THE UNIVERSITY OF NEVADA, LAS VEGAS’ ECONOMIC CONTRIBUTION AS A TOP-TIER UNIVERSITY

DECEMBER 2020

CENTER FOR BUSINESS & ECONOMIC RESEARCH, UNLV
Executive Summary

Founded in 1957, the University of Nevada, Las Vegas (UNLV) is the only graduate research institution in Southern Nevada. This report quantifies UNLV’s economic impact within the local economy from 2019 through its reaching top-tier status in 2025. The university employed 4,077 individuals in October 2019, ranking it as one of the largest employers in Clark County. UNLV also contributes to the local economy via its purchases from local businesses in support of its operations. We estimate that the university spent approximately $689 million in Southern Nevada during fiscal year 2019. UNLV also generates economic activity in Southern Nevada through the purchases by its students and visitors on local goods and services.

The primary economic impact of UNLV on the Southern Nevada economy is summarized in the figure below. In total, UNLV’s primary quantitative economic impact equals an estimated $1,438 million, split between the university, employees, students, and visitors.

![Graph showing economic impact]

In total, UNLV's primary quantitative economic impact equals an estimated $1,438 million, split between the university, employees, students, and visitors.

In addition, the university’s direct economic impact generates spinoff expenditures that ripple through the local economy. Spinoff expenditures result from additional rounds of spending that take place after the direct spending has occurred. We employ a structural model of Clark County’s economy developed by Regional Economic Models, Inc. (REMI) to calculate these spinoff impacts. The table below summarizes the total quantitative economic impact of UNLV on the Southern Nevada economy. We estimate that UNLV generated a total of $2,445 million of expenditure in the Southern Nevada economy during Fiscal Year (FY) 2019. This estimate does not include any purchase of capital assets such as expenditures for new construction or the additional economic contributions from UNLV graduates in 2018-19 academic years from any incremental wages and salaries due to UNLV-earned degrees. UNLV’s state appropriations amounted to $237 million in 2019. Hence, UNLV’s Economic Impact Ratio (EIR) for 2017 is 10.3. That is, for every dollar of state-appropriated funds, the university generated an additional $10.3 of economic activity in the Southern Nevada community. In addition, we find that each dollar of student spending generates approximately 1.70 dollars of economic activity in Southern Nevada.

We also find that by the year 2025, UNLV will supply the valley with nearly 19,500 direct and indirect jobs and roughly $2,705 million in economic activity when the university achieves a top-tier status as a public university. These quantitative estimates are, nonetheless, conservative as they do not include the numerous positive qualitative impacts of UNLV on Southern Nevada: the spillover effects of research and development, advanced science, and technology; a better trained workforce that can compete globally;
UNLV’s role in attracting new industries that help to diversify the Nevada’s economy; and UNLV’s contribution to an improved quality of life for local residents.

**UNLV as a Top Tier University, Will Support Southern Nevada Economy in 2025**

<table>
<thead>
<tr>
<th>Employment</th>
<th>Economic Output</th>
<th>Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>19,500 Jobs</td>
<td>$2,705 million</td>
<td>$1,528 million</td>
</tr>
</tbody>
</table>

100 additional jobs from 2019

-$260 million of additional economic output from 2019

-$282 million of additional personal income from 2019

Given that these estimates represent a lower bound on the total economic impact, we conclude that UNLV plays a fundamental part in the Southern Nevada economy. Moreover, as the only major graduate research university in a rapidly diversifying economy, the university will no doubt contribute significantly to the region’s future well-being and provide valuable resources in helping the Southern Nevada community to reach its full potential. Although FY19’s economic impact was not affected by the COVID-19 recession, the projections through 2025 do incorporate the current estimate of the COVID-19 recession as contained in the national forecast in REMI.
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Acknowledgements

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I. Introduction

Founded in 1957, the University of Nevada, Las Vegas (UNLV) is the only graduate research institution in Southern Nevada. Located less than two miles east of the Las Vegas Strip, UNLV has rapidly transformed itself from a small branch college into an urban research institution along with Las Vegas’s dramatic population and economic growth. UNLV is now the largest and first Tier 1 institution in the Nevada System of Higher Education, with a full-time enrollment nearly 47-percent larger than the next largest institution, the University of Nevada, Reno (UNR).\(^1\) During the fall 2019 semester, 21,328 undergraduate students and 3,956 graduate and professional students matriculated at UNLV. The students were advised and taught by 2,716 academic and administrative faculty supported by 1,027 classified staff.\(^2\) This university community accounted for approximately 0.3 percent of Clark County’s total employment in 2019.

*Figure 1. Las Vegas’s Drawing Power of College Graduates*

Only three schools send more than 2 percent of their alumni to Las Vegas

- **52.8%**
  - University of Nevada, Las Vegas
- **7.3%**
  - Southern Utah University
- **7.3%**
  - University of Nevada, Reno

Source: *Wall Street Journal* database of 445 schools

UNLV serves, not surprisingly, as one of the main sources of educated workers in Southern Nevada. That is, UNLV cultivates the next generation of highly educated workers for Las Vegas, where the share of those who hold a bachelor’s degree or higher is one of the lowest compared to other major Metropolitan Statistical Areas (MSAs).\(^3\) Approximately 74,000 UNLV alumni are estimated to reside in Southern Nevada as of 2020, which accounts for about one-fifth of those who have a bachelor’s degree or higher in the region. The *Wall Street Journal* (*WSJ*) blog stated in 2018 that Las Vegas does not exert much power in drawing college graduates to itself. Only three schools send more than 2 percent of their Alumni to Las Vegas as follows: UNLV (52.8 percent), Southern Utah University (7.3 percent), and UNR (7.3 percent) (See Figure 1).\(^4\) This shows that the local economy will face a limited ability to improve the quality of its labor force and to address the resultant lower productivity issues without UNLV. Moreover, the School of Medicine (SOM), which admitted its first class in fall 2017 and will graduate that class this year, has strengthen the important role of UNLV in the local community. The launch of the UNLV SOM was essential since it not only can assist the existing health industry in satisfying the growing community healthcare
needs, but also can contribute to the diversification of the local economy that is so heavily dependent on the tourism sector. The UNLV School of Medicine expects to generate an additional $1.2 billion of economic activity in the local economy by 2030.5

UNLV is clearly a vital component of the Southern Nevada Economy in that it produces the largest share of the highly educated workforce in the area as well as contributes to the diversification of the local economy. According to the Economic Policy Institute (EPI), a well-educated workforce critically boosts well-being of a state in that a well-educated workforce bolsters economic growth and tax revenues of the state with higher productivity. The analysis in this report, conducted by the Center for Business and Economic Research (CBER), quantifies the university’s economic contribution now and through 2025 as a top-tier institution. A traditional economic impact analysis assesses how the local economy would suffer if the university were removed as a participant. The university’s economic activity is entered into the economic modeling software, which carefully traces the various ways the university contributes to jobs, expenditures, and income in Southern Nevada. These estimated quantitative effects are also supplemented by less tangible qualitative impacts.

