

A Force for Good at the Local, Regional, and Global Levels

The Economic and Social Impact of Tulane University

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economics | policy | strategy

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Executive Summary



Tulane University is a top-ranked research and higher education institution, founded on a mission that emphasizes integrating education and research with intellectual pursuits as well as community-based initiatives. Rooted in New Orleans, the University encourages its students, faculty, researchers, and staff to apply their knowledge, skills, and discoveries to engage on issues of local, regional, and global importance. This intensive focus on fostering a community of scholars that addresses real world challenges makes the economic impact of Tulane all the more meaningful and helps power the region's competitive engine.

Annual Economic Impact

\$3.14 billion in Louisiana

Generated by four categories:

\$2.3 billion
Operations



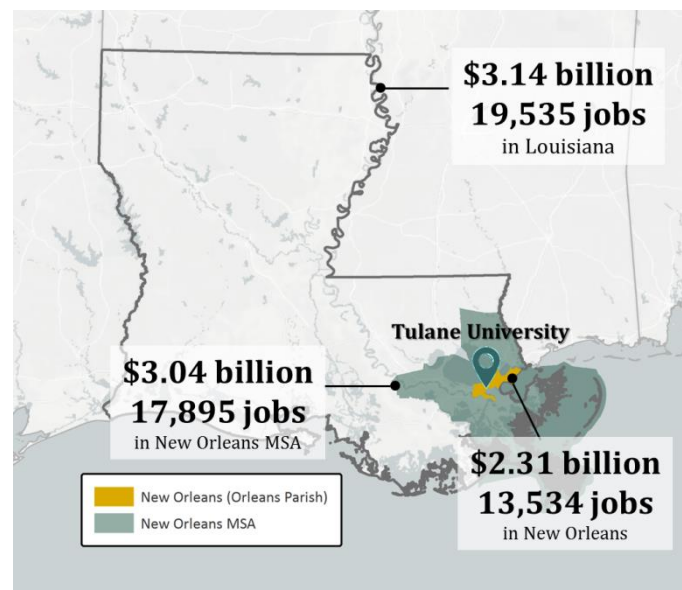
\$143 million
Capital Investments



\$312 million
Visitor Spending



\$382 million
Wage Premium



"One of the first things you notice at Tulane is the passion of its students, faculty and staff – an infectious spirit that animates the teaching, learning, research and social life of this community. There are few places in the world where you can receive as rigorous, challenging and complete an education as you will at Tulane University. But there is definitely no place in the world where you will receive a more transformative learning experience."

- Michael Fitts, President of Tulane University



Investing in the Surrounding Neighborhood and New Orleans Community

Tulane's ethos of service is apparent among students, faculty and staff, which strengthens relationships with the New Orleans community and fosters partnerships that address the needs of local residents. The University is an anchor institution for its community; its grounded approach to scholarship focuses on real world impact and engagement. The University ensures that its annual operations also create economic opportunities for local residents (in the form of employment opportunities) and local merchants (in the form of procurement opportunities). Tulane's commitment to local procurement reflects its commitment to using its economic footprint as a mechanism for inclusive opportunities.

Investing in Student Service

**2 million +
Service Hours**

performed by Tulane
students, faculty, and staff
over the past 10 years



165 Local Agencies

served each semester through the Center for
Public Service

Investing in Public Education Initiatives



Initiatives such as The Cowen Institute for Public Education and the Tulane University Center for K-12 STEM Education bolster the capacity of New Orleans' education system and improves educational outcomes.

Investing in Public Service



The 63 member Tulane University Police Department works in collaboration with the City, illustrative of Tulane's commitment to serve hand-in-hand with the local community. TUPD is one of only nine CALEA (Commission on Accreditation for Law Enforcement Agencies) accredited police departments in Louisiana.

Investing in Comprehensive Healthcare

**276,000+
patients**

Tulane University Medical
Center annually



500+ physicians

employed under the TUMC umbrella

A Major Player in the Region's Competitiveness

Innovation and regional competitiveness increasingly depend upon commitment by major research universities like Tulane to help spark development. Universities such as Tulane are a source of both discoveries that can be commercialized and of the entrepreneurial talent that translate intellectual property into startup ventures. These activities spur innovation and attract outside investment and interest in the region in the form of research funding, venture capital, and new businesses, creating a virtuous cycle of growth. Tulane is an innovator; it is an active participant in collaborations throughout the region. The intensity of educational assets, human capital, research, and discovery both within Tulane and across neighboring institutions means that New Orleans has increasingly become a hub of innovation, even being named the third best city for young entrepreneurs, according to a 2018 study conducted by LendingTree.

\$193 million
spent on R&D
activities



\$1.8 million
in licensing income



\$40,000+
awarded
annually to
entrepreneurs



Broadly Impactful Research

Tulane National Primate Research Center is a leader in a variety of important multidisciplinary projects focusing on biomedical research, particularly infectious diseases and vaccines discoveries that have far-reaching implications.



Supporting Human Capital

The School of Professional Advancement (SoPA) offers programs for working adults and regularly revises its curriculum based on feedback from industry leaders and companies seeking talent. This helps elevate the skills and professional potential of the region's talent pool.



Cultivating Innovation

The Albert LePage Center for Entrepreneurship and Innovation drives business development at Tulane and in the Gulf South region, by offering startup support and sponsoring yearly business competitions, including the Novel Tech Challenge which fosters innovation.



A Force for Good Locally, Regionally, and Globally

Tulane's role as a force for good at local, regional, and global scales starts with providing educational resources to a diverse community of students. Access and affordability are central to the University achieving this mission and creating a transformative experience for students who ultimately do good within the New Orleans region and beyond. This ethos is rooted in the University's birth as the Medical College of Louisiana, which sought to mitigate, through extensive research and study, the devastating impact of diseases introduced to the city through the Port of New Orleans. It continues to drive the University today as Tulane has become a force for good locally, regionally, and globally.

"New Orleans is a better and more vibrant and attractive city because of Tulane, and Tulane is a better and more attractive university because of New Orleans; the futures of the two are linked. We need to nurture that and further that relationship because it benefits us both."

– Michael Fitts, President of Tulane University



Combining Local Research with a Global Perspective

Research at Tulane is often conducted locally but has global implications, with a focus on emerging methods and countries around the world. One example of that broadly applicable research is at the Center for Emerging Reproductive Perinatal Epidemiology (CERPE) which has studied how disaster and disease affect pregnancy.



Educating Well-Rounded, Service-Oriented Students

Students that choose Tulane often seek to give back in their academic lives as well as professionally when they become alumni. One example of Tulane's service-oriented ethos moving beyond the classroom is with Fund 17, a local non-profit started by Tulane graduate Haley Burns, that now partners with the Center for Public Service on providing business development assistance to local entrepreneurs.



Providing Accessible Avenues to Educational Opportunities

Tulane puts accessibility and affordability at the forefront of its mission, providing mentorship and educational opportunities for the surrounding community, including its Upward Bound program. Upward Bound partners Tulane student mentors with local, low-income high school students who would be first-generation college students.

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1. Background and Introduction

1.1. Purpose of Report

Tulane University is a top-ranked research and higher education institution, founded on a mission that integrates education and research with both intellectual pursuits and community-based initiatives. The University is deeply rooted within the New Orleans region and encourages its students, faculty, and researchers to use their knowledge, skills, and discoveries to address local, national, and global challenges.



The purpose of this report is to articulate this distinctive institution's mission and goals in economic and social impact terms. Where possible, the report identifies and quantifies those impacts locally, regionally, and statewide. These quantifications represent the present impact of the University. They also speak to the future trajectory of the University as a force for good at the local, regional, and global levels. As such, they demonstrate the importance of the University as an institution of higher education to its immediate host community, to the New Orleans region, and to society as a whole.

Broadly speaking, higher education is undergoing a period of disruption and increased scrutiny regarding the value of a college degree and the overall return on investment for the institutions' communities and students. At the same time, higher education has never been more important to economic competitiveness, both regionally and nationally, and as a leader in building a just society. This report demonstrates Tulane's value proposition and role within the community, region, and society, as an institution that cultivates and advances scientific, cultural, and social understanding for the greater good.

This report will estimate the impact of Tulane's annual operations, its capital investments, the student and visitor spending it attracts, and the additional earnings potential it confers on its graduates. These impacts will be evaluated for the University as a whole, Tulane University Athletics, and the Tulane Medical Center. In addition to these economic benefits, the report will also describe how Tulane's role in local engagement, scholarship, innovative research, and entrepreneurship supports the Greater New Orleans region and strengthens its economy.

1.2. About Tulane University

Tulane University traces its roots to the 1834 founding of the Medical College of Louisiana in New Orleans, which sought to mitigate through extensive research and study the devastating impact of diseases introduced to the city through the Port of New Orleans. In 1847, the Medical College expanded to become a full-fledged public university—the University of Louisiana—complete with a law department.

In 1884 Paul Tulane, a New Orleans businessman, gifted more



Gibson Hall, the first academic building on the Tulane Uptown Campus

than \$1 million “for the promotion and encouragement of intellectual, moral and industrial education.” The trust created to handle administration of these funds was subsequently granted control over the University of Louisiana, forming the Tulane University of Louisiana and sparking a wave of expansion. In 1885 Tulane formed its Graduate Division; in 1886, with gifts from benefactor Josephine Louise Newcomb, the Newcomb College for women was formed. As Tulane’s expansion continued through the early 20th Century, the University maintained its research focus, service tradition, and distinctive New Orleans identity.

Tulane’s current president, Michael Fitts, who comes from an esteemed academic and legal background, has reaffirmed Tulane’s longstanding commitment to service and research by placing a renewed emphasis on interdisciplinary education and collaboration. Fitts has further sought to enhance the overall undergraduate experience through an extensive capital improvements program that continues to expand Tulane’s facilities and lays the foundation for future growth in footprint and in impact. These initiatives have positioned the University to persist in its role as a leader in national education and research. Today, Tulane has grown to become a diverse community of 14,000 students and 4,100 staff spread across 10 schools, while remaining committed to the same founding ideals of research and service. Since its forming, Tulane University has been a force for good at the local, regional, and global levels, and this report captures its current impact in economic and social terms.



“One of the first things you notice at Tulane is the passion of its students, faculty and staff – an infectious spirit that animates the teaching, learning, research and social life of this community. There are few places in the world where you can receive as rigorous, challenging and complete an education as you will at Tulane University. But there is definitely no place in the world where you will receive a more transformative learning experience.”

—Michael Fitts, President of Tulane University

1.3. Framing Tulane as an Economic Impact Engine for the City and State

Although Tulane is a not-for-profit entity that focuses on a core mission of education, research, medical care, and service, the University is also a significant economic engine for New Orleans and Louisiana. As such, Tulane is an important part of Greater New Orleans’ future competitiveness, serving as a major employer within the region and attracting talent to the region to work directly for the institution or with companies that are drawn to the area due to Tulane’s reputation. The University’s substantial economic impact is particularly notable for the following reasons:

- Sheer size of operating budget and purchasing power: As one of the region’s largest employers and a major procurer of goods and services from local vendors, Tulane plays a significant role in the regional economy.

- Drawing people and money into the region: Tulane draws money into the region—in the form of out-of-town students, visitors of students, patients and their caregivers, athletic participants and spectators, and research dollars.
- Emphasis on interdisciplinary research and education, advancing knowledge that will impact the region and have broad implications: As a net attractor of human talent, Tulane’s educating and credentialing of students, who then stay in and contribute to the regional economy, results in a stronger workforce and greater economic opportunity.
- Partnership with local organizations and government for workforce and economic development: The University undertakes and catalyzes many large-scale capital projects, which represent economic opportunity for the construction industry and related sectors.

Importantly, the economic impact categories quantified in this report collectively speak to a large present contribution by the University to the local, regional, and state economy, and they indicate that the University’s role as an economic engine will be even greater in the future. As a large employer, procurer of goods and services, and undertaker of large capital projects, the University generates a significant direct economic footprint on the region today, and is laying the literal and figurative groundwork for continued impact going forward. The spending it draws into the region from students, patients, visitors, and athletics participants represents business opportunities for local merchants and vendors, and helps make the New Orleans region an economically vibrant destination of choice. The wage premium it confers upon students it educates and credentials results in more household income today as well as a more competitive labor market and innovation hub tomorrow. In all of these ways, the University is making a huge impact on the regional economy now, while preparing the region for sustained competitiveness and vitality in the years and decades ahead.

1.4. Broader Community, Regional, and Societal Impacts

Tulane University is not simply a regional economic engine, but a values-driven institution of higher education, with a mission that goes beyond economic value. In addition to generating jobs and tax revenues, Tulane’s impact has broader community, regional, and societal consequences that are less quantifiable. As a premier institution focused on the intersection of knowledge and real-world application, Tulane’s broader impacts manifest in the following ways:

- Service: Tulane’s ethos of service is rooted in its very founding, taking its role as an anchor institution seriously and investing significant resources which benefit and engage the surrounding community.
- Research: In addition to providing essential medical services for the local community, Tulane and the Medical Center engage in critical scientific research that improves health care outcomes, creates intellectual property for commercial ventures, and advances human knowledge.
- Regional partnerships: By investing in partnerships with a wide range of stakeholders, Tulane strengthens the region’s competitiveness through workforce development and entrepreneurial support.

- Local and Global impacts: The University's academic endeavors serve as a force for global good by enhancing human knowledge in disciplines of societal significance, such as coastal ecosystems and infectious diseases.

1.5. Organization of Report

The chapters in this report are sequenced to highlight the interconnectivity of Tulane's economic and social impact work.

The first content section quantifies the economic impact of the **annual operations of Tulane** (Section 2), which represents the University's role as one of the region's largest employers as well as one of its largest purchasers of goods and services. This spending, in turn, supports additional economic spillover impacts throughout the New Orleans area in the form of increased spending by those persons directly or indirectly deriving their incomes from the University.



Tulane River and Coastal Center is a recent capital investment for the University.

The second economic impact examined is from the result of the **capital investments made by the University** on its campus. Tulane's substantial development program includes new buildings, renovations, and large-scale repairs, in keeping with Tulane and President Fitts' commitment to creating a vibrant environment for interdisciplinary scholarship and research while also building a campus that is a welcoming amenity to the regional community (Section 3).



The Class of 2019 includes over 3,000 candidates from all 50 states and over 50 countries.

Tulane also supports economic activity by drawing in students and visitors from across the United States and around the world. Their spending represents additional dollars circulating in the regional economy, supporting a wide range of businesses and industries. The impacts of this ancillary spending generated by the University will be broken down into its three distinct sources: **spending by students and their visitors (Section 4)**, **spending by the Medical Center's patients as well as patients' families, caregivers, and visitors (Section 5)**, and finally **ancillary spending associated with Tulane's Athletic programs (Section 6)**.

Tulane's commitment to research, service, and excellence in academics creates a rigorous and open learning environment that then sends forth graduates to do well and do good. One tangible consequence of that work is that alumni retained in the region have higher earning potential, which translates into more household earnings circulating in the local and state economy. This is known as the **wage premium** (Section 7), and Tulane graduates in the region contribute significantly to the local and state economy as a result.

Section 8 explores Tulane’s **broadening engagement with the New Orleans region and beyond**. Although Tulane’s community and social impacts are largely a function of the University’s large operational footprint—which enables its students, faculty, and staff to participate meaningfully in their communities—it is Tulane’s longstanding focus on community engagement and New Orleans identity that foments this synergistic relationship.

In an increasingly globalized and hyper-connected economic landscape, inter-region competition has never been more pronounced than it is today. Moreover, in this competitive environment, fortunes often hinge upon a city’s access to high-level educational and research institutions which allow a city to attract both top talent and top employers. Section 9 will accordingly examine Tulane’s role in enhancing the **New Orleans region’s competitiveness** and putting the region on solid economic footing moving forward into the future.

Finally, Section 10 will explore the **University’s broader societal impacts**. From breakthrough research improving the quality of millions of lives to extending educational and economic opportunity to previously marginalized groups, the potential societal benefits of a university as diverse as Tulane are immense. This section serves to make concrete many of these broad benefits, and in doing so, affirms the importance of higher education as a sector worth preserving and expanding.

The report concludes (Section 11) with a summation of Tulane’s economic impact, which is the aggregation of its impact from operations (Section 2), capital investments (Section 3), ancillary spending (Sections 4, 5, and 6), and wage premium to local alumni (Section 7). It also synthesizes how the many economic and social impact categories (Sections 8, 9, and 10) reviewed in this report together cement Tulane’s role as a collaborative partner with the New Orleans region and the State of Louisiana in building a strong, innovative economy both today and long into the future.

1.6. Overview of Report Scope and Methodology

Econsult Solutions, Inc. (ESI) employs industry-standard economic modeling techniques to estimate direct economic activity generated by Tulane and to translate that activity into total economic output, employment, and earnings, as well as tax revenue impact. The appendices to this report describe in detail the approach and methodology utilized.

Tulane has provided data inputs on institutional activity, which were verified and supplemented with other public data sources and assumptions as needed. For each input, the most recent and appropriate available dataset is utilized. In the case of capital investments, activity levels are averaged over multiple years to generate an appropriate assessment of typical annual activity. Therefore, the analysis should be understood to represent the current annualized level of activity for Tulane, rather than representing the impact for any specific fiscal year.

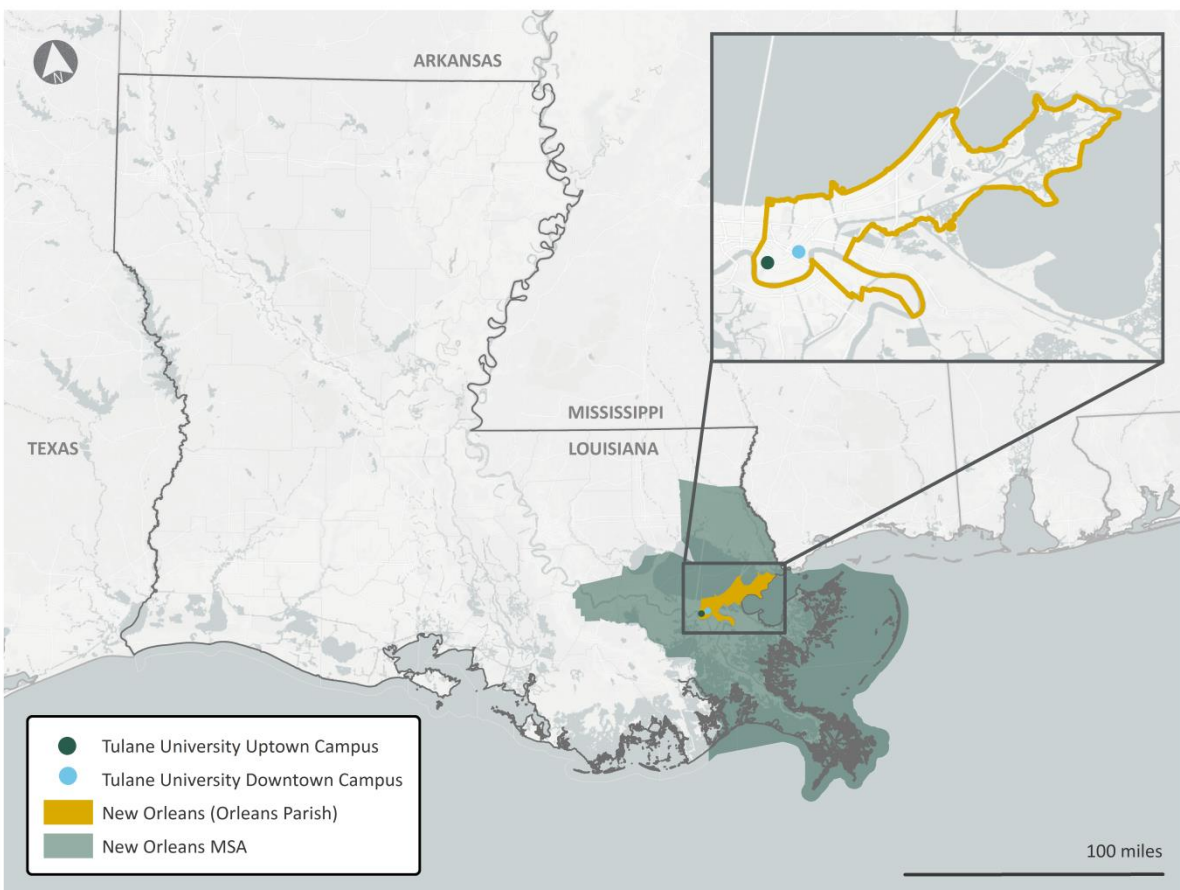
Economic impacts are the sum of direct activity attributable to Tulane (either direct spending by the institution on operations and capital activity, spending by students and visitors it attracts, or spending by alumni attributable to the enhanced earning power conferred by their degrees) and the spillover impacts of that direct activity. Within an interconnected economy, each dollar of direct expenditures generates multiple waves of spillover impacts through spending on goods and services purchased within

a given region (“indirect impacts”) as well as spending resulting from the labor income generated by the initial activity that ripples through the region (“induced impacts”). ESI uses IMPLAN modeling software to estimate indirect and induced impacts and sums them with the direct activity to produce total economic impacts.

Economic impacts in this report are calculated at four concentric geographic levels (See Figure 1.1):

- New Orleans (coterminous with Orleans Parish): this geography is chosen to capture the direct activity that occurs on campus, which is located within the City of New Orleans, as well as the direct, indirect, and induced impacts that occur in and spill over throughout the New Orleans economy.
- The New Orleans-Metairie Metropolitan Statistical Area (MSA, which includes Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, St. Tammany, St. James parishes): This geography is chosen to reflect the interdependence of the region and the central importance Tulane plays in its collective economic fortunes.
- The State of Louisiana

Figure 1.1: Geographies of Interest



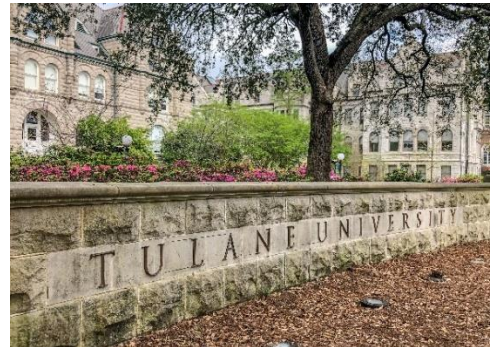
Source: ArcGIS (2019), Mapbox (2019)

Tax revenue impacts are modeled for the City of New Orleans and the State of Louisiana governments. Importantly, while the city economy is wholly contained within the state economy, the City of New Orleans and the State of Louisiana are separate and distinct government entities, with separate and distinct tax bases. Therefore, the fiscal impacts for the City and State are additive.

2. Impact from Operations

2.1. Section Overview

Tulane University's most obvious and direct impact on the New Orleans economy and beyond is through its continuing and growing operational presence. This is true for the entire University, inclusive of Tulane University Athletics, as well as the Tulane Medical Center. These operations support the University's continuing mission of cultivating the next generation of leaders through scholarship, research, and service. Not only do daily operations play a significant role in supporting Tulane's transformative work in the academic setting; they are also an economic driver for the city, region, and state economies.



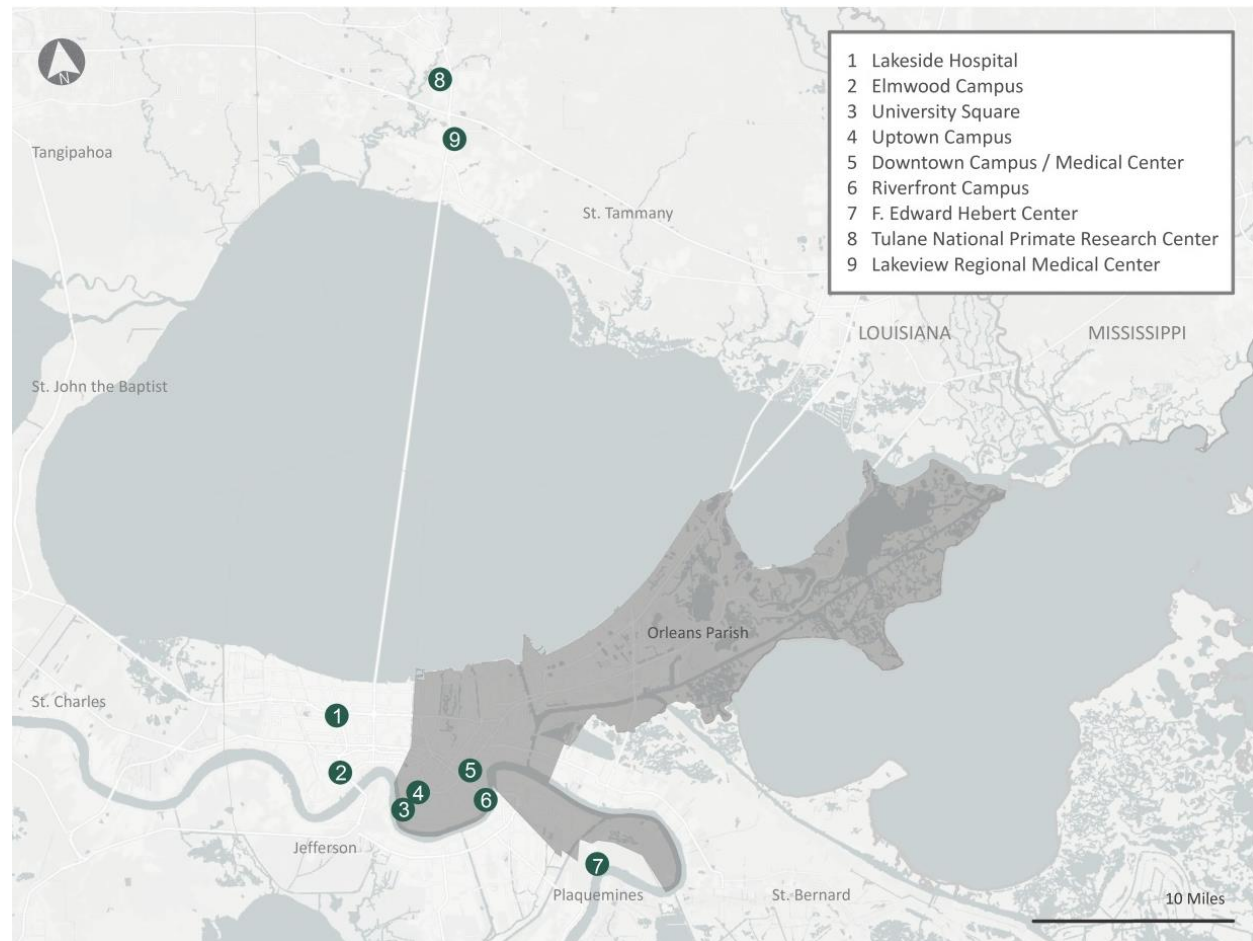
Tulane's uptown campus footprint encompasses 110 acres and 89 buildings.

As an anchor institution, Tulane University plays a direct role in the procurement of goods and services from local and regional vendors and the employment of faculty and staff. This direct, local economic activity has several spillover effects on the broader New Orleans economy, further supporting regional employment and tax revenue. **In aggregate, the economic impact of Tulane's operations within the state of Louisiana is over \$2 billion in total output, supporting 13,310 jobs and generating over \$41 million in state tax revenues each year.** This section breaks down the economic and tax revenue impact of Tulane's operations, separating these effects into those associated with Athletics, the Medical Center, and the University itself.

2.2. Direct Footprint

Annual operations represent Tulane's spending on its core functions of education, research, and service through not only the University and Tulane University Athletics, but through Tulane Medical Center as well. Tulane employs over 8,000 individuals, representing teaching, administrative, research, and support staff in its two major locations (Uptown and Downtown Campuses), as well as the Tulane National Primate Research Center and Tulane Medical Center hospitals (see Figure 2.1). Employee compensation, totaling over \$633 million, represents a significant portion of Tulane's overall budget, which has spillover effects at each geographic level, stimulating the local economy and supporting a higher level of employment across multiple industries. The University's procurement activities also support local jobs; for example, outside contracts for campus food and custodial services supports more than 500 additional employees in the region.

Figure 2.1: Tulane University Campus and Hospital Locations



In aggregate, Tulane’s operating expenditures for both the University and Medical Center for FY 2019 are estimated to be nearly \$1.5 billion, making it an economic powerhouse for New Orleans, the region, and the state. To determine the magnitude of the direct, indirect, and induced impact within these economies, it is first necessary to understand the level and composition of annual expenditures within each of these geographies, since economic impact depends largely on where expenditures occur (e.g. spending undertaken at a Louisiana business will impact the Louisiana economy, whereas spending and purchasing within Mississippi or Texas will not materially impact the Louisiana economy).

