



**RADFORD** UNIVERSITY

Economic Impact Study 2016



*The economic health of the region and the state depend on a well-qualified workforce, which Radford University supports through high quality education and training for current and future employees of the region and beyond.*

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# RADFORD UNIVERSITY

## Executive Summary

As a comprehensive institution of higher education within the Commonwealth of Virginia, Radford University is focused on fulfilling its primary mission of teaching, research and service. In servicing this mission, the University has had a profound impact on the surrounding communities as well as across Virginia.

In 2015, Radford University contributed \$361 million to the statewide economy and, when combined with the induced impact of its alumni, contributed **\$1.056 billion statewide**, all supporting an estimated total of **8,421 jobs in the Commonwealth**. Regionally, Radford University contributed in excess of \$313 million to the regional economy (New River and Roanoke valleys) and a total of \$475.2 million, supporting an estimated total of 4,176 jobs, when combined with the induced impact of alumni in the region.

For each dollar of state support, the impacts represent a return on investment of \$22 statewide and \$10 regionally, based on an investment of \$47.3 million received in general appropriations.

This economic impact study further details the valuable contributions the University makes to the regional and statewide economies. Serving the Commonwealth of Virginia has been fundamental to the University's success, educating one of the highest concentration of in-state students relative to its size. For example, 93.2 percent of undergraduate students were in-state residents in academic year 2015-16.

Radford University takes great pride in the community in which it operates and values every stakeholder: students, alumni, faculty, staff and visitors alike. This community focus continues to expand beyond campus boundaries, inclusive of each stakeholder who shares in the Radford University experience. The impact of these relationships reflects a cohesive system yielding both financial and nonfinancial benefits.

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**\$1.056 billion statewide total direct, indirect and induced impact, supporting 8,421 jobs.**

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### Key findings of this report are as follows:

- \$1.056 billion statewide total direct, indirect and induced impact, supporting 8,421 jobs.
- Radford University supports 2,845 jobs in the region and 3,221 statewide based on direct and indirect spending.
- Alumni earnings total more than \$232.3 million in 2016, which produces over \$162 million in sales at local businesses and thus supporting 1,331 jobs in the region, and earning \$787.8 million state-wide, producing \$695 million in sales and supporting more than 5,200 jobs.
- \$272 million was spent on construction and renovation projects, while Virginia businesses received over 80 percent of these contractual agreements since 2009.
- On average, 86 percent (\$47.3 million) of student spending occurs in the region of impact, with slightly more than half of that occurring within the City of Radford.
- Visitors of the University bring an additional \$4.5 million in spending to the region.
- Each \$1 of state support equals impact of \$22 statewide and \$10 within the region of impact.

As previously indicated, Radford University provides a significant benefit to both the regional and state economies. The University has been named to the "Best Colleges and Universities in the Southeast" list, according to the Princeton Review, for the past 14 years. With the University's commitment to providing a well-rounded educational experience, the University is well positioned to remain a major economic driver.

## History of Radford University

Radford University was founded in 1910 by the Virginia General Assembly and has provided quality education for Virginia residents for more than 100 years. The University is a major economic engine of the New River Valley and surrounding counties, and it benefits the overall economic well-being of the Commonwealth of Virginia.

### Highlighted below is a brief history of the university:

- State Normal and Industrial School for Women founded in 1910.
- 1924 — School's name changed to State Teachers College.
- 1943 — Merger proposed between Radford and nearby Virginia Polytechnic Institute (VPI) as part of a statewide effort to consolidate higher education institutions and give students the most adequate opportunity for a broad professional and technical education.
- 1964 — Radford College dissolved the relationship with VPI.
- 1972 — Men first admitted as undergraduates.
- 1979 — Radford College was granted university status, and its name was changed to the name known today: Radford University.
- 2008 — Douglas and Beatrice Covington Center for Visual and Performing Arts opened and became one of the most technologically advanced arts facilities and arts education resources in Southwest Virginia.
- 2011 — Radford University granted first doctoral degrees.
- 2012 — Completion of the College of Business and Economics (COBE) building.
- 2013 — 2014 Student Fitness and Wellness Center was constructed.
- 2013 — 2015 Center for the Sciences was constructed.
- 2014 — 2016 College of Humanities and Behavioral Sciences was constructed.



### Additional information:

[www.radford.edu/content/radfordcore/home/about/history.html](http://www.radford.edu/content/radfordcore/home/about/history.html)

As Radford University has grown, the surrounding communities have also experienced growth. The City of Radford has grown from a population of 4,202 in 1910 to nearly 17,000 residents today. Radford is part of the Blacksburg-Christiansburg-Radford Metropolitan Statistical Area (MSA), which has approximately 180,000 residents<sup>1</sup>. The impact of Radford University on the region continues to grow in the 21st century, with enrollment increasing significantly over the last decade and a burst in recent construction and renovation of campus buildings.

## Methodology

This report uses IMPLAN economic impact models to estimate the direct and indirect economic effects that Radford University generates in a defined region of impact (see page 8) through the University's spending on operations, salaries, and capital projects, and spending by students and visitors.

Radford University provided a variety of data to characterize the economic activity that Radford University generates, including operations budgets, capital expenditures, salary data, enrollment figures and events information for the past five years. The New River Valley Regional Commission (NRVRC) developed surveys for distribution to students, faculty, and staff to gather additional data on regional economic activity. The surveys were developed with input and guidance from university staff and included questions regarding location of residence, salary, spending habits, and visitor information (see appendix). The report provides a summary of the resulting data about Radford University.

The NRVRC worked with the Roanoke Valley-Alleghany Regional Commission to use this data to calculate inputs for use in the IMPLAN economic data and modeling tool. The IMPLAN software estimates the total economic impact of Radford University by using statistical models of relationships in the regional economy to calculate how economic activity at Radford University circulates through the local and regional economy, and how it creates additional economic activity in the region and throughout Virginia.



## IMPLAN

IMPLAN (Impact Analysis for PLANning) is an economic input-output modeling software package first developed by the University of Minnesota and the U.S. Forest Service in the 1970s. The modeling software and the IMPLAN proprietary data set was expanded upon by the Minnesota IMPLAN Group, a private company based in Stillwater, Minnesota, that currently maintains the software. IMPLAN is widely used by a number of universities, economic consultants, economic development professionals and others involved in estimating economic impacts of programs and events. IMPLAN models the flow of expenditures through industries and institutions of a regional economy. More information on the IMPLAN model and data set can be obtained at [www.implan.com](http://www.implan.com).

An IMPLAN analysis quantifies the economic effects that expenditures for a project (construction) or an activity (industry, tourism or events) have on a region's economy. The model quantifies the ways that Radford University's expenditures to construct a building, or a visitor's purchase of items such as lodging and gasoline, create additional economic activity in various sectors of the regional economy. For instance, the purchase of furniture or landscaping services for a newly constructed building provides additional income for the businesses selling these services, and in turn, these businesses spend this income on additional consumer and business purchases. This process ripples throughout the regional economy, creating jobs and economic activity beyond the initial investment. The IMPLAN analysis provides estimates of these effects in terms of jobs (#) and regional economic activity (\$).

<sup>1</sup> Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

## Region of Impact

This study defines the “region of impact” as the entirety of Blacksburg MSA (the counties of Floyd, Giles, Montgomery and Pulaski and the City of Radford); the counties of Botetourt, Franklin, Roanoke and Wythe; and the cities of Roanoke and Salem (see map on page 9). The IMPLAN model uses this “region of impact” to calculate economic impacts because this region is where faculty and students predominantly live, work and contribute to local economies.

Radford University contributes to the overall economic health of the region of impact in many ways, including the salaries of faculty and staff; purchases of equipment and services from regional businesses; and the combined impact of spending in the region by nearly 10,000 students and 1,600 employees. The average income for full-time Radford University employees (faculty and staff) was \$55,183 in 2014-15, well above the average median income for full-time workers in the Blacksburg MSA (\$40,406) or the broader region of impact (\$40,556), supporting homeownership and consumer spending in the regional economy<sup>2</sup>. Radford University also provides quality higher education options in a region where bachelor’s and graduate degree attainment levels are below the state average (see Table 2). Higher educational attainment leads to higher earning potential on average, contributing further to regional economic activity and growth.

<sup>2</sup> U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates; Radford University employee data for FY13-14

**Table 1 - Region of Impact, Select Demographic Characteristics**

Demographics	Region of impact	Virginia
Population	514,895	8,185,131
Median household income	\$47,832	\$64,792
Per capita income	\$25,786	\$33,958
Unemployment	5.96%	5.54%

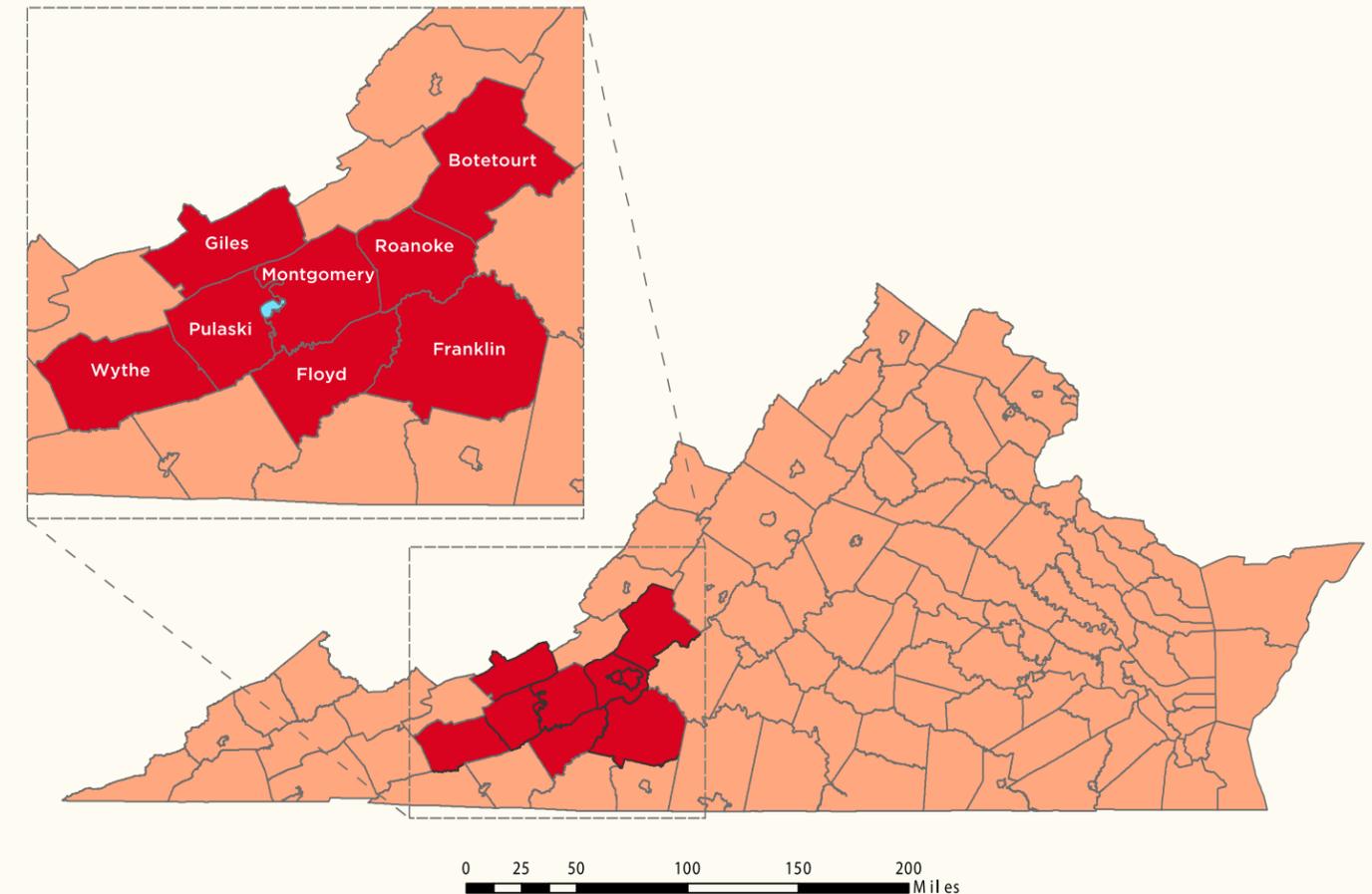
U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

