



# The Economic Value of Northern Virginia Community College



**N**ORTHERN 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 retains students in the region, generating new dollars and opportunities for Northern Virginia.\* 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 wellbeing.

NOVA influences both the lives of its students and the regional economy. The college supports a variety of industries in Northern Virginia, serves regional businesses, and benefits society as a whole in Virginia through an expanded economy and improved quality of life. Additionally, the benefits created by NOVA 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) 2021-22. Impacts on the Northern Virginia 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.



Northern Virginia

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

\* For the purposes of this analysis, Northern Virginia comprises the cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park, as well as the counties of Arlington, Fairfax, Loudoun, and Prince William.

# Economic impact analysis



NOVA promotes economic growth in Northern Virginia 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 and construction operations. The college's activities retain students in Northern Virginia, whose expenditures benefit regional vendors. In addition, NOVA is one of the primary sources of higher education to Northern Virginia 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 Northern Virginia as an employer of regional residents and a large-scale buyer of goods and services. In FY 2021-22, the college employed 3,330 full-time and part-time faculty and staff, 74% of whom lived in Northern Virginia. Total payroll at NOVA was \$174.2 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 \$226 million (excluding construction) on day-to-day expenses related to facilities, supplies, and professional services.

NOVA's day-to-day operations spending added \$221.2 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 \$221.2 million in added income is equivalent to supporting 2,953 jobs in the region.

## Construction spending impact



NOVA invests in construction each year to maintain its facilities, create additional capacities, and meet its growing educational demands. While the amount varies from year to year, these quick infusions of income and jobs have a substantial impact on the regional economy. In FY 2021-22, NOVA's construction spending generated \$1 million in added income, which is equivalent to supporting 12 jobs.

## Student spending impact



Some in-region students, referred to as retained students, would have left Northern Virginia if not for the existence of NOVA. While attending the college, these retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$51.9 million in added income for the regional economy in FY 2021-22, which supported 669 jobs in Northern Virginia.

### Impacts created by NOVA in FY 2021-22



Operations spending impact

**\$221.2 million**

+



Construction spending impact

**\$1.0 million**

+



Student spending impact

**\$51.9 million**

+



Alumni impact

**\$4.1 billion**



Total economic impact

**\$4.4 billion**

OR

Jobs supported

**41,433**



## Alumni impact



The education and training NOVA provides for regional residents has the greatest impact. Since the establishment of the college, 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 Northern Virginia. As a result of their education from NOVA, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2021-22, NOVA alumni generated \$4.1 billion in added income for the regional economy, which is equivalent to supporting 37,799 jobs.

## Total impact

NOVA added \$4.4 billion in income to the Northern Virginia 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 \$4.4 billion impact was equal to approximately 1.6% of the total gross regional product (GRP) of Northern Virginia. This contribution that the college provided on its own is nearly as large the entire Transportation & Warehousing industry in the region.

NOVA's total impact can also be expressed in terms of jobs supported. The \$4.4 billion impact supported 41,433 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. This means that one of every 46 jobs in Northern Virginia is supported by the activities of NOVA and its students. In addition, the \$4.4 billion, or 41,433 supported jobs, stemmed from different industry sectors. For instance, the spending of NOVA and its students and the activities of its alumni in the Professional & Technical Services industry sector supported 7,809 jobs in FY 2021-22. If the college did not exist, these impacts would not have been generated in Northern Virginia.

### NOVA impacts by industry (jobs supported)



One of every 46 jobs in Northern Virginia is supported by the activities of NOVA and its students.

## Data Center Operations

Nazrawi Yenberberu became interested in NOVA's Data Center Operations course after spotting an online ad for the program. Nazrawi lives in Ashburn, Virginia and is a real estate agent by trade who hopes to capitalize on the regions' growing data center industry. In November 2021, he participated in a two-day fusion-splicing course sponsored by Amazon Web Services (AWS) and Sumitomo, in partnership with NOVA. He completed his summer 2022 internship at AWS.

"I am from Ethiopia, and I emigrated seven years ago. Family and opportunity brought me to the United States and to the Virginia region. I am a current NOVA student. When I started, I was studying electrical engineering with plans on going to George Mason afterwards, but I then changed my course after hearing about Data Center Operations. Currently, I would finish at NOVA in two to three more semesters, with consideration for job prospects already. Joining the data center industry is one of the best decisions I made. It is amazing how the industry is growing, especially in Northern Virginia. I see endless opportunities ahead of me."



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

## Student perspective



In FY 2021-22, NOVA served 69,427 credit and 3,371 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 2021-22 amounted to a present value of \$332.3 million, equal to \$156.5 million in out-of-pocket expenses (including future principal and interest on student loans) and \$175.8 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 2021-22 will see annual earnings that are \$27,600 higher than 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 \$1.2 million in higher earnings per graduate. The present value of the cumulative higher future earnings that NOVA's FY 2021-22 students will receive over their working careers is \$2.9 billion.

