measure these indirect and induced (or “multiplier”) effects of Tulane spending. We estimate that through these effects, Tulane spending on payroll, purchasing and construction in fiscal year 2013 indirectly accounted for:

- 1,263 FTE jobs in the city of New Orleans;
- \$62.1 million in wages and salaries; and
- \$162.3 million in citywide economic output.

In greater New Orleans (including New Orleans), Tulane spending indirectly accounted for:

- 2,147 FTE jobs in the greater New Orleans area;
- \$98.1 million in wages and salaries; and
- \$268.3 million in economic output in the greater New Orleans area.

Statewide (including New Orleans and greater New Orleans), Tulane spending indirectly accounted for:

- 2,215 FTE jobs in Louisiana;
- Nearly \$101.1 million in wages and salaries; and
- Nearly \$277.1 in statewide economic output.





## Direct, indirect and induced effects of Tulane spending

Taking into account the number of people employed at Tulane and their wages and salaries, the direct impact of Tulane's payments to local vendors and contractors, and the indirect and induced impact of Tulane's spending on payroll, purchasing and construction, we estimate that in fiscal year 2013, Tulane spending on operations directly and indirectly accounted for:

- 7,321 FTE jobs in the city of New Orleans;
- Nearly \$439.6 million in wages and salaries; and
- Nearly \$586.4 million in citywide economic output.

In greater New Orleans (including New Orleans), Tulane spending directly and indirectly accounted for:

- 8,823 FTE jobs in the greater New Orleans area;
- \$509.4 million in wages and salaries; and
- \$749.4 million in economic output in the greater New Orleans area.

Statewide (including New Orleans and greater New Orleans), Tulane spending directly and indirectly accounted for:

- 8,939 FTE jobs in Louisiana;
- \$515.1 million in wages and salaries; and
- Nearly \$764.9 million in statewide economic output.

Table 1 summarizes the direct, indirect and induced economic impact of Tulane's spending on payroll, purchasing and construction.

**TABLE 1:** Direct, indirect and induced impact of Tulane spending, FY 2013 (jobs in FTE, wages and output in thousands)

	Direct spending impact		Indirect and induced effects		Total Impact
	Payroll	Purchasing/ construction	Employee spending	Vendor/ contractor spending	
<b>New Orleans</b>					
Jobs	5,496	562	939	324	7,321
Wages	\$334,380.2	\$43,040.4	\$44,592.3	\$17,554.5	\$439,567.4
Output	\$334,380.2	\$89,681.4	\$119,622.7	\$42,687.4	\$586,371.7
<b>Greater New Orleans</b>					
Jobs	5,797	878	1,620	527	8,823
Wages	\$348,209.8	\$63,095.8	\$71,832.6	\$26,292.6	\$509,430.8
Output	\$348,209.8	\$132,901.4	\$200,495.4	\$67,842.3	\$749,448.9
<b>Louisiana</b>					
Jobs	5,797	927	1,648	566	8,939
Wages	\$348,209.8	\$65,863.0	\$72,976.7	\$28,089.3	\$515,138.7
Output	\$348,209.8	\$139,576.1	\$203,948.6	\$73,132.2	\$764,866.7



## Contributing to state and local revenues

Despite its tax-exempt status, Tulane's operations contribute in a variety of ways to state and local government finances. As shown below in Table 2, Tulane's payments to the state in fiscal year 2013 included:

- Nearly \$11.5 million in state income taxes withheld from the salaries and wages of Tulane employees;
- More than \$6.0 million in payments to the Louisiana Patients Compensation Fund;
- \$230,836 in unemployment insurance taxes; and
- \$376,627 in other taxes and fees.

Payments to local governments and agencies included:

- \$554,794 paid to the city of New Orleans;
- Nearly \$1.87 million paid to the Sewerage and Water Board of New Orleans; and
- \$68,549 paid to other local governments.

In total, Tulane directly accounted for nearly \$18.1 million in Louisiana State taxes and fees and \$2.5 million in local government taxes and fees—a total of nearly \$20.6 million in state and local government revenues.

**TABLE 2:** State and local government revenues directly attributable to Tulane, FY 2013

Type of revenue	Amount
<b>State revenues</b>	
State income taxes withheld	\$11,481,018
Unemployment insurance taxes	\$230,836
Louisiana Patients Compensation Fund	\$6,000,919
Louisiana Department of Health and Hospitals	\$159,324
Louisiana State Treasurer	\$94,457
Louisiana State Bond Commission	\$40,115
Other fees paid to Louisiana State agencies	\$82,731
<b>TOTAL, STATE REVENUES</b>	<b>\$18,089,400</b>
<b>Local government revenues</b>	
City of New Orleans	\$554,794
Sewerage and Water Board of New Orleans	\$1,869,904
New Orleans City Park	\$28,440
St. Tammany Parish	\$37,572
Jefferson Parish	\$632
City of Bogalusa	\$440
Other fees paid to local government agencies	\$1,465
<b>Total, local government revenues</b>	<b>\$2,493,247</b>
<b>TOTAL STATE AND LOCAL GOVERNMENT REVENUES</b>	<b>\$20,582,647</b>



## The impact of student and visitor spending

In addition to the impact of spending by the university itself, Tulane attracts students and visitors to New Orleans who also spend money within the local economy, generating jobs and economic activity in New Orleans and elsewhere in Louisiana.

### The impact of student spending

In the fall of 2012, 8,423 undergraduate students and 4,601 graduate students (not including medical residents and fellows) were enrolled at Tulane. About 77 percent of undergraduate students and nearly 83 percent of graduate students came to Tulane from outside the New Orleans metropolitan area; and 72 percent of all undergraduates and 78 percent of graduate students came to Tulane from outside of Louisiana.

The impact of student spending is determined in part by whether students live on campus in university-owned housing, or elsewhere in New Orleans and the surrounding communities. During the 2012-2013 academic year, about 44 percent of all undergraduate students lived in university housing. Fewer than one percent of all graduate students lived on campus during the 2012-2013 academic year.

Based on data obtained from Tulane on the average cost of living for undergraduate and graduate students (as shown in Table 3), we estimate that in fiscal year 2013, off-campus spending by students coming to Tulane from outside of the New Orleans metropolitan area—for housing, food, books, transportation, entertainment and other needs—totaled \$138.3 million. We estimate that off-campus spending by students from outside of Louisiana totaled more than \$130.3 million in fiscal year 2013.

**TABLE 3:** Estimated annual off-campus student spending, by student's place of residence, FY 2013

	From outside New Orleans metro		From outside Louisiana	
	On-campus	Off-campus	On-campus	Off-campus
<b>Undergraduate</b>				
Number of students	2,852	3,650	2,668	3,414
Per student off-campus spending	\$3,670	\$15,710	\$3,670	\$15,710
<i>Subtotal, undergraduate spending</i>	<i>\$10,467,842</i>	<i>\$57,336,383</i>	<i>\$9,792,811</i>	<i>\$53,638,982</i>
<b>Graduate</b>				
Number of students	3	3,792	3	3,598
Per student off-campus spending	\$5,150	\$18,590	\$5,150	\$18,590
<i>Subtotal, graduate spending</i>	<i>\$16,991</i>	<i>\$70,487,716</i>	<i>\$16,123</i>	<i>\$66,884,392</i>
<b>TOTAL STUDENT SPENDING</b>	<b>\$10,484,833</b>	<b>\$127,824,099</b>	<b>\$9,808,934</b>	<b>\$120,523,373</b>





Tulane directly accounted for nearly \$18.1 million in Louisiana State taxes and fees and \$2.5 million in local government taxes and fees—a total of nearly \$20.6 million in state and local government revenues.





After netting out wages paid to students who are employed by Tulane, we estimate that during fiscal year 2013, off-campus spending by students who came to Tulane from outside the New Orleans metropolitan area totaled \$133.5 million, and off-campus spending by students from outside Louisiana totaled \$125.5 million.<sup>1</sup>

Using IMPLAN, we estimate that in fiscal year 2013, off-campus spending by students who came to Tulane from outside the New Orleans metro area directly and indirectly supported:

- 1,853 FTE jobs in the city of New Orleans;
- Nearly \$54.3 million in wages and salaries; and
- \$162.2 million in citywide economic output.

In greater New Orleans (including New Orleans), off-campus spending by students who came to Tulane from outside the New Orleans metro area directly and indirectly supported:

1. Because data on the place of residence of Louisiana students was not available at the parish level, the impact of student spending is only calculated for students who come to Tulane from outside the New Orleans metropolitan area (defined as the seven-parish area including Orleans, Jefferson, St. Bernard, Plaquemines, St. Charles, St. John and St. James parishes) and Louisiana.

- 1,895 FTE jobs in the greater New Orleans area;
- \$54.8 million in wages and salaries; and
- \$167.0 million in economic output in the greater New Orleans area.

At the state level, off-campus spending by students who came to Tulane from outside of Louisiana directly and indirectly supported:

- 1,964 FTE jobs in Louisiana;
- \$49.1 million in wages and salaries; and
- \$167.0 million in statewide economic output.<sup>2</sup>

Table 4 summarizes the direct, indirect and induced economic impact of off-campus spending by non-local Tulane students.

2 Because it includes only the impact of direct spending by students who come to Tulane from outside Louisiana, the state-level impact of student spending is slightly smaller than the impact of student spending at the local and regional levels.

**TABLE 4:** Direct, indirect and induced impact of off-campus spending by Tulane students, FY 2013 (jobs in FTE, wages and output in thousands)

	Jobs	Wages	Output
<b>New Orleans</b>			
Direct	1,520	\$37,967.9	\$119,846.0
Indirect/induced	333	\$16,304.5	\$42,384.7
<b>Total impact in New Orleans</b>	<b>1,853</b>	<b>\$54,272.4</b>	<b>\$162,230.7</b>
<b>Greater New Orleans</b>			
Direct	1,520	\$37,967.9	\$119,846.0
Indirect/induced	375	\$16,841.9	\$47,191.6
<b>Total impact in greater New Orleans</b>	<b>1,895</b>	<b>\$54,809.8</b>	<b>\$167,037.6</b>
<b>Louisiana</b>			
Direct	1,542	\$31,609.6	\$112,698.4
Indirect/induced	422	\$17,501.8	\$54,348.0
<b>Total impact in Louisiana</b>	<b>1,964</b>	<b>\$49,111.4</b>	<b>\$167,046.4</b>



## The impact of visitor spending

Spending by visitors to Tulane similarly contributes to the vitality of the local economy. During the 2012-2013 academic year, Tulane estimates that 182,260 people visited the Tulane campus—for athletic events, commencement, prospective student tours, alumni events, conferences and other events. Of these visitors, we estimate that approximately 51.7 percent came from outside the city of New Orleans and 50.5 percent came from outside of Louisiana.

Based on data obtained from the Louisiana Office of Tourism, we estimate that visitors to Tulane from outside New Orleans spent a total of nearly \$46.5 million in the local area during fiscal year 2013. This spending consists of payments to local restaurants, hotels and shops in New Orleans. Using IMPLAN, we estimate that in fiscal year 2013, off-campus spending by visitors from outside of New Orleans directly and indirectly supported:

- 793 FTE jobs in the city of New Orleans;
- Nearly \$28.4 million in wages and salaries; and
- Nearly \$63.1 million in citywide economic output.

In greater New Orleans (including New Orleans), off-campus spending by visitors from outside of New Orleans directly and indirectly supported:

- 817 FTE jobs in the greater New Orleans area;
- Nearly \$28.4 million in wages and salaries; and
- More than \$65.8 million in economic output in the greater New Orleans area.

At the state level, we estimate that local spending by visitors coming to Tulane from outside of Louisiana totaled \$45.2 million in fiscal year 2013. Using IMPLAN we estimate that in fiscal year 2013, off-campus spending by visitors from outside of Louisiana directly and indirectly supported:

- 881 FTE jobs in Louisiana;
- More than \$27.0 million in wages and salaries; and
- Nearly \$69.2 in statewide economic output.<sup>3</sup>

Table 5 summarizes the direct, indirect and induced economic impact of off-campus spending by non-local visitors to Tulane.

3. As with student spending, the direct impact of visitor spending is smaller at the state level than at the regional level because it includes only the impact of spending by visitors from outside Louisiana. The indirect and induced impacts shown in Table 5 are nevertheless somewhat larger at the state level because multiplier effects are generally larger at the state level than at the local or regional level.

**TABLE 5:** Direct, indirect and induced impact of off-campus spending by non-local visitors to Tulane, FY 2013 (jobs in FTE, wages and output in thousands)

	Jobs	Wages	Output
<b>New Orleans</b>			
Direct	641	\$20,613.7	\$43,790.6
Indirect/induced	152	\$7,743.8	\$19,271.1
<b>Total impact in New Orleans</b>	<b>793</b>	<b>\$28,357.4</b>	<b>\$63,061.8</b>
<b>Greater New Orleans</b>			
Direct	641	\$20,613.7	\$43,790.6
Indirect/induced	176	\$7,766.4	\$22,051.0
<b>Total impact in greater New Orleans</b>	<b>817</b>	<b>\$28,380.1</b>	<b>\$65,841.6</b>
<b>Louisiana</b>			
Direct	673	\$18,278.8	\$42,600.9
Indirect/induced	208	\$8,737.4	\$26,558.7
<b>Total impact in Louisiana</b>	<b>881</b>	<b>\$27,016.2</b>	<b>\$69,159.6</b>



## Adding it all up: the impact of Tulane, student and visitor spending

Taking into account the total direct, indirect and induced economic impact of Tulane's operations, off-campus spending by Tulane students and spending by visitors attending Tulane-related events, we estimate that in fiscal year 2013, Tulane directly and indirectly accounted for:

- 9,967 FTE jobs in the city of New Orleans;
- Nearly \$522.2 million in wages and salaries; and
- Nearly \$811.7 million in citywide economic output.

In greater New Orleans (including New Orleans), university, student and visitor spending directly and indirectly accounted for:

- 11,535 FTE jobs in the greater New Orleans area;
- \$592.6 million in wages and salaries; and
- More than \$982.3 million in economic output in the greater New Orleans area.

At the state level (including New Orleans and greater New Orleans), university, student and visitor spending directly and indirectly accounted for:

- 11,784 FTE jobs in Louisiana;
- Nearly \$591.3 million in wages and salaries; and
- More than \$1.0 billion in statewide economic output.

These combined impacts in the city of New Orleans, in greater New Orleans and in Louisiana are summarized below in Tables 6, 7 and 8.