**Table 2 - Educational Attainment for the Region of Impact for Population 25 and Older**

Educational attainment level	Region of impact	Virginia
Less than high school graduate	13.3%	12.2%
High school graduate	29.7%	25.0%
Some college or associate’s degree	29.5%	27.1%
Bachelor’s degree	16.9%	20.7%
Graduate or professional degree	10.6%	15.0%

U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

**Map 1: Radford University Region of Impact**



Created by NRVRC, 2016, Sources: Radford University; U.S. Census Bureau



Roanoke Higher Education Center

## Radford University Profile

### Student Profile

After reaching a record high of 9,928 total students enrolled in fall 2013, Radford University's fall 2016 enrollment was 9,401 students (headcount), reflective of the general fluctuation seen in Virginia with a similarly fluctuating number of eligible college applicants. Undergraduates represent 90 percent of the total students enrolled, and graduate students represent 10 percent.

Radford University offers 67 bachelor's degree programs in 38 disciplines, 22 master's degree programs in 17 disciplines and three doctoral programs. Several post-graduate certifications and degree minors provide numerous options for students to achieve desired curriculum goals.

More than 90 percent of students attend programs offered at the main campus in Radford, while the University offers off-campus programs at several locations in southwest Virginia. Students enrolled in program offerings in Roanoke account for the majority of off-campus enrollment (12 programs at the Roanoke Higher Education Center and one at the Carillion Clinic/ Jefferson College of Health Sciences). Other locations include the New College Institute in Martinsville and the Southwest Virginia Higher Education Center in Abingdon.

**Table 3 - Radford University Student Enrollment and Residency**

Term	Total student headcount	Enrolled on main campus	Lives in a dorm
Fall 2009	8,878	8,335	2,678
Fall 2010	9,007	8,407	2,967
Fall 2011	9,370	8,930	3,125
Fall 2012	9,573	9,110	3,138
Fall 2013	9,928	9,406	3,232
Fall 2014	9,798	9,253	3,179
Fall 2015	9,743	9,207	3,033

Source: Radford University, 2016

Approximately one-third of students enrolled at the main campus live in on-campus dormitories, with the rest living in off-campus housing. In 2015, this amounted to 6,174 students commuting to courses on the Radford campus (note: many students' records list their parents' address, so the number of students living in the region is likely much higher than the 2,281 students who listed an address in the University region of impact).

## Survey Results — Radford University Students

A survey was distributed to Radford University students to develop estimates of the economic impact students have on the City of Radford and the surrounding region of impact. Survey distribution occurred in October and November 2013, with 450 responses.

### Student Spending

Students estimated that they spent nearly \$500/month on goods and services, with nearly half (\$232) of spending on personal consumption items (food, groceries, supplies, etc.). Students spent an average of \$99 on transportation costs, and \$154 on services. In addition, students who indicated that they live off-campus spent an average of \$505/month on housing. Students reported an estimated monthly income of \$350/month, so it is assumed that many rely on assistance from their parents or student loans to cover their expenses. The average survey respondent received \$3,900/year in financial aid.

Students estimated that nearly 86 percent of their monthly spending occurs within the Radford University region of impact, with the remaining 15 percent likely spent in their home communities. Nearly 44 percent of that estimated monthly spending occurs in the City of Radford, but other top areas include Montgomery County (20 percent) and Pulaski County (18 percent).



### Student Visitor Spending

In addition to students' spending on housing and personal goods, family and friends who travel to Radford to visit students bring additional spending to the regional economy. Students estimated that their guests visit the region two nights per year on average. Over 95 percent of survey respondents said their visitors would dine at a restaurant during their trip, with other popular activities including shopping (65 percent), entertainment (45 percent) and outdoor recreation (45 percent). Together, students and visitors to Radford University spend over \$40 million in the local economy each year, accounting for an estimated 3-10 percent of sales in certain retail sectors in the Blacksburg metro area (see Table 4).

**Table 4 - Regional Sales and Radford University Student Spending**

Retail sector	Radford sales	Blacksburg MSA sales	Radford student/ visitor spending	% of MSA sales from students/visitors
Hotels	\$4,740,272	\$46,501,605	\$1,431,620	3.1%
Restaurants	\$33,415,484	\$288,324,590	\$7,856,460	2.7%
Grocery stores	\$6,179,766	\$78,419,208	\$6,596,180	8.4%
General merchandise	\$917,832	\$89,871,792	\$7,258,060	8.1%
Real estate leasing	\$31,528,407	\$265,752,799	\$25,182,000	9.5%

## Faculty and Staff Profile

As of the 2015-16 academic year, Radford University had 1,291 full-time employees and 306 part-time employees. The overwhelming majority of faculty and staff reside in the Blacksburg-Christiansburg-Radford MSA that includes the City of Radford and the counties of Floyd, Giles, Montgomery and Pulaski. A large number of faculty and staff also reside in the Roanoke area. Overall, nearly 94 percent of employees live within the University's area of impact jurisdictions, and 98 percent live in Virginia. Map 5 illustrates the geographic distribution of faculty and staff (page 18).



The salaries of the University's full-time and part-time employees contribute directly to the economy as faculty and staff spend their earnings on goods and services in their communities. These salaries drive additional spending within the region on housing, groceries, entertainment and other goods and services. Radford University has spent over \$360 million in employee salaries in the past five years, with total annual salaries of nearly \$79.2 million in Academic Year (AY) 2015-16 alone (see Table 5).

Radford University has been a relatively stable source of jobs for faculty and staff despite the recent recession. Between 2009 and 2015, the total number of employees has grown by 17 percent, and total annual salaries have grown by 36 percent, with particular growth in both the number and average salary of part-time employees. Over the same period, the number of full-time employees grew by 11 percent, and full-time salaries by 30 percent.

**Table 5 - Radford University Employee Compensation**

Academic Year	Full-Time employees	Total full-time salary	Part-Time employees	Total part-time salary
2009-10	1,160	\$56,754,976	200	\$1,323,064
2010-11	1,152	\$56,459,827	218	\$2,332,579
2011-12	1,153	\$58,833,594	279	\$5,241,627
2012-13	1,188	\$61,370,203	332	\$5,840,365
2013-14	1,226	\$66,537,815	329	\$6,274,650
2014-15	1,263	\$69,711,145	340	\$7,064,105
2015-16	1,291	\$73,564,838	306	\$5,604,559

## Radford University, 2016

Radford University provided a source of jobs and income indirectly as well, through spending on operations and capital projects that support jobs in regional construction and service industries (see page 35).

## Survey Results — Radford University Faculty

A survey was distributed to Radford University faculty and staff as part of efforts to develop estimates of the economic impact that faculty and staff have on the City of Radford and the surrounding region of impact. Survey distribution occurred in October and November 2013, with 287 responses.

Survey respondents estimated that they spent an average of \$2,290 per month on housing, transportation, and goods and services. Nearly half of this spending went to housing (\$1,013/month), followed by personal consumption items (food, groceries, supplies, etc., \$656/month; services, \$410/month; and transportation, \$210/month.)

Survey respondents estimated that approximately 92 percent of their spending occurs in Radford University's region of impact jurisdictions. Montgomery County received the most spending by University employees, followed by Radford, Pulaski County and Roanoke (see Table 6).

**Table 6 - Faculty/Staff Spending by Locality**

Locality	Percent of total spending
Montgomery County	32.8%
Radford	21.9%
Pulaski County	21.1%
Roanoke	10.2%
Other	7.8%
Floyd County	4.7%
Giles County	1.6%

Radford University Faculty and Staff Survey, 2013



## Radford University Faculty and Staff Survey, 2013

Similar to the results of the student survey, faculty and staff estimated that their visitors spent an average of two nights per year in the region. Dining and shopping were the most popular activities for visitors, but faculty and staff visitors are more likely to participate in arts/entertainment and community and cultural events than the visitors coming to see students (see page 12).



## Alumni Profile

Radford University has 72,861 living alumni. Nearly 70 percent of these alumni live in Virginia, followed by large numbers in North Carolina, Maryland, Florida and Georgia. Maps 3 and 4 illustrate where alumni live in Virginia and around the US, respectively (pages 17-18).

Of the 50,595 alumni that live in Virginia, many stay near Radford University. Approximately 29 percent of Virginia alumni reside in the region of impact, especially in Radford, Christiansburg, Blacksburg, Roanoke and Salem (see Map 3). The Radford University region of impact has the largest number of alumni (14,443), but Virginia's large metro areas attract many Radford University alumni as well. The largest groups of Virginia-based alumni are in the Northern Virginia (10,867 alumni), Richmond (5,687) and Hampton Roads (4,796) metro areas.

Universities create wealth for communities in many ways, including the increased earnings potential of college graduates. The median annual income of workers with bachelor's or advanced degrees is significantly higher than income of workers with lower education levels. Table 7 illustrates the extent of this trend for Virginia and the Radford University region of impact (calculated using county-level data, weighted by population).

