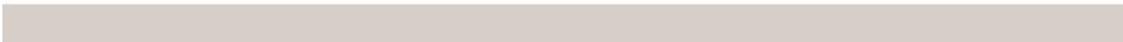

**Analysis of the Economic Contribution
that Liberty University makes
to Region 2000 and Virginia**

April 2010



MANGUM
ECONOMIC CONSULTING, LLC





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Dr. Mangum earned his Ph.D. in economics at George Mason University in 1995, where he was fortunate enough to receive his training under Nobel Laureate James Buchanan and the team of colleagues Dr. Buchanan had recruited to the Center for Study of Public Choice. He has nearly two decades of experience in quantitative analysis and policy development at the federal and state level.



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Executive Summary

This report assesses the economic contribution that Liberty University makes to Region 2000 and the state of Virginia. The principle findings from that assessment are as follows:

1. Liberty University is a rapidly growing institution: Between 1992 and 2009, the university's fall enrollment increased from 8,500 to 46,949, an increase of 38,449 students or 452 percent. In contrast, over that same period Virginia's other four-year private non-profit colleges and universities grew by 32 percent, and Virginia's four-year public colleges and universities grew by 29 percent. Moreover, Liberty University is not only Region 2000's second largest employer, it is also one of its fastest growing employers. Between, 2001 and 2010, university employment increased by 3,023 jobs or 351 percent.
2. Liberty University makes a major economic contribution to Region 2000: In 2009, Liberty University was responsible for contributing \$217 million dollars in direct spending to Region 2000. After accounting for leakages from the regional economy due to expenditures on domestic and foreign imports, payroll deductions, and savings, that \$217 million generated \$133 million in net spending that stayed in the regional economy. The economic ripple effects from those dollars ultimately generated \$197 million in overall economic activity within Region 2000, which means that every \$1.00 of Liberty University's net local spending generated \$1.48 within the broader regional economy.
3. Liberty University makes a major employment contribution to Region 2000: Liberty University's 2009 net regional spending was responsible for supporting a total of 5,179 jobs within Region 2000, with most of those jobs located in the city of Lynchburg. Given that the city of Lynchburg's total employment in 2009 is estimated to have been 52,776, this means that approximately one out of every ten jobs within the city were either directly or indirectly attributable to Liberty University.
4. Liberty University makes a major fiscal contribution to Region 2000: Local taxes paid by the university itself, university tenants, employees, students, and visitors contributed approximately \$8.4 million in tax revenue to Region 2000 in 2009. Focusing exclusively on the city of Lynchburg, where Liberty University's campus is physically located, the university generated approximately \$5.4 million in tax revenue for the city. More

- specifically, it accounted for approximately: 4 percent of the city's total *Real Property Tax* revenue, 8 percent of its *Personal Property Tax* revenue, 9 percent of its *Restaurant Food Tax* revenue, 17 percent of its *Hotel and Motel Room Tax* revenue, and 2 percent of its local *Sales Tax* revenue.
5. Liberty University makes a major economic and fiscal contribution to the state of Virginia as a whole: In 2009 Liberty University was responsible for contributing \$268 million dollars in direct spending to the state. Again accounting for leakages due to domestic and foreign imports, payroll deductions, and savings, that \$268 million generated \$180 million in net spending that stayed in the statewide economy. The economic ripple effects from those dollars then created a total of \$283 million in overall economic activity within Virginia, which means that every \$1.00 of Liberty University's net state spending ultimately generated \$1.57 in overall economic activity within the state. Those expenditures were responsible for supporting a total of 5,563 jobs in the state, and generated \$41 million in federal, state, and local tax revenue.
 6. Liberty University also makes many other contributions to Region 2000 and the state of Virginia:
 - Its students and employees provide approximately \$4.9 million worth of volunteer service hours within Region 2000 each year.
 - Its agreement with the Greater Lynchburg Transit Company (GLTC) to serve as the university's exclusive outside transportation vendor has reduced traffic and parking congestion, and also provided GLTC with \$1.5 million in additional annual revenue that enabled it to upgrade its bus fleet and services.
 - It has made significant regional investments in economic revitalization. After acquiring the Plaza shopping center in 2008, the university invested \$500,000 in improvements to the property. The Plaza is now successfully generating a revenue stream for the university as well as positively contributing to the city of Lynchburg's tax base.
 - It has enhanced the quality of life within Region 2000 by adding to the region's recreational opportunities through its LaHaye Ice Center and the Liberty Mountain Snowflex Center. The LaHaye Ice Center attracts more than 100,000 people per year through various college sports events, youth hockey leagues, figure skating programs, and other events such as Winterfest, while the Liberty Mountain

Snowflex Center has received national attention as North America's only Snowflex synthetic ski slope,

- It plays a large role in attracting tourists to Region 2000. In 2009, Liberty University's out-of-town visitors generated approximately 59,545 hotel room nights in Region 2000, or almost 1 out of every 9 hotel nights spent in the region. Those hotel room nights in turn were associated with approximately \$5.6 million in hotel revenue within Region 2000, or about \$1 out of every \$7 dollars in total hotel revenue generated in the region.
- It makes a significant contribution to ensuring that Region 2000 will have the trained graduates it needs to prosper in the future in key growth areas such as healthcare and education by meeting some or all of the region's demand for *Nursing, Business/Commerce, Accounting, Business Administration and Management, Communication Studies/Speech Communication and Rhetoric, Educational Leadership and Administration, General, Special Education and Teaching, Secondary Education and Teaching, and Elementary Education and Teaching* graduates.

7. In sum, Liberty University is a rapidly growing institution, that has a significant economic and fiscal impact on Region 2000 and the state of Virginia as a whole, and plays a very active and positive leadership role within its community.

This report was commissioned by Liberty University and produced by Mangum Economic Consulting, LLC.

Introduction

This report assesses the economic contribution that Liberty University makes to Region 2000¹ and the state of Virginia. The remainder of the report is divided into five sections. The *Liberty University Profile* section describes the general characteristics of the institution and the students it serves. The *Region 2000 Profile* section provides context for the analyses that follow by illuminating key economic characteristics of the greater Lynchburg area. The *Economic and Fiscal Impact* section quantifies the economic and fiscal contribution that Liberty University makes to Region 2000, as well as to the state of Virginia as a whole. The *Other Contributions* section quantifies some of the many other contributions that Liberty University makes to Region 2000, such as community service, contributing to economic revitalization, generating higher levels of tourism, enhancing the quality of life, and ensuring that Region 2000 is developing the qualified workforce that it will need to be economically successful in the future. Finally, the *Conclusion* section provides a summary and concluding comments.

This report was commissioned by Liberty University and produced by Mangum Economic Consulting, LLC.

Liberty University Profile

History and General Characteristics

Liberty University was founded in 1971 in Lynchburg Virginia. It is a private, non-profit, Evangelical Christian university and the largest university, private or public, in the state of Virginia. In fall 2009, Liberty University served 11,928 students at its residential campus in Lynchburg, and another 35,021 students through online education.

Through its College of Arts and Sciences; Schools of Aeronautics, Business, Communication, Education, Engineering and Computational Science, Government, Law, and Religion; and Liberty Baptist Theological Seminary, Liberty University offers 115 undergraduate programs, 24 masters programs, three doctoral programs, and a Juris Doctorate residentially at its Lynchburg campus. In addition, it also offers 17 undergraduate programs, 22 masters programs, and 6 doctoral or other postgraduate programs through Liberty University Online.

Liberty University's Lynchburg campus is situated on 6,549 acres and encompasses 4.3 million square feet of facilities. The university also boasts 20 NCAA Division 1 Athletic

¹ Region 2000 is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the cities of Bedford and Lynchburg.

programs, which are able to train and compete in the university's 9,000 seat Vines Center arena, 12,000 seat Williams stadium, and Tolsma Indoor Track facility. In addition, Liberty University is home to the LaHaye Ice Center as well as North America's only year-round, synthetic, Snowflex ski slope.

Finally, it is important to note that Liberty University is the city of Lynchburg's second largest employer. In addition to contractors and students, the university currently employs 3,895 individuals (1,826 faculty and 2,069 staff). Moreover, Liberty University is a rapidly growing employer. Between, fiscal year 2001 and fiscal year 2010², university employment increased by 3,023 jobs or 351 percent. Even more significantly, this employment growth has proved robust even in the face of cyclical economic downturns. For example, between fiscal year 2008 and fiscal year 2009 the city of Lynchburg as a whole experienced a 4 percent recession-driven decline in total employment. Over that same period, however, Liberty University actually increased employment by 642 jobs or 25 percent.

Enrollment and Student Characteristics

Enrollment

Figure 1 provides a breakdown of Liberty University's fall 2009 enrollment by resident and online students. What these data show is that 38 percent of the university's undergraduate enrollment was comprised of resident students in fall 2009, while 62 percent was comprised of online students. As shown in Figure 1, graduate enrollment was much more heavily tilted toward online students, with only 6 percent of graduate enrollment comprised of resident students, and 94 percent comprised of online students.

Figure 2 depicts the growth in Liberty University's total fall headcount enrollment between 1992 and 2009. Overall, headcount enrollment increased from 8,500 in 1992 to 46,949 in 2009, an increase of 38,449 students or 452 percent. Breaking this total down by undergraduate, graduate, and law school enrollment shows that undergraduate enrollment increased by 22,111 students or 322 percent over this period, graduate enrollment increased by 13,447 students or 858 percent, and law school enrollment increased by 2,254 students or 3,954 percent.

² Fiscal year 2008 would run from July 1 2007 to June 30 2008, and fiscal year 2009 would run from July 1 2008 to June 30 2009.

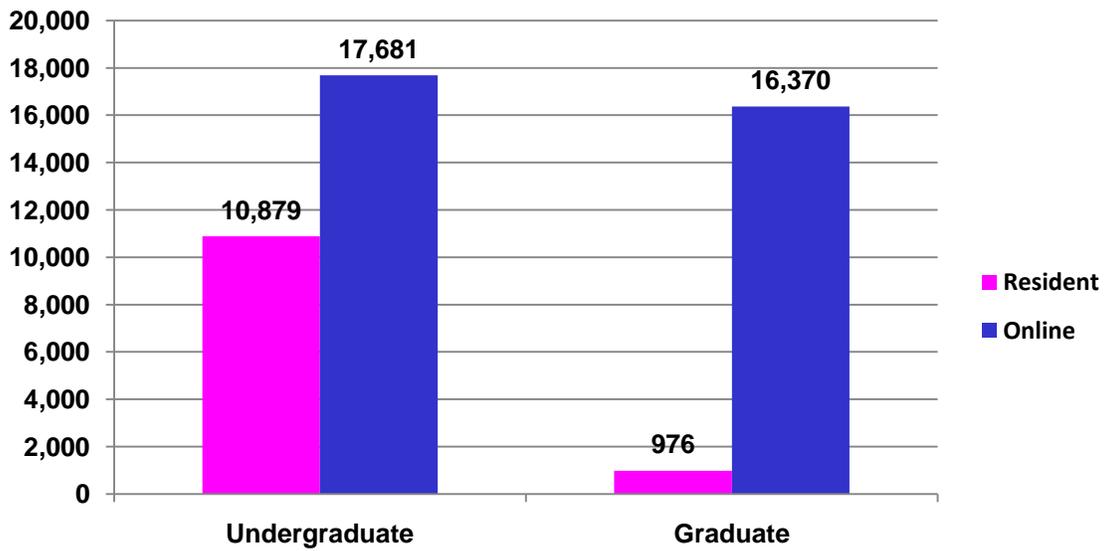


Figure 1: Liberty University Fall 2009 Headcount Enrollment³

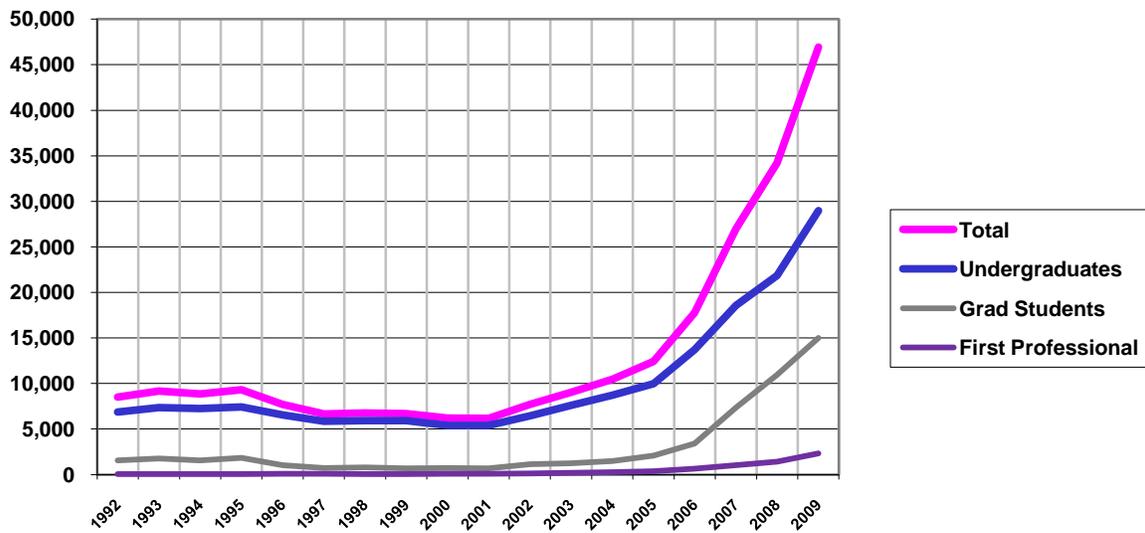


Figure 2: Fall Headcount Enrollment – 1992 to 2009⁴

³ Data Source: Liberty University.

⁴ Data Source: State Council of Higher Education for Virginia.

Figure 3 puts these truly remarkable growth rates in perspective by comparing Liberty University’s growth in total fall headcount enrollment between 1992 and 2009 with that of Virginia’s other private non-profit colleges and universities, as well as the state’s public four-year institutions. As this figure demonstrates, in contrast to Liberty University’s 452 percent increase in enrollment over this period, Virginia’s other four-year private non-profit colleges and universities grew by 32 percent, and Virginia’s four-year public colleges and universities grew by 29 percent.