**TABLE 6:** Tulane's total economic impact in New Orleans, FY 2013, (jobs in FTE, wages and output in thousands)

	Jobs	Wages	Output
<b>Impact of Tulane spending</b>			
Direct	6,058	\$377,420.6	\$424,061.6
Indirect/induced	1,263	\$62,146.7	\$162,310.1
<i>Subtotal, Tulane spending impact</i>	<i>7,321</i>	<i>\$439,567.4</i>	<i>\$586,371.7</i>
<b>Impact of student spending</b>			
Direct	1,520	\$37,967.9	\$119,846.0
Indirect/induced	333	\$16,304.5	\$42,384.7
<i>Subtotal, student spending impact</i>	<i>1,853</i>	<i>\$54,272.4</i>	<i>\$162,230.7</i>
<b>Impact of visitor spending</b>			
Direct	641	\$20,613.7	\$43,790.6
Indirect/induced	152	\$7,743.8	\$19,271.1
<i>Subtotal, visitor spending impact</i>	<i>793</i>	<i>\$28,357.4</i>	<i>\$63,061.8</i>
<b>TOTAL IMPACT</b>	<b>9,967</b>	<b>\$522,197.2</b>	<b>\$811,664.2</b>



**TABLE 7:** Tulane's total economic impact in greater New Orleans, FY 2013 (jobs in FTE, wages and output in thousands)

	Jobs	Wages	Output
<b>Impact of Tulane spending</b>			
Direct	6,675	\$411,305.6	\$481,111.2
Indirect/induced	2,147	\$98,125.1	\$268,337.7
<i>Subtotal, Tulane spending impact</i>	8,823	\$509,430.8	\$749,448.9
<b>Impact of student spending</b>			
Direct	1,520	\$37,967.9	\$119,846.0
Indirect/induced	375	\$16,841.9	\$47,191.6
<i>Subtotal, student spending impact</i>	1,895	\$54,809.8	\$167,037.6
<b>Impact of visitor spending</b>			
Direct	641	\$20,613.7	\$43,790.6
Indirect/induced	176	\$7,766.4	\$22,051.0
<i>Subtotal, visitor spending impact</i>	817	\$28,308.1	\$65,841.6
<b>TOTAL IMPACT</b>	<b>11,535</b>	<b>\$592,620.7</b>	<b>\$982,328.1</b>

**TABLE 8:** Tulane's total economic impact in Louisiana, FY 2013 (jobs in FTE, wages and output in thousands)

	Jobs	Wages	Output
<b>Impact of Tulane spending</b>			
Direct	6,724	\$414,072.8	\$487,785.9
Indirect/induced	2,215	\$101,065.9	\$277,080.8
<i>Subtotal, Tulane spending impact</i>	8,939	\$515,138.7	\$764,866.7
<b>Impact of student spending</b>			
Direct	1,542	\$31,609.6	\$112,698.4
Indirect/induced	422	\$17,501.8	\$54,348.0
<i>Subtotal, student spending impact</i>	1,964	\$49,111.4	\$167,046.4
<b>Impact of visitor spending</b>			
Direct	673	\$18,278.8	\$42,600.9
Indirect/induced	208	\$8,737.4	\$26,558.7
<i>Subtotal, visitor spending impact</i>	881	\$27,016.2	\$69,159.6
<b>TOTAL IMPACT</b>	<b>11,784</b>	<b>\$591,266.3</b>	<b>\$1,001,072.8</b>



A woman with blonde hair, wearing a white cardigan over a white top and a necklace, is sitting at a wooden desk in a library or study. She is looking down at a book or papers on the desk. A modern-style lamp with a white conical shade and a metal frame is positioned behind her, casting a warm light. The background shows wooden bookshelves and other study tables, creating a quiet academic atmosphere.

PART THREE:

# Developing the region's human capital



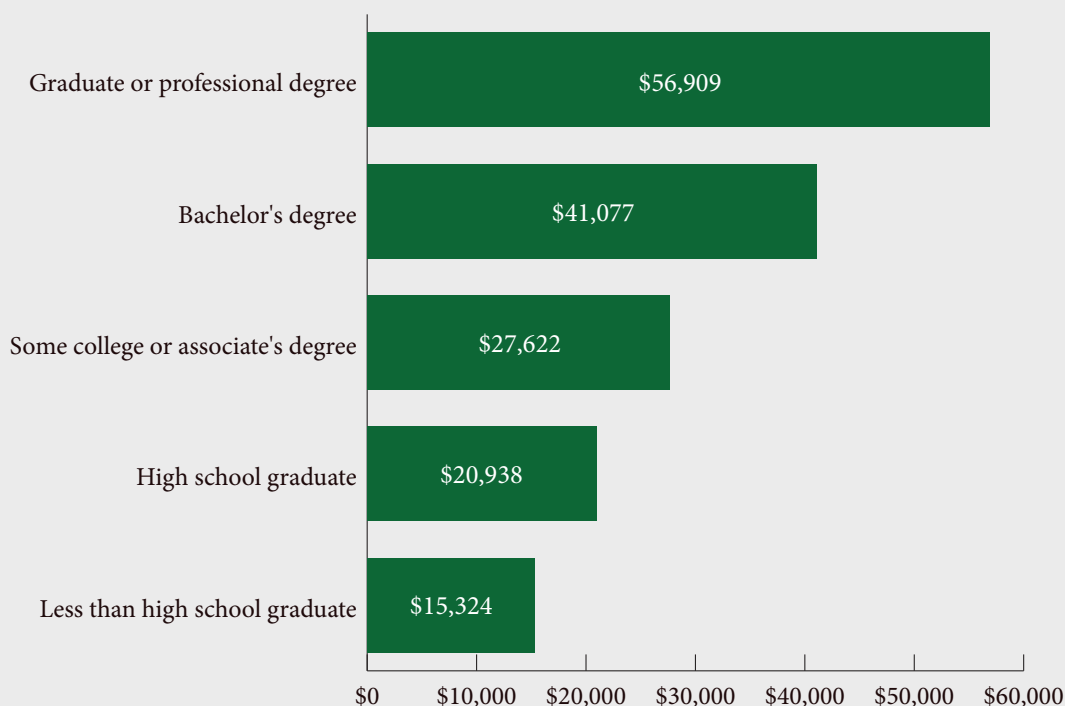
**H**uman capital—the accumulated knowledge, skills and experience of a nation’s, a region’s or a city’s people—is perhaps the single most important contributor to economic growth. At the individual level, the impact of education on earnings is widely understood. As shown in Figure 10, in 2012 the median earnings of New Orleans residents who had bachelor’s degrees were nearly \$20,140 greater (nearly double) than the median income of those who had only a high school diploma. The median income of those with a graduate or professional degree was nearly \$36,000 greater (172 percent higher) than the median income of those who had only a high school diploma.

The economic benefits of higher education, however, are not limited to those who earn degrees. A study published by the Milken Institute in 2013 found that in U.S. metropolitan areas, increasing employed workers’ average years of schooling by one year increased regional GDP per capita by 10.5 percent and increased average real wages by 8.4 percent.

Higher education was found to have an even greater impact than education generally: Adding one year of schooling to the educational attainment of workers who already had a high school diploma increased average GDP per capita by 17.4 percent and average real wages by 17.8 percent.<sup>4</sup>

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

**FIGURE 10:** Median earnings (in 2012 inflation adjusted dollars) by educational attainment for New Orleans residents age 25 years and older, 2012





Even non-college educated workers benefit from this effect. Enrico Moretti has shown that a 1 percentage point increase in the percentage of workers with college degrees is associated with a 1.6 percent increase in the earnings of workers who only have high school diplomas.<sup>5</sup>

5. Enrico Moretti, "Social Returns to Human Capital," NBER Reporter: Research Summary, spring 2005; and Moretti, *The New Geography of Jobs* (Houghton Mifflin Harcourt, 2012) p. 100.

## Trends in enrollment

In the fall of 2012, a total of 13,486 students were enrolled at Tulane University, including 8,423 undergraduates and 5,063 graduate and professional students (including 462 medical residents and fellows). Table 9 shows undergraduate and graduate student enrollment by school.

**TABLE 9:** Tulane undergraduate and graduate/professional enrollment by school, fall 2012

School/College	Enrollment
<b>Undergraduate</b>	
Newcomb-Tulane College	410
School of Architecture	264
A.B. Freeman School of Business	1,619
School of Liberal Arts	2,086
School of Public Health and Tropical Medicine	387
School of Science and Engineering	1,702
School of Continuing Studies	1,889
Cross Enrollment/ROTC	66
<b>Total, Undergraduate enrollment</b>	<b>8,423</b>
<b>Graduate and professional</b>	
School of Architecture	101
A.B. Freeman School of Business	781
School of Law	906
School of Liberal Arts	344
School of Medicine	1,388
School of Public Health and Tropical Medicine	810
School of Science and Engineering	428
School of Social Work	219
School of Continuing Studies	86
<b>Total, Graduate and professional enrollment</b>	<b>5,063</b>
<b>TOTAL ENROLLMENT</b>	<b>13,486</b>

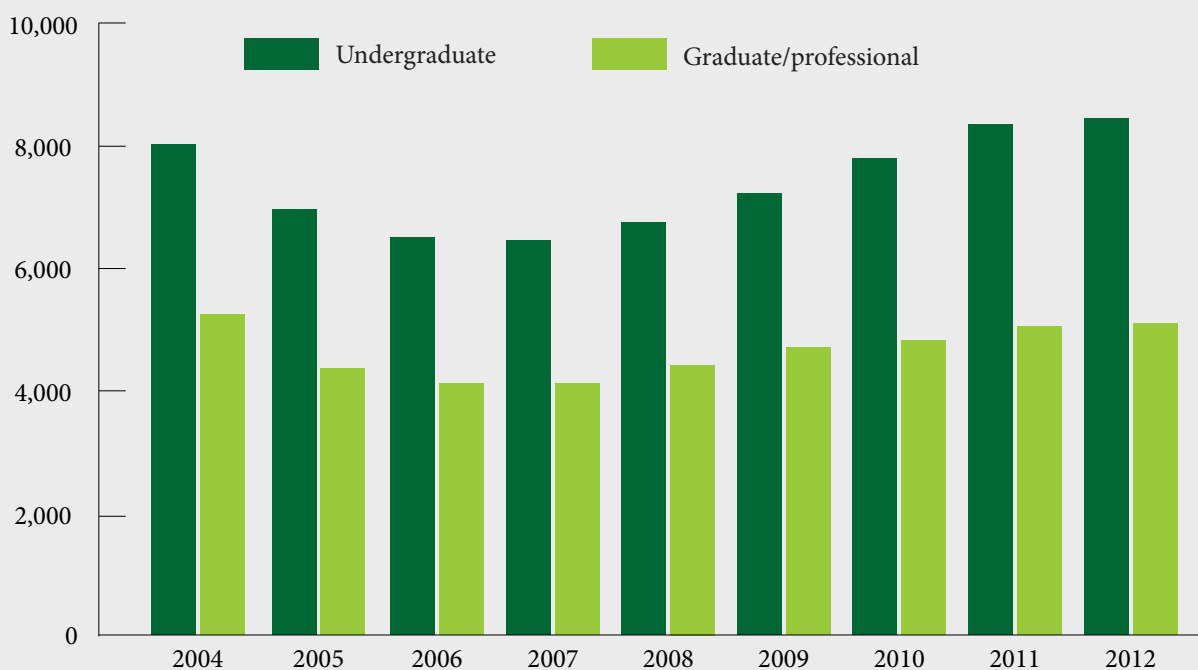


As shown in Figure 11, Tulane's student enrollment has fully recovered since Hurricane Katrina. Between the fall of 2006 and the fall of 2012, combined undergraduate, graduate and professional enrollment rose by 27 percent, surpassing its pre-Katrina peak.

### Where Tulane students come from and where alumni live

As shown in Figure 12, in the fall of 2012, about 23 percent of undergraduate students and 17.5 percent of graduate students were residents of the New Orleans metropolitan area, and an additional 5 percent of undergraduates and 4.2 percent of graduate students were from elsewhere in Louisiana. About 69 percent of undergraduates and nearly 59 percent of graduate students were from elsewhere in the U.S., and 3.1 percent of undergraduates and nearly 20 percent of graduate students were international students.

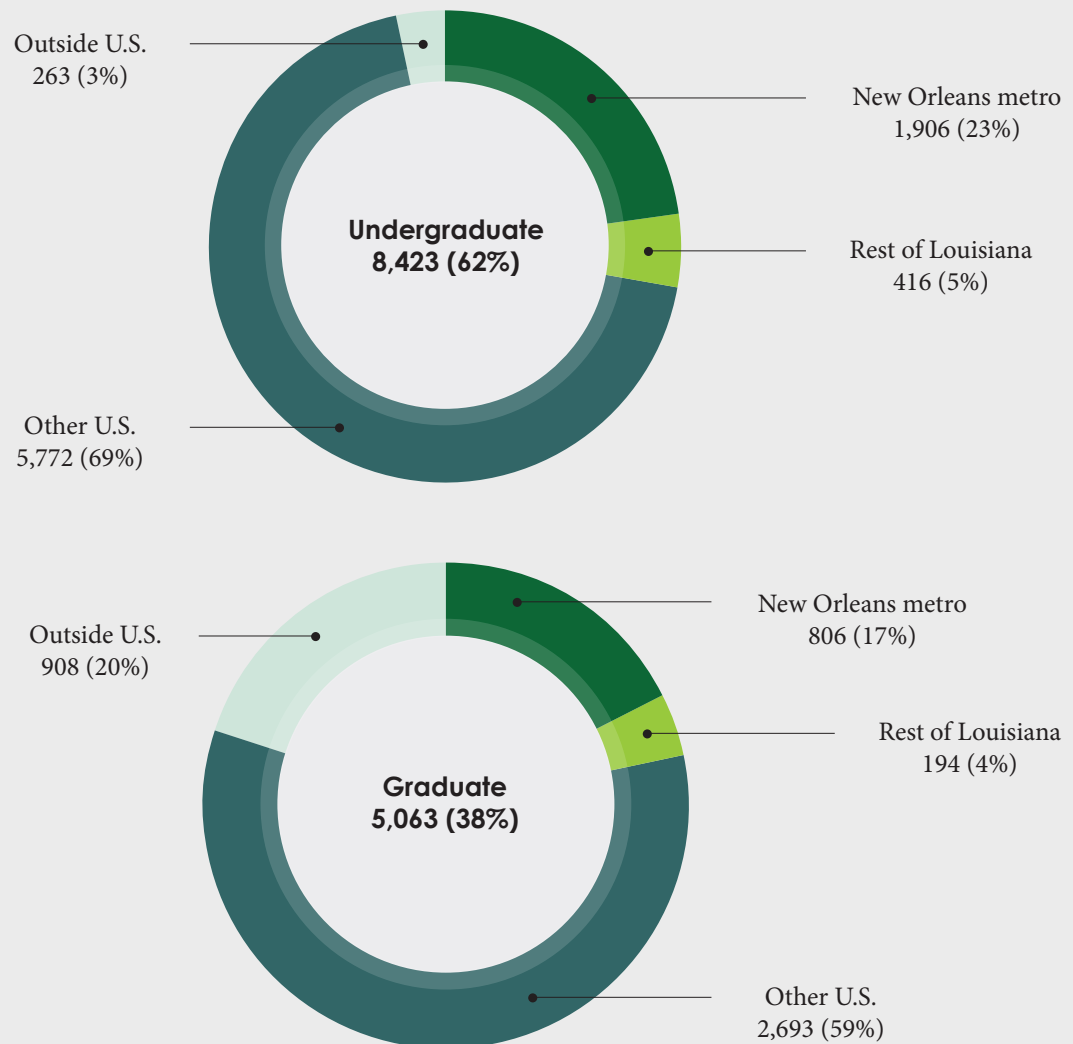
**FIGURE 11:** Tulane undergraduate and graduate/professional enrollment, fall 2004 – fall 2012







