



The Economic Value of West Virginia  
Northern Community College

# EXECUTIVE SUMMARY



**W**EST Virginia Northern Community College (WVNCC) creates value in many ways. The college plays a key role in helping students increase their employability and achieve their individual potential. The college draws students to the region, generating new dollars and opportunities for the Upper Ohio Valley. WVNCC provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, WVNCC is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

WVNCC influences both the lives of its students and the regional economy. The college supports a variety of industries in the Upper Ohio Valley,<sup>1</sup> serves regional businesses, and benefits society as a whole in West Virginia from an expanded economy and improved quality of life. The benefits created by WVNCC even extend to the state government through increased tax revenues and public sector savings.

This study measures the economic impacts created by WVNCC on the business community and the benefits the college generates in return for the investments made by its key stakeholder groups—students, taxpayers, and society. The following two analyses are presented:



### Economic impact analysis



### Investment analysis

All results reflect employee, student, and financial data, provided by the college, for fiscal year (FY) 2016-17. Impacts on the Upper Ohio Valley economy are reported under the economic impact analysis and are measured in terms of added income. The returns on investment to students, taxpayers, and society in West Virginia are reported under the investment analysis.

<sup>1</sup> For the purposes of this analysis, the Upper Ohio Valley is comprised of Brooke, Hancock, Marshall, Ohio, Tyler, and Wetzel Counties in West Virginia; Belmont, Columbiana, Harrison, Jefferson, Mahoning, Monroe, and Trumbull Counties in Ohio; and Allegheny, Beaver, Butler, Greene, and Washington Counties in Pennsylvania.

---

*WVNCC influences both the lives of its students and the regional economy.*

---



# Economic impact analysis



WVNCC promotes economic growth in the Upper Ohio Valley through its direct expenditures and the resulting expenditures of students and regional businesses. The college serves as an employer and buyer of goods and services for its day-to-day operations. The college’s activities attract students from outside the Upper Ohio Valley, whose expenditures benefit regional vendors. In addition, WVNCC is a primary source of higher education to the Upper Ohio Valley residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

## Operations Spending Impact



WVNCC adds economic value to the Upper Ohio Valley as an employer of regional residents and a large-scale buyer of goods and services. In FY 2016-17, the college employed 204 full-time and part-time faculty and staff, 68% of whom lived in the Upper Ohio Valley. Total payroll at WVNCC was \$8.4 million, much of which was spent in the region for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the college spent \$5.1 million on day-to-day expenses related to facilities, supplies, and professional services.

WVNCC’s day-to-day operations spending added \$13.3 million in income to the region during the analysis year. This figure represents the college’s payroll, the multiplier effects generated by the in-region spending of the college and its employees, and a downward adjustment to account for funding that the

IMPACTS CREATED BY WVNCC  
IN FY 2016-17



**\$13.3 million**  
Operations Spending Impact



**\$929.8 thousand**  
Student Spending Impact



**\$219.3 million**  
Alumni Impact



**\$233.5 million**  
**TOTAL IMPACT**

- OR -

**2,955**  
**JOBS SUPPORTED**

college received from regional sources. The \$13.3 million in added income is equivalent to supporting 262 jobs in the region.

## Student Spending Impact



Some in-region students would have left the Upper Ohio Valley if not for the existence of WVNCC. While attending the college, these students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$929.8 thousand in added income for the regional economy in FY 2016-17, which supported 19 jobs in the Upper Ohio Valley.

## Alumni Impact



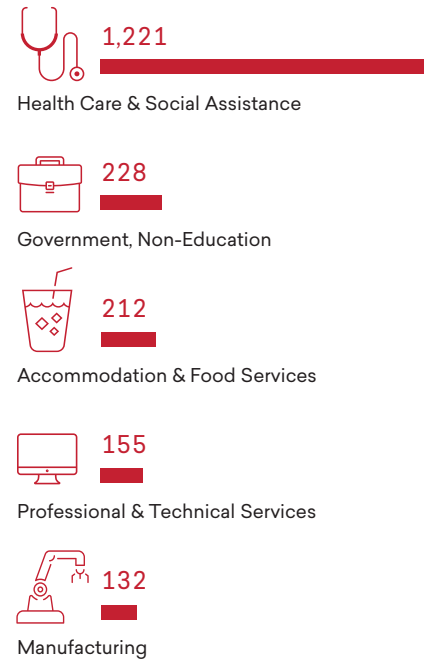
The education and training WVNCC provides for regional residents has the greatest impact. Since its establishment, students have studied at WVNCC and entered the regional workforce with greater knowledge and new skills. Today, thousands of former WVNCC students are employed in the Upper Ohio Valley. As a result of their WVNCC educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2016-17, WVNCC alumni generated \$219.3 million in added income for the regional economy, which is equivalent to supporting 2,673 jobs.