To do so, deductions must be made for budgetary items that do not result in direct expenditures or that are accounted elsewhere. Tulane’s FY 2019 budget, for instance, included Affiliated Hospital Agreements and Medical Practice. These were excluded from the model, as they are already accounted for in Tulane Medical Center’s operating budget, \$548 million.

Accounting for these factors yields the remaining operating expenditures which circulate through the local economy within each geography. These expenditures are those which are modeled to determine the total direct, indirect, and induced economic effects. The modelable portion of Tulane’s annual

operating budget totaled \$1.34 billion in FY 2019 (see Figure 2.2). About \$229 million of this direct modelable operating budget is located at the Tulane National Primate Research Center, the Tulane Lakeside Hospital, and the Lakeview Medical Regional Center, which are outside of Orleans Parish although still within the New Orleans MSA and the state of Louisiana. Thus, the direct modelable operating budget in New Orleans is \$1.11 billion.

Figure 2.2: Summary of Tulane University Annual Operating Expenditures

Expense	Included in Model	Operating Category	FY 2019 Amount (\$M)	Modeled Amount (\$M)
Govt Grants & Contracts	Yes	University	\$151	\$151
General Restricted	Yes	University	\$58	\$58
Affiliated Hospital Agreements	No	University	\$36	\$0
Medical Practice Related	No	University	\$148	\$0
Endowment	Yes	University	\$42	\$42
Instruction & Academic Support	Yes	University	\$220	\$220
Libraries	Yes	University	\$18	\$18
Student Services	Yes	University	\$24	\$24
Institutional Support	Yes	University	\$99	\$99
Voluntary Separation Plan	Yes	University	\$0	\$0
Operation & Maintenance/Plant Funds	Yes	University	\$100	\$100
Auxiliary Enterprises	Yes	University	\$30	\$30
Other Expenses	Yes	University	\$43	\$43
Athletics	Yes	Tulane University Athletics	\$2	\$2
Tulane Hospital Operating Expenses	Yes	Tulane Medical Center	\$548	\$548
Total for Tulane University			\$942	\$759
Total for Tulane University Athletics			\$30	\$30
Total for Tulane Medical Center			\$548	\$548
Grand Total			\$1,519	\$1,336

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

2.3. Economic Impact

Direct operational spending affects the regional economy, stimulating business and supporting higher employment across numerous industries. The total economic impact is the sum of direct expenditures made by Tulane University, the indirect impacts generated from spending with a broad array of suppliers, and the induced impacts resulting from Tulane employees spending wages within their local communities. Indirect and induced impacts grow with each successive level of geography, due to more purchasing and recirculation occurring within the larger geography as well as a larger multiplier effect.

The overall economic impact is estimated to generate on an annual basis (see Figure 2.3):

- \$1.76 billion in total output within New Orleans, supporting 10,100 direct, indirect, and induced jobs and \$722 million in earnings;
- \$2.28 billion in total output within the larger New Orleans MSA, supporting 13,110 direct, indirect, and induced jobs and \$875 million in earnings;
- \$2.30 billion in total output within Louisiana, supporting 13,310 direct, indirect, and induced jobs and \$881 million in earnings.

Figure 2.3: Annual Economic Impact of Tulane Operations within New Orleans, New Orleans MSA, and Louisiana¹

Economic Impact	New Orleans	New Orleans MSA	Louisiana
Direct Output (\$M)	\$1,107.3	\$1,336.1	\$1,336.1
Indirect and Induced Output (\$M)	\$654.0	\$941.1	\$968.6
Total Output (\$M)	\$1,761.3	\$2,277.2	\$2,304.7
Employment (FTE)	10,100	13,110	13,310
Earnings (\$M)	\$721.7	\$875.1	\$881.4

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

2.4. Industry Distribution of Economic Impact

Tulane’s day-to-day operations, including the purchase of goods and services and the spending of labor income it generates, impact a variety of sectors. Through the purchase of goods and services from local vendors, and the spending of labor income it generates, Tulane’s activities have impacts on a variety of sectors throughout the local and state economy. While the direct impacts fall within the educational services, athletics, and health services industries, the indirect and induced impacts benefit many other sectors as well, most significantly the health care and social assistance, administrative services, and real estate industries. Overall, industries besides education, athletics, and the hospitals receive 43 percent of total employment impact in Louisiana (see Figure 2.4). An example of these supported spillover jobs is the local employment SODEXO supports—more than 500 food service and custodial jobs throughout Tulane’s campuses.

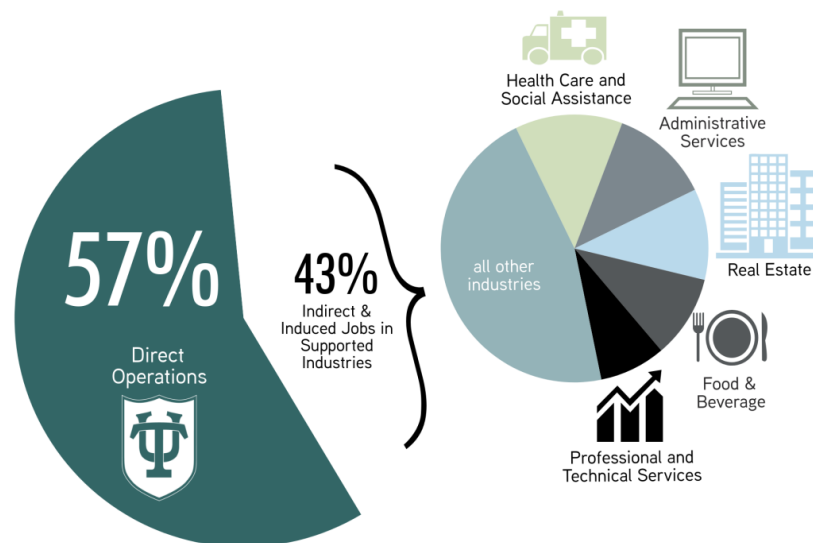
Louisiana Lab Repair Service, Inc.

is a local family-owned and operated company that has repaired lab equipment at Tulane for decades. With over seventy years of experience, the company is highly regarded and offers highly sought-after services. Longstanding working relationships between Tulane and local businesses keeps spending circulating within the local economy and builds capacity within the local business community.



¹ For a detailed break out of the economic impacts of the University, Tulane Athletics, and Tulane Medical Center, refer to Appendix A.2.

Figure 2.4: Industry Distribution of Employment Generated by Tulane’s Operations within the State of Louisiana



Source: IMPLAN (2015), Piktochart (2019), Econsult Solutions, Inc. (2019)

Roxanne Johnson, MSPH, earned her Master of Science in Public Health while working as the Director of the Human Research Protection Office and Program. Her office works with the IRB to ensure the safety and well-being of human participants in studies conducted at Tulane University. Both examples are illustrative of the local impact of Tulane’s operations, as a major employer that also supports local households.

Will Ferbos serves as Assistant Vice President and Deputy Chief of Staff in the Office of the President. He started his career in 2007 as a legal assistant at the Tulane Law School, growing his career at the University and receiving educational benefits as well. He leveraged the University’s tuition waiver program and earned his BA from Tulane’s School of Professional Advancement in 2015, and will complete his MBA from the Freeman School of Business in 2020.

2.5. Local and State Tax Revenue Impact

Although Tulane is a non-profit entity, the fiscal impacts generated by its operations are substantial. These operating activities increase local and state tax bases directly by employing faculty and staff members and thus generating taxable income, and indirectly via spending by Tulane vendors and employees.

It is estimated that Tulane operations generate **\$41.6 million in personal income, sales, and business income tax revenues for the State of Louisiana each year**. While the University does not directly generate sales tax, impacts from Tulane’s operations also grow the New Orleans tax base by supporting taxable economic activity through the procurement of goods and services. It is estimated that these

activities generate **\$4.4 million** for the City of New Orleans. Included in this total is the state withholding tax that Tulane employees directly pay, approximately **\$15.5 million** of the \$19.7 million income tax that Tulane generates. Tulane also directly contributes additional state tax payments of \$6.1 million, of which \$5.7 million went to the Louisiana Patient’s Compensation Fund (see Figure 2.5).

Figure 2.5: Estimated Annual Tax Revenue Impact from Tulane University Annual Operations to the State of Louisiana (in \$M)

Tax Type	City of New Orleans	State of Louisiana
Income Tax (\$M)	-	\$20.4
Sales Tax (\$M)	\$4.4	\$13.6
Business Tax (\$M)	-	\$1.5
Miscellaneous Payments (\$M) ²	-	\$6.1
Total Tax Revenue	\$4.4	\$41.6

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

*Totals may not sum due to rounding

These tax revenue impacts represent the tax base associated with the University as an employer and procurer of goods and services, with attendant state income tax, local and state sales tax, and state business tax implications. They do not include the additional local tax revenues associated City property taxes paid by some of Tulane’s operations as well as with University employees who live within the city of New Orleans and therefore pay (directly as homeowners or indirectly as renters) local property taxes to the City of New Orleans. The average property tax payment in Orleans Parish is about \$2,000, which multiplied by the approximately 4,000 University employees who live within Orleans Parish would represent about \$8 million in local property taxes paid per year.

2.6. The Broader Impacts of Tulane’s Operational Footprint

Tulane University is known as a premier education and research institution, renowned for its interdisciplinary educational mission, far-reaching service initiatives, and distinctive medical program.

Tulane operations produce over **\$2 billion in economic activity in Louisiana** each year and directly or indirectly supports 13,310 jobs within the State.

And while those functions alone play important roles in the economy, its role as an economic engine must also be emphasized. The University’s operations produce **\$2.3 billion in annual economic activity within the state economy**, serving as an anchor institution that strengthens the surrounding community as will be discussed further in Section 8. Tulane directly employs over 8,000 people and its economic footprint directly and indirectly supports a total of 13,310 jobs in the State. The day-to-day functions of the University also

support an entire network of Louisiana businesses and workers through its procurement of about \$131

² The additional state tax payments comprise of payments made to multiple state departments, such as the Louisiana Patient’s Compensation Fund, the Department of Health, and the Louisiana Workforce Commission.

million in goods and services within the State each year. These impacts are a snapshot of where Tulane is today, and do not evaluate the economic potential of the University in the future. As future capital investments expand the University's capacity to educate and credential students, research critical topics, and develop new technologies, the economic implications of Tulane's operations will grow (see Section 3).

The University's direct economic footprint within the state economy is large, and it creates a significant ripple effect of additional economic activity supporting businesses and jobs. Even though Tulane itself is a tax-exempt institution, all of this direct and indirect economic activity grows various local and state tax bases, resulting in \$41.6 million in tax revenues to the State of Louisiana. Importantly, Tulane's status as a world-class academic and research institution means that a very large proportion of its dollars are drawn from outside the region, whether in the form of tuition dollars from students or research dollars. Attracting outside investment to support local jobs and tax bases is an important way in which regions become economically vibrant, and one way in which Tulane University is a major part of its region's vitality. Hence, Tulane's contribution to the regional economy is not only from its sheer size as an employer and procurer of goods and services, although that is important, but also from its contribution to the types of educational, research, and innovation activities that make the region more competitive.

3. Impact from Capital Investments

3.1. Section Overview

In addition to its annual operations, Tulane University expends significant resources on a wide range of capital investments. These investments refresh, expand, and enhance the physical space in which the University's operations take place, and as such are an integral part of Tulane's present and future success. These investments allow the University to accommodate new initiatives and programs that meet the needs of current and prospective undergraduate and graduate students as well as the residents of the New Orleans region.

These capital outlays also produce economic impact for the region, as they represent economic opportunities for the construction industry and related sectors. In the aggregate, **the annual statewide impact from capital investments by Tulane is \$143 million, supporting 730 jobs and generating \$1.7 million in state tax revenues.** The capital investments that the University undertakes represent its stewardship of the campus and its investment into the community, creating economic opportunity now and laying the foundation for future growth in Tulane's operations and the ensuring economic returns within the local community and region.

3.2. Projects and Investment Footprint

As an anchor institution in New Orleans and the greater region, Tulane's investments in campus infrastructure are important to building a world-class community of scholars, research, and innovation. The University's recent strategic capital investments reflect a commitment to not only bolstering New Orleans' human capital but also drawing new voices and businesses to the region. As this section will demonstrate, these projects were developed keeping in mind Tulane's central mission of education without the sacrifice of community accessibility. Tulane's capital investments have been steady over the last few years, with plans to further develop the Uptown and Downtown campuses, advancing the University's mission in a variety of ways.



Mussafer Hall is the new home to academic advising, career programming and success services at Newcomb-Tulane College. Thanks to generous Tulane supporters, including Marion and David Mussafer, a comprehensive set of student services for Tulane undergraduates are under one roof in the heart of the uptown campus. Capital investments like Mussafer Hall allow Tulane to enhance its mission and strengthen students' academic experiences on campus.



A November 2018 ribbon-cutting ceremony marked the opening of the new Tulane University Police Department headquarters in the downtown medical district.

Recent capital projects supporting Tulane’s academic initiatives include Mussafer Hall—Tulane’s new center for academic advising, a 23,000 square foot building that brings a full suite of student services under one roof—and the Tulane River and Coastal Center, a LEED Gold certified building that is home to cross-institutional research and conference facilities, and is also available for exhibitions, classes, demonstrations, shows, and/or conferences that relate to the mission of Tulane’s ByWater Institute. Building upon the University’s community-serving engagement (see Section 8 for more details) is the 2018 completion of a new headquarters in the downtown medical district

for the Tulane University Police Department; this investment demonstrates a continued commitment to providing resources that support the local community. Another example of how capital investments enhance Tulane’s mission and goals is the new Freeman School facility located downtown at the New Orleans Culinary & Hospitality Institute (NOCHI). This expansion of the business school creates opportunities for Tulane to deliver programming in hospitality entrepreneurship that leverages its close proximity to NOCHI students and more broadly engages working professionals and national and international visitors to the city.

Tulane University’s average annualized capital investment over the past five years is \$82 million. For the purposes of this report, an annualized amount of capital investment made by Tulane is based on Fiscal Years 2015 to 2019. This aggregates to \$411 million over the five-year period.

Figure 3.1: Capital Investments made by Tulane University by Year

Fiscal Year	Capital Investments (\$M in 2019\$)³
2015	\$90.9
2016	\$56.3
2017	\$80.6
2018	\$78.2
2019	\$104.9
Five-Year Aggregate	\$410.9
Annualized Capital Impact	\$82.2

Source: Tulane University (2019)

³ Expenditures were inflated to 2019 dollars in order to calculate a five-year average for economic modeling purposes.

3.3. Economic Impact from Capital Investments

Tulane University's average annualized capital investment within Louisiana is **\$82 million**. These project costs include hard construction costs (both on- and off-campus), renovation and state of good repair expenses, equipment purchases, and the purchase and procurement of materials and services. These expenditures touch a wide range of wholesalers, manufacturers, and professional service providers in addition to construction companies within the city and state. These capital expenditures also touch each of Tulane's campuses, further connecting the University across New Orleans.

In total, Tulane's \$82 million in annual capital expenditure activity generates (see Figure 3.2):

- **\$122 million** in total annual output within the City of New Orleans, supporting 650 direct, indirect, and induced jobs and \$31 million in earnings;
- **\$139 million** in total annual output within the New Orleans MSA, supporting 720 direct, indirect, and induced jobs and \$35 million in earnings;
- **\$143 million** in total annual output within the State of Louisiana, supporting 730 direct, indirect, and induced jobs and \$36 million in earnings.

Figure 3.2: Annual Economic Impact of Tulane Capital Investments within New Orleans, New Orleans MSA, and Louisiana

Economic Impact	New Orleans	New Orleans MSA	Louisiana
Direct Output (\$M)	\$82.2	\$82.2	\$82.2
Indirect and Induced Output (\$M)	\$40.1	\$56.9	\$60.9
Total Output (\$M)	\$122.3	\$139.1	\$143.1
Employment (FTE)	650	720	730
Earnings (\$M)	\$31.4	\$35.2	\$36.1

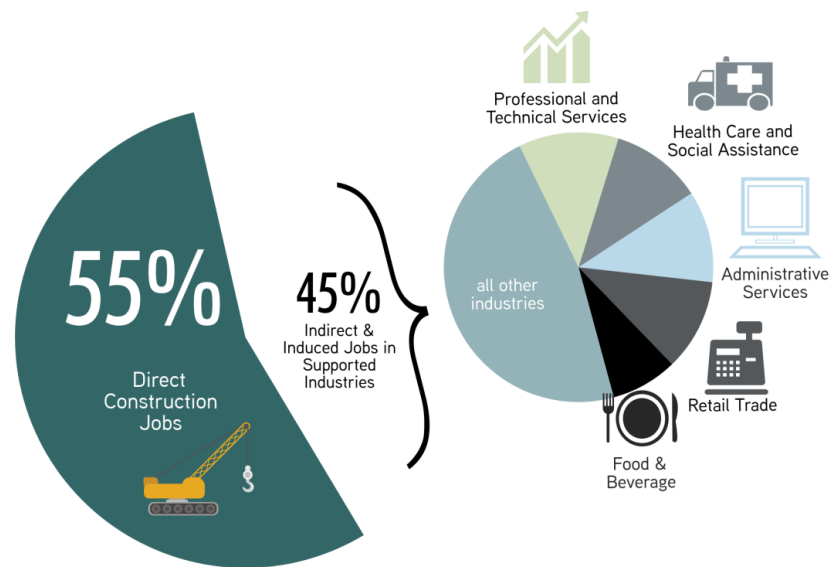
Source: IMPLAN (2015), Econsult Solutions, Inc. (2019), Tulane University (2019)

3.4. Industry Distribution of Economic Impact from Capital Investments

The economic impacts associated with Tulane University's capital investments affect a wide range of industries, far beyond the construction sector. While the construction industry is the largest individual beneficiary from these investments, other industries including retail trade, health care and social assistance, professional and technical services, administrative services, and the accommodation and food services industries also see significant benefits from the indirect (supply chain) and induced (labor income) impacts of the capital activity.

Figure 3.3 shows the proportion of the total employment impact associated with Tulane's capital investments that accrue in and beyond the construction industry within the state. In Louisiana, approximately 45 percent of the employment supported by capital investments is in sectors outside of construction.

Figure 3.3: Industry Distribution of Employment Generated by Tulane University’s Capital Investment within Louisiana



Source: IMPLAN (2015), Piktochart (2019), Econsult Solutions, Inc. (2019)

3.5. Local and State Tax Revenue Impact from Capital Investments

Tulane University’s annualized capital investments also contribute significant tax revenues to the City and State. Direct capital investments help create construction jobs and support local construction companies and their suppliers, all of which generate income, sales, and business taxes to Louisiana. In the aggregate, capital investments by Tulane generate \$500,000 in City tax revenues and an additional \$1.7 million in State tax revenues (see Figure 3.4).

Figure 3.4: Estimated Annual Tax Revenue Impact from Tulane University Capital Investments within New Orleans and the State of Louisiana (in \$M)

Tax Type	City of New Orleans	State of Louisiana
Income Tax (\$M)	-	\$0.4
Sales Tax (\$M)	\$0.5	\$1.2
Business Tax (\$M)	-	\$0.1
Total Tax Revenue	\$0.5	\$1.7

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

3.6. Campus Investments Today Lay the Foundation for Tulane's Future

Beyond the impact produced by its operations, Tulane University's capital investments produce additional impact at a local, regional, statewide, and national levels, including \$143 million in annual economic activity within the state economy. These investments represent a significant amount of economic opportunity for the local construction sector, while also supporting activity and employment

Charity Hospital is a \$245 million project that is set to bring the former Charity Hospital back into active use by early 2022, with 462 residential units (both market-rate and workforce housing), Tulane offices, research labs, shops, and restaurants. The 20-story building, which is owned by Louisiana State University, has been unoccupied since Hurricane Katrina. Tulane University will be a major anchor tenant, taking 300,000 square feet and further extending its footprint in New Orleans. The reclamation of Charity is of utmost significance to the city of New Orleans, both as a large-scale development project that will stimulate the local economy and as a show of strength in post-Katrina New Orleans. By signing on to taking space in the building and committing leadership attention to Charity, the University helped make this important project a reality.



in many other related industries. This impact is not only economic, as measured in jobs and tax revenues, but is also symbolic of the larger commitment of Tulane to its community and space in New Orleans.

These capital expenditures represent an investment in the present quality and future potential of Tulane University. By enhancing its physical campus, Tulane improves its ability to attract and engage students, faculty, and researchers, thus laying the foundation for sustained impact in the future.

These capital expenditures also influence the economic vitality of the campus area and generate demand for additional nearby private investment, producing additional economic activity in the long term. One forward-looking example of that third-party investment (i.e. it is not made directly by Tulane but is made possible in large part by Tulane's presence) is the redevelopment of Charity Hospital. Tulane's role in this \$245 million redevelopment project is another way that it contributes to the local construction sector and related industries. There are smaller-scale examples of third-party investments like this – such as the New Orleans Culinary & Hospitality Institute, which the University is supporting by providing programmatic support – that occur thanks to Tulane's presence in the community or engagement, but to remain conservative in analyzing the University's impact, these investments have not been attributed to Tulane's direct construction impact number in this section.

4. Impact from Ancillary Spending: Students and Visitors

4.1. Section Overview

Beyond producing economic impact through its operations, Tulane also draws outside spending into the region through students and their visitors, patients, and athletic events.

This section and the next two describe how these spending categories translate into economic impact, starting with the impact resulting from the spending by students and University-specific visitors. The primary benefits to students and visitors are the educational and cultural experiences



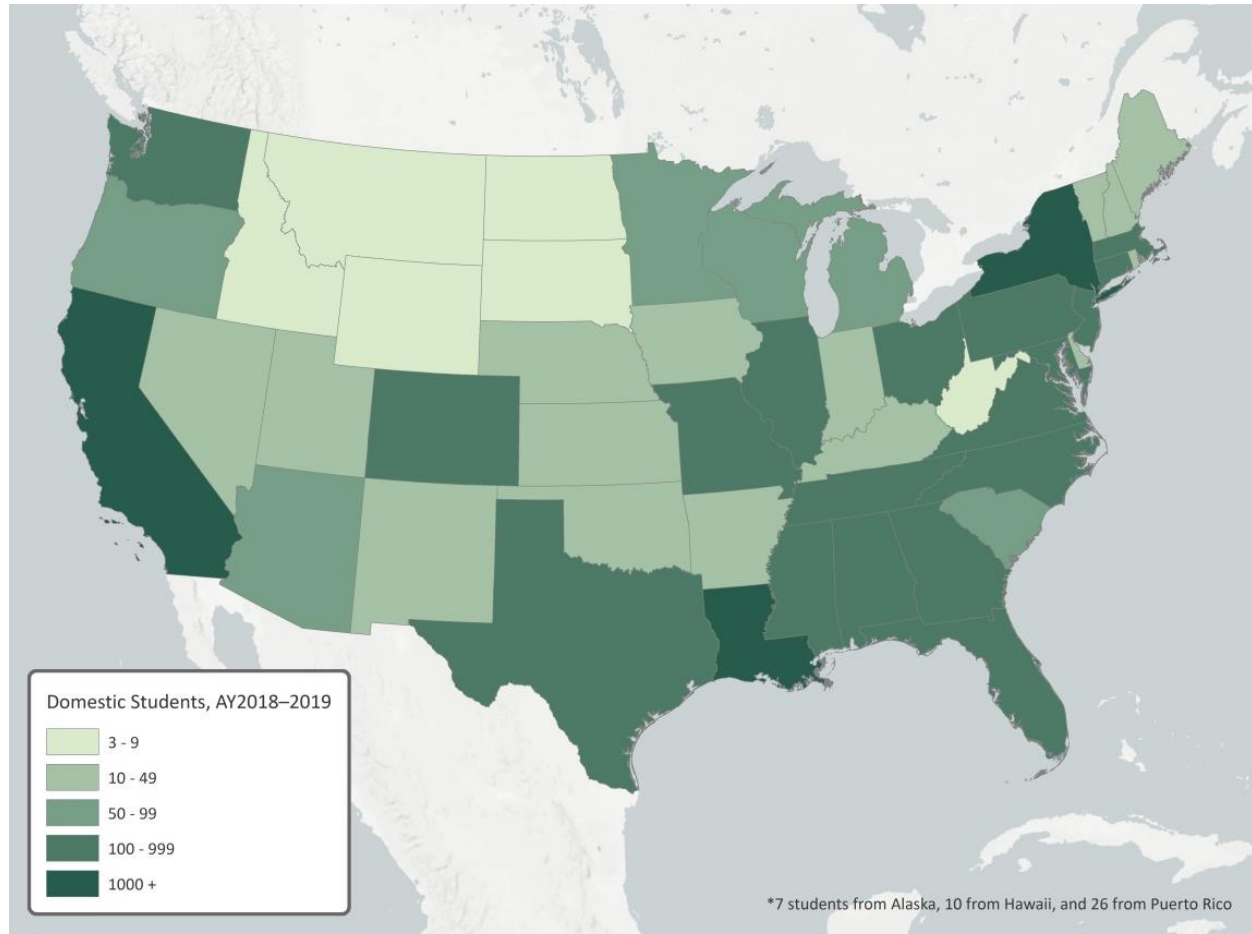
they receive at Tulane and in New Orleans; however, they also have a significant impact in the local and regional economy because of the new-to-the-economy spending students and visitors represent.

A large portion of student spending—for example tuition and on-campus housing—is directed to Tulane and is already reflected in the annual operations reviewed in Section 2. However, there is additional spending by students and visitors attracted to Tulane that takes place off campus in nearby neighborhoods and throughout the region. This portion of spending that is circulated through the local economy and referred to as ancillary spending results in economic opportunity for local retail merchants, the food and beverage industry, and the hospitality sector.

Impacts from ancillary spending are based on a combination of direct information from Tulane and assumptions anchored by research. Conservative assumptions are used to arrive at these estimates in order to avoid overestimating the impacts from this category. Tulane's student body is geographically diverse, with over 75 percent of current students originating from areas outside of Louisiana, while 5 percent of fall 2018 admitted class is international (see Figure 4.1). In addition to drawing students into the region, the University attracts national and international visitors, who often spend multiple days in the region, supporting local merchants through food and beverage, retail, and lodging spending. **In aggregate, the economic impact of ancillary spending by students and their visitors is \$279 million in total output within the state of Louisiana, supporting 1,820 jobs and generating \$4.5 million in State tax revenues each year.** As the University's footprint continues to expand in the coming years, Tulane's ability to support more student activity and programming that will attract more out of town visitors to the region.

The remainder of this section is dedicated to stepping through the ancillary spending derived from Tulane's students and their visitors. There are two additional ancillary spending sections in this report in order to clearly articulate the unique dynamics of visitors attributable to Tulane University Athletics and Tulane Medical Center (Sections 5 and 6). See Appendix A.3 for more detail on how spending was estimated and how the impact model works.

Figure 4.1: Geographic Distribution of Tulane Students by Home State

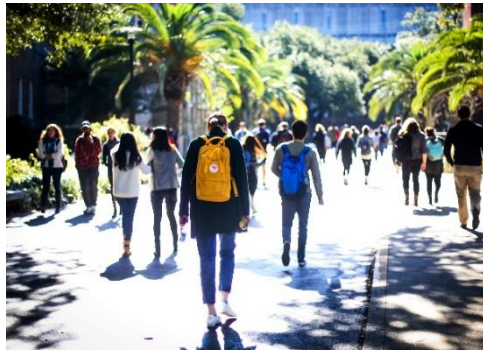


Source: Tulane University (2019), ArcGIS (2019), MapBox (2019)

4.2. Ancillary Spending by Students

Students at Tulane University not only pay tuition, but they also spend money on expenses such as transportation, room and board, supplies and books, and entertainment. As shown on the map, Tulane has thousands of students coming to New Orleans, representing a net import in spending to the region. Spending that takes place off campus and does not accrue directly to Tulane is considered “ancillary” for the purpose of this analysis, and from an impact standpoint must be accounted for above and beyond student spending on tuition, lodging, and other categories that accrue directly to Tulane and are therefore reflected in the operational footprint (described in Section 2). A large proportion of this ancillary spending takes place within New Orleans. This spending is either:

- New to the city and state, in the case of students from outside of the state, or
- Retained spending, in that local students may well have attended a university outside of the state (taking their spending power with them) in the absence of Tulane.