**FIGURE 12:** Tulane undergraduate and graduate/professional enrollment by student's place of residence, fall 2012





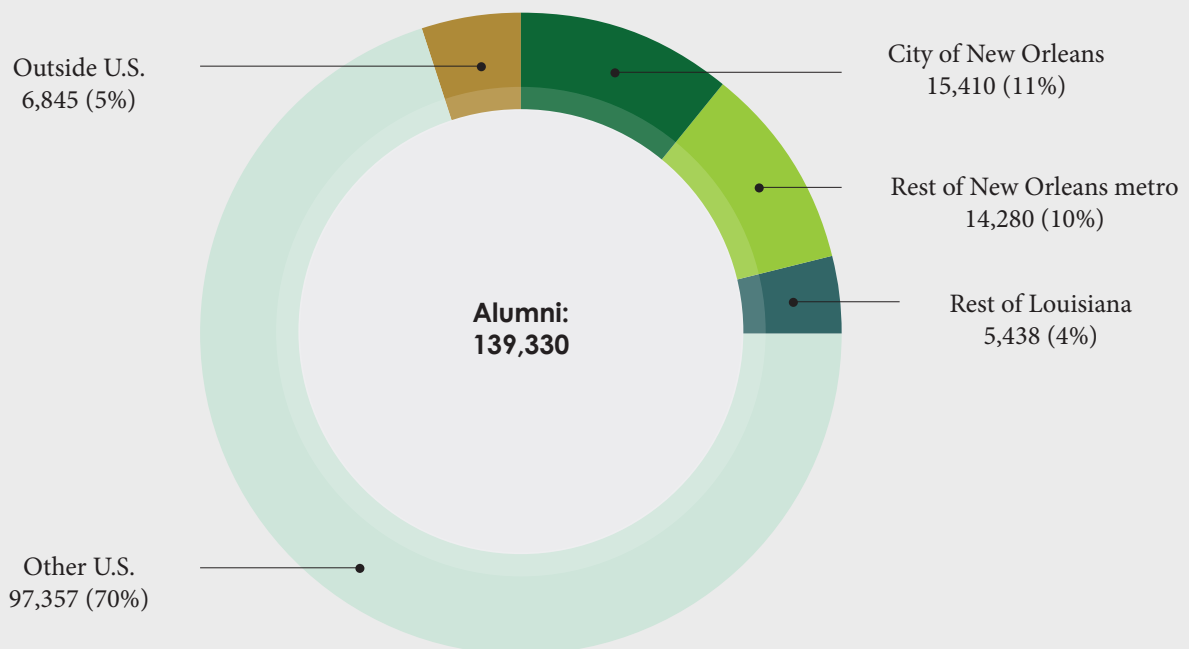
As shown in Figure 13, as of the summer of 2013:

- 15,410 Tulane alumni (11.1 percent of all university alumni) lived in New Orleans;
- 14,280 alumni (10.2 percent of all alumni) lived elsewhere in the New Orleans metropolitan area; and
- 5,438 (3.9 percent) lived elsewhere in Louisiana.

Data on where alumni live by year of graduation suggest that the number of Tulane graduates who choose to stay in New Orleans after they graduate has increased in recent years. Of those who graduated in the 10 years prior to Hurricane Katrina (1996 through 2005), 11.8 percent were living in the city as of the summer of 2013. Among alumni who graduated between 2006 and 2012, despite the decline in the city's overall population and the disruption of its economy, 16.1 percent lived in New Orleans.

The number of Tulane graduates who choose to stay in New Orleans after they graduate has increased in recent years. As of the summer of 2013, 15,410 alumni lived in New Orleans, and nearly 30,000 lived in the greater metropolitan area.

**FIGURE 13:** Tulane alumni by place of residence, summer 2013





## Preparing students to succeed in tomorrow's economy

Tulane offers undergraduate, graduate and professional degrees in architecture, business, law, liberal arts, medicine, public health and tropical medicine, science and engineering and social work. In all of these areas, the university offers—and in recent years has expanded—programs that are preparing students to succeed in a changing economy. The following are just a few of the notable programs offered at Tulane.

- The Tulane School of Science and Engineering offers an undergraduate degree in **Engineering Physics** that focuses on the application of the principles and techniques of physics to practical problems in engineering and technology, with a particular emphasis on new materials, computational engineering and nanotechnology. The program includes required design courses, industry internships and a two-semester senior design project.
- Launched during the 2012-2013 academic year, the School of Science and Engineering's coordinate major in **Computer Science** provides undergraduate students with the opportunity to apply their studies in computer science to a major in a different discipline. Students are required to complete a sequence of courses in computer science, followed by a capstone project in which the student “demonstrates the application of computer science” to their other chosen area of study.
- The School of Liberal Arts offers a coordinate major in **Digital Media Production**, allowing students majoring in music, theater, dance, communications or English to also focus on the art, craft and technology of digital media, including film, television, video, animation and sound. The program also offers opportunities for hands-on learning through internships with the New Orleans area's fast-growing media industries.
- The Freeman School of Business' full-time, 10-month **Master of Management in Energy** program prepares students with the analytical skills and specialized knowledge needed to work in the fields of energy finance, risk management and trading. The program combines classroom lectures with hands-on experiential learning using simulators, commercial trading systems and databases at the program's \$3 million trading center, and through energy projects in which student teams have the opportunity to work on faculty and corporate-sponsored projects. Students learn both the economics and technology of the energy sector, and the financial instruments used to trade energy.
- The School of Architecture's **Master of Sustainable Real Estate Development** program, launched in 2011, equips graduate students with the knowledge and skills needed to create innovative business and design strategies for sustainable real estate development in urban environments. The “practitioner-oriented” one-year program combines courses on business, sustainable design, economics and legal issues, while using New Orleans as a living laboratory.
- Undergraduate students enrolled in the School of Public Health and Tropical Medicine's **BSPH/MPH Combined Degree Program** have the opportunity to pursue a B.S. in public health and a master of public health, an MS in public health or a master of health administration. The first three years of the combined degree program are focused on undergraduate studies, followed by a fourth year during which students begin their graduate studies and complete their undergraduate studies. Upon completion of the fourth year, students spend the next year and a half (approximately) completing their chosen master's level professional degree from the School of Public Health and Tropical Medicine.
- Started in the fall of 2013, the School of Science and Engineering's new interdisciplinary **Bioinnovation** PhD is a five-year program that combines courses in fundamental science and engineering with courses in entrepreneurship, business plan development and intellectual property (through the School of Business/Levy-Rosenblum Institute for Entrepreneurship and School of Law). Students also are required to complete a summer internship at the U.S. Food and Drug Administration in order to gain real-world experience in the regulatory aspects of successfully developing biomedical technologies.
- The Economics Department's new interdisciplinary **Economic Analysis and Policy** PhD program seeks to prepare graduate students with the economic analysis skills needed to assess real-world problems and evaluate policies affecting the public, private and nonprofit sectors. Students may choose among four fields of concentration: environmental economics



and policy, health and human capital, public finance and public policy, and inequality and poverty.

- The combined degree program in **Chemical Engineering and Biomedical Sciences** offers graduate students the opportunity to earn an MS in Biomedical Sciences and a PhD in Chemical Engineering during a three-year combined program. Established in 1993, the interdisciplinary program prepares students “with a strong theoretical and research background in both engineering and the sciences” through a curriculum that combines core chemical and biomolecular engineering courses with electives in the biological sciences.
- Graduate and undergraduate business students have the opportunity to gain investment research experience in the **Burkenroad Reports** program of the A.B. Freeman School of Business, in which teams of three to four students analyze a public company and report on its investment potential. Research involves interviewing top management, visiting company sites, developing financial models and analyzing industry information and financial documents. During the for-credit course, students are trained in equity analysis through a mix of classroom lectures, company site visits and a full-day analyst workshop.
- MBA, Master’s of Finance and undergraduate business students have the opportunity to gain hands-on investment experience in the **Darwin Fenner Fund** program, in which students manage a nearly \$3.25 million mutual fund portfolio by learning to screen and analyze stocks using the same research and electronic databases used by professional fund managers. Since 2002, the student-run Darwin Fenner Fund has regularly outperformed the S&P 500 and other benchmarks.
- Undergraduate and graduate business students have the opportunity to use what they have learned in the classroom to help solve real-world business problems through the A.B. Freeman School of Business **Freeman Consulting Group**. Student members of Freeman Consulting Group work together in teams supervised by Freeman School faculty, staff and alumni to help small businesses and nonprofits in the New Orleans area with marketing plans, feasibility analyses, accounting and information systems, and other business needs on a no-fee basis.

The impact of Tulane programs on the career-readiness of its undergraduate and graduate students is evident in the data on post-graduation placement rates. The university’s 2012 Exit Student Survey found that 82 percent of all those who graduated as members of the Class of 2012 were either employed or maintaining a previous job, pursuing further education, partaking in an internship or research, or starting their own business.

Consistent with the data cited above on where alumni live, many of these Tulane graduates plan to stay in New Orleans and Louisiana. Of the 2012 Exit Student Survey respondents who reported that they were employed post-graduation, 35 percent reported that they planned to live in Louisiana; and of those that reported that they were attending graduate or professional school, 39 percent were enrolled at Tulane and an additional 5 percent were enrolled at Louisiana State University.

## Continuing education

Demand for higher education is not limited to students who are moving directly from highschool to full-time undergraduate study, or who are pursuing full-time graduate or professional studies. Especially in an era when investments in human capital are essential to success in the labor market, there is a continuing need for programs that offer working adults opportunities to earn degrees or to acquire the more specific knowledge and skills they need to advance in their careers, and that can develop the skilled workforce on which the region’s continued economic growth depends.

The Tulane School of Continuing Studies (SCS) is the division within the university that focuses primarily on meeting this need for life-long learning. SCS offers bachelor’s and associate’s degrees and pre- and post-baccalaureate certificates in fields as diverse as the traditional liberal arts, digital design, health and wellness, paralegal studies, applied business, public relations, information systems and information technology, website development and journalism. The SCS also offers master’s degrees in applied computing, homeland security and the liberal arts.

The School offers courses on the university’s uptown campus and at three other locations:

- The Elmwood campus, in Harahan, Louisiana;
- The Gulf Coast campus, in Biloxi, Mississippi; and
- The Madison campus, in Madison, Mississippi.





## Training leaders for resilience in disasters

Tulane's experience and that of New Orleans in responding to and recovering from the destruction that occurred in the wake of Hurricane Katrina have given the university an especially strong grounding in issues of disaster resilience, and in the central role of strong local leadership in determining how effectively communities are able to respond to both natural and man-made disasters. Building on that experience, the university established the Disaster Resilience Leadership Academy (DRLA), an interdisciplinary program that brings together faculty from the Schools of Medicine, Public Health and Tropical Medicine, Law, Business and Social Work, as well as experts from outside the university. The DRLA offers a master's degree in Disaster Resilience Leadership, as well as 12-credit certificate programs in areas such as disaster relief operations and management of environmental hazards.

The Academy also is leading a multi-year program, funded by the Bill and Melinda Gates Foundation and the World Bank, aimed at developing local disaster resilience leadership capacity in communities in Africa, Asia and the Caribbean that are particularly vulnerable to disaster. The program includes short courses and certificate programs aimed at strengthening local leadership in the near term, longer-term capacity-building and the development of regional and global networks through which communities can share knowledge and resources.



In the fall of 2012, 1,975 students were enrolled in the School of Continuing Studies—nearly 15 percent of total enrollment at Tulane. Of these students, about 25 percent have a college degree, 45 percent have completed some college and 20 percent had no college experience prior to enrolling in the SCS.

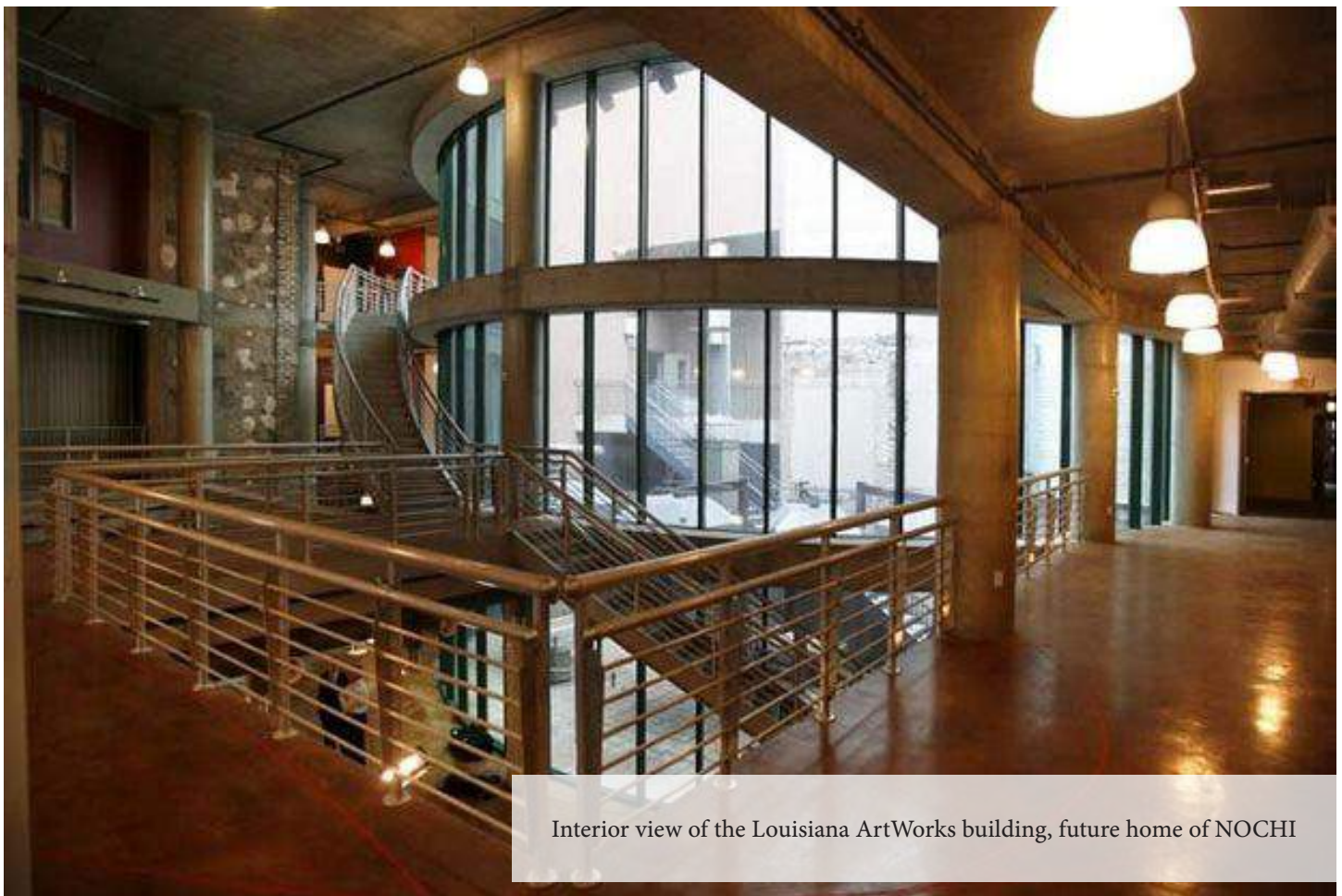
## Executive education

In addition to its regular degree programs, Tulane offers a variety of executive and professional education programs.