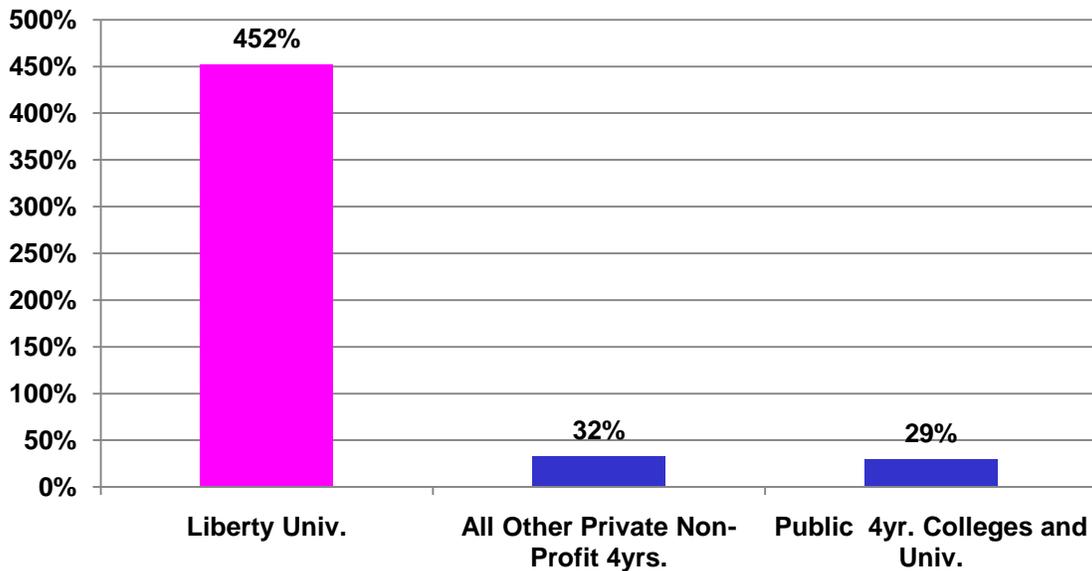


Figure 3: Total Enrollment Growth – Fall 1992 to Fall 2009⁵

Students

Figures 4 through 6 provide additional information on the characteristics of the students that Liberty University serves. As shown in Figure 4, driven by its large graduate and online enrollment, Liberty University tends to serve a greater proportion of adult or non-traditional students (*i.e.*, students 25 years of age or older). In fall 2009, non-traditional students comprised 65 percent of Liberty University’s headcount enrollment, as compared to 34 percent in Virginia’s other private non-profit colleges and universities, and 27 percent in the state’s public four-year institutions.

⁵ Data Source: State Council of Higher Education for Virginia.

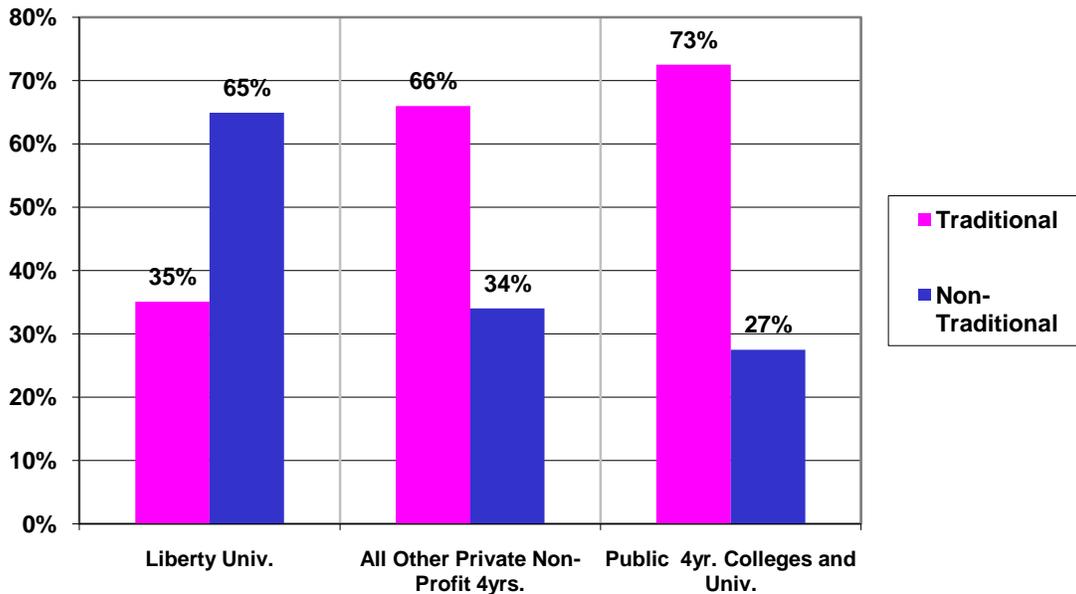


Figure 4: 2009 Fall Headcount Enrollment – Traditional and Non-Traditional Students⁶

Figure 5 details the race/ethnicity distribution of Liberty University’s student body and compares that distribution to the norm for other four-year non-profit colleges and universities in Virginia as well as Virginia’s public four-year institutions. As the data show, these distributions are quite comparable.

Finally, Figure 6 provides information on the relative proportions of in-state and out-of-state students at Liberty University as compared to the other institutional categories. As this chart demonstrates, Liberty University’s enrollment tends to be much more heavily comprised of out-of-state students (78 percent) than is typical for either Virginia’s other non-profit colleges and universities (42 percent), or the state’s public four-year institutions (22 percent). From an economic perspective, this means that Liberty University functions much like an export industry, in that it draws out-of-state dollars and resources into the state and regional economy, thereby serving to expand those economies.

⁶ Data Source: State Council of Higher Education for Virginia.

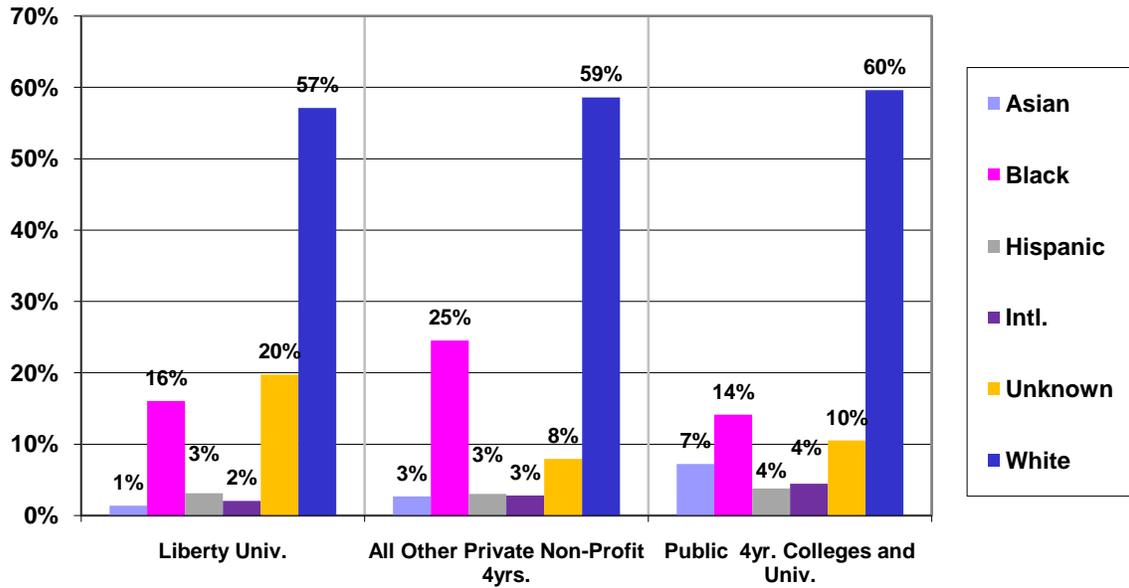


Figure 5: 2009 Fall Headcount Enrollment by Race/Ethnicity⁷

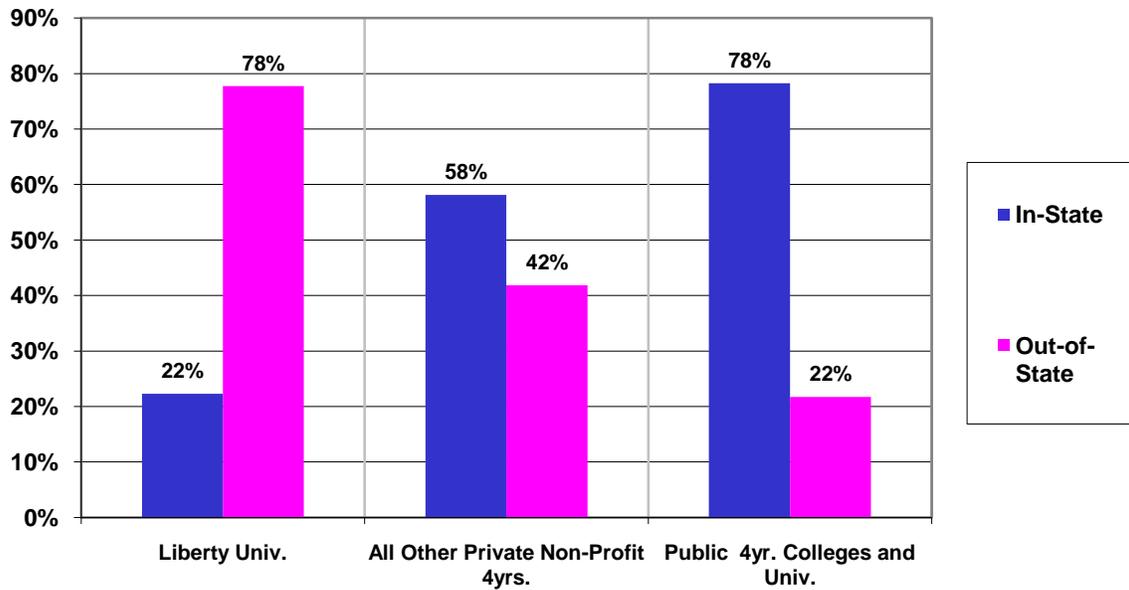


Figure 6: 2009 Fall Headcount Enrollment – In-State and Out-of-State Students⁸

⁷ Data Source: State Council of Higher Education for Virginia.

⁸ Data Source: State Council of Higher Education for Virginia.

Completions

Figure 7 provides information on the numbers and types of graduates that Liberty University produced in academic year 2008-09. As this chart shows, the largest number of graduates were in the following programs: *Theology and Religious Vocations* (996 degrees awarded), *Business, Management, Marketing and Related Support Activities* (918 degrees awarded), *Philosophy and Religious Studies* (592 degrees awarded), *Psychology* (553 degrees awarded), *Interdisciplinary Studies* (510 degrees awarded), *Education* (429 degrees awarded), and *Public Administration and Social Service Professions* (356 degrees awarded).

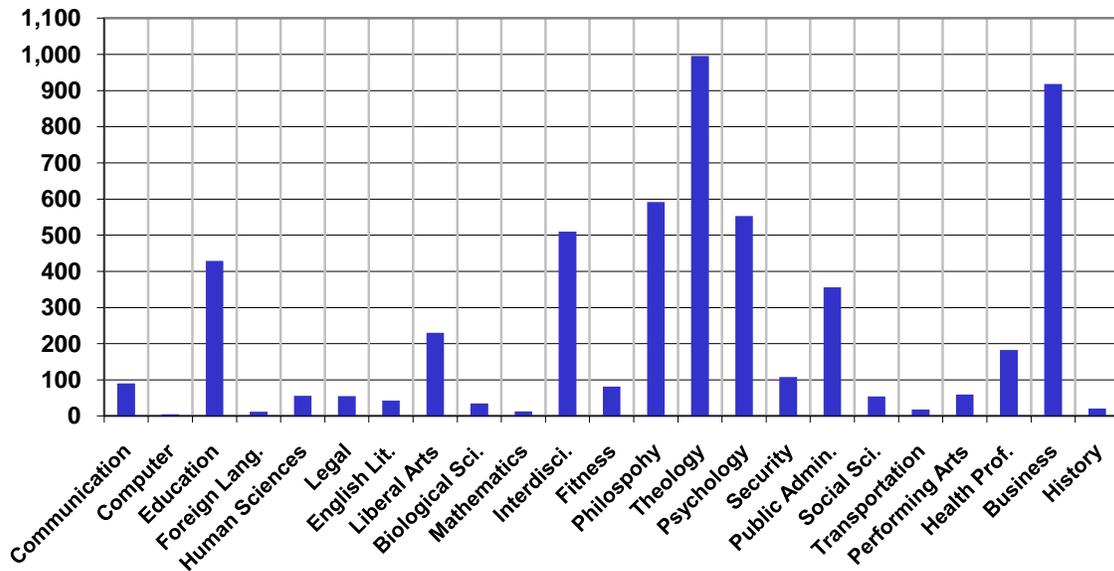


Figure 7: Liberty University 2008-09 Completions by Program⁹

⁹ Data Source: Liberty University.

Region 2000 Profile¹⁰

In this section, we set the stage for the analyses that follow by providing background information on some of the Region 2000’s key economic characteristics.

Employment and Wage Trends

Figure 8 details the change in total employment between the third quarter of 2001 and the third quarter of 2009 (the trough of the 2001 recession through the most recent quarter for which data are available) in Region 2000. As this graph shows, total employment in Region 2000 increased steadily from 2003 through the third quarter of 2008. Between 2008 and 2009, however, employment in Region 2000, as it did throughout the rest of the country, dropped precipitously. Overall, between third quarter of 2001 and the third quarter of 2009 Region 2000 experienced a 1 percent decline in total employment. By way of comparison, over this same period the Roanoke MSA experienced a 5 percent decrease in total employment, the Danville MSA a 15 percent decrease, the Richmond MSA a 0 percent change, and the Virginia Beach/Norfolk/Newport News MSA a 1 percent increase.

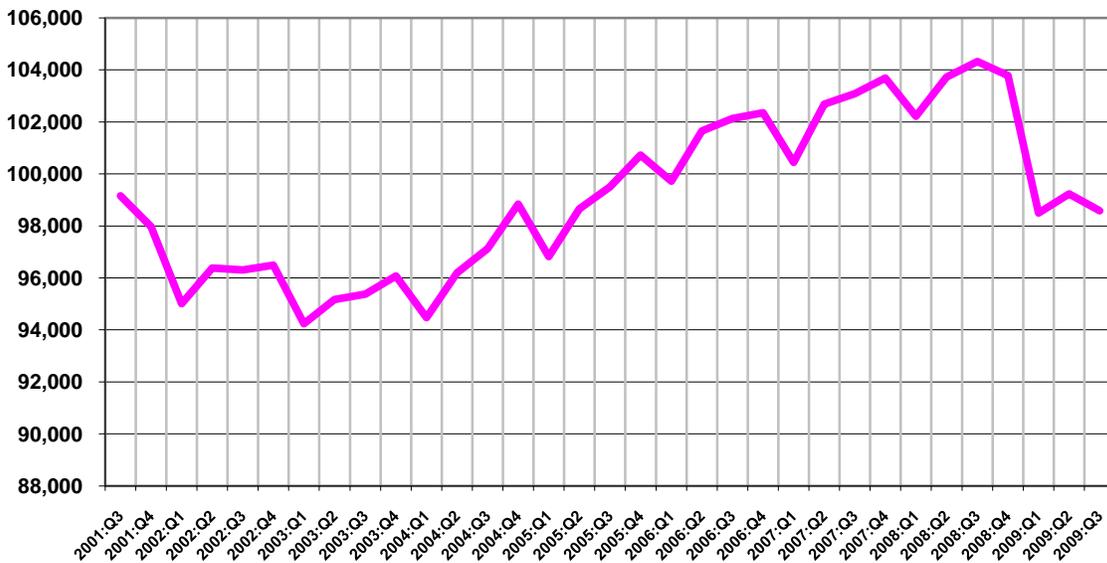


Figure 8: Region 2000 Total Employment – 2001:Q3 to 2009:Q3¹¹

¹⁰ Region 2000 is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the cities of Bedford and Lynchburg.

¹¹ Data Source: Virginia Employment Commission.