## Total Impact

WVNCC added \$233.5 million in income to the Upper Ohio Valley economy during the analysis year, equal to the sum of the operations spending impact, the student spending impact, and the alumni impact. For context, the \$233.5 million impact was equal to approximately 0.1% of the total gross regional product (GRP) of the Upper Ohio Valley.

WVNCC's total impact can also be expressed in terms of jobs supported. The \$233.5 million impact supported 2,955 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. In addition, the \$233.5 million, or 2,955 supported jobs, impacted regional industries in different ways. Among non-education industry sectors, WVNCC supported the most jobs in the Health Care & Social Assistance industry sector – supporting 1,221 jobs in FY 2016-17. These are impacts that would not have been generated without the college's presence in the Upper Ohio Valley.

## TOP INDUSTRIES IMPACTED BY WVNCC (JOBS SUPPORTED)





# Investment analysis

An investment analysis evaluates the costs associated with a proposed venture against its expected benefits. If the benefits outweigh the costs, then the investment is financially worthwhile. The analysis presented here considers WVNCC as an investment from the perspectives of students, taxpayers, and society in West Virginia.

## Student perspective



In FY 2016-17, WVNCC served 2,692 credit and 858 non-credit students. In order to attend the college, the students paid for tuition, fees, books, and supplies. They also took out loans and will incur interest on those loans. Additionally, students gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by WVNCC's students in FY 2016-17 amounted to a present value of \$11.9 million, equal to \$3.4 million in out-of-pocket expenses (including future principal and interest on student loans) and \$8.5 million in forgone time and money.

In return for their investment, WVNCC's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average WVNCC associate degree graduate from FY 2016-17 will see an increase in earnings of \$9,900 each year compared to a person with a high school diploma or equivalent working in West Virginia. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$405.9 thousand in higher earnings per graduate. Altogether, WVNCC's FY 2016-17 students will receive \$86.2 million in higher future earnings over their working lives, as a result of their education and training at WVNCC.

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN WVNCC



25.8%

Average annual return for WVNCC students



10.1%

Stock market 30-year average annual return

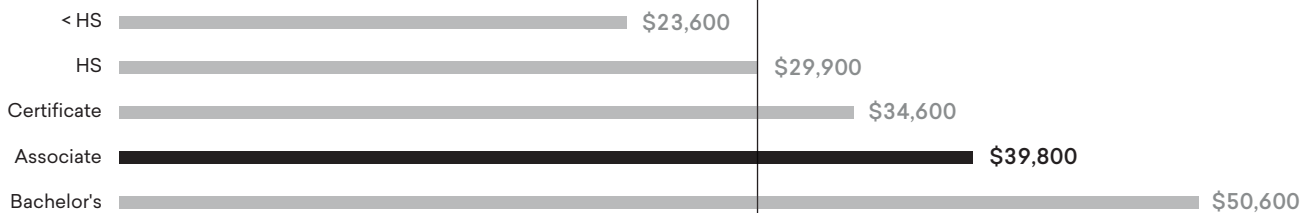


0.8%

Interest earned on savings account (National Rate Cap)

Source: Forbes' S&P 500, 1987-2016. FDIC.gov, 7-2016.

The average associate degree graduate from WVNCC will see an increase in earnings of **\$9,900** each year compared to a person with a high school diploma or equivalent working in West Virginia.



Source: Emsi complete employment data.

The students' benefit-cost ratio is 7.3. In other words, for every dollar students invest in WVNCC, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$7.30 in higher future earnings. Annually, the students' investment in WVNCC has an average annual internal rate of return of 25.8%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

## Taxpayer perspective



WVNCC generates more in tax revenue than it takes. These benefits to taxpayers consist primarily of taxes that the state government will collect from the added revenue created in the state. As WVNCC students will earn more, they will make higher tax payments throughout their working lives. Students' employers will also make higher tax payments as they increase their output and purchases of goods and services. By the end of the FY 2016-17 students' working lives, the state government will have collected a present value of \$25.1 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of WVNCC students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' WVNCC educations will generate savings in three main categories: 1) healthcare, 2) crime, and 3) income assistance. Improved health will lower students' demand for national health care services. In addition, students will be less likely to interact with the criminal justice system, resulting in a reduced demand for law enforcement and victim costs. WVNCC students will be more employable, so their reduced demand for income assistance such as welfare and unemployment benefits will benefit taxpayers. For a list of study references, contact the college for a copy of the main report. Altogether, the present value of the benefits associated with a WVNCC education will generate \$1.3 million in savings to state taxpayers.

