



ECONOMIC IMPACT REPORT 2018



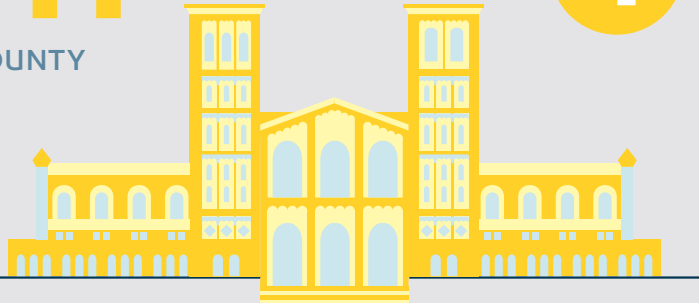
UCLA IS THE

FOURTH

4

LARGEST EMPLOYER IN L.A. COUNTY

UCLA ranks fourth, behind the county and city governments and the Los Angeles Unified School District, and ahead of such noteworthy private enterprises as Target and Northrop Grumman.



DURING THE 2016-2017 FISCAL YEAR,
UCLA HAD A TOTAL IMPACT OF

\$11.06 BILLION

ON THE CALIFORNIA ECONOMY.

Total impact includes output (the value of industry production in each regional economy), employment (the number of full-time equivalent jobs created or supported) and labor income (all forms of employment income, including wages and benefits).

A total impact
of just over



in the city of
Los Angeles

UCLA Health Sciences alone had a total impact of \$6.49 billion on the California economy and \$2.39 billion in the City of Los Angeles.

MORE THAN 72,700 FULL-TIME JOBS

THROUGHOUT THE STATE OF CALIFORNIA WERE SUPPORTED BY THE SPENDING ACTIVITY OF UCLA.



- In the city of Los Angeles, UCLA accounted for just under **28,000** jobs.
- For the region, the university supported almost **69,000** full-time workers.
- Total employee compensation topped **\$4 billion** statewide — **\$3.8 billion** in Southern California and **\$1.6 billion** in the city of Los Angeles.

UCLA has also had significant influence on the city in a less quantifiable way, through its social impacts. This includes a myriad of activities, from the thousands of students and alumni who volunteer every year, to the financial, information, health-care and professional firms more highly concentrated around UCLA compared to the county overall, which also gives students access to good jobs and internships.

**UCLA helped generate
\$706.1 million in tax revenue
throughout California.**



*launched using UCLA-developed
technology during the 2016-2017
fiscal year.*

Each year, inventors from the university as well as entrepreneurs from around the country make use of scientific and technological research done by UCLA. The university holds equity in six of the companies launched in 2016-2017.

DURING THE 2016-17 FISCAL YEAR,



U.S. PATENTS WERE ISSUED TO UCLA



During the same year, **70** UCLA inventions were licensed to companies for commercial use. Overall, **1,226** U.S. patents are held by the university.

Each patent icon = 12 patents



SINCE THE YEAR 2000, START-UP
VALUATIONS BUILT ON UCLA'S
TECHNOLOGY TOTALED

\$33 BILLION

Many of these companies were concentrated in the health-care industry, but UCLA research has been at the center of numerous other scientific breakthroughs and start-up successes: for example, NanoH2O (acquired for \$200 million in 2014 by LG Chem), which develops reverse osmosis membranes for water desalination and water reuse using seawater.

EXECUTIVE SUMMARY

With over 45,000 students, 43,000 employees, and 419 acres of land in Westwood, the University of California, Los Angeles is an immense university known around the world for the quality of its students and faculty, and its dedication to its three-part mission — research, teaching, and service.

Among other accomplishments, UCLA boasts an impressive list of high-achieving researchers as part of its faculty, alumni and student body, including 14 Nobel Laureates, 13 MacArthur Fellows, 9 National Medal of Science winners, 3 Pulitzer Prize winners, dozens of Oscar, Emmy, Tony and Golden Globe winners, and hundreds of Guggenheim, Sloan and other fellowship and grants winners.

Indeed, UCLA is consistently ranked each year as one of the best universities in the nation — in 2017, UCLA was ranked the number one public institution in the United States by the Wall Street Journal/Times Higher Education Top College Rankings.¹ Moreover, this same report ranked UCLA as tied for 8th in terms of campus diversity and inclusion. Overall, UCLA was the 25th top institution in the country — public or private schools.

In 2018, the U.S. News and World Report ranked UCLA (along with UC Berkeley) as the number one public university in the nation.² Similarly, in 2018, UCLA was number two in the nation for public universities and number 9 among all universities in the world, according to the Times Higher Education World Reputation Rankings.³ This same year, Forbes placed UCLA as the number one best value university in the U.S.⁴

Perhaps most notably, UCLA was ranked the number one top-tier university for enrolling low- and middle-income students, as well as mobility after graduation by the New York Times in 2017.⁵ Specifically, UCLA was first among 65 other “elite” schools for having a significant share of students from families making less than \$20,000 per year — a testament to UCLA’s commitment to equality of opportunity.

¹ *Journal Reports: College Rankings: The Top U.S. Colleges.* Retrieved July 24, 2018, from <http://graphics.wsj.com/image-grid/college-rankings-2018/>

² *The Best Colleges in America, Ranked.* Retrieved July 24, 2018, from <https://www.usnews.com/best-colleges>

³ *World Reputation Rankings.* (2018, May 30). Retrieved July 24, 2018, from https://www.timeshighereducation.com/world-university-rankings/2018/reputation-ranking#!page/0/length/25/sort_by/rank/sort_order/asc/cols/stats

⁴ *Forbes: America’s Best Value Colleges 2018.* (2018, April 19). Retrieved July 27, 2018, from <https://www.forbes.com/best-value-colleges/#15427c14245b>

⁵ *Economic diversity and student outcomes at U.C.L.A.* (2017, January 18). Retrieved July 24, 2018, from <https://www.nytimes.com/interactive/projects/college-mobility/university-of-california-los-angeles>

While typically known for its academic achievements, UCLA also has a tremendous impact through its economic contributions to society. Indeed, UCLA spends an extraordinary amount of money each year on its operations and through other avenues such as research and capital spending. Using this expenditure data, this analysis quantifies the economic impact that UCLA has on the economies of Los Angeles, Southern California and California overall.

Some of the key insights gained from this analysis were:

- > During the 2016-17 fiscal year, UCLA had a total impact of **\$11.06 billion** on the California economy.
- > Over **72,700** full-time jobs throughout the state were supported by the spending activity of UCLA.
- > More than **\$4.15 billion** in labor income (earnings) were generated by UCLA through direct, indirect and induced spending activity.
- > UCLA generated a total of **\$5.86 billion** in direct spending throughout California, which included **\$2.61 billion** in the City of Los Angeles alone.
- > Through their direct spending and secondary spending impacts, UCLA helped to generate **\$706.1 million** in tax revenue throughout California.
- > UCLA had an economic impact of **\$2.42 billion** in indirect (business-to-business) spending, including **\$2.31 billion** in Southern California and **\$765.1 million** in the City of Los Angeles.
- > UCLA had an economic impact of **\$2.79 billion** in induced (household) spending, including **\$2.52 billion** in Southern California and **\$718.9 million** in the City of Los Angeles.
- > UCLA Health Sciences alone had a total impact of \$6.49 billion on the California economy, **\$6.13 billion** in Southern California and **\$2.39 billion** in the City of Los Angeles.
- > **24 startups** launched using UCLA-developed technology during the 2016-17 fiscal year.
- > During this time, **251 U.S. patents** were issued to UCLA.
- > Since the year 2000, startup valuations built on UCLA's technology totaled **\$33 billion**.

UCLA High-Level Findings — City of Los Angeles

Impact Type	Employment	Labor Income (\$ Mil.)	Output (\$ Mil.)
Direct Effect	20,144	1,096.0	2,612.3
Indirect Effect	3,617	269.0	765.1
Induced Effect	4,152	251.3	718.9
Total Effect	27,913	1,616.3	4,096.2

* Note: Totals may not be precise due to rounding.

UCLA High-Level Findings — SoCal Region

Impact Type	Employment	Labor Income (\$ Mil.)	Output (\$ Mil.)
Direct Effect	42,620	2,197.2	5,653.8
Indirect Effect	11,595	793.0	2,313.0
Induced Effect	14,509	854.2	2,516.4
Total Effect	68,724	3,844.4	10,483.1

* Note: Totals may not be precise due to rounding.

UCLA High-Level Findings — California

Impact Type	Employment	Labor Income (\$ Mil.)	Output (\$ Mil.)
Direct Effect	44,318	2,344.6	5,856.3
Indirect Effect	12,273	860.4	2,415.8
Induced Effect	16,127	953.7	2,789.0
Total Effect	72,718	4,158.8	11,061.1

* Note: Totals may not be precise due to rounding.

REPORT OVERVIEW

Analysis Overview

This analysis made use of UCLA-related expenditure data for the 2016-17 fiscal year in order to measure UCLA's economic and fiscal impacts on the following economies:

1. The state of California,
2. A five-county region representing Southern California, collectively referred to as the "SoCal" region, comprised of Los Angeles, Ventura, Orange, San Bernardino, and Riverside counties, and
3. The City of Los Angeles.

For each of these three regions, economic and fiscal impacts were calculated for the expenditures of the entirety of UCLA (referred to throughout this report as "Total UCLA," or just "UCLA"), as well as the expenditures of the UCLA Health Sciences alone. In short:

- > UCLA Health Sciences = 4 hospitals, 170 outpatient clinics, and 4 health professional schools (medicine, nursing, dentistry, and public health)
- > Total UCLA or UCLA = All parts of UCLA institution, including UCLA Health Sciences

In order to assess the economic impact of UCLA, three metrics were used:

1. Output: : The value of industry production in each regional economy.
2. Employment: The number of full-time equivalent jobs created or supported.
3. Labor Income: All forms of employment income, including wages and benefits.

The fiscal impacts were measured using:

1. Taxes paid directly by UCLA and UCLA Health Sciences during the 2016-17 fiscal year, and
2. Tax revenue generated by increased business and household spending as a result of UCLA's direct expenditures.

