



THE ECONOMIC IMPACT OF THE
ROANOKE HIGHER EDUCATION CENTER
ON THE REGIONAL ECONOMY

AUGUST 2020





Dear Community of Friends,

A lot has happened since we opened our doors in August 2000. This report gives us confirmation that the Roanoke Higher Education Center's services have contributed significantly to the region's economy. Our accomplishments come from the hard work of our partner institutions who have delivered degrees, certificates, and endorsements that have been awarded to almost 10,000 individuals. We take pride in providing access to education and training that allow individuals the ability to hone their skills in order to be successful in the jobs of today and tomorrow.

It is with excitement that we share our 2020 Economic Impact Study!

Sincerely,
Kay Dunkley
Executive Director



INTRODUCTION

Twenty years ago, the Roanoke Higher Education Center opened its doors to its first class of students. The opening was the culmination of more than 10 years of efforts to establish a center for training and higher learning in downtown Roanoke. A total of \$19 million in state, local, and private capital, as well as federal and state historic tax credits, were used to transform the former headquarters of the Norfolk and Western Railroad, a 1931 Art Deco building, into a state-of-the-art facility for learning.

Programs at the Roanoke Higher Education Center serve a variety of educational goals from adults needing job training and lifelong learning opportunities to undergraduate and graduate instruction.

The Roanoke Higher Education Center has also been a cornerstone of downtown development and revitalization of the historic



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GAINSBORO
NEIGHBORHOOD.**



Gainsboro Neighborhood. It is a key asset in the region's overall economic development strategy.

An economic impact study was completed in 2010 for the 10-year anniversary of the facility, and this 2020 study serves as an update to the original work. The Roanoke Valley-Alleghany Regional Commission worked with the RHEC staff to quantify the economic benefits and overall contribution to the region of its annual operations. The data gathered was used to derive an estimated direct impact that was then entered into a regional input-output model to determine the indirect and induced impacts represented by the economic stimulus introduced by the RHEC.

This report seeks to quantify the impact and contributions of the Roanoke Higher Education Center upon the Roanoke Region.

METHODOLOGY

Surveys were a collaboration produced by the Roanoke Higher Education Center and the Roanoke Valley-Alleghany Regional Commission. The institutional survey was distributed by Roanoke Higher Education Center staff to its members who provide educational services within the Center's structure. Members were asked to report financial and enrollment information. Institutional members were also asked to encourage students to complete a student survey that focused on student spending which was directly related to their experience at the RHEC.

Institutional surveys were completed by Averett University, James Madison University, Mary Baldwin University, Old Dominion University, Radford University, Region 5 Adult Education, Total Action For Progress, Virginia Commonwealth University, Virginia Tech, and Virginia Western Community College. In addition, 27 responses were collected from the student survey.

The study area for this analysis was defined as the Roanoke Metropolitan Statistical Area, which is composed of the Counties of Botetourt, Craig, Franklin, and Roanoke, and the Cities of Roanoke and Salem.

The information from these surveys was used in the calculation of our results through IMPLAN to determine economic impact.

HOW DOES IMPLAN WORK?

At the heart of the IMPLAN model is a national input-output dollar flow table called the Social Accounting Matrix (SAM). Unlike other static input-output models, which just measure the purchasing relationships between industry and household sectors, SAM also measures the economic relationships between government, industry, and household sectors.

The model uses actual economic and employment data to model 440 industries to determine how industry dollars are spent to produce commodities. National-level and county-level production data sets are then combined to produce a series of multipliers.

Multipliers measure the amount of total economic activity that results from an industry or household spending money in the local economy. IMPLAN uses the national- and county-level data multipliers to estimate economic impacts of various activities. Once all input data has been entered into the model, IMPLAN then generates a series of summary output tables to show the direct, indirect, and induced economic impacts.

- **Direct impacts** are those that result from the direct infusion of money into the economy because of an economic event. These impacts consist of permanent jobs, wages, and output of economic events.
- **Indirect impacts** are the jobs, wages, and output created by businesses, which provide goods and services essential to an economic activity (construction, tourism, etc.). Indirect impacts represent a cumulative total of several cycles of spending that work their way through the local economic supply chain until all remaining money from the initial stimulus leaks from the study area economy. For example, a series of restaurants purchasing goods from local suppliers because of participant spending on meals would be an example of a portion of indirect impacts as defined in this analysis.
- **Induced impacts** are those impacts that result from household spending by those impacted by the direct and indirect phases of economic activities. The spending of wages earned by employees working for industries impacted by economic events represents the largest portion of induced impacts. This spending creates induced employment, especially in the service sectors.