Base spending data comes from Tulane directly, which lists an approximate annual student budget for tuition, room, board, expenses, and transportation costs totaling \$74,860 for on-campus students and \$63,298 for commuting or off-campus students. Conservative estimates were then made for the proportion of ancillary spending not directly captured by Tulane. For example, students who live in “on-campus” residences owned by Tulane pay rent directly to Tulane and that economic impact is therefore captured within the

operating budget and not included as ancillary spending. In addition, tuition is also paid directly to Tulane and therefore already captured in the operating budget and operations economic impact outlined in Section 2. The model captures the rent paid by students who live “off-campus” within New Orleans in non-Tulane housing, but does not include the rent paid by commuter students. Commuting students would likely be paying the same rent or living in the same location regardless of their enrollment at Tulane. Therefore, the rent paid by commuting students cannot be attributed to Tulane and is excluded from the calculation. The model also includes additional food and other retail purchases made by commuter students (see Figure 4.2)

Figure 4.2: Annual Ancillary Spending by Tulane University Students by Student Type

Student Type	Number of Students	Per Student Ancillary Spending	Aggregate Ancillary Spending (\$M)
On-Campus	4,700	\$2,600	\$12.2
Off-Campus	8,600	\$20,300	\$174.6
Commuters	700	\$3,100	\$2.2
Total	14,000		\$189.0

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

Further, the proportion of spending that takes place in New Orleans, New Orleans MSA, and the State of Louisiana was estimated for each spending category. The adjustment recognizes that not all spending takes place within the local geography, especially as consumer behavior has shifted, with millennials in particular increasingly shifting towards online shopping. It is estimated that Tulane’s students generate approximately \$243 million in ancillary spending each year, approximately \$163 million of which is captured within the New Orleans economy, \$172 million of which is captured within the New Orleans MSA, and \$172 million is captured within the State of Louisiana.

Figure 4.3: Aggregate Annual Ancillary Spending by Tulane Students within Tulane, New Orleans, New Orleans MSA, and Louisiana (\$M)

Student Type	New Orleans		
	New Orleans	MSA	Louisiana
On-Campus	\$7.3	\$9.8	\$10.0
Off-Campus	\$155.1	\$160.2	\$160.5
Commuters	\$0.9	\$1.7	\$1.8
Total	\$163.3	\$171.7	\$172.2

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

4.3. Ancillary Spending by Visitors to Tulane

Information from Tulane was supplemented with our own research to develop estimates of visitor counts, visitor spending profiles, and visitor distribution by spending profile in order to estimate aggregate direct University visitor spending. As mentioned previously, one result of Tulane's diverse student body is that the University attracts national and international visitors, many spending multiple days in the region, supporting local merchants through food and beverage, retail, and lodging spending.

Throughout the academic year and over the summer, Tulane attracts thousands of visitors to its campus. These national and international visitors spend a significant amount within New Orleans each year, which helps support employment and generate tax revenues for the City of New Orleans and the State of Louisiana. Thousands of alumni, parents, potential students and their parents, and other visitors come to campus for events and programs hosted at Tulane.

To accurately estimate aggregate visitor spending, it was necessary to develop spending profiles of the various types of visitors, recognizing that not all visitors have the same economic footprint. Based on reason for visit, duration of trip, distance traveled, event type, and visitor age, unique spending pattern behaviors were created. This visitor spending analysis accounted for the following visitor types. These visitor types do not include Tulane Medical Center patients and visitors or Tulane Athletics events, as those ancillary spending impacts are calculated separately in Sections 6 and 7.



The Tulane University Band during Wave Weekend; the weekend draws many visitors to campus, including alumni and students' families.

- Each year approximately **14,200 visitors recorded as prospective students or participants in Tulane’s admission access and inclusion programs** come to campus to participate in Tulane preview days. The Office of Undergraduate Admission sponsors access and inclusion programs such Application Workshop and PreviewTU Multicultural Fly-in to support college entrance and success of diverse and underrepresented populations. A majority of prospective students are accompanied by other visitors including parents. In addition, a majority travel from out of state and therefore import spending to the region.
- Because a majority of students live outside of the region, **Move-In/Move-Out** results in an influx of out of state visitors accompanying traveling students.
- **Wave Weekend** is a celebration that includes homecoming, alumni reunion, and family weekend events. In 2018, over 4,500 individuals registered for Wave Weekend events.
- **Commencement** draws family and friends of graduation students. In 2013, the Dalai Lama delivered the keynote address to an estimated 30,000 attendees.



President Fitts joining students at Wave Weekend

Projected spending within each category was detailed by industry, and conservative estimates were then made for the proportion of this ancillary spending taking place within New Orleans, New Orleans MSA, and the State of Louisiana. As with the calculation of student spending, estimates reflect only ancillary spending not captured within Tulane’s operating budget, and only the portion estimated to be captured within the geographies of interest.

In total, approximately 31,600 visits were made to Tulane’s campus in 2018, and it is estimated that these visitors spent approximately \$24 million within the City of New Orleans, \$26 million within the New Orleans MSA, and \$27 million within the State of Louisiana (see Figure 4.4).

Figure 4.4: Aggregate Annual Spending by Tulane University Visitors

Visitor Type	Student Attendees	Visitors per Attendee	Average Length of Stay	Average Daily Spending per Visitor	Total Spending (\$M)
Prospective Students ⁴	14,200	3	2	\$143	\$12.2
Move In/Out	11,300	2	2	\$143	\$6.5
Wave Weekend	3,100	2	3	\$156	\$2.9
Commencement	3,000	5	3	\$142	\$6.4
Total	31,600				\$27.9
Within New Orleans (\$M)					\$23.5
Within New Orleans MSA (\$M)					\$26.3
Within Louisiana (\$M)					\$26.6

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

In addition to these marquee student-based events, Tulane is a host to numerous conferences, symposia, and professional events each year. The University prides itself in being a major convener within academia to bring world-renowned experts together to share their knowledge and make potential connections with other leaders in their fields. For example, because Tulane is globally known for its strength in admiralty law, hundreds of lawyers, shipping and marine insurance industry representatives, and academics visit Tulane every other year for the three-day **Admiralty Law Institute**, which is the oldest in the nation (since 1965) and largest continuing legal education program devoted to maritime law. Recent participants have included over 400 participants from over 30 states and 11 countries. Tulane University Law School hosts the annual **Corporate Law Institute**. This event generally draws more than 800 judges, lawyers, bankers, and regulators to New Orleans annually. The New York Times has described the event as “the year’s pre-eminent gathering of mergers advisors, a Davos for the deal maker set.”⁵

Tulane’s commitment to community engagement helped attract the 2018 **International Association for Research on Service-Learning and Community Engagement Annual Conference**. The conference aimed to promote research related to service-learning and community engagement.



Tulane hosts numerous educational, cultural, and professional events that draw out of town visitors to campus every year, such as the Admiralty Law Institute.

⁴ Including the Admission Access and Inclusion program

⁵ The New York Times. *Trump Plans Have Deal Makers Dreaming Big (\$100-Billion-Cash-Takeover Big)*. 2017.
<https://www.nytimes.com/2017/04/02/business/dealbook/trump-plans-have-deal-makers-dreaming-big.html>

In addition to events hosted by Tulane, the University's presence and influence also attracts major events and conferences independently hosted by other entities. The 2018 Rodan + Fields' conference was held at the New Orleans Ernest N. Morial Convention Center. Dr. Kathy Fields, founder of Proactiv Solution and Rodan + Fields, is connected to the University as a Tulane alumna and the parent of a Tulane student. Dr. Fields was also the keynote speaker at the 2016 Women Making Waves leadership conference hosted by the Tulane Alumni Association. This is an illustrative example of the convening power the University has in many fields, some of which translates into official Tulane events on campus, and others of which (like the 2018 Rodan + Fields' conference) are hosted elsewhere but are attracted to New Orleans thanks to a Tulane connection and similarly draw in significant out-of-town visitation and attendant spending on hotels, food, and transportation.

To remain conservative in estimating the impact of Tulane's total visitors and because of year-to-year variation in the volume of special conferences and symposia that the University hosts, these visitors were not included in estimating the economic impact of spending by students and their visitors. However, it is important to note the global draw of these visitors and that they serve as a net import of dollars into the region.

4.4. Economic Impact from Student and Visitor Spending

Combined ancillary spending by students and visitors therefore yields \$187 million in spending within the City of New Orleans, \$198 million within the New Orleans MSA, and \$199 million within the State of Louisiana. However, an adjustment needs to account for the fact that some of that spending immediately leaves the region and therefore does not have a multiplier effect within the regional economy. For example, a large proportion of retail spending goes to manufacturers and wholesalers, most of which are outside the region, and so the modeling approach used in this report conservatively includes only the retail margin (i.e. the difference between the purchase price for the retailer and the sales price for the customer). Based on this adjustment, the amount of spending included in our analysis is \$178 million within the City of New Orleans, \$185 million within the New Orleans MSA, \$186 million within the State of Louisiana (See Figure 4.5).

Figure 4.5: Aggregate Ancillary Spending by Tulane Students and Visitors by Geography (\$M)

Type	New Orleans		
	New Orleans	MSA	Louisiana
Students	\$163.3	\$171.7	\$172.2
Visitors	\$23.5	\$26.3	\$26.6
Total	\$186.8	\$198.0	\$198.8
Minus Non-Modeled Amount	(\$8.4)	(\$12.6)	(\$12.9)
Modeled Amount	\$178.3	\$185.4	\$186.0

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

The influx of ancillary spending by students and visitors has a multiplier effect throughout the region, producing the following annual economic impacts (see Figure 4.6):

- \$244 million in total output within the New Orleans, supporting 1,560 direct, indirect, and induced jobs and \$45 million in earnings;
- \$275 million in total output within the New Orleans MSA, supporting 1,800 direct, indirect, and induced jobs and \$53 million in earnings; and
- \$279 million in total output within the State of Louisiana, supporting 1,820 direct, indirect, and induced jobs and \$54 million in earnings.

Figure 4.6: Estimated Annual Economic Impact from Tulane Student and Visitor Spending within New Orleans, New Orleans MSA, and Louisiana

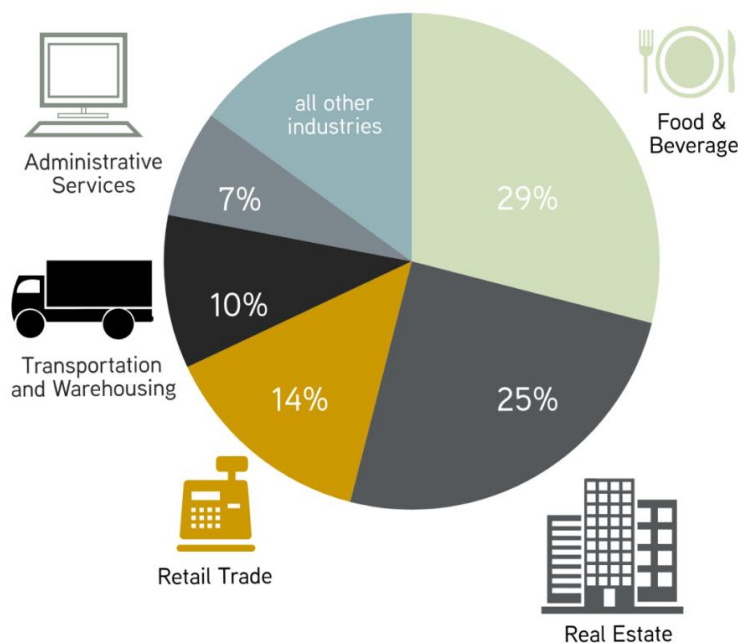
Economic Impact	New Orleans		
	New Orleans	MSA	Louisiana
Direct Output (\$M)	\$178.3	\$185.4	\$186.0
Indirect and Induced Output (\$M)	\$65.8	\$89.1	\$92.5
Total Output (\$M)	\$244.1	\$274.5	\$278.5
Employment (FTE)	1,560	1,800	1,820
Earnings (\$M)	\$45.0	\$52.5	\$54.3

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

4.5. Industry Distribution of Economic Impact

Spending by students and visitors directly impacts a number of industries, and in turn creates a multiplier effect that reaches additional industries. This influx of spending into Louisiana supports jobs in a wide range of sectors statewide, particularly food and beverage, real estate, and retail trade (see Figure 4.7). Tulane's presence draws in and retains students to the state and attracts a great number of visitors through its events. The impact of this ancillary spending supports a wide variety of local jobs.

Figure 4.7: Industry Distribution of Employment Impact of Tulane Student and Visitor Spending within Louisiana



Source: Tulane University (2019), IMPLAN (2015), Piktochart (2019)

4.6. Local and State Tax Revenue Impact

Student and visitor spending also boosts various local and state tax bases, creating tax revenues for various government jurisdictions each year. It is estimated that the economic impact that results from Tulane student and visitor spending produces about \$1 million in tax revenues for the City of New Orleans, and \$5 million in tax revenues for the State of Louisiana each year (see Figure 4.8).

Figure 4.8: Estimated Annual Tax Revenue Impact from Tulane University Student and Visitor Spending to New Orleans and the State of Louisiana (\$M)

Tax Type	City of New Orleans	State of Louisiana
Income Tax	-	\$0.6
Sales Tax	\$1.4	\$3.2
Business and Hotel Tax	-	\$0.7
Total Tax Revenue	\$1.4	\$4.5

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

4.7. Student and Visitor Spending Support a Local Retail Ecosystem

It is certain that students are drawn to Tulane thanks to its academic credentials and reputation as a leading institution of higher education; however, it is also true that students are attracted to its host city's unique and vibrant culture, eager to learn about all that New Orleans has to offer. Because the University attracts a large portion of its students and visitors from outside of the region, their spending has a significant impact on the regional economy. As a magnet to draw students, Tulane serves as a part of the city's tourism ecosystem, which is a valuable economic development asset for the region and supports jobs and small businesses.

It is important to note that many of the key spending sectors represented by students and visitors contain low-margin businesses for whom the difference between survival and obsolescence is very narrow. Thus, the demand represented by Tulane students, staff, and visitors help keep businesses like this afloat, making a richer mix of retail and restaurant offerings available to residents who live in New Orleans year-round. This diverse mix of retail and restaurant offerings not only enhances the quality of life of existing residents, but also attracts retirees interested in locating near the cultural and educational amenities made available by the University. Some of these retirees are introduced to the area as Tulane students or as parents and acquaintances of Tulane students, while others are simply interested in the unique lifestyle.

The next two sections explore other examples of how visitors that the University draws into the area generate economic returns for the local, regional, and state economies.

One way that Tulane encourages support for local businesses is through the NOLABuck\$ and Splash Cash program. One designated vendor, **Crepes a la Cart**, is a well-known restaurant that opened in 2004 near campus. The restaurant also has a mobile truck which often finds its way to campus. The demand created by Tulane students, staff, and visitors help local businesses grow, resulting in a richer mix of retail and restaurant offerings available to local residents.



5. Impact from Ancillary Spending: Medical Center Patients and Their Visitors

5.1. Section Overview

In addition to University student and visitor spending, Tulane Medical Center also serves patients and attracts visitors to the region, including family and caretakers. The Medical Center primarily supports the health and wellness of the local community, with nearly all inpatients and outpatients residing within 25 miles of medical center facilities.



Tulane Medical Center facilities include Tulane Medical Center Downtown, Tulane Lakeside Hospital, and Lakeview Regional Medical Center. The Medical Center acts as the primary practice location and teaching center for the Tulane University School of Medicine and contains the Tulane Abdominal Transplant Center, Cancer Center, Center for Wound Healing, Hernia Center, Chest Wall Defects Center, and Cardiovascular Institute. The Medical Center also seeks to improve quality of care through innovation advanced by Robotic Surgery, the Center for Minimally Invasive Surgery, and Tulane Healthcare Simulation Center. Although the Medical Center is the primary practice and teaching center for the medical school, Tulane residents and providers serve at hospitals throughout the state—with a growing presence at University Medical Center, Children’s Hospital of New Orleans, and the VA Medical Center.

As a leading health system in the region, the medical center also attracts regional and overnight visitors. While these patients are in New Orleans to receive the cutting-edge care that Tulane doctors provide, patients and visitors that are not local are also bringing their spending power into the New Orleans economy. **As Tulane builds on its expertise in public health and medical care—both as a provider of healthcare services and a major research enterprise—its impact on local patients will only continue to expand.**

5.2. Spending by Patients and Their Visitors

Data was provided for 276,300 inpatient and outpatient visits to Tulane Medical Center. Nearly all of the patients are considered local visitors, residing within 25 miles of the nearest Tulane Medical Center facility.

Figure 5.1: Tulane Medical Center Patients and Patient Visitors by Visitor Type

	Annual Volume	Local	Regional (Day-Trip)	Overnight Trip
Patients	276,300	272,600	3,600	100
Visitors per Patient		0	0.5	2.0
Total Patient Visitors	2,000	0	1,800	200
Total Patients + Patient Visitors	281,995	272,600	5,400	300

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

In order to estimate aggregate direct Medical Center patient and visitor spending, patient residential information was supplemented with additional research to develop estimates of patient and visitor counts, patient and visitor spending profiles, and patient and visitor distribution by spending profile. In total, over \$560,900 in aggregate ancillary spending is attracted by the Tulane Medical Center annually.

Figure 5.2: Estimated Aggregate Ancillary Spending from Tulane Medical Center Patients and Visitors within New Orleans, New Orleans MSA, and Louisiana

	Annual Volume	Average Daily Spending	Average Length of Stay	Aggregate Spend
Local Patients/Visitors	276,300	\$0	1	\$0
Day-Trip	5,400	\$89	1	\$478,600
Overnight Patient Visitors	95	\$284	2.8	\$74,300
Overnight Patients	200	\$8	5.5	\$8,000
Total	281,995			\$560,900

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

5.3. Additional Activity Drawn into Region by Tulane's Convening Power

Tulane's expertise and standing in these key areas of medicine give it convening power, which helps it extend its leadership role in these areas and creates a halo effect on the region's reputation and economy. Reputationally, Tulane's presence and activities mark the region as a destination of choice for researchers, research grants, and research gatherings. Economically, this influx of people, activity, and events means more dollars spent in the region, benefitting hoteliers, restaurants, and transportation providers. To be conservative, these amounts were not included in the economic impact calculations that follow in this section.

For example, The Goldring Center for Culinary Medicine hosts the annual **Health Meets Food Conference** and showcases leading medical practitioners and celebrity chefs. The Goldring Center for Culinary Medicine was founded in 2012 and seeks to provide Tulane University medical students with real world experience related to sourcing, planning and preparing meals. Evidence suggests that doctors

with first-hand food preparation experience are better equipped to help address patients' medical and nutritional needs.

5.4. Economic Impact of Patients' and Their Visitors' Spending

Combined ancillary spending by patients and visitors therefore yields \$0.4 million in spending within the City of New Orleans, \$0.5 million within the New Orleans MSA, and \$0.5 million within the State of Louisiana. However, an adjustment needs to account for the fact that some of that spending immediately leaves the region and therefore does not have a multiplier effect within the regional economy. For example, as discussed previously, a large proportion of retail spending goes to manufacturers and wholesalers, most of which are outside the region, and so the modeling approach used in this report conservatively includes only the retail margin (i.e. the difference between the purchase price for the retailer and the sales price for the customer).



Figure 5.3: Aggregate Ancillary Spending by Tulane Medical Center Patient and Visitors

Type	New Orleans		
	New Orleans	MSA	Louisiana
Regional	\$0.3	\$0.4	\$0.4
Overnight	\$0.1	\$0.1	\$0.1
Total	\$0.4	\$0.5	\$0.5
Minus Non-Modeled Amount	(\$0.04)	(\$0.04)	(\$0.04)
Modeled Amount	\$0.4	\$0.5	\$0.5

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

The influx of ancillary spending by Tulane Medical Center patients and visitors has a multiplier effect throughout the region, producing the following annual economic impacts (see Figure 5.4):

- \$0.6 million in total output within the City of New Orleans, supporting 4 direct, indirect, and induced jobs and \$0.2 million in earnings;
- \$0.8 million in total output within the New Orleans MSA, supporting 5 direct, indirect, and induced jobs and \$0.2 million in earnings; and
- \$0.8 million in total output within the State of Louisiana, supporting 5 direct, indirect, and induced jobs and \$0.2 million in earnings.

Figure 5.4: Estimated Annual Economic Impact from Tulane Medical Center Patient and Visitor Spending within New Orleans, New Orleans MSA, and Louisiana

Economic Impact	New Orleans		
	New Orleans	MSA	Louisiana
Direct Output (\$M)	\$0.4	\$0.5	\$0.5
Indirect and Induced Output (\$M)	\$0.2	\$0.3	\$0.3
Total Output (\$M)	\$0.6	\$0.8	\$0.8
Employment (FTE)	4	5	5
Earnings (\$M)	\$0.2	\$0.2	\$0.2

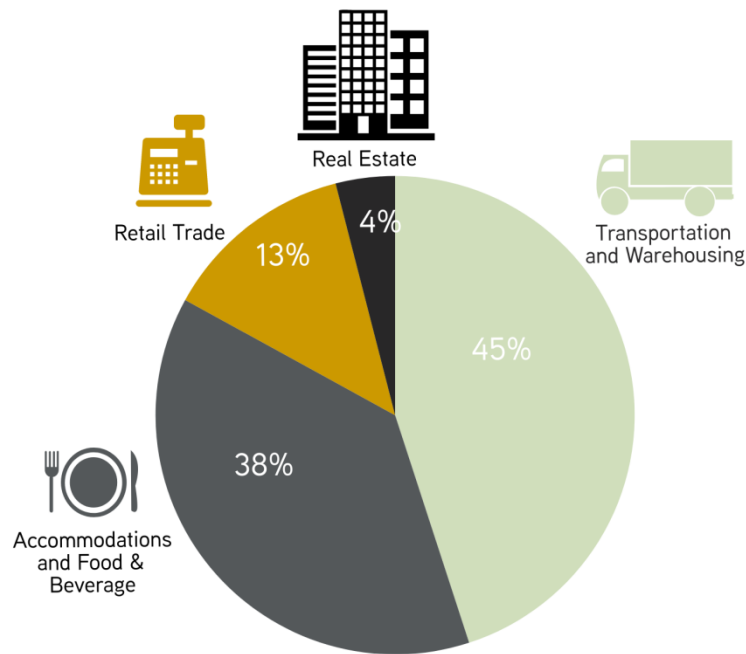
Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

Note that the impact described in this section is only from the spending of patients and their visitors; the impacts of operations and capital investments for Tulane Medical Center have already been accounted for in previous sections. Consider also that these spending numbers are relatively low because Tulane Medical Center serves a mostly local population of patients. The local benefit of Tulane Medical Center is less related to the influx of spending dollars from out-of-town patients and their companions; rather, it is about the provision of health care to local residents. It is also important to note that this focus on local patients also makes Tulane Medical Center an active participant in clinical trials involving corporate partners, which indirectly draws dollars into the region.

5.5. Industry Distribution of Economic Impact

Spending by students and visitors directly impacts a number of industries, and in turn creates a multiplier effect that reaches additional industries. This influx of spending into New Orleans supports jobs in a wide range of sectors statewide, particularly food and beverage, real estate, and retail trade (see Figure 5.5). Tulane's presence draws in and retains students to the state and attracts a great number of visitors through its events. The impact of this ancillary spending supports a wide variety of local jobs.

Figure 5.5: Industry Distribution of Employment Impact of Tulane Medical Center Patient and Visitor Spending within Louisiana



Source: Tulane University (2019), IMPLAN (2015), Piktochart (2019)

5.6. Local and State Tax Revenue Impact

Patient and visitor spending also generate local and state tax revenues for various government jurisdictions each year. It is estimated that the economic impact that results from Tulane patient and visitor spending produces about \$3,000 in tax revenues for the City of New Orleans, and \$13,500 in tax revenues for the State of Louisiana each year (see Figure 5.6).

Figure 5.6: Estimated Annual Tax Revenue Impact from Tulane Medical Center Patient and Visitor Spending to New Orleans and the State of Louisiana

Tax Type	City of New Orleans	State of Louisiana
Income Tax	-	\$2,500
Sales Tax	\$3,000	\$8,100
Business and Hotel Tax	-	\$2,900
Total Tax Revenue	\$3,000	\$13,500

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

5.7. Tulane's Concentration of Health Care Services Improve Local Quality of Life

Tulane Medical Center supports the health and wellness of the local community and acts as the primary practice location and teaching center for the Tulane University School of Medicine. The Medical Center provides access to cutting edge care for the New Orleans region, including advanced treatments for infectious diseases, orthopedic surgery, and neurologic oncology. Furthermore, the Medical Center also acts as an innovation center, seeking to enhance quality of care through the work of Robotic Surgery, the Center for Minimally Invasive Surgery, and Tulane Healthcare Simulation Center. In addition, clinical research is a critical part of the Tulane Medical Center. Because of the diverse population served, the Tulane Medical Center is an attractive partner for clinical trials, which increases patient access to newer and often better care.

Overall, because of the increasing importance of health care to our quality of life and economy, the presence of the Tulane Medical Center is positive for regional health and economic wellbeing. It is important to note that the Medical Center predominantly serves patients from its immediate community. As a result, the vast majority of the benefits generated by the services and resources it provides are enjoyed by local residents. For instances where its specialties result in the opportunity to serve patients from further away, that activity draws dollars into the region and also enhances Tulane's reputation as a world-class medical center, which burnishes the reputation of the city and region as well.

6. Impact from Ancillary Spending: Tulane University Athletics

6.1. Section Overview

Each year, Tulane University hosts numerous athletic events which attract both local and outside visitors. During the 2018-2019 academic year, the University hosted 85 athletic events with an attendance of over 210,000, 65 percent of which originated from outside of the local area. The visitors who come to Tulane to enjoy these events also make a significant economic impact on the local community as they shop, dine, and stay in hotels near the campus and throughout the region.

This visitor spending has broader implications for the local, regional, and state economy, as visitors from outside the area serve as a net import to New Orleans and Louisiana. Their spending generates subsequent indirect and induced impacts, as stores, restaurants, hotels, and other businesses purchase goods and pay local residents. In total, it is estimated that these visitors spend \$23 million in the Louisiana economy.



6.2. Spending by Athletics' Event Attendees and Visiting Teams

Throughout the academic year and over the summer, Tulane attracts thousands of visitors to its campus. These visitors come from all over the country and spend a significant amount of money within the local New Orleans economy each year, which supports employment and generates tax revenues for New Orleans and Louisiana. Thousands of alumni, parents, student-athletes, and fans come to campus for collegiate sporting events and athletic tournaments.

Athletics events have economic implications for the New Orleans region and local businesses. Oftentimes, major events in communities with colleges and universities can have negative connotations because of the implied strain that they place on municipal services. However, as discussed in Section 8, the Tulane University Police Department provides on campus policing to support the traffic and public safety needs of these major events (supported at times by the New Orleans Police Department, which the University pays for). While Tulane covers the expense of these large-scale events, the economic benefits are shared by the surrounding community and region.

Tulane Athletics boasts a number of teams that draw in visitors to the region, such as women's basketball, men's basketball, baseball, volleyball, and football. Tulane has many prominent sports programs with highly competitive teams and Athletics events attracted over 210,000 attendees during the 2018-2019 season. Visitors to these events draw new dollars to the local and state economies and generate additional economic activity. Notably, because football has a higher spending profile due to its larger following, football attendance is displayed separately.



Figure 6.1: Spectators and Visiting Team Members by Type of Sport and by Visitor Type, 2017-2018 Season

Sport	Number of Events	Total Spectators	Local	Regional (Day-Trip)	Overnight Trip
Men's Football	6	108,500	38,800	22,000	47,700
All Other Sports	79	102,000	35,900	20,400	45,700
Total	85	210,500	74,700	42,400	93,400

Source: Tulane University (2019)

Projected spending within each category was detailed by industry, and conservative estimates were then made for the proportion of this ancillary spending taking place within New Orleans, New Orleans MSA, and the State of Louisiana. Similar to the calculation of student and spending (Section 4), estimates reflect only ancillary spending not captured within Tulane's operating budget, and only the portion estimated to be captured within the geographies of interest.

In total, the 210,000 Athletics event attendees spent approximately \$21 million within the City of New Orleans, \$23 million within the New Orleans MSA, and \$23 million within the State of Louisiana (see Figure 6.2).