In addition to economic and fiscal impacts, this analysis evaluates the social impact of UCLA on the community around campus. This entails both the quantitative and qualitative benefits that UCLA has on the community, including providing a source of employment and quality education to individuals.

Finally, UCLA's value to the economy is considered from the perspective of UCLA-developed technology, which often times gets brought to market by startup companies. Startup valuations are used to represent UCLA's added value to the community.

Methodology Overview

In order to measure the economic and fiscal impacts of UCLA, Beacon Economics made use of the IMPLAN modeling system. IMPLAN is an industry standard input-output economic model using the most up-to-date industry multipliers. For an in-depth explanation of how the model operates, please see the Appendix.

Data Sources

All of the expenditure data for UCLA was provided to Beacon Economics by UCLA. Faculty and student body demographic statistics used in the Social Impact section were also provided by UCLA. Regional demographic statistics were obtained by Beacon from the American Community Survey — an ongoing survey produced by the United States Census Bureau. Data on startup company valuations in the UCLA Innovation section were gathered by Beacon from PitchBook, Inc. — a highly respected venture capital and private equity data provider.

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DIRECT EXPENDITURES

Each year, UCLA must spend an enormous amount of money on a variety of different goods and services in order to function. These expenditures can be organized into high-level categories, which together equate to the direct impact. In this section, each expenditure category is examined individually — first for UCLA, then for the Health Sciences only.

Total UCLA

UCLA's direct expenditures can be classified into six primary categories: Operations, Capital Improvements, Employee Compensation, Student Spending, Visitor Spending and Research Spending.

Total UCLA Spending by Category (\$ Millions)

Expenditure Category	City of Los Angeles	SoCal Region	California
Operations	312.9	1,176.4	1,294.0
Capital Improvements	8.0	198.1	209.0
Employee Compensation	1,932.8	3,376.2	3,435.4
Student Spending	286.0	707.8	707.8
Visitor Spending	23.4	46.9	46.9
Research Spending	49.1	148.4	163.3
Total	2,612.3	5,653.8	5,856.3

* Note: Totals may not be precise due to rounding.

Operations

The operations category refers to spending on goods and services in the normal course of conducting university business on a day-to-day basis. Spending within this category includes real estate and utilities costs, furniture, computer hardware and software, as well as electronic, paper, and other classroom equipment. Other purchases were made on office, medical and cleaning supplies, athletic equipment and vehicle purchases and rentals. Web design, consulting, maintenance and repair, security, environmental, information and telecommunications services also made up a large portion of spending in this category.

During the 2016-17 fiscal year, direct expenditures on operations by UCLA totaled \$1.29 billion in California, of which \$1.18 billion was spent within the SoCal region and \$312.9 million was spent within the City of Los Angeles.

Capital Improvements

Capital improvement expenditures refer to construction activity or equipment that improved or expanded UCLA's capacity. The majority of spending in this category went toward renovation and improvement projects. Some of these capital projects that started during the 2016-2017 fiscal year included: renovation of the Bradley Hall Commissary, the DeNeve Bakery and Kitchen renovation, as well as renovation of the Tiverton House (a hotel for medical center patients and their families).

During the 2016-17 fiscal year, direct expenditures on capital improvements by UCLA totaled \$209 million in California, of which \$198.1 million was spent within the SoCal region and \$8 million was spent within the City of Los Angeles.

Employee Compensation

Spending in this category went toward salaries, wages and benefits for UCLA faculty, staff and student workers. Expenditures on employee compensation made up the largest portion of UCLA's direct spending activity.

During the 2016-17 fiscal year, direct expenditures on employee compensation by UCLA totaled \$3.44 billion in California, of which \$3.38 billion was spent within the SoCal region and \$1.93 billion was spent within the City of Los Angeles.

Student Spending

Student spending is the amount of money UCLA students spent on goods and services during the year.* The majority of this spending went towards housing, which is typically one of the most expensive costs for students. Other purchases were made on food (dining out and groceries), transportation fees, textbooks and other retail purchases, such as new clothing purchases.

During the 2016-17 fiscal year, direct expenditures from student spending totaled \$707.8 million in California, of which \$707.8 million was spent within the SoCal region and \$286 million was spent within the City of Los Angeles.*

* Tuition spending is included within the Operations category.

* Student spending takes place entirely within the local area, thus the California and SoCal impacts are the same.

Visitor Spending

This category captures spending by friends and family members of the UCLA community, as well as alumni, prospective students and others that visited the area because of UCLA. Like student spending, visitor spending mostly goes toward Visitor Spending

This category captures spending by friends and family members of the UCLA community, as well as alumni, prospective students and others that visited the area because of UCLA. Like student spending, visitor spending mostly goes toward accommodations, food and retail purchases.

During the 2016-17 fiscal year, direct expenditures from visitor spending totaled \$46.9 million in California, of which \$46.9 million was spent within the SoCal region and \$23.4 million was spent within the City of Los Angeles. *

Research Spending

Research spending went toward scientific and technological research activity conducted by UCLA. Spending in this category went toward all of the lab equipment, supplies and other materials, data and other goods and services required to do research.

During the 2016-17 fiscal year, direct expenditures from research spending totaled \$163.3 million in California, of which \$148.4 million was spent within the SoCal region and \$49.1 million was spent within the City of Los Angeles.



** Like student spending, visitor spending takes place entirely with the local area, thus the California and SoCal impacts are the same.*

UCLA Health Sciences

Expenditure categories for the UCLA Health Sciences closely mirrored those used for Total UCLA impacts, with the exception of capital improvements and visitor spending.

UCLA Health Sciences Spending by Category (\$ Millions)

Expenditure Category	City of Los Angeles	SoCal Region	California
Operations	201.6	839.9	923.9
Employee Compensation	1,246.2	2,258.3	2,281.8
Student Spending	23.0	37.7	37.7
Research Spending	37.5	113.4	124.8
Total	1,508.3	3,249.4	3,368.1

* Note: Totals may not be precise due to rounding.

Operations

Operational expenditures for the UCLA Health Sciences went toward insurance costs, real estate payments, accounting and consulting services. Of course, other purchases were made on things like medical equipment, pharmaceuticals and other items necessary for daily functions and teaching. Utilities, cleaning supplies and other miscellaneous goods and services were also purchased.

Direct expenditures on operations totaled \$923.9 million in California, of which \$839.9 million was spent within the SoCal region and \$201.6 million was spent within the City of Los Angeles.

Employee Compensation

Spending in this category includes salaries, wages and benefits for all employees of the UCLA Health Sciences.

Direct expenditures on employee compensation totaled \$2.28 billion in California, of which \$2.26 billion was spent within the SoCal region and \$1.25 billion was spent within the City of Los Angeles.

Student Spending

Student spending includes all of the money spent by students of the UCLA Health Sciences professional schools for things like housing, food, transportation fees and other retail purchases.

Direct expenditures on student spending totaled \$37.7 million in California, of which \$37.7 million was spent within the SoCal region and \$23.0 million was spent within the City of Los Angeles.*

Research Spending

The UCLA Health Sciences spends a great deal each year on medical research. Through this research, health professionals deepen their knowledge of their respective fields, while health sciences students get invaluable experience working toward their career goals.

Direct expenditures on research spending totaled \$124.8 million in California, of which \$113.4 million was spent within the SoCal region and \$37.5 million was spent within the City of Los Angeles.



** UCLA Health Sciences student spending takes place entirely within the local area, thus the California and SoCal impacts are the same. .*

Direct Impact Summary

Total UCLA

Based on the collection of expenditures incurred during the 2016-17 fiscal year, the direct impact of UCLA:

- > Generated \$5.86 billion in output throughout California, of which \$5.65 billion was generated within the SoCal region and \$2.61 billion was generated within the City of Los Angeles.

Supported over 44,300 jobs within California, of which more than 42,600 were located within the SoCal region and over 20,100 were located in the City of Los Angeles.

- > Produced \$2.34 billion in labor income throughout California, of which \$2.2 billion was generated within the SoCal region and \$1.1 billion was generated in the City of Los Angeles.

Total UCLA Direct Impacts by Region

Impact Type	California	SoCal Region	City of Los Angeles
Employment	44,318	42,620	20,144
Labor Income	2,344.6	2,197.2	1,096.0
Output	5,856.3	5,653.8	2,612.3

* Note: Totals may not be precise due to rounding.

UCLA Health Sciences

The direct impact of the UCLA Health Sciences:

- > Generated \$3.37 billion in output throughout California, of which \$3.25 billion was generated within the SoCal region and \$1.51 billion was generated within the City of Los Angeles.
- > Supported over 26,300 jobs within California, of which more than 24,600 were located within the SoCal region and over 11,600 were located in the City of Los Angeles.
- > Produced \$1.42 billion in labor income throughout California, of which \$1.31 billion was generated within the SoCal region and \$653.8 million was generated within the City of Los Angeles.

UCLA Health Sciences Direct Impacts by Region

Impact Type	California	SoCal Region	City of Los Angeles
Employment	26,306	24,622	11,606
Labor Income	1,416.2	1,312.6	653.8
Output	3,368.1	3,249.4	1,508.3

* Note: Totals may not be precise due to rounding.

IMPACTS ON OUTPUT

Total UCLA

Based on the expenditures of UCLA during the 2016-17 fiscal year, the total UCLA impact on economic output was \$11.06 billion in California, \$10.48 billion in the SoCal region and \$4.1 billion in the City of Los Angeles.

Total UCLA Direct Impacts — Output

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	5,856.3	5,653.8	2,612.3
Indirect Effect	2,415.8	2,313.0	765.1
Induced Effect	2,789.0	2,516.4	718.9
Total Effect	11,061.1	10,483.1	4,096.2

* Note: Totals may not be precise due to rounding.