Employment and Wages by Industry

Figure 9 provides a snapshot of employment in Region 2000 by major industry sector in the third quarter of 2009 (the most recent quarter for which data are available), as compared to the third quarter of 2001. As this graph demonstrates, the largest absolute change in employment over the period occurred in the *Manufacturing* sector. Between 2001:Q3 and 2009:Q3, Region 2000's *Manufacturing* sector shed 7,231 jobs, for a 32.7 percent decline in employment. This shift is significant because, as shown in Figure 4, at an average weekly wage of \$917, in the third quarter of 2009 the *Manufacturing* sector was Region 2000's 5th highest ranked sector in terms of relative wages.

These losses were offset, however, by significant gains in *Healthcare, Professional, Scientific, and Technical Services, Accommodation, Educational Services* and *Wholesale Trade*. Specifically, between 2001:Q3 and 2009:Q3:

- The *Healthcare* sector posted the largest absolute increase in employment, growing by 3,364 jobs, or 27.2 percent (*see* Figure 9). As a result, its share of regional employment rose from 12.5 percent to 16.0 percent. In addition, real wages in this sector increased by 5.5 percent over the period, and at \$711 per week, *Healthcare* ranked as Region 2000's 11th highest paying sector in 2009:Q3 (*see* Figure 10).
- The *Professional, Scientific, and Technical Services* sector saw the second largest absolute increase in employment, growing by 2,245 jobs, or 75.0 percent (*see* Figure 9). This drove its share of regional employment from 3.0 percent to 5.3 percent. This is a noteworthy trend because, not only did this sector enjoy significant employment growth over the period, it also posted the highest growth in real wages – an increase of 32.2 percent (*see* Figure 10). Moreover, in 2009:Q3 the *Professional and Technical Services* sector was Region 2000's highest paying sector, with average weekly wages of \$1,104.
- The *Accommodation and Food Service* sector saw the third largest absolute increase in employment, growing by 1,203 jobs, or 18.5 percent (*see* Figure 9). This increased this sector's share of total regional jobs from 6.6 percent to 7.8 percent. However, real wages within this sector declined by 0.5 percent over the period and at an average weekly wage of \$238, the *Accommodation and Food Service* was Region 2000's 20th, or lowest paying sector in 2009:Q3 (*see* Figure 10).
- The *Educational Services* sector saw the fourth largest absolute increase in employment, growing by 962 jobs, or 12.1 percent (*see* Figure 9). This raised its share of regional employment from 8.0 percent to 9.0 percent. In addition, real

wages in this sector grew by 3.0 percent over the period and at \$632 per week, *Educational Services* ranked as Region 2000's 13th highest paying sector in 2009:Q3 (see Figure 10).

- The *Wholesale Trade* sector saw the fifth largest absolute increase in employment, growing by 882 jobs, or 31.2 percent (see Figure 9). This raised its share of regional employment from 2.8 percent to 3.8 percent. Moreover, this sector experienced the second largest increase in real wages – 22.5 percent – and at \$939 ranked as Region 2000's 3rd highest paying sector in 2009:Q3 (see Figure 10).

Taken in combination what these data show is that, between 2001:Q3 and 2009:Q3 Region 2000 made significant strides toward rebalancing its regional economic portfolio by reducing its overdependence on the *Manufacturing* sector and increasing its proportion of jobs in other key sectors, such as *Healthcare, Professional, Scientific, and Technical Services, Educational Services, and Wholesale Trade*. As will be shown in a subsequent section, Liberty University plays an important role within the region in supplying the trained graduates that several of these sectors require to continue to grow and prosper in the future.

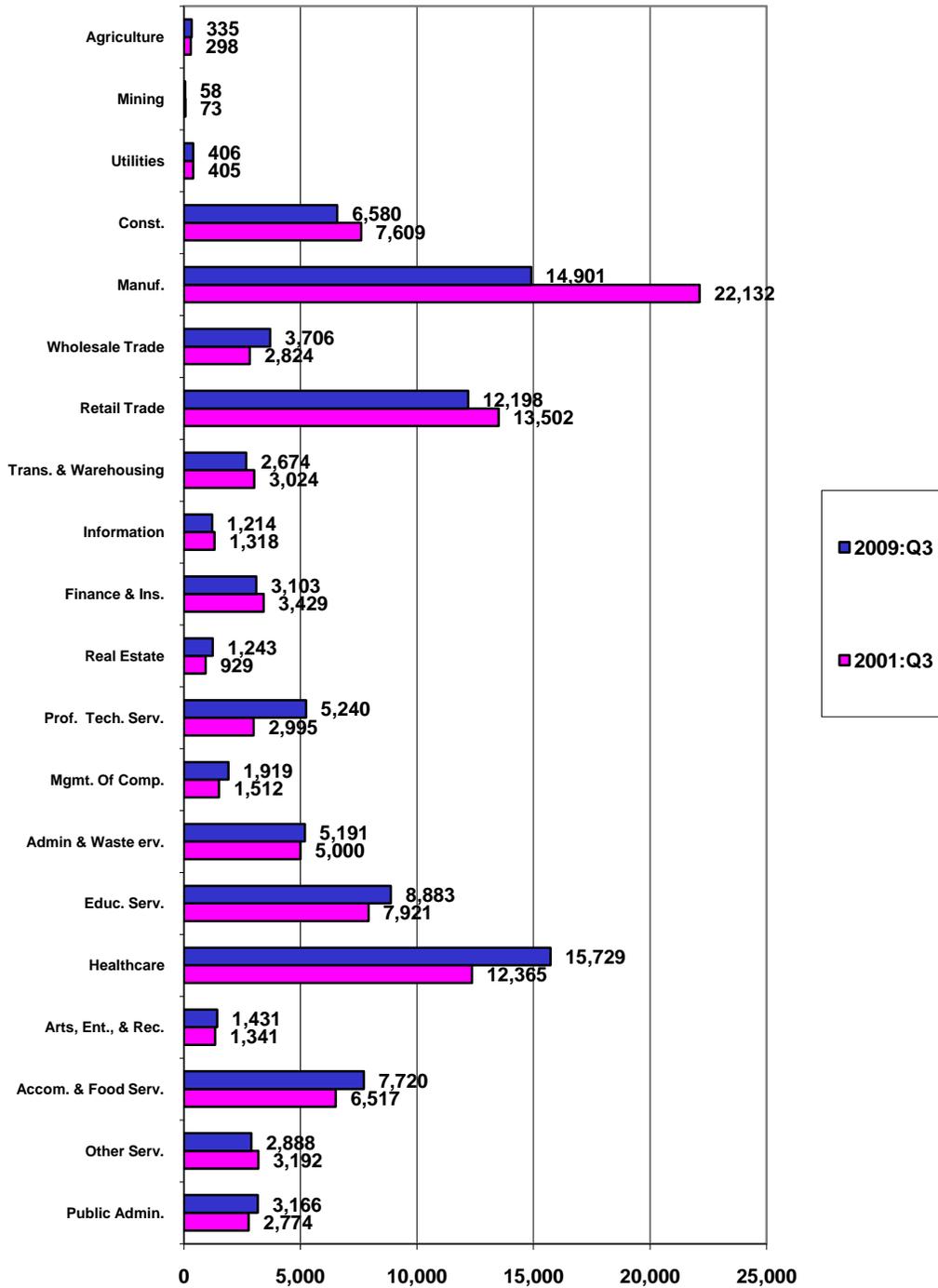


Figure 9: 2000:Q3 and 2009:Q3 Employment by Major Industry Category – Region 2000¹²

¹² Data Source: Virginia Employment Commission.

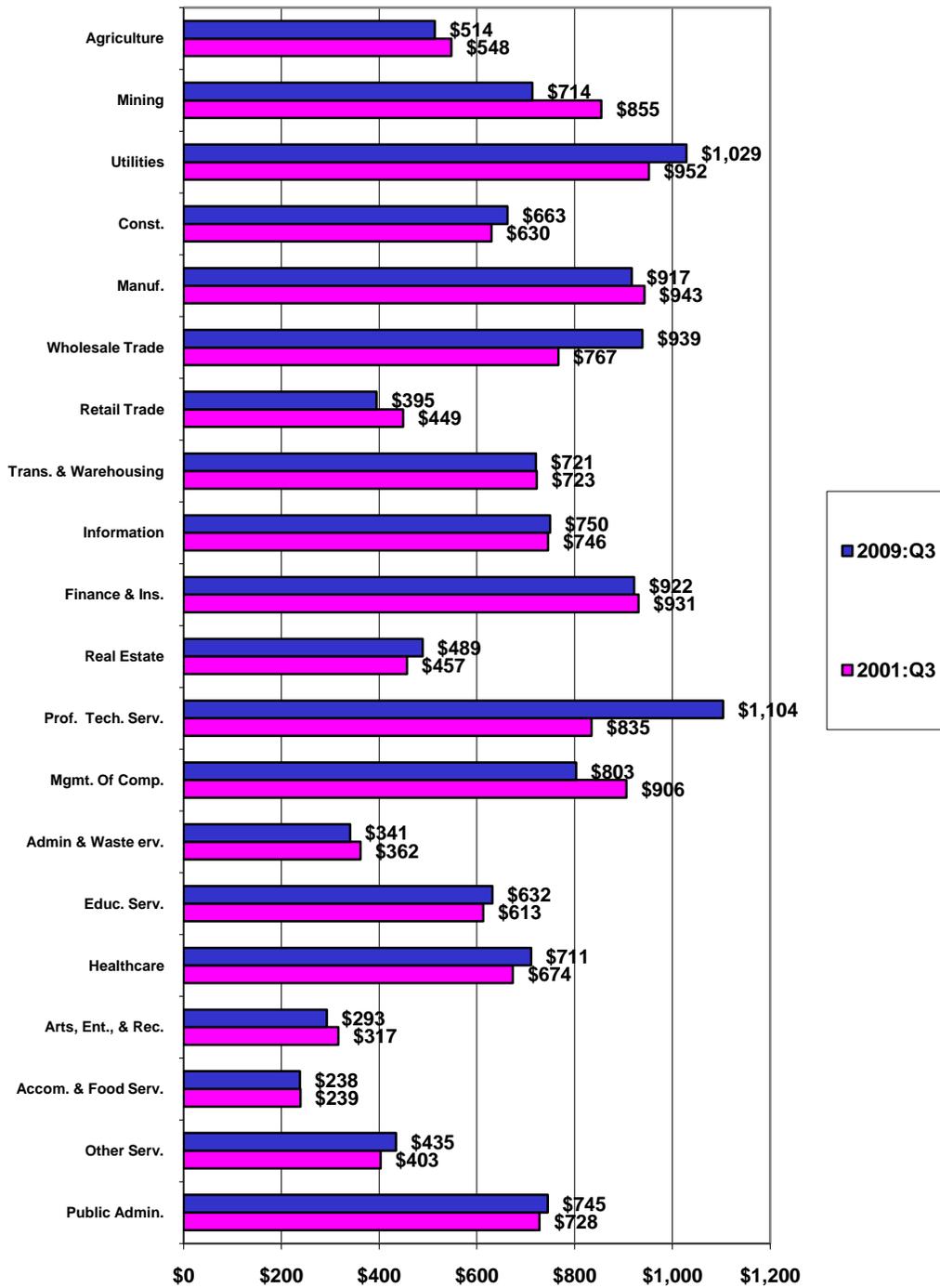


Figure 10: 2000:Q3 and 2009:Q3 Real Wages by Major Industry Category (2009 dollars) – Region 2000¹³

¹³ Data Source: Virginia Employment Commission.

Unemployment

Figures 11 and 12 provide information on unemployment rates for Region 2000. Figure 11 depicts annual unemployment rates for the period 1991 through 2008 (the trough of the 1990-91 recession through the most recent year for which annual data are available). As these data show, Region 2000 was negatively impacted by the 1990-91, 2001, and 2008 recessions, with unemployment spiking in 1992, 2002, and again in 2008

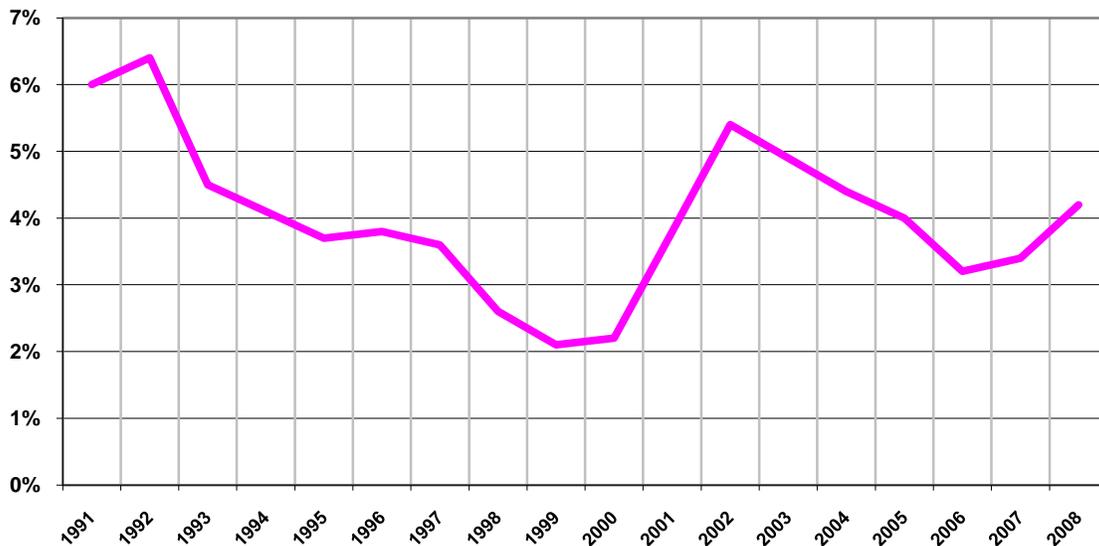


Figure 11: Region 2000 Unemployment Rate – 1991 to 2008¹⁴

Figure 12 focuses on more recent monthly data covering the period from January 2008 through February 2010. The most salient aspect of these data is the extent to which Region 2000 has experienced a significant increase in unemployment since October of 2008.

¹⁴ Data Source: Virginia Employment Commission.

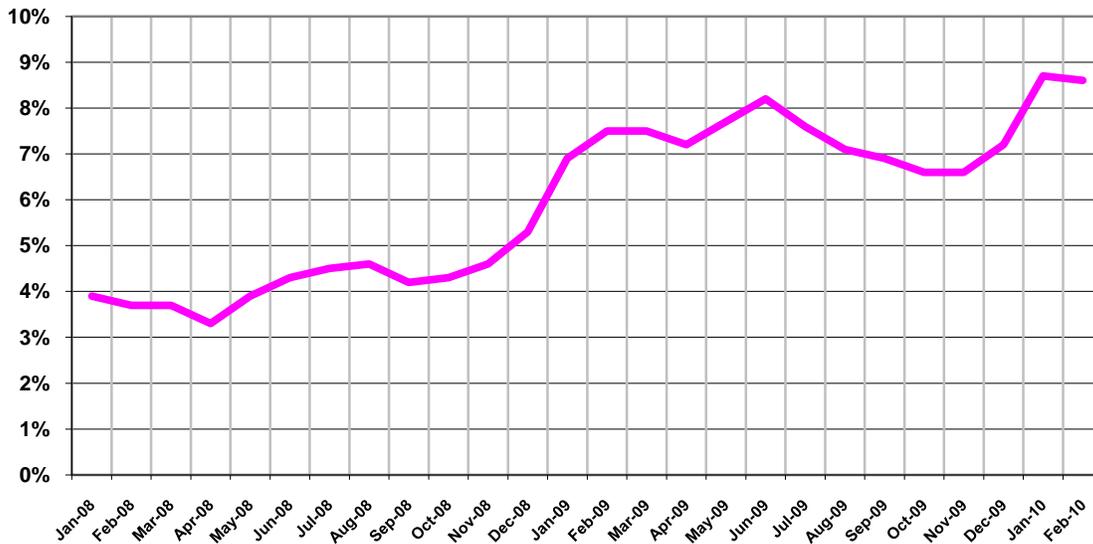


Figure 12: Region 2000 Unemployment Rate – January 2008 to February 2010¹⁵

Economic and Fiscal Impact

In this section, we quantify the economic and fiscal contribution that Liberty University makes to the Region 2000, as well as to the state of Virginia as a whole. To accomplish this task we employ a commonly used regional economic impact model called IMPLAN.¹⁶ The IMPLAN model uses regional and national economic data to construct traditional Keynesian multipliers and uses these multipliers to quantify economic impact.