- The A.B. Freeman School of Business offers an 18-month **Executive MBA** program for working executives at the uptown campus, as well as in Houston. The program's curriculum prepares students to be successful in an increasingly integrated world through coursework that incorporates global strategies and an eight-day international seminar that "focuses on the strategic and operational issues of doing business abroad." Students have the opportunity to concentrate in finance or management.
- The Freeman School also offers a 33-month **Professional MBA** program on both the New Orleans uptown campus and in Houston that allows professionals to earn their MBA while working full-time. In New Orleans, 27 students are enrolled in the Class of 2017; and in Houston, 21 students are enrolled in the Class of 2015.
- The School of Public Health and Tropical Medicine offers distance learning options to working professionals through the school's **Center for Applied Environmental Public Health**. The career MPH/MSPH program offers four areas of concentration: disaster management, occupational health and safety management, occupational and environmental health, and industrial hygiene. Students also have the opportunity to earn graduate-level certificates in disaster management and industrial hygiene.
- The School of Public Health and Tropical Medicine also offers an **Executive Doctor of Science Program** aimed at developing mid-career health professionals "to become independent health service scholars, and to advance knowledge of health systems through collaborative research and publication."







Interior view of the Louisiana ArtWorks building, future home of NOCHI

Source: The Times-Picayune

## Creating a new center of excellence in New Orleans

In addition to the degree programs cited above, Tulane—both on its own and in collaboration with other local institutions—continues to develop programs that are geared to the needs of the New Orleans economy. A notable example is the New Orleans Culinary and Hospitality Institute (NOCHI), a collaborative venture among Delgado Community College, the University of New Orleans and Tulane, that will provide professional education and workforce development for one of the city's (and the region's) most important sectors.

The institute is the brainchild of Ti Martin, co-owner of the city's legendary Commander's Palace restaurant and an MBA graduate of Tulane, who in 2013 created a nonprofit organization to pursue its development. The partners' goal is to create in New Orleans a center of excellence in culinary and hospitality education comparable to those of Johnson & Wales University in Providence, Rhode Island, or the Culinary Institute of America in New York.

In the spring of 2014, NOCHI acquired from the city a 93,000 square-foot, five-story building on Howard Street that had previously been the home of Louisiana ArtWorks. Detailed planning for the programs NOCHI will offer is now under way, as is planning for conversion of the ArtWorks building for use in culinary and hospitality education. The institute is expected to enroll its first students in 2016.



A middle-aged man with grey hair and glasses, wearing a white lab coat over a blue shirt and a yellow and blue striped tie. He has a university crest on his left chest and a name tag that reads "L. Lee Hamm, M.D.". He is gesturing with both hands while speaking. A stethoscope is visible in his lab coat pocket. The background is a plain, light-colored wall. In the foreground, the back of a person's head is visible, and a blurred table with a cup and papers is in the lower left.

PART FOUR:

# The impact of university research



University-based research and development has been a significant contributor to the growth of the U.S. economy for more than 50 years. University research also contributes in several ways to the economic vitality of cities and regions, by:

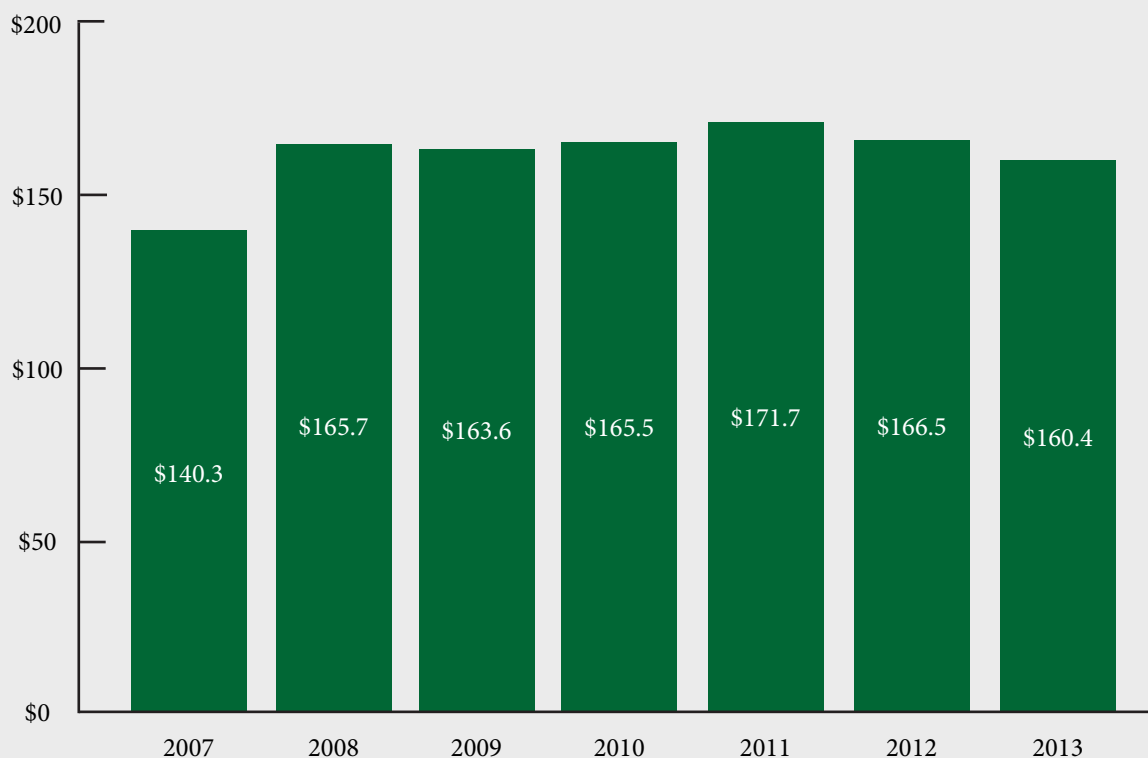
- Attracting tens of millions of dollars in funding each year from sources outside the region—most of which is spent locally;
- Providing a foundation for the creation of new products and services, new businesses and new jobs;

- Helping to address problems that adversely affect the region's growth and the quality of life its residents enjoy; and
- Helping students prepare more effectively for careers as highly skilled professionals, innovators and entrepreneurs.

### Trends in research spending

After declining by 17 percent in the year following Hurricane Katrina, research spending at Tulane rose to a high of \$171.7 million in 2011—an increase of more than 44 percent in five years. Research spending declined somewhat in 2012 and 2013 due to federal budgetary constraints, but as of 2013 were still significantly above pre-Katrina levels.

**FIGURE 14:** Tulane annual research spending, FY 2007 – FY 2013 (in \$ millions)





As shown in Figure 15, the federal government is Tulane’s largest source of research funding, accounting for 61.1 percent (nearly \$98.0 million) of total research expenditures in fiscal year 2013. Other leading sources included internal funding (nearly \$32.0 million), nonprofits (\$16.3 million), foundations (\$4.1 million) and corporate partners (\$6.5 million). Funding from state and local governments accounted for 2.0 percent (\$3.3 million) of Tulane’s research spending and foreign governments for 0.2 percent (\$318,510).

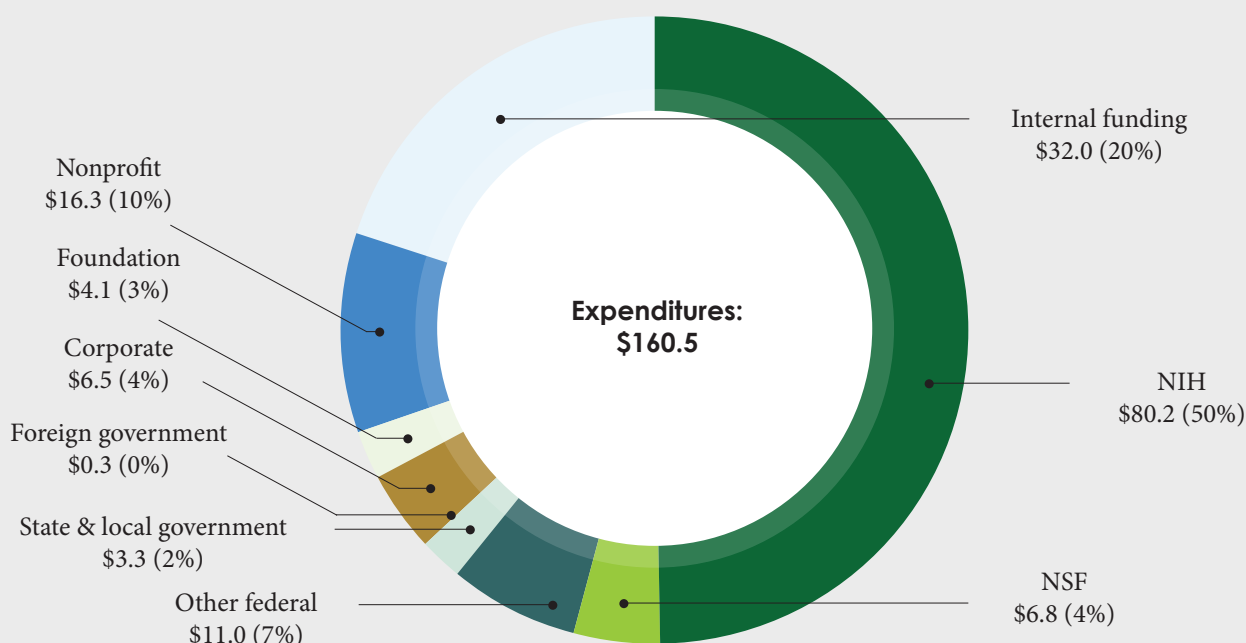
## Research at Tulane

While Tulane is particularly strong in biomedical and other life sciences research, the university has strengths in several other areas as well. Research conducted at Tulane can help provide a basis for future innovation and economic growth, and can at the same time help address some of the region’s most pressing problems. Below we cite just a few examples.

- The **Tulane Cancer Center** is a “matrix center” that supports the work of more than 100 university faculty members in the Schools of Medicine, Public Health and Tropical Medicine, Science and Engineering and the Tulane National Primate Research Center. Its work focuses on four areas—molecular genetics, tumor biology, population science and prevention, and clinical and translational research. In 2012, the center’s funding included about \$11 million from the National Institutes of Health.

The center is also a partner—along with the LSU New Orleans Health Sciences Center, Xavier University and the Ochsner Health System—in the Louisiana Cancer Research Center (LCRC), a consortium launched by the state in 2002 to promote research and to improve cancer care in Louisiana. In 2013, about 100 Tulane Cancer Center researchers and staff moved into the LCRC’s new 10-story, 180,000-square-foot research building, located near Tulane’s medical campus in downtown New Orleans.

**FIGURE 15:** Tulane research expenditures by source of funding, FY 2013 (in \$ millions)





- The **Tulane National Primate Research Center** (TNPRC), located on a 500-acre campus in Covington, Louisiana, on the north shore of Lake Pontchartrain, is one of only eight such centers in the U.S. In addition to serving as a resource for biomedical researchers at Tulane and throughout the country, the center conducts its own research on infectious diseases (including HIV/AIDS, Lyme disease and tuberculosis), regenerative medicine and defense against bio-terrorism.

The center's facilities include a 38,000 square-foot Level 3 BioSafety Lab—one of only 13 such facilities in the U.S. The lab provides a secure, tightly controlled environment for research on disease agents that can cause potentially lethal infections.

- The **Center for Stem Cell Research and Regenerative Medicine**, founded in 2000, focuses on the development of new therapies of diseases such as osteoporosis, osteoarthritis, Parkinson's disease, spinal cord injury and Alzheimer's disease. The center's primary focus is on the use of adult stem cells as a resource for treating these and other diseases.
- The **Center for Polymer Reaction Monitoring and Characterization** conducts both fundamental and applied research relevant to solving specific, real-world problems in areas such as the development of new materials, drug delivery and other medical applications. The center has a long history of working closely with industry, including Louisiana companies such as Rubicon, Lion CoPolymer and Nalco, as well as larger international companies such as Biogen-IDEC and Total.
- The university's **Bioinnovation** program focuses on "biological delivery technologies" including development of new therapeutic materials, the uses of biosensors in a variety of applications, and regenerative medicine and on areas where these topics intersect. Participants in the program are, for example, exploring how stem cells and new biomaterials might be used in combination to regenerate human organs.
- The **Tulane Energy Institute** provides a focal point for energy-related research conducted by university faculty in business, economics, engineering and environmental sciences, and for collaboration with industry and government partners. Recent work includes research on how both energy markets and regulatory frameworks will need to be restructured

in order to take full advantage of the innovative potential of smart grid technology; and the development and testing of new techniques for forecasting the production of wind and solar power.

- The **Tulane-Xavier Center for Bioenvironmental Research** (CBR), established in 1989, conducts research on the relationships between human and natural ecosystems. For example, the center's Urban Long-Term Research Area Exploratory (ULTRA-Ex) Project is studying the impact of Hurricane Katrina and the flooding that followed it on the urban ecology and social systems of the greater New Orleans area.

## Undergraduate research at Tulane

While participation in faculty research projects has long been a feature of graduate education at most research universities, Tulane is notable as well for the opportunities it offers for undergraduate engagement in research. In addition to giving students an opportunity to explore in greater depth a topic or a field of study that interests them, participation in research projects can help undergraduates develop skills that they can use both in college and beyond—project planning and management, data collection and analysis, working in teams, and writing and presentation skills.

Undergraduate students can explore research opportunities directly with faculty members, through major research centers such as those described above, or through the university's **Center for Engaged Learning and Teaching** (CELT). Small grants are also available for students undertaking their own research projects; for example, the Georges Lurcy Research Grant program provides up to \$1,500 to help students cover the cost of research materials, lab supplies, travel and other research-related expenses. Similarly, the Newcomb-Tulane College Liberal Arts Research Awards provide funding up to \$1,500 for individual students and \$3,500 for teams.