- > Of the \$11.06 billion in total output generated in California, \$5.86 billion represented direct spending by UCLA, while \$2.42 billion represented indirect business spending and \$2.79 billion represented induced household spending.
- > Of the \$10.48 billion in total output generated in the SoCal region, \$5.65 billion represented direct spending by UCLA, while \$2.31 billion represented indirect business spending and \$2.52 billion represented induced household spending.
- > Of the \$4.1 billion in total output generated in the City of Los Angeles, \$2.61 billion represented direct spending by UCLA, while \$765.1 million represented indirect business spending and \$718.9 million represented induced household spending.

UCLA Health Sciences

Based on the expenditures of the UCLA Health Sciences during the 2016-17 fiscal year, the total UCLA impact on economic output was \$6.49 billion in California, \$6.13 billion in the SoCal region and \$2.39 billion in the City of Los Angeles.

UCLA Health Sciences — Output

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	3,368.1	3,249.4	1,508.3
Indirect Effect	1,442.3	1,377.2	456.3
Induced Effect	1,684.4	1,503.6	428.7
Total Effect	6,494.7	6,130.2	2,393.3

* Note: Totals may not be precise due to rounding.

- > Of the \$6.49 billion in total output generated in California, \$3.37 billion represented direct spending by the UCLA Health Sciences, while \$1.44 billion represented indirect business spending and \$1.68 billion represented induced household spending.
- > Of the \$6.13 billion in total output generated in the SoCal region, \$3.25 billion represented direct spending by the UCLA Health Sciences, while \$1.38 billion represented indirect business spending and \$1.5 billion represented induced household spending.
- > Of the \$2.39 billion in total output generated in the City of Los Angeles, \$1.51 billion represented direct spending by the UCLA Health Sciences, while \$456.3 million represented indirect business spending and \$428.7 million represented induced household spending.

IMPACTS ON EMPLOYMENT

Total UCLA

Based on headcount alone, UCLA was the 4th largest employer within Los Angeles County in 2016, behind the county and city governments and the Los Angeles Unified School District.

Largest Employers in Los Angeles County, 2016

Employer	Rank
County of Los Angeles	1
Los Angeles Unified School District	2
City of Los Angeles (including DWP)	3
University of California, Los Angeles	4
Federal Government Entities	5
Kaiser Permanente	6
State Government Entities	7
University of Southern California	8
Northrop Grumman Corp.	9
Target Corp.	10

Sources: *Transparent California*, *California EDD*, *Los Angeles Business Journal*, *Los Angeles Almanac*

Along with the significant increase in economic output across the state and local area, UCLA expenditures supported a multitude of jobs. Thanks to this spending, UCLA supported over 72,700 jobs in California, over 68,700 jobs in the SoCal region and 27,900 jobs in the City of Los Angeles.

- > Of the 72,700 jobs supported in California, 44,300 represented jobs directly supported by UCLA’s spending activity, while close to 12,300 represented jobs supported by indirect business spending and 16,100 represented jobs supported by induced household spending.
- > Of the 68,700 jobs supported in the SoCal region, 42,600 represented jobs directly supported by UCLA’s spending activity, while 11,600 represented jobs supported by indirect business spending and 14,500 represented jobs supported by induced household spending.

- > Of the 27,900 jobs supported in the City of Los Angeles, over 20,100 represented jobs directly supported by UCLA’s spending activity, while 3,600 represented jobs supported by indirect business spending and 4,150 represented jobs supported by induced household spending.

Total UCLA Direct Impacts — Employment

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	44,318	42,620	20,144
Indirect Effect	12,273	11,595	3,617
Induced Effect	16,127	14,509	4,152
Total Effect	72,718	68,724	27,913

* Note: Totals may not be precise due to rounding.

The jobs that UCLA helped to support span a variety of sectors. For example, transportation, food retail, real estate, construction and wholesale sectors were among the most impacted.

UCLA Health Sciences

For the UCLA Health Sciences alone, the total employment impact was 43,900 supported jobs in California, 40,100 supported jobs in the SoCal region and 16,200 supported jobs in the City of Los Angeles.

UCLA Health Sciences — Employment

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	26,306	24,622	11,606
Indirect Effect	7,511	6,838	2,127
Induced Effect	10,061	8,668	2,475
Total Effect	43,878	40,129	16,209

* Note: Totals may not be precise due to rounding.

- > Of the 43,900 jobs supported in California, 26,300 represented jobs directly supported by UCLA Health Science’s spending activity, while 7,500 represented jobs supported by indirect business spending and close to 10,100 represented jobs supported by induced household spending.
- > Of the 40,100 jobs supported in the SoCal region, 24,600 represented jobs directly supported by UCLA Health Science’s spending activity, while 6,800 represented jobs supported by indirect business spending and about 8,700 represented jobs supported by induced household spending.
- > Of the 16,700 jobs supported in the City of Los Angeles, 11,600 represented jobs directly supported by UCLA Health Science’s spending activity, while over 2,100 represented jobs supported by indirect business spending and about 2,500 represented jobs supported by induced household spending.

IMPACTS ON LABOR INCOME

Total UCLA

Direct spending done by UCLA helped to generate a great deal of earnings for workers throughout the state. In all, UCLA’s impact on labor income was \$4.16 billion in California, \$3.84 billion in the SoCal region and \$1.62 billion in the City of Los Angeles.

Total UCLA Direct Impacts — Labor Income

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	2,344.6	2,197.2	1,096.0
Indirect Effect	860.4	793.0	269.0
Induced Effect	953.7	854.2	251.3
Total Effect	4,158.8	3,844.4	1,616.3

* Note: Totals may not be precise due to rounding.

- > Of the \$4.16 billion in labor income generated in California, \$2.34 billion represented direct spending, while \$860.4 million represented indirect business spending and \$953.7 million represented induced household spending.
- > Of the \$3.84 billion in labor income generated in the SoCal region, \$2.2 billion represented direct spending, while \$793 million represented indirect business spending and \$854.2 million represented induced household spending.
- > Of the \$1.62 billion in labor income generated in the City of Los Angeles, \$1.1 billion represented direct spending, while \$269 million represented indirect business spending and \$251.3 million represented induced household spending.

UCLA Health Sciences

For the UCLA Health Sciences, the total impact on labor income was \$2.51 billion in California, \$2.3 billion in the SoCal region and \$963.9 million in the City of Los Angeles.

UCLA Health Sciences — Labor Income

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	1,416.2	1,312.6	653.8
Indirect Effect	517.5	472.4	160.3
Induced Effect	576.0	510.4	149.8
Total Effect	2,509.7	2,295.3	963.9

* Note: Totals may not be precise due to rounding.

- > Of the \$2.51 billion in labor income generated in California, \$1.42 billion represented direct spending by UCLA Health Sciences, while \$517.5 million represented indirect business spending and \$576 million represented induced household spending.
- > Of the \$2.3 billion in labor income generated in the SoCal region, \$1.31 billion represented direct spending by UCLA Health Sciences, while \$472.4 million represented indirect business spending and \$510.4 million represented induced household spending.
- > Of the \$963.9 million in labor income generated in California, \$653.8 million represented direct spending by UCLA Health Sciences, while \$160.3 million represented indirect business spending and \$149.8 million represented induced household spending.

FISCAL IMPACTS

In addition to economic impacts, UCLA also had fiscal impacts on the economy. All of the spending tied to UCLA (direct, indirect and induced) spurred the generation of tax revenues for the state and local governments during the 2016-17 fiscal year. This revenue went on to support vital public services to the community and state. But for UCLA, these revenues would not be generated.

Total UCLA

UCLA generated an estimated \$706.1 million in tax revenue throughout California, \$284.4 million within the SoCal region and \$87.5 million within the City of Los Angeles.

- > The \$706.1 million generated in California consisted of \$243.7 million in sales tax, \$200.8 million in property tax, \$134.4 million in income tax and \$127 million in other taxes.
- > The \$284.4 million generated in the SoCal region consisted of \$63.2 million in sales tax, \$182.8 million in property tax and \$38.4 million in other taxes.
- > The \$87.5 million generated in the City of Los Angeles consisted of \$30.7 million in sales tax, \$43.1 million in property tax and \$13.7 million in other taxes.

Moreover, UCLA paid \$18.8 million in direct taxes through vendor and government receipts during the 2016-17 fiscal year.

Total UCLA Fiscal Impact by Region

Tax Type	Tax Revenue (\$ Mil.)		
	City of Los Angeles	SoCal Region	California
Sales Tax	30.7	63.2	243.7
Property Tax	43.1	182.8	200.8
Personal Income Tax	0.0	0.0	134.4
Other Taxes	13.7	38.4	127.0
Total Taxes	87.5	284.4	706.1

* Note: Totals may not be precise due to rounding.

UCLA Health Sciences

The UCLA Health Sciences on its own generated a significant tax impact on these regions during the 2016-17 fiscal year -- an estimated \$407.3 million in tax revenue in California, \$163.1 million in the SoCal region and \$49.7 million in the City of Los Angeles.

- > The \$407.3 million generated in California consisted of \$138.5 million in sales tax, \$114.1 million in property tax, \$81.1 million in income tax and \$73.7 million in other taxes.
- > The \$163.1 million generated in the SoCal region consisted of \$36.2 million in sales tax, \$104.6 million in property tax and \$22.3 million in other taxes.
- > The \$49.7 million generated in the City of Los Angeles consisted of \$17.4 million in sales tax, \$24.4 million in property tax and \$7.9 million in other taxes.

UCLA Health Sciences Fiscal Impact by Region

Tax Type	Tax Revenue (\$ Mil.)		
	City of Los Angeles	SoCal Region	California
Sales Tax	17.4	36.2	138.5
Property Tax	24.4	104.6	114.1
Personal Income Tax	0.0	0.0	81.1
Other Taxes	7.9	22.3	73.7
Total Taxes	49.7	163.1	407.3

* Note: Totals may not be precise due to rounding.

SOCIAL IMPACT

In addition to the economic and fiscal impacts that UCLA has on the economy, there are social benefits that UCLA provides to its students and the community. These include better career and earning opportunities for UCLA students, support for local business establishments and world-class research and services aimed at improving people’s lives. This section explores the social impacts that are integral to UCLA’s identity and mission.