Keynesian multipliers are named after the British economist John Maynard Keynes. They measure the ripple effects that an expenditure has as it makes its way through the economy. For example, as when the expenditures that Liberty University makes on goods and services become income for someone else, and are then spent in turn on other goods and services, thereby becoming income for someone else, and so on, and so on. Through this process, one dollar in expenditures generates multiple dollars of income. The mathematical relationship between the initial expenditure and the total income generated is the Keynesian multiplier.

Economic impact is generally referred to in terms of “direct,” “indirect,” and “induced.” Direct economic impact measures the immediate effect of an economic event (*e.g.*, university purchases of goods and services). Indirect economic impact measures the

¹⁵ Data Source: Virginia Employment Commission.

¹⁶ IMPLAN is produced by Minnesota IMPLAN Group, Inc.

cumulative impact of the ripple effects generated by the direct economic impact through other business (non-household) purchases. While induced economic impact measures the cumulative impact generated through the household purchases of employees. In the estimates that follow, direct, indirect, and induced impact are further disaggregated into three categories of economic impact. The first is economic output, or the dollar value of the impact. The second, is the number of jobs that are created as a result of that economic output. The third, is the fiscal impact, or total tax dollars, generated

Region 2000¹⁷

Regional Spending

In 2009, Liberty University was directly responsible for contributing \$217 million dollars in direct spending to Region 2000.¹⁸ As shown in Figure 13, Liberty University expenditures on goods and services accounted for 12 percent of that total (\$26 million), while Liberty University expenditures on salaries and wages accounted for 45 percent (\$96 million), Liberty University expenditures on capital construction projects accounted for 7 percent (\$16 million), spending from students 31 percent (\$68 million), and spending from visitors 5 percent (\$11 million).¹⁹ In the next portion of this section, we quantify the total economic impact that this direct spending had on Region 2000.

¹⁷ Region 2000 is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the cities of Bedford and Lynchburg.

¹⁸ In the data that follow, university spending is by fiscal year, while student and visitor spending are by calendar year.

¹⁹ *Data Source:* Data on university spending were obtained from Liberty University. Data on student and employee visitor spending were derived from an online survey of Liberty University students and employees administered in March 2009. Data on visitors to university events were derived from data provided by Liberty University on out-of-area event attendance and tourism spending data developed by the Virginia Tourism Corporation (see "FY 2007-2009 Profile of Leisure Travel in Virginia," Virginia Tourism Corporation).

\$217 Million in Regional Spending

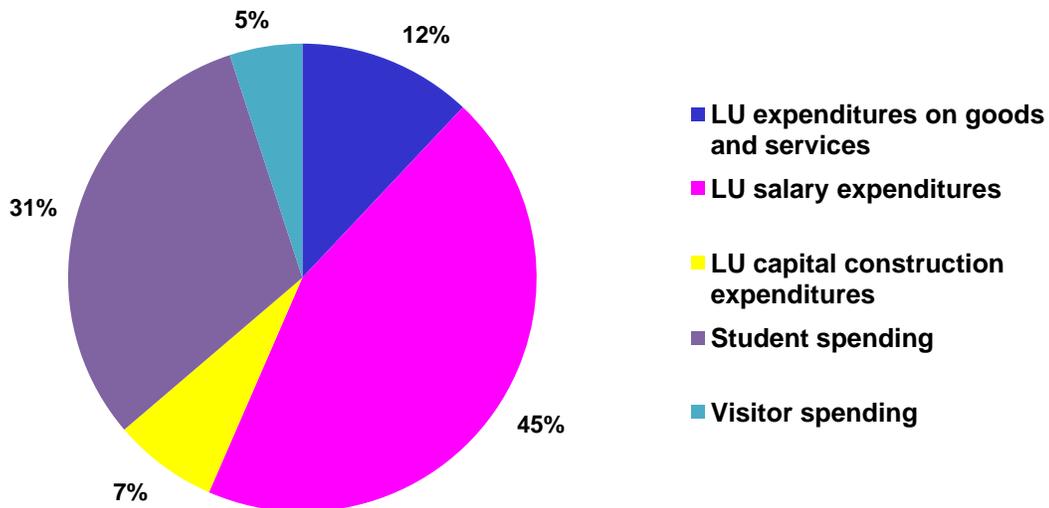


Figure 13: Distribution of Liberty University 2009 Spending within Region 2000

Regional Output and Employment Impact

It is important to realize that not all of Liberty University’s \$217 million in 2009 local spending stayed in the regional economy. Some of those dollars were spent on goods produced outside of the region (*e.g.*, any consumer good with “made in China” stamped on the back of it), some were siphoned off as payroll deductions for social security and other programs, and some went into savings. Based on data from the IMPLAN model, we estimate that these “leakages” from the regional economy totaled \$84 million in 2009. As a result, total net spending in Region 2000 attributable to Liberty University in 2009 is estimated to be \$133 million.

As shown in Table 1, our analysis indicates that this \$133 million in net regional spending was responsible for generating a total of \$197 million in overall economic activity within Region 2000. That means that every \$1.00 of Liberty University’s net local spending ultimately generated \$1.48 in total spending within the region.

In addition, our analysis indicates that these expenditures were responsible for supporting a total of 5,179 jobs within Region 2000 in 2009, with most of those jobs located in the city of Lynchburg. Given that the city of Lynchburg’s total employment in 2009 is

estimated to have been 52,776,²⁰ this means that approximately one out of every ten jobs within the city were either directly or indirectly attributable to Liberty University.

Table 1: Estimated Total Economic Impact of Liberty University on Region 2000 in 2009

| | Regional Spending | Leakages from Regional Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|-------------------|--------------------------------|---------------|--------------|--------------|----------------------|
| Output | \$216,931,217 | \$83,922,712 | \$133,008,505 | \$21,974,699 | \$42,136,899 | \$197,120,104 |
| Employment | | | 3,312 | 455 | 1,411 | 5,179 |

*Totals may not sum due to rounding.

In the subsections that follow, we provide detailed analysis for each of the spending components listed in Figure 13.

1. Liberty University Expenditures on Goods and Services:

In assessing the likely economic impact attributable to Liberty University’s expenditures on goods and services within Region 2000 in 2009, we employ the following assumption:

- Total university expenditures for goods and services within Region 2000 were \$26.1 million in FY 2009.²¹

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 2:

- Economic Output: Liberty University’s \$26.1 million in spending on goods and services in Region 2000 in FY 2009 was responsible for generating a total of \$39.5 million in overall economic activity within the region.
- Regional Employment: In addition to the 3,171 jobs attributable directly to Liberty University, university expenditures on goods and services also supported 477 jobs within the region, for a total of 3,490 jobs.

²⁰ *Data Source*: Virginia Employment Commission. This average is based on first through third quarter 2009 employment data for the city of Lynchburg, as fourth quarter 2009 data were not available at the time this report was produced.

²¹ *Data Source*: Liberty University.

Table 2: Estimated Economic Impact of Liberty University Expenditures on Goods and Services in Region 2000 in 2009

| | Direct | Indirect | Induced | Total* |
|-------------------|--------------|-------------|-------------|--------------|
| Output | \$26,075,720 | \$7,128,972 | \$6,292,367 | \$39,497,059 |
| Employment | 3,171 | 415 | 62 | 3,647 |

*Totals may not sum due to rounding.

2. Liberty University Expenditures on Salaries and Wages:

We employ the following assumptions in assessing the likely economic impact attributable to Liberty University’s expenditures on salaries and wages within Region 2000 in 2009:

- Total university expenditures on salaries, wages, and associated benefits within Region 2000 were \$96.5 million in FY 2009.²²
- Based on data from the IMPLAN model, we estimate that regional “leakages” (attributable largely to social security and other payroll withholding, and domestic and foreign imports) from these expenditures totaled \$54.4 million.
- Therefore, net regional spending from salaries and wages is estimated to be \$42.1 million.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 3:

- Economic Output: Liberty University’s \$96.5 million in spending on salaries and wages in Region 2000 in FY 2009 were responsible for generating \$42.1 million in net household expenditures within the region. Those \$42.1 million in net household expenditures generated a total of \$60.5 million in overall economic activity in the region.
- Regional Employment: Household expenditures by Liberty University employees supported a total of 572 jobs within the region.

²² Data Source: Liberty University.

Table 3: Estimated Economic Impact of Liberty University Expenditures on Salaries and Wages in Region 2000 in 2009

| | Regional Spending | Leakages from Regional Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|-------------------|--------------------------------|--------------|-------------|-------------|--------------|
| Output | \$96,547,350 | \$54,441,541 | \$42,105,809 | \$9,998,345 | \$8,420,096 | \$60,524,249 |
| Employment | | | | | 572 | 572 |

*Totals may not sum due to rounding.

3. Liberty University Expenditures on Capital Construction:

In assessing the likely economic impact attributable to Liberty University’s expenditures on capital construction within Region 2000 in 2009, we employ the following assumptions:

- Total university expenditures on capital construction projects within Region 2000 were \$15.7 million in FY 2009.²³

By feeding this assumption into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 4:

- Economic Output: Liberty University’s \$15.7 million in spending on capital construction projects in Region 2000 in FY 2009 were responsible for generating a total of \$24.8 million in overall economic activity within the region.
- Regional Employment: Capital construction expenditures by Liberty University supported a total of 225 jobs within the region.

Table 4: Estimated Economic Impact of Liberty University Expenditures on Capital Construction Projects in Region 2000 in 2009

| | Direct | Indirect | Induced | Total* |
|-------------------|--------------|-------------|-------------|--------------|
| Output | \$15,673,094 | \$4,847,383 | \$4,301,900 | \$24,822,377 |
| Employment | 141 | 41 | 43 | 225 |

*Totals may not sum due to rounding.

²³ Data Source: Liberty University.

4. Liberty University Student Expenditures:

Our assessment of the economic impact that Liberty University students had on Region 2000 in 2009 is predicated on the following assumptions:

- Liberty University students spent an average of \$480.85 per month in Region 2000 in 2009.²⁴
- On average, Liberty University students reside in Region 2000 for 9.4 months out of the year.²⁵
- There are an estimated 13,870 Liberty University residential, commuter, or online students who reside in Region 2000 for at least a portion of the year.²⁶
- In addition to those residential, commuter, and online students who reside in Region 2000, in 2009 an additional 8,500 intensive online students physically attended classes for some number of days at Liberty University's campus.²⁷
- On average, these intensive online students made 2.8 visits to the campus in 2009 and stayed 5.2 days each visit.
- Liberty University intensive online students spent an average of \$205.45 per visit in Region 2000 in 2009.²⁸
- The distribution of Liberty University intensive online student's expenditures on various goods and services in 2009 is comparable to tourism spending data developed by the Virginia Tourism Corporation for FY 2009.²⁹
- Total expenditures by Liberty University students (resident, commuter, online living in Region 2000, and intensive online students visiting Region 2000) are estimated to be \$67.8 million in 2009.³⁰
- Based on data from the IMPLAN model, we estimate that regional "leakages" (attributable to domestic and foreign imports) from these expenditures totaled \$27.1 million.
- Therefore, net regional spending associated with student expenditures is estimated to be \$40.7 million.

²⁴ *Data Source:* Derived from a survey of Liberty University students conducted in March 2010.

²⁵ *Data Source:* Derived from student survey.

²⁶ *Data Source:* Derived from student survey. This estimate controls for the small number of Liberty University students who have spouses who are either enrolled or employed by the university, and therefore may also have been included in the survey sample.

²⁷ *Data Source:* Liberty University.

²⁸ *Data Source:* Derived from student survey.

²⁹ *Data Source:* "FY 2007-2009 Profile of Leisure Travel in Virginia," Virginia Tourism Corporation.

³⁰ *Data Source:* Derived from student survey.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 5:

- **Economic Output:** Liberty University student spending of \$67.8 million in Region 2000 in 2009 generated \$40.7 million in net consumer spending within the region. That \$40.7 million in net consumer spending was responsible for generating a total of \$59.4 million in overall economic activity in the region.
- **Regional Employment:** Consumption expenditures by Liberty University students supported a total of 557 jobs within the region.

Table 5: Estimated Economic Impact of Liberty University Student Expenditures in Region 2000 in 2009

| | Regional Spending | Leakages from Regional Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|--------------------------|---------------------------------------|-------------------|-----------------|----------------|---------------|
| Output | \$67,757,511 | \$27,077,312 | \$40,680,199 | | \$18,729,166 | \$59,409,365 |
| Employment | | | | | 557 | 557 |

*Totals may not sum due to rounding.

5. Liberty University Visitor Expenditures:

Our assessment of the economic impact attributable to Liberty University student and employee visitors, and out-of-town visitors to university events in 2009, is predicated on the following assumptions:

- Visitors to Liberty University students spent an average of \$191.35 per visit in Region 2000 in 2009.³¹
- 78 percent of Liberty University students had out-of-town visitors in 2009.³²
- On average, each student receiving visitors had 3.2 visits during the year, each visit lasted 2.8 days, and involved 2.4 out-of-town visitors.³³
- Visitors to Liberty University employees spent an average of \$207.12 per visit in Region 2000 in 2009.³⁴

³¹ *Data Source:* Derived from student survey.

³² *Data Source:* Derived from student survey.

³³ *Data Source:* Derived from student survey.

³⁴ *Data Source:* Derived from a survey of Liberty University employees conducted in March 2010.

- 87 percent of Liberty University employees had out-of-town visitors in 2009.³⁵
- On average, each employee receiving visitors had 3.7 visits during the year, each visit lasted 3.1 days, and involved 2.7 out-of-town visitors.³⁶
- There were 36,993 out-of-town visitors to Liberty University events in 2009.³⁷
- The distribution of Liberty University visitor expenditures on various goods and services in 2009 is comparable to tourism spending data developed by the Virginia Tourism Corporation for FY 2009.³⁸
- Total expenditures by visitors to Liberty University students, employees, and events are estimated to be \$10.9 million in 2009.³⁹
- Based on data from the IMPLAN model, we estimate that regional “leakages” (attributable to domestic and foreign imports) from these expenditures totaled \$2.4 million.
- Therefore, net regional spending associated with these visitor expenditures is estimated to be \$8.5 million.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of annual regional economic impact shown in Table 6:

- Economic Output: Liberty University visitor spending of \$10.9 million in Region 2000 in 2009 generated \$8.5 million in net consumer spending within the region. That \$8.5 million in net consumer spending was responsible for generating a total of \$12.9 million in overall economic activity in the region.
- Regional Employment: Consumption expenditures by Liberty University visitors supported a total of 178 jobs within the region.

