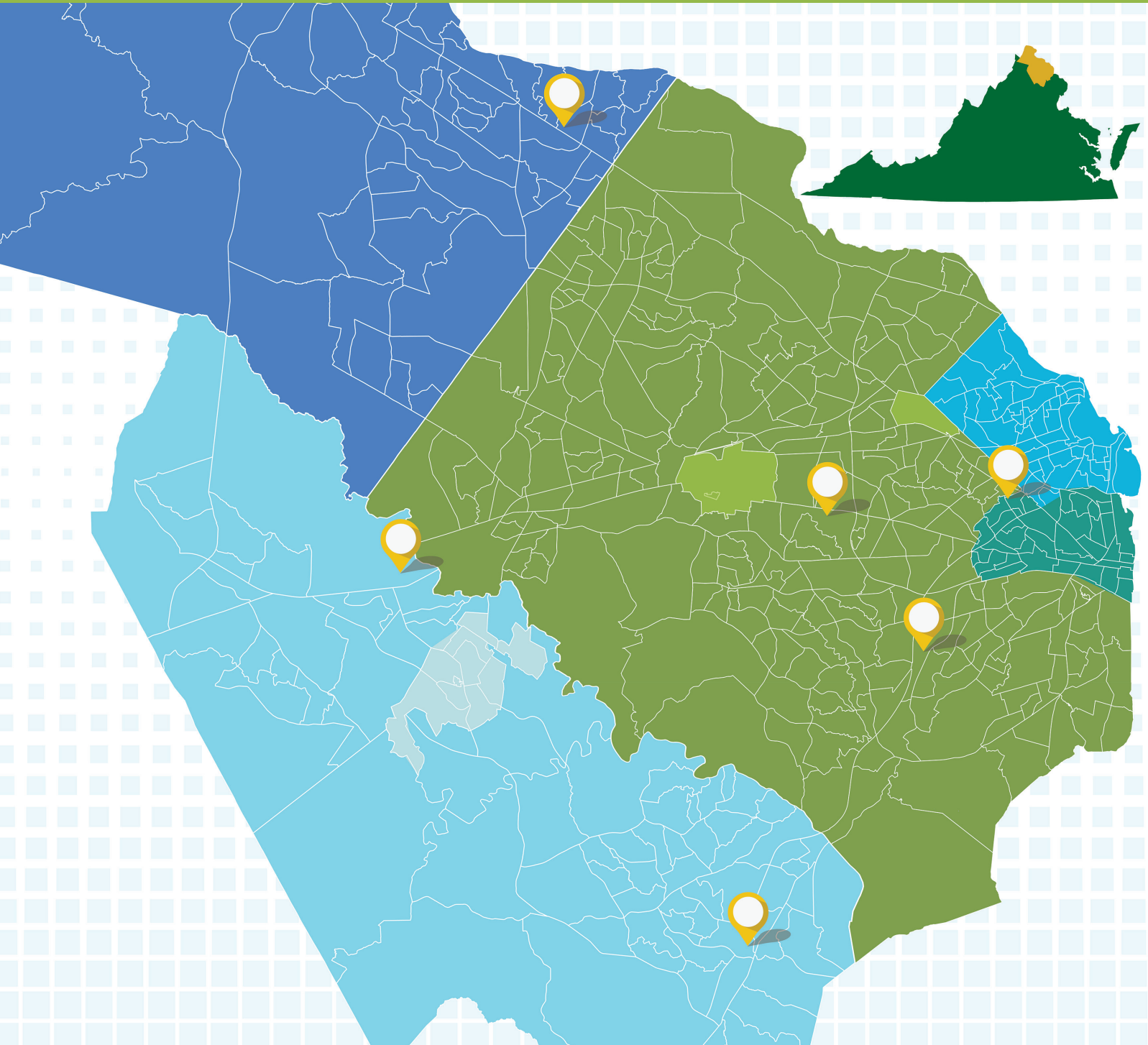


ECONOMIC IMPACT STUDY

Northern Virginia Community College





NOVA | Northern Virginia
Community College

Produced in collaboration with Northern Virginia Community College's
Office of Institutional Effectiveness and Student Success

The Economic Value of Northern Virginia Community College

EXECUTIVE SUMMARY



NORTHERN Virginia Community College (NOVA) 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 Northern Virginia Service Area. NOVA provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, NOVA is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

NOVA influences both the lives of its students and the regional economy. The college supports a variety of industries in the Northern Virginia Service Area,¹ serves regional businesses, and benefits society as a whole in Virginia from an expanded economy and improved quality of life. The benefits created by NOVA even extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by NOVA 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) 2017-18. Impacts on the Northern Virginia Service Area 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 Virginia are reported under the investment analysis.