Figure 6.2: Aggregate Ancillary Spending by Athletic Event Spectators and Visiting Team Members by Geography (\$M)

	Volume	Average Daily Spending	Aggregate Spend
Local Visitors	74,700	\$0	\$0
Regional Visitors	42,400	\$87	\$3.7
Overnight Visitors	93,400	\$219	\$20.5
Total	210,500		\$24.2
Within New Orleans (\$M)			\$20.7
Within New Orleans MSA (\$M)			\$22.9
Within Louisiana (\$M)			\$23.2

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

6.3. Economic Impact from Spending Related to Athletics Events

After adjusting for non-modelable amounts due to retail spending, aggregate ancillary spending associated with all Tulane Athletics intercollegiate sports yields \$18 million of modelable spending within New Orleans, \$20 million within the New Orleans MSA, and \$20 million within Louisiana (see Figure 6.3).

Figure 6.3: Aggregate Ancillary Spending by Tulane Athletic Event Visitors by Geography (\$M)

Type	New Orleans		
	New Orleans	MSA	Louisiana
Regional Visitors	\$3.0	\$3.4	\$3.5
Overnight Visitors	\$17.3	\$19.1	\$19.3
Total	\$20.3	\$22.5	\$22.8
Minus Non-Modeled Amount	(\$2.4)	(\$2.9)	(\$2.9)
Modeled Amount	\$17.9	\$19.6	\$19.9

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

Ancillary spending resulting from Tulane Athletics events has a multiplier effect throughout the region, producing the following annual economic impacts (see Figure 6.4):

- \$26 million in total output within the City of New Orleans, supporting 220 direct, indirect, and induced jobs and \$8 million in earnings;
- \$32 million in total output within the New Orleans MSA, supporting 260 direct, indirect, and induced jobs and nearly \$10 million in earnings; and

- \$32 million in total output within the State of Louisiana, supporting 270 direct, indirect, and induced jobs and \$10 million in earnings.

Figure 6.4: Estimated Annual Economic Impact from Tulane Athletic Event Visitors Spending within New Orleans, New Orleans MSA, and Louisiana

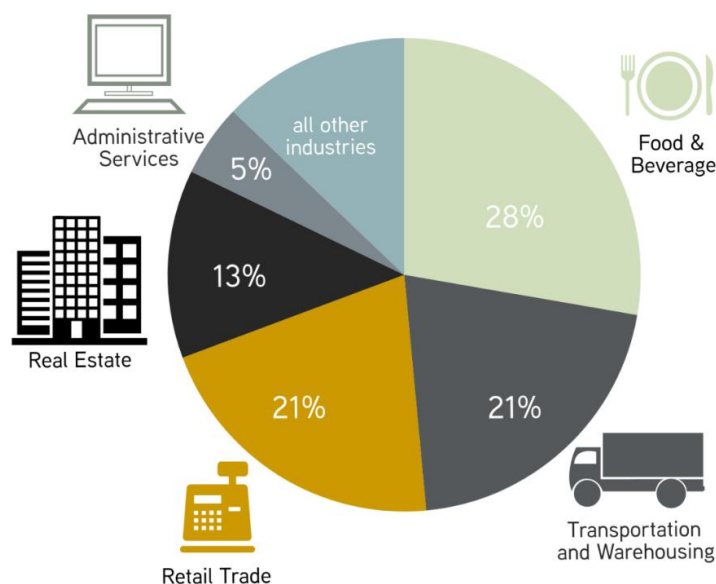
Economic Impact	New Orleans		
	New Orleans	MSA	Louisiana
Direct Output (\$M)	\$17.9	\$19.6	\$19.9
Indirect and Induced Output (\$M)	\$8.5	\$11.9	\$12.5
Total Output (\$M)	\$26.4	\$31.5	\$32.4
Employment (FTE)	220	260	270
Earnings (\$M)	\$8.3	\$9.5	\$9.7

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

6.4. Industry Distribution of Economic Impact

Athletics events' visitors directly impact a number of local industries, and in turn create a multiplier effect that reaches additional industries. This inflow of spending into New Orleans supports jobs in a wide range of sectors statewide, particularly food and beverage, transportation and warehousing, and retail trade (see Figure 6.5). The ancillary spending generated by these visitors supports a wide variety of local jobs.

Figure 6.5: Industry Distribution of Employment Impact of Tulane Athletic Event Visitors Spending within Louisiana



Source: IMPLAN (2015), Piktochart (2019), Econsult Solutions, Inc. (2019)

6.5. Local and State Tax Revenue Impact

Student and visitor spending also boosts various local and state tax bases, creating tax revenues for various government jurisdictions each year. It is estimated that the economic impact that results from Athletics events' visitor spending produces about \$100,000 in tax revenues for the City of New Orleans, and \$1 million in tax revenues for the State of Louisiana each year (see Figure 6.6).

Figure 6.6: Estimated Annual Tax Revenue Impact from Tulane University Event Participant Spending to New Orleans and the State of Louisiana (\$M)

Tax Type	City of New Orleans	State of Louisiana
Income Tax	-	\$0.1
Sales Tax	\$0.1	\$0.3
Business and Hotel Tax	-	\$0.5
Total Tax Revenue	\$0.1	\$0.9

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

6.6 Visitors of Tulane Athletics Events Represent an Import to the Region

In addition to the significant economic impact generated by the roughly 210,000 annual visitors to its events, Tulane Athletics creates other important benefits for the University and region, including reputational enhancement, social cohesion, and improved fundraising.

Tulane Athletics promotes and enhances the University's reputation as teams travel throughout the region and country to compete. In addition, within the broader University community, Athletics helps enhance a sense of connection and collegiality among students, staff, faculty, alumni, and other members of the University community within the region and beyond. An alma mater's connection often creates lifelong relationships among classmates who met during their undergraduate years, and regional organizations often serve as a beacon for important networking and professional advancement opportunities for involved alumni. Consequently, university athletics can play a substantial role in cultivating a proud and engaged base of university boosters who give back to their alma mater as well as the general community of which they are a part.



Tulane University will host the 2020 Women's Final Four and the 2022 Men's Final Four Basketball Tournaments. These events will import significant spending to the region. The 2019 women's and men's final four tournaments drew over 40,000 and 72,000 visitors, respectively. Special events like the Final Four Tournaments result in increased out-of-town visitors to New Orleans who will spend additional money with local restaurants, stores, and hotels.

7. Impact from Wage Premium and Alumni Retention

7.1. Section Overview

Tulane produces direct economic impacts through its annual operations and the capital investments made to the campus. The University further generates economic impact through the students, visitors, and patients drawn to the University, Medical Center, and Athletics events and the resulting spending. This section explores yet another gain to the New Orleans and state economies—the value of the University’s role in educating and credentialing students. In fulfilling its core mission of education, Tulane prepares its graduates for success in a competitive landscape, offering a foundation for alumni to increase their earning power and professional opportunities. **Because of the academic distinction of**

Tulane’s degree programs—the University is listed 44th in the 2019 *US News & World Report Best College Rankings* with particularly high marks for its undergraduate business program and for its veterans-focused initiatives—the wage premium that the University conveys is particularly notable.

This section describes the increased earning potential that Tulane alumni achieve (i.e. the wage premium) and quantifies the impact of those additional earnings on the local, regional, and state economies.

The link between educational attainment and earnings power is well-established, and a wage premium associated with additional education is often conceptualized and calculated from the perspective of the student, who can compare the costs associated with various educational (or non-educational) options with the expected return. Wage premium analysis utilizes this framework to estimate the gain not to the student, but rather to the city, MSA, and state economies. Tulane University educates, credentials, and then retains students within the local, regional, and statewide economy, which translates into enhanced earning potential and therefore higher household income in those respective economies. Some of that additional household income is spent locally, producing additional economic activity and supporting local jobs and tax revenues. Additional earnings attributable to Tulane within these geographies are estimated and translated into additional spending power within the local economy.

In aggregate, the additional earning potential means millions of dollars more circulating in the regional and state economy. The University has approximately **140,000** alumni who now live all around the world; notably, many have stayed in Louisiana and in New Orleans itself. **The 18,500 graduates living and working in Louisiana are estimated to earn \$421 million more in income each year as a result of their Tulane University education. This translates into an additional \$382 million in economic impact within the Louisiana economy annually, supporting 3,400 additional jobs throughout the state. It also creates a critical mass of educated workers who provide further enrichment to the state economy.**



Young entrepreneurs are drawn to New Orleans, with the city’s per capita startup rate 64 percent higher than the national average.

These impacts are especially important because they create a virtuous cycle within the New Orleans region's economy. As Tulane's capacity for reaching more students grows with new capital investments, and as these activities foster a place where more graduates choose to stay, the impact from alumni retention will grow larger in the years to come.

7.2. Direct Wage Premium

Tulane's alumni can be found all across the United States, but data provided by the University indicates that of living alumni, 13,500 live in New Orleans, 11,600 live outside New Orleans but within the New Orleans MSA, and 5,700 live outside the New Orleans MSA but within the State of Louisiana. Of those living within Louisiana, it is assumed that 72 percent are currently employed (as opposed to retired, unemployed, or otherwise out of the workforce).⁶ Applying this proportion evenly across geographies and by degree obtainment at Tulane, it is estimated that approximately 18,500 alumni are currently employed with a Bachelor's or Advanced Degree, of which 8,100 live in New Orleans, 7,000 live in the New Orleans MSA, and 3,400 live in Louisiana (see Figure 7.1). This wage premium is impactful across the state, with Tulane graduates residing in every parish across Louisiana (see Figure 7.2).

Figure 7.1: Geographic Distribution of Tulane Alumni in the Workforce

	Estimated Total Employed Alumni	New Orleans	New Orleans MSA (non- New Orleans)	Louisiana (non- MSA)
Working Alumni with Bachelor's degree	7,700	3,400	2,900	1,400
Working Alumni with Advanced Degree	10,800	4,700	4,100	2,000
Est. Total Working Alumni	18,500	8,100	7,000	3,400

Source: Tulane University (2019), Econsult Solutions, Inc (2019)

An aggregate increase in earning potential within each geography can be estimated as a function of the increases in educational attainment of the workforce and the premium associated with that educational attainment level, as well as the premium associated with a Tulane degree. Based on a combination of federal data sources, the average annual wage premium attributable to the increased educational attainment for Tulane alumni is estimated to be \$26,300 higher for bachelor's degree holders and \$16,700 for advanced degree holders within Louisiana.⁷

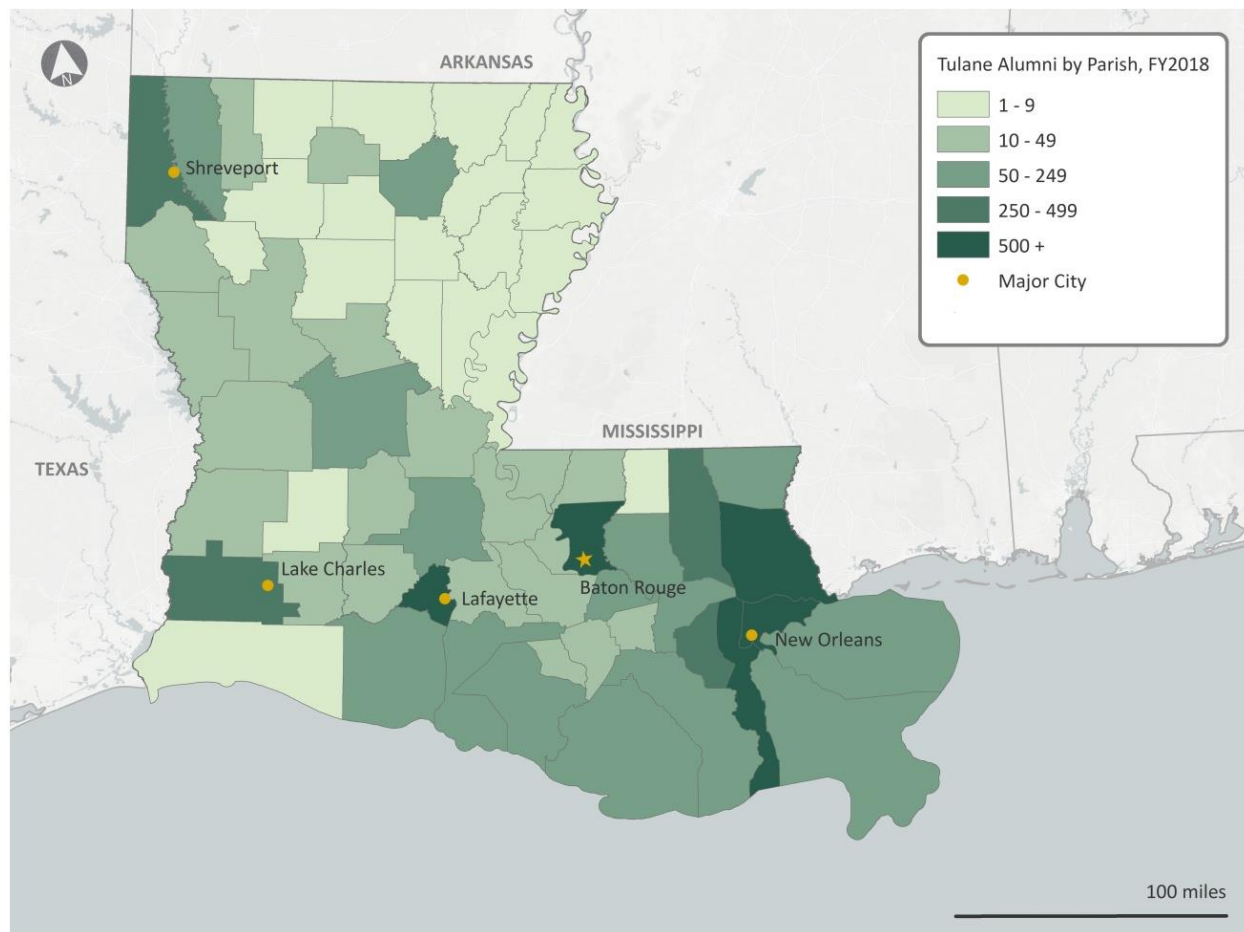


Tulane alumni living and working in Louisiana earn an aggregate \$421 million more as a result of the education and credential they received from Tulane.

⁶ This assumption is based on the employment to population ratio reported by the U.S. Bureau of Labor Statistics for adults 25 or older with a college degree, which is 71.9 percent as of May 2019.

⁷ See the Appendix for additional detail on how wage premium by degree type was calculated.

Figure 7.2: Geographic Distribution of Tulane Alumni in Louisiana



Source: Tulane University (2019), ArcGIS (2019), Mapbox (2019)

These premiums are applied to the volume of Tulane University degree holders estimated to be working within each geography by degree level. The resulting aggregate annual wage premium represents the additional household income generated by Tulane alumni on account of the education and credential they received from Tulane. This aggregate annual wage premium is estimated to sum to approximately \$187 million within New Orleans, \$350 million within the MSA, and \$421 million within the State (see Figure 7.3).

Figure 7.3: Aggregate Annual Wage Premium Associated with Tulane Alumni in the Workforce

Degree Level	New Orleans	New Orleans MSA	Louisiana
Bachelor's Degree			
Volume of Working Alumni	3,400	2,900	1,400
Wage Premium	\$23,600	\$26,000	\$26,300
Total Working Alumni (\$M)	\$80	\$76	\$38
Advanced Degree			
Volume of Working Alumni	4,700	4,100	2,000
Wage Premium	\$22,500	\$21,400	\$16,700
Total Working Alumni (\$M)	\$107	\$87	\$33
Grand Total – Regionally Exclusive (\$M)	\$187	\$163	\$71
Grand Total – Regionally Inclusive (\$M)	\$187	\$350	\$421

Source: Tulane University (2019), Econsult Solutions, Inc (2019)

7.3. Economic Impact from Wage Premium

This additional earning potential has both direct and consequential impacts to Tulane alumni; the wage premium produced by Tulane alumni produces a spillover impact to the local economies they participate in, both because alumni are able to contribute to these economies at a higher level and partly because alumni have more disposable income to spend within those economies. Accounting for savings rates, tax withholdings, and spending outside the city, MSA, and state, there is still a meaningful amount of additional spending by Tulane alumni. The effects of this additional household spending are estimated to generate on an annual basis (see Figure 7.4):

- \$157 million in total output within the City of New Orleans, supporting 1,000 induced jobs and \$44 million in earnings;
- \$314 million in total output within the New Orleans MSA, supporting 2,000 induced jobs and \$95 million in earnings;
- \$382 million in total output within the State of Louisiana, supporting 3,400 induced jobs and \$114 million in earnings.

Figure 7.4: Annual Economic Impact Attributable to Tulane Wage Premium Effects within Tulane, New Orleans, New Orleans MSA, and Louisiana

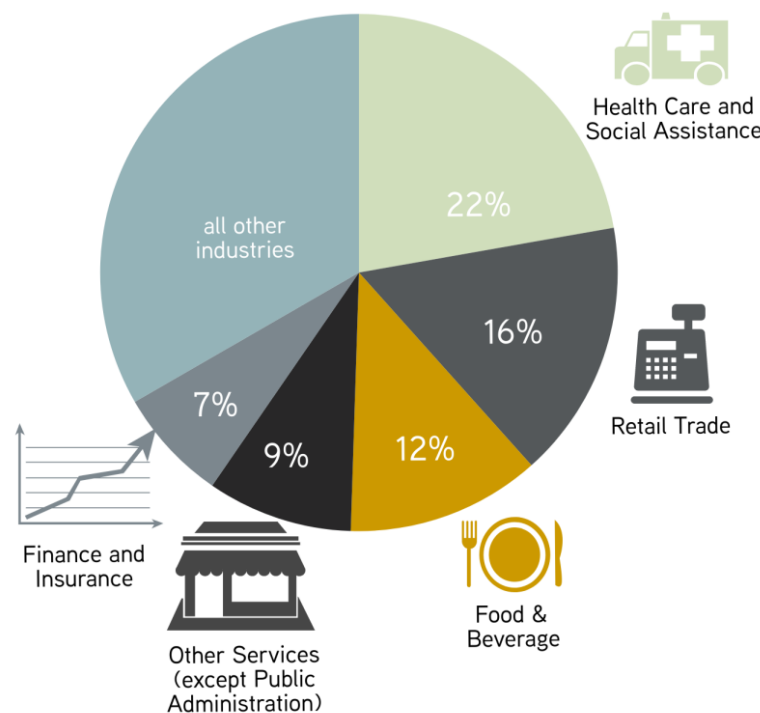
Economic Impact	New Orleans		
	New Orleans	MSA	Louisiana
Direct Wage Premium (\$M)	\$186.8	\$350.0	\$420.9
Total Output (\$M)	\$157.4	\$313.7	\$381.7
Employment (FTE)	1,000	2,000	3,400
Earnings (\$M)	\$43.9	\$95.3	\$113.7

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

7.4. Industry Distribution of Economic Impact

The portion of Tulane alumni's additional household income that is spent in the regional economy supports a number of industries, befitting the types of expenditures that are typically made by a household from its earned income. Hence, a large number of jobs in sectors such as health care, retail, and food are supported by the higher aggregate household income enjoyed by Tulane alumni (see Figure 7.5).

Figure 7.5: Industry Distribution of Employment Impact of Tulane Wage Premium within Louisiana



Source: IMPLAN (2015), Piktochart (2019), Econsult Solutions, Inc. (2019)

7.5. Local and State Tax Revenue Impact

In addition to economic impacts, the City of New Orleans and the State of Louisiana benefit from additional tax revenue, generated directly and indirectly from the wage premium associated with Tulane graduates. The higher wage paid to Tulane alumni represents a direct gain in terms of personal income tax, as well as indirectly from income and business taxes generated by graduate spending. In New Orleans, \$800,000 in sales tax is generated. In Louisiana, \$6.8 million in state income taxes are paid directly by Tulane alumni in addition to the \$3.9 million generated in sales tax and \$400,000 generated in state business taxes – a total of \$11.1 million in state tax revenue due to the aggregate wage premium enjoyed by Tulane alumni living and working in the State of Louisiana (see Figure 7.6).

Figure 7.6: Fiscal Impacts of the Wage Premium Associated with Tulane University in the City of New Orleans and the State of Louisiana (in \$ Millions)

Tax Type	City of New Orleans	State of Louisiana
Income Tax (\$M)	-	\$6.8
Sales Tax (\$M)	\$0.8	\$3.9
Business Tax (\$M)	-	\$0.4
Total Tax Revenue	\$0.8	\$11.1

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

7.6. Tulane Alumni Support the Overall Competitiveness of the Region

Today’s knowledge-based market economy places a premium on human and intellectual capital, which makes what universities do – and the graduates they produce – even more valuable. Tulane University’s contribution to the local and state economy by educating and credentialing students has significant impact on the composition, educational attainment, and skill level of the workforce.

“There are few places in the world where you can receive as rigorous, challenging and complete an education as you will at Tulane University. But there is definitely no place in the world where you will receive a more transformative learning experience.”

—Michael Fitts, President of Tulane University

As a result, the impact does not only affect household income in the state but has the long-term effect of making the region more competitive as a whole.

Tulane graduates not only make more money in their jobs, but they are also creating jobs through their entrepreneurial ventures and political advocacy (see inset on previous page). Given that an increasing amount of business activity is moving to places with high concentrations of technical labor, Tulane University’s contribution of educated graduates is an increasingly important part of the State’s future economic vibrancy. However, Tulane alumni are also very present throughout the world, improving the reputation of the University and the State of Louisiana. The success of these alumni allows for their continued financial support to the University, which in turn supports Louisiana jobs and tax bases.

Tulane plays an important role in retaining many of its talented local students and in importing talented students from elsewhere. As an increasingly selective institution, Tulane is able to be more competitive in retaining New Orleans and Louisiana's best and brightest, which helps to keep some of the local talent pool from attending a school somewhere else in the world. In a global economy, returns to education are increasing, as is the importance of having a talented workforce for the success of a region as it competes with other regions. Therefore, Tulane's role in the overall economic competitiveness of the State of Louisiana and of New Orleans will only grow as it plays its part in producing and retaining educated alumni locally. As it stands, the future viability and vibrancy of the regional economy will depend on intellectual capital – to produce market-making innovations, create jobs, and draw in additional financial resources and human talent – and it is likely that Tulane will play an important role in the development, nurturing, and attraction/retention of that intellectual capital.



Jason Rogers Williams (TC '94, L '97), a native of New Orleans, was elected as a Councilmember-at-Large in 2014, working to better the city of New Orleans through community development and advocacy programs. Williams led New Orleans' Smart City Initiative and spearheaded efforts for municipal bail reform and early childhood education funding. He serves as an example of Tulane alumni engaged in local public service .



Rosalind Peychaud (MSW '78) served as a state representative for the Louisiana House of Representatives District 91 from 2002-2004. Peychaud went on to lead the New Orleans Neighborhood Development Foundation, advocating for neighborhoods left behind. Her activism makes Peychaud a critical example of a Tulane alumna making a difference in New Orleans.



Sydney Gray, Senior Director of Impact & Operations at Propellor: A Force for Social Innovation, is a graduate of the Payson Graduate Program in Global Development. Founder of international nonprofit Mama Maji, recipient of the 2015 Alvarez Spark Award and Ashoka Emerging Innovator, Gray has made a global difference. Her work with Propellor is leading the industry on social entrepreneurship and reflects the local and global impact of Tulanian service.



Paul Ballard, graduate from the Freeman School of Business at Tulane, is an owner of Ballard Brands, which includes the New Orleans favorite PJ's Coffee. An investor in the New Orleans and broader Louisiana community, Ballard plays an important role in supporting local economies, in part due to the knowledge and skills gained through his Tulane education.



Will Stoudt (BS '11) began his career as a founder of Youth Rebuilding New Orleans (YRNO). With his Tulane degree, Stoudt led YRNO to even greater heights, recruiting over 10,000 youth volunteers to rebuild hundreds of homes in New Orleans. Stoudt is currently serving as Director of Rebuilding Together New Orleans, advocating for the New Orleans community and leading reinvestment in the region.

8. Neighborhood Investment and Engagement

8.1. Section Overview

The overall economic impact of Tulane can be seen as the sum of the economic impact from its operating activities and capital investments, as well as the benefit to the economy from student, patient and other visitor ancillary spending, plus the wage premium enjoyed by alumni. Each of these impact categories contributes significantly to regional economic activity and demonstrates how universities help create vibrant communities and a competitive region. The purpose of this section, and the following two sections, is to elaborate on these themes further exploring the community impacts, regional commitments, and societal benefits that Tulane's economic activity supports. This section focuses on Tulane's community leadership and neighborhood investment, marshalling its resources and students, faculty, and staff to engage with New Orleans. Tulane's emphasis on local engagement is borne of the reality that it is located in a specific place, and that fact creates opportunities for service and collaboration that are mutually beneficial: transformative for the city and region, and fundamental to the achievement of the University's core institutional mission.



The Tulane Wave of Green Day of Service is one of many service initiatives that Tulane students and staff participate in.

An important facet of Tulane's operational activity is the way it serves as a true anchor institution in the New Orleans community, committed to the surrounding neighborhood as well as the advancement of the entire region. President Fitts has emphasized that the futures of the University and region are interconnected and understands the importance of building upon the partnerships and relationships that Tulane has with the community.

This section speaks to Tulane's commitment to continued community engagement, understanding the importance of linkages between local communities and the University that will result in mutual benefits. Tulane's engagement with the surrounding neighborhoods is accounted for in the economic impact calculations spelled out in previous sections, but warrants separate coverage because of the profound ways that its impact is greater than that which can be quantified. And while Tulane benefits its surrounding neighborhood in part from its economic footprint, which creates employment opportunities for local residents and businesses, the University also enhances the neighborhood's social fabric.

This engagement and investment take many forms, including the following:

- Commitment to local opportunity for residents and businesses
- Financial and academic resources to local residents who want to attend the University
- Investment in a campus that provides educational and cultural amenities to the local community

- An emphasis on programs and services that support the community and region
- Provision of municipal services and infrastructure around campus

8.2. The Growing Importance of Anchor Institutions to Local Quality of Life

Higher education institutions today work within a new framework where they recognize they are anchored to the communities in which they reside, and as such, have a responsibility to engage with their neighbors and the regions they call home. Colleges and universities can no longer look inward but rather must offer opportunities for growth and development for members in their broader communities. Institutions are recognizing that they must increasingly get out of the classroom and lab and engage with their surrounding environs in order to be academically successful, relevant, and impactful.

Since its establishment, Tulane has seen itself as an academic institution with a core mission of learning and research but driven by a commitment to being locally-invested and directly impactful on the community and society as a whole. While many universities are only recently pivoting away from being “ivory towers,” Tulane has always emphasized its grounded approach to scholarship. Therefore, this framework of an engaged campus is not a new concept for Tulane, but under the leadership of President Fitts, the University has experienced a renewed effort to enhance the quality of life in the region through more economic opportunities, access to educational amenities, collaboration with the University’s experts, and community-serving resources.

Tulane’s motto exemplifies the University’s commitment to the local community: *Non sibi, sed suis*, meaning “**Not for one’s self, but for one’s own.**” Tulane weaves its values throughout the institution as a whole. Therefore, one of the University’s most essential components is its dedication to New Orleans and Louisiana as a whole.



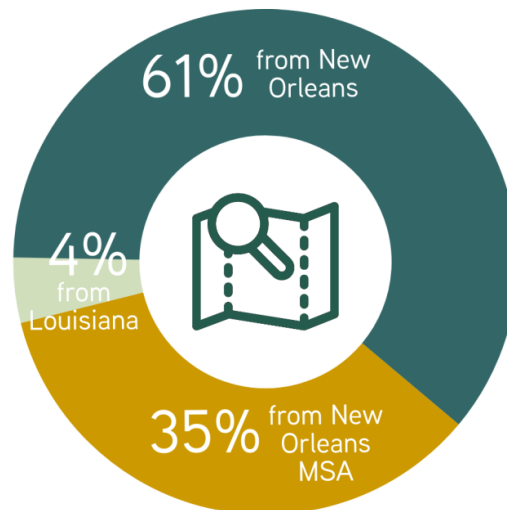
8.3. Local Economic Opportunity

The University is a large part of the New Orleans economy, with a deep commitment to investing in local economic opportunities and encouraging student and visitor spending among local establishments.

Tulane’s investment in the community reflects an understanding of its economic footprint as a mechanism for inclusive growth throughout the regional economy. Therefore, in addition to being a major anchor institution of New Orleans that employs local residents, Tulane contributes to the region by engaging with local merchants through procurement opportunities. The University’s presence in New Orleans yields a localized economic impact, as employees spend earnings locally and as goods and services procured by Tulane represent additional economic activity and employment for vendors. In

addition, local hiring ensures that tax dollars are invested back into the local economy. Tulane University's FY 2018 employment data shows that 96 percent of Louisiana-based employees live within New Orleans and the greater New Orleans MSA (see Figure 8.1).