Importance of and Returns to Education

Economic research has shown that, in general, the more education an individual receives, the greater his or her earning potential. This is because colleges and universities provide individuals with the knowledge, skills and experience that help students gain employment upon graduation. College graduates not only qualify for more jobs on average, they also qualify for better paying jobs. Within the City of Los Angeles, for example, median earnings for those with a Bachelor’s degree were around \$51,000 in 2016 — nearly twice as much as those with only a high school education. Moreover, those with a graduate level or professional degree earned almost three times as much as those with only a high school diploma. This was much the case throughout the county and state, as well. By providing a quality education, UCLA improves the lives of tens of thousands of students each year.

Individual Median Earnings by Educational Attainment — 2016

Level of Education	City of Los Angeles	Los Angeles County	California
Less than High School	19,475	20,650	21,558
High School Diploma	25,886	27,330	30,231
Some College or Associate’s Degree	32,291	35,493	36,985
Bachelor’s Degree	50,922	52,003	60,121
Graduate/Professional Degree	71,081	75,820	82,271

Source: U.S. Census (American Community Survey, 1-Year Estimates)
Analysis by Beacon Economics

College educated individuals not only enjoy higher earnings over their lifetimes, they also experience lower unemployment rates, on average, compared to non-educated individuals. For example, those with a Bachelor’s degree or more in the City of Los Angeles had an unemployment rate of 4.9% in 2016, which was lower than those with only some college (5.4%) and those with only a high school diploma (6.9%).

Unemployment Rates by Educational Attainment — 2016

Level of Education	City of Los Angeles	Los Angeles County	California
Less than High School	6.5	6.9	8.2
High School Diploma	6.9	6.2	7.0
Some College or Associate’s Degree	5.4	5.6	5.5
Bachelor’s Degree & Above	4.9	4.4	3.6

*Source: U.S. Census (American Community Survey, 1-Year Estimates)
Analysis by Beacon Economics*

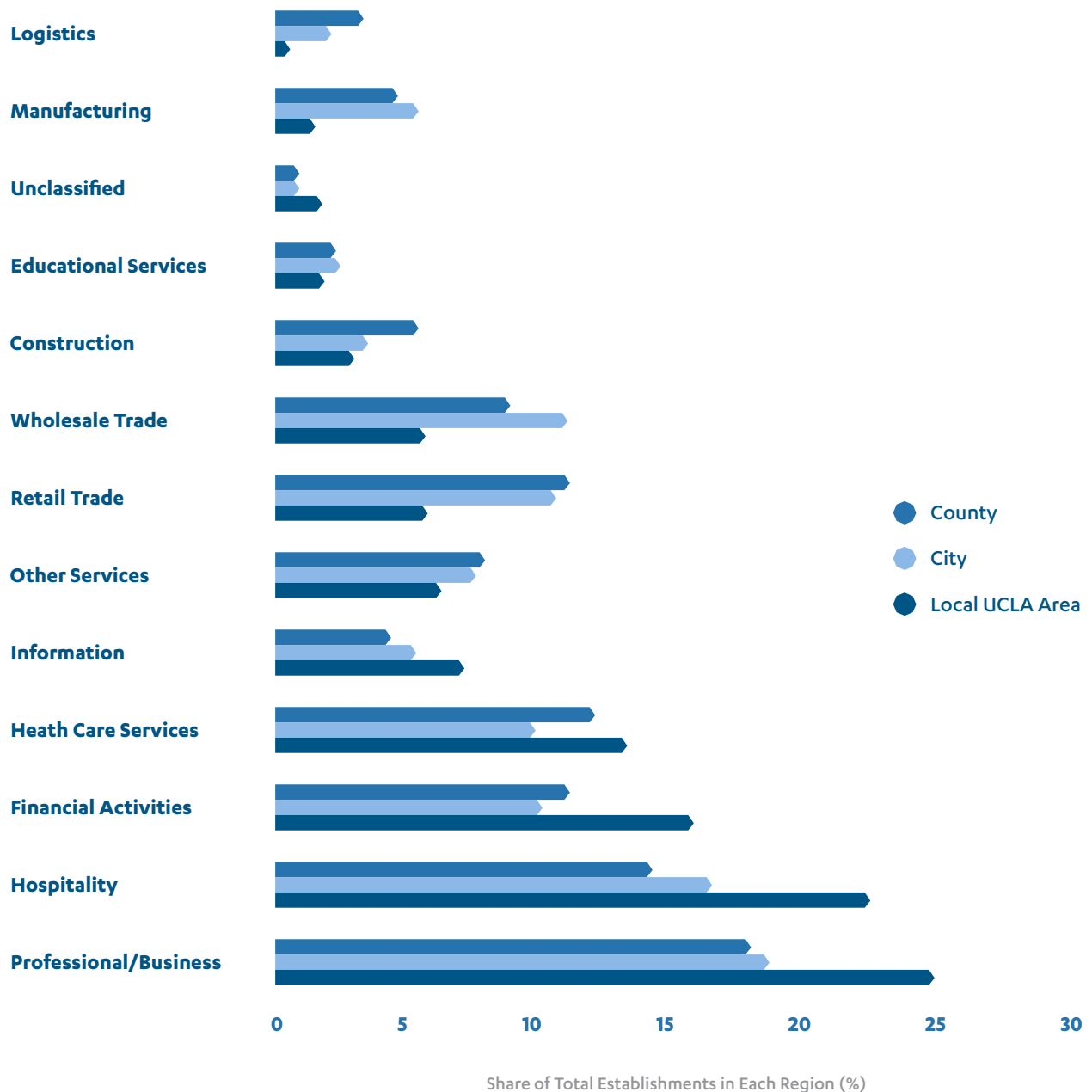
Local Employment Structure

UCLA also benefits the local area by serving as a catalyst for local business success. UCLA student, faculty and staff help to support good jobs in the area through their purchase of goods and services. For example, close to a quarter of all establishments in the UCLA vicinity are in the professional and business sector, which typically provide higher than average wages. This is a higher share compared to the city and county overall, which had shares of 18.3% and 17.7% in this industry, respectively. Workers in these establishments also typically spend a sizeable amount of money dining out, which in turn supports local food establishments nearby. Indeed, 22% of firms in the UCLA vicinity are in the hospitality sector — a job-heavy industry. By comparison, hospitality establishments made up 16.1% and 14% of all firms in the city and county, respectively.

Establishments in the information, hospitality, financial activities and professional and business sectors all have high location quotients in the UCLA vicinity. A location quotient is a measure of industry concentration, with any score above 1 equating to a higher concentration than the comparison region. So, with a 1.7 location quotient, firms in the information sector are more heavily concentrated near UCLA than in Los Angeles County, overall. Jobs in this industry, as well as hospitality (LQ of 1.6), professional and business (LQ of 1.4) and financial activities (LQ of 1.4) all have high establishment concentrations near UCLA.

Many of these industry concentrations are experiencing recent employment growth. For example, hospitality sector employment grew by 3.6% in Los Angeles County from April 2017 to April 2018, according to the latest available data from the California Economic Development Department. Similarly, the information sector grew by 3% during this time, while professional and business grew by 2.5%. The countywide year-over-year growth average in nonfarm employment sectors was 1.3% during this time. Thus, most of the business establishments that surround UCLA are in some of the fastest growing sectors in Los Angeles.

Share of Establishments by Industry — 2016



Business Establishments by Industry, Local UCLA Area — 2016

Industry	Number of Establishments	Establishment Location Quotient (UCLA Area vs. County)
Construction	259	0.3
Educational Services	179	0.8
Financial Activities	2,419	1.4
Health Care Services	1,999	1.1
Hospitality	3,441	1.6
Information	1,052	1.7
Logistics	47	0.1
Manufacturing	130	0.2
Other Services	926	0.8
Professional/Business	3,828	1.4
Retail Trade	863	0.5
Wholesale Trade	368	0.3

Source: U.S. Census (County Business Patterns)
 Analysis by Beacon Economics

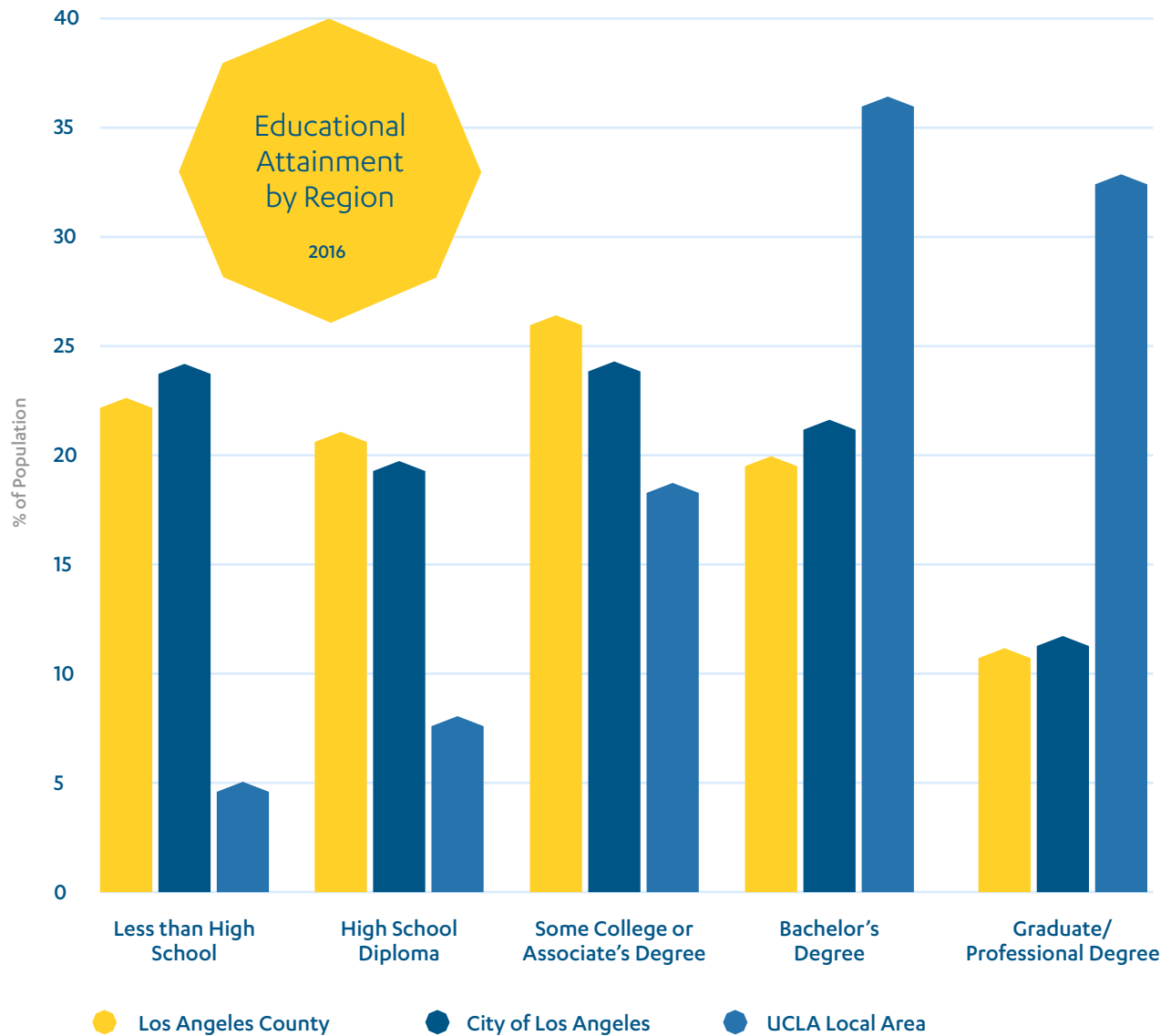
Industry Employment Growth — Los Angeles County, April 2018