First, this report addresses the quantifiable (in dollar terms) impact that UNLV exerts on the surrounding community through its Fiscal Year 2019 operating expenses based on its financial statement. We measure this impact in two steps. One, we estimate the primary impact, defined as UNLV’s direct financial contribution to local economic activity. The primary impact includes university employment and expenditures, student and staff expenditures, and expenditures by other university-related visitors, such as parents, alumni, and patrons. Two, we estimate the spinoff impacts, defined as expenditures that daisy-chain through the local economy. That is, each time a dollar from UNLV’s primary economic activity is re-spent, it generates a spinoff effect. For example, university employees spend their paychecks at local businesses for housing, groceries, and clothing. Local business employees then spend those dollars again for their own housing, groceries, and clothing, and so on.

Second, we describe the impact of UNLV alumni on the local and statewide economies. About 60 percent of UNLV alumni reside in Southern Nevada and benefit the local economy with increased earning power and spending. In addition, more than 85 percent of graduates from the 2018-19 class remain in Clark County, augmenting and improving the talent pool in the local community. As previously mentioned, UNLV is obviously the most prominent workforce pipeline for a well-educated population in the Las Vegas-Henderson-Paradise MSA, which ranked among the least-educated cities in the United States6.

Third, we estimate the economic impact of UNLV on the local economy after it reaches top-tier status. UNLV has initiated a top-tier strategic plan to achieve a top-tier public university status in research, education, and community impact by 2025. To achieve this goal, UNLV plans to expand its research expenditures, to increase its community involvement, and to improve its student achievement by reducing the faculty-student ratio by hiring more faculty. We measure the quantifiable impact of UNLV on the local community as a top-tier institution in 2025.

Finally, UNLV’s true impact is larger than the quantifiable numbers that we present, because the numbers do not include the difficult-to-define qualitative impacts. These qualitative impacts include community-wide benefits resulting from the university’s cultural events, regional and national connections, and
research and technology applications. Qualitative impacts lead to a better quality of life for local residents, either directly through interaction with the university or indirectly through the expansion of the economy brought on by the university. These qualitative impacts are, therefore, important components of the university’s impact on the local community and are discussed at the end of the report.

Siegfried et al. (2008) provide several criticisms of university impact studies. Our analysis addresses some of these criticisms. First, our calculation of primary impacts avoids double counting by only using expenditures by students and visitors that would not otherwise have occurred in the local economy. See section II A for more information. Second, our estimation of spinoff impacts does not use the simple multiplier approach. Rather, we use a dynamic input-output model, which leads to a more realistic expenditure multiplier. See section II B.

The report is organized as follows. Section II characterizes the quantitative impact of today’s UNLV on the Southern Nevada economy. Section III addresses the UNLV alumni impact on the local economy. Section IV describes the quantitative economic impact of UNLV as a future top-tier institution. Section V discusses the qualitative impact of UNLV on the community. Section VI summarizes the results of the study and concludes.
II. FY 2019 UNLV Economic Impact: Current Institution

Clark County, which houses more than 70 percent of Nevada’s population, is the home to the University of Nevada, Las Vegas. Figure 2 reports the demographic and economic facts of Clark County, Washoe County, and Nevada. Nevada has two state research universities in Reno and Las Vegas to cultivate a well-educated future workforce for the state. Higher education is important especially in the current era with fast-evolving technologies and artificial intelligence. A well-educated workforce is critical to increase a state’s productivity as well as median wages in the state.\(^6\) The EPI argues that providing expanded access to high quality education will broaden economic opportunity for residents as well as strengthen the overall state economy. Figure 2 clearly demonstrates these facts. Clark County has a smaller share of those with a bachelor’s degree or higher, a lower median household income, and higher unemployment rate compared to Washoe County and Nevada in 2019. In addition, Washoe County has a more-diversified economy compared to Clark County, which helps them experience a stronger economy during the COVID-19 pandemic. Due to our tourism-dependent economy, however, Clark County remains more vulnerable to the COVID-19 pandemic recession.

![Figure 2. Demographic and Economic Statistics for Clark and Washoe Counties and Nevada](image)

<table>
<thead>
<tr>
<th></th>
<th>Clark County</th>
<th>Washoe County</th>
<th>Nevada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>2,266,715</td>
<td>471,519</td>
<td>3,080,156</td>
</tr>
<tr>
<td>Median household income ($)</td>
<td>62,107</td>
<td>71,881</td>
<td>63,276</td>
</tr>
<tr>
<td>Income per capita ($)</td>
<td>48,806</td>
<td>63,360</td>
<td>51,161</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>4.0</td>
<td>3.2</td>
<td>3.9</td>
</tr>
<tr>
<td>Educational attainment level (Population 25 and older)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school graduate</td>
<td>13.7%</td>
<td>11.3%</td>
<td>13.1%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>28.2%</td>
<td>22.5%</td>
<td>27.8%</td>
</tr>
<tr>
<td>Some college or associate degree</td>
<td>32.5%</td>
<td>34.7%</td>
<td>33.4%</td>
</tr>
<tr>
<td>Bachelor’s degree or higher</td>
<td>25.6%</td>
<td>31.5%</td>
<td>25.7%</td>
</tr>
</tbody>
</table>


UNLV has dedicated itself to developing a highly educated workforce to assist with rapid local economic growth. As economic diversification becomes more important for a sustainable future, UNLV plays an important role in community development. UNLV, one of the largest employers in Clark County, also supports the local economy through its operations, which we can measure by using quantitative data. This section will address the quantifiable (in dollar terms) impact that UNLV exerts on the surrounding community in 2019. Figure 3 illustrates the trends in important Clark County and UNLV data and shows how the Great Recession affected these trends. Southern Nevada experienced a deeper and longer recession than the nation, and now the COVID-19 pandemic recession expects to cause significant disruptions to UNLV’s operation. Nevertheless, UNLV continues to diversify the Clark County economy as well as to assist in providing Clark County with a well-educated workforce.
A. Primary Impact

The analysis first assesses the primary impacts of UNLV on the Southern Nevada economy. These primary economic impacts result from the local jobs created by the university, the university’s expenditures on local goods and services, and the expenditures from its students and visitors on local goods and services. These primary impacts are measured using university information from FY 2019 economic activity.