³⁵ *Data Source*: Derived from employee survey.

³⁶ *Data Source*: Derived from employee survey.

³⁷ *Data Source*: Liberty University. This figure includes 18,897 out-of-town guests for commencement, 8,630 out-of-town visitors to the Lahaye Ice Center, 6,000 out-of-town visitors to SnowFlex (annualized), 2,842 out-of-town guests for Fall Family Weekend, and 624 out-of-town guests for Spring Family Weekend. It is important to note that this list of events is hardly exhaustive. Instead, it is restricted to those events for which data were available, and does not include some very significant events, such as Winterfest or university sports events, for which no data were available. As a result, the estimates of economic impact derived from these figures should be considered very conservative.

³⁸ *Data Source*: “FY 2007-2009 Profile of Leisure Travel in Virginia,” Virginia Tourism Corporation.

³⁹ *Data Source*: Derived from the student and employee surveys, as well as event information provided by Liberty University.

Table 6: Estimated Economic Impact of Liberty University Visitor Expenditures in Region 2000 in 2009

| | Regional Spending | Leakages from Regional Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|-------------------|--------------------------------|-------------|----------|-------------|--------------|
| Output | \$10,877,542 | \$2,403,859 | \$8,473,683 | | \$4,393,370 | \$12,867,053 |
| Employment | | | | | 178 | 178 |

*Totals may not sum due to rounding.

Regional Fiscal Impact

In this section we provide a more narrowly focused analysis of the fiscal, or tax revenue, impact that Liberty University’s activities have on Region 2000. That fiscal impact comes from seven primary local revenue streams:

- **Real Property Tax:** The local tax that employees and students who own homes within the region pay on those properties.
- **Personal Property Tax:** The local tax that employees and students who own cars that are registered within the region pay on those vehicles.
- **Motor Vehicle License Fee:** The fee that employees and students who own cars pay to register those vehicles locally.
- **Restaurant Food Tax:** The tax that some localities add to meals purchased in restaurants.
- **Hotel and Motel Room Tax:** The tax that some localities add to hotel and motel room charges.
- **Sales Tax:** The one percent portion of the state sales tax that goes to localities.
- **Other Local Taxes:** Water and sewer fees paid by Liberty University to the city of Lynchburg.

Our estimates of fiscal impact are based on detailed data obtained from three sources: 1) surveys of Liberty University employees and students,⁴⁰ 2) information on out-of-town

⁴⁰ The employee and student surveys were administered in an online format in March 2010. There were 1,594 respondents to the employee survey (a 50 percent response rate), 4,513 respondents to the resident/commuter student survey (a 37 percent response rate), and 679 respondents to the survey of online students residing within Region 2000 (a 21 percent response rate). Respondents were asked to provide detailed information on their 2009 local spending habits, home ownership, vehicle ownership, and out-of-town visitors.

attendees to Liberty University events,⁴¹ and 3) information on current tenants in the Plaza shopping center, a retail shopping plaza located in the city of Lynchburg that is owned by Liberty University.⁴² As shown in Table 7, based on these data we estimate that Liberty University, in combination with its employees, students, visitors, and retail tenants contributed a total of approximately \$8.4 million in local tax revenue to Region 2000 in 2009.

If we focus exclusively on the city of Lynchburg, where Liberty University's campus is physically located, what these data show is that in 2009 Liberty University generated approximately \$5.4 million in tax revenue for the city. More specifically, Liberty University was responsible for generating approximately:

- 4 percent of the city of Lynchburg's total *Real Property Tax* revenue,
- 8 percent of its *Personal Property Tax* revenue,
- 9 percent of its *Restaurant Food Tax* revenue,
- 17 percent of its *Hotel and Motel Room Tax* revenue, and
- 2 percent of its local *Sales Tax* revenue.⁴³

In the subsections that follow, we provide additional detail on the sources of the revenue streams summarized in Table 7.

⁴¹ *Data Source:* Liberty University. According to university data, in 2009 there were at least 36,993 out-of-town attendees at university sponsored events. This figure includes 18,897 out-of-town guests for commencement, 8,630 out-of-town visitors to the Lahaye Ice Center, 6,000 out-of-town visitors to SnowFlex (annualized), 2,842 out-of-town guests for Fall Family Weekend, and 624 out-of-town guests for Spring Family Weekend. It is important to note that this list of events is not exhaustive and is instead restricted to those events for which data were available. Because these data do not include some very significant events, such as Winterfest or university sports events, for which no data were available, the estimates of fiscal impact derived from these figures should be considered very conservative. Estimates of out-of-town visitor spending were based on the Virginia Tourism Corporation's "FY 2007-2009 Profile of Leisure Travel in Virginia."

⁴² *Data Source:* Liberty University. These data included a list of current tenants and the square footage of their retail operations. Those data were combined with information on average sales per square foot and business personal property per square foot from *Bizminer* and the "Field Appraisers Guide," Texas Comptroller of Public Accounts, April 2007, to estimate the annual sales tax and business personal property tax revenue generated by the Plaza Shopping Center.

⁴³ Derived from data on local tax revenue collected by the Virginia Auditor of Public Accounts. See "Comparative Report of Local Government revenues and Expenditures," Virginia Auditor of Public Accounts, March 26, 2010.

Table 7: Estimated Total Fiscal Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|---|------------------|------------------|------------------|--------------------|--------------------|--------------------|---------------------------|
| Real Property⁴⁴ | \$198,283 | \$103,302 | \$118,973 | \$739,866 | \$576,056 | \$2,128,080 | \$3,905,109 ⁴⁵ |
| Personal Property⁴⁶ | \$81,791 | \$52,888 | \$33,278 | \$254,467 | \$480,513 | \$856,771 | \$1,759,708 |
| Motor Vehicle License Fee⁴⁷ | \$7,307 | \$3,835 | \$3,428 | N/A | \$40,189 | \$75,099 | \$129,858 |
| Restaurant Food Tax⁴⁸ | \$25,062 | N/A | \$9,579 | \$73,896 | N/A | \$921,795 | \$1,030,331 |
| Hotel and Motel Room Tax⁴⁹ | \$4,816 | N/A | \$1,018 | \$13,849 | N/A | \$296,451 | \$316,134 |
| Local Sales Tax⁵⁰ | \$5,960 | \$2,334 | \$2,022 | \$18,681 | \$29,347 | \$274,690 | \$333,032 |
| Other Local Taxes⁵¹ | N/A | N/A | N/A | N/A | N/A | \$879,129 | \$879,129 |
| TOTAL | \$323,220 | \$162,358 | \$168,297 | \$1,100,758 | \$1,126,105 | \$5,432,014 | \$8,353,302 |

⁴⁴ 2009 Real Property Tax Rates: Amherst County – \$0.52 per \$100 of assessed value, Appomattox County – \$0.48, Bedford City – \$0.86, Bedford County – \$0.50, Campbell County – \$0.46, and Lynchburg City – \$1.05.

⁴⁵ Includes \$40,550 paid by Liberty University for property within Region 2000 for which specific locality information was not provided.

⁴⁶ 2009 Personal Property Tax Rates: Amherst County – \$3.25 per \$100 of assessed value, Appomattox County – \$4.60, Bedford City – \$2.43, Bedford County – \$2.35, Campbell County – \$3.85, and Lynchburg City – \$3.80. Based on data from the State Council of Higher Education for Virginia on the location of domicile for first-time freshmen at Liberty University, we conservatively estimate that only 5.9 percent of university students who own vehicles actually pay personal property tax on those vehicles in Region 2000.

⁴⁷ 2009 Motor Vehicle License Fees: Amherst County – \$25.00, Appomattox County – \$25.00, Bedford City – \$25.00, Bedford County – none, Campbell County – \$27.00, and Lynchburg City – \$29.50. Conservatively assumes that only 5.9 percent of Liberty University students who own vehicles actually register those vehicles in Region 2000.

⁴⁸ 2009 Restaurant and Food Tax: Amherst County – 4%, Appomattox County – none, Bedford City – 5%, Bedford County – 4%, Campbell County – none, and Lynchburg City – 6.5%.

⁴⁹ 2009 Hotel and Motel Room Tax: Amherst County – 5%, Appomattox County – none, Bedford City – 5%, Bedford County – 5%, Campbell County – none, and Lynchburg City – 5.5% plus \$1.

⁵⁰ One percent of retail sales in all localities.

⁵¹ Comprised exclusively of water and sewer fees paid by Liberty University to the city of Lynchburg.

1. Real Property Tax:

Table 8 provides additional detail on the estimated sources of the real property tax revenue summary provided in Table 7. It is important to emphasize that the figures presented below are based exclusively on estimates of the number of Liberty University employees and students who own homes within Region 2000. These totals do not reflect the indirect property tax paid by the approximately 38 percent of Liberty University students who rent homes or apartments in Region 2000. As a result, they should be viewed as exceedingly conservative.

Table 8: Estimated Real Property Tax Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|--------------|------------------|------------------|------------------|------------------|------------------|--------------------|-------------------------|
| University | N/A | N/A | N/A | N/A | N/A | \$443,523 | \$484,073 ⁵² |
| Employees | \$95,066 | \$41,747 | \$105,206 | \$486,232 | \$387,908 | \$994,741 | \$2,110,900 |
| Students | \$103,217 | \$61,555 | \$13,767 | \$253,634 | \$188,148 | \$689,815 | \$1,310,136 |
| TOTAL | \$198,283 | \$103,302 | \$118,973 | \$739,866 | \$576,056 | \$2,128,080 | \$3,905,109 |

2. Personal Property Tax:

Table 9 provides additional detail on the estimated sources of the personal property tax revenue summary provided in Table 7.

Table 9: Estimated Personal Property Tax Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|--------------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|--------------------|
| University Tenants | N/A | N/A | N/A | N/A | N/A | \$40,005 | \$40,005 |
| Employees | \$73,265 | \$47,403 | \$31,855 | \$239,346 | \$439,389 | \$613,053 | \$1,444,313 |
| Students | \$8,526 | \$5,485 | \$1,423 | \$15,120 | \$41,124 | \$203,712 | \$275,391 |
| TOTAL | \$81,791 | \$52,888 | \$33,278 | \$254,467 | \$480,513 | \$856,771 | \$1,759,708 |

⁵² Includes \$40,550 paid by Liberty University for property within Region 2000 for which specific locality information was not provided.

3. Motor Vehicle License Fee:

Table 10 provides additional detail on the estimated sources of the motor vehicle license fee revenue summary provided in Table 7.

Table 10: Estimated Motor Vehicle License Fee Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|--------------|----------------|----------------|----------------|-------------|-----------------|-----------------|------------------|
| Employees | \$6,554 | \$3,573 | \$3,270 | N/A | \$37,195 | \$59,701 | \$110,293 |
| Students | \$753 | \$262 | \$157 | N/A | \$2,994 | \$15,398 | \$19,564 |
| TOTAL | \$7,307 | \$3,835 | \$3,428 | \$0 | \$40,189 | \$75,099 | \$129,858 |

4. Restaurant Food Tax:

Table 11 provides additional detail on the estimated sources of the restaurant food tax revenue summary provided in Table 7.

Table 11: Estimated Restaurant Food Tax Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|----------------------|-----------------|----------------|----------------|-----------------|--------------|------------------|--------------------|
| Employees | \$5,008 | N/A | \$3,499 | \$26,436 | N/A | \$163,134 | \$198,077 |
| Students | \$11,492 | N/A | \$3,396 | \$26,546 | N/A | \$512,782 | \$554,216 |
| Intensive Students | \$6,703 | N/A | \$1,980 | \$15,482 | N/A | \$130,481 | \$154,646 |
| Visitors (employees) | \$383 | N/A | \$267 | \$2,021 | N/A | \$12,469 | \$15,140 |
| Visitors (students) | \$1,477 | N/A | \$436 | \$3,411 | N/A | \$65,890 | \$71,215 |
| Events | N/A | N/A | N/A | N/A | N/A | \$37,038 | \$37,038 |
| TOTAL | \$25,062 | \$0 | \$9,579 | \$73,896 | \$0 | \$921,795 | \$1,030,331 |

5. Hotel and Motel Room Tax:

Table 12 provides additional detail on the estimated sources for the hotel and motel room tax revenue summary provided in Table 7.

Table 12: Estimated Hotel and Motel Room Tax Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|----------------------|----------------|----------------|----------------|-----------------|--------------|------------------|------------------|
| Intensive Students | \$2,956 | N/A | \$541 | \$7,696 | N/A | \$149,800 | \$160,993 |
| Visitors (employees) | \$553 | N/A | \$237 | \$2,750 | N/A | \$9,595 | \$13,135 |
| Visitors (students) | \$1,307 | N/A | \$239 | \$3,403 | N/A | \$90,303 | \$95,253 |
| Events | N/A | N/A | N/A | N/A | N/A | \$46,753 | \$46,753 |
| TOTAL | \$4,816 | \$0 | \$1,018 | \$13,849 | \$0 | \$296,451 | \$316,134 |

6. Local Sales Tax:

Table 13 provides additional detail on the estimated sources for the local sales tax revenue summary provided in Table 7.

Table 13: Estimated Local Sales Tax Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|----------------------|----------------|----------------|----------------|-----------------|-----------------|------------------|------------------|
| University Tenants | N/A | N/A | N/A | N/A | N/A | \$151,912 | \$151,912 |
| Employees | \$2,763 | \$1,267 | \$1,324 | \$11,673 | \$15,831 | \$27,034 | \$59,892 |
| Students | \$2,708 | \$893 | \$569 | \$5,765 | \$11,322 | \$79,556 | \$100,813 |
| Intensive Students | \$169 | \$56 | \$35 | \$359 | \$705 | \$4,951 | \$6,274 |
| Visitors (employees) | \$96 | \$44 | \$46 | \$406 | \$551 | \$941 | \$2,085 |
| Visitors (students) | \$224 | \$74 | \$47 | \$478 | \$938 | \$6,591 | \$8,352 |
| Events | N/A | N/A | N/A | N/A | N/A | \$3,704 | \$3,704 |
| TOTAL | \$5,960 | \$2,334 | \$2,022 | \$18,681 | \$29,347 | \$274,690 | \$333,032 |

7. Other Local Taxes:

Table 14 provides additional detail on the estimated sources for the real property tax revenue summary provided in Table 7.

Table 14: Estimated Other Local Tax Revenue Impact of Liberty University on Region 2000 in 2009

| | Amherst Co. | Appomattox Co. | Bedford City | Bedford Co. | Campbell Co. | Lynchburg City | TOTAL |
|--------------|-------------|----------------|--------------|-------------|--------------|----------------|-------------------------|
| University | N/A | N/A | N/A | N/A | N/A | N/A | \$879,129 ⁵³ |
| TOTAL | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$879,129 |

⁵³ Comprised exclusively of water and sewer fees paid by Liberty University to the city of Lynchburg.

Virginia

State Spending

In 2009, Liberty University was directly responsible for contributing \$268 million dollars in direct spending to the state of Virginia. As shown in Figure 14, Liberty University expenditures on goods and services accounted for 15 percent of that total (\$41 million), while Liberty University expenditures on salaries and wages accounted for 38 percent (\$102 million), Liberty University expenditures on capital construction projects accounted for 9 percent (\$24 million), spending from students 34 percent (\$90 million), and spending from visitors 4 percent (\$11 million).⁵⁴ In the pages that follow, we quantify the total economic impact that this direct spending had on the state of Virginia.