Industry	Year-over-Year Employment Growth (%)
All Sectors (Total Nonfarm)	1.3
Construction	5.1
Educational Services	3.0
Financial Activities	0.6
Health Care Services	2.1
Hospitality	3.6
Information	3.0
Logistics	0.6
Manufacturing	0.6
Other Services	-2.5
Professional/Business	2.5
Retail Trade	-0.7
Wholesale Trade	-0.5

Source: California Economic Development Department
Analysis by Beacon Economics

Local Demographic Composition

Being such a large university, UCLA has undoubtedly had an effect on local demographics. One obvious area would be educational attainment, which was significantly higher in the UCLA local area versus the city and county. Indeed, 69% of the area's population had either a Bachelor's degree (36.4%) or a graduate or professional degree (32.7%). By comparison, 32.5% of the City of Los Angeles had either a Bachelor's or graduate degree, while in the county it was 30.8%.



Source: U.S. Census (American Community Survey, 1-Year Estimates)
 Analysis by Beacon Economics

The area around UCLA also had a lower poverty rate than the city or county. In 2016, 15.1% of the population in the local UCLA area lived below the poverty line, compared to 21.5% of the city and 17.8% of the county. The local area also had a higher share of its population covered by health insurance (93.5%) than either the city or county — 81.7% and 84.1%, respectively.

Poverty Rates by Region — 2016

Region	Poverty Rate
Los Angeles County	17.8
City of Los Angeles	21.5
UCLA Local Area	15.1

Source: U.S. Census (American Community Survey, 5-Year Estimates)
 Analysis by Beacon Economics

In 2016, most of the population (64.1%) in the UCLA local area held occupations within the management and business category, which was nearly twice as much as the city or county. Unsurprisingly, a large share of occupations near UCLA were in education — 21.7%, versus 12.5% in the county and 14.3% in the city. Healthcare occupations were also much higher near UCLA (8.2%) than in the city (4.3%) and county (4.7%), no doubt due to UCLA’s healthcare entities. Only 10.3% of occupations near UCLA were in service related jobs, which was half of the city and county shares. Sales and office occupations were about the same share as the city and county — 22%.

Health Insurance Coverage by Region — 2016

Region	Insured	Not Insured
Los Angeles County	84.1	15.9
City of Los Angeles	81.7	18.3
UCLA Local Area	93.5	6.5

Source: U.S. Census (American Community Survey, 5-Year Estimates)
 Analysis by Beacon Economics

Occupational Profiles by Region — 2016

Occupation Category	Los Angeles County	City of Los Angeles	UCLA Local Area
Management, business, science, and arts occupations	36.0	36.7	64.1
Management, business, and financial	14.3	14.0	26.6
Computer, engineering, and science	4.6	4.1	7.6
Education, legal, community service, arts, & media	12.5	14.3	21.7
Healthcare practitioner and technical occupations	4.7	4.3	8.2
Service occupations	19.1	20.8	10.3
Healthcare support	1.9	1.8	0.9
Food preparation and serving related	5.7	6.4	4.0
Building and grounds cleaning and maintenance	4.6	5.8	1.0
Personal care and service	4.9	5.2	4.0
Sales and office occupations	24.4	22.8	21.9
Natural resources, construction, and maintenance	7.7	7.9	1.2
Production, transportation, and material moving	12.9	11.7	2.5

Source: U.S. Census (American Community Survey, 5-Year Estimates)
 Analysis by Beacon Economics

UCLA-Specific Analysis

UCLA enriches the lives of its students and graduates, who go on to do great things — some go on to Master’s and PhD programs, others start businesses and bring new technologies to market, and many more enter the workforce soon after completing their education. Furthermore, UCLA students and faculty dedicate thousands of hours each year volunteering and engaging in projects aimed at the improvement of people’s lives in communities — local, national, and global.

Job Placements, Internships, and Research Opportunities

One obvious way to assess the value that UCLA adds to students’ lives is through post-graduation job placements, and in this regard UCLA does an excellent job. In 2016, 43% of UCLA graduates were employed upon graduation, while only 19% of graduates were seeking employment. 32% of graduates during this year were either continuing their education or pursuing a graduate program, and 5% were serving in the military. The top sectors for recent graduate employment were education (16% of graduates), technology (15% of graduates) and financial services (13% of graduates).

Most UCLA graduates stayed in the area (77% resided in Los Angeles or Orange County), with 16% of graduates heading to Bay Area. Clearly, the local region, and California in general benefit from UCLA beyond its direct spending activity. UCLA graduates are some of the brightest in the nation, and the fact that a majority of them get absorbed into the local workforce implies major advantages to local economies. Outside of California, the most popular destinations for UCLA graduates in 2016 were New York City, Washington D.C., Seattle, Boston and Chicago. Some UCLA graduates also moved abroad after school, with destinations like Japan, China, South Korea, Singapore, Canada and Malaysia topping the list.

Major employers during this time included Deloitte, PricewaterhouseCoopers, Oracle, Amazon, Teach for America, Google and Disney, among others. For those students that went on to pursue graduate degrees, top destinations included UCLA, USC, UC Berkeley, Stanford, UC Irvine, Columbia University, NYU, UCSF, LMU and Pepperdine.

Sixty percent of UCLA students that graduated in 2016 had at least one internship during their college careers. Furthermore, the more internships a UCLA student had during their time on campus, the more likely they were to achieve employment upon graduation. According to data gathered by UCLA’s exit surveys, 55% of graduates with three or more internships under their belts were employed upon graduation, compared to 42% with only one internship and 25% with no internship.

This comes as no surprise, as more work experience undoubtedly increases a job candidate’s potential value to employers. What sets UCLA apart, however, is the extent to which it facilitates internship opportunities for its students. For example, UCLA has a plethora of internships resources like the D.C. Fellows Summer in Washington Program, which allows students to work directly with U.S. elected officials, public interest groups and the media on significant policy issues. Other internship

opportunities include the Joint Mathematics/Education Program, which gives undergraduate seniors in mathematics the opportunity to serve as teaching interns, with the option to teach full-time after graduation while taking graduate level courses.

In addition to internship opportunities, UCLA offers its students access to some of the world's greatest academic minds through student-faculty research. During the 2016-17 fiscal year, UCLA faculty received over \$1.06 billion in sponsored research funding. The majority of this funding (71%, or \$750 million) was awarded to faculty in the health sciences, while the remainder went to faculty in other areas of research. With funding of such proportions, students can take part in some of the most groundbreaking research of the day — preparing them for careers in the world's top companies, universities, organizations and governments.

Recent examples of student research include a 2017 survey regarding the effects of local oil drilling activity on Los Angeles communities and their health. Their research found that residents located in poorer, less educated neighborhoods were more likely to suffer the effects of oil and gas drilling activity than affluent neighborhoods.⁶ Another example involves UCLA biology students that recently had their research published in a scientific journal after studying the vocalization characteristics of local lizards in French Polynesia.⁷

In the natural sciences, hundreds of students have been awarded scholarships to pursue their individual research interests. Programs in this department include: Amgen Scholars, Beckman Scholars, Bridges Scholars, CARE Scholars and more. In the humanities, arts and social sciences, Spring into Research is the latest program that offers students exciting new research opportunities. This specific program targets freshman, sophomores and first-year transfers who are interested in doing research as a career. These departments also offer scholarships and online research portals to find projects to work on, especially those in conjunction with a UCLA professor. Other research efforts include LA Social Science — an online portal for UCLA students, faculty and the greater Los Angeles community to come together, discuss current issues in the county, share research findings and work toward solutions.

Commitment to Diversity

UCLA has long championed diversity, serving as an engine of opportunity for students who are the first in their families to attend college or who represent underserved populations, and working to create a more intellectually varied and inclusive environment which can ensure relevance in an increasingly globalized world.

⁶ *Passion for Environmental Justice Fuels Urban Oil Drilling Study*. (2017, June 13). UCLA Newsroom. Retrieved June 8, 2018, from http://www.highbeam.com/doc/1G1-495519022.html?refid=easy_hf

⁷ Fuong, H., Keeley, K. N., Bulut, Y., & Blumstein, D. T. (2014). Heterospecific alarm call eavesdropping in nonvocal, white-bellied copper-striped skinks, *Emoia cyanura*. *Animal Behaviour*, 95, 129-135. doi:10.1016/j.anbehav.2014.07.005

In the fall of 2016, 28% of enrolled freshmen identified as Asian, representing a two-percentage point decrease from 2015. White students made up the next largest share of freshmen during this time at 25%, a two-percentage point decrease from the previous year. Hispanic students made up 23% of the entering class — a two-percentage point increase from 2015. African American students made up 3% of the freshmen class, which was the same share as a year earlier. Around 6% of students identified as two or more races. The remaining 15% of students identified as either international, American Indian, Pacific Islander or Other.