The summary output tables also show the direct, indirect, and induced effects of labor income, value added, and output.

- **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's paid payroll taxes (social security, unemployment, etc.) Proprietor income consists of payments received by self-employed individuals and unincorporated business owners.
- **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.
- **Employment** is reported by the model as all jobs, including part-time and seasonal workers. Employment numbers can be changed to full-time equivalency (FTE), but the ratio varies by industry sector.

What Can IMPLAN Analyses Reveal?

An IMPLAN analysis seeks to quantify the economic benefit that expenditures for a project (construction) or an activity (tourism or events) have on a local or regional economy. For example, money spent on the construction of a building or the purchase of items on a trip such as lodging and gasoline create additional purchases in various sectors of the economy. Money spent on landscaping for a newly constructed building or the purchase of hotel furniture both create numerous opportunities for those receiving the money to make additional consumer and business purchases. This process creates jobs and expands the economy. A few questions that put the impact in context are these: If the facility or event ceased to exist, what would be the economic impact to the region? Would the money get spent outside the region? Would the money be spent in the region on other activities? These types of questions help shape the assumptions that are used in the model design. Slight variations in these assumptions can greatly impact the model results.

SURVEY RESULTS



The 10 participating institutions reported 2018–19 expenditures totaling \$2,806,049. The Roanoke Higher Education Center also has an operating budget for administration of the Center and its functions apart from those served directly by the member institutions. The RHEC's 2018–19 expenditures totaled \$2,631,775. This brings the total expenditures to \$5,437,824 in 2018–2019.

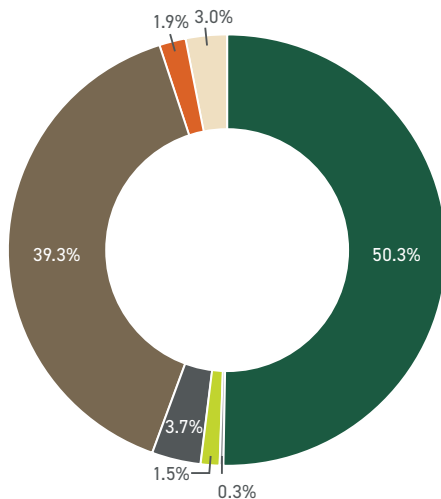
There are many sources which constitute the budgets of the Center's institutional members. In the 2010 study, these sources were more carefully documented. Because these institutions have larger operations outside the Roanoke Region, it was more difficult to obtain detailed source data specific to their Roanoke operations in 2018-19. Thus, this study was unable to distinguish the percentage of outside (state and federal) resources that institutions used to fund their Roanoke operations. One could make the argument that the funding of most of the institutions came from outside money because the home campuses of most institutions are outside the Roanoke Region. However, the argument could also be made that the students, primarily based in the Roanoke area, are paying tuition that helps support the operations in Roanoke.

The following institutions were surveyed:



FY2019 FINANCIAL INFORMATION

The institutions and RHEC reported total employment of 78 full- or part-time positions related to work at the Roanoke Higher Education Center. The following chart summarizes the overall budget for the Roanoke Higher Education Center (excluding member institutions).



Revenue for Fiscal Year 2019 Grand total all sources = \$4.64 million

Nonoperating revenues total \$1.53 million:

State Appropriation	50.3%
Local Government	0.3%
Interest Income	1.5%

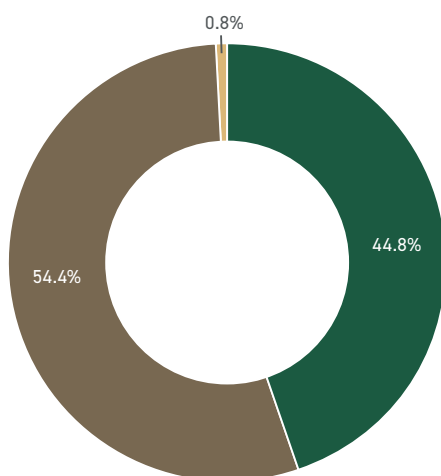
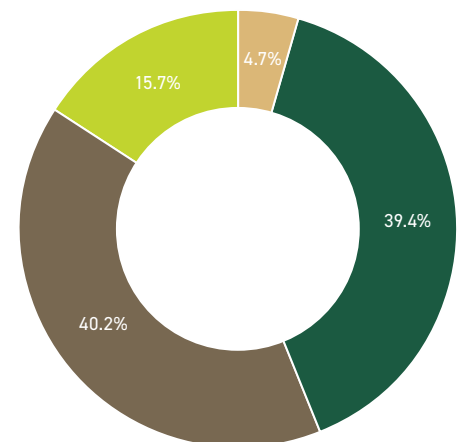
Operating revenues total \$1.41 million:

Day Rental & Training Initiatives	3.7%
Member & Commercial Leases	39.3%
Phone, Vending, Library, & Misc.	1.9%
Testing Services	3.0%

Capital Funded Revenues

Total \$1.70 million:

Higher Education Equipment Trust Fund (HEETF)	4.7%
Capital Maintenance Reserve (CMR)	39.4%
Capital Outlay Claude Moore Education Complex (CMEC)	40.2%
Capital Outlay Clinical Simulation Center (CSC)	15.7%



Expenses for Fiscal Year 2019 Grand total all sources = \$2.63 million

Personnel Services Operating	44.8%
Other Operating	54.4%
• Facility Services (35.8%)	
• Finance and Administration (6.2%)	
• Academic and Student Services (7.1%)	
• Information Technology (5.3%)	
Nonoperating	0.8%

Source: Roanoke Higher Education Center, FY2019 Annual Report

ENROLLMENT

Institutions were asked to report enrollment for their 2018-2019 year. Enrollment for classes or workshops was reported as 1,453 students. A portion of these students received certificates or degrees as follows.

FY2018–2019 COMPLETIONS

PROGRAM TYPE	COMPLETIONS
Doctoral	6
Post-Master's Certificate	19
Master's	76
Bachelor's	66
Associate	13
Post-Baccalaureate Teacher Licensure	2
Teaching Endorsement	6
Certificate	28
Workforce Training Completions	102
Non-credit Completions	274
TOTAL	592

Students were surveyed as to their spending behaviors associated with their attendance at the Higher Education Center. Students were asked about their average weekly expenditure on meals, snacks, and parking that result solely because of attendance at the Center. Students were also asked for annual average expenditures on supplies purchased locally that were directly related to the RHEC experience. Despite promotion by most of the institutions, only 27 completed surveys were received. (The survey data was extrapolated to the 1,453 students for the analysis.) The following table show results from the 2010 and 2018 surveys.