University Operating Expenditures

Slightly less than two thirds of UNLV’s total operating expenses for FY 2019 covered employee compensation and benefits (see Figure 4). As one of the largest employers in Clark County, UNLV employed 4,077 persons as of October 31, 2019. This total includes academic and administrative faculty, as well as postdoctoral scholars, medical residents, and classified staff. The annual compensation (including fringe benefits) for the university employees was approximately $512 million in 2019. Following the assumptions of previous economic impact studies done for UNLV, we count all university jobs as employment losses in the primary impact of UNLV on the local economy. The intuition behind this assumption is that the majority of the university employment will be lost to the local economy because employees would either seek jobs in other regions or drop out of the labor market.
Not only is UNLV one of the largest employers in Clark County, but also it contributes to the local economy via its expenditures on local goods and services in support of its operations. These expenditures will also be lost to the local economy, if UNLV closed. During FY 2019, UNLV spent a total of $164 million on utilities, services, and equipment supplies for its day-to-day operations. Note that we do not consider in this exercise the one-time spending such as building a new facility on campus. Utilities, services, and equipment supplies expenditures represent 21 percent of the university’s total operational spending during FY 2019 (see Figure 4). We again follow the previous UNLV impact studies by assuming that 85 percent of the university’s spending on goods and services, which equals $139 million, went to local businesses and remained within Clark County. This number, however, only includes a part of expenditures by the UNLV SOM. Therefore, including the rest of the UNLV SOM spending, we estimate that UNLV spent $177 million for goods and services in FY 2019.

Figure 5 provides a breakdown of UNLV’s operating funds by source. The university’s total operating funds for FY 2019 are estimated at $773 million. Roughly 31 percent, or $237 million, of these funds originate from state appropriations. This suggests that for every dollar spent by Nevada taxpayers on higher education funding, UNLV generated approximately $2.26 from additional sources. Tuition and fees account for approximately 27 percent, slightly lower than the state appropriation, and grants and contract equal just over half of state appropriations.
Student Expenditures
Student enrollment at UNLV exceeds enrollments at any other university, public or private, in the state of Nevada. These students exert a significant effect on Clark County through their demand for goods and services. We can only incorporate the expenditures of students who would pursue an education outside of Clark County in the absence of UNLV when calculating the primary economic impact. Otherwise, if students remained in the valley, the local economy would not lose their expenditures.

Figure 6. The Number of Students Out-migrated from Clark County without UNLV

68.7% or 16,948 students would leave Clark County without UNLV, and among them

Using residency status (assuming all nonresident students would go elsewhere), test scores (assuming all top resident students would go elsewhere), and professional school status (assuming all dental, medical, and law school students would go elsewhere), we estimate that approximately 68.7 percent of UNLV’s students would leave Clark County, if UNLV did not exist. Of those who would leave Clark County, we
estimate that 59.4 percent of students would come from undergraduate students who have Nevada residency status (see Figure 6). Thus, we estimate the student expenditures lost to the local economy by multiplying the number of students we estimate would leave (16,948) by the average annual student expenditure on necessities.13

**Visitor Expenditures**

Attendees of special events at the university probably participated more in the local economy because of the draw to UNLV events. Economic activity generated by visitors to university events accounts for an additional $484 million in benefits. During FY 2019, Cox Pavilion, Sam Boyd Stadium, and the Thomas & Mack Center hosted sports games, concerts, and other types of entertainment. More than one million people, many of whom live outside the Las Vegas Valley, attended these events. The Student Union, which offers meeting and convention space for students and the local community as well as visitors from out of town, also brought an additional 16.2 thousand of visitors during FY 2019.14 The primary impact only includes visitor spending that would not occur in the absence of UNLV because the visitors would not have come and the events would not take place elsewhere in Clark County. We assume that such visitors accounted for 15 percent (58,016) of all university-related event attendees and 80 percent (518,440) of all other event attendees in 2019. Therefore, we estimate visitor economic activity by multiplying this total (576,456) by the average per-visitor, per-trip spending as reported by the Las Vegas Convention and Visitors Authority (LVCVA) plus our estimate of gaming, $1,109. We then adjusted the visitor’s spending for the attendance at multiple-day events to prevent potential double counting.15

**Total Primary Impact**

The primary impacts of UNLV on the Southern Nevada economy are summarized in Figure 7. UNLV’s primary quantitative economic impact is estimated at nearly $1,438 million in 2019. The UNLV’s direct expenditure consists of the university’s direct spending on goods and services (12.3 percent), the UNLV’s employee compensations (35.6 percent), students’ direct expenditures on goods and services (18.4 percent), and spending by visitors who attended events hosted by UNLV (33.7 percent). The amount of UNLV’s primary economic activity in FY 2019 exceeded the gross domestic product of Guinea-Bissau.

**Figure 7. Total Primary Impact of UNLV Operation in FY 2019**

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Demand for Goods and Services</td>
<td>$177 million</td>
</tr>
<tr>
<td>University Employee Compensation</td>
<td>$512 million</td>
</tr>
<tr>
<td>Student Expenditures</td>
<td>$265 million</td>
</tr>
<tr>
<td>Visitor Expenditures</td>
<td>$484 million</td>
</tr>
</tbody>
</table>

Total primary expenditures in FY 2019 were **$1,438 million**.
B. Spinoff Impacts

All primary effects generate spinoff impacts that multiply their effects substantially. Spinoff impacts result from additional rounds of spending that take place after the direct spending has occurred. For example, wages paid to a university employee may be used to purchase groceries. Thus, the same money that supports the university employee’s job may also support the job of a grocery-store employee. The grocery-store employee will, in turn, spend money on other goods and services in the community, creating more jobs and wages. As the money circulates through multiple rounds of spending, a spinoff impact is created in a multiplier effect.

Not all successive spending ripples entirely affect the local economy; sometimes a fraction of the spending leaks to other economies as residents purchase imported goods. Therefore, the amount counted in all subsequent rounds of spending for this analysis depends on the average propensity of local residents to consume local goods and services. Figure 8 explains the economic effects of successive spending when the propensity to consume locally is 0.5—that is, when, for every dollar spent in the local economy, half purchases local goods and services, and the other half is saved or spent on import goods and services. After an initial dollar of first-round spending in the local economy, 50 cents is spent in the second round, 25 cents in the third round, and so forth. After six rounds of spending, the initial $1 in primary spending generates an additional $0.97 of spinoff expenditure in the local economy. That is, the initial expenditure of $1 results in a total expenditure of $1.97.