In fall 2016, 34% of the entering freshmen class were first generation college students — an increase from 2015 when this group of students made up 32% of the freshmen class. First generation college students are crucial to turning the tide on income inequality. By providing these students a first-rate education, UCLA plays a significant role in helping its students climb the income ladder, often times changing the trajectory of a family's future. Whether at the national or local level, demographic statistics consistently show that, more education leads to higher earnings and lower levels of unemployment.⁸

Indeed, 29% of the 2016 freshmen class came from low-income families. Over one-third (35%) of freshmen during this time received the federal-funded Pell Grant, which is reserved for extremely low-income families. Average indebtedness for UCLA students during this time was \$21,596 — about 25% lower than the national average.

Understanding that universities have a responsibility to prepare students for life in a multicultural world and that understanding the perspectives of others is a core competency, UCLA implemented a diversity course requirement for undergraduates in its College of Letters & Science starting in fall 2017. Students are required to earn at least a C grade in a course that substantially addresses racial, ethnic, gender, socioeconomic, sexual orientation, religious or other types of diversity. More than 100 existing courses — in departments as varied as history, biology, classics, political science and religion — meet the requirement.

The following centers at UCLA help to infuse campus classrooms and spaces with the diverse voices, insights, and concerns of underrepresented communities across the nation and to advance research, scholarship, art, and activism that promote equal opportunity, greater equity, deeper historical understanding and a more just society.

- > The American Indian Studies Center encourages the development of new research in the areas of Native American issues and cultures.

⁸ Vilorio, D. (2016, March). Education matters: Career Outlook. Retrieved July 24, 2018, from <https://www.bls.gov/careeroutlook/2016/data-on-display/education-matters.htm>

- > The Asian American Studies Center strives to bridge the educational, social, political and cultural concerns of the Asian and Pacific Islander community with the overall mission of UCLA.
- > The Chicano Studies Research Center is a comprehensive research unit that supports research and other activities concerning the Chicano/Latino population.
- > The Ralph J. Bunche Center for African America Studies supports the research of people of African descent, including their histories, lifestyles and social cultural systems.
- > The UCLA Center for the Study of Women promotes and supports research on women, gender and sexuality across all disciplines at UCLA and in the Los Angeles community.
- > The Williams Institute is dedicated to conducting rigorous, independent research on sexual orientation and gender identity law and public policy.

Higher Education Access and Success

UCLA has a wide array of programs that support underrepresented students and families prepare for college admission and success, as well as prepare for the pursuit of advanced and professional degrees. Some of these programs include:

- > The Riordan Programs at the UCLA Anderson School of Management work with 36 high schools and 20 colleges to provide education, mentorship, professional development and leadership training to high school and college students from disadvantaged households. Participants in this program are typically the first person in their families to attend college.
- > The Summer Programs for Undergraduate Research (SPUR) offer an excellent opportunity for high-achieving undergraduate students to collaborate with faculty on research projects. SPUR programs offer workshops on writing and research skills, how to succeed in graduate school, how to obtain graduate funding, GRE test preparation and more.
- > The Early Academic Outreach Program works with over 15,000 disadvantaged middle and high school students each year to help them prepare for college.
- > The Student Initiated Outreach Center is a collection of student projects offering tutoring, college prep and financial aid mentoring, exercise classes and other customized services to help motivate middle and high school students in underrepresented areas of Los Angeles to pursue higher education.
- > The Black Male Institute is a group of scholars, practitioners, community members and policy makers dedicated to promoting practical interventions, reliable research, effective programs, best practices and responsible policy research to improve the educational outcomes of Black males in the community.

- > Bruincorps is dedicated to servicing under-resourced areas of Los Angeles through individualized tutorships. Tutors provide information to parents on how to work with children at home to enhance academic performance, along with other resources.
- > The Center for Excellence in Engineering and Diversity provides pre-college and undergraduate programs designed to recruit, retain, develop and graduate low-income and underrepresented engineering students.
- > The California Reading and Literature Project strives to improve student achievement in grades pre-K-12 by providing teachers with high-quality professional and leadership training that deepens their content knowledge and pedagogy skills in accordance with the State Board of Education and the California Common Core framework.
- > The UCLA Center X Computer Science Project works with national partners to democratize K-12 computer science knowledge, increasing and enhancing the computer science teaching and learning opportunities for all students nationwide, with special attention to those who have been traditionally underrepresented in the field, specifically African-American, Latino/a, low-income, Native American, and female students.

Partnerships with LA Unified School District

In addition to administering the nation's rigorous National Board Certification Process for teachers in LAUSD and training parents and other leaders to lead and improve schools, UCLA has entered into unique partnerships with LAUSD to improve the quality of K-12 education and increase college going rates.

The UCLA TIE-INS program strives to expand University and K-12 school partnerships that respect and strengthen each school's capacity to improve student learning and achievement. UCLA works collaboratively with principals and teachers to identify individual and collective needs of partner schools and match UCLA resources to enhance the learning opportunities that ultimately benefit all students.

The two UCLA Community Schools, one in the Koreatown/Pico-Union neighborhood at the site of the former Ambassador Hotel and the other in South Los Angeles at Horace Mann School, were created through a unique partnership between UCLA and the LAUSD, aimed at reversing the declining college enrollment rate in these areas and encouraging students to pursue a college degree. At the first UCLA Community School, the college acceptance rate has more than tripled to 99% since it opened in 2009.

UCLA Grand Challenges

The UCLA Grand Challenges initiative connects faculty, students and supporters from all disciplines to work together, adopting a holistic approach to solve critical issues.

The Sustainable LA Grand Challenge is focused on transitioning Los Angeles to 100% renewable energy, 100% locally sourced water and enhanced ecosystem health by 2050, starting with an implementation plan that will be delivered by 2020.

The Depression Grand Challenge is designed to help us understand, prevent and treat the world's greatest health problem. Depression affects more than 300 million people worldwide and is estimated to cause an economic burden of \$210.5 billion per year, due to absenteeism, reduced productivity in the workplace and direct medical costs. Researchers from disciplines across campus are working together to eliminate the burden of depression by gaining a better understanding of the disease while developing more effective prevention techniques and treatments.

U.S. Veterans

UCLA is committed to empowering the men and women who have served this country in the armed forces, and does so with innovative services, resources and research.

- > UCLA faculty and medical professionals treat thousands of veteran patients annually at the medical centers of the Greater Los Angeles VA Healthcare System.
- > UCLA Operation Mend provides returning military personnel with severe facial and other bodily injuries access to the nation's top plastic and reconstructive surgeons, as well as comprehensive medical and mental health support for the wounded and their families.
- > The Nathanson Family Resilience Center has developed mental health interventions that build resilience among families of military personnel and veterans, many of whom have experienced traumatic brain injury and post-traumatic stress. The interventions have been used widely on thousands, including families on U.S. military bases in the U.S and abroad.
- > The Entrepreneurship Bootcamp for Veterans with Disabilities consortium offers cutting-edge, experiential training in entrepreneurship and small business management to soldiers, sailors, airmen and marines disabled as a result of their military service in operations Enduring Freedom and Iraqi Freedom.
- > In 2016, UCLA committed to enhancing its partnership with the Veterans Administration by creating three new centers on the neighboring West LA VA campus: the UCLA School of Law Veterans Legal Clinic, the UCLA/VA Veteran Family Wellness Center, and a VA UCLA Center of Excellence designed to improve training and research for recovery of veterans experiencing homelessness, substance abuse and mental health issues.

Health Services

UCLA, through the work of faculty and students affiliated with its David Geffen School of Medicine, School of Dentistry, Fielding School of Public Health, and School of Nursing, provides thousands of hours of medical care for those that need it most. Furthermore, its world class teaching, training, and research translate into improved treatment for patients locally, nationally, and around the world.

- > In fiscal year 2017, UCLA Health Sciences' teaching hospitals and primary care clinics, provided over \$87 million in charity care, in-kind health services, volunteer time, and health education training. UCLA Health contributed an additional \$227.5 million in services in the form of the unreimbursed cost of care to its Medicare and Medi-Cal patients.
- > Every year since 2009, UCLA physicians, dentists and ophthalmologists provide mammograms, fill cavities, complete cancer screenings, screen patients for glaucoma and cataracts and perform other health exams at the annual Care Harbor Free Clinic. In January 2017, more than 300 physicians and nurses, dentists, as well as student volunteers, delivered free services to about 2,200 patients at the event held at the Reef Event Center.
- > The UCLA Center for Health Policy Research is one of the nation's leading health policy research centers and the premier source of health policy information for California. On a regular basis, the Center surveys more than 50,000 Californians on dozens of health issues, from health insurance to chronic diseases. The results of that survey provide policy makers, health advocates, community organizers, media, healthcare providers, foundations, researchers, and many others with critical health information.
- > Each year, students provide free services at approximately 20 health fairs in the greater Los Angeles area under the supervision of faculty, and each academic year, dental students and faculty screen the oral health of approximately 1,400 adults and children, providing basic oral health and preventative services.
- > The Iris Cantor-UCLA Women's Health Education & Resource Center provides education on physical, psychological, and social issues that impact female health and well-being. A significant aspect of the center's work is its outreach to underserved and marginalized populations in the greater Los Angeles area. Key elements of the outreach programs include addressing issues including women's reproductive health and the environment, teen intimate partner prevention, human trafficking, and training health professionals in cultural competencies.
- > The Student Run Homeless Clinics is a student managed service learning outreach project of the UCLA Department of Family Medicine. Throughout the year, UCLA medical students, supervised by faculty, provide free primary care to the homeless population of West Los Angeles, especially at the Santa Monica Shelter-Samoshel and the West Los Angeles Winter Shelter.