**Table 7 - Median Income for the Population 25 and Older**

Educational attainment level	Median annual income	
	RU region of impact	Virginia
Less than high school graduate	\$21,960	\$21,618
High school graduate (includes equivalency)	\$28,589	\$29,421
Some college or associate's degree	\$32,300	\$36,525
Bachelor's degree	\$42,427	\$55,637
Graduate or professional degree	\$54,762	\$79,473

U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates



In the region of impact, the median annual income for workers with a bachelor's degree is \$13,838 higher than that of workers with only a high school education, and \$26,173 higher for workers with a graduate degree (master's, doctoral or professional degree). The increase in earnings over workers with only a high school diploma is even greater for Virginia statewide, with median incomes \$26,216 higher for workers with a bachelor's degree and \$50,052 higher for graduate degrees. These higher figures reflect higher incomes in Virginia metro areas, especially Northern Virginia. The incomes of Radford University alumni that live in Virginia's large metro areas likely reflect these regional variations<sup>3</sup>.

The following calculations provide an estimate of the increased earnings that Radford University graduates experienced, compared to what they would be able to earn without an advanced degree (high school graduate only). These calculations assume that the proportion of University alumni with bachelor's degrees and graduate degrees in Virginia is the same as the proportion of these degrees awarded by Radford University overall. The University awarded a total of 37,351 degrees from 1996-2015, of which 82 percent were bachelor's degrees and 18 percent were graduate degrees. Although the University's total enrollment over that period indicates a higher proportion of undergrads (88 percent) vs. graduate students (12 percent) than the degree awards (see Table 8), enrollment figures include students who do not finish their degree at Radford University.

<sup>3</sup> Self-reported salaries of Radford University grads provide some evidence for this variation: [http://www.payscale.com/research/US/School=Radford\\_University/Salary](http://www.payscale.com/research/US/School=Radford_University/Salary)

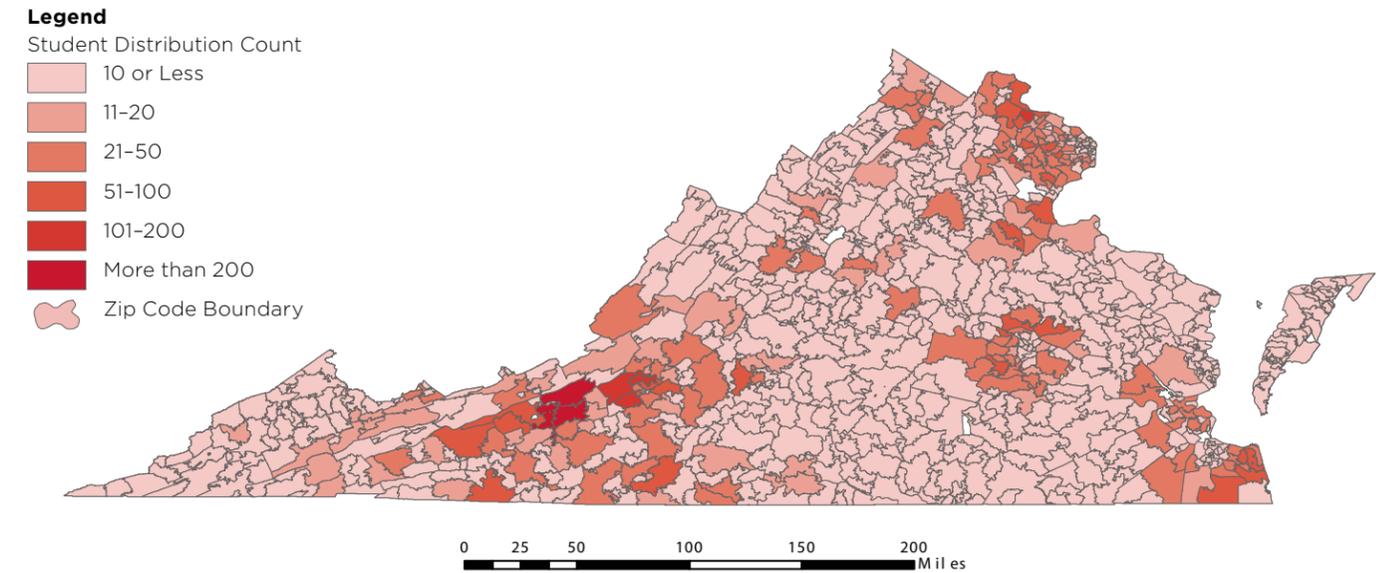
**Table 8** - Proportion of Undergraduate vs. Graduate Students, 1996-2015

Total degrees awarded	Number	Percent of total
Bachelor's degrees	34,187	81.7%
Graduate degrees (Master's and Ph.D.)	7,633	18.3%
Total student enrollment	Number	Percent of total
Undergraduate students, 1996-2015	163,472	85.4%
Graduate-level students, 1996-2015	27,896	14.6%

2015 Radford University Factbook, available at: <https://ir.radford.edu/factbook>



**Map 2: Radford University Student Permanent Address Map**



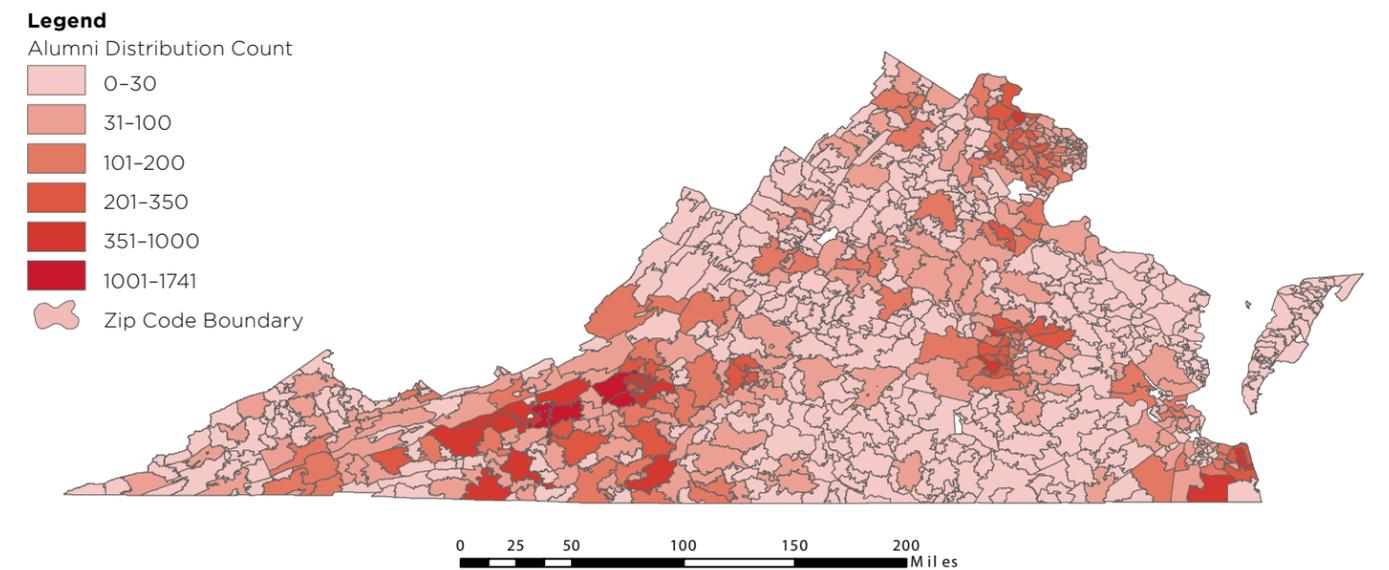
Created by NRVRC, 2016, Sources: Radford University; U.S. Census Bureau

For the estimates of alumni earnings statewide, the calculations use the income figures for the region of impact, as opposed to using the much higher figures for Virginia statewide. This more conservative estimate accounts for the fact that the majority of alumni do not live in the large metro areas, which pull these statewide figures higher than the income levels in other areas of the state. As noted above, many alumni do live in the metro areas with higher earnings, so the true value of higher educational attainment for Radford University alumni in Virginia is likely somewhat higher than the estimate below.

**Table 9** - Estimates of Additional Annual Earnings by Radford University Alumni, 2014

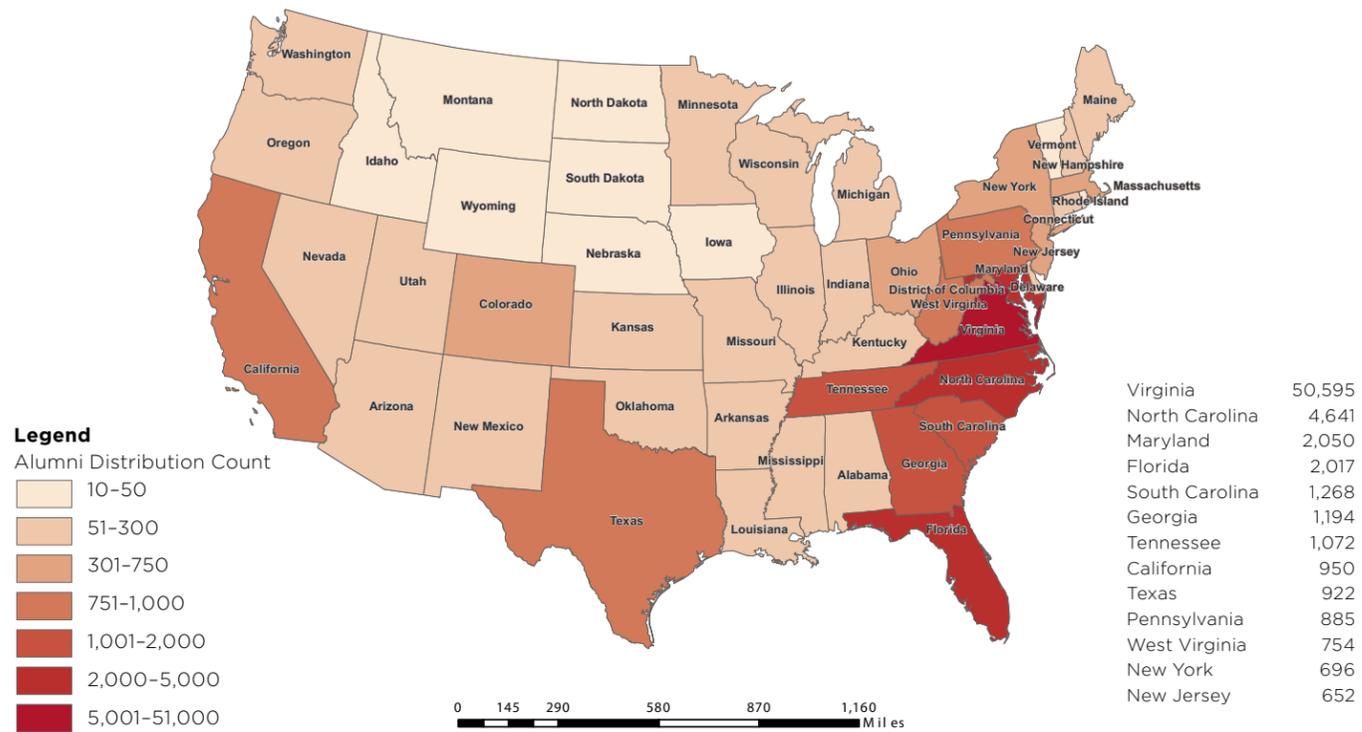
RU alumni in region of impact	Number of alumni	Increase over earnings with HS education only	Additional annual earnings, all alumni
Bachelor's degrees	11,807	\$13,838	\$163,385,266
Graduate degrees (Master's/Ph.D.)	2,636	\$26,173	\$68,992,028
<b>TOTAL</b>	<b>14,443</b>	--	<b>\$232,377,294</b>
Radford University alumni in Virginia (statewide)	Number of alumni	Increase over earnings with HS education only	Additional annual earnings, all alumni
Bachelor's degrees	41,360	\$13,838	\$572,339,680
Graduate degrees (Master's/Ph.D.)	9,235	\$26,173	\$215,534,655
<b>TOTAL</b>	<b>50,595</b>	--	<b>\$787,874,335</b>