STUDENT SPENDING SURVEYS

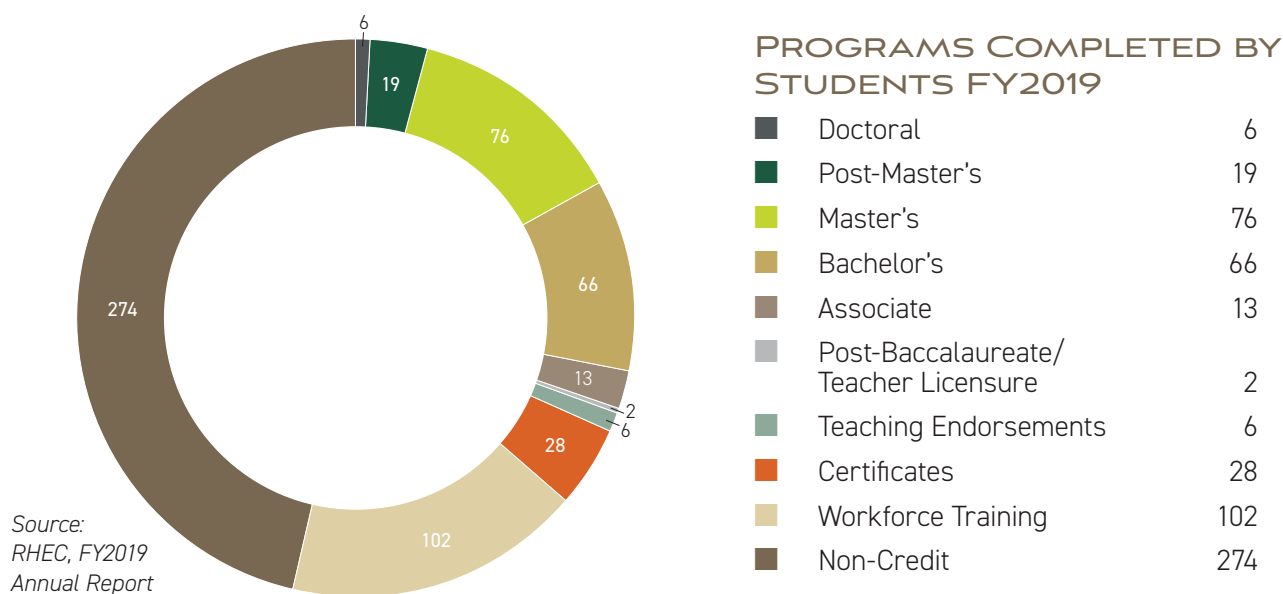
SPENDING CATEGORY	2010 ANNUAL SPENDING	2018 ANNUAL SPENDING
Supplies	\$390	\$429
Beverages	\$247	\$161
Snack Foods	\$252	\$85
Meals	\$773	\$217
Parking	\$215	\$162
Students Surveyed	262	27

Of the 27 students surveyed in 2018, two-thirds indicated they would have taken online courses or moved if the RHEC facility was not available. Two students indicated they would have not taken classes or finished a degree if the RHEC was not available. Because the RHEC also houses a small café, direct spending by the students likely supports the operation of this additional business. Additionally, the spending on parking would also be a direct result of attending the Roanoke Higher Education Center.

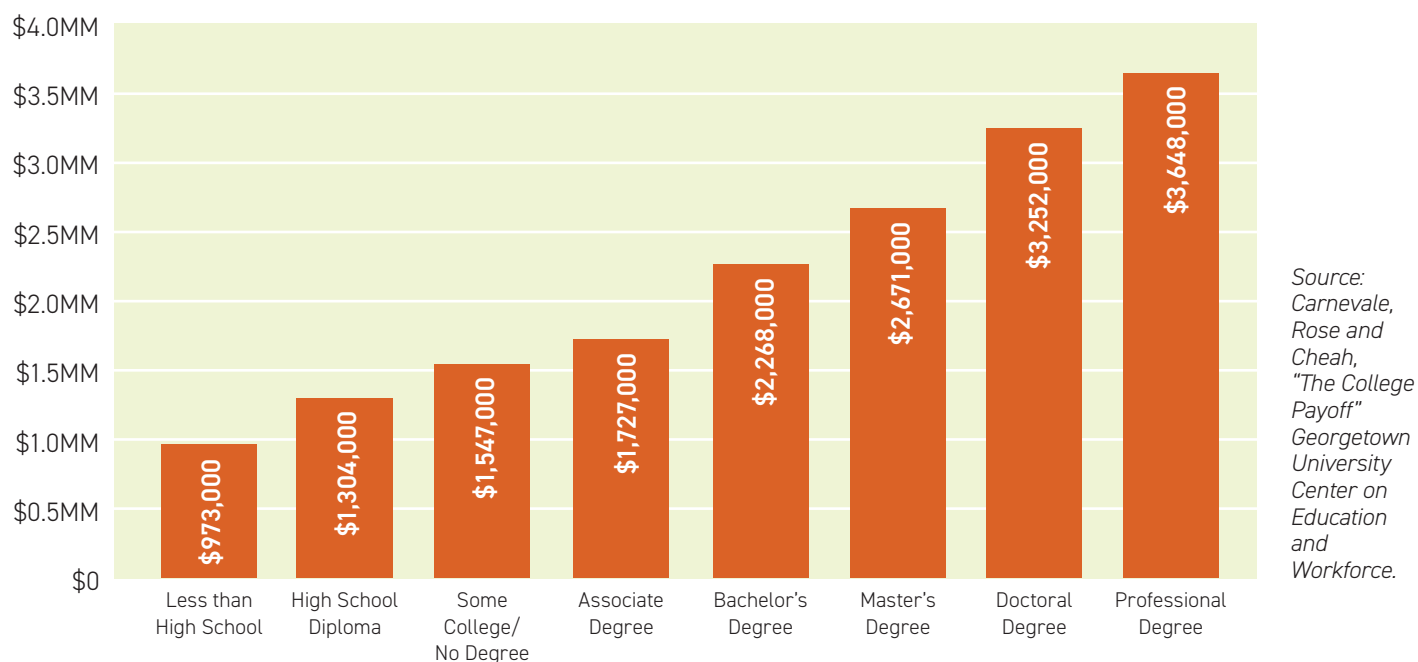
Spending by students on supplies, beverages, snack foods, meals and parking were included in the student spending model.