- > The Venice Family Clinic is a community-based, nonprofit, free clinic with nine sites in Venice, Santa Monica, Mar Vista, Inglewood, and Culver City. Its mission is to provide free, quality health care to people in need. The clinic provides a medical home to more than 24,000 low-income and uninsured people, who make over 106,000 primary care, specialty care, mental care, and dental visits annually. Nearly 2,1000 volunteers, including more than 500 physicians, donate their time each year.

Legal Services

The School of Law offers programs and clinics that provide substantial legal assistance to members of numerous underrepresented groups.

- > Through the Clinical and Experiential Program, students help provide free legal representation to military veterans, immigrant families, people living with HIV, low-wage workers, incarcerated women and youth, independent musicians and filmmakers, communities facing environmental risks and individuals who otherwise could not afford representation before the U.S. Supreme Court.
- > The Office of Public Interest Programs and Critical Race Studies program train law students to work in social justice and community service, and provide extensive internship, externship and post-graduate fellowship opportunities for students and recent graduates to perform community advocacy work.
- > The Academic Outreach Resource Center offers programming to prepare students from diverse backgrounds and underserved areas, including California's Central Valley, to apply to and attend law school.
- > El Centro Legal is a student-coordinated network of volunteers offering legal aid in areas including housing and homelessness, immigration, juvenile justice, landlord/tenant issues, domestic violence, employment issues, LGBTQ empowerment and workers' rights.

Libraries, Museums and Natural Spaces

UCLA provides cultural and natural spaces for the public to enjoy.

- > The Fowler Museum at UCLA explores global arts and cultures, with an emphasis on past and present works from Africa, Asia, the Pacific, and the Americas. In addition to exhibitions, lectures, symposia, performances, art workshops, and gallery talks open to the public, the Fowler's education program annually serves approximately 10,000 K-12 students as well as K-12 educators with diverse professional development offerings.

- > The Hammer Museum explores the capacity of art and artists to impact and illuminate our lives. A roster of more than 250 free public programs a year include literary readings, lectures, symposia, conversations between cultural figures, political figures, musical performances, and film screenings as well as curator- and artist-led lunchtime talks.
- > Ranked among the top 10 research libraries in the United States, the primary mission of the UCLA library is to serve UCLA students, faculty, and staff in their studies and research. It also is a resource for other users – locally and throughout the nation – who require unique materials and resources beyond the scope of local and/or public library collection.
- > The Mildred E. Mathias Botanical Garden at UCLA is a living museum that is home to one of America’s largest collections of tropical and subtropical plants, containing over 5,000 species of plants. Free docent-led tours are provided to the public. The garden also serves as a retreat for visitors and patients of the UCLA Medical Center.
- > UCLA Recreation offers custom outdoor recreational, instructional and educational programs for Los Angeles youth.
- > UCLA Stunt Ranch Santa Monica Mountains Reserve is a 310-acre ranch owned by UCLA that serves as an outdoor classroom and living laboratory. Each year, UCLA hosts thousands of K-12 level students throughout Greater Los Angeles, teaching them about chaparral and fire ecology, geology and local Native American and homestead history.

Performing and Visual Arts

UCLA also benefits the community through its artistic performances and outreach.

- > Design for Sharing provides free interactive and educational experiences for more than 16,000 K-12 students each year by creating opportunities for them to attend special performances at UCLA or participate in arts residency programs at their own schools and in the classroom.
- > The UCLA Music Partnership Program sends music students into underserved communities in Los Angeles and provides free music lessons to at-risk youth. Each year, hundreds of inner-city youth are served.
- > Visual and Performing Arts Education at UCLA supports the creative and intellectual growth of UCLA undergraduates while providing much needed arts education curricula to young students throughout Los Angeles. Undergraduates are assigned to a local K-12 school to create an 8-week art education course under the supervision of the teacher and after-school programs provide elementary through high school students with the tools and support to develop as artists, creative thinkers and valuable community members.

Public Policy

UCLA improves decision-making in the public interest through research directed toward public issues. Educating public policy professionals and partnering with public servants and the community, UCLA scholars develop and disseminate new information and existing knowledge to solve problems of public concern.

- > The UCLA Institute of Transportation Studies, one of the leading transportation policy research centers in the United States, supports and advances cutting-edge research on the many pressing transportation issues facing our cities, state, nation and world today.
- > The Luskin Center for Innovation (LCI) unites the intellectual capital of UCLA with forward-looking civic leaders to address the most pressing issues confronting our community, nation and world. LCI is organized around initiatives that seek to translate world-class research and expertise into real-world policy solutions. Faculty and staff from a variety of academic disciplines pursue research centralized on environment, energy and sustainability.
- > The Institute on Inequality and Democracy at UCLA advances radical democracy in an unequal world through research, critical thought, and alliances with social movements and racial justice activism. Scholars analyze and transform the divides and dispossessions of our times, in the university and in our cities.
- > The Ralph and Goldy Lewis Center for Regional Policy Studies at UCLA is a nonprofit, nonpartisan organization dedicated to the interdisciplinary study and understanding of policy issues affecting California, particularly problems of the environment, urban design, housing, community and neighborhood dynamics, transportation, and economic development.
- > The Latino Policy & Politics Initiative is a comprehensive think tank at UCLA that addresses the most critical domestic policy challenges facing communities of color in states and localities across the U.S.
- > The Center for Neighborhood Knowledge conducts basic and applied research on the socioeconomic formation and internal dynamics of neighborhoods, and how these collective spatial units are positioned and embedded in the Southern California region. The CNK emphasizes the study of diversity, differences and disparities among neighborhoods, and explicitly covers immigrant enclaves and minority communities.
- > The Watts Leadership Institute (WLI) is an initiative of the UCLA Luskin School of Public Affairs that uses an innovative cohort-based model to develop and promote capacity building among community-based organizations and leaders in Watts. In recognition of Watts as a hub for nonprofits and community-based leaders, WLI works to maximize the impact that community leaders and organizations can have in this historic area of Los Angeles.

UCLA INNOVATION

This section of the report focuses on the significant value that UCLA contributes to the economy beyond its economic, fiscal and social impacts. UCLA is a leading figure not just in the United States, but also in the world when it comes to scientific research and technological innovation. However, rather than doing research for its own sake, UCLA places great emphasis on the practical usage of its findings — of making discoveries and developing new technologies that benefit society, help people and save lives.

Over the years, many momentous technologies have been developed by members of the UCLA community. From new clean-tech methods in gas purification and fuel storage⁹, to medical devices that automatically detect air leakages in patients with chest tubes, to highly advanced semiconductor technology, UCLA has been a breeding ground for new ideas that change the world. Indeed, it was on the UCLA campus that the Internet was invented back in 1969.¹⁰

By providing an environment that encourages research, experimentation and innovation, UCLA is leading the way toward scientific and technological progress. This is apparent in the number of new startups that get launched using UCLA-developed technology. Each year, inventors from UCLA as well as entrepreneurs from around the country make use of scientific and technological research done by UCLA, administered through the university's Technology Development Group.¹¹

During the 2016-17 fiscal year alone, 24 startups were launched using UCLA-developed technology — with UCLA holding equity in six of these companies. UCLA also counts hundreds of inventors among its faculty and students. During the 2016-17 fiscal year, 251 U.S. patents were issued to UCLA, with 1,226 US and 1,417 foreign patents held by the university in total. During this same year, 70 UCLA inventions were licensed to companies for commercial use. Since the year 2000, the value of startups tied to UCLA was just under \$33 billion, according to data gathered by PitchBook, Inc.¹²

By far, most of these companies were concentrated in the healthcare industry, indicating one of UCLA's research strengths. For example, Medivation, which was acquired by Pfizer in 2016 for

⁹ UCLA Technology Development Group. (n.d.). Adsorptive Gas Separation of Carbon Dioxide from Methane by Zeolitic Imidazolate Frameworks (ZIFs). Retrieved from <https://techtransfer.universityofcalifornia.edu/NCD/25263.html>

¹⁰ Kromhout, W. W. (2009, October 15). UCLA, birthplace of the Internet, celebrates 40th anniversary of network's creation. Retrieved from <http://newsroom.ucla.edu/releases/birthplace-of-the-internet-celebrates-111333>

¹¹ The UCLA Technology Fellows Program. (2018, April 02). Retrieved from <http://tdg.ucla.edu/about-us/jobs-internships/ucla-internships-technology-transfer-and-intellectual-property-management>

¹² Because not all companies using UCLA technology have valuations (or at least available valuation data), this figure does not fully reflect the impact of UCLA-developed technology. With more valuation data, this figure would likely be larger.

\$14.5 billion, produces a prostate cancer drug known as Xtandi.¹³ This drug was discovered and patented by UCLA researchers under its generic name enzalutamide, and then licensed to Medivation in 2005. In what became the largest deal involving a UC system invention, the rights to the drug treatment were sold for \$1.14 billion, with UCLA receiving \$520 million from the deal. UCLA invested this money back into the university, supporting biotech research, undergraduate scholarships and graduate fellowships.¹⁴

Other high-valued healthcare-focused startups making use of UCLA's technology include Kite Pharma, which licensed UCLA's artificial thymic organoid (ATO) cell structure system in 2016.¹⁵ This company was acquired by Gilead Sciences for \$12 billion in October 2017. Kythera Biopharmaceuticals, which develops prescription therapeutics, was created using technology developed at UCLA, and also was funded by the UCLA Venture fund.¹⁶ Kythera was acquired in October 2015 for \$2.1 billion by Allergan. Calimmune is another healthcare startup using gene modification technology developed in part by a UCLA researcher.¹⁷ It was acquired by CSL for \$416 million in September 2017.

Beyond healthcare technology, UCLA research has been at the center of numerous other scientific breakthroughs and startup successes. Included is NanoH2O (acquired for \$200 million in 2014 by LG Chem), which develops reverse osmosis membranes for water desalination and water reuse using seawater.¹⁸ Habitrol, which produces a nicotine patch to help users quit smoking, was developed at UCLA and acquired by Dr. Reddy's Laboratories in 2014.¹⁹

By and large, UCLA is an innovation powerhouse in terms of the scientific research and technology that it produces each year. Often times, massively successful companies form around UCLA's inventions, creating value for the entire world. In this way, UCLA has a substantial and noteworthy impact on the economy beyond what it directly spends each year.