**Map 3: Radford University Alumni Distribution Map**



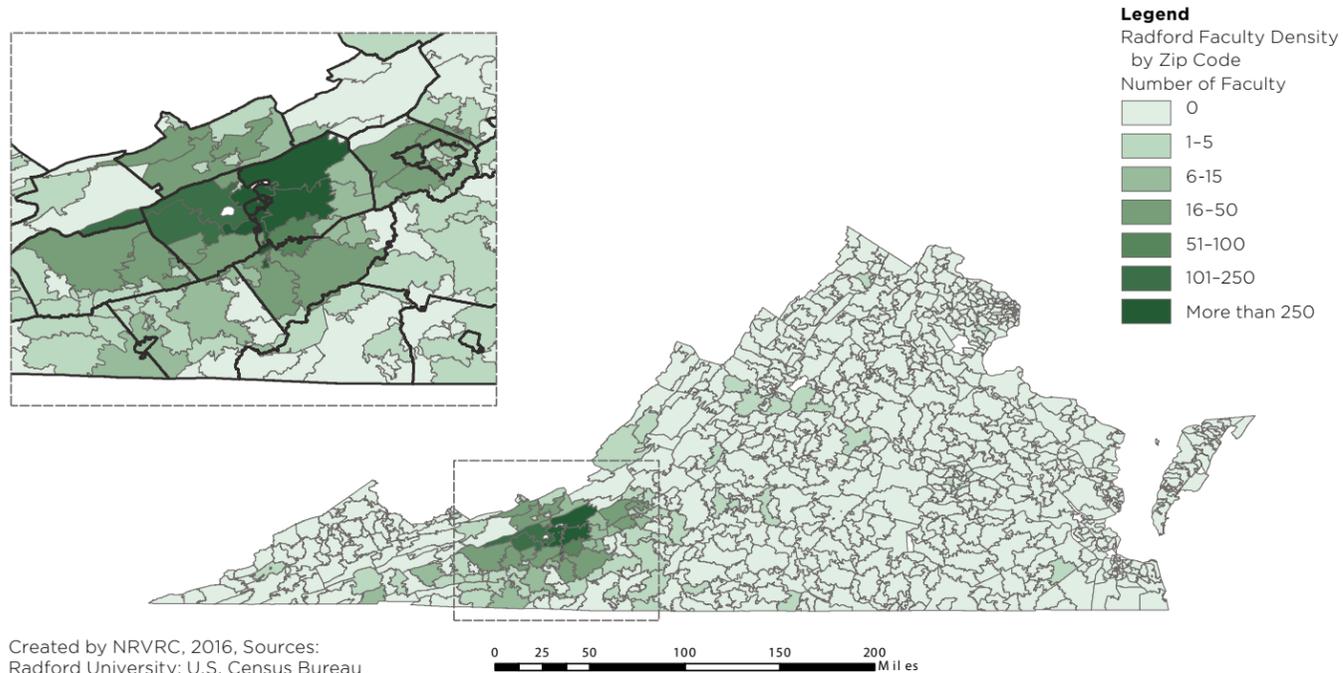
Created by NRVRC, 2016, Sources: Radford University; U.S. Census Bureau

**Map 4: Radford University Alumni Distribution Map**



Created by NRVRC, 2016, Sources: Radford University; U.S. Census Bureau

**Map 5: Radford University Faculty/Staff Distribution Map**



Created by NRVRC, 2016, Sources: Radford University; U.S. Census Bureau

## Revenue and Expenditures for Radford University

The \$60-70 million that Radford University spends on employee salaries each year is only one of the ways that the University generates economic activity in the region. In addition, Radford University spends millions of dollars each year for a variety of goods and services, supporting additional jobs at the businesses that supply the University. Salaries represent only 31 percent of Radford University's total annual expenditures, which have grown from \$170 million in FY 2011 to over \$248 million in FY 2015, a 45.7 percent increase.

Radford University tracks revenue and expenditures using the following key categories to identify the amount of the budget that is going toward certain functions and programs:

- **Educational & General (E&G):** Activities to provide instruction, academic support (e.g., library, deans), student services (e.g., admissions, financial aid, registrar), and program support (e.g., administration, physical plant). These expenditures represent approximately 50 percent of the University's annual budget.
- **Student Financial Assistance (SFA):** Provision of financial assistance to students.
- **Sponsored programs:** Self-supporting activities to provide additional resources for educational and general services through third-party grants, contracts, and research.
- **Auxiliary enterprises:** Activities to provide goods or services to students, employees, and visitors (e.g., residence halls, dining services, bookstore, athletics, student activities, etc.). These expenditures represent approximately 25 percent of the University's annual budget.
- **Capital expenditures:** The purchase of new land, construction and renovation of buildings and infrastructure, as well as purchased equipment.

Activities that do not fit into these categories are listed under 'other' in Table 10.



**Table 10 – Radford University Revenues and Expenditures by Fiscal Year (July-June), 2011-15**

Revenue	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
E&G	\$95,879,458	\$99,689,728	\$107,338,280	\$112,759,966	\$116,955,361
SFA	\$8,932,245	\$9,220,558	\$9,753,447	\$10,115,791	\$10,042,240
Sponsored programs	\$6,405,677	\$5,336,944	\$6,218,555	\$4,820,762	\$5,283,260
Auxiliary	\$55,870,656	\$59,833,668	\$65,016,750	\$66,100,422	\$66,033,324
Capital	\$10,201,708	\$21,301,713	\$15,991,908	\$35,154,076	\$47,952,035
Other revenue	\$850,646	\$750,208	\$1,293,114	\$1,010,172	\$828,655
<b>Total Revenue</b>	<b>\$178,140,390</b>	<b>\$196,132,819</b>	<b>\$205,612,054</b>	<b>\$229,961,189</b>	<b>\$247,094,876</b>
Expenses	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
E&G	\$95,824,927	\$99,519,006	\$107,218,206	\$112,558,828	\$116,816,672
SFA	\$8,932,245	\$9,220,557	\$9,753,447	\$10,115,791	\$10,042,240
Sponsored programs	\$6,147,430	\$5,887,613	\$5,452,800	\$4,828,436	\$5,083,333
Auxiliary	\$39,798,444	\$43,124,603	\$50,116,030	\$53,232,020	\$55,817,071
Capital	\$18,716,430	\$35,833,356	\$30,048,360	\$39,224,745	\$60,003,279
Other expenses	\$1,202,666	\$944,149	\$828,675	\$885,740	\$818,118
<b>Total Expenses</b>	<b>\$170,622,141</b>	<b>\$194,529,284</b>	<b>\$203,417,519</b>	<b>\$220,845,559</b>	<b>\$248,580,712</b>

Source: Radford University, 2016

Revenue and expenditures have grown relatively steadily in most areas of Radford University's budget, except for capital expenditures, which has varied significantly over the past five years as the University had undertaken the construction of several new buildings to modernize its facilities and to meet the needs of the growth experienced on campus. Radford University has spent over \$272 million on capital projects since 2009, ranging from a low of \$12.9 million in 2010 to a high of \$60 million in 2015.

Outdoor Student Recreation Complex



## Construction

Since 2005, Radford University has secured funding for nearly \$360 million in capital projects, including both new construction and renovations. The University has renovated the vast majority of its residence halls, the campus' largest dining facility and the technologically advanced Young Hall. Recently completed construction projects include the Hurlburt Student Center (completed 2005), the state-of-the-art Covington Center for Visual and Performing Arts (2008) and the 116,600-square-foot, \$44 million College of Business and Economics building (2012 — see picture). The building features innovative classrooms, including a simulated stock trading room, conference rooms and numerous gathering places to foster collaboration.

A new Student Recreation and Wellness Center opened in December 2014, providing approximately 110,000 square feet of wellness, fitness, and recreation. The facility includes gym equipment as well as a flexible-use hardwood court for basketball and volleyball.

The new Center for the Sciences opened for classes in early 2016. The 113,671-square-foot, state-of-the-art building provides advanced technology classrooms and facilities supporting science education and outreach at the University. The building features 18 teaching labs and five additional classrooms, as well as research labs for biology, forensic sciences and others, a vivarium, the Radford University Forensic Science Institute the Museum of the Earth Sciences and a planetarium.

In 2014, Radford University secured funding for the new College of Humanities and Behavioral Sciences building, a 143,600-square-foot, \$52.8 million academic facility that opened in fall 2016 and serves as the new home to the University's largest college.

Planning has been authorized for a nearly \$34 million renovation of 94,840 square feet of Reed and Curie Halls that will also include, among many substantial updates, a Cyber Security Training and Education Lab for teaching, research, modeling and simulation of cyber threats.

Kyle Hall



Student Recreation and Wellness Center



Center for the Sciences



College of Humanities and Behavioral Sciences



## State Appropriations

As a public university, Radford University benefits from state investments in supporting the costs of University operations. These appropriations help Radford University and other public universities to offset the total cost of providing a university education. This support is especially important for universities like Radford University, which devote most of their resources to teaching and do not receive significant revenues from grants for sponsored research. Moreover, over 90 percent of Radford University students are in-state students, which increases further the importance of state appropriations in offsetting the total costs of educating these Virginia students.

State appropriations represent an important share of Radford University's overall budget (see Table 11).

Virginia receives great benefits from its investment in Radford University, considering the overall amount of activity that this core source of funding allows the University to undertake and the ways that these activities generate further economic impacts for Virginia and the Radford University region of impact in particular.



**Table 11 - State Appropriations as Share of Radford University Revenues**

Fiscal Year	2012	2013	2014	2015
State appropriations to Radford University	\$46,151,567	\$53,339,807	\$45,823,152	\$47,257,624
Radford University total revenues	\$196,132,819	\$205,614,474	\$229,338,305	\$247,094,876
State appropriations as % of total	23.5%	25.9%	19.9%	19.1%



## Radford Transit Impact

Radford Transit was established in 2011 to provide safe, reliable and convenient public transit to Radford University students and employees and the citizens of Radford and the surrounding areas. These services have increased in popularity since their introduction, with approximately 350,000 riders using Radford Transit in 2014. Radford Transit helps students and residents to access jobs, shopping and other amenities in Radford and around the region, including service to Montgomery and Pulaski counties.