This overly simple example in Figure 8 is for illustrative purposes only. The actual estimation of spinoff effects for a real economy is necessarily complicated, depending on how money filters through the various components of an economy. Thus, we employ a structural model of the Clark County’s economy developed by REMI to calculate these spinoff impacts. This input-output model takes the numerous complex interactions of an economy into account in following the primary impact as it flows through the system creating spinoff impacts.

Figure 8. Illustrative Example of Spinoff Expenditures Generation

<table>
<thead>
<tr>
<th>Round</th>
<th>Cumulative Spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.0000</td>
</tr>
<tr>
<td>2</td>
<td>1.5000</td>
</tr>
<tr>
<td>3</td>
<td>1.7500</td>
</tr>
<tr>
<td>4</td>
<td>1.8750</td>
</tr>
<tr>
<td>5</td>
<td>1.9375</td>
</tr>
<tr>
<td>6</td>
<td>1.9688</td>
</tr>
</tbody>
</table>

We use UNLV’s primary impacts as inputs in the REMI model, which filters them through the model of the Clark County economy and outputs the resulting effects. Essentially, the REMI model addresses two
UNLV Economic Impact

questions in this exercise: How did UNLV contribute to the economic activity of Clark County in 2019 and how would UNLV impact our community after achieving top-tier status as an institution in 2025. We derive the spinoff impacts of the university over time from the REMI model.

We chose the REMI model over other economic models because of its several desirable features. First, the REMI model contains over 100 economic and demographic relationships carefully constructed to represent regional economies and includes equations to account for migration and trade between regions. These relationships are constructed utilizing the latest economic theory and empirical understanding.

Second, the REMI model can calculate how the impacts filter through the economy over an extended period. In the REMI model, the labor-and-capital-demand block, the population-and-labor-supply block, and the wage-prices-and-profits block interact with each other to mimic the actual economy. The dynamic specification eventually causes the model to return to equilibrium over time. This is important for understanding the true economic impact of the university; for example, the loss of educated workers may have a delayed impact, only being fully realized as firms replace their work forces over several years. Other impact modeling frameworks fail to address this issue.

Finally, the REMI model is extremely flexible in its modeling capabilities, allowing us to tailor the model to the specific needs of the university in this report. For example, producing a highly educated workforce will generate productivity gains for local industry. We consider this productivity impact of UNLV graduates in Section III.

*Figure 9. Total Economic Impacts of UNLV Operations in FY 2019*

**UNLV SUPPORTED SOUTHERN NEVADA ECONOMY in 2019**

<table>
<thead>
<tr>
<th>Employment</th>
<th>Economic Output</th>
<th>Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>19,400 Jobs</td>
<td>$2,445 million</td>
<td>$1,246 million</td>
</tr>
<tr>
<td>4,077 direct</td>
<td>$1,438 million direct</td>
<td>$512 million direct</td>
</tr>
<tr>
<td>15,323 spinoff</td>
<td>$1,007 million spinoff</td>
<td>$734 million spinoff</td>
</tr>
</tbody>
</table>

Figure 9 shows UNLV’s spinoff impacts on employment, personal income, and output in 2019. The model estimates that the overall economic impact of UNLV operations in 2019 was $2.4 billion with $1.4 billion in primary impacts and $1.0 billion in spinoff impacts, which are generated by purchasing supplies or spending by UNLV employees, students, and visitors. This activity supported a total of 19,400 jobs within Southern
Nevada, including 4,077 direct employees at the university. UNLV operations also generated an additional $734 million of personal income in Clark County on top of the $512 million of UNLV employees’ compensation.

One can use the spinoff economic impact to estimate the local economic multiplier results from $1 of expenditures related to university operations. The multiplier is given by the sum of primary impacts and spinoff impacts, divided by primary impacts, which equals 1.70. This implies that each dollar of spending related to university operations generates approximately 1.70 dollars of economic activity for Clark County.
III. UNLV Alumni Impacts

UNLV cultivates the largest number of highly educated workers for Nevada. According to the National Center for Education Statistics (NCES), UNLV produced 5,679 graduates with bachelor’s degrees or higher, which is about 19.5 percent more than the 2019 UNR graduates. It also fostered more ethnically diversified workforce compared to UNR for the Nevada economy. UNLV’s FY2019 graduates were 37.9 percent White, 23.5 percent Hispanic, 13.1 percent Asian, and 6.7 percent Black, while UNR’s graduates were 60.6 percent White, 18.4 percent Hispanic, 7.3 percent Asian, and 2.9 percent Black. UNLV has produced 129,340 alumni over the past 55 years, and the UNLV Alumni Association estimates that currently 126,194 living graduates exist and are spread throughout all 16 counties in Nevada and all 50 states in the United States as well as 77 countries in the world. Among them, 73,949 alumni live in Clark County (about 58.6 percent of total living graduates), who contribute their talents in various areas as K-12 teachers, hotel and tourism professionals, health care professionals, business owners and managers (Figure 10). The U.S. Census estimates 25.6 percent of Clark County population 25 years and over hold a bachelor’s degree or higher, which is much lower than the U.S. average of 33.1 percent. We can roughly estimate that about one fifth of the workforce that hold a bachelor’s degree or higher in Clark County received that degree from UNLV. As UNLV enrollment size substantially increased in recent decades, the most prevalent age range for UNLV graduates is between 30 and 39 with 29.3 percent of the total living graduates.

*Living alumni. Currently, it is estimated that there are 126,194 living graduates in the world.

Graduates in 2018-19 Academic Year

During FY 2019, UNLV conferred 5,427 degrees to 5,185 individuals, according to the UNLV Alumni Association. About 86.5 percent of these graduates (4,484 individuals) currently live in Southern Nevada.
and contribute to the local economy with incremental earning power from their UNLV degrees. Figure 11 shows the average incremental wages and salary in Nevada. Considering a 73.8 percent labor participation rate for those with a bachelor’s degree or higher in 2019, we expect that the increased earning power of these graduates equals $87.5 million in wages and salary per year in Clark County.