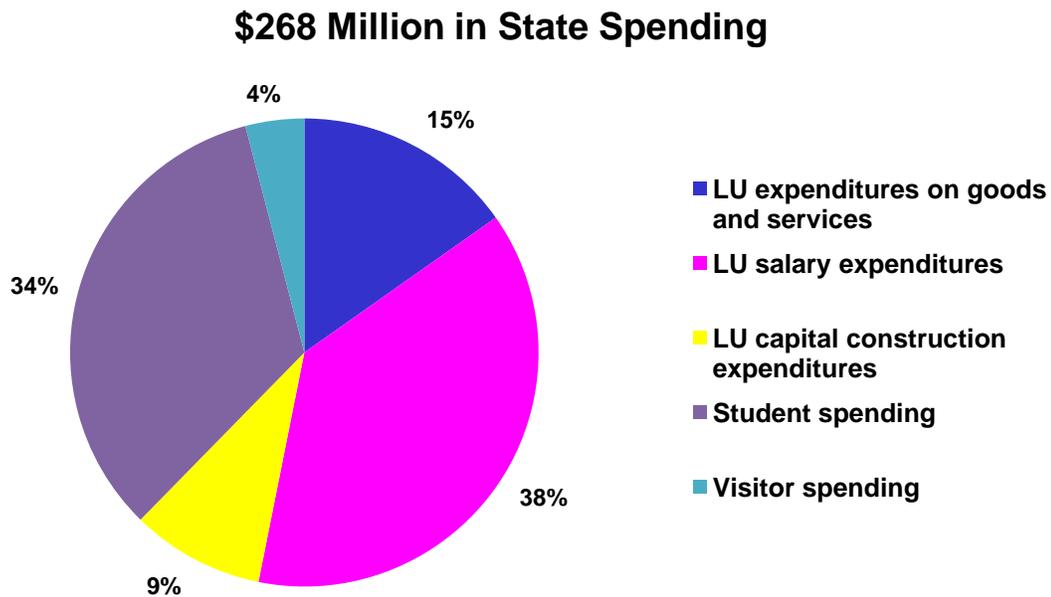


Figure 14: Distribution of Liberty University 2009 Spending within Virginia

⁵⁴ *Data Source:* Data on university spending were obtained from Liberty University. Data on student and employee visitor spending were derived from an online survey of Liberty University students and employees administered in March 2009. Data on visitors to university events were derived from data provided by Liberty University on out-of-area event attendance and tourism spending data developed by the Virginia Tourism Corporation (see "FY 2007-2009 Profile of Leisure Travel in Virginia," Virginia Tourism Corporation).

State Output, Employment, and Fiscal Impact

Based on data from the IMPLAN model, we estimate that out of this \$268 in direct spending in Virginia, \$88 million was lost to “leakages” from the state economy (*e.g.*, foreign and domestic imports, payroll deductions, and savings). As a result, Liberty University’s total net spending in Virginia in 2009 is estimated to be \$180 million.

As shown in Table 15, our analysis indicates that this \$180 million in net state spending was responsible for generating a total of \$283 million in overall economic activity within Virginia. That means that every \$1.00 of Liberty University’s net state spending ultimately generated \$1.57 in total spending within the state. Our analysis also indicates that these expenditures were responsible for supporting a total of 5,563 jobs within the state in 2009, and generated a total of \$41 million in federal, state, and local tax revenue (for purposes of the statewide analysis of economic impact, we will rely on fiscal impact estimates derived directly from the IMPLAN model itself, as opposed to the more detailed fiscal analysis that was conducted for Region 2000).

Table 15: Estimated Total Economic and Fiscal Impact of Liberty University on the state of Virginia in 2009

| | State Spending | Leakages from State Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|----------------|-----------------------------|---------------|--------------|--------------|---------------|
| Output | \$268,131,628 | \$88,163,366 | \$179,968,262 | \$35,367,127 | \$67,865,058 | \$283,200,447 |
| Employment | | | 3,369 | 589 | 1,604 | 5,563 |
| Fiscal | | | | | | \$41,057,636 |
| Federal | | | | | | \$26,218,761 |
| State and Local | | | | | | \$14,838,875 |

*Totals may not sum due to rounding.

In the subsections that follow, we provide detailed analysis for each of the spending components listed in Figure 15.

1. Liberty University Expenditures on Goods and Services:

In assessing the likely economic and fiscal impact attributable to Liberty University's 2009 expenditures on goods and services within Virginia, we employ the following assumption:

- Total university expenditures for goods and services within Virginia were \$40.8 million in FY 2009.⁵⁵

By feeding this assumption into the IMPLAN model, we obtain the estimates of statewide impact shown in Table 16:

- Economic Output: Liberty University's \$40.8 million in FY 2009 spending on goods and services in Virginia ultimately generated a total of \$66.6 million in overall economic activity within the state.
- State Employment: In addition to the 3,171 jobs attributable directly to Liberty University, university expenditures on goods and services also supported 633 jobs within the state, for a total of 3,804 jobs.
- Fiscal Impact: Liberty University's spending on goods and services in Virginia ultimately generated \$9.4 million in federal, state, and local tax revenue.

Table 16: Estimated Economic and Fiscal Impact of Liberty University's 2009 Expenditures on Goods and Services in Virginia

| | Direct | Indirect | Induced | Total* |
|-------------------|--------------|--------------|--------------|---------------------|
| Output | \$40,821,621 | \$13,593,948 | \$12,203,444 | \$66,619,013 |
| Employment | 3,171 | 534 | 99 | 3,804 |
| Fiscal | | | | \$9,383,080 |
| Federal | | | | \$5,748,905 |
| State and Local | | | | \$3,634,175 |

*Totals may not sum due to rounding.

⁵⁵ Data Source: Liberty University.

2. Liberty University Expenditures on Salaries and Wages:

We employ the following assumptions in assessing the likely statewide economic and fiscal impact attributable to Liberty University's 2009 expenditures on salaries and wages in Virginia:

- Total university expenditures on salaries, wages, and associated benefits within Virginia were \$101.7 million in FY 2009.⁵⁶
- Based on data from the IMPLAN model, we estimate that \$55.0 million of these expenditures "leaked" out of the statewide economy because of foreign and domestic imports, payroll deductions, and savings.
- Therefore, net state spending from salaries and wages is estimated to be \$46.7 million.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of statewide impact shown in Table 17:

- Economic Output: Liberty University's \$101.7 million in FY 2009 spending on salaries and wages in Virginia was responsible for generating \$46.7 million in net household expenditures within the state. Those \$46.7 million in net household expenditures ultimately generated a total of \$72.7 million in statewide economic activity.
- State Employment: Household expenditures by Liberty University employees supported a total of 557 jobs within the state.
- Fiscal Impact: Liberty University's spending on salaries and wages in Virginia ultimately generated \$12.0 million in federal, state, and local tax revenue.

⁵⁶ Data Source: Liberty University.

Table 17: Estimated Economic and Fiscal Impact of Liberty University’s 2009 Expenditures on Salaries and Wages in Virginia

| | State Spending | Leakages from State Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|----------------|-----------------------------|--------------|--------------|--------------|---------------------|
| Output | \$101,663,696 | \$54,995,161 | \$46,668,535 | \$13,569,449 | \$12,442,791 | \$72,680,775 |
| Employment | | | | | 557 | 557 |
| Fiscal | | | | | | \$11,985,966 |
| Federal | | | | | | \$8,857,522 |
| State and Local | | | | | | \$3,128,445 |

*Totals may not sum due to rounding.

3. Liberty University Expenditures on Capital Construction:

In assessing the likely annual economic and fiscal impact attributable to Liberty University’s 2009 expenditures on capital construction in Virginia, we employ the following assumptions:

- Total university expenditures on capital construction projects in Virginia were \$24.7 million in FY 2009.⁵⁷

By feeding this assumption into the IMPLAN model, we obtain the estimates of statewide impact shown in Table 18:

- Economic Output: Liberty University’s \$24.7 million in FY 2009 spending on capital construction projects in Virginia was responsible for generating a total of \$40.9 million in overall economic activity within the state.
- State Employment: Capital construction expenditures by Liberty University supported a total of 320 jobs within the state.
- Fiscal Impact: Liberty University’s spending on capital construction projects in Virginia ultimately generated \$4.7 million in federal, state, and local tax revenue.

⁵⁷ Data Source: Liberty University.

Table 18: Estimated Economic and Fiscal Impact of Liberty University's 2009 Expenditures on Capital Construction in Virginia

| | Direct | Indirect | Induced | Total* |
|-------------------|--------------|-------------|-------------|---------------------|
| Output | \$24,650,220 | \$8,203,730 | \$8,052,300 | \$40,906,250 |
| Employment | 198 | 55 | 67 | 320 |
| Fiscal | | | | \$4,748,342 |
| Federal | | | | \$3,297,387 |
| State and Local | | | | \$1,450,955 |

*Totals may not sum due to rounding.

4. Liberty University Student Expenditures:

Our assessment of the economic and fiscal impact that Liberty University students had on Virginia in 2009 is predicated on the following assumptions:

- Liberty University students spent an average of \$480.85 per month in Region 2000 and \$170.80 per month elsewhere in Virginia in 2009, for a total of \$651.71 per month in total Virginia spending.⁵⁸
- On average, Liberty University students reside in Region 2000 for 9.4 months out of the year.⁵⁹
- There are an estimated 13,870 Liberty University residential, commuter, or online students who reside in Region 2000 for at least a portion of the year.⁶⁰
- In addition to those residential, commuter, and online students who reside in Region 2000, in 2009 an additional 8,500 intensive online students physically attended classes for some number of days at Liberty University's campus.⁶¹
- On average, these intensive online students made 2.8 visits to the campus in 2009 and stayed 5.2 days each visit.
- Liberty University intensive online students spent an average of \$205.45 per visit in Region 2000 in 2009.⁶²

⁵⁸ *Data Source:* Derived from student survey.

⁵⁹ *Data Source:* Derived from student survey.

⁶⁰ *Data Source:* Derived from student survey. This estimate controls for the small number of Liberty University students who have spouses who are either enrolled or employed by the university, and therefore may also have been included in the survey sample.

⁶¹ *Data Source:* Liberty University.

- The distribution of Liberty University intensive online student's expenditures on various goods and services in 2009 is comparable to tourism spending data developed by the Virginia Tourism Corporation for FY 2009.⁶³
- Total statewide expenditures by Liberty University students (resident, commuter, online living in Region 2000, and intensive online students visiting Region 2000) are estimated to be \$90.1 million in 2009.⁶⁴
- Based on data from the IMPLAN model, we estimate that \$30.8 million of these expenditures "leaked" out of the statewide economy because of foreign and domestic imports.
- Therefore, net state spending associated with student expenditures is estimated to be \$59.3 million.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of statewide impact shown in Table 19:

- Economic Output: Liberty University student's 2009 direct spending of \$90.1 million in Virginia generated \$59.3 million in net consumer spending within the state. That \$59.3 million in net consumer spending ultimately generated a total of \$90.1 million in overall economic activity in Virginia.
- State Employment: Consumption expenditures by Liberty University students supported a total of 704 jobs in the state.
- Fiscal Impact: Liberty University student spending ultimately generated \$13.0 million in federal, state, and local tax revenue within Virginia.

⁶² *Data Source*: Derived from student survey.

⁶³ *Data Source*: "FY 2007-2009 Profile of Leisure Travel in Virginia," Virginia Tourism Corporation.

⁶⁴ *Data Source*: Derived from student survey.

Table 19: Estimated Economic and Fiscal Impact of Liberty University Student’s 2009 Expenditures in Virginia

| | State Spending | Leakages from State Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|----------------|-----------------------------|--------------|----------|--------------|---------------------|
| Output | \$90,118,549 | \$30,764,346 | \$59,354,203 | | \$30,773,153 | \$90,127,356 |
| Employment | | | | | 704 | 704 |
| Fiscal | | | | | | \$12,970,016 |
| Federal | | | | | | \$7,267,563 |
| State and Local | | | | | | \$5,702,453 |

*Totals may not sum due to rounding.

5. Liberty University Visitor Expenditures:

Our assessment of the economic and fiscal impact on Virginia attributable to 2009 Liberty University student and employee visitors, and out-of-town visitors to university events, is predicated on the following assumptions:

- Visitors to Liberty University students spent an average of \$191.35 per visit in Region 2000 in 2009.⁶⁵
- 78 percent of Liberty University students had out-of-town visitors in 2009.⁶⁶
- On average, each student receiving visitors had 3.2 visits during the year, each visit lasted 2.8 days, and involved 2.4 out-of-town visitors.⁶⁷
- Visitors to Liberty University employees spent an average of \$207.12 per visit in Region 2000 in 2009.⁶⁸
- 87 percent of Liberty University employees had out-of-town visitors in 2009.⁶⁹
- On average, each employee receiving visitors had 3.7 visits during the year, each visit lasted 3.1 days, and involved 2.7 out-of-town visitors.⁷⁰
- There were 36,993 out-of-town visitors to Liberty University events in 2009.⁷¹

⁶⁵ Data Source: Derived from student survey.

⁶⁶ Data Source: Derived from student survey.

⁶⁷ Data Source: Derived from student survey.

⁶⁸ Data Source: Derived from employee survey.

⁶⁹ Data Source: Derived from employee survey.

⁷⁰ Data Source: Derived from employee survey.

⁷¹ Data Source: Liberty University.

- The distribution of Liberty University visitor expenditures on various goods and services in 2009 is comparable to tourism spending data developed by the Virginia Tourism Corporation for FY 2009.⁷²
- Total expenditures by visitors to Liberty University students, employees, and events are estimated to be \$10.9 million in 2009.⁷³
- Based on data from the IMPLAN model, we estimate that \$2.4 million of these expenditures “leaked” out of the economy because of foreign and domestic imports, payroll deductions, and savings.
- Therefore, net spending associated with these visitor expenditures is estimated to be \$8.5 million.

By feeding these assumptions into the IMPLAN model, we obtain the estimates of statewide impact shown in Table 20:

- Economic Output: Liberty University visitor spending of \$10.9 million in 2009 generated \$8.5 million in net consumer spending within the state. That \$8.5 million in net consumer spending ultimately was responsible for generating a total of \$12.9 million in economic activity within the state.
- Employment: Consumption expenditures by Liberty University visitors supported a total of 178 jobs within the region.
- Fiscal Impact: Liberty University student spending ultimately generated \$13.0 million in federal, state, and local tax revenue within Virginia.

⁷² *Data Source*: “FY 2007-2009 Profile of Leisure Travel in Virginia,” Virginia Tourism Corporation.

⁷³ *Data Source*: Derived from the student and employee surveys, as well as event information provided by Liberty University.

Table 20: Estimated Economic and Fiscal Impact of Liberty University Visitor’s 2009 Expenditures in Virginia

| | State Spending | Leakages from State Economy | Net Direct | Indirect | Induced | Total* |
|-------------------|----------------|-----------------------------|-------------|----------|-------------|--------------|
| Output | \$10,877,542 | \$2,403,859 | \$8,473,683 | | \$4,393,370 | \$12,867,053 |
| Employment | | | | | 178 | 178 |
| Fiscal | | | | | | \$1,970,231 |
| Federal | | | | | | \$1,047,384 |
| State and Local | | | | | | \$922,848 |

*Totals may not sum due to rounding.