In 2014, CELT also launched a new publication, the *Tulane Undergraduate Research Journal*, that gives students the opportunity to showcase the results of their research, and to gain experience in the process of publishing scholarly work.





## Protecting the region's rivers and coasts

From Hurricane Katrina to the Deepwater Horizon disaster to Hurricane Sandy, the events of the past decade have starkly demonstrated the growing importance of coastal protection, restoration and resilience—for New Orleans, for the Gulf region and for the nation. At Tulane and Xavier, this awareness has led to the creation of a new program affiliated with the Center for Bioenvironmental Research: the The Tulane Center of Excellence for Coastal Protection and Restoration.

The center will focus on applied science and engineering research relating to the physical, biological, social and human dimensions of the problem of protecting coasts and waterways.

The Tulane Center of Excellence for Coastal Protection and Restoration will be located in new facilities that are now being developed on Tulane's downtown riverfront campus. The first phase of development, which will include 15,000 square feet of lab, classroom and conference space, is expected to be completed in the spring of 2016, with a 39,000 square-foot second phase to follow.

In addition to space for academic uses, the center will include space for both startups and more established companies engaged in the development and commercialization of technologies for coastal protection and restoration; and space for community education programs.



PART FIVE:

# Innovation and entrepreneurship





While New Orleans and the surrounding region have come a long way since the worst days of 2005 and 2006, the rebuilding of the city's economy—and expanding and improving the opportunities available to its residents—remain a work in progress. Building a stronger economy in the New Orleans area and building a better future for the region's residents will require a sustained focus on innovation, entrepreneurship, and the creation of new businesses and new jobs.

In addition to sustaining the continued growth of its research enterprise, Tulane helps meet this need in several ways:

- By helping to educate the region's next generation of entrepreneurs;
- Through the licensing of technologies first developed in university labs to companies interested in using these technologies for commercial purposes—both startups and existing companies;
- Through other companies started by faculty members, staff, students and alumni that, while not based on licensed technologies, are in some way rooted in their experience at the university; and
- By collaborating with state and local government, other institutions and the private sector in efforts to foster an environment that supports innovation and entrepreneurship.

This part of the report discusses all four of these aspects of Tulane's role in building a new economy in the New Orleans area.

## Developing the next generation of entrepreneurs

Tulane supports entrepreneurial development in New Orleans and elsewhere by helping students acquire the knowledge and skills they need to succeed in creating and growing their own businesses. The focal point for entrepreneurship education at Tulane is the A. B. Freeman School of Business' **Levy-Rosenblum Institute**.

Undergraduates in the Freeman School can choose a **major in Strategy and Entrepreneurship**, with separate tracks in consulting and entrepreneurship. Those who choose the entrepreneurship track take a sequence of nine required courses on topics such as:

- Entrepreneurial management;
- Management of technology and innovation;
- Managing new venture creation; and
- Venture capital and private equity.

MBA students also may choose an MBA **concentration in Strategy, Innovation and Entrepreneurship**, with courses on topics such as new venture planning, bioinnovation and commercialization and new product development in the hospitality industry.

Training in entrepreneurship extends beyond the Freeman School's formal curriculum.

- The **Tulane Entrepreneurs Association (TEA)** is a student-run organization whose mission is "to promote entrepreneurship within Tulane and throughout the greater New Orleans community." TEA sponsors workshops and a speaker series aimed at helping prepare students to succeed as entrepreneurs, and helps connect them with entrepreneurial networks in the New Orleans area.
- Each year, the Levy-Rosenblum Institute and TEA sponsor a **Business Model Competition**. Starting in the fall semester, teams of students from Tulane and other institutions work at developing new ventures from the idea stage until they are ready for initial presentation to a panel of judges. In March, eight semi-finalists are selected, and receive help in refining their business models before moving on to the final round of competition in April. The three winning teams receive cash prizes of \$25,000 for first place, \$10,000 for second and \$5,000 for third.

First prize in the 2013-14 Business Model Competition was awarded to **Tympanogen**, a new venture started by two Tulane PhD students in biomedical engineering who had developed a gel patch that can be used to repair ear drum perforations without the cost and risks of surgery. Second place went to **InVision Biomedical**, a firm started by Tulane students that is developing a device for use in treating tracheostomy patients; and third place to **Million Dollar Scholars**, an online platform designed to help high school students get access to information about college scholarships and reduce student debt.



## Commercialization and technology transfer at Tulane

Tulane also contributes to the growth of the New Orleans-area economy by making available for commercial use technologies first developed at the university. As Table 10 shows, the rate of technology transfer at Tulane rose significantly by several measures between fiscal year 2008 and fiscal year 2013. The number of new patent applications filed by Tulane's Technology Transfer Office rose by almost 500 percent, from 7 to 42; the number of licensing and option agreements more than quadrupled; and the number of invention disclosures doubled, from 28 to 56.

Between fiscal year 2008 and fiscal year 2013, Tulane:

- Filed 139 new patent applications based on research conducted at Tulane;
- Was awarded 31 U.S. patents;
- Entered into 30 licensing or option agreements for the commercial use of technology first developed at Tulane;
- Reported the disclosure of 232 inventions by Tulane faculty members and researchers; and
- Collected more than \$39.0 million in licensing income from companies that had licensed technology from Tulane.

Between 2008 and 2012, the number of new patent applications filed by Tulane's Technology Transfer Office rose by almost 500 percent, from 7 to 41; the number of licensing and option agreements more than quadrupled; and the number of invention disclosures doubled, from 28 to 56.

As Table 10 shows, over the past six years, 11 startup companies have been formed to further develop and bring to market technologies initially developed at Tulane, including several that are located in New Orleans. The following are examples of New Orleans area companies that have in recent years licensed technologies first developed at Tulane.

**TABLE 10:** Technology transfer activity at Tulane, FY 2008 – FY 2013 (gross licensing income in thousands)

	2008	2009	2010	2011	2012	2013
Gross licensing income	\$5,467.0	\$9,366.7	\$6,708.8	\$3,034.2	\$10,629.1	\$3,836.3
Invention disclosures	28	19	37	36	55	57
New patent applications filed	7	15	17	30	28	42
U.S. patents issued	11	7	2	5	2	4
Licenses/options executed	2	3	2	6	8	9
Startup companies formed	1	1	0	3	2	4



- **Autoimmune Technologies, LLC**, founded in 1999, studies disease mechanisms, develops diagnostics and explores potential therapies for autoimmune and other disorders.
- **NOvate Medical Technologies, LLC**, founded in 2011 by a Tulane biomedical engineering and medical student, is a medical device development company focused on the development of innovative and cost-effective technologies that address global health needs. InfaClip, NOvate's first product, is a patented, disposable plastic obstetric device designed to help reduce maternal and neonatal mortality in developing countries.
- **NanoFex, LLC**, a materials engineering company founded in 2011, uses environmentally sustainable nanotechnology derived from Louisiana cane sugar and crab and crawfish shells to remediate contaminated groundwater.
- **Advanced Polymer Monitoring Technologies, Inc.** (APMT), founded in 2012 by a group of Tulane faculty and staff members, develops, manufactures and distributes technology solutions used for real-time monitoring and control of polymer reactions. APMT's innovative green technology is designed to reduce costs, improve quality and reduce the environmental impact of the polymer industry.
- **Limited Times, LLC**, a social-venture company founded in 2013 by two Tulane law professors, provides "self-help legal educational resources" using a web-based software system that helps users determine the copyright status of cultural works.
- **Advano, LLC**, a nanotechnology company founded in 2013, specializes in the manufacturing and processing of nanoparticles using a patented platform technology that has applications in the areas of biotech, bioimaging, drug delivery and gene therapy.

## Alumni, faculty and students as entrepreneurs

Formal licensing of Tulane's technologies is not the only means by which intellectual and human capital developed at Tulane is translated into new products and services, new businesses and new jobs. Tulane faculty, alumni and students have also contributed to the growth of the entrepreneurial economy in the New Orleans area through their roles in the creation and development of new businesses and ventures.

Examples of companies started by Tulane faculty, staff, alumni or students (other than those that have licensed new technologies from the university) include:

- **Tierra Resources LLC** is an environmental consulting company founded in 2007 by a Tulane PhD graduate. The company helps clients in addressing complex coastal wetland preservation and restoration issues, and in monetizing wetland carbon offsets.
- **Theodent LLC**, a biotechnology firm founded in 2007 by a Tulane faculty member, developed a fluoride-free toothpaste that uses an extract of cocoa as its active ingredient. The company currently offers three products: Theodent Classic, Theodent 300 and Theodent Kids.
- **Green Coast Enterprises**, founded by a member of Tulane's architecture faculty, develops and manages residential and commercial real estate and provides related real estate services. Since its founding in 2007, Green Coast has developed 980 residential units and 30,000 square feet of commercial space.
- **Urban Focus, LLC**, established in 2007 by Tulane architecture graduate Alexandra Stroud, is a real estate development consulting firm that provides feasibility analyses, project management, and assistance in obtaining financing.
- **Elstrott, Maurer and Hunnewell**, a strategy and management consulting firm serving for-profit, non-profit and public sector clients, founded in 2009 by several Tulane faculty members.
- **Launch Pad**, co-founded in 2009 by a Tulane MBA student, provides co-working and shared office space in New Orleans, equipment, business services, and a mutually supportive environment—for startups, other small businesses and independent professionals.
- **ChapterSpot**, founded by two Tulane alumni, is an online software platform that allows member-based organizations to develop and customize private social networks using group communications and database management tools that support communication between members, facilitate member dues collections and organize member data. Since its launch in 2009, the group management platform has been used by over 2,500 fraternity and sorority chapters nationwide.



- **BioCeptive, Inc.**, founded in 2010 by Tulane graduate Ben Cappiello, “is a women’s health company currently developing a patent-pending intrauterine device (IUD) inserter that vastly simplifies the insertion procedure while significantly reducing the adverse events inherent with current insertion techniques,” as well as expands “access to the IUD worldwide,” especially in developing countries.
- **InnoGenomics, LLC**, co-founded in 2010 by an adjunct professor at the Tulane School of Medicine, is a provider of products used in forensic DNA analysis.
- **LaCell, LLC**, co-founded in 2010 by a School of Medicine adjunct faculty member, produces high-quality adult stem cells for use in research, with a particular focus on research on regenerative therapies.
- **Oystertree Consulting**, founded in 2010 by a Tulane faculty member, is a consulting firm focused on affordable housing and community development, with an emphasis on green building practices and sustainability.
- **O.C.H. Art Market**, started by Tulane graduate Lee Stafford in 2010, is a monthly indoor/outdoor market for locally handmade arts and crafts, located on O.C. Haley Boulevard.
- **Dinner Lab**, co-founded in 2011 by a Tulane MBA graduate and adjunct professor at the Freeman School, offers high-quality “social dining” on a membership basis. The company started in New Orleans and quickly expanded into nine other U.S. cities.
- **Bike Taxi Unlimited**, founded in 2011 by a Tulane alumnus, provides pedicab services in New Orleans.



2014 Business Model Competition



- **ReactWell, LLC**, founded in 2011 by a Tulane MBA graduate, is developing a renewable crude oil production platform for use in the production of renewable, synthetic oil. The patent-pending technology uses energy-efficient underground reactor systems to produce crude oil.
- **Get Healthy Inc.**, co-founded in 2012 by a Tulane medical student, provides a mobile health and wellness platform designed to help employers and insurers manage employee wellness programs more effectively.

## Building an entrepreneurial ecosystem

Tulane has also partnered with state and city agencies, other New Orleans institutions and other local organizations in developing the physical and organizational infrastructure, support services and public policies needed to sustain the growth of an “entrepreneurial ecosystem” in the New Orleans area. Below we cite just a few examples of the university’s engagement in these efforts.

- Tulane partnered with the state, the LSU Health Sciences Center, Xavier University and the University of New Orleans in development of the **New Orleans BioInnovation Center**. Housed in a 66,000-square-foot, state-financed building located in the city’s biomedical district that was completed in 2009, the center provides space for new and growing companies in biotechnology, medical devices, health informatics and related fields. The center also provides business and technology commercialization services, access to financing and other assistance—both to its tenants (who include several Tulane startups) and to other client companies in the region.
- Tulane has been a leading sponsor of and programmatic partner with the **Idea Village**—a nonprofit organization dedicated to identifying and supporting talented entrepreneurs and retaining them in the New Orleans area—since the organization was founded in 2000. The Idea Village’s programs are organized annually around a nine-month “Entrepreneur Season” (July through March). They include:
  - > **IDEAxcelerator**, an intensive 11-week accelerator program for 15 selected high-potential New Orleans-area startups. The participants work with the Idea Village’s network of mentors, consultants, universities, investors and business service professionals to develop their businesses, and are also eligible to compete for \$100,000 in seed funding.
  - > **The Idea Institute**, a weekly series of workshops, lectures and panel discussions open to the broader entrepreneurial community.
  - > **The Idea Corps**, a program that brings teams of MBA students from top-tier business schools to New Orleans to serve consultants to local startups.

Each year the season culminates in New Orleans Entrepreneurs Week, a week-long series of events organized by the Idea Village and its partners—educational sessions, pitch competitions, the Tulane Business Model Competition, networking events—all aimed at showcasing New Orleans entrepreneurs, connecting them with a nationwide network of resources, and raising the visibility of New Orleans as one of the nation’s leading centers of entrepreneurship.

- Tulane has also collaborated with the **New Orleans Business Alliance**—a public-private partnership that serves as the city’s leading economic development organization—in the formulation of Prosperity NOLA, the alliance’s five-year strategy, published in 2013, for growing the city’s economy. As shown throughout this report, the university’s strengths are closely aligned with three industry clusters targeted by the alliance as being among those having the greatest potential for growth—bioinnovation and health services, creative digital media and sustainable industries.



A photograph of the Tulane University Health Sciences School of Medicine building. The building is a multi-story structure with a modern design, featuring large glass windows and a light-colored stone or concrete facade. The address "1555" is visible on the left side of the building. The text "Tulane University Health Sciences" and "SCHOOL OF MEDICINE" is prominently displayed on the upper part of the building. In the foreground, there is a lush garden with yellow and pink flowers. A green text box with white text is overlaid on the image.

1555  
Tulane University Health Sciences  
SCHOOL OF MEDICINE

PART SIX:

Health care



A commitment to protecting the health of residents of New Orleans and surrounding communities, to better understanding and preventing the diseases that afflict them, and providing them with essential health services has been an integral part of the mission of Tulane University for 180 years. The university fulfills this commitment in several ways:

- By educating physicians and other health professionals;
- Through biomedical research; and
- By providing health care to residents of the city, the region and beyond.

Tulane's involvement in preserving and improving the health of New Orleans area residents is also among the university's most important contributions to the health of the city's and the region's economy.