Figure 11. Average Wages and Salaries by Age Group and Incremental Earning Power in Nevada

<table>
<thead>
<tr>
<th>Age Group</th>
<th>High school</th>
<th>Bachelors</th>
<th>Masters</th>
<th>Professional</th>
<th>Doctoral</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-24</td>
<td>$40,121</td>
<td>$67,304</td>
<td>$79,888</td>
<td>$151,191</td>
<td>$113,834</td>
</tr>
<tr>
<td>25-39</td>
<td>$27,182</td>
<td>$12,585</td>
<td>$83,888</td>
<td>$33,946</td>
<td></td>
</tr>
</tbody>
</table>

Note: CBER analyzed the Nevada 2014-2018 ACS PUMS dataset to find the average wages and salary by age groups. Average wages are calculated based on wages in which work hours are greater than or equal to 35. FTE is defined using BLS definition of 35 hours or more. The table shows average wages by degree for ages 24–64. Source: 2014-2018 American Community Survey 5-year Public Use Microdata (PUMS); CBER

If 4,484 UNLV graduates remaining in Clark County over a lifetime of employment (40 years), we estimate that these educated workers can contribute an additional $7.9 billion of economic output over a 40-year period, which equals about an annual average of $196.8 million. This result uses the method of Rephann (2017). First, we considered the sectors that typically need a bachelor’s degree or higher, and for each of the sectors considered, we calculate each sector’s share of the employment in all the sectors considered. Second, we obtained REMI data of value-added and wages and salaries for each sector that we considered over a 40-year period to calculate ratios of net value-added per earnings. Net value added equals value added, which already includes earnings, minus earnings (wages and salaries). Third, using the U.S. Bureau of Census American Community Survey Public Use Microdata (PUMS), we estimated the increased earnings
in Clark County from ages 24 to 64 by degree level. Fourth, we calculated the productivity gain based on the increased earnings by year from 2019 to 2058, using the ratios of net value-added per earnings. Fifth, we calculated adjusted productivity by multiplying net value added by increased earning, and then used the adjusted productivity and the increased earnings in the REMI model. We also adjusted inputs with a 73.8 percent labor participation rate. See Figure 12.

Figure 12. Economic Impacts of Incremental Wages and Salaries by FY 2019 Graduates in Clark County

Note: Average is the annual average of total cumulative impacts in a given period. For example, $103.6 million equals $518 million / 5 years. Output is presented in millions of fixed 2019 dollars.
IV. FY 2025 UNLV Economic Impact: Top-Tier Institution

UNLV transformed itself into a thriving urban research institution from a small branch college during a time when Las Vegas also experienced explosive economic and demographic growth. The growth of UNLV was necessary to meet the needs of local businesses as the economy grew strongly year-over-year. UNLV has become the main pipeline for an educated workforce to support the rapidly growing local economy. As mentioned in Section I, the Wall Street Journal (WSJ) estimates that only three schools—UNLV, Southern Utah University, and UNR—sent more than 2 percent of their Alumni to Las Vegas among the 445 schools in the WSJ database. With continuous economic growth of Southern Nevada, UNLV’s expansion and improvement prove essential as Las Vegas still experiences a low percentage of adults 25 years old and over with at least a bachelor’s degree. In addition, Las Vegas was until recently one of the few major metropolitan areas without a top-tier university or medical school.

UNLV initiated a plan to become a top-tier institution by 2025 in research, education, and community impact. The term “Top Tier” is a broad concept compared to “Tier 1.” Tier 1 means the highest research (R1) institution classification by the Carnegie Foundation. Top Tier not only includes research (R1) but also includes student success, an established and functioning academic health center, reciprocal community relations, improved infrastructure, and shared governance. UNLV achieved a R1 institution classification by the Carnegie Foundation in December 2018, which includes only 130 institutions. Although UNLV achieved its R1 status seven years earlier than originally planned, the UNLV Top Tier Initiative, which involves more characteristics than the Carnegie Foundation of a highest R1 research institution, will allow UNLV to continue to further advance and benefit the surrounding area in terms of its research, education, and community impact. UNLV has progressed toward achieving its foundation goal in four core themes—(i) student achievement; (ii) research, scholarship, and creative activity; (iii) academic health center; and (iv) community partnerships—and will continue its efforts to increase key metrics not only for maintaining its Carnegie R1 designation but also for making meaningful contributions in the region as well as around the world.

UNLV currently adopted three aspirational institutions to follow and eventually to emulate: University of Central Florida (UCF), University of Houston (UH), and Arizona State University (ASU). As shown in Figure 13, UNLV government grants and contracts per student equals about 70.3 percent of the average of the three aspirational institutions. In addition, the amount of private gifts, grants, and contracts per student was 58.4 percent of the average of these three universities. The increment of grants and contracts will be used for research investment as UNLV’s research expenses per student is substantially lower than the average of aspirational universities. UNLV currently expects to bring in an additional $32 million in total grants and contracts by 2025, as UNLV becomes a top-tier institution. This means that UNLV expects its total grants and contracts to increase by about $1,205 per FTE student based on its FTE student projection of 26,565 in FY2025.
Figure 13. Grants and Contracts Revenue and Research Expenditures by UNLV and Three Aspirational Institutions in FY 2018

<table>
<thead>
<tr>
<th>Revenue per FTE Student ($)</th>
<th>UNLV</th>
<th>UCF</th>
<th>UH</th>
<th>ASU</th>
<th>Average*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Grants and contracts</td>
<td>4,120</td>
<td>5,327</td>
<td>4,840</td>
<td>7,414</td>
<td>5,860</td>
</tr>
<tr>
<td>Private gifts, grants, and contracts</td>
<td>975</td>
<td>828</td>
<td>2,550</td>
<td>2,327</td>
<td>1,670</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expense per FTE Student ($)</th>
<th>UNLV</th>
<th>UCF</th>
<th>UH</th>
<th>ASU</th>
<th>Average*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>1,701</td>
<td>2,860</td>
<td>4,916</td>
<td>5,125</td>
<td>4,300</td>
</tr>
</tbody>
</table>

*The average does not include UNLV’s revenue or expense.

According to a Brookings Institution *Metro Monitor* report, Las Vegas ranked 96th out of 100 metropolitan areas based on improvement in prosperity (changes in productivity, average wealth and income, and standard of living). The report emphasized the importance of high-tech-, research-, and capital-intensive-based economies, which grow faster than an economy that depends on the hospitality and retail sectors. An updated report, however, indicates that the effort to improve economic diversification barely occurred as Las Vegas ranked 53rd out of 53 very larger metro areas in prosperity. The report “The Lincoln Project: Excellence and Access in Public Higher Education” by the American Academy of Arts and Sciences mentions that public research universities foster local economic growth through research- and innovation-based relationships with business, industry, non-profits, and government. When UNLV fully becomes a top-tier institution, therefore, it expects to benefit the local community by achieving a more diversified economy with increased research activities.