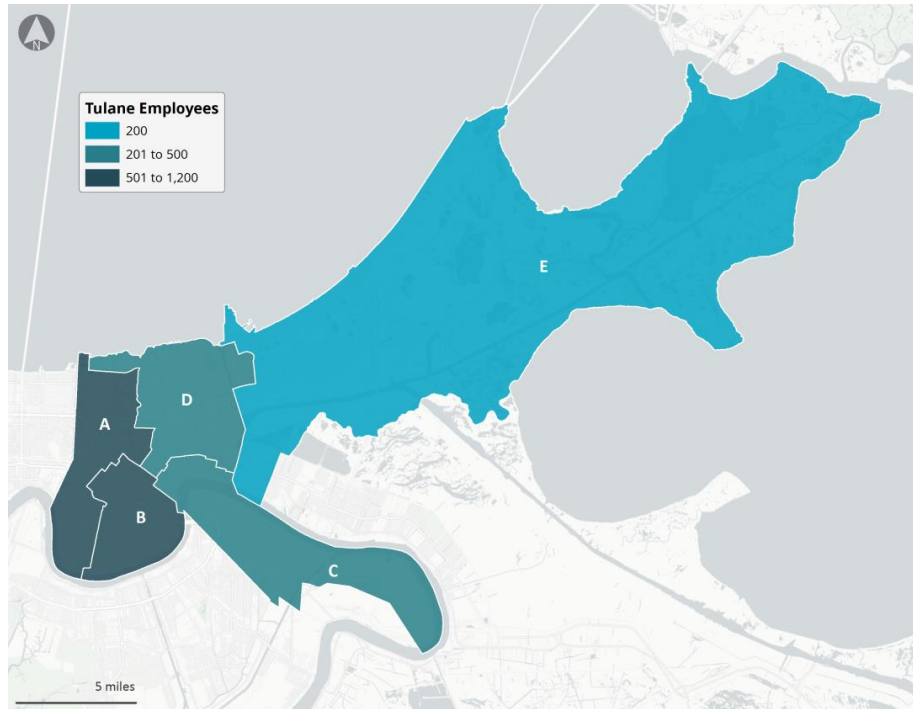
Figure 8.1: Full-Time and Part-Time Employees by Residential Location of Employee, FY 2018



Source: Tulane University (2019), Piktochart (2019)

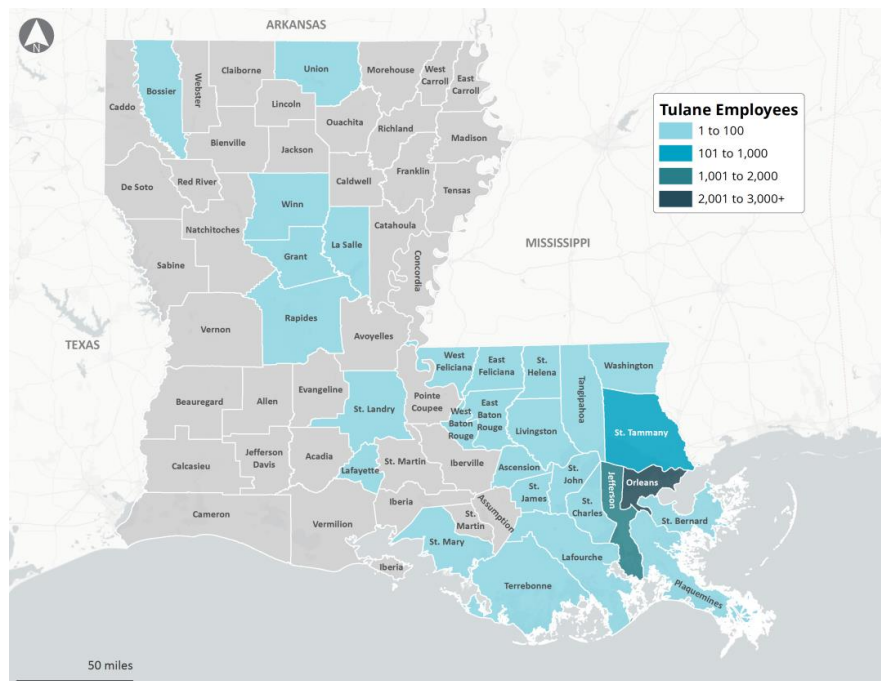
Tulane serves as an anchor institution in its hiring within the New Orleans community, and also has a reach throughout Louisiana thanks to a network of research and healthcare activities. Within New Orleans, each council district has a sizeable number of residents who work at one of Tulane's campuses or facilities (Figure 8.2). Going beyond New Orleans, the whole state benefits from Tulane's presence as an economic engine, with residents across the state working for the University (Figure 8.3).

Figure 8.2: Full-Time and Part-Time Employees by New Orleans Council District



Source: Tulane University (2019), ArcGIS (2019), Mapbox (2019)

Figure 8.3: Full-Time and Part-Time Employees by Louisiana Parish



Source: Tulane University (2019), ArcGIS (2019), Mapbox (2019)

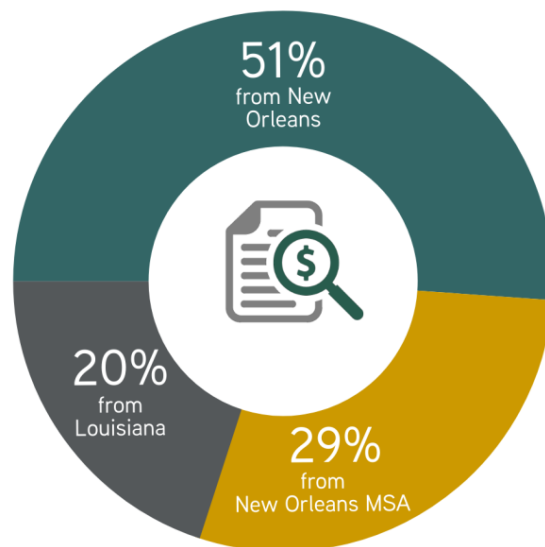
Anchor institutions like Tulane represent an immense amount of economic opportunity, which can benefit local communities. In particular, the hiring practice of an institution is one such practice that can affect local community economic development. The University represents a significant base of potential economic opportunities for local and diverse businesses. Tulane has a longstanding commitment to ensuring local inclusivity and the advancement of these opportunities.

KV Workspace is a high-quality contract furniture dealer that specializes in providing office furniture solutions, and is based in New Orleans. KV Workspace is an example of how Tulane's direct spending has real impacts in the local economy. Tulane's commitment to sourcing with vendors in New Orleans allows local small businesses to build capacity, hire staff, and contribute to the local economy and tax base

Cultivating a strong business sector is important as it has numerous benefits for local economies and citizens. Money spent at local businesses stays in the local economy much longer, as local vendors are more likely to spend that money at other community businesses. Tulane is committed to hiring local, buying local, translating on-campus construction projects into local economic opportunities, and encouraging student and visitor spending at local establishments. Vendor data for FY2018 identified about \$131.5 million in University spending within the State of Louisiana. About 80 percent of that

spending occurred within the New Orleans MSA and 51 percent occurred within the City of New Orleans (see Figure 8.4). This commitment to local purchasing allows Tulane to support local economic goals, health, and civic vitality.

Figure 8.4: Procurement by Geography, FY2018



Source: Tulane University (2019)

8.4. Scholarship and Aid to Local Residents

Growing inequity and economic uncertainty have led to anger about higher education in general and the role that these institutions play in our society. At the same time that an increasing number of jobs that offer a living wage require a college degree, college degrees are becoming more and more inaccessible for those without the financial resources. Therefore, for today's locally- and societally- minded universities it is imperative to focus on affordability. By investing in the education of local residents in particular, Tulane University makes a commitment to a thriving New Orleans and a more equitable society. The large amount of scholarship and aid available to students in Louisiana reflects Tulane's deep commitment to accessible education that benefits all. Providing financial support as well as general resources to local students in particular is crucial to Louisiana nurturing its local talent.

Tulane provided **over \$50 million in financial aid to Louisiana residents** in 2019, 70 percent of which went to residents of New Orleans.

Mayoral Scholarships are awarded to five outstanding new students each year who are permanent residents of New Orleans and graduates of New Orleans high schools. These scholarships, which cover the full length of awardees' undergraduate degrees, enable the University to cultivate and support the locally talented students in the local community. In addition to this scholarship, the Focus Louisiana Legislative Scholarship offers a year of full tuition to 144 students each year. These scholarships, which are based on nominations by legislators statewide, are renewable and can be awarded to the same student from one year to the next.

Nagelle Leboyd, '19, is a recipient of the Legislative Scholarship at Tulane University. A New Orleans native, Nagelle majored in Public Health and Theatre, and demonstrated a strong work ethic and commitment to service through work with her church, All Saints Church. The Legislative Scholarship is awarded to undergraduate students who are nominated by a state legislator, where the financial support helps them to thrive during their studies. Tulane recognizes the importance of a college degree to participate in today's knowledge economy and the need to ensure that that college degree is as accessible to as many qualified students as possible. Scholarship and aid initiatives to local residents are an important manifestation of the University's commitment to inclusivity and affordability.

Another way Tulane supports local talent is through its tuition benefits program for its faculty and staff and their dependents. Typically, the University provides tuition waivers to more than 300 University employees and 300 dependents each year. In addition, exceptional local high school students are eligible to take up to two courses through a concurrent enrollment program, paying the lower tuition costs corresponding to that of the School of Professional Advancement.

The Newcomb/Tulane College Center for Academic Equity offers support and services to self-identified underrepresented or non-traditional students, including (but not limited to) students of color, LGBTQ students, and first-generation college students. In addition to offering funding for conference and research travel, undergraduate research grants, and hands-on experiential education opportunities, the Center also provides information on external fellowship, grant, and research opportunities for students.

Figure 8.5: Total Scholarships and Aid to Local Residents

Year	Greater New Orleans (\$M)	Rest of Louisiana (\$M)	Total Louisiana (\$M)
Full-time undergraduates	\$22.6	\$13.3	\$36.0
SoPA undergraduates	\$2.8	\$0.0	\$2.8
Graduate Students	\$9.0	\$2.9	\$11.8
Total All Students	\$34.4	\$16.3	\$50.6

Source: Tulane University (2019) *Totals may not sum due to rounding

8.5. Student Service Initiatives

Tulane has a longstanding record of demonstrating local and regional leadership through support and service to its community, through institutional resources, service, and engagement. The physicians who established the college that became Tulane had a mission of fighting public health epidemics in New Orleans in the mid-19th century. The University works hard to create a culture of engagement and service among its community, and today all undergraduates participate in community service, with service learning integrated into the curriculum. The many community service and service-learning initiatives at Tulane are a real investment in money, time, and focus—showing the community that it and New Orleans are important to the institution. The local community benefits greatly from this commitment, because it meets them in places where that service and engagement are most needed.



By supporting student service initiatives as well as opportunities for the University's research and learning programs to connect with local organizations, Tulane is an active anchor committed to enhancing the region's quality of life. Tulane's Center for Public Service reported that students complete more than 250,000 hours of service annually. Throughout the institution, the University community logged more than 2 million hours of service in the past 10 years, participating in service-learning initiatives, volunteer efforts, and service-minded internships. As demonstrated by its recognition as an engaged campus by the Carnegie Community Engagement Classification, the University offers its community various opportunities to become civically engaged and embrace an ethos of commitment to place. Tulane's commitment to the community reaches back to its start, and as such, Tulane extends its people and resources out into the community for true engagement and real benefit.

The Center for Public Service

The Center for Public Service (CPS) was established in 2006 to bring together campus resources and support the university's community-based research and service activities. The same year, Tulane further solidified its commitment to the local community by becoming the first major research university to include community service as an undergraduate pre-requisite to graduation. As a result, CPS was founded to bridge the connection between the University's curriculum, faculty, and students, and the local community to develop relevant and beneficial community service activities. Over the past decade, CPS has significantly scaled its service activities, developing a breadth of community partnerships by building upon its service integrated curriculum. Nearly every major has at least one service-learning course, and almost every neighborhood in New Orleans has access to these courses, which are designed by faculty in partnership with local organizations. CPS is currently partnered with over 160 agencies in any given semester, offering students access to a number of service opportunities ranging from local community organizations to large non-profits. Tulane remains the only Carnegie classified University with High Research Activity with a curriculum that requires community engagement, making it unique among its peers.

One example that demonstrates how CPS connects students with service-learning opportunity is the For the Children (FTC) program, which provides academic assistance to hundreds of students in low-performing Uptown New Orleans public schools. FTC is currently at Sophie B. Wright and Lawrence D. Crocker College Prep, where student volunteers serve as reading buddies, academic tutors, and classroom assistants. These types of activities are often the first way that students in less-advantaged schools engage in a university setting. The student volunteers, in addition to becoming tutors, become representatives of Tulane, offering an opportunity for young students to learn about the undergraduate experience and serve as a starting point for them to envision a future that includes a college education.

The Center for Public Service also manages Tulane's AmeriCorps VISTA program, placing 24 full-time volunteers with community organizations across the region. The VISTA serves as liaisons between the partner agency and Tulane, helping to develop programs and build capacity within the organization.



Fund 17 is a local non-profit partnered with the Center for Public Service, started by Tulane graduate Haley Burns. Students can participate in fellowships with the organization to provide one-on-one business development assistance to entrepreneurs in the New Orleans area. Burns was inspired to focus on local economic development after participating in a service-learning course on community health surveying while at Tulane.

The Center for Public Service is also partnered with **Top Box Foods**, a non-profit with a New Orleans branch co-founded by Tulane alumnus Sam Heyman to address food insecurity. Inspired by his service-learning classes at Tulane, Heyman has since scaled the branch to deliver over 350 boxes of food to food sites throughout New Orleans with the help of dozens of Tulane student volunteers.

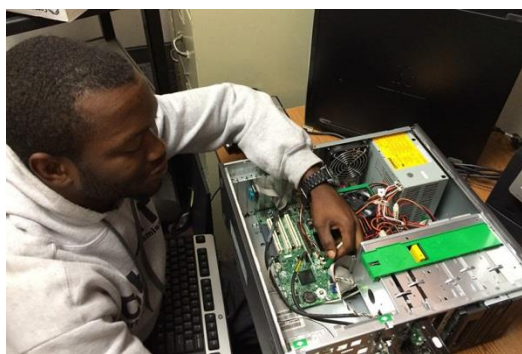
All of these examples demonstrate a deep institutional commitment to community benefit, for they embed such efforts within the University's core functions of scholarship, research, and social benefit. Tulane is on the vanguard of a dramatic shift in higher education. The metaphor of the "ivory tower," in which the work of educating students and advancing human knowledge was intentionally detached from the real-world context around campus, is giving way to a new posture of service to and engagement with the local community. In this new paradigm, the work of educating students comes from their exposure to and connection with real people and real issues, and the advancement of human knowledge occurs when that engagement yields real insights and real solutions. Hence, community benefit is not a secondary priority for the University but rather is central to the fulfillment of its essential purpose. The initiatives profiled in this sub-section (and the following), and the results they produce, are powerful proof of that orientation.

8.6. Programs and Services within the Community

In addition to Tulane's overall commitment to public service and engagement, as reflected in the integration of education, research, and service through the various service learning initiatives coordinated by the Center for Public Service, the University has a number of additional initiatives that are organized around some of the critical issues facing the city of New Orleans and individual communities within the city. Tulane is well suited to lead and participate on these issues because of its heritage as a public-serving institution. From its inception as an organized response to pressing public health concerns to its more recent response to Hurricane Katrina, the University is ever mindful of ways it can engage with and contribute to topics of relevance to the city and its residents. This sub-section highlights four particularly noteworthy areas of current focus: public education, urban development, public health and nutrition, and legal support.

Public Education

The Cowen Institute for Public Education represents a commitment by the University to New Orleans youth and the community at large. Providing extensive skills training and monitoring the complicated network of education in New Orleans, the Cowen Institute has supported hundreds of students and



young adults to reconnect with their potential. In addition, the Cowen Institute creates a space for educators and administration to identify key components of successful early education. The Institute's dedication to the success of New Orleans youth is an important part of Tulane University's strong role in the larger community.

Tulane is also committed to further improving public education through the Tulane University Center for K-12 STEM Education. The Center for K-12 STEM Education offers educational outreach programs in STEM fields (Science, Technology, Engineering, and Math) led by the School of Science and Engineering faculty members. These programs give high school students the opportunity to take college-credit courses in science and engineering. Tulane also provides

additional STEM programming for younger students through Girls in STEM (GIST) and Boys in STEM (BATS), which provide students in fifth through seventh grade the opportunity to meet and work with diverse role models in STEM fields. Similar to the work being done at the Center for Public Service for local youth, this is particularly important for underserved schools, where students would not otherwise have an opportunity to be introduced to the undergraduate experience and the possibility of a college education and STEM career. These examples demonstrate other ways that Tulane extends its reach to the local community by providing on campus opportunities to local students

Urban Development

The **Albert and Tina Small Center** was established in 2005 following the impact of Hurricane Katrina. From 2005 to 2015, the Center worked with more than 74 community partners on more than 80 projects, ranging from design drawings and small-scale design/build construction, to social history projects, to planning and policy studies. With its headquarters in Central City New Orleans, the Small Center offers space for faculty, student fellows, and community partners to collaborate to develop meaningful projects. A Storefront gallery serves as a connection to the broader New Orleans community through public programs and exhibitions.



The Small Center was recently awarded the Collaborative Approach award by the Association of Collegiate Schools of Architecture for the 2018-2019 academic year. The award highlights specifically the work the Small Center has done in helping to establish the Parasite Skatepark project, a New Orleans park that opened in 2015 following years of effort by local skaters to establish a recreation center. The Small Center provided various types of technical assistance, ranging from convening stakeholders and designing the park's masterplan. The Parasite Skatepark was recognized as the city's first official skate park which was made possible by a collaboration between a non-profit of local skaters, city and state agencies, professional architects, and Tulane students. This project is one of many that showcases Tulane's integrated service curriculum, in which faculty and students bring expertise in design to bring projects to reality while allowing these projects to be shaped by numerous partnerships and stakeholders. These projects help to strengthen the vibrancy and vitality of local neighborhoods.

Public Health and Nutrition

The **Goldring Center for Culinary Medicine** is an innovative approach to teaching nutrition, both to students at Tulane University and in the larger New Orleans area. Nutritionists and chefs teach free community classes to educate the public on making healthy food choices. The Center also hosts conventions and seminars that are open to the public in conjunction with local organizations focused on the health of New Orleans residents, helping connect people with resources to start living healthier. Tulane invests in the health of its community and brings learning outside of the classroom.

The **Grow Dat Youth Farm** project was incubated at the Small Center at Tulane in collaboration with the New Orleans Food and Farm Network, and City Park, and now provides exposure to locally grown produce as well as leadership opportunities for youth in the community. Grow Dat is the largest urban farm in New Orleans and engages 50 young adults annually to farm 2.5 acres of land, harvesting around 20,000 pounds of food each year, often with the support and engagement of the Tulane community.



Legal Support

Tulane Law was the first law school to enforce a mandatory pro bono requirement and has consistently produced high-achieving graduates with hundreds of pro bono hours for local public interest partners. In addition to pro bono services, the students of Tulane Law are defenders of the entire city of New Orleans through a variety of clinics and non-profits. These clinics help defend the local community in matters of civil rights, criminal justice, domestic violence, the environment, juvenile law, administration, and even culture through the Entertainment Law Legal Assistance (Ella) Project. The Ella Project offers business tools, community advocacy, and legal assistance for low- to moderate-income local artists to better protect the cultural capital of Louisiana. Tulane Law students have also provided over 14,000 hours of Volunteer Income Tax Assistance (VITA) to community members since 1992. Tulane was the first law school to require pro bono hours, a program that has now recorded more than 255,000 hours of free legal assistance in the community since 1988. The most recent example of this impact is the Class of 2019; over three years of law school, the cohort gave more than 17,000 hours of service to the community, representing indigent clients who otherwise would not have access to justice in the courts. With these programs, Tulane Law students improve their practice as well as improve the community.

Public education, urban development, public health and nutrition, and legal support are four areas in which Tulane has put forth significant prioritization and resources, as part of the fulfillment of its core mission. The goal in all of these areas is to engage the surrounding area and provide solutions for key issues facing the city of New Orleans. The initiatives profiled in this sub-section represent the intersection of mission fulfillment, available resources, and opportunity for the advancement of human knowledge from the standpoint of the University. **They have produced significant gains for the city and its residents, and in doing so have contributed to a more vibrant and more equitable city. This is exactly what anchor institutions should be investing in, for their own organizational advancement and for the good of the communities in which they are located.**

8.7. Campus as a Local Amenity

An important part of Tulane University's service to and benefit for its immediate community is its campus, which is an amenity for the local community, where the public can gather to recreate and enjoy cultural enrichment, including greenspace, libraries, and performing arts spaces. Cities invest significant resources in these things to serve their constituents and create attractive public spaces. College

campuses are an important part of a city's portfolio of public places, which are generally maintained by the institution rather than the public sector.



The University has an historical commitment to the local public good, dating back to its origin as well as post-Katrina when the University helped support the region. The New Orleans community is welcome on campus and can connect to resources on campus. In addition to seven publicly accessible green spaces throughout campus, the following amenities are available for the University community's benefit and welcome to the public as well (see Figure 8.6).

Greenspace and Recreation

Tulane Campus Recreation in the Reilly Student Recreation Center provides services and access to facilities, including group classes, locker rooms, state-of-the-art gym facilities, and outdoor adventures to both Tulane students and the community (who can access with a paid membership).

Barney Mintz Field provides Green Wave teams, as well as the New Orleans Shellshockers minor league soccer team, with an eighty-yard astroplay field on which to practice. The surrounding Danny Thiel Track hosts a number of track events for teams around the Gulf South with seating for 1,200 fans.

An example of the Tulane campus serving as a welcoming place for the whole community is the annual **Crawfest festival**. Located in the Newcomb Quad and Berger Family Lawn, this annual event invites the whole community to enjoy the Uptown campus for a day of festivities.

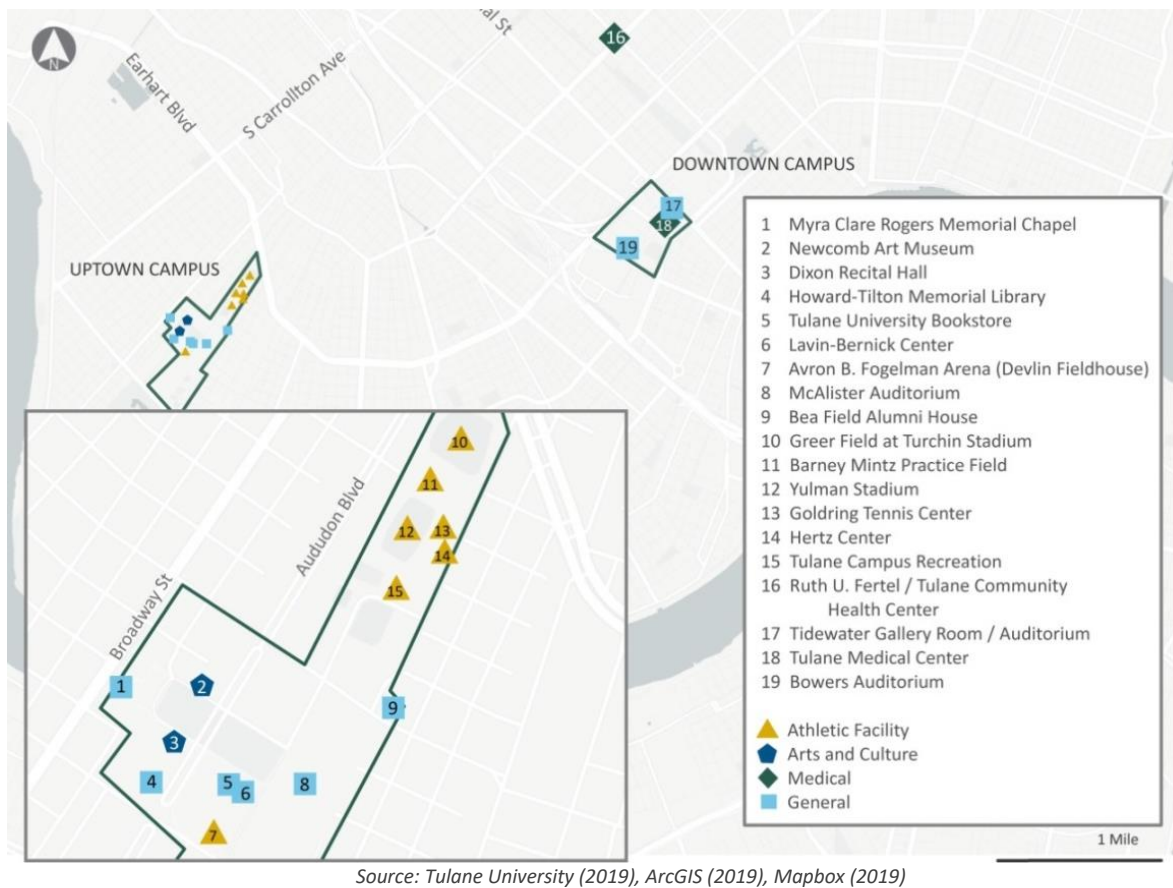
Greenspaces and a lush tree canopy are a signature of Tulane's Uptown Campus. With seven green quadrangles spread across the campus, Tulane's greenspace serves an environmental benefit to the community as well as a passive recreational resource to the surrounding neighborhood.

Yulman Stadium hosts the Green Wave football games and offers state-of-the-art space for thousands of fans to enjoy the tradition of Tulane football, welcoming students as well as the neighboring community to enjoy the festivities.

Devlin Fieldhouse hosts the Green Wave basketball and volleyball games, and is the ninth oldest active basketball venue in the country.



Figure 8.6: Tulane Amenities Accessible to the Local Community



Arts and Culture

The **Howard-Tilton Memorial Library** serves as a point for cross-campus connection at all levels, offering resources to the University and the public as a whole. With workshops, classes, and an extensive collection, the Library bridges Tulane with the community at large.



The **Newcomb Art Museum** is a renowned cultural institution, named in 2018 as the Best Gallery or Museum in Louisiana and one of the top 25 in the U.S. by the American Art Awards. The Newcomb Art Museum offers space for cross-disciplinary understanding of the arts and creative thought with exhibitions meant to inspire dialogue. The Museum is free and open to the public 5 days a week, providing meaningful opportunity for community participation.

Myra Clare Rogers Memorial Chapel has room for over 200 guests. The memorial chapel is a non-denominational place of worship for students; it has hosted not only religious services but lectures, musical performances, and memorial services.

Tulane also supports numerous cultural activities that often benefit the broader community. For example, the **New Orleans Shakespeare Theater at Tulane** is one of the most significant theatre companies in the Gulf South. In addition, the School of Liberal Arts also hosts an annual **Summer Lyric Theater**, along with continued offerings of theater and music through the Department of Theatre and Dance and the Newcomb Department of Music. These types of contributions make the New Orleans region an even more vibrant place for the Tulane community, local residents, and visitors.

Healthcare Services

The **Ruth U. Fertel/Tulane Community Health Center-Community Room** provides affordable, comprehensive medical care for families in New Orleans as part of the larger health clinic network Access Health Louisiana. The Health Center provides primary care, pediatric and behavioral health services from caring, trusted physicians.

The Tulane Medical Center serves the greater New Orleans area as an acclaimed teaching, research, and medical health facility with over 500 physicians providing cutting-edge care. Partnered with the Tulane School of Medicine, one of the most recognized in the nation, the Medical Center aims to heal communities. **Part of TUMC's community benefit comes in the form of charity care to support the local community, totaling \$54 million in 2018.**



A Welcoming Campus

By making these on-campus resources publicly available, the University demonstrates its deep commitment to serve and benefit its surrounding community. These cherished recreational, cultural, and medical resources greatly improve neighborhood quality of life, and represent places for engagement between campus and community that strengthen the university-city relationship. They also serve as an instructive model for other cities to emulate of win-win collaborations between town and gown that address pressing urban issues.

8.8. Municipal Services/Infrastructure Provision

As tax-exempt entities, universities often face opposition from those who believe that large institutions are consuming public services without contributing their fair share of taxes to pay for them. While Tulane is a consumer of and benefits from public services provided by the City of New Orleans, it also provides many of those same public services, minimizing the City's burden in serving the University and extending services to the people and spaces within close proximity of campus. These are essential and

valued services like public safety, infrastructure, and beautification. As an anchor institution, Tulane is acting as a good neighbor within New Orleans and investing its resources to improve the community and strengthen existing partnerships.