¹ For purposes of this analysis, the Northern Virginia Service Area is comprised of the following counties: Arlington, Fairfax, Loudoun, Prince William, Stafford, and the following cities: Alexandria City, Fairfax City, Falls Church City, Manassas City, and Manassas Park City.

*The value of NOVA influences both the **lives of its students** and the **regional economy**.*



Economic impact analysis

NOVA promotes economic growth in the Northern Virginia Service Area 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 Northern Virginia Service Area, whose expenditures benefit regional vendors. In addition, NOVA is a primary source of higher education to the Northern Virginia Service Area residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

Operations Spending Impact



NOVA adds economic value to the Northern Virginia Service Area as an employer of regional residents and a large-scale buyer of goods and services. In FY 2017-18, the college employed 3,598 full-time and part-time faculty and staff, 83% of whom lived in the Northern Virginia Service Area. Total payroll at NOVA was \$189.6 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 \$126.3 million on day-to-day expenses related to facilities, supplies, and professional services.

NOVA's day-to-day operations spending added \$250.2 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 college received from regional sources. The \$250.2 million in added income is equivalent to supporting 4,237 jobs in the region.

Construction Spending Impact



NOVA commissioned contractors to build or renovate its facilities in FY 2017-18. The quick infusion of income and jobs that occurred in the regional economy as a result of this construction spending is considered short-term due to the one-time nature of such projects. Nonetheless, the college's construction spending had a substantial impact on the regional economy in FY 2017-18, equal to \$3.2 million in added income and equivalent to supporting 41 jobs.

Student Spending impact



Around 14% of credit students attending NOVA originated from outside the region in FY 2017-18, and some of these students relocated to the Northern Virginia Service Area to attend NOVA. These

IMPACTS CREATED BY NOVA
IN FY 2017-18



\$250.2 million
Operations Spending Impact



\$3.2 million
Construction Spending Impact



\$75.8 million
Student Spending Impact



\$2.4 billion
Alumni Impact



\$2.7 billion
TOTAL IMPACT

- OR -

28,363
JOBS SUPPORTED

students may not have come to the region if the college did not exist. In addition, some in-region students, referred to as retained students, would have left the Northern Virginia Service Area if not for the existence of NOVA. While attending the college, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$75.8 million in added income for the regional economy in FY 2017-18, which supported 1,316 jobs in the Northern Virginia Service Area.

Alumni Impact



The education and training NOVA provides for regional residents has the greatest impact. Since its establishment, students have studied at NOVA and entered the regional workforce with greater knowledge and new skills. Today, hundreds of thousands of former NOVA students are employed in the Northern Virginia Service Area. As a result of their NOVA educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2017-18, NOVA alumni generated \$2.4 billion in added income for the regional economy, which is equivalent to supporting 22,770 jobs.

Total Impact

NOVA added \$2.7 billion in income to the Northern Virginia Service Area economy during the analysis year, equal to the sum of the operations and construction spending impacts, the student spending impact, and the alumni impact. For context, the \$2.7 billion impact was equal to approximately 1.2% of the total gross regional product (GRP) of the Northern Virginia Service Area. This contribution that the college provided on its own was larger than the entire Arts, Entertainment, & Recreation industry in the region.

NOVA's total impact can also be expressed in terms of jobs supported. The \$2.7 billion impact supported 28,363 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. This means that one out of every 64 jobs in the Northern Virginia Service Area is supported by the activities of NOVA and its students. In addition, the \$2.7 billion, or 28,363 supported jobs, impacted regional industries in different ways. Among non-education industry sectors, NOVA supported the most jobs in the Professional & Technical Services industry sector – supporting 5,395 jobs in FY 2017-18. These are impacts that would not have been generated without the college's presence in the Northern Virginia Service Area.

TOP INDUSTRIES IMPACTED BY NOVA (JOBS SUPPORTED)



One out of every 64 jobs in the Northern Virginia Service Area is supported by the activities of NOVA and its students.



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 NOVA as an investment from the perspectives of students, taxpayers, and society in Virginia.

Student perspective



In FY 2017-18, NOVA served 73,657 credit and 7,754 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 NOVA's students in FY 2017-18 amounted to a present value of \$651.8 million, equal to \$179.4 million in out-of-pocket expenses (including future principal and interest on student loans) and \$472.4 million in forgone time and money.

In return for their investment, NOVA's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average NOVA associate degree graduate from FY 2017-18 will see an increase in earnings of \$12,900 each year compared to a person with a high school diploma or equivalent working in Virginia. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$554.7 thousand in higher earnings per graduate. Altogether, NOVA's FY 2017-18 students will receive \$2.6 billion in higher future earnings over their working lives, as a result of their education and training at NOVA.