UNLV plans to increase its enrollments by 9.1 percent to 26,565 FTE students by the fall 2024 compared to the fall 2018, which will bring a net increase of $42 million in student spending to the local community. At the same time, the university plans to hire an additional 293 employees by 2025, which will decrease the student-faculty ratio from 21:1 to 20:1. The UNLV’s top-tier initiative will create an additional $53 million of spending by 2025 over and above the $689 million of university expenditures in FY 2019.

Moreover, the UNLV School of Medicine plans to expand to meet local health demands. The UNLV School of Medicine enrolled its first class on July 1, 2017 to help relieve the shortage of doctors in the healthcare sector in Southern Nevada. Nevada recently ranked 45th with 213.5 active physicians per 100,000 people, which still needs much improvement despite moving up from 47th from two years ago. In addition, active general surgeons per 100,000 population ranked Nevada at the bottom coming in 50th. Currently, 240 students are enrolled in the UNLV SOM (60 students per cohort), and about 30 percent of students are first-generation college graduates. The UNLV SOM just had the groundbreaking for the 135,000 square foot, five-story medical building on October 2020. Once this building is completed, they plan to expand the class size. The UNLV SOM employed 143 physicians, 66 administrative staff, 370 practice plan employees, 278 residents, and 35 fellows in FY2019, and the employment expects to grow 25-50 percent or more by 2030. Based on the UNLV SOM’s projection, CBER assumed that the UNLV SOM employment will have a 37.5 percent increase by 2030. That is, we estimate that the expansion of UNLV SOM will bring an additional $26 million spending by 2025 added to the $123 million expenditures in 2019. UNLV as a top tier institution
in 2025, as a result, expects to have an additional $121 million direct spending in Southern Nevada and to generate an additional economic impact of $213 million in Southern Nevada (Figure 14).

**Figure 14. UNLV’s Incremental Impact due to the Top-Tier Initiative and the expansion of the UNLV SOM**

![Graph](image)

Note: Additional direct spending due to the top-tier initiative and the expansion of the SOM by 2025 was estimated with the provided information. We use linear interpolations except for additional student spending, whereby projections were provided for each year, and put the numbers into the REMI model. Therefore, the projections for 2021 and 2022 might not reflect the current situation with limited/reduced budgets due to COVID-19.

**UNLV Total Economic Contribution as a Top-Tier University in 2025**

Figure 15 displays the total economic impact of UNLV as a top-tier university in 2025. UNLV as a top-tier institution is expected to generate a $2,705 million economic impact in Clark County in 2025. This economic output will support 19,500 jobs in the valley. These estimates are conservative as they do not include the countless intangible benefits that UNLV brings to Southern Nevada: the substantial spillover effects of research and development, advanced science, and technology; a better trained workforce that can compete globally; UNLV’s role in attracting new industries that help to diversity Nevada’s economy; and UNLV’s contribution to an improved quality of life for local residents.
UNLV as a Top Tier University, Will Support Southern Nevada Economy in 2025

<table>
<thead>
<tr>
<th>Employment</th>
<th>Economic Output</th>
<th>Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>19,500 Jobs</td>
<td>$2,705 million</td>
<td>$1,528 million</td>
</tr>
<tr>
<td>100 additional jobs from 2019</td>
<td>$260 million of additional economic output from 2019</td>
<td>$282 million of additional personal income from 2019</td>
</tr>
</tbody>
</table>

Note: Output and personal income are presented in millions of fixed 2019 dollars. The output does not necessarily sum to FY19 economic output and additional output increases due to the top-tier initiative and the expansion of UNLV SOM, since REMI forecasts for economic variables in 2025 differs from ones in 2019. This occurs because REMI is a “dynamic” economic model not a “static” model. The word “dynamic” in economics means the past events can influence current and future events. Thus, the employment impact barely changes from 2019 despite increased expenditures by UNLV. This is because the average wage and productivity per worker rise over time as a “dynamic” economy keeps evolving due to the consequences of the past and current events. This produces a much higher growth in personal income and output, but a small change in employment.
V. Qualitative Impacts of UNLV

Southern Nevada suffered tremendously during the Great Recession. That occurred not only because the local economy lacked sufficient diversification, but also because the region’s population had a lower average educational level compared to other regions. As shown in Figure 16, the unemployment rate for the Las Vegas-Paradise-Henderson MSA peaked at 14.0 percent in 2010, which follows a similar, but even more difficult, trend in the unemployment rate of high school graduate in the United States. The graph also shows that Washoe County experienced similar hardship as Clark County during the Great Recession. Now, Southern Nevada faces a more severe recession due to COVID-19, and its recovery proves much more sluggish due to little improvement in economic diversification after the Great Recession. Washoe County’s economy, however, posted a much better performance with the COVID-19 pandemic compared to Southern Nevada thanks to its success in diversifying the economy after the Great Recession. According to Brookings Mountain West and the Lincy Institute, Las Vegas-Henderson-Paradise experienced -3.7, -0.5, and -9.3 percent growth in productivity, average annual wage, and standard of living from 2008 to 2018, while Reno gained by 4.0, 5.4 and 4.9 percent, respectively, during the same time. Washoe County also has a higher share of those with a bachelor’s degree and higher compared to Clark County (Figure 2).

*Las Vegas-Henderson-Paradise MSA  
**Reno MSA

Note: Unemployment rates for high school graduates and bachelor’s degree and higher are based on the population aged 25 years and over.  
Source: U.S. Bureau of Labor Statistics
The quantified economic contribution of UNLV to the local economy, shown in the previous sections, is the simple measure that excludes the substantial qualitative spillover effects of UNLV to Southern Nevada. UNLV produces notable intangible qualitative contributions to the surrounding community, which are difficult to quantify. Since UNLV is the only public graduate university in Clark County, it allows better access to the local K-12 students, the future generation of Southern Nevada, to obtain higher education degrees at an affordable cost. UNLV benefits Southern Nevada not only through its annual operating expenses, but also through its community engagement.

**UNLV Harry Reid Research and Technology Park (Tech Park)**

Recently, UNLV and the Gardner Company completed a new 116,362-square-foot building in the Tech Park with a vision that the UNLV Tech Park will act as a catalyst to link local business, research and technology, and advanced economic development efforts in Southern Nevada. Two buildings already existed in the Tech Park—BriovaRX (pharmaceutical warehouse/distribution) and the American Preparatory Academy (APA). The third building, the first research (innovation) building, is anticipated to add to the innovative high-tech economic base of Southern Nevada. The economic impact of the construction of the infrastructure and new building in the Tech Park was expected to generate a total of $39 million additional output for Clark County. When the building enters its operation phase, it is expected to add 16 permanent jobs and generate $2 million annually in additional output for the local community.