The students' benefit-cost ratio is 8.7. 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 \$8.70 in higher future earnings. Annually, the students' investment in NOVA has an average annual internal rate of return of 25.6%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 9.6%.

### Students see a high rate of return from their investment in NOVA



Average annual return for NOVA students  
**25.6%**



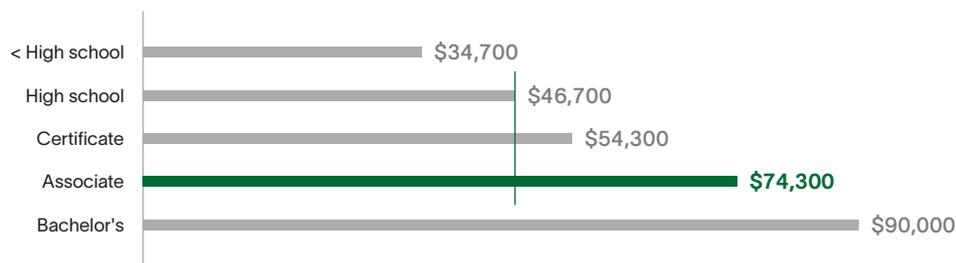
Stock market 30-year average annual return  
9.6%



Interest earned on savings account (national deposit rate)  
0.4%

Source: Forbes' S&P 500, 1992-2021. FDIC.gov, 2-2022.

The average associate degree graduate from NOVA will see an increase in earnings of **\$27,600** each year compared to a person with a high school diploma or equivalent working in Virginia.



Source: Lightcast employment data.

## Taxpayer perspective



NOVA generates more in tax revenue than it receives. These benefits to taxpayers consist primarily of taxes that the state and local government will collect from the added revenue created in Virginia. 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 2021-22 students' working lives, the state and local government will have collected a present value of \$631.7 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. The education that NOVA students receive will generate savings in three main categories: 1) healthcare, 2) the justice system, and 3) income assistance. Improved health will lower students' demand for national healthcare services. In addition, costs related to the justice system will decrease. NOVA students will be more employable, so their reduced demand for income assistance such as welfare and unemployment benefits will benefit taxpayers. Altogether, the present value of the benefits associated with an education from NOVA will generate \$30 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$661.8 million, the present value sum of the added tax revenue and public-sector savings. Taxpayer costs are \$149.7 million, equal to the amount of state and local government funding NOVA received in FY 2021-22. These benefits and costs yield a benefit-cost ratio of 4.4. This means that for every dollar of

For every dollar of public money invested in NOVA, taxpayers will receive a cumulative value of **\$4.40** over the course of the students' working lives.

### NOVA alumni at Yale Law School

Kevin Baisden is a student on a mission—to be the best version of himself and to help others. He got his start at NOVA and then went to Columbia for a BA with a joint major in economics and philosophy. Baisden went on to work in finance. He then spent a year in fintech consulting before working as an Investment Analyst at Hall Capital Partners. After a few years on Wall Street, Kevin decided to apply to law school and landed at Yale. Currently, he is a Vice President of Yale Law School's Federalist Society. Baisden said, "I grew up in the DMV area, and I ended up at NOVA in 2013, at the age of 26. While at NOVA as a student, I got my start in modest roles. I worked at the bookstore, a moving company, as a work-study for the dean of students, then up to the provost's office. During my time at NOVA—hands down—one of the most critical people was the late Dr. Joseph Windham. I and a whole host of other people came up underneath him. Dr. John Min, who taught me economics when I was at NOVA, provided me with the springboard to study it at Columbia. He also wrote my recommendations, as did Dr. Jimmie McClellan. I found my people at NOVA, and at subsequent stages of my life, they went on to become my mentors."



public money invested in NOVA in FY 2021-22, taxpayers will receive a cumulative present value of \$4.40 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 10.7%, which compares favorably to other long-term investments in the public sector.