Similar to many institutions of higher education of Tulane's scale, the University maintains a robust public safety program, including the Tulane University Police Department (TUPD), as well as public safety infrastructure like campus lighting and security cameras. The TUPD has 63 sworn police officers with full arrest powers and maintains a presence at the Uptown and Downtown campuses (with 24/7 patrol within a one-mile perimeter of campus). In addition, Tulane employs Allied Universal Security Service to provide more than 4,700 hours of security services throughout the year as needed. A particularly distinct dynamic of TUPD's role within the community is the strong working relationship with the City. For example, the University frequently collaborates with various City

departments, such as the Health Department, Sanitation Department, and New Orleans Police Department, on assisting with collaborative clean up and safety initiatives. In addition, during busy times of the academic year that require additional police support, Tulane pays for the use of NOPD to supplement the TUPD's force.

On the Uptown campus, Tulane also provides other quality of life services that make campus activities less disruptive to the surrounding community; lighting upgrades, litter control and trash abatement, and traffic control during major events throughout the year aim to keep Tulane's footprint as light as possible. In the last academic year, Tulane spent more than \$800,000 on these quality of life supports alone.

Another service the University community provides is the Tulane Emergency Medical Service (TEMS). A student-run, non-profit ambulance service based on the Uptown campus of Tulane University, TEMS offers emergency medical services, transport, and treatment to New Orleans hospitals free of charge for any Tulane or Loyola student, staff, faculty, guest or affiliate. There is a partnership with the City of New Orleans EMS to define the working arrangement with the City that governs the location of services and ensures coordination of care. TEMS was one of the first university-based ambulance services in the US, demonstrating the value of collaborative engagement and serving as a model for similar services around the country.

These critical public services are provided by Tulane in partnership with City departments, and thus represent an exemplar for collaboration for the benefit of both campus and community. From the City's perspective, this service provision minimizes the burden on City finances and creates a point of intersection for the University and the City to work together on areas of shared interest, particularly related to public safety and public well-being. This is representative of the sort of behavior an anchor institution should uphold, in that given its commitment to a specific place and the benefit it derives



"Tulane has always been a place that people look to for ideas when there are challenges and opportunities."

—Governor John Bel Edwards

when that place is vibrant and safe, it is in that institution's self-interest to invest and engage in these ways. Public service provision is a tangible indication that Tulane understands this responsibility and opportunity.

8.9. A Good Neighbor Focused on Mutual Collaboration

Engagement is at the very core of Tulane's mission from its earliest days, and today's University builds on those founding principles. Tulane devotes substantial resources—including operational expenses dedicated to engagement, the time of its students, faculty, and staff, and access to its resources—that enhance the quality of life in the surrounding community and build capacity and opportunity within the New Orleans region. Offering its campuses as accessible amenities for local residents additionally improves the quality of life and offers



new educational and cultural opportunities for nearby residents. Further, the University provides public services such as police and public safety to campus, thus ensuring that the institution is not overburdening municipal resources. These manifestations of Tulane's commitment to New Orleans underscore its deep understanding that the future growth and success of the University and the region are interconnected and require mutual collaboration.

"New Orleans is a better and more vibrant and attractive city because of Tulane, and Tulane is a better and more attractive university because of New Orleans; the futures of the two are linked. We need to nurture that and further that relationship because it benefits us both."

— Michael Fitts, President of Tulane University

With Tulane's growth trajectory in the coming years, its capacity to support the New Orleans community through these student initiatives, faculty and staff engagement, and University programming will continue to expand. The University's plans to further develop its campuses will mean more space and opportunities for the community to connect with its resources.

9. Regional Competitiveness

9.1. Section Overview

In today's economy, research, innovation, and entrepreneurship play crucial roles in the competitiveness of regions. Tulane University is a vital player in the New Orleans region's future, as a premier research institution that attracts human capital, new businesses, and investors to the area. While Tulane's investment in research, innovation, and entrepreneurship is a part of the University's operational footprint and therefore included in the economic impacts described in Section 2, there are broader impacts that advance the region's competitiveness and are important to describe in further detail.

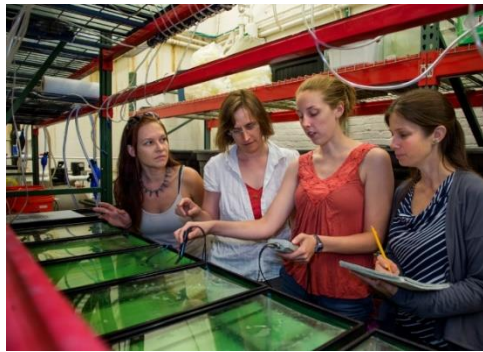
This section explores the ways in which Tulane's interdisciplinary scholarship and research efforts contribute to a local ecosystem of innovators and creators who are driving the region's economic future. Specifically, this section will describe the interplay of the following dynamics to articulate how research universities (and Tulane specifically) participate in a region's competitiveness:

- University research and interdisciplinary scholarship
- Cultivation of intellectual property output
- Commercialization and entrepreneurship
- Collaboration with regional economic development initiatives

9.2. The Growing Importance of Research Universities to How Regions Compete

Innovation increasingly involves large-scale research institutions in urban settings. Tulane is a prime example for New Orleans and the state of Louisiana as a whole, having a profound impact on attracting new businesses, human capital, and resources from investors. The importance of innovation and entrepreneurship to today's global economy and to a region's economic competitiveness cannot be overstated. Indeed, in an increasingly knowledge-based economy, premier research institutions have grown in stature in regional economic development strategies, especially those in metropolitan regions and connected to industry through various partnership initiatives. Universities of Tulane's caliber are a source of both discoveries that can be commercialized and of the entrepreneurial talent to see that intellectual property into existence through licensing agreements and startup ventures.

The May 2014 Brookings Institution publication, "The Rise of Innovation Districts: A New Geography of Innovation in America," heralded a shift in where and how innovation happens in this country. A generation or two ago, the archetypal innovation destination was a suburban office location like Bell Labs in Park Ridge, New Jersey, where innovation was the purview of a single actor in a stand-alone setting. By contrast, locations that produce innovation at scale can be characterized by many of the things that define the area around Tulane: urban in form, providing touchpoints for multiple actors and sectors, and importantly, anchored by one or more research institutions. This is increasingly how world-



changing startups are formed, and it amplifies the role of research institutions and of the strategic co-locations of research institutions in attracting the human and financial capital needed to make it possible.

Since it is important for regions and states to have a diversified economy, innovation is particularly essential to cultivate, because related human and financial capital is fluid and past advantages can easily give way to stagnation. That

means that the outcomes of Tulane's research enterprise and entrepreneurial pursuits are closely linked with the success and growth of the New Orleans region. Similarly, as New Orleans welcomes entrepreneurs, creative talent, and new businesses into the region, Tulane is able to build upon its mission and leverage the region's growing network of human capital and private sector resources.

Tulane's continual investments in its physical setting and intellectual community help make the New Orleans region vibrant, contributing to regional economic growth. Doing so is directly related to its mission and values to not only advance knowledge but apply it locally for the greater good. Said another way, whether the state of Louisiana can become more competitive will depend in large part on the performance of large research institutions like Tulane in providing excellent educational resources, producing ground-breaking innovations, and serving as a magnet for human and financial capital.

"Great cities have great universities. The two are linked, and they're going to be even more linked in the coming decades because we live in an information economy. What Tulane is doing in terms of educating doctors, scientists, engineers, public health officials, finance MBAs, I think is perfectly geared toward the development of business in New Orleans across the board."

— Michael Fitts, President of Tulane University

9.3. Building an Innovation Hub On and Around Campus

Innovation is an important component of how regions remain competitive, and that means that regions need places where innovation can happen. Tulane is one of those places itself and an active participant in collaborations with partners throughout the region. The intensity of educational assets, human capital, research, and discovery both within Tulane and across neighboring institutions means that as a result New Orleans is increasingly becoming a hub of innovation.

One part of being a successful innovation hub is inclusivity. Making sure no demographic is excluded from the campus community, whether as students, faculty, or staff, means that more people have a voice and a role in advancing scholarship and growing the local economy. This is how innovation happens; not from the sudden inspiration of the lone inventor toiling away in a lab but rather from the incremental gains wrought by a diversity of perspectives coming together to advance human knowledge and produce new discoveries.

Another element of cultivating innovation on and around campus is programmatic. Tulane's emphasis on interdisciplinary research and learning automatically creates a culture of collaboration and inclusion among students and faculty. In addition, the inquisitive nature of Tulane, as an institution founded with an entrepreneurial spirit, means that the University has been consistently focused on solving society's most challenging problems.

Lastly, Tulane is committed to building a physical space where innovation flourishes. Innovation today no longer happens in a vacuum, but rather in highly concentrated areas where top talent can interact and collaborate on their ideas. The University's investments in buildings, labs, and meeting spaces are an essential part of supporting creativity and entrepreneurship and inviting the region to advance this innovative spirit. Beyond that, Tulane knows connecting its talented students and faculty with other leaders and experts in the region will only accelerate the potential for discovery. New investments in collaborative spaces like the New Orleans Bio Innovation Center are targeted at achieving just that.

Tulane recently announced a new initiative with LSU Health to accelerate the steps from the research lab to local startups. The partners will collaborate with the **New Orleans Bio Innovation Center** to deliver resources and tools for the Southeast Xlerator Network, a consortium of 24 academic institutions, including Tulane, focused on the commercialization of life sciences research and biomedical discovery. The network will compliment ongoing efforts by Tulane and LSU Health to engage private industry for research partnerships.

9.4. Research Efforts

Tulane takes seriously its mission and opportunity to change the world through research, but it also recognizes its role in improving the local community through that research. This means focusing its research on those topics most meaningful to the New Orleans region (coastal ecosystems, urban issues, etc.), and creating a hub of activity that makes the region a more economically robust and strategically competitive place. Tulane's research program brings resources in from outside the state, strengthens the University's reputation (as well as the region's reputation), and creates a critical mass of knowledge workers and knowledge infrastructure to support a more competitive economic landscape. This activity results in a virtuous cycle of human and financial capital drawn to the region, followed by further discoveries, in turn making the region an even more attractive choice.

Tulane is a member of the Association of American Universities, a select group of the leading research universities in the U.S. and Canada dedicated to advancing society through education, research, and discovery.

Tulane is committed to attracting the most innovative thinkers and pairing intellectual rigor with an entrepreneurial mindset to position the University to help solve some of society's most complex challenges. While the economic value of research was previously calculated in the overall operational impact of the University, it is

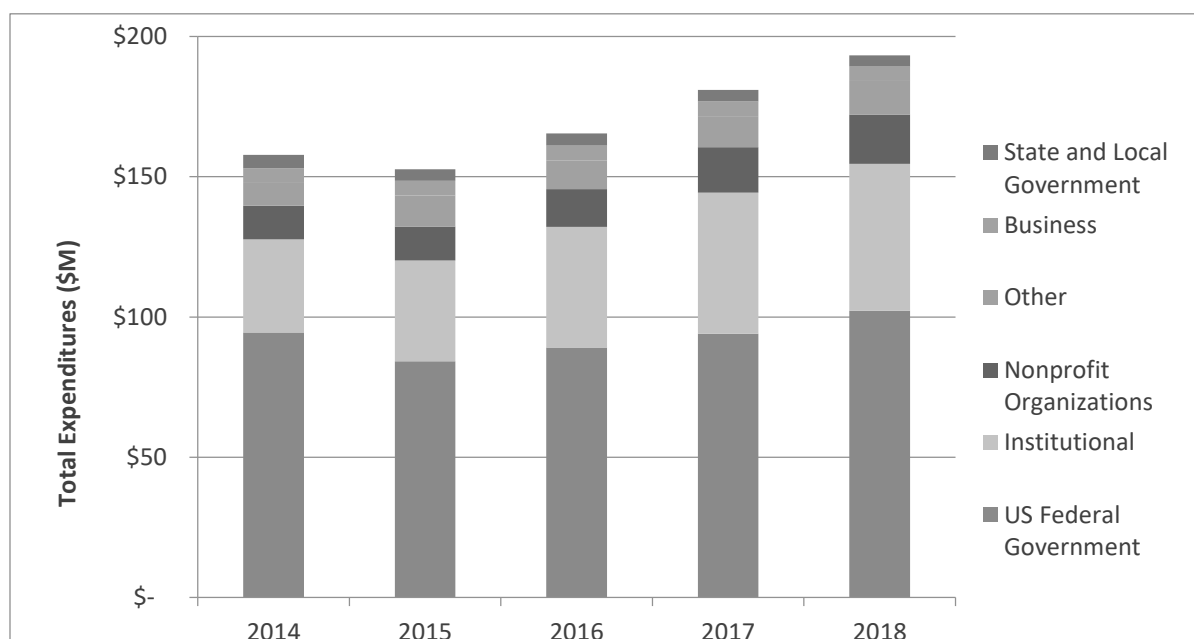
important to understand the specific value that major research institutions such as Tulane provide to their region. For one, the majority of research dollars attracted to Tulane are drawn from outside the state, representing an import to Louisiana. In addition, these resources catalyze future activity in the form of additional research and the translation of that research into intellectual property and sometimes new businesses.

In FY 2018, Tulane spent over \$193 million on research and development, an 18 percent increase over FY 2014 levels (see Figure 9.1). Importantly, that funding came

from diverse sources, including 53 percent from US Federal Government sources (see Figure 9.2). Hence, Tulane’s research and development activity attracts significant outside funding to the local economy – over \$100 million in FY 2018 alone – which supports local jobs and local tax revenues and helps create an attractive hub of innovation activity that draws even more human and financial capital in.

Tulane has earned the Carnegie Foundation for the Advancement of Teaching’s highest classification of “very high research activity,” a prestigious category that includes 2 percent of universities nationwide.

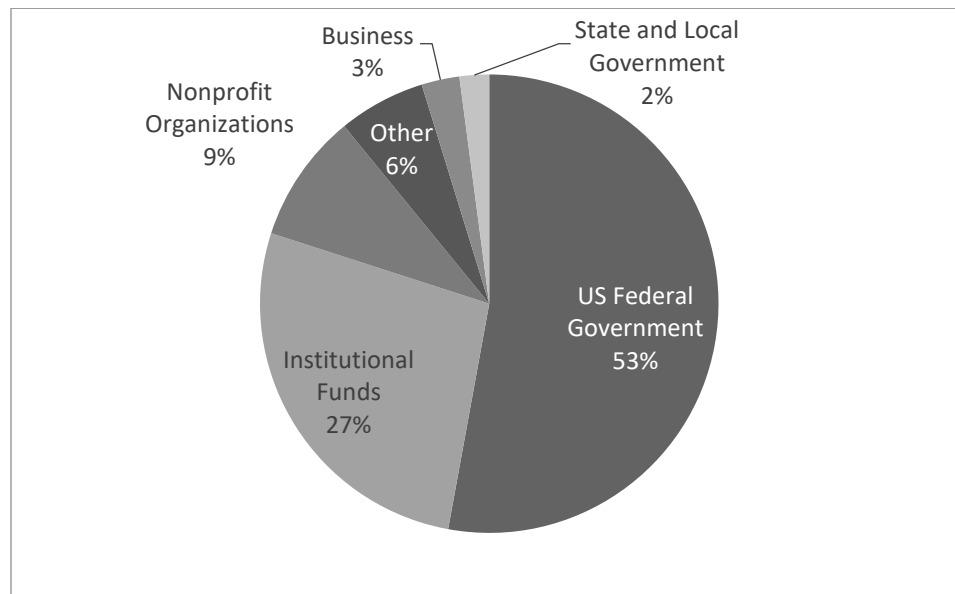
Figure 9.1: Tulane University Total Research & Development Expenditures, 2014-2018



Source: Tulane University (2018)

Research dollars attracted by Tulane not only generate important discoveries that advance the body of knowledge, but also bring significant economic activity to the New Orleans region that otherwise would likely be deployed elsewhere. Research funding is mobile, and when these dollars are awarded to Tulane in the basic and clinical research and in the humanities, they are spent locally, supporting New Orleans jobs and tax revenues.

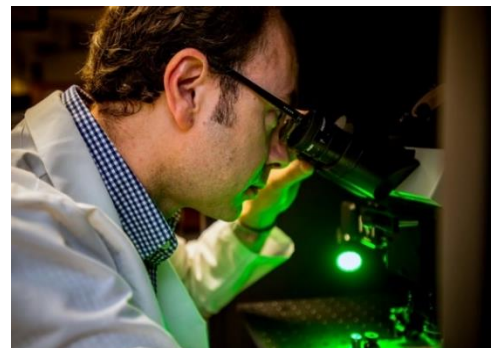
Figure 9.2: Distribution of Research & Development Expenditures, FY2018



Source: Tulane University HERD Survey (2018)

Tulane research centers and institutes offer students diverse experiences in programs focused on architecture, business, health sciences, humanities and fine arts, international disciplines, law, science and engineering, and social sciences.

The Brain Institute: Led by a team of researchers from both the School of Science and Energy and the School of Medicine, the Tulane University Brain Institute studies memory and cognition, neurodegenerative disease, neural injury and repair, hormone-brain interaction, and brain-body health. The Institute was created to lead all neuroscience-related efforts at the University, following the pillars of research, education and training, and community outreach and engagement.



The ByWater Institute: Advancing Tulane's interdisciplinary vision, the ByWater Institute partners with the Office of Research at Tulane to facilitate collaboration across departments and the community to further research on coastal resilience and the urban environment. Through a combination of community engagement programs and applied research, using New Orleans and the Gulf Coast as its laboratory, the ByWater Institute supports engaged study on the complex balance between natural and human systems.

Murphy Center: The Murphy Institute seeks to educate students and the general public in the understanding and analysis of the most challenging economic, moral, and political problems of our time; to support and advance the finest applied research in public policy, public affairs, civic engagement; and to inspire and inform all of its constituencies through its programs, scholarship, instruction, and events with the objective of advancing human prosperity and well-being.

Tulane National Primate Research Center (TNPRC): TNPRC is a leader in a variety of important multidisciplinary projects focusing on areas of biomedical research with a high priority on infectious diseases. The TNPRC opened in 1964 as the Delta Regional Primate Research Center; today it is one of eight centers that comprise the National Primate Research Center Program, funded by the National Institutes of Health. The Center conducts basic and applied biomedical research on human health problems using nonhuman primate models. It serves as a regional and national resource and center of excellence for biomedical research. In particular, TNPRC has leveraged the University's interdisciplinary expertise in public health and contributed to important scientific discoveries that advance understanding of major human health concerns and infectious disease such as AIDS, Lyme disease, malaria, and tuberculosis. Located in Covington, Louisiana (in St. Tammany Parish), the substantial research activity that takes place here represents Tulane's footprint expanding beyond New Orleans and into the surrounding region.

The Roger Thayer Stone Center for Latin American Studies: The Roger Thayer Stone Center was created to promote the teaching and research of Latin American studies at Tulane University in the following areas of literature; performance and cultural studies; art, history, and ethnography; archaeology; preservation and cultural heritage; public health; social action, community planning, and policy; and poverty and inequality in Latin America. Uniting faculty from over ten departments, the Stone center for Latin American Studies furthers the University's global mission and advances cultural understanding of the Latin American peoples.



All of these examples illustrate areas of particular distinction for Tulane, which enhance the reputation of the institution, as well as the city and state in which it is located, as a place where human and financial capital come together to produce advancements in human knowledge. In addition to drawing in dollars which benefit the local economy, and deploying those dollars to work of significant societal benefit, Tulane's research work helps make the region more competitive by serving as an anchor to a robust and interconnected innovation ecosystem.

9.5. Intellectual Property Output

Research and innovation lead to the commercialization of intellectual property and catalyzes a vibrant regional entrepreneurship ecosystem that produces breakthroughs that can save lives and change the world. This section will discuss the positive regional impact of research becoming intellectual property and how Tulane supports this process. The tangible and monetized outcome of a rich knowledge-based community is intellectual property. This output is important as it both advances human knowledge and societal benefit, as well as provides a pathway to translate that research into a commercializable good that can strengthen the economy.

Each year, Tulane produces significant intellectual property activity. In FY 2018, Tulane made 35 invention disclosures, filed for 10 new patents, was awarded 5 new U.S. patents, and executed 4

licenses or options. In total, Tulane intellectual property garnered over \$1.8 million in gross licensing income (see Figure 9.3).

Figure 9.3: Key Intellectual Property Statistics, FY2016-FY2018

Year	Invention Disclosures	New Patents Filed	U.S. Patents Awarded	Licenses/Options Executed	Adjusted Gross Licensing Income
FY2016	41	18	8	8	\$2,080,365
FY2017	40	19	8	10	\$1,617,681
FY2018	35	10	5	4	\$1,876,313

Source: Tulane University (2019)

Tulane has had significant success in the diagnostic field, developing a highly accurate test for the presence of Lyme disease. The veterinary version of this diagnostic technology is incorporated into one of the most widely used animal tests in the United States and is also sold throughout Europe and Canada, totaling more than 20 countries. The invention that led to these diagnostic tests was made by Dr. Mario T. Philipp, Tulane National Primate Research Center. In the vaccine field, a vaccine adjuvant developed in the School of Medicine lab of Dr. John D. Clements is currently being developed by PATH, an international non-profit organization, for use in children's health in developing countries. If successful, this vaccine would play a major role in reducing disease caused by enterotoxigenic *E. coli*, a major cause of illness and death in developing countries. Another philanthropic organization is evaluating use of this treatment in a vaccine against polio, also for use in children in developing countries.

Another prominent researcher is Shusheng Wang, an Associate Professor of Cell and Molecular Biology. Dr. Wang's work focuses on research and commercialization of cutting-edge CRISPR genome editing technology to cure the leading cause of blindness in the elderly, which affects approximately 8.7 percent of the worldwide population and has a market size predicted to reach \$8.9 billion by year 2022.

Tulane's long track record of cultivating a welcoming, collaborative environment for researchers demonstrates that it has created fertile ground for entrepreneurs and innovators to thrive. Indeed, its history of success and current initiatives draw tomorrow's talent to the region—either as students and young faculty seeking Tulane's adventurous spirit or businesses seeking the talent that the University attracts.

9.6. Commercialization/Entrepreneurship

Tulane contributes to the region's economy by helping students and faculty move their research outside of the university and into the marketplace. By promoting entrepreneurship and new ventures, Tulane brings innovation, jobs, and renown to the New Orleans area. This section will build on the previous intellectual property output section by describing how research leads to intellectual property which can ultimately lead to commercialization and startups. Tulane has worked hard to create an environment of creativity and entrepreneurship, resulting in practical solutions to local and global problems.

Entrepreneurship

Tulane has developed numerous resources to aid faculty and students in converting their intellectual property into viable ventures. The following programs illustrate the breadth of resources available to the Tulane community.

Albert LePage Center for Entrepreneurship and Innovation:

The LePage Center seeks to serve as a center for entrepreneurial activity at Tulane, as a center for knowledge about entrepreneurship in New Orleans, and as a center for innovation in the Gulf South and beyond. The LePage Center sponsors the Tulane Business Model Competition, which seeks early-stage ventures that demonstrate a market-tested ability to adapt to customers' needs. It is open to ventures led by one or more students enrolled in a college or university.



Instapath Bioptics took home the \$12,500 grand prize in the 2017 Novel Tech Challenge, run by the Tulane Office of Technology Transfer. With rapid, high-quality imaging, Instapath aims to improve how biopsies are processed to increase pathology efficiency and reduce repeat biopsies. After also taking second place in the Tulane University Business Plan Competition, the Tulane graduates' startup has participated in numerous competitions and was awarded a grant by the National Science Foundation Small Business Technology Transfer grant program to conduct research and development on their concept.

New Orleans Entrepreneurship Week: The New Orleans Entrepreneur Week (NOEW) is hosted by JPMorgan Chase & Co. and Tulane University's A. B. Freeman School of Business and The Idea Village. NOEW is a one-week series of events and programs promoting business, innovation and entrepreneurship in New Orleans. Since 2009, NOEW has featured 760 startups and distributed \$4.3M in prizes. NOEW includes cutting-edge speakers, pitch competitions, networking events, panel discussions and 1:1 VIP mentor and investor meetings to support an innovative and entrepreneurial mindset.

The Tulane Business Model Competition: The competition seeks early-stage ventures that demonstrate a market-tested ability to adapt to customers' needs. It is open to ventures led by one or more students enrolled in a college or university. Students can win more than \$40,000 in cash and prizes for startup ventures.



The Invest NOLA Business Growth Collaborative: The Invest NOLA Business Growth Collaborative is a six-month cohort-based program that seeks to advance the growth of small companies through business education, connections to potential customers, access to capital and development of business owner networks. The management education curriculum aims to meet the needs of minority-owned businesses in the cohort and includes ten four-hour sessions

that meet approximately twice a month. The sessions will focus on business strategy, finance and operations, and the development of a strategic growth plan.

Entrepreneurship and innovation benefit from the agglomeration effects of people and research infrastructure in close proximity to one another. But the fruit of those agglomerations only happen when there are intentional efforts and collaborative mechanisms to ensure that ideas can collide with one another and yield fresh insights that can then be brought to market. The examples above demonstrate the many initiatives Tulane has put in place to encourage an entrepreneurial culture and support the startup ventures that emerge from that setting. This is an important part of Tulane's contribution to the competitiveness of the region's economy going forward, a powerful draw for new human and financial capital and a powerful engine for producing tomorrow's scientific discoveries and commercial ventures.

Startups: Tulane has built a durable pipeline for nurturing startups that has flourished in recent years. Tulane's leadership in this area has contributed to New Orleans' reputation as a leading destination for entrepreneurs. New Orleans leads the nation in number of startups per capita by 53 percent, and was ranked the 3rd best city for young entrepreneurs.⁸ New Orleans is also second in the country for tech employment growth. To address the need for regional benchmarking for the startup and early stage economy in the region, the Albert LePage Center for Entrepreneurship and Innovation at Tulane University is conducting the 1st Annual Greater New Orleans Startup Index. Tulane hopes the index will help coalesce stakeholders, define the region's unique innovation engine, benchmark against other regions and track progress, and ultimately identify opportunities for coordinated, transformative change. This spring, the LePage Center was able to verify over 70 percent of these companies.

There are many examples of Tulane student, alumni, and faculty success as entrepreneurs, including the following:

- **AxoSim** is a startup spun out of the lab of Dr. Michael J. Moore, Tulane Associate Professor of Biomedical Engineering. AxoSim is developing nerve-on-a-chip technology that aims to improve the search for new treatments for numerous major diseases by enabling pharmaceutical companies to develop safer and more effective drugs before the clinical trial phase. In 2017, the company was awarded a two-year, \$1.77 million grant by the National Institutes of Health Small Business Technology Transfer. AxoSim also won the 2018 Coulter IDEApitch at New Orleans Entrepreneur Week and received \$100,000 in funding.
- Former Tulane biomedical engineering graduate students Elaine Horn-Ranney and Parastoo Khoshakhlagh developed an idea for a gel-based patch to help physicians repair damaged eardrums without surgery while working in a Tulane University lab before starting **Tympanogen** in 2014. The company is now working with NASA to determine how this technology can be used in microgravity.

⁸ New Orleans Business Alliance, "Key Stats & Rankings," <https://www.nolaba.org/advantage/key-rankings/>.

- **Fluence Analytics** products seek to optimize efficiency, cost and quality of manufacturing and R&D processes in polymer and biopharmaceutical industries. It was founded in 2012 at Tulane's polymer research and development lab called PolyRMC. Over \$20 million has been invested to patent Fluence Analytics products and services and the company has completed several years of industrial production and developed second general products.
- A team of Tulane doctoral students created **Instapath**, a company focused on developing imaging technology for point-of-care biopsy evaluation that received \$225,000 in NSF funding in 2018. The company can now seek Phase II grant funding of up to \$750,000, with up to \$500,000 in additional matching funds with additional investments or sales.
- Founded by a Tulane graduate student in a Tulane Chemical and Biomolecular Engineering laboratory, startup **Advano** has developed a 4-in-1 step nanoparticle manufacturing process that is described as "rapid, simple, efficient and highly scalable." This process enables the production of high-quality nanoparticles at a more affordable price.



Fluence Analytics, formerly Advanced Polymer Monitoring Technologies (APMT), was founded by **Alex Reed ('08)** in 2012 as a result of commercialized technologies developed at Tulane. Through the support of the Office of Technology Transfer and the New Orleans BioInnovation Center, Fluence Analytics was able to leverage the resources needed to get off the ground and attract investors from Silicon Valley.