Radford Transit offers six routes which connect directly to Radford University's main campus or are within easy walking distance. Route 10, which circles the Radford University campus, had the most riders, accounting for approximately 50 percent of the ridership on Radford Transit. Routes 30, 50, and 60 primarily service the City of Radford and account for an additional 36 percent of ridership. In total, these four routes account for 86 percent of the ridership, with an additional 6,705 trips from "enhanced service" during special events.

Radford Transit's other routes connect Radford to other New River Valley locations. Route 20 connects Radford University to Pulaski County, travelling over the New River to Fairlawn where riders can access retail and food establishments.

<sup>4</sup> The ridership figures on specific Radford Transit routes are from FY2013 (total ridership of 329,946).

Route 40, NRV Connect, services the same location as Route 20 in Fairlawn but continues onto Montgomery County and the towns of Blacksburg and Christiansburg, including the Regal Cinema and New River Valley Mall in Christiansburg, as well as downtown Blacksburg and Virginia Tech. This route connects riders to retail and entertainment in other communities and also provides a safe ride home between the communities for those who may not have a designated driver, operating until 2:10 a.m. The NRV Connect service runs from Thursday to Saturday, accounting for 11,949 trips<sup>4</sup>.

Radford Transit helps students and employees access attractions around the New River Valley without the need for a car, helping to strengthen the interconnectedness of the regional economy. The service is especially helpful for giving Radford University students access to regional shopping and entertainment, as students estimated that nearly 86 percent of their monthly spending occurs within the Radford University region of impact, with the remaining 15 percent likely spent in their home communities. Nearly 44 percent of that estimated monthly spending occurs in the City of Radford, but other top areas include Montgomery County (20 percent) and Pulaski County (18 percent). (see page 12).

## Athletics and Special Events

### Athletics

Radford University is a Division 1 school in the Big South Conference of the National Collegiate Athletic Association (NCAA). For the 2014-2015 academic year, Radford University offered eight Division 1 sports for men and 11 for women, with basketball producing the highest attendance in both men's and women's sports. Over the course of the men's basketball season, Radford University had 15,725 people in attendance for 2012-2013. For women's basketball, total attendance reached 6,817. Table 12 lists the total attendance for Radford University home game athletic events. (These totals exclude student attendance, which does not contribute additional economic activity to the region.)

**Table 12 – Radford University Home athletic attendance**

Year	Home Athletic Attendance
2009-10	27,173
2010-11	20,165
2011-12	21,555
2012-13	24,721
2013-14	24,112
2014-15	24,043
2015-16	25,341

### Special Events

In addition to athletic events, Radford University hosts a variety of special events that bring visitors to campus and the surrounding region of impact. On average, Radford University attracts approximately 16,000-18,000 people per year to campus for various sports camps and clinics, sponsored events, class reunions, festivals, performances, and workshops. In addition, Radford University hosts Virginia High School League events and championships each year. These events result in hotel stays and local spending that benefit the regional economy. Major events include:

- Virginia High School League Jubilee attendees/patrons: 6,000-8,000 per year
- Attendees/patrons of camps/clinics/sponsored events: 2,500 per year
- American Legion Boys State of Virginia: 700 per year
- Family Weekend: 2,500 per year



### Total Economic Impact

The following section discusses the total economic impacts of Radford University on the region of impact and Virginia. The information described in the previous sections provides the basis for estimates of the economic activity that Radford University generates and serves as the inputs that the IMPLAN economic modeling software uses to project the total economic effects of the University. This report considers five distinct economic impact models to estimate the overall economic impact of Radford University on the regional economy:

- The effects of Radford University capital spending on the region's construction industry sector
- The effects of Radford University operations spending on the region's higher education sector
- The effects of Radford University students' spending on the region's retail, service and realty sectors
- The effects of Radford University visitor spending on regional retail, service and hotel sectors
- The effects of higher earnings for Radford University alumni households as a result of their degree(s)

IMPLAN software uses a model of the regional economy to calculate the additional spending and jobs that occurs as the initial spending that Radford University generates circulates through the economy. IMPLAN calculates direct, indirect and induced effects of Radford University economic activity to calculate the total economic impact that the University has on the regional economy. These effects are defined as follows:

- **Direct effects** are those that result from the direct infusion of money in the economy as a result of an economic event, stated in terms of permanent jobs, wages and output of economic events. For instance, Radford University operations spending supports the jobs/wages of University employees, as well as sales at firms who receive contracts to supply goods and services to the University.



- **Indirect effects** are the jobs, wages, and output created by businesses, which provide goods and services essential to the economic activity under consideration in the model (construction, tourism, etc.). For instance, when Radford University pays a contractor to renovate a building, the contractor in turn buys construction materials from hardware stores, concrete producers, etc., who buy this inventory from local wholesalers and so on, creating increased sales for these supplier firms (and by extension, jobs or profits). IMPLAN calculates indirect impacts as a cumulative total of several cycles of spending that work their way through the local supply chain until all remaining money from the initial spending 'leaks' from the study area economy as purchases go to firms outside the region.
- **Induced effects** are those impacts that result from household spending by those impacted by the direct and indirect phases of economic activities. For example, Radford University employees, or employees of industries impacted by University economic events, spend the wages they earn on goods and services in the regional economy. Wages earned by employees working for Radford University or industries impacted by economic events represents the largest portion of induced impacts.
- **Total effect** is the sum of direct, indirect, and induced effects.



## Radford University Capital Expenditures

Capital expenditures include the purchase of land, construction or renovation of buildings and infrastructure and equipment purchases. Radford University's capital expenditures have varied considerably in recent years, as the University pursued an increased array of construction and renovation projects (see page 21). Similarly, the proportion of Radford University capital expenditures that go to businesses within the University's area of impact varies from year to year, as different contractors work on different projects. University data indicates that the proportion of

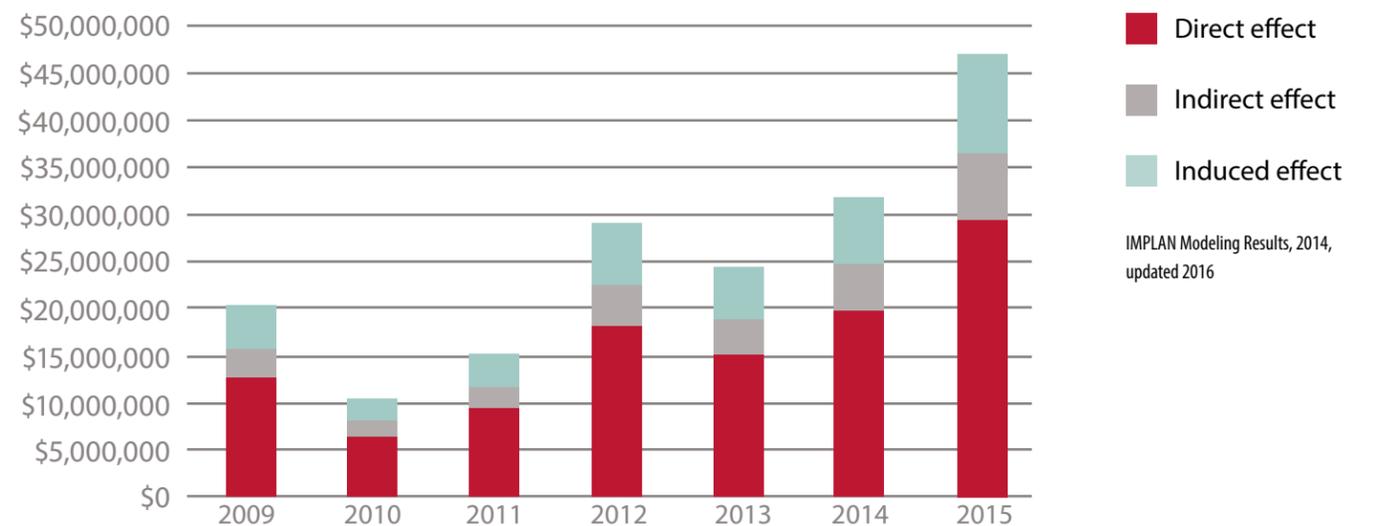
capital expenditures that went to contractors with zip codes within the area of impact ranged from 11 percent to 91 percent between 2009 and 2015, with an average for all years of 47 percent of capital expenditures within the region of impact. For the purposes of the IMPLAN model, this report assumes that 50 percent of annual capital expenditures occurred within the region of impact each year to account for the likelihood of nonlocal contractors subcontracting work to local firms. Table 13, below lists the IMPLAN model inputs and the resulting economic impact calculation.

**Table 13 - Radford University Capital Expenditures in the Region of Impact**

Fiscal year	2010	2011	2012	2013	2014	2015
Total Radford University capital expenditures	\$12,876,811	\$18,716,430	\$35,833,356	\$30,048,360	\$39,224,745	\$58,067,576
Model input: 50% of spending in region	\$6,438,405	\$9,358,215	\$17,916,678	\$15,024,180	\$19,612,372	\$29,033,788
Total effect	\$10,435,234	\$15,167,602	\$29,038,982	\$24,350,880	\$31,787,329	\$47,057,366

Figure 1 below summarizes the components of the total economic effects of Radford University capital spending, in terms of direct, indirect and induced effects that this spending generates in the region of impact. The appendices provide detailed tables on the results of the IMPLAN model, detailing direct, indirect and induced effects, as well as the effects on regional jobs, income and value added.

**Figure 1 - Economic Impacts of Radford University Capital Expenditures by Fiscal Year**





## Radford University Operations Expenditures

Radford University operations include all expenses except capital expenses (see page 19) and include all day-to-day operations of Radford University, such as utilities and maintenance, as well as faculty and staff salaries. The IMPLAN model does not include expenses that are paid to employees or contractors/businesses outside the region of impact. For instance, Radford University data indicates that 93 percent of University employees live within the region of impact, and the employee survey indicates that 5 percent of spending occurs outside the region.