- Health care is one of New Orleans' largest industries. The city's role as a major regional center for the delivery of health services is among its greatest strengths.
- Access to high-quality health care is critical to maintaining the health of the city's residents and the productivity of its work force—and for attracting and retaining the talented people on whom its future prosperity depends.
- Poor health is simultaneously a consequence and a cause of poverty and economic immobility. Improving the health of the New Orleans area's low-income residents is likely to be an essential element in any long-term strategy for breaking the chains of poverty, and reducing the costs it imposes both on the poor themselves and on the entire community.

Part Four of the report highlighted the university's strengths as a center of biomedical research. This part of the report describes its role in the education of physicians and other professionals, and in caring for the city's and the region's residents.





## Educating physicians and public health professionals

In the fall of 2012, 926 students were enrolled in the Tulane University School of Medicine—of whom 16 percent were from Louisiana. In addition to the MD degree, the School offers:

- An MD/MBA dual-degree program;
- An MD/MPH degree;
- A graduate program in Biomedical Sciences;
- An interdisciplinary PhD program in Aging Studies; and
- Certificate and MS programs in Clinical Research and MS and Executive MS programs in Clinical Research Methods.

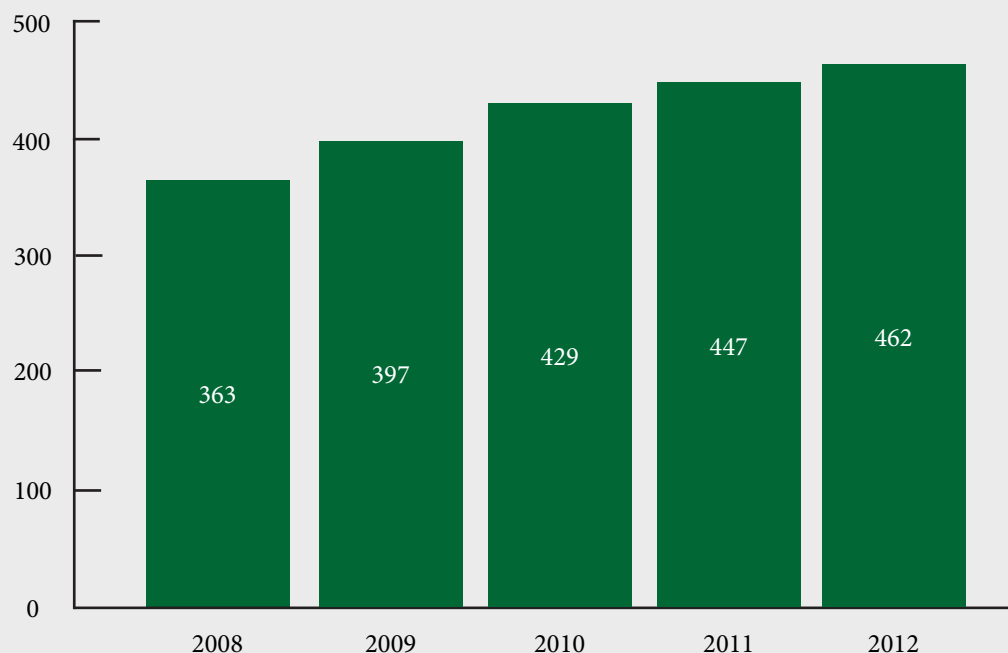
As of the summer of 2013, 1,086 graduates of the Tulane School of Medicine lived in New Orleans (8.1 percent of all of the school's alumni), and an additional 932 lived elsewhere in the New Orleans metropolitan area.

The School of Medicine also provides graduate medical education for residents and fellows. In fall 2012, 462 residents and fellows were enrolled in graduate medical education programs at the Tulane School of Medicine.

## The Tulane Faculty Practice Plan

In addition to playing a central role in the education of physicians, Tulane faculty members are also directly involved in caring for patients. The Tulane Faculty Practice Plan provides a vehicle for delivery of services provided by Tulane faculty physicians, and for managing payment for those services. In fiscal year 2013, the Faculty Practice Plan's revenues totaled more than \$72.9 million—including \$37.9 million in payments for inpatient, outpatient and clinical services provided to patients at the Tulane Medical Center and other Tulane facilities.

**FIGURE 16:** Residents in Tulane's graduate medical education program, fall 2008 – fall 2012

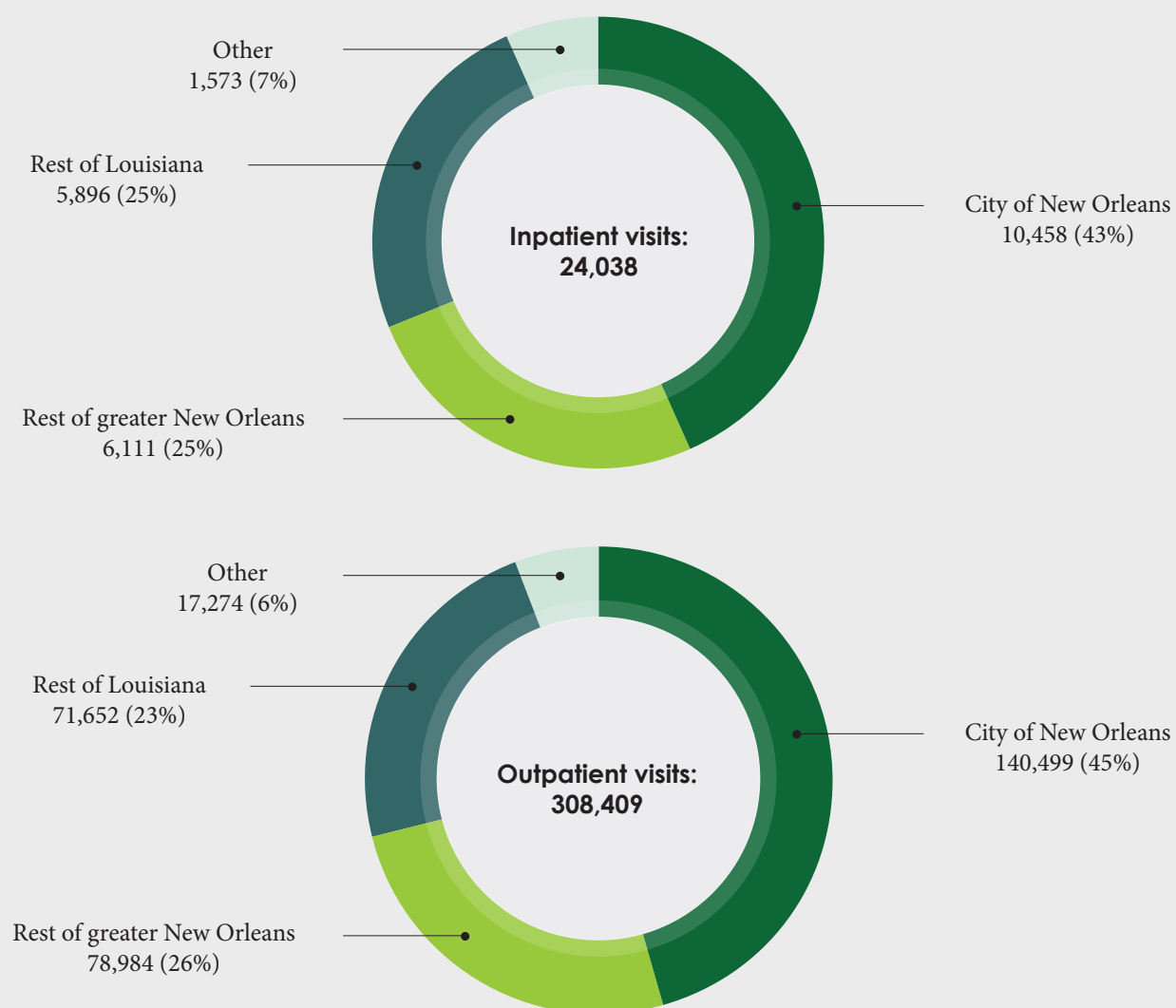




During fiscal year 2013, Tulane faculty treated more than 24,000 inpatients and handled more than 308,400 outpatient visits at the Tulane Medical Center and other Tulane facilities through the Faculty Practice Plan. Of these patient visits (as shown in Figure 17):

- 43.5 percent of all inpatients and 45.6 percent of all outpatients were residents of New Orleans;
- An additional 25.4 percent of all inpatients and 25.6 percent of all outpatients lived elsewhere in greater New Orleans;
- 24.5 percent of all inpatients and 23.3 percent of all outpatients came from elsewhere in Louisiana; and
- 6.5 percent of all inpatients and 5.6 percent of all outpatients came from outside Louisiana.

**FIGURE 17:** Patients served through the Tulane Faculty Practice Place, by patient's place of residence, FY 2013





While Tulane faculty members are thus a major source of health care for residents of New Orleans and the surrounding region, they also attract patients from beyond the greater New Orleans area. In doing so, they help reinforce the city's role as a center for high-quality medical care—in the region, in the rest of Louisiana and beyond.

Tulane physicians provide services at multiple locations in the city and the surrounding region. The largest of these is Tulane Medical Center (described below), located on the university's downtown medical campus. As shown below in Figure 18, services are also available at eight other locations in New Orleans, Metairie, Covington and Slidell, Louisiana.

During fiscal year 2013, Tulane faculty treated more than 24,000 inpatients and handled more than 308,400 outpatient visits at the Tulane Medical Center and other Tulane facilities through the Faculty Practice Plan.

## A new community health center

The newest of Tulane's outpatient locations is the Ruth U. Fertel Tulane Community Health Center/Brinton Family Health and Healing Center, opened in 2012. The 11,000-square-foot center is located in a building on North Broad Street in Mid-City New Orleans that had been occupied by Ruth's Chris Steak House, and that was donated to the university to provide a permanent home for the center.

The Community Health Center offers comprehensive primary care services to community residents, and provides patients with a "medical home" through which they can get access to a wider range of specialized care. The center accepts Medicaid, Medicare and most private insurance, but also treats uninsured patients who are not able to pay. The center also provides a variety of other wellness-related programs, including nutrition and weight loss programs.

In 2013, Tulane entered into an agreement with Access Health Louisiana, an operator of federally qualified community health centers, under which Access Health is responsible for the center's day-to-day operations, while Tulane physicians continue to provide medical care.



Grow Dat at the Ruth U. Fertel Tulane Community Center

Source: Neighborland



## Tulane Medical Center—a major asset for New Orleans

Tulane Medical Center is a tertiary care facility with 235 inpatient beds and 25 outpatient clinics, located in downtown New Orleans. Since its founding by Tulane University in 1976, Tulane Medical Center has served as the School of Medicine's primary teaching hospital, and as a center for clinical research.

In 1995, the Hospital Corporation of America (HCA) acquired a majority interest in the medical center, and has since been responsible for its management and day-to-day operations. In 2005 the medical center merged with a 119-bed HCA-owned hospital in Metairie, Louisiana, now called Tulane-Lakeside. Notable strengths include the Tulane Cancer Center, the Tulane Center for Women's Health, and the Tulane Hospital for Children. The university retains a minority interest in the combined operation.

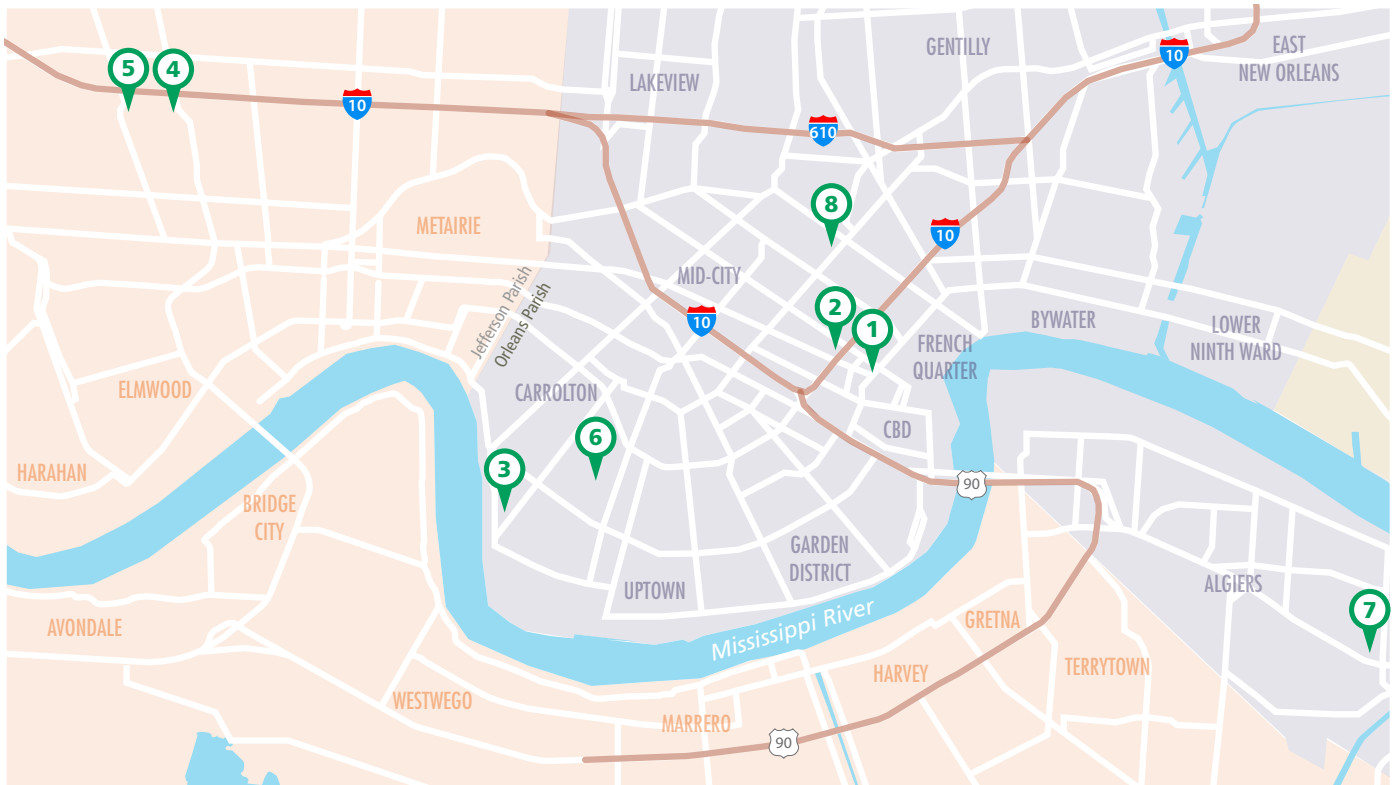
The university's role in the delivery of health services, however, goes far beyond its position as a minority owner. More than 90 percent of the physicians who work at Tulane Medical Center are Tulane faculty members, and most of the physician services provided at the hospital and its affiliated clinics are delivered through the university's Faculty Practice Plan. Moreover, the university is a full partner with HCA in all strategic decisions about the operations and future development of the medical center.