9.7. Economic Development Initiatives

The impact of Tulane's research and entrepreneurship efforts is felt throughout the region. Beyond the pipeline of intellectual activity and research to intellectual property to commercializable activity, Tulane engages in the regional economic development space. The University helps to cultivate an environment that attracts businesses interested in benefitting from proximity to an innovative, entrepreneurial workforce and environment. In partnership with a wide range of local stakeholders, programs, and economic development organizations to attract businesses to the region, the institution helps steer the course for the region as a competitive and vibrant future.

One recent example of Tulane's efforts is DXC Technologies, a global tech company headquartered in Virginia, which chose to expand its operations by opening an office in downtown New Orleans in order to benefit from the innovation hub fostered by Tulane. DXC plans to create 2,000 local jobs.

Tulane works closely with Greater New Orleans, Inc. (GNO), a regional economic development alliance to attract new businesses like DXC to the region and ensure the New Orleans region has the human talent that new and existing firms need. Tulane's commitment to workforce development can also be seen through its Earn & Learn Career Pathways Program, which provides young people with a paid apprenticeship at Tulane while they are taking accelerated courses taught by Bard Early College of New Orleans and the Accelerated Career Education program at Delgado Community College.

Another way that Tulane contributes to the job readiness of New Orleans residents is through its curriculum, which ensures that the knowledge and skills developed in the classroom will be transferable to future places of employment. One particularly relevant example of Tulane's commitment to teaching and training well-rounded individuals is its School of Professional Advancement (SoPA), which offers bachelor's degrees, master's degrees, and certificate programs catered towards working adults. With courses available both in-person and online, SoPA provides a flexible program to meet a variety of needs. Importantly, SoPA regularly revises its curriculum based on feedback from industry leaders to ensure that its graduates are ready to join the workforce.

The School of Professional Advancement offers Bachelor's and Master's degrees as well as numerous certifications for students to hone their expertise. Many SoPA programs are nationally-ranked programs that support the unique needs of the regional and national economy. For example, the Homeland Security Studies program prepares graduates for careers as emergency management professionals, counterterrorism analysts; federal, state, or local law enforcement or homeland security officers; cybersecurity analysts; and more.

Tulane continues to foster an entrepreneurial environment through its annual Novel Tech Challenge, organized through a collaboration among the School of Science and Engineering, the Albert LePage Center, and the Office of Technology Transfer and Intellectual Property Development. The Novel Tech Challenge asks students to solve a technical problem in an innovative and "novel" way. Participating students are asked to build a prototype of their solution to solve a real-world problem, with the winner receiving a \$5,000 grand prize to continue to foster their ideas. The 2018 Novel Tech winners were the School of Medicine students, Theodore Brown, Michelle McCarthy, Jorge Nagel, Chenchen Feng, and Thomas Ya. The team of students developed No Pressure, a non-invasive blood pressure monitoring system using portable ultrasound technology. This is just one way Tulane encourages and instills an entrepreneurial spirit in its students, which creates commercializable technology and helps to make the region more competitive through innovation and technology.

9.8. Anchoring the Region's Economic Vitality

Regions increasingly contend with one another in the worldwide competition for human capital, financial capital, entrepreneurship activity, and global reputation. **Therefore, Tulane's role as an anchor of Greater New Orleans' innovation ecosystem is arguably among its most important contributions to the region.** How regions compete, and how they are able to provide a vibrant economic and social experience for all, is through innovation. For it is innovation that keeps a place from stagnating, that puts people to work and money in motion, and that creates a virtuous cycle of activity begetting more activity.

And how innovation occurs is now understood to no longer be about the singular entrepreneur toiling away until an "a-ha" moment occurs. Rather, innovation is about intensity and diversity of interactions, yielding incremental progress until a breakthrough long thought to be impossible has now become the norm. One important aspect of fostering a competitive innovative region is continued investment in infrastructure.

Local, regional, and societal benefits depend on dense concentrations of people and activity, and such concentrations are only possible with investments in transportation and other infrastructure to safely and efficiently accommodate increasing numbers of people and activity. Said another way, strategic investments in refreshing and adding to the area's multi-modal transportation network are essential to continuing and extending Tulane's ability to densely co-locate high-end activity. The University has benefitted from and contributed to the region's transportation infrastructure as a mechanism for facilitating the quality and quantity of interactions needed to produce innovations, and welcomes continued investment to ensure that that collaborative work can continue.

Tulane is an important part of Greater New Orleans' innovation production process, for it represents a place that draws in the human capital and financial capital needed for that intensity and diversity of interactions to occur. It is the magnet that draws in that human and financial capital, and it provides the context for translating those resources into scientific discoveries, intellectual property, and commercializable technologies. **As the physical place where this innovation occurs and continues to develop in future years—with the redevelopment of Charity Hospital and other buildings on campus—Tulane's ability to support these activities that foster stronger regional competitiveness will flourish.**

Importantly, and befitting how innovation happens, Tulane encourages an inter-disciplinary and multi-stakeholder approach to all of the key research areas in which it leads. Whether infectious diseases, coastal ecosystems, or disaster recovery, Tulane's leadership brings together other participants throughout the region and around the world. This has profound implications for societal change and human advancement, but it also occurs in a specific place, with benefits to community and region alike.

10. Societal Benefits

10.1. Section Overview

As a force for good, Tulane's local impacts often have global implications. The previous two sections speak to Tulane's broader impacts in the communities it calls home—being a good neighbor in New Orleans and having a stake in the region's future competitiveness. This section describes the ways in which Tulane's core values and mission result in broader societal benefits, which often enhance the quality of life of local and regional residents and often have meaningful impacts on a far larger community.



Under President Fitts' leadership, Tulane has doubled down on broadening the reach and accessibility of its resources, as a place where students can pursue the education that they want. At Tulane, investing in a diversity of people, experiences, and disciplines is crucial—as it is through diversity that academic progress, and thus world-changing discoveries, is made. Beyond diversity, Tulane's emphasis on academic excellence and personal development promotes a culture of learning and curiosity within campus. By cultivating an inclusive intellectual community, the University seeks to create a vibrant campus that goes beyond the ivory tower and nurtures students and ideas that will have lasting impacts beyond the classroom.

10.2. The Growing Importance of Values-Led Institutions to Societal Advancement

Today, mission-driven organizations are increasingly important to advancing human knowledge, driving regional economies, and cultivating a more equitable society for all. Institutions of higher education in particular are being closely examined for the ways in which they advance society beyond the campus. With increased scrutiny to the role and value of higher education in today's economy, it is important for colleges and universities to function within a new framework that emphasizes broader social impacts. Moreover, institutions are rooted in a place and are increasingly asked to integrate their educational mission with the needs of their host communities. These institutions must be able to articulate their value proposition as a non-profit organization with a concerted focus on mission—supporting educational access and leveraging knowledge and research to advance the greater good.

This attention to societal advancement is not new for Tulane. At its core, Tulane is a values-driven institution, focused on cultivating a community of scholars that ultimately seeks to address society's greatest challenges. By instilling these values in its students as well as its faculty and staff, the University has long focused beyond knowledge for knowledge's sake. Instead, Tulane has focused on locally-serving academic programs that tackle the world's most pressing challenges, serving both the New Orleans and global community.

10.3. Affordability and Accessibility

Growing inequity, and growing anger about it, is causing people to reexamine the role of higher education in our society. In particular, because many living wage jobs in our workforce require a college degree, and a college degree is often inaccessible financially, there is an inequity in how a portion of the population can participate in this system. That is why affordability is so

important to an institution's contribution to a thriving and equitable society. But beyond that, it is also important for institutions to nurture the potential of their future students to ensure that they can achieve their potential. The education and credentialing these institutions provide remain essential in our society, so providing access that is fairly distributed is essential. Tulane's financial aid efforts and initiatives related to accessibility demonstrate how the University has embraced that framework.

Affordability

Institutions such as Tulane that have a richness of academic programs and learning resources are increasingly focused on providing an affordable education for its current and prospective students. Section 8.4 discusses in further detail the scholarships and grants provided to students from the New Orleans area and Louisiana.

In addition to supporting Louisiana students, Tulane offers the No-Loan Assistance (NOLA) program to all of its students: Full-time freshmen showing parental adjusted gross income equal to or less than \$75,000 are considered for Tulane's No Loan Assistance (NOLA). That means that Tulane ensures the cost of tuition, books, fees, and transportation will be met with a combination of scholarships, expected family contribution (EFC), and other federal grants.

Another program that enhances Tulane's affordability and access to all prospective students is the POSSE Program. Managed by the Center for Academic Equity, the initiative welcomes two ten-person cohorts of exceptional students from New Orleans and Los Angeles each year. This program, which is part of a national network run by the POSSE Foundation, offers a tightly knit community for a diverse cohort of scholars, along with full tuition. Tulane welcomed its first cohort of POSSE students in 2009.

Accessibility

Beyond striving to make Tulane affordable for all students, the University has recognized that creating accessible pathways for students within the New Orleans region is essential to the future of the region and the University. One way the University does this is by working with neighboring high schools to support local students and prepare them for college success. The University's Upward Bound program works with area high school students who qualify as low-income according to federal guidelines and

*"Access, affordability has got to be part of it...
People feel like these institutions are the
gatekeepers to success in society... they can't feel
like they're shut out and their kids are shut out."*

– Michael Fitts, President of Tulane University

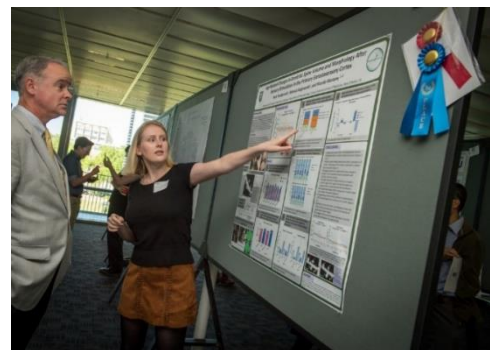
A newly-established partnership between the School of Professional Advancement and the National Guard Bureau's Homeland Security Institute allows US military service members who have completed the HSI program to transfer 9 of those credits toward certain Master's programs at SoPA, establishing a more accessible pathway toward an advanced degree for participants in the program.

who will be first generation college students. As part of the program, high school seniors spend a day on campus with their Tulane student mentors as part of the “College Kid for a Day” program, which gives Upward Bound students an opportunity to experience what a typical day at Tulane is like. Tulane continues to support first generation students through support provided by the Office of Academic Equity, which empowers first generation students by connecting them to educational resources, summer grants, and opportunities for campus involvement.

The University is a community partner to the Urban League College Track program, which begins working with students in ninth grade and supports them over a period of ten years through their time at college. Part of a larger program with a presence in ten communities nationwide, the New Orleans College Track program offers academic coaches and study groups, ACT/SAT prep, service work opportunities, and college selection and financial aid advising, among other opportunities.

10.4. A Focus on Transforming Student Lives

The programs and opportunities to support young scholars to access and afford a Tulane education is not an end to itself. The University achieves an important institutional mission by investing in students’ lives beyond the classroom and the playing field, helping them build leadership through service and engagement. This core mission is the business of shaping and molding the whole person. What Tulane offers is not just a set of goods that can be unbundled and picked and chosen, but a broader role in transforming student lives in ways that benefit society as a whole.



“You are activists, innovators and changemakers poised to shape the future of our world in earth-shattering ways.”

— Michael Fitts, President of Tulane University

Once students are at Tulane, the University makes sure that its student body is engaged and able to access the wide variety of resources that are offered. Special orientations and programs for First-Years and Sophomores encourage students to integrate with the Tulane community and get involved in community-serving initiatives and professional development

opportunities. In addition, a comprehensive network of career services programs prepares Tulane students with the tools and resources to explore career options and connect with local, national, and international employment opportunities throughout their time at the University.

Many students that come to Tulane are adventure-seeking and seek to serve their broader communities. After their time at Tulane, many alumni stay in the New Orleans region, creating change local and globally (as described in Section 7), and others may leave the region but go on to change the world, representing the Tulanian spirit of collaboration and discovery. The examples highlighted offer a few examples of the diversity of disciplines, career paths, and impacts that Tulane graduates have imparted in recent years.



Douglas G. Hurley ('88) graduated from the School of Science and Engineering and Tulane's NROTC program, becoming a Naval Aviator in 1991 serving three overseas deployments. He became a NASA pilot in 2000 and has piloted two space shuttle missions to the International Space Station. He has since been selected by NASA as one of the first astronauts to begin training private crews to complete commercial spaceflights and has been assigned to the first test flight of the Space X Dragon 2 spacecraft.



Regina Benjamin received her MBA from Tulane in 1991. Following years of practice at her solo rural health clinic in Alabama, she was elected to the board of trustees of the American Medical Association as the youngest physician to attain the position. Benjamin served as the Surgeon General of the US from 2009-2013. Benjamin's accolades include the Nelson Mandela Award for Health and Human Rights and acceptance into the MacArthur Fellows Program.



Lisa P. Jackson ('83) received her undergraduate degree from the School of Science and Engineering. After a career serving environmental agencies in 2008, President Obama selected her to serve as the Administrator of the EPA, making her the first African American to ever hold the position. There she kickstarted the US campaign to tackle greenhouse gas emissions by classifying carbon monoxide and other gases as pollutants. Jackson stepped down in 2013 and joined Apple, where she currently works as the VP of Environment, Policy, and Social Initiatives.



Matt Schwartz ('99) earned his undergraduate degree from the School of Business. He co-founded Domain Companies, a real estate development and investment firm, in 2004. The company found success in helping New Orleans recover from Katrina and has been involved in the development of over \$1 billion in mixed-use real estate. Schwartz sits as the Chairman of the Board of Liberty's Kitchen, a non-profit helping the New Orleans youth prepare for the future. He was selected by nola.com for its 300 for 300 list of impactful people in New Orleans and was awarded the T.G. Solomon Award for Entrepreneurship and Civic Engagement in 2017.



Teddy Nathan ('11) received his undergraduate degree from the School of Liberal Arts. While working as a Mayoral Fellow for Mayor Landrieu, he had the idea for NetWork Volunteers, the company he co-founded in 2014. The company works with non-profit organizations across New Orleans and helps connect them with other non-profits and volunteers. Since 2014, the company has worked with over 70 non-profits and donated over \$342,000 to local organizations while creating \$2.8 million in economic impact through volunteer labor.

10.5. Research Output with Global Implications

Society's biggest questions will only be answered through interdisciplinary collaboration. Tulane works hard to break down silos and approach problems from multiple angles. When its researchers and students work across disciplines, they are able to explore the world's most urgent issues and develop solutions.

Tulane is committed to developing a scholarly community with rich interdisciplinary knowledge and a collaborative spirit. Interdisciplinary options for undergraduate and graduate students reach across departments to generate deeper knowledge of the subjects at hand. And faculty and researchers are often engaged in projects with colleagues from other disciplines and schools. The research that comes out of these interdisciplinary partnerships is key to understanding some of the most important issues today.

The output of any institution committed to long-term social good results can be significant. In the case of Tulane, a commitment to examining locally the issues that have worldwide implications. Faculty and students at Tulane are working on some of the most pressing topics of our day, and a collaborative approach means problems are evaluated from all angles and not in a silo. Some examples of this focus on research with real world implications include the University's specialties in the areas of infectious disease, sea level rise, and disaster recovery.

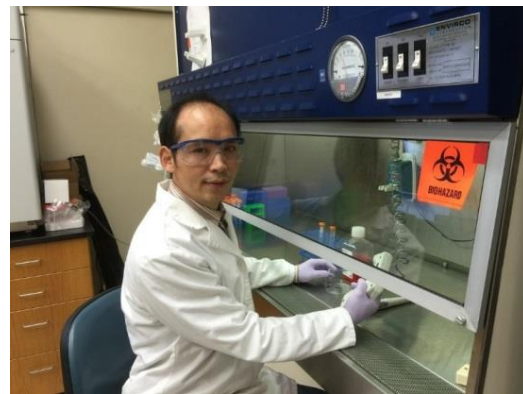


"As our home for 184 years, the health and sustainability of New Orleans as a coastal city is a top priority of Tulane University... We are proud to join the National Wildlife Federation and the leadership of the City of New Orleans as partners in securing the future of our hometown by increasing coastal research, resiliency and adaptation."

– Michael Fitts, President of Tulane University

The **Tulane Institute on Water Resources Law and Policy** conducts policy research related to water and ecosystems to support decision-makers in ensuring that resources are used responsibly today and into the future. Program areas include evaluating the economic impacts of a changing coastline on Louisiana's communities and "Louisiana Water Code," which is developing an online atlas that compares water laws across the United States. Well aware that New Orleans and Louisiana are not alone in their need to address sea level rise, the Institute is a collaborative partner with cities, businesses, universities, and other stakeholders seeking to learn from and co-develop resources on addressing sustainability and resilience.

The **Center for Applied Malaria Research and Evaluation** was established in 2013 with the mission of maximizing the public health impact of malaria programs through innovative and interdisciplinary research tools. The center works to improve malaria programs using an applied population-based evaluation process that is interdisciplinary in its approach and that builds a robust base of evidence to guide malaria control and elimination efforts in the most affected areas. The center has ongoing applied malaria research in Haiti, Zambia, Mali, Tanzania, Ethiopia, and Zanzibar. On a broader scale, local, national, and international research has spanned the major vector-borne pathogens and diseases including dengue, Zika, malaria, Chagas, filariasis, and Lyme disease. Major funders for research on tropical medicine and diseases across the University include the National Institutes of Health, the National Science Foundation, the Bill and Melinda Gates Foundation, USAID, and the Department of Defense.



The **Disaster Resilience Leadership Academy**, which offers a Master of Science in Disaster Resilience Leadership, run through the School of Social Work, “equips students with an interdisciplinary view of the challenges and best practice approaches to leadership in the disaster resilience and humanitarian aid fields.” Graduates are prepared for careers in a range of fields, including disaster risk and recovery, emergency preparedness, and grass-root development. The program teaches students based on lessons learned during the New Orleans region’s hurricane. It has supported broader rebuild and resilience efforts such as engaging in Puerto Rico’s recovery after Hurricane Maria. This type of work demonstrates the interconnectedness of so many of Tulane’s research strengths—Latin American Studies, disaster recovery.

Tulane research and scholarship are most powerful when true partnerships are made across disciplines and areas of expertise: Latin American studies, disaster recovery, public health, and sea level rise are a few examples of the value of integrating knowledge across the University. Because Tulane has excelled in these areas, a virtuous cycle has resulted in more talent and funding being drawn to support the University’s work and to reinforce attention in topics that are of importance to the city and region and that scale globally.

10.6. Beyond the Ivory Tower

A college education is not simply a bundle of goods and services – it acts as a transformational experience in the lives of many. Tulane University seeks to better both the community at large and the students within, creating a lasting impact both in New Orleans and the world through its vast network of alumni. Advocating for access and contextual understanding, Tulane University offers an experience deep in value—resulting in well-rounded students who have the academic and workforce-ready skills as well as the eagerness to address the most pressing global problems—whether that is staying local or going elsewhere and creating change in other communities.

The ethos of addressing locally relevant issues with globally-consequential implications is rooted in Tulane's foundation as a medical school treating the public health concerns of the 19th century in New Orleans. Today, that spirit persists in the University's core mission and its support for students who change the world and a commitment to advancing research and discovery on issues that affect the world. And looking ahead, Tulane's fulfillment of this mission remains strong thanks to sustained investment in the New Orleans region. Doubling down on the University's physical presence and finding new opportunities to engage and collaborate with local businesses and organizations will cultivate a stronger and more resilient campus and community.



"One of the first things you notice at Tulane is the passion of its students, faculty and staff – an infectious spirit that animates the teaching, learning, research and social life of this community. A Tulane education will provide you with the knowledge, skills and real-life experience not only to excel in your chosen field but to help bring about positive change in our world."

—Michael Fitts, President of Tulane University

11. Conclusion

11.1. Summation of Economic Impacts

Tulane's aggregate economic impact derives from direct, indirect, and induced effects in six mutually exclusive categories of economic activity directly attributable to the institution. In total, these impacts represent the local, regional, and statewide economic value of Tulane University, inclusive of Tulane University Athletics, and Tulane Medical Center. Throughout Louisiana, that benefit generates in aggregate to nearly \$3.1 billion in economic impact, supporting about 19,535 jobs, and over \$1 billion in earnings (see Table 11.3)

- Annual Operations, including the broad base of employment, procurement, and administration activities that comprise the daily activities of the institution. These impacts are estimated at \$2 billion annually within the state.
- Capital Investments, including the large-scale construction and renovation of academic facilities. These impacts are estimated at \$143 million annually within the state.
- Ancillary spending attributable to Tulane, which includes: Student and Visitor Spending, Patient and Visitor Spending, and Event Spectator Spending. These impacts are estimated at \$312 million annually within the state.
 - Student and Visitor Spending, reflecting off-campus expenditures by students and visitors drawn to the area by Tulane that support the local hospitality, food and retail industries.
 - Patient and Visitor Spending, reflecting expenditures by patients and visitors drawn to the area to seek medical care at Tulane medical facilities.
 - Event Spectator Spending, reflecting off-campus expenditures by visitors drawn to the area by Tulane athletic events that support the local hospitality, food and retail industries
- Wage Premium, reflecting the incremental earning and spending power of the local workforce attributable to the educational activities of Tulane. These impacts are estimated at \$382 million annually within the state.

In aggregate, Tulane generates an annual economic impact of approximately \$3.04 billion within the region, supporting nearly 17,895 jobs and \$1 billion in earnings (see Table 11.2). \$2.31 billion of that impact takes place within New Orleans, supporting over 13,534 jobs and \$850 million in earnings (see Table 11.1).

Figure 11.1: Aggregate Economic Impact of Tulane University in New Orleans

Impact Type	Operations	Capital Investments	Ancillary Spending⁹	Wage Premium	Total
Total Output (\$M)	\$1,761.3	\$122.3	\$277.1	\$157.4	\$2,312.1
Employment (FTE)	10,100	650	1,784	1,000	13,534
Earnings (\$M)	\$721.7	\$31.4	\$53.5	\$43.9	\$850.5

Figure 11.2: Aggregate Economic Impact of Tulane in New Orleans MSA

Impact Type	Operations	Capital Investments	Ancillary Spending	Wage Premium	Total
Total Output (\$M)	\$2,277.2	\$139.1	\$306.8	\$313.8	\$3,039.9
Employment (FTE)	13,110	720	2,065	2,000	17,895
Earnings (\$M)	\$875.1	\$35.2	\$62.2	\$95.3	\$1,067.8

Figure 11.3: Aggregate Economic Impact of Tulane in Louisiana

Impact Type	Operations	Capital Investments	Ancillary Spending	Wage Premium	Total
Total Output (\$M)	\$2,304.7	\$143.1	\$311.7	\$381.7	\$3,141.2
Employment (FTE)	13,310	730	2,095	3,400	19,535
Earnings (\$M)	\$881.4	\$36.1	\$64.2	\$113.7	\$1,095.4

It is important to note that these impacts reflect Tulane’s economic footprint as of today. As the University’s current and future capital investments take hold and grow its presence locally and globally, so too will Tulane’s economic impact continue to grow.

These economic impacts additionally produce tax revenues for various government jurisdictions, contributing to the funding of essential public services and public education. Therefore, while Tulane is tax-exempt, it is still tax-generating. In particular, it produces a significant amount of tax revenues for the State of Louisiana government through the economic impact resulting from its annual operations, capital investments, spending of the visitors drawn its campuses and facilities, and the increased household earnings enjoyed by its alumni. Across the six non-overlapping economic impact categories analyzed in this report, it is estimated that Tulane generates \$53.8 million in tax revenues each year for the State (see Table 11.4).

⁹ Ancillary spending is the sum of Student and Visitor Spending, Patients and Visitor Spending, and Event Spectator Spending.

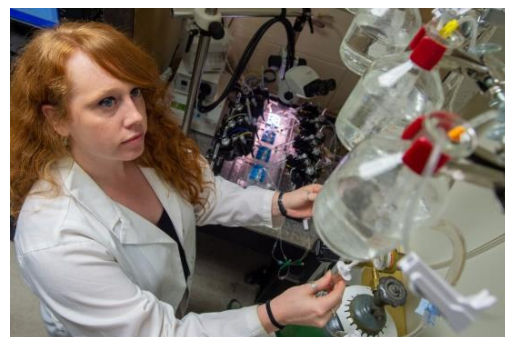
Figure 11.4: Aggregate Tax Revenue Impact to the State of Louisiana

Impact Type	Operations	Capital Investments	Ancillary Spending	Wage Premium	Total
Income (\$M)	\$20.4	\$0.4	\$0.7	\$6.8	\$28.4
Sales (\$M)	\$13.6	\$1.2	\$3.5	\$3.9	\$22.1
Business (\$M)	\$1.5	\$0.1	\$1.2	\$0.4	\$3.3
Additional Tax Payments	\$6.1				
Total	\$41.6	\$1.8	\$5.4	\$11.1	\$53.8

11.2. Summation of Value Proposition

This analysis has produced a set of headline expenditure, employment, and tax revenue impacts attributed to Tulane's presence in New Orleans and the region. It is important to remember beyond the economic footprint that these returns are achieved in ways that benefit the local community, support the region's competitive edge, and contribute to global progress. Tulane's core mission is the education of its students, care for its patients, and service to the New Orleans community; and in pursuing this mission, the University generates societally-meaningful benefits such as generating knowledge, advancing medical care and discovery, and contributing to a vibrant and attractive place for talent and business alike.

- Tulane serves as an anchor institution within New Orleans, which means it has a vested interest in relationship with and vibrancy of the surrounding community.
- The University is a major player in the city's and region's economy; local economies do not remain stagnant and Tulane is ensuring that New Orleans remains competitive for human talent, financial capital and commercial activity.
- Ultimately, Tulane exists for the public good. It lives out this value every day, investing in students, practicing inclusivity, and improving the quality of life for the region's residents. While locally serving, this focus on addressing the issues facing New Orleans results in discoveries, innovations, treatments, and knowledge that are broadly applicable and have global benefit as well.



Hence, this report has come full circle. It commenced by recognizing that while Tulane is known as a place for academics, research, and service, it also represents a significant economic footprint that

creates business activity, supports jobs, and generates tax revenues in the city and state. That economic impact comes from its operations and capital investments. It is also produced by the spending Tulane draws into the region by students, visitors, athletics spectators and participants, and patients and their caregivers. And it also results from the increased earning power of Tulane alumni living in the city and state. All told, Tulane as an enterprise produces a \$3.14 billion annual impact on the state economy, supporting over 19,535 jobs within the state and generating \$53.8 million in tax revenues for State government every year.

But it is important, in acknowledging these economic impacts, to not lose sight of the work Tulane does to achieve them. For it is that work – educating students, conducting ground-breaking research, supporting entrepreneurial ventures, and creating local benefit – that makes those economic impacts so large and so profound. It is what draws human and financial resources into the region, creating a virtuous cycle of activity, output, and reputation. It is what changes local communities, makes the region more competitive, and ultimately advances human knowledge. This is the totality of Tulane University's economic impact narrative, one with many chapters, all of which point to an institution that has been and continues to be a force for good in the city, the region, the state, and beyond.

A. Technical Appendix

This technical appendix details the calculations, inputs and assumptions used to model the economic impact of the Horizon's proposed form change relative to the status quo over the 2019-2020 period. The appendix seeks to document the methodology in a comprehensive fashion, and accordingly may repeat descriptions or figures that also appear within the report.

The Technical Appendix is organized as follows:

- A.1 Report Scope and Methodology
- A.2 Economic Impact from Operations (detailed)
- A.3 Ancillary Spending Detail
- A.4 Wage Premium Detail
- A.5 About Econsult Solutions, Inc.

A.1 Report Scope and Methodology

The purpose of this appendix is to highlight the scope and methodology of this report and of the quantitative analysis tools used in it, so that its findings can be properly understood and interpreted. Additional detail on the methodology and data sources used to calculate the direct economic impact in each component category and the economic and fiscal modeling undertaken can be found in the appendices that follow.

Economic and fiscal impacts are calculated in four categories of activity: Tulane's expenditures on operations, Tulane's expenditures on capital investments, ancillary spending (students and their visitors, patients and their visitors, Athletics), and wage premium. Impacts are calculated on an annual basis, and are undertaken in non-overlapping fashion, meaning that they can be summed to represent aggregate impact. The goal of this analysis is to quantify the current annual level of economic activity associated with Tulane. Data inputs on institutional activity are largely provided by the University, and are verified and supplemented with other public data sources. In addition, assumptions are at times required to estimate the level of activity where direct data are not available. These assumptions are anchored in research and available information and are detailed transparently throughout the report and appendices.