Radford University data indicates that the proportion of operations expenditures that went to contractors

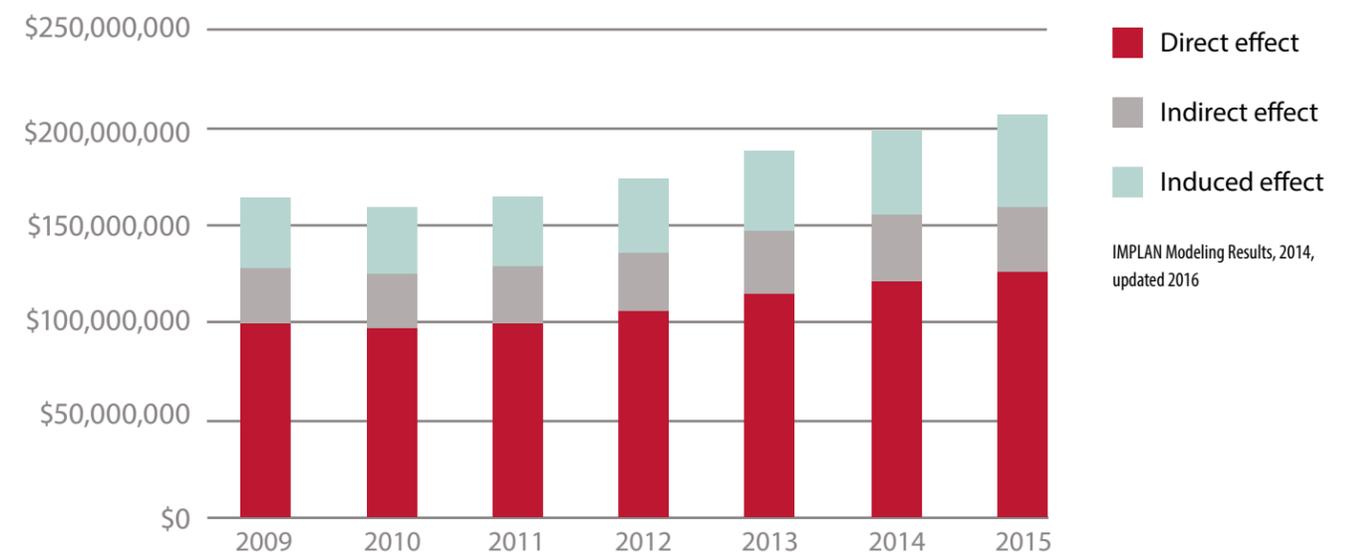
with zip codes within the area of impact ranged from 25 percent to 33 percent between 2009 and 2015, with a grand total for all six years of 29 percent of expenditures within the region of impact. Nearly half of all expenditures did not have zip code data available, but it is likely that many expenditures occur within the region of impact because the operations budget covers all activities on the main campus in Radford. The IMPLAN model assumes 50 percent of such expenses occur within the region of impact. Table 14 details the model inputs and the results of the IMPLAN model calculations.

**Table 14 - Radford University Operations Expenditures in the Region of Impact**

Fiscal year	2010	2011	2012	2013	2014	2015
RU salaries	\$51,311,948	\$51,943,090	\$56,610,458	\$59,380,537	\$64,329,813	\$67,830,934
Other spending	\$44,104,893	\$46,589,153	\$47,310,354	\$53,081,224	\$54,404,175	\$55,901,091
Model input	\$95,416,841	\$98,532,243	\$103,920,811	\$112,461,761	\$118,733,988	\$123,732,025
Total effect	\$159,305,152	\$164,506,521	\$173,503,137	\$187,762,852	\$198,234,769	\$206,579,344

Figure 2 summarizes the components of the total economic effects of Radford University operations spending, in terms of direct, indirect and induced effects in the region of impact. The appendices provide detailed tables on the results of the IMPLAN model, detailing these effects, as well as the effects on regional jobs, income and value added.

**Figure 2 - Radford University Operations Impact by Fiscal Year**





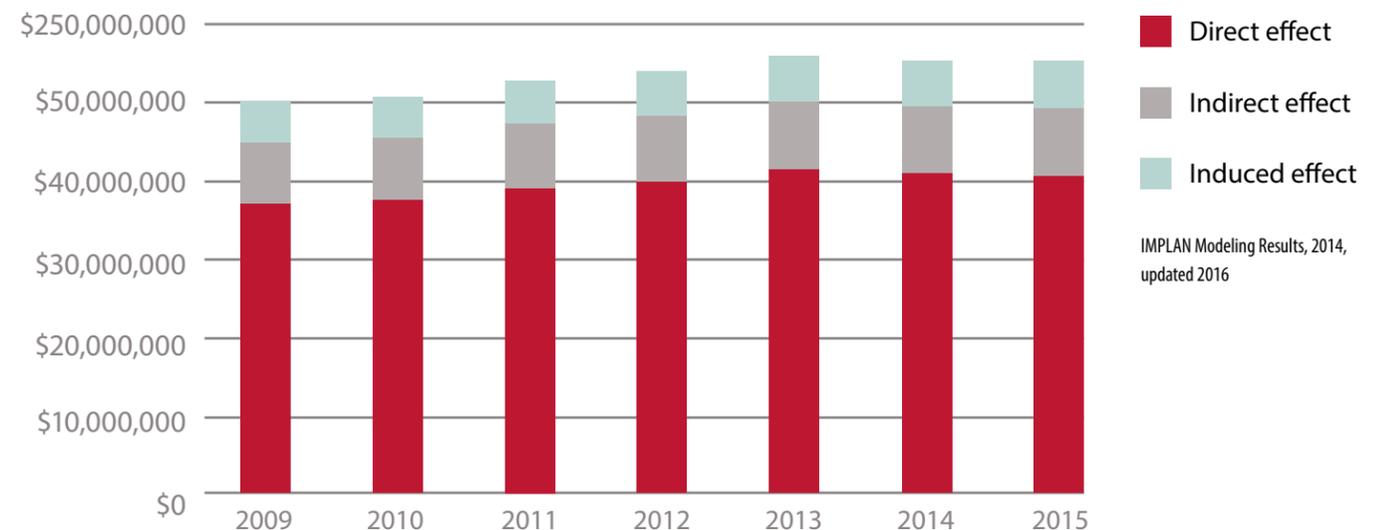
## Radford University Student Spending

Student spending on living expenses contributes to the regional economy as well. The model does not count spending by students who are local to the region, as their spending on these items would have occurred whether or not they were enrolled at Radford University. Based on University data on students' zip codes, the model assumes that 75 percent of students come to Radford from outside the region of impact, bringing additional spending to the local economy. Based on the results of the student survey, the following calculations provide an estimate of the annual spending that Radford University students contribute to a variety of regional industry sectors. In 2013, respondents to the survey estimated that they spent:

- **\$25,182,000 on rent/housing:** \$500/month for the 4,197 nonlocal students in off-campus housing (Fall 2012 headcount)
- **\$19,988,424 on retail goods:** (groceries, personal items, etc.): \$232/month for the 7,180 nonlocal students (Fall 2012 headcount)
- **\$8,529,540 on transportation:** \$99/month for the 7,180 nonlocal students
- **\$3,312,258 on services:** (internet, cable, personal services, etc.): 25 percent of spending (\$154/month) within the region by the 7,180 nonlocal students

The model assumes that the proportion of nonlocal students and spending levels are similar for previous years. Based on these estimates, Figure 3 summarizes the components of the total economic effects of student spending, in terms of direct, indirect, and induced effects in the region of impact. The appendices provide detailed tables on the results of the IMPLAN model, detailing these effects, as well as the effects on regional jobs, income and value added.

**Figure 3 - Radford University Student Spending Impact by Fiscal Year**





## Radford University Visitor Spending

Visitors to Radford University bring economic activity to the region through spending on a variety of items during their visits. The model considers both the guests of students and Radford University employees, as well as attendees to sporting events and other University activities. Based on University data and survey results, the following calculations detail the estimates of spending by visitors to Radford University. The calculations use the 2013 figure for event attendance and student/faculty visitors, to align with the results of the 2013 surveys.

### Spending by visitors to Radford University athletic events include:

- **\$741,630 for food:** \$30 each for the 24,721 nonstudent attendees
- **\$494,420 for gas:** \$20 each for the 24,721 nonstudent attendees
- **\$494,420 for retail purchases:** \$20 each for the 24,721 nonstudent attendees
- **\$494,420 for hotels:** \$100 for one night lodging for 10 percent of attendees

### Spending by visitors to other Radford University events (conferences, sports camps, etc.) include:

- **\$100,000 for hotels:** \$100/night for 1,000 visitors (out of 16,000+)
- **\$100,000 for food:** \$25/meal for 5,000 visitors to eat a meal while in the region (at restaurants that are not University facilities, which counts in the Radford University budget)

### Spending by visitors to Radford University students (counting the 8,373 nonlocal students) include:

- **\$837,200 for hotels:** \$100/night for two nights annually
- **\$418,650 for food:** \$50 each for visitors to each of the 8,373 nonlocal students
- **\$167,460 for gas:** \$20 each for visitors to each of the 8,373 nonlocal students
- **\$167,460 for retail:** \$20 each for visitors to each of the 8,373 nonlocal students

The model assumes that the proportion of nonlocal students and spending levels are similar for other years. Based on these estimates, Figure 4 summarizes the components of the total economic effects of visitor spending, in terms of direct, indirect, and induced effects in the region of impact. The appendices provide detailed tables on the results of the IMPLAN model, detailing these effects.

**Figure 4 - Radford University Visitor Impact by Fiscal Year**



## Increased Earnings of Radford University Alumni

Radford University alumni benefit from an increase in their earnings potential as a result of their higher educational attainment. The IMPLAN model considers these increases to be induced effects, as Radford University alumni households use these extra earnings to make purchases in the regional economy.

In the region of impact, these extra earnings total more than \$232.3 million, which produces over \$162 million in sales at local businesses, supporting 1,331 jobs.

**Table 15** - Economic Effects of Additional Earnings by Radford University Alumni in Region of Impact, 2016

Radford University alumni in region of impact	Number of alumni	Increase over earnings with HS education only	Additional annual earnings, all alumni	
Bachelor's degrees	11,807	\$13,838	\$163,385,266	
Graduate degrees (Master's/Ph.D.)	2,636	\$26,173	\$68,992,028	
<b>TOTAL</b>	<b>14,443</b>	<b>--</b>	<b>\$232,377,294</b>	
Economic impact of Radford University alumni increased earnings	Employment	Labor income	Value added	Output
Direct effect	0	\$0.00	\$0.00	\$0.00
Indirect effect	0	\$0.00	\$0.00	\$0.00
Induced effect	1,331	\$50,237,294	\$98,654,076	\$162,129,393
<b>Total effect</b>	<b>1,331</b>	<b>\$50,237,294</b>	<b>\$98,654,076</b>	<b>\$162,129,393</b>

Throughout Virginia, the extra earnings of Radford University alumni total \$787.8 million, which produces over \$695 million in sales at local businesses, supporting over 5,200 jobs.