Over and above the contributions of the university, the medical center is in several ways a major contributor to the economic vitality of the New Orleans area.

- As of 2013, Tulane Medical Center had more than 1,500 full-time employees, making it one of the largest private employers in New Orleans.
- Tulane Medical Center also spends tens of millions of dollars annually on purchases of goods and services from local vendors, further stimulating the city's economy.
- Tulane Medical Center was the first New Orleans hospital to reopen in the aftermath of Hurricane Katrina, and although originally designed for specialty medical care, education and research, it has since 2005 served as well as an important provider of basic health services to city residents.
- The partnership between the university and the medical center enhances the capacity of both to attract faculty members, researchers and clinicians of the highest quality. They in turn enhance the quality of care available to residents of the New Orleans area, and make it easier for the city to attract and retain the talented people on whom its continued growth depends.
- Even as it provides vital medical services for residents of the city and surrounding communities, Tulane Medical Center also attracts patients from outside the New Orleans area. As noted above, about 25 percent of the inpatients treated by Tulane faculty come from outside the greater New Orleans area. Spending by these patients—and by family members and friends who come to New Orleans—generates additional economic activity in the city.



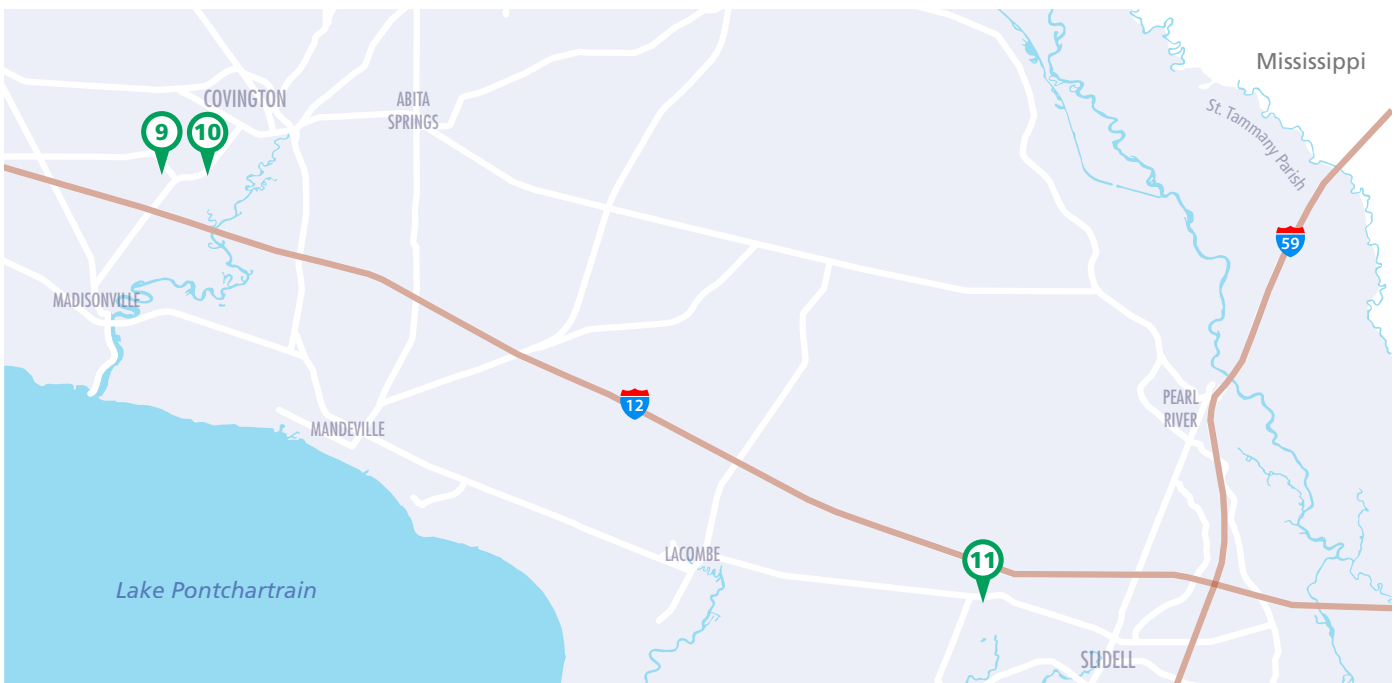
**Figure 18:** Tulane's New Orleans/Jefferson and Northshore medical locations



1. Tulane Medical Center
2. Tulane Hospital for Children
3. Tulane Multispecialty Clinic at University Square
4. Tulane Center for Women's Health

5. Tulane-Lakeside Hospital
6. Tulane Institute of Sports Medicine
7. Tulane Westbank Cardiology Clinic
8. Fertel Community Health Center

0 2 miles



9. Tulane Dermatology Covington Clinic
10. The Bone and Joint Clinic - Tulane Orthopaedics
11. Tulane Orthopaedics - Slidell

0 1 mile





## A recipe for better health

Medical science has long recognized the role proper nutrition can play in maintaining wellness and treating or managing a variety of diseases, but medical students have rarely had the opportunity to learn how they can turn this awareness into practical advice to their patients.

To close this gap, the Tulane School of Medicine and the Johnson & Wales University College of Culinary Arts (one of the nation's leading culinary schools) in 2013 established the Goldring Center for Culinary Medicine. The center—the first facility of its kind at a medical school—is a teaching kitchen where medical students, residents and practicing physicians and professional chefs get hands-on training in healthy cooking and healthy eating.

The 4,600-square-foot center, located on North Broad Street, also offers cooking classes for both adults and children, and an online collection of recipes. Tulane medical students work as volunteers in the center's community cooking classes and in other community outreach events.

The center's program has proven to be popular with medical students, with the local community and with the broader medical community. Since it opened, nine other U.S. medical schools have licensed for their own use of the culinary medicine curriculum developed by Tulane and JWU.



PART SEVEN:

# Building the economy by serving the community





**E**specially since its reopening after Hurricane Katrina, Tulane has been widely recognized for the breadth and depth of its commitment to community service. In 2006, Tulane became the first major research university in the U.S. to formally require undergraduate students to engage in community service, and community-based learning is central to many of its graduate and professional programs as well. Many university centers, research institutes and individual faculty members also are deeply engaged in efforts to address some of the most pressing challenges facing New Orleans and the surrounding region.

Community engagement at Tulane can be viewed from several perspectives.

- It is now part of what defines a Tulane education—one of the ways in which students learn about the world around them.
- Community engagement can also be viewed as a matter of enlightened self-interest; since the fall of 2005 and the winter of 2006 (when neither the university's survival nor the city's could be taken for granted), Tulane's recovery has been inextricably linked to that of New Orleans.
- Service to the community can be seen as part of the social contract that undergirds the existence of all of America's great universities—part of what Tulane and other institutions owe to the communities, states and country that have built and sustained them through several generations.

From all of these perspectives, service to the community is now more than ever an essential part of Tulane's mission. And just as the university contributes to the vitality of the New Orleans economy through education, research and health care and by supporting innovation and entrepreneurship, Tulane strengthens the city's economy by strengthening its communities.

Tulane's engagement with New Orleans communities strengthens the city's economy in several ways—for example:

In 2006, Tulane became the first major research university in the U.S. to formally require undergraduate students to engage in community service.

- By improving elementary and secondary education, and expanding the opportunities available to the city's young residents;
- By supporting physical redevelopment in New Orleans neighborhoods;
- By helping to preserve and promote the unique culture that is central to the city's identity and to its communal life—and that is one of its most valuable products;
- By helping to develop a new generation of social entrepreneurs who are devising innovative ways to address some of the city's most pressing problems; and
- By creating connections that encourage students to remain in New Orleans after graduation.

This part of our report focuses on community engagement at Tulane, with a particular focus on forms of engagement that address issues that are of critical importance to the ongoing process of rebuilding the New Orleans economy. We begin by highlighting briefly the growth of student engagement in community service at Tulane.



## Student engagement at Tulane

During the 2012-2013 academic year, Tulane students performed more than 242,000 hours of community service. Some of this work was done through “service-learning” courses that combine classroom learning with hands-on work on relevant community projects, and some by students working as volunteers on a wide range of community projects.

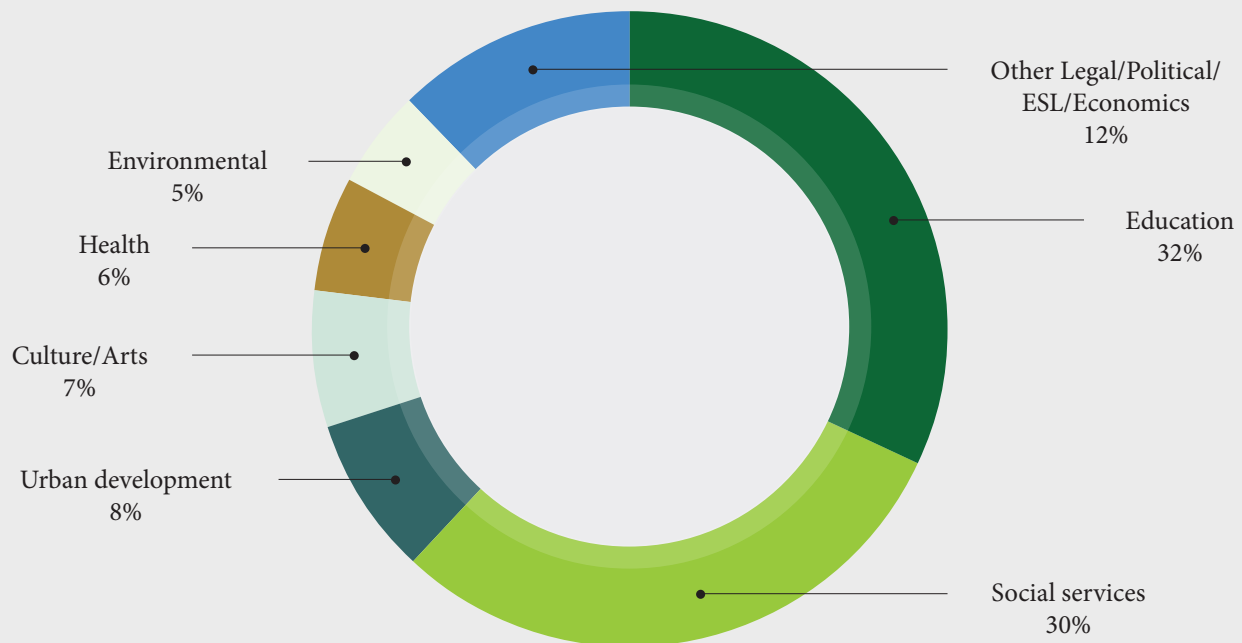
Both the scale and scope of student engagement at Tulane have grown in the years since Hurricane Katrina.

- From the fall of 2006 to the fall of 2012, the number of students participating in service-learning courses at Tulane tripled: from 592 to 1,785.
- From 2006-2007 to 2012-2013, the total number of hours of community service work performed by Tulane students—through service-learning courses, as interns and as volunteers—grew by 157 percent to a total of more than 242,000.

Tulane students currently work with more than 400 community organizations and agencies. As shown in Figure 19, 32 percent of all student community service placements took place in education, 30 percent in social services and 8 percent in urban development.

Student engagement with New Orleans communities includes both undergraduates and graduate and professional students. Tulane Law School, for example, requires its students to perform at least 30 hours of pro bono work. During 2012-2013, Tulane law students reported that they had completed more than 23,700 hours of pro bono work.

**FIGURE 19:** Placement of students by type of public service, 2012-2013





## Strengthening public education, expanding opportunity

The deepening and broadening of Tulane's engagement with public education in Orleans Parish began in the aftermath of Hurricane Katrina, when university President Scott Cowen chaired a committee charged with developing plans for reconstructing the city's shattered public school system. To provide a focal point for the university's work with the city's public schools, Tulane in 2007 established the Cowen Institute for Public Education Initiatives. Its work includes:

- Research aimed at understanding what makes public schools successful, and helping local schools apply the lessons of that research;
- Improving performance measurement and publishing data on school performance;

- Identifying, analyzing and advocating for policies that strengthen public schools and address the needs of students;
- Providing a conduit through which district officials and school leaders can get access to university resources, as well as a focal point for university initiatives that support public education; and
- Developing and implementing programs that help New Orleans high school students prepare for college.

Below we highlight just two of the Cowen Institute's notable initiatives.



New Orleans high school students learn about neuroscience through the Cowen Institute's Advance NOLA program.



## Helping public school students prepare for college

One of the advantages that high school students in more affluent communities typically enjoy is access to a wide variety of Advance Placement (AP) courses, and the support services that can help them succeed in such courses. In the spring of 2009, the Cowen Institute launched a program called **Advance NOLA**—which aims to broaden New Orleans public high school students' access to AP courses, and to improve their chances for success.

The Cowen Institute covers the cost of materials required for AP courses and testing at participating schools, and provides:

- Professional development for the AP teachers;
- After-school tutoring and test prep for the participating students;
- Assistance in integrating college awareness and college-readiness into other aspects of the curriculum; and
- Performance-based financial incentives for both AP students and teachers.

The Cowen Institute also assigns a “Cowen Scholar” to each of the participating schools—a Tulane graduate or professional student who works part-time as on-site coordinator of the Advance NOLA program, and also organizes and manages other school-level college-readiness programs. Cowen Scholars in 2012-2013 included students from Law, Liberal Arts, Public Health and Tropical Medicine and Social Work.

From a four-school pilot program with 80 students participating in seven courses in 2009, Advance NOLA grew by 2012 to include 408 students enrolled in 22 courses. In 2012-2013, four more high schools joined the program, enrolling hundreds of additional students.

## Disconnected youth: A problem and an opportunity for New Orleans

Tulane's engagement with New Orleans's public schools and its involvement in youth development projects such as Grow Dat have recently led to a more specific focus on the problems of “disconnected youth,” young people age



18 to 24 who are neither employed nor in school. During a critical time in their transition to full adulthood, they are gaining neither the knowledge that formal education offers, nor the practical workplace skills and personal connections—less formal but nevertheless vitally important—that only real-world work experience can provide. And without the discipline that comes with going to school or having a job, they are more vulnerable to the temptations of the street.

These young people may eventually be employed. But the costs of early and prolonged disconnection from school and work—measured in fewer opportunities, lower wages and higher unemployment rates—can last a lifetime. Moreover, at a time when the Baby Boom generation has begun to age out of America's workforce, these young adults represent a human resource that the nation can ill afford to waste.

Disconnected youth are thus both a problem and an opportunity—nationwide, and especially in New Orleans. In 2009, among all U.S. residents age 18 to 24, 16 percent were not working, not in school or college and had at most a high school education. Among Louisiana residents of the same age, 20 percent were similarly disconnected—and in New Orleans, 23 percent.