*Figure 17. The Economic Impact of the first research building in UNLV Tech Park*

**First Research Building in UNLV Tech Park Will Support Southern Nevada Economy via**

<table>
<thead>
<tr>
<th>Construction</th>
<th>Operation</th>
<th>Tenants</th>
</tr>
</thead>
<tbody>
<tr>
<td>$39 million</td>
<td>$2 million</td>
<td>$116 million</td>
</tr>
<tr>
<td>One-Time Impact</td>
<td>Annual Impact</td>
<td>Annual Impact</td>
</tr>
</tbody>
</table>

*Once the UNLV Tech Park is fully developed, it is expected to generate an additional $2.6 billion economic output in Southern Nevada.*

Note: Output of the first research building is presented in millions of fixed 2017 dollars.
Source: CBER, UNLV; UNLV

Furthermore, tenants of the new building are expected to produce $116 million of economic output annually with 717 permanent jobs in Clark County. This result assumed that 50 percent of direct employees of the tenants in the research building come from outside Clark County and the new building experiences full occupancy. This quantitative economic impact, however, only captures the tangible benefits of the research building. The UNLV research park is expected to spur partnerships and collaborations between
UNLV personnel and businesses, which can bring significant intangible benefits such as improving the environment for research and technology development and innovations, diversifying the local economic structure, and increasing the local economic productivity. In the future, these benefits are expected to provide a magnet to attract more competitive businesses to Southern Nevada.

The first research (innovation) building is a starting point of the master-planned development of the 122-acre UNLV Tech Park, which is currently managed and operated by the Gardner Company. When the Tech Park is fully developed, it is expected to generate up to 25,000 new jobs with an economic output of nearly $2.6 billion in Southern Nevada.\textsuperscript{25}

**UNLV Community Service**

UNLV students serve the local area via faculty-led projects, an extension of collaborations and partnerships between on- and off-campus communities. In 2019-20, students participated in academic service-learning courses volunteering 166,405 hours. Independent Sector estimates the value of an hour of volunteer work at 23.82 dollars in Nevada. This means that service-learning courses produced approximately $4.0 million in free labor, which, in turn, generated about $5.7 million of economic impact in Southern Nevada\textsuperscript{26}.

**Figure 18. Economic Impact of UNLV Student Volunteers via Service-Learning Courses**

<table>
<thead>
<tr>
<th>Year</th>
<th>Service Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>166,405</td>
</tr>
<tr>
<td>2021</td>
<td>173,124</td>
</tr>
<tr>
<td>2022</td>
<td>179,843</td>
</tr>
<tr>
<td>2023</td>
<td>186,562</td>
</tr>
<tr>
<td>2024</td>
<td>193,281</td>
</tr>
<tr>
<td>2025</td>
<td>200,000</td>
</tr>
</tbody>
</table>

Note: The graph shows the economic output of community engagement due to service learning courses. FY2020 shows actual hours of service/economic output, while the rest of years indicate the goals of service hours /economic outputs based on the goals. Output is presented in millions of fixed 2019 dollars.

UNLV expects that service hours will grow over time, which is a part of the Top Tier Initiative in seeking recognition of the Carnegie Elective Classification in Community Engagement. The current goal of service hours in 2025 is 200,000 hours, a 20 percent rise from the current achievement. This is equal to a $4.8 million value of free labor, which, in turn, is expected to generate a $6.8 million worth of economic activities in Southern Nevada.\textsuperscript{27}
Beyond just “Highly Skilled” Workforce
UNLV contributes to the highly skilled workforce for the region, which benefits not only the economy with their higher earning power but also society by spreading cultural values to the surrounding area. Bureau of Labor Statistics (BLS) data show that adults with higher education degrees more likely participate in volunteer activities. The statistics indicate that 38.8 percent of adults holding a bachelor’s degree and higher participate in volunteer activities, higher than the 15.6 percent of adults with a high school diploma. According to the National Association of College and University Business Offices (NACUBO), the value of education includes the following:28

(i) Tax contributions of college graduates over a lifetime more than double the contributions of high school graduates, on average ($328,511 vs. $136,564).
(ii) The average amount of charitable donations for college graduates exceeds that of high school graduates ($1,304 vs. $385).
(iii) College graduates more likely volunteer in their community as compared to high school graduates.
(iv) College graduates more likely participate in voting compared to high school graduates. For example, 53.2 percent of college graduates voted in the 2014 elections, while 33.9 percent of high school graduates exercised their voting rights.
(v) Annual retirement income (excluding social security) of the average college graduate is $8,482, which exceeds the $1,901 of the average high school graduate. In addition, 33 percent of high school graduates do not have access to employer-sponsored retirement savings plans, substantially higher than the 13 percent of college graduates.
(vi) After the Great Recession, 11.5 million jobs of the 11.6 million jobs recovered needed at least some college education. Furthermore, the unemployment rate of college graduates is lower than that of high school graduates.
(vii) Average lifetime earnings for college graduates is $2.3 million, significant more than the $1.3 million of high school graduates.
(viii) College graduates more likely experience a healthier lifestyle than high school graduates (i.e., smoke less, more regular weekly exercise). Furthermore, children’s obesity rates are much lower if their parents have college degrees.

Overall Qualitative Values
Although a complete analysis of these types of benefits goes beyond the scope of this study (contingent valuation methods and primary data collection would be required), the existence and importance of these benefits are widely acknowledged in the literature.

Although not specific to UNLV, the literature discussing qualitative effects of a university is large. The instruction manual Estimating the Impact of a College or University on the Local Economy by Caffrey and Isaacs is often cited for its insightful discussion of qualitative impacts.29 The reader is also referred to “The Role of the Research University in the Spinoff of High Technology Companies,” by Rogers30 and “What Is the Role of Public Universities in Regional Economic Development?” by Goldstein and Luger.31 Several commonly cited qualitative benefits from these and other studies are as follows:
➢ Enhanced participation in political processes;
➢ Increased demographic mobility;
➢ Increased local services;
➢ Larger supply of and demand for cultural goods;
➢ Greater participation in educational advancement opportunities;
➢ Increased technology transfers and development in local industry; and
➢ Better quality of life.