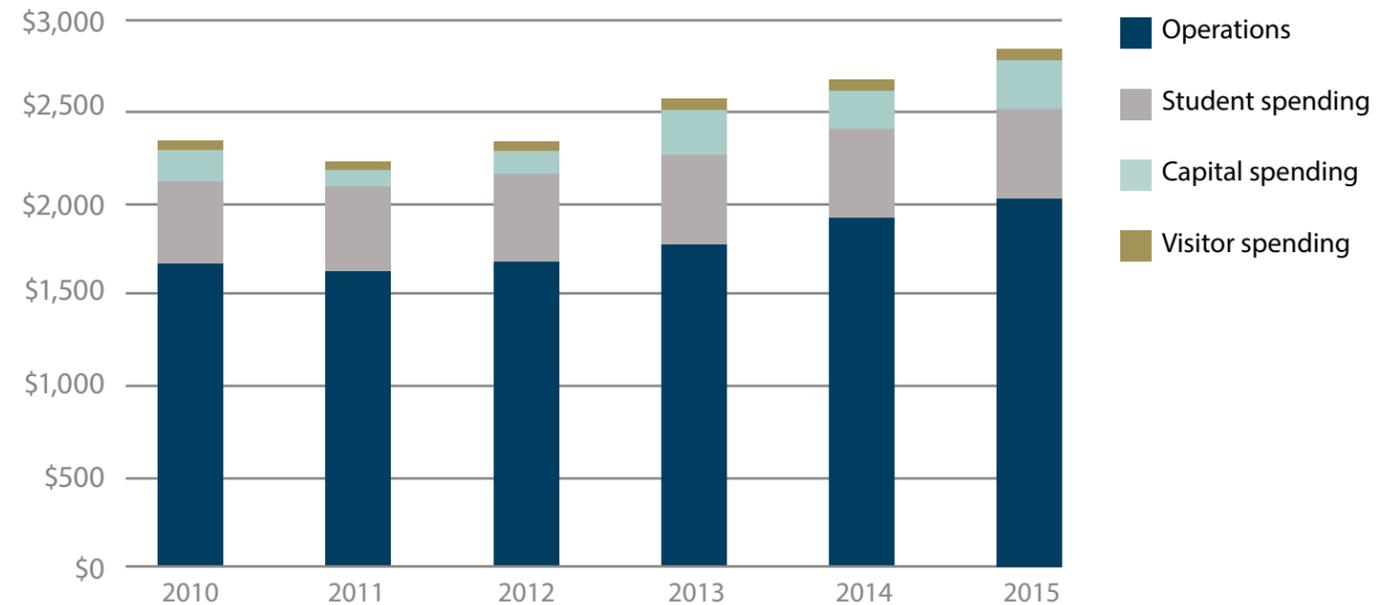
**Table 16** - Economic Effects of Additional Earnings by Radford University Alumni in Virginia, 2016

Radford University alumni in Virginia (statewide)	Number of alumni	Increase over earnings with HS education only	Additional annual earnings, all alumni	
Bachelor's degrees	41,360	\$13,838	\$572,339,680	
Graduate degrees (Master's/Ph.D.)	9,235	\$26,173	\$215,534,665	
<b>TOTAL</b>	<b>50,595</b>	<b>--</b>	<b>\$787,874,335</b>	
Economic impact of Radford University alumni increased earnings	Employment	Labor income	Value added	Output
Direct effect	0	\$0.00	\$0.00	\$0.00
Indirect effect	0	\$0.00	\$0.00	\$0.00
Induced effect	5,271	\$232,687,643	\$425,214,975	\$695,405,002
<b>Total effect</b>	<b>5,271</b>	<b>\$232,687,643</b>	<b>\$425,214,975</b>	<b>\$695,405,002</b>

## Radford University Jobs Impact by Year

Radford University employs more than 1,500 faculty and staff directly, but spending by Radford University on operations and capital improvements, and by visitors and students, supports additional jobs at the businesses who receive this spending. Considering the total effects of University spending as described above, Radford University supports 2,845 jobs in the region, a 21.2 percent increase since 2009. This growth has been especially valuable for the region in weathering the 2008-2009 recession.

**Figure 5** - Regional Jobs Supported by Radford University



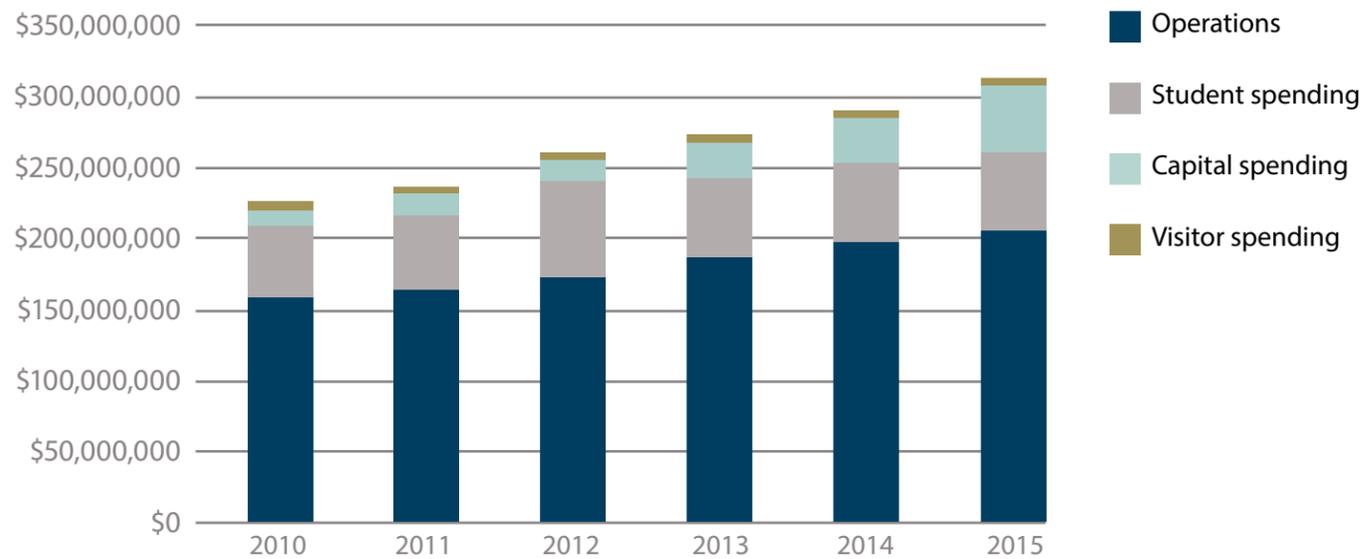
As noted above, increased earnings and spending by Radford University alumni support an estimated 1,493 jobs in the region of impact and 6,310 in Virginia statewide. The top five economic sectors that observe the most employment increases for the region and the state include:

- Food and beverage services/establishments
- Real estate establishments
- Offices of physicians, dentists and other health practitioners
- Private hospitals
- Nursing and residential care facilities

## Total Economic Impact of Radford University by Year

Figure 6 below details the total economic impact of Radford University. The total economic impact of Radford University in the region of impact is estimated to be \$313 million in 2015, an increase of 39.68 percent since 2010. This figure represents the total effects of Radford University spending on operations and capital investments, as well as spending by students and visitors, as detailed in Table 17.

**Figure 6 - Radford University Total Economic Impact**



In addition, Radford University has an economic impact on the “human capital” of workers in the region and around Virginia, as alumni experience increased earnings and provide valuable skills to their employers and communities. As described above, Radford University alumni are estimated to produce an additional \$162.1 million in economic activity in the region of impact, and over \$695 million for Virginia statewide.

**Table 17 - Total Economic Effects of Radford University on Region of Impact by Year**

Total effect	2010	2011	2012	2013	2014	2015
Operations	\$159,305,152	\$164,506,521	\$173,503,137	\$187,762,852	\$198,234,769	\$206,579,344
Student spending	\$50,673,558	\$52,715,803	\$53,857,885	\$55,855,122	\$55,311,462	\$55,000,977
Capital spending	\$10,435,234	\$15,167,602	\$29,038,982	\$24,350,880	\$31,787,329	\$47,057,366
Visitor spending	\$3,751,893	\$3,593,127	\$4,215,279	\$4,692,085	\$4,592,011	\$4,477,638
<b>Grand total</b>	<b>\$224,165,837</b>	<b>\$235,983,053</b>	<b>\$260,615,283</b>	<b>\$272,660,939</b>	<b>\$289,925,571</b>	<b>\$313,115,325</b>

Of course, the effect that Radford University has on the economic well-being of the region cannot be expressed using numbers alone. Radford University is an important institution that contributes to the culture and community of the region of impact and provides training for current and future employees of the region and beyond, significantly contributing to the economic health of the region and the Commonwealth of Virginia.

## Economic Impacts of Radford University in Virginia Statewide

The economic impact of Radford University extends beyond the region of impact in southwest Virginia, with additional spending on salaries, capital projects, and operations in communities throughout Virginia.

### Radford University Operations Expenses

Radford University operations include all expenses except capital expenses (see page 29), and include all day-to-day operations of Radford University, such as utilities and maintenance, as well as faculty and staff salaries. Radford University data indicates that 98 percent of University employees live within Virginia, and the employee survey indicates that 5 percent of spending occurs outside the region.

University data indicates that the proportion of operations expenditures that went to contractors within Virginia ranged from 42 percent to 45 percent between 2010 and 2016, with a grand total for all six years of 43.5 percent of expenditures within Virginia. Nearly half of all expenditures did

not have zip code data available, but it is likely that many additional expenditures occur within Virginia because the operations budget covers all activities on the main campus in Radford. The IMPLAN model assumes 60 percent of such expenses occur within Virginia.

### Capital Expenditures

Radford University data indicates that the proportion of capital expenditures that went to contractors within Virginia ranged from 55 percent to 97 percent between 2011 and 2016, with a grand total for all six years of 84.2 percent of capital expenditures within Virginia. The IMPLAN model assumes that 75 percent of annual capital expenditures occurred within Virginia each year.

Student and visitor spending impacts are reported at the same level as the estimate for the region of impact, as this is where the majority of this spending impact occurs. Table 18 below lists the IMPLAN model inputs that represent estimates of Radford University spending in Virginia statewide and the resulting economic impact calculation of the total effects of this spending as it circulates through the Virginia economy.

**Table 18 - Radford University Spending and Economic Impact in Virginia Statewide**

Radford University spending in Virginia	2011	2012	2013	2014	2015
Capital expenditures	\$14,037,323	\$26,875,017	\$22,536,270	\$29,418,558	\$45,002,459
Employee salaries	\$54,456,466	\$59,349,673	\$62,253,789	\$67,962,015	\$70,728,258
Other operations	\$55,867,983	\$56,772,424	\$63,695,154	\$65,285,010	\$67,081,309
<b>Total Radford University spending in Virginia (model inputs)</b>	<b>\$124,361,772</b>	<b>\$142,997,114</b>	<b>\$148,485,213</b>	<b>\$162,665,583</b>	<b>\$182,812,027</b>
<b>Economic impact of Radford University spending in Virginia</b>	<b>\$206,176,551</b>	<b>\$236,527,436</b>	<b>\$245,877,412</b>	<b>\$269,118,944</b>	<b>\$301,844,463</b>
Economic impact of student and visitor spending	\$56,308,930	\$58,073,164	\$60,547,207	\$59,903,473	\$59,478,615
<b>Total Virginia statewide economic impacts</b>	<b>\$262,485,481</b>	<b>\$294,600,600</b>	<b>\$306,424,619</b>	<b>\$329,022,417</b>	<b>\$361,323,078</b>

## Appendix

The following tables present the detailed results of the IMPLAN economic impact models, including estimates of the direct, indirect, and induced effects, as defined on page 25, stated in terms of employment, labor income, total value added, and output, as defined below.