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



15.4%

Average annual return for NOVA students



10.1%

Stock market 30-year average annual return

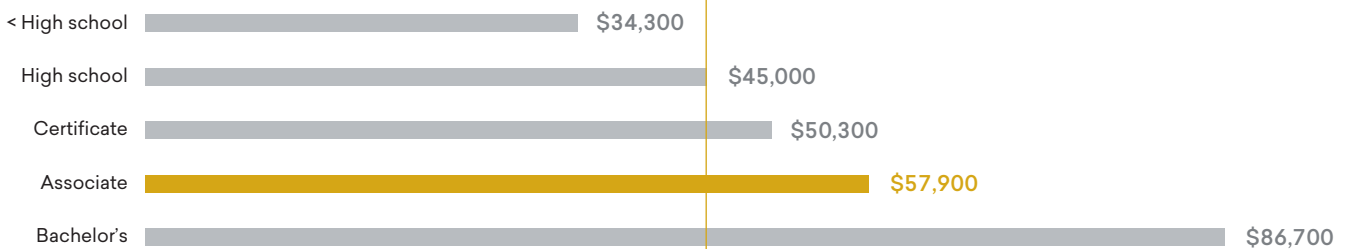


0.8%

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 NOVA will see an increase in earnings of **\$12,900** each year compared to a person with a high school diploma or equivalent working in Virginia.



Source: Emsi complete employment data.

The students' benefit-cost ratio is 4.1. In other words, for every dollar students invest in NOVA, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$4.10 in higher future earnings. Annually, the students' investment in NOVA has an average annual internal rate of return of 15.4%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

Taxpayer perspective



NOVA generates more in tax revenue than it takes. These benefits to taxpayers consist primarily of taxes that the state and local government will collect from the added revenue created in the state. As NOVA 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 2017-18 students' working lives, the state and local government will have collected a present value of \$856.5 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of NOVA students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' NOVA 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. NOVA 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 NOVA education will generate \$45.4 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$901.9 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$116.6 million, equal to the amount of state and local government funding NOVA received in FY 2017-18. These benefits and costs yield a benefit-cost ratio of 7.7. This means that for every dollar of public money invested in NOVA in FY 2017-18,

*For every dollar of public money invested in NOVA, taxpayers will receive a cumulative value of **\$7.70** over the course of the students' working lives.*



STUDENT PERSPECTIVE

\$2.6 billion
Present value benefits

\$651.8 million
Present value costs

\$2 billion
Net present value

Benefit-cost Ratio	Rate of Return
4.1	15.4%



TAXPAYER PERSPECTIVE

\$901.9 million
Present value benefits

\$116.6 million
Present value costs

\$785.2 million
Net present value

Benefit-cost Ratio	Rate of Return
7.7	17.4%



SOCIAL PERSPECTIVE

\$9.8 billion
Present value benefits

\$865.7 million
Present value costs

\$9 billion
Net present value

Benefit-cost Ratio	Rate of Return
11.4	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.

taxpayers will receive a cumulative value of \$7.70 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 17.4%, which compares favorably to other long-term investments in the public and private sectors.

Social perspective



Society as a whole in Virginia benefits from the presence of NOVA 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 Virginia.

Benefits to society also consist of the savings generated by the improved lifestyles of NOVA 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.

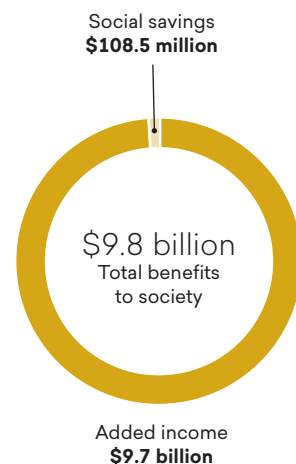
Altogether, the social benefits of NOVA equal a present value of \$9.8 billion. These benefits include \$9.7 billion in added income through students' increased lifetime earnings and increased business output, as well as \$108.5 million in social savings related to health, crime, and income assistance in Virginia. People in Virginia invested a present value total of \$865.7 million in NOVA in FY 2017-18. The cost includes all the college and student costs.

The benefit-cost ratio for society is 11.4, equal to the \$9.8 billion in benefits divided by the \$865.7 million in costs. In other words, for every dollar invested in NOVA, people in Virginia will receive a cumulative value of \$11.40 in benefits. The benefits of this investment will occur for as long as NOVA's FY 2017-18 students remain employed in the state workforce.

Summary of investment analysis results

The results of the analysis demonstrate that NOVA 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 NOVA education. At the same time, taxpayers' investment in NOVA returns more to government budgets than it costs and creates a wide range of social benefits throughout Virginia.

SOCIAL BENEFITS IN VIRGINIA FROM NOVA



Conclusion

The results of this study demonstrate that NOVA 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. NOVA enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The college benefits state and local taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, NOVA benefits society as a whole in Virginia by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students.

About the Study

Data and assumptions used in the study are based on several sources, including the FY 2017-18 academic and financial reports from NOVA, 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.

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



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