For each input, the most recent and appropriate available dataset is utilized. In the case of institution data, this information often but not always covers FY 2018 (the most recently completed fiscal year). In the case of capital investments, activity levels are averaged over multiple years to generate an appropriate assessment of typical annual activity. Therefore, the analysis should be understood to represent the current annualized level of activity, rather than representing the impact for any specific fiscal year.

The geographies of interest for this study are New Orleans, the New Orleans MSA, and the State of Louisiana. Economic impacts are calculated for each of these geographies, while tax revenue impacts are calculated for New Orleans and Louisiana.

Economic impact analyses can estimate the magnitude of either the net or gross impact of its subject. A net impact analysis, which sometimes takes the form of a cost-benefit analysis, develops a "counterfactual" that overall impact amounts are netted against impact levels that might have occurred anyway in place of the subject's existence and operations. This form of analyses, while appealing in its economic logic, is often highly speculative. In this case, such an analysis would require modeling an alternative development path for the local and regional economy over decades absent Tulane. This report takes a gross, rather than net, approach to measuring Tulane's economic impact. With this approach, the direct, indirect, and induced activity associated with Tulane is estimated without accounting for potential offsetting increases in activity in other institutions or sectors absent the University. Therefore, economic impact figures implicitly represent a comparison of current activity levels to a scenario in which the institution does not exist, and all other activity within the economy is held constant.

It should also be noted that impacts are only estimated in four categories that are common to economic impact studies, and for which data sources and calculation frameworks are well-defined. However, these categories do not represent the only potential economic impacts of Tulane, which contributes to knowledge activity in ways that defy straightforward quantification. Thus, while aggregate results in this analysis are gross rather than net, they are conservative as to the categories of impact that can be reliably measured.

A.2 Economic Impact from Operations

Economic impact estimates are generated by estimating the initial amount of direct activity occurring within each geography of interest and then using input-output models to translate this direct economic activity into the total amount of economic activity that it supports. Expenditures within a given geography give rise to “spillover” impacts when those dollars are recirculated to suppliers and to employees within the local and state economy. In so doing, they also support additional employment and earnings, and generate tax revenue for local governments and for the State of Louisiana

ESI has constructed an input-output model of the regional and state economy using IMPLAN software to estimate the total impact of these expenditures. The detail that follows explains briefly the theory behind input-output modeling, the mechanics of utilizing it to estimate economic and employment impacts, and the fiscal model utilized to estimate tax revenue impacts to local and state government.

Overview

Economic impact estimates for annualized capital and operating activity are generated by utilizing input-output models to translate an initial amount of direct economic activity into the total amount of economic activity that it supports, which includes multiple waves of spillover impacts generated by spending on goods and services and by spending of labor income by employees. In an inter-connected economy, every dollar spent generates two spillover impacts:

- First, some amount of the proportion of that expenditure that goes to the purchase of goods and services gets circulated back into an economy when those goods and services are purchased from local vendors. This represents what is called the “indirect effect,” and reflects the fact that local purchases of goods and services support local vendors, who in turn require additional purchasing with their own set of vendors.
- Second, some amount of the proportion of that expenditure that goes to labor income gets circulated back into an economy when those employees spend some of their earnings on various goods and services. This represents what is called the “induced effect,” and reflects the fact that some of those goods and services will be purchased from local vendors, further stimulating a local economy.

The role of input-output models is to determine the linkages across industries in order to model out the magnitude and composition of the spillover impacts to all industries of a dollar spent in any one industry. Thus, Tulane’s total economic impact is the sum of its own direct economic footprint, plus the indirect and induced effects generated by that direct footprint. Indirect and induced impacts grow at each successive level of geography, due both to more purchasing and recirculation activity happening within the larger geography and to a greater capture of downstream activity. For example, procurement that takes place elsewhere in the region outside of New Orleans increases its New Orleans MSA impact relative to its New Orleans Parish impact.

Input-Out Mechanics

To model the impacts resulting from the direct expenditures, ESI developed a customized economic impact model using the IMPLAN input/output modeling system. IMPLAN represents an industry standard approach to assess the economic and job creation impacts of economic development projects, the creation of new businesses, and public policy changes within a parish/county on its surrounding area.

IMPLAN has developed a social accounting matrix (SAM) that accounts for the flow of commodities through economics. From this matrix, IMPLAN also determines the regional purchase coefficient (RPC), the proportion of local supply that satisfies local demand. These values not only establish the types of goods and services supported by an industry or institution, but also the level in which they are acquired locally. This assessment determines the

multiplier basis for the local and regional models created in the IMPLAN modeling system. IMPLAN takes the multipliers and divides them into 536 industry categories in accordance to the North American Industrial Classification System (NAICS) codes.

The IMPLAN modeling system also allows for customization of its inputs which alters multiplier outputs. Information from Tulane on the location of its purchasing and the residential location of its employees and alumni are used to refine IMPLAN's calculation of purchasing patterns where appropriate to generate more customized estimates of indirect and induced impact. Importantly, procurement and employee locations are perfectly analogous to the indirect (supply chain) and induced impacts (labor income) effects within an area, both because initial expenditures trigger multiple waves of recirculation with various suppliers and because employees that live in one jurisdiction may still spend their earnings in part in another jurisdictions, particularly if it is where they work. To incorporate Tulane-specific information while retaining the impact of broader geographic spending patterns, local purchasing and employment information for New Orleans is averaged with patterns assumed by IMPLAN from industrywide data to yield the local activity assumption used to model indirect and induced impacts.

Figure A.1: Annual Economic Impact of Tulane University (excluding Tulane Athletics) Operations within New Orleans, New Orleans MSA, and Louisiana

Economic Impact	New Orleans		
	New Orleans	MSA	Louisiana
Direct Output (\$M)	\$734	\$759	\$759
Indirect and Induced Output (\$M)	\$444	\$553	\$568
Total Output (\$M)	\$1,177	\$1,311	\$1,326
Employment (FTE)	8,330	9,210	9,290
Earnings (\$M)	\$537	\$577	\$581

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

Figure A.2: Annual Economic Impact of Tulane Athletics Operations within New Orleans, New Orleans MSA, and Louisiana

Economic Impact	New Orleans		
	New Orleans	MSA	Louisiana
Direct Output (\$M)	\$30	\$30	\$30
Indirect and Induced Output (\$M)	\$14	\$16	\$16
Total Output (\$M)	\$44	\$46	\$46
Employment (FTE)	200	210	210
Earnings (\$M)	\$15	\$16	\$16

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

Figure A.3: Annual Economic Impact of Tulane Medical Center Operations within New Orleans, New Orleans MSA, and Louisiana

Economic Impact	New Orleans	New Orleans MSA	Louisiana
Direct Output (\$M)	\$344	\$548	\$548
Indirect and Induced Output (\$M)	\$196	\$372	\$384
Total Output (\$M)	\$540	\$920	\$932
Employment (FTE)	2,500	4,700	4,800
Earnings (\$M)	\$169	\$282	\$285

Source: Tulane University (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

Tax Revenue Impacts

The direct, indirect and induced economic output from Tulane’s activity produce increases in various tax bases, which in turn lead to increased tax revenue collections for local governments and for the State. While IMPLAN produces estimates of these tax revenue amounts, ESI does not utilize these results directly. Instead, we utilize a custom fiscal model that relies on the known relationships between various types of economic activity and tax collections (i.e. effective tax rates) to translate the increases in activity estimates by IMPLAN into attendant tax revenue results for the State of Louisiana.

For a non-profit entity such as Tulane University, care must also be given to ensure that taxable and non-taxable activity types are properly distinguished. Most notably, Tulane’s direct activity is not subject to any sales, income or property tax. However, income generated by Tulane’s employment footprint is subject to local wage tax and Louisiana income tax. In addition, the indirect and induced impact of Tulane’s activity as it ripples throughout the economy occurs broadly within the private sector of the economy, and is therefore understood to be tax generating. In addition, the additional earnings of alumni attributable to the wage premium provide a significant boost to the state’s income tax base. It is important to note that while local economies within the region are wholly contained within the Louisiana economy, local and State governments are separate and distinct entities with distinct tax bases and revenues. Therefore, fiscal impacts do not overlap – each represents distinct tax revenues generated to the respective governments.

In addition, it is acknowledged that Tulane’s activity also generates taxable activity within and therefore tax revenues to additional jurisdictions besides New Orleans and State of Louisiana, including within suburban jurisdictions throughout the region. These amounts are much smaller than the ones calculated here, and are excluded from this analysis.

Figure A.4: Estimated Annual Tax Revenue Impact from Tulane University Operations and Athletics within New Orleans and the State of Louisiana (in \$M)

Tax Type	City of New Orleans	State of Louisiana
Income Tax (\$M)	-	\$17.2
Sales Tax (\$M)	\$2.3	\$6.0
Business Tax (\$M)	-	\$0.7
Miscellaneous Payments (\$M)		\$6.1
Total Tax Revenue	\$2.3	\$30.0

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

Figure A.5: Estimated Annual Tax Revenue Impact from Tulane Medical Center Operations within New Orleans and the State of Louisiana (in \$M)

Tax Type	City of New Orleans	State of Louisiana
Income Tax (\$M)	-	\$3.2
Sales Tax (\$M)	\$2.1	\$7.6
Business Tax (\$M)	-	\$0.8
Total Tax Revenue	\$2.1	\$11.6

Source: Bureau of Governmental Research (2019), Louisiana Department of Revenue (2019), IMPLAN (2015), Econsult Solutions, Inc. (2019)

A.3 Ancillary Spending Detail

Calculating ancillary visitor spending requires an estimation of the volume and type of visitors that come to UW Athletics events for various reasons, and the application of spending profiles to each of those visitor types. As detailed in Section 4 to 6, data provided by Tulane provided the volume of visitors, which we then sorted by visitor category using attendance data, ticket sales data, and industry estimates: 1) students/local, 2) regional (day trip), and 3) overnight (see Figure A.6). For students, spending profiles were developed by 1) On-Campus, 2) Off-Campus, and 3) Commuters.

Figure A.6: Volume of Students/Visitors by Category

	On-Campus	Off-Campus	Commuters
Tulane Students	4,700	8,600	700
		Regional	
	Local	(day trip)	Overnight
Visitors to Tulane University	15,396	4,017	67,160
Tulane Medical Center Patients and Visitors	226,200	5,400	300
Tulane Athletics Events Visitors	74,784	42,394	90,911

Source: Tulane University (2019)

Spending profiles were developed by visit type to reflect that visitor spending patterns vary based on point of origin (local vs. out of town), reason for visit, and other factors. Unique spending patterns were estimated for each visitor category using available proxy data on national travel trends and local hotel rates.

Figure A.7 shows the spending profiles of each visitor type by expenditure category. All ancillary spending within Figure A.8 is estimated to take place within Louisiana, except for transportation, as overnight visitors are more likely to spend their transportation dollars somewhere else and not within the Wisconsin economy. Then each spending category is further reduced by geography. Since every visitor is likely to spend different amounts throughout the state, an adjustment is needed to estimate how much spending actually takes place within the city, within the New Orleans MSA, and within Louisiana.

Figure A.7: Spending Profile per Student/Visitor Type

	Housing/ Lodging	Food	Transportation	Retail	Spend per Student/Visitor
Students					
On-Campus	\$0	\$300	\$700	\$1,600	\$2,600
Off-Campus	\$12,900	\$4,700	\$1,000	\$1,700	\$20,300
Commuters	\$0	\$500	\$900	\$1,700	\$3,100
Visitors to Tulane University					
Local	\$0	\$0	\$0	\$0	\$0
Regional	\$0	\$33	\$29	\$25	\$87
Overnight	\$78	\$50	\$44	\$50	\$221
Tulane Medical Center Patients and Visitors					
Local	\$0	\$0	\$0	\$0	\$0
Regional	\$0	\$33	\$44	\$13	\$89
Overnight	\$78	\$50	\$11	\$25	\$163
Tulane Athletics Event Visitors					
Local	\$0	\$0	\$0	\$0	\$0
Regional	\$0	\$33	\$29	\$25	\$87
Overnight	\$78	\$50	\$44	\$50	\$221

Source: Tulane University (2019), Econsult Solutions, Inc. (2019), General Services Administration (2019), Kayak.com (2019)

Figure A.8: Estimated Ancillary Spending Captured within Each Exclusive Geography

	New Orleans	New Orleans MSA	Louisiana
Lodging	95%	100%	100%
Food	95%	100%	100%
Transportation	50%	75%	80%
Other Retail	95%	100%	100%

Source: Econsult Solutions, Inc. (2019)

After developing the spending profile for each visitor category and event category, and then making an adjustment to where these visitors are actually spending within the respective geographies, Figure A.9 then shows the total spending estimates by spending category within the respective geographies.

Figure A.9: Total Ancillary Spending

	Total Ancillary Spending	New Orleans	New Orleans MSA	Louisiana
Housing/Lodging				
Students	\$104.56	\$104.56	\$104.56	\$104.56
Visitors to Tulane University	\$5.89	\$5.59	\$5.89	\$5.89
Tulane Medical Center Patients and Visitors	\$0.03	\$0.03	\$0.03	\$0.03
Tulane Athletics Event Visitors	\$7.28	\$6.92	\$7.28	\$7.28
Food and Beverage				
Students	\$39.66	\$39.49	\$39.61	\$39.66
Visitors to Tulane University	\$7.69	\$7.31	\$7.69	\$7.69
Tulane Medical Center Patients and Visitors	\$0.21	\$0.20	\$0.21	\$0.21
Tulane Athletics Event Visitors	\$6.09	\$5.78	\$6.09	\$6.09
Local Transportation				
Students	\$11.41	\$10.56	\$11.38	\$11.41
Visitors to Tulane University	\$5.35	\$3.35	\$5.02	\$5.35
Tulane Medical Center Patients and Visitors	\$0.19	\$0.12	\$0.18	\$0.19
Tulane Athletics Event Visitors	\$4.16	\$2.60	\$3.90	\$4.16
Retail and Entertainment				
Students	\$16.60	\$8.65	\$16.15	\$16.60
Visitors to Tulane University	\$7.66	\$7.28	\$7.66	\$7.66
Tulane Medical Center Patients and Visitors	\$0.08	\$0.08	\$0.08	\$0.08
Tulane Athletics Event Visitors	\$5.63	\$5.35	\$5.63	\$5.63
SUM				
Students	\$172.23	\$163.26	\$171.69	\$172.23
Visitors to Tulane University	\$26.59	\$23.52	\$26.26	\$26.59
Tulane Medical Center Patients and Visitors	\$0.51	\$0.42	\$0.50	\$0.51
Tulane Athletics Event Visitors	\$23.16	\$20.65	\$22.90	\$23.16
Total (\$M)	\$222.50	\$207.86	\$221.35	\$222.50
(Retail margin deduction) (\$M)		(\$10.92)	(\$15.58)	(\$15.84)
Modeled Ancillary Spending		\$196.94	\$205.78	\$206.66

Source: Tulane University (2019), Econsult Solutions, Inc. (2019)

A.4 Wage Premium Detail

Institutions of higher learning have an enduring effect on the earning potential of their graduates through their core educational mission. The link between educational attainment and earnings power is well-established, and a “wage premium” associated with additional education is often conceptualized and calculated from the perspective of the student, who can then compare the costs associated with various educational (or non-educational) options with the expected return. This analysis utilizes this framework to estimate the gain from that earning potential not to the student but rather to the local and state economy.

The presence of these skilled graduates in the workforce has two quantifiable effects on earnings within a given geography:

- A university increases the educational attainment level of the local workforce, which can be translated into increased earnings based on the established relationship between educational attainment and wages.
- Universities may have a specific wage premium associated with the knowledge and credentials they impart, above and beyond earning power associated with a particular degree level. The selectivity of Tulane University and the quality of the educational experience it offers manifests itself in additional wage premium for its graduate above and beyond the average degree-holder.

Calculating the direct wage premium within each geography is undertaken in a three-step approach:

1. First, the number of Tulane alumni in the workforce in each geography of interest (New Orleans, New Orleans MSA, and Louisiana), and the degree level of those alumni are estimated
2. Next, the annual wage premium attributable to the Tulane degree for each of those attainment levels and geographies.
3. Finally, the two calculations are combined, multiplying the volume of alumni in the workforce by the annual wage premium in each geography and attainment level to yield an estimate of the aggregate annual wage premium attributable to Tulane.

Additional earnings by alumni in the local and state workforce attributable to the education and credentialing they received at Tulane are then translated into additional household spending (accounting for factors like savings and taxes). This household spending turn supports further employment and earnings, the impacts of which are modeled through the standard input-output techniques described in Appendix A.1.

Alumni within the Workforce by Geography

The link between additional location and location of employment is central to the notion of institutionally driven wage premium in the local economy. While the portion of college graduates retained within a local workforce varies (based on the particulars of the institution, its student body, and the geographies in question) post-graduation location decisions are impacted by educational experience, with a clear correlation between locations during and after schooling.¹⁰

¹⁰ See, for example: Groen, J.A. (2004). “The Effect of College Location on Migration of College-Educated Labor.” *Journal of Econometrics*, 121(1), 125-142.

The presence of a selective institution like Tulane has a significant impact on the composition, educational attainment, and skill level of the local workforce. From an economic standpoint, Tulane graduates living and working within the region and state are either imported to those geographies (in the case of students originating from around the nation and the world) or retained within those geographies (in the case of students originating within those geographies who are retained due to the presence of the University).

Tulane's alumni database includes over 140,000 alumni. Alumni are listed with current known address and degree awarded. From this, the number of alumni and whether they received a bachelor's or advanced degree is determined for each geography of interest.

Next, the proportion of alumni within each geography that are actively employed, and therefore generate an annual wage premium, is estimated. National data from the Bureau of Labor Statistics indicates that the national employment to population ratio for degree holders ages 25 and older is 72 percent.¹¹ This ratio is applied equally to alumni in each geography to estimate the proportion currently in the workforce (see Figure A.10).

Figure A.10: Estimated Tulane Alumni within the Workforce by Geography

Category	New Orleans			
	Total	New Orleans	MSA	Louisiana
Total Louisiana Alumni	30,800			
Bachelor's Alumni (#)		4,700	4,100	2,000
Advanced Alumni		6,600	5,700	2,800
Workforce Participation Rate	72%			
Bachelor's Alumni in Workforce (#)		3,400	2,900	1,400
Advanced Alumni in Workforce (#)		4,700	4,100	2,000

Source: Tulane University (2019), Bureau of Labor Statistics (2019), Econsult Solutions, Inc. (2019)

Alumni Earnings by Residential Location

Payscale data represents a robust source of information on the current earnings the alumni of different higher education institutions. Self-reported alumni earnings data, based on alumni profiles submitted to the site, can be sorted by institution and degree type to understand typical earnings for Tulane alumni.

Earnings data by the level and type of degree is matched to the share of degree types granted by Tulane in 2018 as a proxy for the average earnings for alumni with bachelor's degrees and advanced degrees.¹² Since detailed earnings information is not available for doctoral degrees, earnings for the most similar master's degree are utilized for doctoral recipients. The weighted average of earnings by degree type are calculated as \$63,900 for bachelor's degree holders and \$75,700 for advanced degree holders.

¹¹ This proportion is itself comprised of a labor force participation rate of approximately 72 percent. Thus, the vast majority of non-working alumni are anticipated to be out of the labor force, rather than actively seeking employment but unable to find it. Note that this national figure may be conservative due to the selective nature of Tulane and its graduates.

¹² It is acknowledged that Payscale earnings data are an imperfect proxy for the average earnings of all Tulane graduates, and that the share of degrees awarded in the most recent year is an imperfect proxy for the mix of fields of study among all alumni. However, this data source has significant advantages over the most frequently cited measure of alumni earnings by institution, the College Scorecard publishes by the US Department of Education, which evaluates earnings only for those students who have applied for federal loans and only at a single point in time, ten years after filing (which is frequently just 5-6 years after graduation).

Alumni Earnings Premium

The link between educational attainment and earnings is well established, with Census Bureau data demonstrating a significant increase in median earnings for each increase in degree level. Increased earnings enjoyed as a result of schooling are a market-based representation of the additional productivity associated with those workers, and ultimately result in additional household spending within the local economy on other goods and services.

Returns on education are also impacted by the specific university that a student attends, due to variation in both institutional quality and fields of study offered.¹³ Institutions of higher education vary widely in selectivity, curricular rigor, and reputation. These qualitative factors are also reflected in the earnings potential of graduates above and beyond the level of degree attained. Academic research has demonstrated a clear correlation between the selectivity of higher education institutions and the earnings of its graduates, which again reflects a market-based valuation of enhanced productivity.¹⁴

Payscale data indicates that Tulane graduates earn a considerable premium above median earnings by educational level, in comparison to the state of Louisiana earnings by degree type as reported in the American Community Survey. Since students may have completed advanced studies within ten years after undergraduate enrollment, the \$61,900 figure is most appropriately compared to a blended average of the median salaries for bachelor's and advanced degree holders statewide, which is approximately \$52,600. This differential indicates that a bachelor's degree from Tulane is associated with a wage premium of 22 percent relative to the average bachelor's degree.

No similar data has been identified to calculate the incremental earnings potential associated with advanced degrees from specific institutions. Earnings for advanced degree holders tend to vary significantly by field of study, which may represent a stronger determinant of earnings potential than institutional selectivity. Accordingly, the premium observed for Tulane advanced degree holders is conservatively estimated by scaling down the premium observed for Tulane undergraduates by 50 percent, yielding an estimated advanced degree premium of 11 percent.

The percentage premiums by degree type are then applied to the median wage by educational attainment within each geography of interest to yield estimated earnings for Tulane alumni by degree level within each geography (see Figure A.11). This approach accounts for the fact that average earnings vary by geographic area, and adjusts the estimated Tulane alumni earnings and the resulting wage premium accordingly.

¹³ For a detailed overview of anticipated lifetime earnings by degree type, see Webber, D (2014). "The Lifetime Earnings Premia of Different Majors: Correcting for Selection Based on Cognitive, non-Cognitive, and Unobserved Factors." *Labour Economics*, Volume 28, June 2014, 14-23.

¹⁴ See for example: Hoxby, C. (2015). "Computing the Value-Added of American Postsecondary Institutions." Internal Revenue Service Statistics of Income Division Working Paper, July 2015; and Monks, J. (2000). "The Returns of Individual and College Characteristics: Evidence from the National Longitudinal Survey of Youth." *Economics of Education Review*, 19, 279-289.

Figure A.11: Estimated Alumni Earnings by Degree and Location

Category	Total	New Orleans	Rest of New Orleans MSA	Rest of Louisiana
Earnings Premium				
Median Earnings	\$63,900			
Median Earnings - Louisiana Bachelors	\$52,600			
Tulane Earnings Premium - Bachelors	22%			
Est. Premium discount - Advanced	-50%			
Tulane Earnings Premium - Advanced	11%			
<i>Median Earnings</i>				
Bachelor's Degree		\$42,900	\$50,300	\$48,200
Bachelor's Degree - Tulane	22%	\$52,200	\$61,200	\$58,600
Advanced Degree		\$59,100	\$64,700	\$58,600
Advanced Degree - Tulane	11%	\$65,400	\$71,700	\$64,900

Source: Tulane University (2019), Payscale (2019), Econsult Solutions, Inc. (2019)

Importantly, the gains to the regional economy from the wage premium conferred by a selective institution like Tulane are not necessarily equivalent to the gains that individual students might experience. In general, it is difficult to disentangle the extent to which earnings gains are driven by an institution attracting talented students (who might achieve some or all of that premium at an alternative institution) from the “value-add” that the institution itself provides to alumni earnings relative to its peers.

From the perspective of the regional economy, both gains attributable to retaining and attracting talented students to the region and gains from the “value-add” provided by the institution contribute to higher productivity and earnings for regional workers. Therefore, no precise allocation of “credit” between institutions and students is required to assess the household earnings impact. However, it is important for the analysis to recognize that alumni earnings are not purely additive to the regional economy, since alternative potential employees exist for any particular job within a given geography.

In keeping with the “gross impact” modeling approach utilized throughout this report, this analysis assumes that the overall level of employment within each geography of interest is fixed with or without the presence of Tulane. The impact accruing to the economy is therefore not the full salary earned by Tulane alumni, but the incremental portion of that salary attributable to a) the level of their degree and b) the “value-add” for that degree level conferred by Tulane. This approach in effect assumes that the absence of Tulane would result in a substantial loss in the educational attainment level, and accordingly the productivity, of the regional workforce. In order to absorb this loss (while maintaining a fixed employment level) jobs held by Tulane alumni are assumed to “filter down” to workers with a lower education level, with jobs held by alumni with bachelor’s degrees absorbed by workers with associate’s degrees, and jobs held by alumni with advanced degrees absorbed by workers with bachelor’s degrees.

This framework is implemented by comparing estimated earnings for Tulane graduates by geography and degree level (as calculated in Table B.X) to average earnings by geography for workers of one lower degree level. Estimated earnings for Tulane bachelor’s degree holders in each geography are therefore compared to associate’s degree earnings in the same geographies to calculate a wage premium for a Tulane bachelor’s degree, and

estimated earnings for Tulane advanced degree holders within each geography are compared to average earnings for bachelor's degree holders to calculate a wage premium for a Tulane advanced degree (see Figure A.12).

Figure A.12: Estimated Tulane Wage Premium by Geography

Category	Degree Level	New Orleans	Rest of New Orleans MSA	Rest of Louisiana
<i>Tulane Bachelor's Degree</i>				
Without Tulane	Associates	\$28,500	\$35,200	\$32,300
With Tulane	Bachelor's	\$52,200	\$61,200	\$58,600
Wage Premium - Bachelor's		\$23,600	\$26,000	\$26,300
<i>Tulane Advanced Degree</i>				
Without Tulane	Bachelor's	\$42,900	\$50,300	\$48,200
With Tulane	Advanced	\$65,400	\$71,700	\$64,900
Wage Premium - Advanced		\$22,500	\$21,400	\$16,700

Source: Econsult Solutions, Inc. (2019)

Aggregate Earnings from Tulane Wage Premium by Geography

The aggregate alumni earnings impact from the alumni wage premium in each geography can be derived by combining the estimated volume of alumni in the workforce in each geography with the estimated per alumni premiums. Calculations are undertaken first for alumni in New Orleans, and then are applied in sequence for each larger geography. These results are then summed to represent the total impact in the larger geography (see Figure A.13).

Figure A.13: Aggregate Annual Wage Premium Associated with Tulane Alumni in the Workforce

Degree Level	New Orleans	New Orleans MSA	Louisiana
Bachelor's Degree			
Volume of Working Alumni	3,400	2,900	1,400
Wage Premium	\$23,600	\$26,000	\$26,300
Total Working Alumni (\$M)	\$80	\$76	\$38
Advanced Degree			
Volume of Working Alumni	4,700	4,100	2,000
Wage Premium	\$22,500	\$21,400	\$16,700
Total Working Alumni (\$M)	\$107	\$87	\$33
Grand Total – Regionally Exclusive (\$M)	\$187	\$163	\$71
Grand Total – Regionally Inclusive (\$M)	\$187 million	\$350 million	\$421 million

Source: Tulane University (2019), Econsult Solutions, Inc (2019)

Importantly, while the alumni who achieve these additional earnings are spread across graduation classes from several decades, the earnings premium is a “snapshot in time” that captures incremental earnings for a given year. This premium will be repeated in subsequent years (modified for an additional class of graduates, alumni dropping out of the workforce, changes in earning power, etc.). This annualized impact can therefore be aggregated with the other impact categories capture in this report.

The increase in household earnings is translated into household spending in order to model its impact on the economy within each geography. As described in Section 7, this process deducts a portion of earnings that do not result in additional spending (such as taxes, savings, etc.) and then estimates the total impacts of the remaining incremental household spending on economic output, employment, and wages.

A.5 About Econsult Solutions, Inc.

This report was produced by Econsult Solutions, Inc. (“ESI”). ESI is a Philadelphia-based economic consulting firm that provides businesses and public policy makers with economic consulting services in urban economics, real estate economics, transportation, public infrastructure, development, public policy and finance, community and neighborhood development, planning, as well as expert witness services for litigation support. Its principals are nationally recognized experts in urban development, real estate, government and public policy, planning, transportation, non-profit management, business strategy and administration, as well as litigation and commercial damages. Staff members have outstanding professional and academic credentials, including active positions at the university level, wide experience at the highest levels of the public policy process and extensive consulting experience.