- Employment is reported by the model as all jobs, including part-time and seasonal workers. Employment figures can be converted to full-time equivalency (FTE), but the ratio varies by industry sector.
- Labor income equals employee compensation plus proprietor income. Employee compensation in the IMPLAN model is the total payroll cost of the employees paid by the employer. This includes wage and salary, all benefits, and employer-paid payroll taxes (Social Security, unemployment, etc.) Proprietor income consists of payments received by self-employed individuals and unincorporated business owners.

- Total value added is defined as the difference between an industry's total output and the cost of any intermediate inputs. Value added includes employee compensation, taxes and operating surplus. Value added is best understood as the contribution made to gross domestic product or, more simply, as new wealth in the region.
- Output can generally be understood as regional sales activity. Output is more precisely defined as the value of industry production. Output is equal to the total direct, indirect and induced effects, as reported in tables A-15 to A-19.

## IMPLAN Model Outputs

**Table A-1 - FY 2009 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	1,207	\$50,065,397	\$54,452,605	\$100,219,901
Indirect effect	186	\$6,735,401	\$16,883,675	\$28,304,991
Induced effect	285	\$10,554,443	\$21,397,297	\$35,122,529
<b>Total effect</b>	<b>1,678</b>	<b>\$67,355,241</b>	<b>\$92,733,576</b>	<b>\$163,647,420</b>

**Table A-2 - FY 2010 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	1,175	\$48,736,950	\$53,007,746	\$97,560,641
Indirect effect	181	\$6,556,682	\$16,435,678	\$27,553,938
Induced effect	277	\$10,274,387	\$20,829,532	\$34,190,573
<b>Total effect</b>	<b>1,633</b>	<b>\$65,568,018</b>	<b>\$90,272,956</b>	<b>\$159,305,152</b>

**Table A-3 - FY 2011 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	1,213	\$50,328,229	\$54,738,469	\$100,746,033
Indirect effect	187	\$6,770,760	\$16,972,308	\$28,453,582
Induced effect	286	\$10,609,849	\$21,509,623	\$35,306,906
<b>Total effect</b>	<b>1,687</b>	<b>\$67,708,836</b>	<b>\$93,220,400</b>	<b>\$164,506,521</b>

**Table A-4 - FY 2012 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	1,280	\$53,080,602	\$57,732,030	\$106,255,676
Indirect effect	197	\$7,141,044	\$17,900,502	\$30,009,671
Induced effect	302	\$11,190,086	\$22,685,953	\$37,237,789
<b>Total effect</b>	<b>1,779</b>	<b>\$71,411,732</b>	<b>\$98,318,485</b>	<b>\$173,503,137</b>



**Table A-5 - FY 2013 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	1,385	\$57,443,143	\$62,476,858	\$114,988,522
Indirect effect	214	\$7,727,946	\$19,371,692	\$32,476,080
Induced effect	326	\$12,109,765	\$24,550,442	\$40,298,250
Total effect	1,925	\$77,280,853	\$106,398,993	\$187,762,852

**Table A-6 - FY 2014 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	1,462	\$60,646,862	\$65,961,318	\$121,401,663
Indirect effect	226	\$8,158,949	\$20,452,090	\$34,287,336
Induced effect	345	\$12,785,153	\$25,919,673	\$42,545,770
Total effect	2,032	\$81,590,964	\$112,333,082	\$198,234,769

**Table A-7 - FY 2015 Operations**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,524	\$63,199,755.70	\$68,737,920.79	\$126,511,994
Indirect Effect	235	\$8,502,394.83	\$21,313,008.93	\$35,730,641
Induced Effect	359	\$13,323,336.27	\$27,010,746.46	\$44,336,709
Total Effect	2,118	\$85,025,487.01	\$117,061,676.28	\$206,579,344

**Table A-8 - FY 2009 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	113	\$6,170,961	\$6,624,579	\$12,715,578
Indirect effect	23	\$1,104,122	\$1,654,029	\$3,110,183
Induced effect	37	\$1,358,111	\$2,753,640	\$4,520,174
Total effect	173	\$8,633,194	\$11,032,247	\$20,345,934

**Table A-9 - FY 2010 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	58	\$3,165,027	\$3,397,683	\$6,521,698
Indirect effect	12	\$566,294	\$848,335	\$1,595,183
Induced effect	19	\$696,562	\$1,412,315	\$2,318,354
Total effect	89	\$4,427,882	\$5,658,334	\$10,435,234

**Table A-10- FY 2011 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	84	\$4,600,363	\$4,938,529	\$9,479,281
Indirect effect	17	\$823,107	\$1,233,055	\$2,318,597
Induced effect	27	\$1,012,452	\$2,052,798	\$3,369,724
Total effect	129	\$6,435,922	\$8,224,382	\$15,167,602

**Table A-11 - FY 2012 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	162	\$8,807,579	\$9,455,011	\$18,148,463
Indirect effect	33	\$1,575,872	\$2,360,732	\$4,439,046
Induced effect	52	\$1,938,380	\$3,930,166	\$6,451,474
Total effect	247	\$12,321,831	\$15,745,909	\$29,038,982

**Table A-12 – FY 2013 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	136	\$7,385,669	\$7,928,579	\$15,218,546
Indirect effect	28	\$1,321,461	\$1,979,612	\$3,722,399
Induced effect	44	\$1,625,444	\$3,295,672	\$5,409,936
Total effect	207	\$10,332,574	\$13,203,863	\$24,350,880

**Table A-13 – FY 2014 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	177	\$9,641,158	\$10,349,865	\$19,866,094
Indirect effect	36	\$1,725,018	\$2,584,160	\$4,859,172
Induced effect	57	\$2,121,835	\$4,302,130	\$7,062,063
Total effect	271	\$13,488,010	\$17,236,155	\$31,787,329

**Table A-14 – FY 2015 Capital Projects**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	262	\$14,272,589.33	\$15,321,745.94	\$29,409,394
Indirect effect	54	\$2,553,684.17	\$3,825,542.03	\$7,193,427
Induced effect	85	\$3,141,124.27	\$6,368,792.20	\$10,454,545
Total effect	401	\$19,967,397.76	\$25,516,080.20	\$47,057,366

**Table A-15 – CF 2013 Student Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	367	\$6,484,214	\$27,185,376	\$40,034,274
Indirect effect	65	\$2,332,757	\$5,057,858	\$8,341,770
Induced effect	45	\$1,657,263	\$3,360,260	\$5,481,841
Total effect	477	\$10,474,234	\$35,603,494	\$53,857,885

**Table A-16 – 2013 Visitor Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	41	\$880,655	\$1,518,082	\$2,973,861
Indirect effect	7	\$272,178	\$483,043	\$834,958
Induced effect	6	\$216,298	\$438,578	\$715,489
Total effect	54	\$1,369,131	\$2,439,704	\$4,524,308

**Impacts by Year** – The following tables summarize economic effects on a yearly basis

**Table A-17 – Radford University Operations Impact by Year - Region**

Operations	2010	2011	2012	2013	2014	2015
Direct effect	\$97,560,641	\$100,746,033	\$106,255,676	\$114,988,522	\$121,401,663	\$126,511,994
Indirect effect	\$27,553,938	\$28,453,582	\$30,009,671	\$32,476,080	\$34,287,336	\$35,730,641
Induced effect	\$34,190,573	\$35,306,906	\$37,237,789	\$40,298,250	\$42,545,770	\$44,336,709
Total effect	\$159,305,152	\$164,506,521	\$173,503,137	\$187,762,852	\$198,234,769	\$206,579,344

**Table A-18 – Radford University Capital Expenditures Impact by Year - Region**

Capital spending	2010	2011	2012	2013	2014	2015
Direct effect	\$6,521,698	\$9,479,281	\$18,148,463	\$15,218,546	\$19,866,094	\$29,409,394
Indirect effect	\$1,595,183	\$2,318,597	\$4,439,046	\$3,722,399	\$4,859,172	\$7,193,427
Induced effect	\$2,318,354	\$3,369,724	\$6,451,474	\$5,409,936	\$7,062,063	\$10,454,545
Total effect	\$10,435,234	\$15,167,602	\$29,038,982	\$24,350,880	\$31,787,329	\$47,057,366

**Table A-19 – Radford University Visitor Impact by Year - Region**

Visitor Impact	2010	2011	2012	2013	2014	2015
Direct effect	\$2,466,147	\$2,361,789	\$2,770,734	\$3,084,142	\$3,018,363	\$2,943,185
Indirect effect	\$692,410	\$663,109	\$777,927	\$865,921	\$847,453	\$826,345
Induced effect	\$593,336	\$568,229	\$666,618	\$742,021	\$726,195	\$708,108
Total effect	\$3,751,893	\$3,593,127	\$4,215,279	\$4,692,085	\$4,592,011	\$4,477,638

**Table A-20 - Radford University Student Spending Impact by Year - Region**

Student Spending	2010	2011	2012	2013	2014	2015
Direct effect	\$37,667,262	\$39,185,328	\$40,034,274	\$41,518,883	\$40,975,223	\$40,745,213
Indirect effect	\$7,848,566	\$8,164,879	\$8,341,770	\$8,651,112	\$8,651,112	\$8,602,549
Induced effect	\$5,157,729	\$5,365,596	\$5,481,841	\$5,685,127	\$5,685,127	\$5,653,214
Total effect	\$50,673,558	\$52,715,803	\$53,857,885	\$55,855,122	\$55,311,462	\$55,000,977

**Table A-21 - Radford University Alumni Impact, 2014 - Region**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	0	\$0.00	\$0.00	\$0.00
Indirect effect	0	\$0.00	\$0.00	\$0.00
Induced effect	1,331	\$50,237,294	\$98,654,076	\$162,129,393
Total effect	1,331	\$50,237,294	\$98,654,076	\$162,129,393

**Table A-22 - Radford University Alumni Impact, 2014 - State**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct effect	0	\$0.00	\$0.00	\$0.00
Indirect effect	0	\$0.00	\$0.00	\$0.00
Induced effect	5,271	\$232,687,643	\$425,214,975	\$695,405,002
Total effect	5,271	\$232,687,643	\$425,214,975	\$695,405,002



# RADFORD UNIVERSITY