At Tulane, the Cowen Institute has taken the lead in developing a multi-faceted approach to the problem and opportunity of disconnected youth (or as the Cowen Institute and others now prefer to call them, emphasizing the positive side of the equation, “opportunity youth”). The institute's work includes engagement with the city's



employers (workforce and career development initiatives) research on and with the city's opportunity youth; and formulating and advocating public policies that will address their needs.

The Cowen Institute is, for example, working with the NOLA Business Alliance to ensure that new efforts to meet the needs of opportunity youth are closely aligned with the Alliance's five-year economic development strategy. And rather than just making the case to the business community, Tulane, as the city's largest private employer, is itself taking the lead.

Through the Cowen Institute's **Earn and Learn** program, Tulane is hiring opportunity youth from New Orleans neighborhoods to work as apprentices in several university departments, including facilities, athletics and information technology. The practical experience and on-the-job training that participants gain during these year-long apprenticeships is combined with career-oriented academic and technical skills training provided through Delgado Community College's Accelerating Career Education program. The first group of 18 Earn and Learn apprentices began working at Tulane during the summer of 2014.

The Cowen Institute also is taking the lead in development of a hub for programs that address the needs of the city's opportunity youth. Called **The Anchor**, it will provide a single location where employers, schools and colleges, and youth service agencies can work together, and where opportunity youth can get access to jobs, opportunities for workplace-based learning through apprenticeships and internships, education and supportive services.

## Community development

Tulane is also engaged in a wide range of efforts to rebuild both the physical and social foundations of community in New Orleans. Perhaps most notable among these is the work of the **Tulane City Center** (TCC), the School of Architecture's applied research and community engagement program. Here we cite just a few examples of the center's work.

- During the past several years, the Tulane City Center has undertaken a series of projects that highlight the importance of food production and distribution, and improved access to health food, as a central element in community life.



Hollygrove Market and Farm

Source: Brandon Robert





Source: Trombone Shorty Foundation

- > TCC collaborated with the Carrollton-Hollygrove Community Development Corporation and the New Orleans Food and Farm Network in developing the **Hollygrove Growers Market and Farm**, a retail market in the city's Hollygrove neighborhood that offers fresh, locally-grown food as well as training in urban agriculture for local residents.
- > **Grow Dat Youth Farm**, a partnership of TCC, the New Orleans Food and Farm Network and City Park (described below) uses urban farming as a focal point for youth development.
- > TCC provided early-stage planning for the renovation and re-opening of **Circle Food Store**, a 22,000 square-foot grocery store on St. Bernard Avenue that before Hurricane Katrina had played an important role in the daily life of the 7th Ward. After years of effort to line up the needed financing, owner Dwayne Boudreaux was able to complete the renovation and reopen the store in January 2014.
- In addition to its work on individual projects, TCC is also participating in efforts to revitalize larger corridors, such as the area along O.C. Haley Boulevard, where TCC itself is located. Revitalization of this area has been a priority for the New Orleans Redevelopment Authority.

Other schools at Tulane are also engaged in a wide range of efforts to strengthen local communities.

- In 2013, for example, students participating in the **Tulane Environmental Law Clinic** helped the Mary Queen of Vietnam Community Development Cor-

poration and several other organizations win a settlement in which Waste Management of Louisiana, LLC agreed not to reopen the Chef Menteur Landfill, an unlicensed landfill near the Vietnamese community in New Orleans East that in 2006 was used for dumping of hurricane debris.

- Through the Levy-Rosenblum Institute's **Tulane Association of Business Alumni Community Service Program**, teams of Freeman School of Business students with alumni advisors provide pro-bono business consulting services to "local not-for-profit organizations and disadvantaged businesses" in the New Orleans area.

## Preserving and sustaining the culture of New Orleans and the Gulf South

The Tulane School of Liberal Arts is home to the New Orleans Center for the Gulf South. Founded in 2011, the center is dedicated to teaching, research and community engagement relating to the diverse cultures—especially musical cultures—of New Orleans and the Gulf region. In addition to the coordinate undergraduate major in Musical Cultures of the Gulf South (described in Part Three), the center offers several programs to the wider community.

- **Music Rising** is an innovative website that provides a wealth of background information on the musical cultures of the city and the region, as well as 18 online courses ([www.musicrising.tulane.edu](http://www.musicrising.tulane.edu)).
- The center's **Hogan Jazz Archive** is an oral history program that chronicles the history and the continuing evolution of New Orleans jazz.





## Carrying on a tradition—and shaping its future

In 2013, the Center for the Gulf South and one of the city’s leading musicians, Troy “Trombone Shorty” Andrews, joined together to establish the Trombone Shorty Academy, a program that provides music education and experience to musically talented New Orleans high school students. The program combines music education (including composing) with education in the region’s musical history and a strong emphasis on performance. Its curriculum was developed jointly by Andrews, Bill Taylor (director of the Trombone Shorty Foundation) and Tulane faculty members. Classes are held on the Tulane uptown campus, and students have performed with Trombone Shorty and his band at a variety of university events.



- **The Trombone Shorty Academy**, described below, teaches young New Orleans musicians to carry on the musical traditions of the city and the wider region.

Throughout the academic year, the center also sponsors performances by New Orleans and other Gulf South musicians, symposia, film screenings and other events that are open to the community.

In January 2014, the center and the foundation also worked together to create the **Fredman Music Business Institute**, which gives local high school students an opportunity to learn the fundamentals of the music business, including recording, production, marketing and event organizing.

Tulane's engagement in preserving and promoting the region's musical cultures is not limited to the Center for the Gulf South. The Tulane City Center, for example, is assisting in the planning and development of the **Allison Montana Institute of African American Art, Culture and Tradition (AMIACT)**, a museum and cultural center dedicated to the historic street music culture of New Orleans. The institute, to be located in Tremé, is named for Allison "Tootie" Montana, the legendary chief of one of the city's most famous Black Indian groups. Tulane students conducted historical research, analyzed the proposed site, prepared preliminary plans and cost estimates for AMIACT's facilities, and helped formulate plans for fundraising.

## Social innovation and social entrepreneurship

Coming on top of the deep-seated social problems with which the city had long grappled, the devastation that followed Hurricane Katrina gave rise to a new awareness that New Orleans communities could no longer afford to wait for top-down, government-driven initiatives to solve their problems.

At Tulane and elsewhere, the loss of faith in large-scale, outside intervention has heightened the interest of university leaders, faculty, students and alumni in finding ways to meet the needs of local communities through bottom-up social innovation and entrepreneurship. In just a few years, that interest has led to the rapid development of a series of new initiatives aimed at encouraging, supporting and sustaining social innovation in New Orleans.

- In 2011, Tulane established an interdisciplinary minor in **Social Innovation and Social Entrepreneurship (SISE)**, open to undergraduate students throughout the university. The program, housed within the School of Architecture, includes courses from across the university with a focus on business, design thinking and leadership for social change. In its first year, 40 undergraduates chose the SISE minor. The following year, the program grew to 90 students. This initiative has been supported by funds from the Michael J. Sacks Endowed Distinguished Chair in Civic Engagement and Social Entrepreneurship, established in 2009.
- The student-led **Changemaker Institute** is a 10-week "incubator" program that helps both undergraduate and graduate students learn the basics of social entrepreneurship while at the same time assisting them in developing and assessing specific ideas for new social ventures.
- In the **NewDay Social Innovation Challenge**, teams led by Tulane undergraduate and graduate students compete for funding of up to \$20,000 for proposed new ventures that seek "to solve a specific social challenge faced by our New Orleans community." Winners in 2013 included:
  - > **Fund 17**, a micro-finance institution that seeks to reduce income inequality by providing residents of all 17 wards in New Orleans with "financial tools for self-empowerment;"
  - > **Crescent City Connections**, an organization that seeks to provide customized volunteer opportunities with New Orleans nonprofits; and
  - > **Birthmark Doula Collective**, a venture that provides both birth and postpartum doula services, along with a variety of other childbirth-related goods and services, for women giving birth in New Orleans.
- In 2011, Tulane established seven endowed **Professorships in Social Entrepreneurship**. These positions are intended to provide "a critical mass of support for university-wide interdisciplinary endeavors"—including teaching, research and practice—in social innovation and social entrepreneurship.





- Students enrolled in SISE courses or engaged in co-curricular activities such as the NewDay Challenge are also eligible for grants of up to \$2,500 from the **Victor C. Alvarez Spark Innovation Fund** to further develop ideas for new social ventures.

## Beyond graduation

As noted in Part Three, the number of Tulane students who choose to stay in New Orleans after graduation appears to be increasing. While there is little hard data available on the reasons behind this trend, anecdotal evidence suggests that the connections that students make to the community through their engagement in community service may be a contributing factor.

The trend is exemplified in the university's new **Tulane AmeriCorps Fellows Program**. Launched in 2014 as a joint initiative of the university, the Aspen Institute and the Corporation for National and Community Service,

the program gives Tulane graduates an opportunity to spend a year working full-time at a New Orleans non-profit organization that is collaborating with Tulane on efforts to help neighborhood residents escape from poverty.

The first eight Tulane AmeriCorps fellows were selected in June 2014. During their year of service, each fellow receives an \$11,500 stipend from AmeriCorps, free housing provided by Tulane, and opportunities for training and professional development. When their service is completed, fellows are also eligible for AmeriCorps grants of \$5,800 that can be used either for graduate education or to pay off student loans, and university scholarships of \$5,000 for those who enroll in graduate school at Tulane.





Source: Grow Dat Youth Farm

## Growing food and building futures

Among the many social ventures launched at Tulane in recent years, Grow Dat Youth Farm has been among the most successful. Founded in 2011 by Tulane graduate Johanna Gilligan in partnership with the university, the New Orleans Food and Farm Network and City Park, Grow Dat aims to “nurture a diverse group of young leaders through the meaningful work of growing food.” In 2011 and 2012 (as noted above), Tulane City Center worked with its partners on site planning, design of program and educational facilities and landscaping at Grow Dat’s four-acre site in City Park, and later on its expansion to seven acres.

As of the spring of 2014, Grow Dat employed 40 local high school students one afternoon a week and on Saturdays in production and distribution of fresh produce. Grow Dat also provides opportunities for participating students to learn about food and nutrition, cooking and to develop skills in areas such as customer service and marketing.

Grow Dat produced 8,500 pounds of food in 2013 and estimates that production will increase to 10,000 pounds in 2014. The farm distributes about 60 percent of its produce commercially, through the Crescent City Farmer’s Market, Whole Foods and its own farm stand, and donates about 40 percent. In the spring of 2014, Grow Dat also launched its own Community Supported Agriculture (CSA) program, called Farm Shares, and quickly sold out its 30 shares.





PART EIGHT:

# A growing impact



**A**s significant as Tulane University's impact on the economy of New Orleans and the greater New Orleans area has been, it could be even greater during the next five to 10 years and beyond. Here we will cite just a few of the factors likely to drive the growth of Tulane's impact.

### **The long-term impact of higher enrollment and new academic programs**

Between the fall of 2008 and the fall of 2012, combined undergraduate, graduate and professional enrollment at Tulane rose from 11,157 to 13,486—an increase of nearly 21 percent, and an all-time high for the university. While enrollment is expected to remain stable at about this level during the next several years, the last few years' growth in enrollment will over time have a cumulative impact on the city's and the region's economy—especially if the recent increase in the percentage of Tulane students remaining in the area after graduation is sustained.

Moreover, the value of Tulane graduates to the local economy is likely to be reinforced by the recent and continuing development of new academic programs that are well-aligned with the needs of some of the city's and the region's leading (and leading-edge) industries. Examples include:

- Undergraduate coordinate majors in Computer Science and Digital Media;
- Master's degrees in Sustainable Real Estate Development and Disaster Resilience Leadership;
- The PhD program in Bioinnovation;
- The post-Katrina interdisciplinary PhD program in City, Culture and Community (CCC); and
- The university's partnership with Delgado Community College and the University of New Orleans in the development of the New Orleans Culinary and Hospitality Institute.

### **Research strengths in areas with potential for growth**

Tulane is the region's leading research university, with particular strengths in several areas that are relevant to the continuing redevelopment of the city's and the region's economy. Moreover, at a time when budgetary constraints are likely to limit the growth of federal research funding, Tulane is especially strong in several areas where the outlook for continued growth in research funding is more positive, including:

- Neurology and Neuroscience;
- Clinical research; and
- Coastal sustainability and protection of water resources—the principal focus of the new The Tulane Center of Excellence for Coastal Protection and Restoration.

### **Increased emphasis on innovation and entrepreneurship**

During the past few years, Tulane's increased emphasis on innovation and entrepreneurship has begun to show tangible results, reflected in a growing number of New Orleans-area startups engaged in the commercialization of new technologies first developed at Tulane, as well as other new businesses started by Tulane faculty members, students and alumni. It is further reflected in Tulane's participation in broader efforts to develop in New Orleans an environment that encourages and sustains innovation and entrepreneurship, including the development of the New Orleans BioInnovation Center and the ongoing work of local organizations such as Idea Village.

While the results to date have been encouraging, the real value of this type of change comes from its cumulative impact. Over the next five to 10 years, the number of companies in the New Orleans area that are based on research conducted at Tulane, or that have been started by Tulane students, faculty and graduates, is likely to increase significantly; and the continued development of the region's "entrepreneurial ecosystem" will produce new sources of growth for New Orleans, and new opportunities for its residents.





## The impact of community engagement

As with Tulane's increased emphasis on innovation and entrepreneurship, the near-term impact of the university's heightened commitment to community engagement is already evident in neighborhoods throughout New Orleans. But in this case as well, it will be the longer-term, cumulative impact of that engagement that defines its real value. Over the next five to 10 years, for example, New Orleans could benefit from:

- Increases in the number of high school students who have the opportunity to enroll in Advanced Placement courses, and who are assisted in other ways as well in making a successful transition to college;
- Reductions in the percentage of its young people who are neither in school nor working;
- A lengthening list of projects through which the Tulane City Center is helping to rebuild New Orleans neighborhoods—lot by lot and street by street;
- Improved health outcomes for neighborhood residents served by the Ruth U. Fertel Tulane Community Health Center; and

- Creation of more social enterprises (like Grow Dat) that develop innovative, effective and sustainable ways to address some of the city's most pressing problems.

As noted in Part Seven, strong communities are an essential foundation for the development of a stronger economy. By sustaining and expanding its commitment to community engagement, Tulane is helping to build them.

## Conclusion

From the city's growth in the nineteenth century to its recovery post-Katrina, Tulane University has been an active participant in the evolution of the New Orleans economy. Today, the university is contributing in multiple ways to the city's renewed vitality—as an employer, an investor, a provider of higher education and health care, a center of research, innovation and entrepreneurship, and a partner in building stronger communities. In all these areas, Tulane is well-equipped to help New Orleans and the surrounding region respond to the economic challenges and opportunities the next decade will bring.









[tulane.edu/economic-impact](https://tulane.edu/economic-impact)