Other Contributions

In this section we illuminate the many contributions that Liberty University makes to Region 2000 that go beyond the narrow confines of economic and fiscal impact. Among these contributions are community service, contributing to economic revitalization, enhancing the quality of life, generating higher levels of tourism, and ensuring that Region 2000 is developing the qualified workforce that it will need to be economically successful in the future.

Community Involvement

Liberty University, its employees, and students make a number of positive contributions to the Region 2000 community.

Volunteerism

One of the unique characteristics of Liberty University is that its students are obliged to volunteer on campus and within the community as a requirement for graduation. Among the many organizations that benefit from this volunteer service are the American Red Cross, Boy Scouts, Girl Scouts, local churches, local Humane Societies, Salvation Army, and YMCA. On average, Liberty University students provide approximately 4.3 hours of volunteer service per month or a total of 586,262 hours per year.⁷⁴

⁷⁴ *Data Source:* Derived from student survey.

In addition, this spirit of volunteerism also extends to Liberty University's faculty and staff. On average, Liberty University faculty and staff provide approximately 2.5 volunteer service hours per month for a total of 88,617 hours per year.⁷⁵ The organizations that benefit from this volunteerism include the American Cancer Society, Boys and Girls Club, local churches, Habitat for Humanity, local Humane Societies, Salvation Army, Special Olympics, and YMCA.

If one were to quantify the value of this volunteer service by Liberty University students and employees at simply the current minimum wage, the total annual contribution to Region 2000 would be approximately \$4.9 million.

Greater Lynchburg Transit Company

In January of 2007, Liberty University embarked upon an agreement with the Greater Lynchburg Transit Company (GLTC) in which GLTC became the exclusive outside transportation vendor for the university. A key component of the agreement is the Universal Access Program, which allows anyone with a Liberty University ID card to ride any GLTC route at no cost. That arrangement has proved exceedingly successful for both the university and GLTC.

First, it has reduced traffic and parking congestion on Liberty University's campus and on public roads near the campus. As Michael Carroll, General Manager of GLTC, put it in an interview with the Lynchburg News and Advance in November 2007, "if you can put 40 or 50 people on a bus instead of 40 or 50 cars on the street, then that's positive for everyone."⁷⁶

Second, it has provided GLTC with additional resources that have enabled it to upgrade its bus fleet and services. Since initiation of the agreement with Liberty University, GLTC ridership has more than doubled, with Liberty University providing more riders than the rest of the city combined.⁷⁷ In addition, the agreement provides GLTC with significant revenues – in FY 2009, Liberty University paid GLTC \$1.5 million for transportation services.⁷⁸

⁷⁵ Derived from employee survey.

⁷⁶ "GLTC looking to expand service to more areas," Lynchburg News and Advance, November 1, 2007.

⁷⁷ "With LU route, GLTC sees number of passengers double," Lynchburg News and Advance, February 11, 2007.

⁷⁸ Data Source: Liberty University.

Economic Revitalization

In an effort to grow its endowment fund, Liberty University has also made significant property investments in Region 2000 and among these are two shopping centers. After acquiring the Plaza shopping center in 2008, the university invested \$500,000 on improvements to the property.⁷⁹ Subsequent to those improvements, the university moved a portion of its aviation program to the site and was also able to acquire new tenants. As a result, the Plaza is now successfully generating a revenue stream for the university as well as positively contributing to the city of Lynchburg's tax base. Similarly, in January of 2010 Liberty University acquired Candler's Station shopping center, also located in the city of Lynchburg. It is anticipated that Candler's Station will provide the university with an 11 to 14 percent annual return on its investment, while also providing a continuing stream of tax revenue for the city.⁸⁰

Recreational Facilities

Liberty University has also contributed to Region 2000's quality of life by significantly enhancing its recreational opportunities. The university's LaHaye Ice Center and the Liberty Mountain Snowflex Center are both open to the public. The LaHaye Ice Center attracts more than 100,000 people per year through various college sports events, youth hockey leagues, figure skating programs, public sessions, private events, and Winterfest (a nationally acclaimed youth event held at Liberty University each year). The LaHaye Ice Center has made the kind of positive contribution to the community that is difficult to quantify, but easy to qualify. In describing the positive impact the facility has had on area youth, Darrell Laurant, a columnist for the Lynchburg News and Advance, wrote that,

The LaHaye Ice Center is ground zero for hockey in Central Virginia ... The Lynchburg Hockey Association began in 2008, the spinoff from a "Learn to Play" hockey camp that attracted 20 hopefuls. It would never have existed, of course, had not Liberty constructed its rink and opened it to the public.⁸¹

The Liberty Mountain Snowflex Center opened in August of 2009 and is North America's only Snowflex synthetic ski slope. The facility has already received national attention and is expected to be significant point of destination for winter sports enthusiasts. As described on Virginia's official tourism website,

⁷⁹ "At Liberty, the future is in land," Valley Business Front, April 2010.

⁸⁰ "At Liberty, the future is in land," Valley Business Front, April 2010.

⁸¹ "Hockey hopefuls heat up Hill City Ice," Lynchburg News and Advance, March 17, 2010.

Winter sport enthusiasts now have something to cheer about every season... a year-round ski slope in Lynchburg, Virginia. Liberty University's Snowflex Centre, located on Liberty Mountain, is a synthetic ski slope featuring the most innovative technology in the snow sports industry, and it's the only one in the United States. ... Mountain ski resorts are only accessible during winter, but Liberty Mountain Snowflex Centre will be accessible during all four seasons, day and night.⁸²

Tourism

As demonstrated in the earlier assessment of economic and fiscal impact, the university also contributes significantly to regional tourism. Through out-of-town visitors to Liberty University's employees and students, facilities such as the LaHaye Ice Center and Liberty Mountain Snowflex Center, and events such as commencement, fall family weekend, and spring family weekend, the university plays a large role in attracting tourists to Region 2000.

Based on information obtained from our surveys of Liberty University employees and students,⁸³ along with data provided by Liberty University on out-of-town attendees to university events,⁸⁴ we estimate that in 2009, Liberty University:

- employees had approximately 20,625 out-of-town visitors,
- resident and commuter students had approximately 81,648 out-of-town visitors,
- intensive online students visited Liberty University's Lynchburg campus approximately 23,491 times, and
- facilities and events attracted at least 36,993 out-of-town visitors.⁸⁵

Perhaps the most tangible way to gauge the effect that these visitors had on the regional tourism industry is to focus on the hotel stays that were generated. Using the data above in combination with other information from the surveys on the proportion of out-of-town visitors that stayed in hotels, we estimate that in 2009 out-of-town visitors to Liberty University employees, students, facilities, and events generated approximately 59,545 hotel room nights in Region 2000, with 48,019 of those spent in the city of Lynchburg. Those hotel room nights in turn were associated with approximately \$5.6 million in hotel

⁸² See <http://www.virginia.org/site/description.asp?AttrID=60682>

⁸³ The employee and student surveys were administered in an online format in March 2010.

⁸⁴ *Data Source:* Liberty University. According to university data, in 2009 there were at least 36,993 out-of-town attendees at university sponsored events.

⁸⁵ As discussed earlier, this number only includes those events for which data on out-of-town attendees were available. As a result, it does not include major sporting events, Winterfest, and other events that draw large numbers of out-of-town attendees. Therefore, it should be viewed as highly conservative.

revenue within Region 2000, with \$4.5 million of that total generated in the city of Lynchburg.

To put these numbers in perspective, in 2009 the total number of hotel room nights spent in Region 2000 is estimated to have been 523,883.⁸⁶ This means that at 59,545 room nights, Liberty University was responsible for generating 11.4 percent of the total hotel traffic in the region. In other words, almost 1 in 9 hotel nights spent in Region 2000 were attributable to Liberty University visitors. Similarly, in 2009 total hotel revenue generated in Region 2000 is estimated to have been \$39.0 million.⁸⁷ Which means that at \$5.6 million, Liberty University visitors were responsible for generating 14.4 percent of the total hotel revenue in the region, or \$1 out of every \$7.

Figures 15 and 16 provide another example of the impact that Liberty University has on Region 2000's tourism industry. Figure 15 depicts monthly changes in the average daily rate for hotel rooms sold in Region 2000 in 2009. The most interesting feature of these data are the significant spikes that occur in May and October, the months in which Liberty University holds its commencement exercises and homecoming/alumni weekend festivities respectively. Both events attract large numbers of out-of-town guests. For example, according to data provided by the university, in May of 2009 Liberty University's commencement exercises drew 18,897 out-of-town attendees. As Figure 15 shows, May was also the month in which the average daily rate for hotel rooms in Region 2000 reached its highest point for the year.

Figure 16 provides similar data on total hotel revenue in Region 2000 in 2009. Here again, the most notable feature of these data are the large spikes that occur in May and October. These two months are the Region 2000 hotel industry's two biggest revenue months of the year.

⁸⁶ *Data Source:* Smith Travel Research.

⁸⁷ *Data Source:* Smith Travel Research.

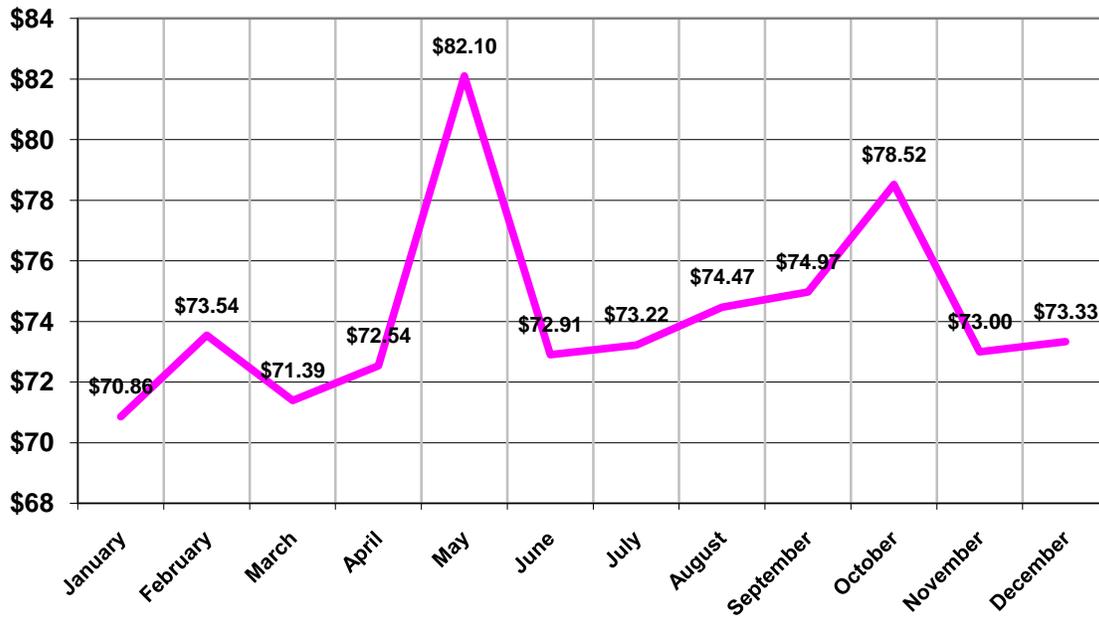


Figure 15: 2009 Average Daily Rate for Hotel Rooms Sold in Region 2000⁸⁸

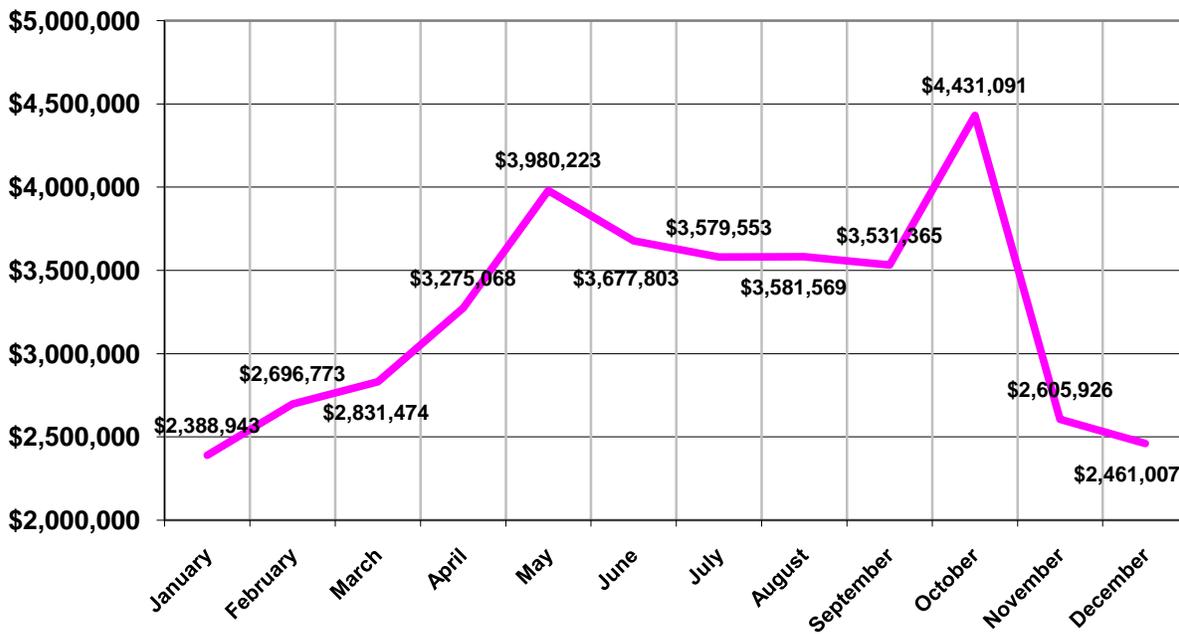


Figure 16: 2009 Total Room Revenue from Hotel Rooms Sold in Region 2000⁸⁹

⁸⁸ Data Source: Smith Travel Research.

⁸⁹ Data Source: Smith Travel Research.

Occupation-Driven Demand for Graduates

In this section, we quantify the contribution that Liberty University makes to ensuring that Region 2000 is developing the qualified workforce that it will need to be economically successful in the future by looking at the degree to which the institution is meeting the region's occupation-driven demand for graduates. The method used to accomplish this analysis is not new and has been successfully employed in earlier studies conducted in several states.⁹⁰

Demand for Graduates

To project the occupation-driven demand for graduates we start with projections of occupational employment. According to the most recent occupational employment projection for Region 2000, between 2006 and 2016 the region will experience approximately 3,840 job openings each year.⁹¹ Breaking this number down according to major occupational group shows that, as is typical for most regions, the largest numbers of annual openings are projected to occur in *Office and Administrative Support* related occupations (555) and *Sales* related occupations (504). Recall from Figure 9, however, that from an industry perspective some of the largest employment gains in Region 2000 in recent years have occurred in Healthcare and Education. Focusing on those areas specifically, we find that between 2006 and 2016 Region 2000 is projected to experience 276 openings in *Healthcare* occupations each year and 255 openings in *Education* occupations. The numbers for these major occupational groups and all others are graphically displayed in Figure 17.