¹³ Puzanghera, J. (2016, August 22). Pfizer to pay \$14 billion for Medivation, whose drug Xtandi was discovered by UCLA. Retrieved from <http://www.latimes.com/business/la-fi-pfizer-medivation-acquisition-20160822-snap-story.html>

¹⁴ Hampton, P. (2016, March 04). UCLA sells royalty rights connected with cancer drug to Royalty Pharma. Retrieved from <http://newsroom.ucla.edu/releases/ucla-sells-royalty-rights-connected-with-cancer-drug-to-royalty-pharma>

¹⁵ Kite Pharma Licenses Enabling Technology for the Development of Off-the-Shelf Allogeneic T-Cell Therapies. (2016, July 25). Retrieved from <http://ir.kitepharma.com/releasedetail.cfm?releaseid=981016>

¹⁶ Tang, J. (n.d.). Alumni. Retrieved from [https://www.anderson.ucla.edu/alumni/publications/newsanderson/keith-leonard-\(95\)](https://www.anderson.ucla.edu/alumni/publications/newsanderson/keith-leonard-(95))

¹⁷ About Us. (n.d.). Calimmune. Retrieved from <http://www.calimmune.com/about-us>

¹⁸ NanoH2O Lands \$60M In Funding. Socaltech. (2012, April 30). Retrieved from https://www.socaltech.com/nanoh_o_lands_6_m_in_funding/s-0042399.html

¹⁹ Habitrol Nicotine Patch on arm Tremendous Benefits to Society. UCLA Technology Development Group. (n.d.). Retrieved from <https://tdg.ucla.edu/habitrolr-nicotine-patch>

Top Startup Valuations using UCLA Technology, 2000-2017

Company	Industry	Headquarters	Latest Valuation (\$ Mil.)	Valuation Date
Medivation	Healthcare	San Francisco, CA	14,500.0	Sep-16
Kite Pharma	Life Sciences	Santa Monica, CA	12,000.0	Oct-17
Kythera Biopharmaceuticals	Life Sciences	Westlake Village, CA	2,100.0	Oct-15
Aragon Pharmaceuticals	Life Sciences	San Diego, CA	1000.0	Aug-13
One Lambda	Manufacturing	Los Angeles, CA	925.0	Sep-12
Agensys	Life Sciences	Santa Monica, CA	537.0	Dec-07
Calimmune	Life Sciences	Tucson, AZ	416.0	Sep-17
Fibrocell Science	Life Sciences	Exton, PA	252.3	Jul-15
Nanosys	Nanotechnology	Milpitas, CA	230.0	May-18
NanoH2O	CleanTech	El Segundo, CA	200.0	May-14
Concentric Medical	Healthcare	Mountain View, CA	135.0	Oct-11
Advanced Liquid Logic	Manufacturing	Morrisville, NC	97.2	Jul-13
Neural Analytics	Healthcare	Los Angeles, CA	93.0	Jan-18
AvidBiotics	Life Sciences	South San Francisco, CA	75.1	Sep-14
Tribogenics	HealthTech	Los Angeles, CA	73.4	Jun-16
Flex Logix Technologies	Information Technology	Mountain View, CA	61.9	May-17
Lyxia	CleanTech	Los Angeles, CA	57.0	Sep-14
Trethera	Life Sciences	Los Angeles, CA	40.0	Mar-17
ImmunGene	Life Sciences	Camarillo, CA	33.0	Nov-13
CytoVale	Life Sciences	San Francisco, CA	32.2	Dec-17
Water Planet	CleanTech	Los Angeles, CA	25.5	Aug-16
ArmaGen	Life Sciences	Calabasas, CA	25.0	Mar-18
Enlibrium	Life Sciences	San Diego, CA	20.0	Dec-15
ImaginAb	Life Sciences	Inglewood, CA	17.5	Sep-17
Unidym	CleanTech	Sunnyvale, CA	13.1	Dec-11

Source: PitchBook, Inc.
Analysis by Beacon Economics

CONCLUSION

UCLA had a remarkable economic and fiscal impact on the state of California, the SoCal region and the City of Los Angeles through its expenditures during the 2016-17 fiscal year. This spending affected these economies in a direct way, by making purchases of goods and services from retailers, wholesalers, construction firms and others. Moreover, this spending activity had further, secondary impacts on these economies: indirect effects from increased business-to-business spending, as well as induced effects from increased household spending. In this way, UCLA's spending activity had a total impact that was much larger than its direct spending.

UCLA also had significant impacts on the community and its students in a less quantifiable way — namely, through its social impacts. These include providing indirect support for local business establishments, affecting local demographic statistics and benefiting others through breakthrough scientific research and community activities. These also include helping underrepresented students and families prepare for college admission and success, faculty and students providing thousands of hours of medical care for those that need it most, and UCLA running cultural and natural spaces for the public to enjoy. These ventures improve quality of life throughout the SoCal Region and the City of Los Angeles, particularly for the area's most at risk populations.

UCLA also has a real impact on the economy through the transfer of its research into the marketplace by technology companies. These companies, which license UCLA-developed technology and research, are often times valued in the hundreds of millions or even billions of dollars. They provide jobs to people, and perhaps most importantly, they change the world and even save lives.

UCLA is a tremendous benefit to the economy, to local businesses and households, and most importantly, to its students. In general, economic research finds the more education an individual receives, the greater his or her earning potential. This benefit extends beyond what is quantified in this report, as these increased earnings, and the cultural experience students enjoy during their time at UCLA, will compound throughout the student's lifetime.



APPENDIX

Tables

Total UCLA Output Impact (in millions of dollars)

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	5,856.3	5,653.8	2,612.3
Indirect Effect	2,415.8	2,313.0	765.1
Induced Effect	2,789.0	2,516.4	718.9
Total Effect	11,061.1	10,483.1	4,096.2

Total UCLA Employment Impact

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	44,318	42,620	20,144
Indirect Effect	12,273	11,595	3,617
Induced Effect	16,127	14,509	4,152
Total Effect	72,718	68,724	27,913

Total UCLA Employee Compensation Impact (in millions of dollars)

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	2,344.6	2,197.2	1,096.0
Indirect Effect	860.4	793.0	269.0
Induced Effect	953.7	854.2	251.3
Total Effect	4,158.8	3,844.4	1,616.3

Total UCLA Tax Revenue Impact (in millions of dollars)

Impact Type	California	SoCal Region	City of Los Angeles
Sales Tax	243.7	63.2	30.7
Property Tax	200.8	182.8	43.1
Personal Income Tax	134.4	0.0	0.0
Other Taxes	127.0	38.4	13.7
Total Taxes	706.1	284.4	87.5

UCLA Health Sciences Output Impact (in millions of dollars)

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	3,368.1	3,249.4	1,508.3
Indirect Effect	1,442.3	1,377.2	456.3
Induced Effect	1,684.4	1,503.6	428.7
Total Effect	6,494.7	6,130.2	2,393.3

UCLA Health Sciences Employment Impact

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	26,306	24,622	11,606
Indirect Effect	7,511	6,838	2,127
Induced Effect	10,061	8,668	2,475
Total Effect	43,878	40,129	16,209

UCLA Health Sciences Employee Compensation Impact (in millions of dollars)

Impact Type	California	SoCal Region	City of Los Angeles
Direct Effect	1,416.2	1,312.6	653.8
Indirect Effect	517.5	472.4	160.3
Induced Effect	576.0	510.4	149.8
Total Effect	2,509.7	2,295.3	963.9

UCLA Health Sciences Tax Revenue Impact (in millions of dollars)

Impact Type	California	SoCal Region	City of Los Angeles
Sales Tax	138.5	36.2	17.4
Property Tax	114.1	104.6	24.4
Personal Income Tax	81.1	0.0	0.0
Other Taxes	73.7	22.3	7.9
Total Taxes	407.3	163.1	49.7

Model Used for the Economic and Fiscal Impact Analysis

Multipliers are used by economists to explain how spending in a given industry affects that industry down its supply chain, as well as the overall economy. For example, a multiplier might show how for every \$1 spent in a certain industry, an additional \$0.25 in economic activity is generated in the economy: a 1.25 multiplier.

Expenditures made on different types of goods and services can lead to different multipliers. Similarly, expenditures made in the same industry in different regions can generate different economic impacts. Why do multiplier effects differ across industries and regions? An expenditure can have a large multiplier if it induces economic activity in industries whose employees have a high propensity to spend their take-home pay. Also, if the regional industry does not import many materials from outside the region, its multiplier effect on the local economy will be high. On the other hand, if imports are high, the multiplier effect will be lower, as spending in the local economy “leaks out” into other regions.

The multiplier effects of these expenditures were estimated with the help of Version 3 of the IMPLAN modeling system. IMPLAN (which stands for Impact Analysis for Planning) is a widely used, industry standard input-output economic model owned by the IMPLAN Group. Within a specified timeframe,

input-output models help elucidate the interactions that take place between a given economic agent or activity and the broader economy (or economies, if more than one region is studied). For this analysis, the timeframe is one year (the 2016-17 fiscal year) and the economic agents are UCLA (the entire campus combined with its healthcare entities) and the UCLA Health Sciences (UCLA's healthcare entities).

Definition of Terms

Output: The value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers, output is sales plus or minus change in inventory. For service sectors output is equal to sales. For retail and wholesale trade, output is equal to gross margin.

Employment: The annual average of monthly jobs in a given industry. Another way to define employment is "full-time equivalent."

Labor Income: All forms of employment income including wages and benefits.

About Beacon Economics

Beacon Economics is one of California's leading economic research and consulting firms, specializing in economic and revenue forecasting, economic and fiscal impact analysis, regional economics and public policy analysis. Known for delivering independent and rigorous research, the firm provides its clients with economic and data analysis that strengthens strategic decision-making about investment, revenue and policy. Clients range from the state of California to Fortune 500 companies to major cities and universities.

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