## Social perspective

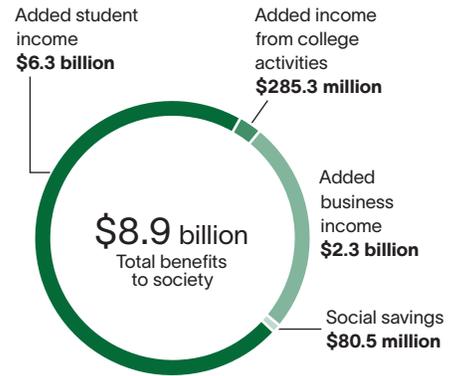


Society as a whole in Virginia benefits from the presence of NOVA in two major ways. Primarily, society benefits from an increased economic base in Virginia. This is attributed to the added income from students' increased lifetime earnings (added student income) and increased business output (added business income), 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. Justice system savings include avoided costs to the government and society due to less judicial activity. 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 \$8.9 billion. These benefits include \$6.3 billion in added student income, \$2.3 billion in added business income, and \$285.3 million in added income from college activities, as well as \$80.5 million in social savings related to health, the justice system, and income assistance in Virginia. People in Virginia invested a present value total of \$622.5 million in NOVA in FY 2021-22. The cost includes all the college and student costs.

### Social benefits in Virginia from NOVA



Source: Lightcast impact model.

## NOVA student spotlight: From maintenance to administration

Anthony DeJesus is an NPS employee who took his career to the next level after earning an AAS in biology from NOVA. After years of work in the state and federal park systems, Anthony found himself drawn to higher education and the dream of advancement within the space he loves—the National Park Service.

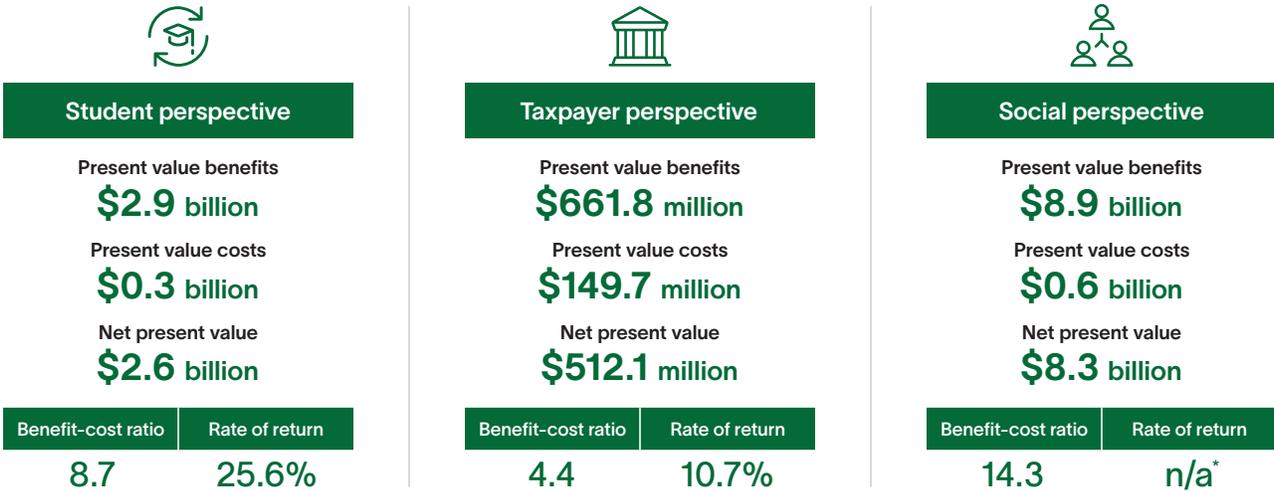
"At 16, I left New York to live with family in Miami. It was here that my love of nature was able to flourish. The Florida Everglades became my second home, and I spent my free time observing and learning from the environment around me. I started working at John Pennekamp Coral Reef State Park, a small park in the Florida Keys that gave me my start. From there, I worked at multiple locations across the U.S. I currently work at Manassas National Battlefield Park, which happens to be conveniently located right across the road from NOVA's Manassas Campus. When I started taking classes, I worked for NPS maintenance, and I knew a degree could advance my role in the NPS. Once I earned my degree, I was able to move from the maintenance division into administration. I want to especially thank Dr. Tupper, professor of zoology, and Dr. B, my biology professor."



The benefit-cost ratio for society is 14.3, equal to the \$8.9 billion in benefits divided by the \$622.5 million in costs. In other words, for every dollar invested in NOVA, people in Virginia will receive a cumulative value of \$14.30 in benefits. The benefits of this investment will occur for as long as NOVA's FY 2021-22 students remain employed in the Virginia 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 an education from NOVA. 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.



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

# 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 2021-22 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 Lightcast'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.

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Lightcast provides colleges and universities with labor market data that help create better outcomes for students, businesses, and communities. Our data, which cover more than 99% of the U.S. workforce, are compiled from a wide variety of government sources, job postings, and online profiles and résumés. Hundreds of institutions use Lightcast to align programs with regional needs, drive enrollment, connect students with in-demand careers, track their alumni's employment outcomes, and demonstrate their institution's economic impact on their region. Visit [lightcast.io/solutions/education](https://lightcast.io/solutions/education) to learn more or connect with us.