Total taxpayer benefits amount to \$26.4 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$8.3 million, equal to the amount of state government funding WVNCC received in FY 2016-17. These benefits and costs yield a benefit-cost ratio of 3.2. This means that for every dollar of public money invested in WVNCC in FY 2016-17, taxpayers will receive a cumulative value of \$3.20 over the

---

*For every dollar of public money invested in WVNCC, taxpayers will receive a cumulative value of **\$3.20** over the course of the students' working lives.*

---



### STUDENT PERSPECTIVE

\$86.2 million  
Present value benefits

\$11.9 million  
Present value costs

\$74.3 million  
Net present value

Benefit-cost Ratio	Rate of Return
7.3	25.8%



### TAXPAYER PERSPECTIVE

\$26.4 million  
Present value benefits

\$8.3 million  
Present value costs

\$18.1 million  
Net present value

Benefit-cost Ratio	Rate of Return
3.2	7.6%



### SOCIAL PERSPECTIVE

\$278.5 million  
Present value benefits

\$24.8 million  
Present value costs

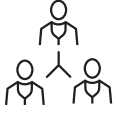
\$253.7 million  
Net present value

Benefit-cost Ratio	Rate of Return
11.2	n/a*

\* The rate of return is not reported for the social perspective because the beneficiaries of the investment are not necessarily the same as the original investors.

course of the students' working lives. The average annual internal rate of return for taxpayers is 7.6%, which compares favorably to other long-term investments in the public and private sectors.

## Social perspective



Society as a whole in West Virginia benefits from the presence of WVNCC in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to higher student earnings and increased business output, which raise economic prosperity in West Virginia.

Benefits to society also consist of the savings generated by the improved lifestyles of WVNCC students. As discussed in the previous section, education is statistically correlated with a variety of lifestyle changes that generate social savings. Note that these costs are avoided by the consumers but are distinct from the costs avoided by the taxpayers outlined above. Healthcare savings include avoided medical costs associated with smoking, alcohol dependence, obesity, drug abuse, and depression. Savings related to crime include reduced security expenditures and insurance administration, lower victim costs, and reduced expenditures by the criminal justice system. Income assistance savings include reduced welfare and unemployment claims. For a list of study references, contact the college for a copy of the main report.

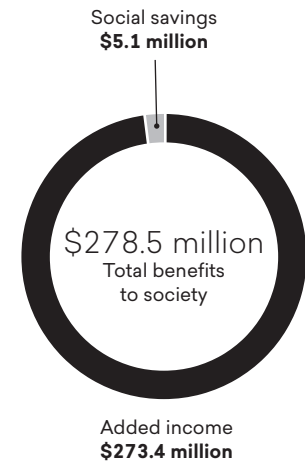
Altogether, the social benefits of WVNCC equal a present value of \$278.5 million. These benefits include \$273.4 million in added income through students' increased lifetime earnings and increased business output, as well as \$5.1 million in social savings related to health, crime, and income assistance in West Virginia. People in West Virginia invested a present value total of \$24.8 million in WVNCC in FY 2016-17. The cost includes all the college and student costs.

The benefit-cost ratio for society is 11.2, equal to the \$278.5 million in benefits divided by the \$24.8 million in costs. In other words, for every dollar invested in WVNCC, people in West Virginia will receive a cumulative value of \$11.20 in benefits. The benefits of this investment will occur for as long as WVNCC's FY 2016-17 students remain employed in the state workforce.

## Summary of investment analysis results

The results of the analysis demonstrate that WVNCC is a strong investment for all three major stakeholder groups—students, taxpayers, and society. As shown, students receive a great return for their investments in a WVNCC education. At the same time, taxpayers' investment in WVNCC returns more to government budgets than it costs and creates a wide range of social benefits throughout West Virginia.

SOCIAL BENEFITS IN WEST VIRGINIA FROM WVNCC



# Conclusion

The results of this study demonstrate that WVNCC creates value from multiple perspectives. The college benefits regional businesses by increasing consumer spending in the region and supplying a steady flow of qualified, trained workers to the workforce. WVNCC enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The college benefits state taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, WVNCC benefits society as a whole in West Virginia by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students.

---

*The results of this study demonstrate that WVNCC creates value from*  
**multiple perspectives.**

---

## About the Study

Data and assumptions used in the study are based on several sources, including the FY 2016-17 academic and financial reports from WVNCC and the West Virginia Higher Education Policy Commission, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Emsi's Multi-Regional Social Accounting Matrix model, and a variety of studies and surveys relating education to social behavior. The study applies a conservative methodology and follows standard practice using only the most recognized indicators of economic impact and investment effectiveness. For a full description of the data and approach used in the study, please contact the college for a copy of the main report.



Emsi is a leading provider of economic impact studies and labor market data to educational institutions, workforce planners, and regional developers in the U.S. and internationally. Since 2000, Emsi has completed over 1,800 economic impact studies for educational institutions in four countries. Visit [www.economicmodeling.com](http://www.economicmodeling.com) for more information about Emsi's products and services.