All in all, qualitative factors represent important economic benefits, though we did not include them in our estimates. Thus, the final numbers presented in this report provide a conservative lower-bound estimate.
VI. Conclusions

The University of Nevada, Las Vegas occupies a critical place in Southern Nevada as the main pipeline of an educated workforce. About one-fifth of the workforce with a bachelor’s degree or higher in Las Vegas-Paradise-Henderson MSA are estimated to have obtained their degree from UNLV. At the same time, only 25.6 percent of adults 25 years over in Southern Nevada are estimated to have at least a bachelor’s degree or better. Southern Nevada experienced a more severe downturn during the Great Recession than other metro regions not only because of the less diversified economy, which largely hinges on the tourism sector, but also because of the more poorly educated workforce. Despite the previous experience, the Southern Nevada economy barely improved its economy’s diversification and confronts a much more severe economic recession with the COVID-19 pandemic, contrary to Washoe County, which produced much better performance because of its success in diversifying its economy. When UNLV becomes a top-tier university, therefore, it will provide a critical component for assisting Southern Nevada in diversifying its local economy as well as increasing the quality of the region’s workforce.

UNLV, one of the largest employers in Clark County, generates economic activity in Southern Nevada not only through its direct operating expenditures but also through the expenditures of its employees, students, and visitors on local goods and services. We estimate that UNLV generated a total of $2,445 million of economic impact in the Southern Nevada during 2019. This estimate does not include any purchase of capital assets such as expenditures for new construction or the additional economic contributions from UNLV graduates in 2018-19 because of any incremental wages and salaries due to UNLV-earned degrees. UNLV’s state appropriations amounted to $237 million in 2019. Hence, UNLV’s Economic Impact Ratio (ER) for 2019 was 10.3. In other words, for every dollar of state appropriations, the university generated an additional $10.3 in economic activity in the Southern Nevada community.

We also find that by 2025, UNLV, as a top-tier public university, will supply the valley with nearly 19,500 jobs and roughly $2,705 million of economic activity. These quantitative estimates are, nonetheless, conservative as they do not include the numerous positive qualitative impacts of UNLV on Southern Nevada: the spillover effects of research and development, advanced science, and technology; a better trained workforce that can compete globally; UNLV’s role in attracting new industries that help to diversity Nevada’s economy; and UNLV’s contribution to an improved quality of life for local residents.

Given that these estimates represent a lower bound of the total economic impact, we conclude that UNLV plays a fundamental role in the Southern Nevada economy. Moreover, as the only major university in a rapidly diversifying economy, the university will no doubt continue to influence the region’s future well-being and to provide valuable resources to assist the Southern Nevada community in reaching its full potential.
Endnotes

1 According to the National Center for Education Statistics, full-time enrollments for UNLV and UNR in fall 2018 were 28,278 and 19,268, respectively.

2 The university payroll also includes 30 postdoctoral positions and 304 medical residents not included in this tally.

3 According to https://wallethub.com/edu/most-and-least-educated-cities/6656/#main-findings, Las Vegas-Henderson-Paradise, NV ranked 118 out of 150 major metro areas in terms of most educated cities.

4 https://www.wsj.com/graphics/where-graduates-move-after-college/?mod=e2tw


6 Las Vegas ranked 120th out of 150 biggest metro areas in the United States, according to WalletHub. WalletHub used 11 key metrics to determine the most or least educated cities. https://wallethub.com/edu/e/most-and-least-educated-cities/6656.


9 These figures exclude student employees. This avoids double counting the impact of student expenditures on the local economy.

10 The number does not include graduate assistants’ wages as they may already be included in students’ spending. It includes some students’ wages, which is estimated at approximately $10 million. We believe, however that our conservative estimates of student spending will offset these effects.

11 This procedure may slightly overestimate the total primary impact. This should not concern us, however, for two reasons. First, our impact estimates use extremely conservative assumptions and, thus, should be viewed as lower-bound estimates of UNLV’s true value to the Southern Nevada economy. Second, the economic modeling software used to estimate the total impact will shift some employment and wages into other local industries automatically, since the average university income is relatively high in this area.

12 According to the NSHE’s financial report, $39 million is not included in Figure 3. NSHE reports $13.8, $23.7, $1.5 million spent for program expenses, other operating expenses, and depreciation, respectively. We exclude depreciation in our analysis and assume that the $37.5 million was spent within Clark County.

13 Average expenditures are computed for undergraduate, graduate, and professional students. The average student expenditure is derived using data from Student Financial Services. It includes spending in the categories of room and board, books, transportation, and personal. Based on the nature of these categories and the likelihood that average expenditure estimates are low, our analysis assumes that students spend at least this amount on locally produced goods and services. For undergraduates who will not stay in Clark County without UNLV, we assume that 50 percent of students are currently living with parents.

14 The number does not include attendance at events by UNLV students, faculty, and staff.

15 We implemented this methodology as 50 percent of attendees at multiple-day games probably attend every game for multiple-days.

16 That is, $1.70 = ($1,438 million + $1,007 million)/$1,438 million. The multiplier for this year’s report decreases from 2.04 for the FY 17 UNLV impact study. This was caused by using the updated REMI model with the most recent available data. We used REMI PI+ version 2.2 for the FY 17 UNLV impact study, while we used version 2.4 for this report.


18 https://www.unlv.edu/toptier/initiative.


21 Based on 26,565 students and 1,336 academic faculty members.

22 This spending does not include any additional spending due to the expansion of the UNLV School of Medicine.

23 Association of American Medical Colleges. 2019 State Physician Workforce Data Book.
We used the REMI model to calculate the direct, indirect, and induced impacts of the volunteer effort in service learning courses.

The economic output of service-learning participation is calculated as follows: First, we used the value of volunteer time, which is estimated by Independent Sector (independentsector.org). Second, we estimated the free labor value by multiplying the number of service hours by the value of volunteer time (i.e. 166,405 hours x $23.82 per hour). Finally, we used a REMI variable: Industry (Exogenous Production) Output without Employment, Investment, and Compensation to estimate the economic value of the service hours by students, since students are not paid but contribute to increase productivity in the industries they served. We use this approach, since the value of volunteer service can be reported on financial statements. According to Independent Sector, the Financial Accounting Standard Board (FASB) allows the reporting of the value of volunteer work on financial statements, if volunteers performs a specialized skill for a nonprofit.

https://www.nacubo.org/Advocacy/Value-of-Higher-Education/Infographics


The Economic Impact Ratio is defined as the Total Economic Impact divided by State Appropriations.