LIFETIME EARNINGS BY EDUCATION LEVEL

In the 2010 study, the economic impact of increased salary was also measured. In the student survey for 2018, most students felt their degree would improve their lifetime earnings. The following chart shows the 592 completions for FY2019.



As previously mentioned, the RHEC is an anchor which offers services and programs which allows potential students to stay in the region. Education resulting in degrees does improve earning potential and has been documented as follows.



Most of the students responding to the survey said that they would have found an alternative to their education if the options of the RHEC were not available. Thus, it is not believed that the RHEC plays the primary role in the educational attainment of the student. Therefore, future earnings are not counted as an economic impact of the RHEC for this study. However, the economic impact of the educational attainment is something that can be measured independently. The following table displays yearly income differences by educational attainment.

ECONOMIC IMPACTS

YEARLY INCOME AND SPENDING BY EDUCATION LEVEL

EDUCATION LEVEL	BEFORE TAX INCOME	TOTAL SPENDING	LOCAL SPENDING	STATE AND LOCAL TAXES
High School Graduate	\$40,260	\$36,286	\$18,806	\$1,947
High School Graduate with Some College	\$47,891	\$43,749	\$21,892	\$2,193
Associate's Degree	\$60,671	\$50,300	\$25,141	\$2,816
Bachelor's Degree	\$84,628	\$65,483	\$31,568	\$4,978
Master's, Professional or Doctoral Degree	\$123,654	\$85,434	\$41,115	\$7,847

Source: Brookings Institution- Bureau of Labor Statistics 2014 Consumer Expenditure Survey.

When this data is applied to FY18-19 degree completions at the RHEC, the annual increase in salary for the 216 degrees is \$5,963,644. This value can be used in the model to estimate increased spending in the region. The yearly impact of spending related to the increased income is \$6,060,580 which supports 44 jobs. Of course, this assumes that those degree holders stay in the region and their degree completion was achieved only by access to the RHEC programs.

The following impact table is the result of direct student spending into the model for analysis. As indicated in the discussion of the student survey, supplies, snacks, drinks, meals, and parking that resulted from their RHEC experience were included in the analysis. This spending by the 1,453 students helps support 23 full- or part-time jobs in the Roanoke MSA region. The total estimated impact of this student spending is \$1,546,322 for the FY18-19 year. *The 2010 study estimated an impact of \$3 million because of a larger student population and higher spending.*

STUDENT SPENDING IMPACT SUMMARY

IMPACT TYPE	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Direct Effect	18	\$428,370	\$458,057	\$829,295
Indirect Effect	2	\$86,632	\$157,608	\$303,469
Induced Effect	3	\$128,315	\$227,844	\$413,557
Total Effect	23	\$643,317	\$843,509	\$1,546,321

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The following table reflects the operations at the Roanoke Higher Education Center. This includes expenditures by each institution and expenditures by the RHEC. The model was adjusted to account for the recirculation of rent payments by the institutions to the RHEC. (These payments are only counted once.) It is estimated that the operations of the RHEC employ 78 people directly by the institutions and the RHEC. These could be full-time or part-time employees. The indirect and induced spending helps support an additional 28 people in the region. The estimated economic impact of the operations was estimated to be \$8,411,536 for FY18-19. *The 2010 study found an impact of \$13 million because expenditures and employment were at a higher level.*