⁹⁰ Similar methods are used in at least seven states (California, Georgia, Idaho, Illinois, New Jersey, Utah, and Virginia) to project anticipated education and training demands. For an excellent exposition of this method *see*, William J. Drummond and Jan L Youtie, "Occupational Employment, Demand for College Graduates, and Migration: A Statewide View," a report to the Board of Regents, University System of Georgia, 1999. For an example of how this method has been used previously in Virginia *see*, A. Fletcher Mangum, "System-Wide Needs Assessment for Virginia Education," State Council of Higher Education for Virginia, March 28, 2002, p.90.

⁹¹ *Data Source:* Virginia Employment Commission. The Region 2000 Workforce Investment Area is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the cities of Bedford and Lynchburg.

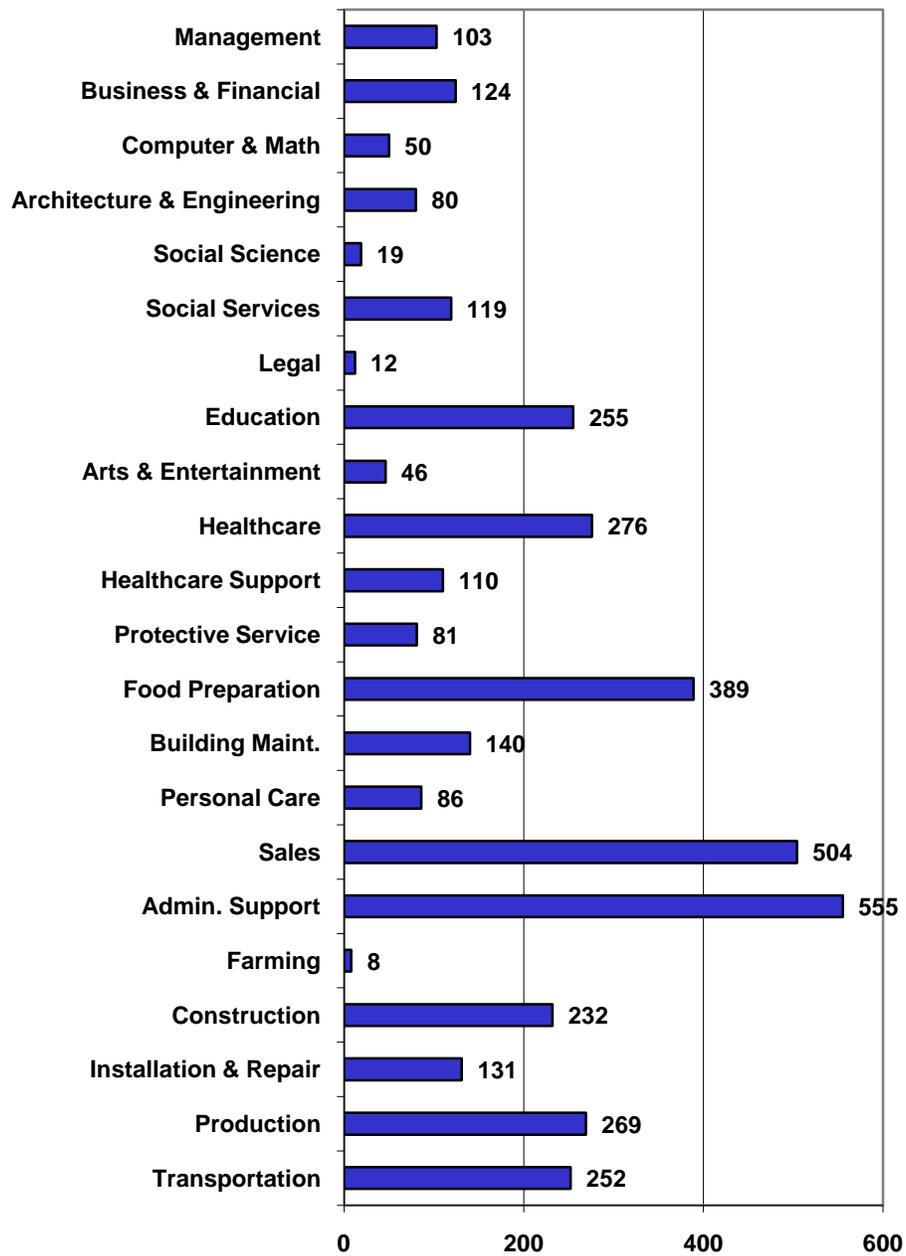


Figure 17: Projected Average Annual Openings in the Region 2000 Workforce Investment Area by Major Occupation Category – 2006 to 2016⁹²

⁹² *Data Source:* Virginia Employment Commission. The Region 2000 Workforce Investment Area is comprised of the counties of Amherst, Appomattox, Bedford, and Campbell, and the cities of Bedford and Lynchburg.

In the next step of the analysis, we use a crosswalk developed by the National Crosswalk Service Center (NCSC) to “map” occupations into the prerequisite education and training program(s) necessary for entry into that occupation.⁹³ Through this process, we are able to use the occupational projection for the Region 2000 Workforce Investment Area to estimate the occupation-driven demand for graduates within Region 2000.⁹⁴

Supply of Graduates

To estimate the likely supply of graduates within those education and training programs identified in the demand analysis, we use the same completions data displayed in Figure 7. Recall that Figure 7 provided information on the numbers and types of graduates that Liberty University produced in academic year 2008-09. For purposes of this analysis, however, we restrict that dataset to include only graduates who have permanent addresses within Region 2000, and are therefore likely to remain in Region 2000 after graduation.

Percentage of Regional Occupation-Driven Demand for Graduates Met

Table 21 details the results obtained from a comparison of the occupation-driven demand for graduates in Region 2000 and the supply of qualified graduates produced by Liberty University.

⁹³ The National Crosswalk Service Center (NCSC) is funded by the U.S. Department of Labor, Employment and Training Administration. The specific NCSC crosswalk used in this analysis is the *2000 Standard Occupational Classification Crosswalk to 2000 Classification of Instructional Programs*. This crosswalk identifies the prerequisite instructional programs (classified according to the National Center for Educational Statistics’ *2000 Classification of Instructional Program*, or *CIP*, code) necessary for employment in 1,364 specific occupations (classified according to the Bureau of Labor Statistics’ *2000 Standard Occupational Classification*, or *SOC*, code). Often, these are many-to-many relationships where a given instructional program can serve as an avenue into one of many jobs, or one of several instructional programs can serve as a prerequisite for a given job.

⁹⁴ More formally, the demand for education and training programs is calculated as:

$$DCIP_i = \sum Dcip_{ji}$$

Where,

$$Dcip_{ji} = (SOC_j)(GCIP_i / \sum Gcip_{ij})$$

and,

$DCIP_i$ = the annual demand for instructional program i

$\sum Dcip_{ji}$ = the annual demand for instructional program i across all occupation(s) j

SOC_j = the projected annual openings for occupation j

$GCIP_i$ = Virginia graduates from instructional program i

$\sum Gcip_{ij}$ = Virginia graduates from all instructional program(s) i related to occupation j

Table 21: Percentage of Occupation-Driven Demand for Graduates met by Liberty University in Region 2000

| Academic Program | Annual Supply of Graduates in 2008-09 | Annual Occupation-Driven Demand for Graduates 2006-2016 | % of Demand Met |
|---|---------------------------------------|---|-----------------|
| Nursing - Registered Nurse Training (RN, ASN, BSN, MSN) | 118 | 103 | 100% |
| Business/Commerce, General | 139 | 59 | 100% |
| Elementary Education and Teaching | 9 | 42 | 21% |
| Accounting | 38 | 35 | 100% |
| Secondary Education and Teaching | 9 | 32 | 29% |
| Business Administration and Management, General | 72 | 31 | 100% |
| Reading Teacher Education | 1 | 29 | 4% |
| Sport and Fitness Administration/Management | 15 | 26 | 58% |
| Computer and Information Sciences, General | 6 | 22 | 28% |
| Special Education and Teaching, General | 8 | 18 | 44% |
| Graphic Design | 21 | 11 | 100% |
| Communication Studies/Speech Communication and Rhetoric | 79 | 9 | 100% |
| Educational Leadership and Administration, General | 17 | 9 | 100% |
| Counselor Education/School Counseling and Guidance Services | 3 | 8 | 38% |
| Management Information Systems, General | 13 | 7 | 100% |
| Law (LL.B., J.D.) | 33 | 6 | 100% |
| English Language and Literature, General | 38 | 6 | 100% |

As these data demonstrate, among other categories, Liberty University is meeting:

- 100 percent of the regional demand for *Nursing* graduates,
- 100 percent of the regional demand for *Business/Commerce, General* graduates,
- 100 percent of the regional demand for *Accounting* graduates,
- 100 percent of the regional demand for *Business Administration and Management, General* graduates,
- 100 percent of the regional demand for *Communication Studies/Speech Communication and Rhetoric* graduates,
- 100 percent of the regional demand for *Educational Leadership and Administration, General* graduates,
- 44 percent of the regional demand for *Special Education and Teaching, General* graduates,
- 38 percent of the regional demand for *Counselor Education/School Counseling and Guidance Services* graduates,
- 29 percent of the regional demand for *Secondary Education and Teaching* graduates,
- 28 percent of the regional demand for *Computer and Information Sciences, General* graduates, and
- 21 percent of the regional demand for *Elementary Education and Teaching* graduates.

Conclusion

This report has assessed the economic and fiscal contribution that Liberty University makes to Region 2000 and the state of Virginia. What that analysis has shown is that Liberty University is Virginia's largest and fastest growing postsecondary education institution. Between 1992 and 2009, the university's fall enrollment increased from 8,500 to 46,949, an increase of 38,449 students or 452 percent. In contrast, over that same period Virginia's other four-year private non-profit colleges and universities grew by 32 percent, and Virginia's four-year public colleges and universities grew by 29 percent.

Moreover, Liberty University is not only Region 2000's second largest employer, it is also one of its fastest growing employers. Between, 2001 and 2010, university employment increased by 3,023 jobs or 351 percent. Significantly, this employment growth has proved robust even in the face of economic downturns. For example, where between 2008 and 2009 the city of Lynchburg as a whole experienced a 4 percent recession-driven decline in total employment, over the same period Liberty University experienced a 25 percent increase in employment.

Our analysis has shown that Liberty University makes a major economic and fiscal contribution to Region 2000 through its own operations and capital expenditures, spending from its students, and spending from visitors. In 2009, Liberty University was responsible for contributing \$217 million dollars in direct spending to Region 2000. After accounting for leakages from the regional economy due to expenditures on goods produced outside of the region (*e.g.*, any consumer good with "made in China" stamped on it), payroll deductions, and savings, that \$217 million generated \$133 million in net spending that stayed in the regional economy. The economic ripple effects from those dollars then created a total of \$197 million in overall economic activity within Region 2000, which means that every \$1.00 of Liberty University's net local spending ultimately generated \$1.48 in overall economic activity for the region.

In addition, our analysis indicates that Liberty University's 2009 net regional spending was responsible for supporting a total of 5,179 jobs within Region 2000, with most of those jobs located in the city of Lynchburg. Given that the city of Lynchburg's total employment in 2009 is estimated to have been 52,776, this means that approximately one out of every ten jobs within the city were either directly or indirectly attributable to Liberty University.

In terms of the fiscal, or tax revenue, impact that Liberty University's activities have on Region 2000, we have shown that local taxes paid by the university itself, university tenants, employees, students, and visitors contributed approximately \$8.4 million in tax revenue to the region in 2009. If we focus exclusively on the city of Lynchburg, where

Liberty University's campus is physically located, our analysis has shown that Liberty University generated approximately \$5.4 million in tax revenue for the city. More specifically, the university accounted for approximately: 4 percent of the city's total *Real Property Tax* revenue, 8 percent of its *Personal Property Tax* revenue, 9 percent of its *Restaurant Food Tax* revenue, 17 percent of its *Hotel and Motel Room Tax* revenue, and 2 percent of its local *Sales Tax* revenue.

With regard to Virginia as a whole, we have shown that in 2009 Liberty University was responsible for contributing \$268 million dollars in direct spending to the state. Again accounting for leakages due to domestic and foreign imports, payroll deductions, and savings, that \$268 million generated \$180 million in net spending that stayed in the statewide economy. The economic ripple effects from those dollars then created a total of \$283 million in overall economic activity within Virginia, which means that every \$1.00 of Liberty University's net state spending ultimately generated \$1.57 in overall economic activity in the state. Our analysis also indicates that those expenditures were responsible for supporting a total of 5,563 jobs within the state, and generated \$41 million in federal, state, and local tax revenue.

In addition, our analysis has shown that Liberty University makes many other contributions to Region 2000 and the state of Virginia that go beyond simple economic impact. Its students and employees provide approximately \$4.9 million worth of volunteer service hours within Region 2000 each year. In January of 2007, Liberty University embarked upon an agreement with the Greater Lynchburg Transit Company (GLTC) in which GLTC became the exclusive outside transportation vendor for the university. That arrangement has proved successful at reducing traffic and parking congestion, and also at providing GLTC with \$1.5 million in additional annual revenue that has enabled it to upgrade its bus fleet and services.

Liberty University has also made significant property investments in Region 2000 that have aided in economic revitalization. After acquiring the Plaza shopping center in 2008, the university invested \$500,000 in improvements to the property. The Plaza is now successfully generating a revenue stream for the university as well as positively contributing to the city of Lynchburg's tax base. Liberty University has also made important contributions to the region's recreational opportunities through its LaHaye Ice Center and the Liberty Mountain Snowflex Center. The LaHaye Ice Center attracts more than 100,000 people per year through various college sports events, youth hockey leagues, figure skating programs, and other events such as Winterfest, while the Liberty Mountain Snowflex Center has received national attention as North America's only Snowflex synthetic ski slope.

Through out-of-town visitors to Liberty University's employees and students, facilities such as the LaHaye Ice Center and Liberty Mountain Snowflex Center, and events such

as commencement, fall family weekend, and spring family weekend, the university also plays a large role in attracting tourists to Region 2000. We estimate that in 2009, Liberty University out-of-town visitors generated approximately 59,545 hotel room nights in Region 2000, or almost 1 out of every 9 hotel nights spent in the region. Those hotel room nights in turn were associated with approximately \$5.6 million in hotel revenue within Region 2000, or about \$1 out of every \$7 dollars in total hotel revenue generated in the region. In addition, the two peak months for hotel revenue within Region 2000, May and October, correspond directly with the months when Liberty University holds its commencement exercises and homecoming festivities.

Finally, we have demonstrated that Liberty University makes a significant contribution to ensuring that Region 2000 will have the trained graduates it needs to prosper in the future in key growth areas such as healthcare and education. By comparing the regional occupation-driven demand for graduates in specific programs with the number of local graduates that Liberty University produces in those programs, we have shown the university is currently meeting: 1) 100 percent of the regional demand for *Nursing, Business/Commerce, Accounting, Business Administration and Management, Communication Studies/Speech Communication and Rhetoric, and Educational Leadership and Administration, General* graduates, as well as 2) 44 percent of the regional demand for *Special Education and Teaching* graduates, 3) 29 percent of the regional demand for *Secondary Education and Teaching* graduates, and 4) 21 percent of the regional demand for *Elementary Education and Teaching* graduates.

In sum, Liberty University is a rapidly growing institution, that has a significant economic and fiscal impact on Region 2000 and the state of Virginia as a whole, and plays a very active and positive leadership role within its community.