HIGHER EDUCATION CENTER OPERATIONS IMPACT SUMMARY

IMPACT TYPE	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Direct Effect	78	\$2,894,474	\$3,384,897	\$4,360,454
Indirect Effect	9	\$336,180	\$724,796	\$1,432,771
Induced Effect	19	\$812,793	\$1,442,963	\$2,618,311
Total Effect	106	\$4,043,446	\$5,552,656	\$8,411,536

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CONCLUSION

It is difficult to determine the true economic impact of a facility like the Roanoke Higher Education Center because of the involvement of a dozen large institutions, a wide variety of funding sources, and the decision-making of students. The economic impact of student spending and lifetime earning benefits is a challenge to measure and include as a direct benefit of attending the RHEC. By combining student spending linked to the RHEC and expenditures by the member institutions, the estimated economic impact of the RHEC is estimated to be almost \$10 million for FY18-19. The RHEC and students help support 129 jobs in the Roanoke MSA region.

OVERALL ECONOMIC IMPACT

IMPACT TYPE	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Direct Effect	96	\$3,322,844	\$3,842,954	\$5,189,749
Indirect Effect	11	\$422,811	\$882,404	\$1,736,240
Induced Effect	22	\$941,107	\$1,670,808	\$3,031,869
Total Effect	129	\$4,686,762	\$6,396,166	\$9,957,857

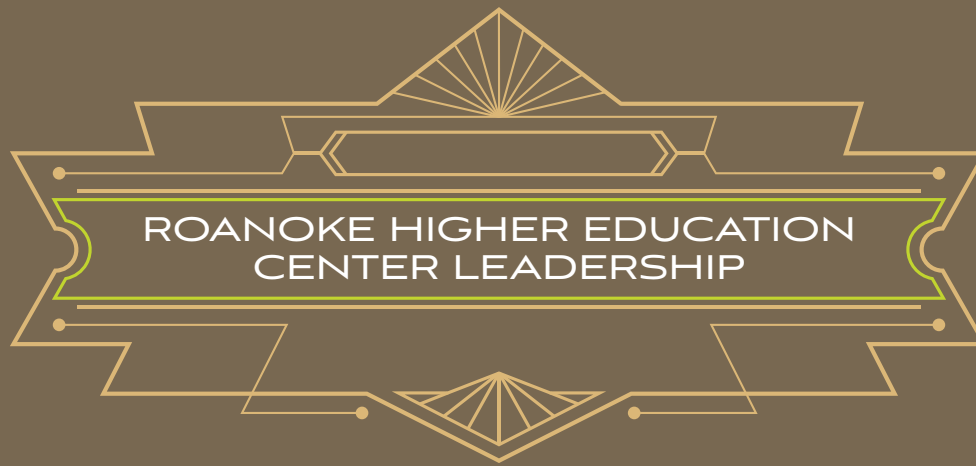
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Various sectors are impacted by the RHEC operations and student spending. Obviously, the education sector ranks high because of the direct employment and spending. The spending of those employees, the students, and the RHEC itself in FY18-19 generated more impacts in the economy as shown in the other sectors listed.

DESCRIPTION	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
Colleges and Universities	78	\$2,908,645	\$3,402,750	\$4,393,186
Other Personal Services	10	\$256,908	\$120,495	\$250,322
Limited-Service Restaurants	5	\$95,063	\$222,228	\$436,502
Real Estate	3	\$43,072	\$411,579	\$636,883
Retail — General Merchandise	3	\$84,685	\$141,769	\$215,324
Retail — Food and Beverage	2	\$64,553	\$96,995	\$142,078
Full-Service Restaurants	2	\$36,532	\$39,667	\$80,249
Hospitals	1	\$117,132	\$139,254	\$243,235
Wholesale Trade	1	\$74,251	\$141,031	\$223,225
Employment Services	1	\$31,336	\$47,018	\$61,341

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While not included in the overall results, which are directly related to the operation of the RHEC, it is important to consider the increased earnings of the graduates and students who benefit from RHEC programs. If all the FY 2018-2019 graduates stayed in the region and got better paying jobs as a result of their degrees, an additional \$6 million would be added to the economy through additional spending. Multiply this by the number of new graduates each year and the impact of higher earnings would be exponential.



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