



The Economic Value of Appalachian State University to North Carolina



APPALACHIAN STATE UNIVERSITY (App State) creates value in many ways. The university plays a key role in helping students increase their employability and achieve their individual potential. The university draws visitors and students to the state, generating new dollars and opportunities for North Carolina. App State provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Its student and employee volunteers support the state economy through the output and employment generated by state businesses and organizations. Furthermore, App State is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

App State influences both the lives of its students and the state economy. The university supports a variety of industries in North Carolina, serves state businesses, and benefits society as a whole in North Carolina from an expanded economy and improved quality of life. Additionally, the benefits created by App State extend to the state and local government through increased tax revenues and public sector savings.

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

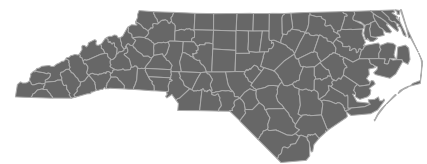


Economic impact analysis



Investment analysis

All results reflect employee, student, and financial data, provided by the university, for fiscal year (FY) 2021-22. Impacts on the North Carolina 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 North Carolina are reported under the investment analysis.



North Carolina

App State influences both the **lives of its students** and the **state economy**.



Economic impact analysis



App State promotes economic growth in North Carolina through its direct expenditures and the resulting expenditures of visitors, students, and state businesses. The university serves as an employer and buyer of goods and services for its day-to-day and construction operations. The university's reputation and activities attract visitors and students from outside North Carolina, whose expenditures benefit state vendors. Further, App State encourages its students and employees to volunteer in the community, helping businesses and organizations grow. In addition, App State is one of the primary sources of higher education to North Carolina residents and a supplier of trained workers to state industries, enhancing overall productivity in the state workforce.

Operations spending impact



App State adds economic value to North Carolina as an employer of state residents and a large-scale buyer of goods and services. In FY 2021-22, the university employed 3,232 full-time and part-time faculty and staff, 92% of whom lived in North Carolina. Total payroll at App State was \$246.9 million, much of which was spent in the state for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the university spent \$190.6 million on day-to-day expenses related to facilities, supplies, and professional services (excluding construction expenditures).

App State's day-to-day operations spending added \$275.9 million in income to the state during the analysis year. This figure represents the university's payroll, the multiplier effects generated by the in-state spending of the university and its employees, and a downward adjustment to account for funding that the university received from state sources. The \$275.9 million in added income is equivalent to supporting 3,056 jobs in the state.

Construction spending impact



App State invests in construction each year to maintain and renovate its facilities, create additional building 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 state economy. In FY 2021-22, App State's construction spending generated \$34.6 million in added income, which is equivalent to supporting 600 jobs.

Impacts created by App State in FY 2021-22



Operations spending impact

\$275.9 million

+



Construction spending impact

\$34.6 million

+



Visitor spending impact

\$6.5 million

+



Student spending impact

\$32.6 million

+



Volunteerism impact

\$5.2 million

+



Alumni impact

\$1.9 billion



Total economic impact

\$2.2 billion

OR

Jobs supported

29,866



Visitor spending impact



Tens of thousands of visitors from outside the state were attracted to App State during the analysis year to attend sports and entertainment events, commencement, orientation, camps, business conferences, and other activities sponsored by the university. While in the state, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the university's out-of-state visitors generated a net impact of \$6.5 million in added income for the state economy in FY 2021-22. This \$6.5 million in added income is equivalent to supporting 105 jobs.

Student spending impact



Around 8% of students attending App State originated from outside the state in FY 2021-22. All these students relocated to North Carolina to attend App State. These students may not have come to the state if the university did not exist. In addition, some in-state students, referred to as retained students, would have left North Carolina if not for the existence of App State. While attending the university, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$32.6 million in added income for the state economy in FY 2021-22, which supported 572 jobs in North Carolina.

Volunteerism impact



App State encourages its students and employees to volunteer in North Carolina, where they can work with businesses and organizations to help meet their goals. The work of these student and employee volunteers allows businesses and organizations to grow, increasing their output and impacting the economy at large. The work of App State student and employee volunteers is equivalent to \$2.2 million in earnings.* In terms of actual impact to the North Carolina economy, App State student and employee volunteers generated an impact of \$5.2 million in added income for the state in FY 2021-22, equivalent to supporting 189 jobs.

Alumni impact



The education and training App State provides for state residents has the greatest impact. Since the establishment of the university, students have studied at App State and entered the state workforce with greater knowledge and new skills. Today, tens of thousands of former App State students are employed in North Carolina. As a result of their education from App State, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2021-22, App State alumni generated \$1.9 billion in added income for the state economy, which is equivalent to supporting 25,343 jobs.

* By state value per volunteer hour was provided by Independent Sector (see https://independentsector.org/resource/vovt_details/).

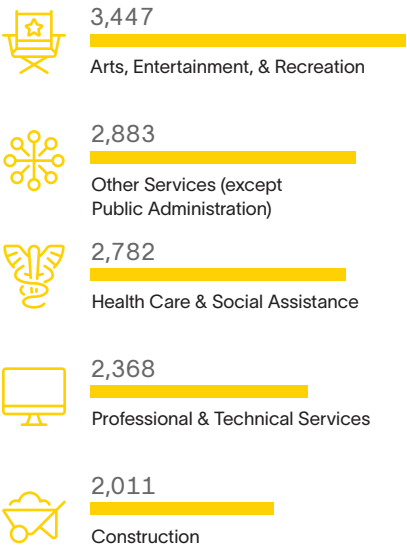


Total impact

App State added \$2.2 billion in income to the North Carolina economy during the analysis year, equal to the sum of the operations and construction spending impacts; the visitor and student spending impacts; the volunteerism impact; and the alumni impact. For context, the \$2.2 billion impact was equal to approximately 0.3% of the total gross state product (GSP) of North Carolina. This contribution that the university provided on its own is over a third of the entire Arts, Entertainment, & Recreation industry in the state.

App State’s total impact can also be expressed in terms of jobs supported. The \$2.2 billion impact supported 29,866 state jobs, using the jobs-to-sales ratios specific to each industry in the state. In addition, the \$2.2 billion, or 29,866 supported jobs, stemmed from different industry sectors. For instance, among non-education industry sectors, the activities of App State and its alumni in the Arts, Entertainment, & Recreation industry sector supported 3,447 jobs in FY 2021-22. If the university did not exist, these impacts would not have been generated in North Carolina.

App State impacts by industry (jobs supported)





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 App State as an investment from the perspectives of students, taxpayers, and society in North Carolina.

Student perspective



In FY 2021-22, App State served 19,955 students. In order to attend the university, 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 App State’s students in FY 2021-22 amounted to a present value of \$331.3 million, equal to \$153.3 million in out-of-pocket expenses (including future principal and interest on student loans) and \$178 million in forgone time and money.

In return for their investment, App State’s students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average App State bachelor’s degree graduate from FY 2021-22 will see annual earnings that are \$31,100 higher than a person with a high school diploma or equivalent working in North Carolina. Over a working lifetime, the benefits of the bachelor’s degree over a high school diploma will amount to an undiscounted value of \$1.4 million in higher earnings per graduate. The present value of the cumulative higher future earnings that App State’s FY 2021-22 students will receive over their working careers is \$1.9 billion.

The students’ benefit-cost ratio is 5.8. In other words, for every dollar students invest in App State in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$5.80 in higher future earnings. Annually, the students’ investment in App State has an average annual internal rate of return of 17.8%, 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 for their investment in App State



Average annual return for App State students
17.8%



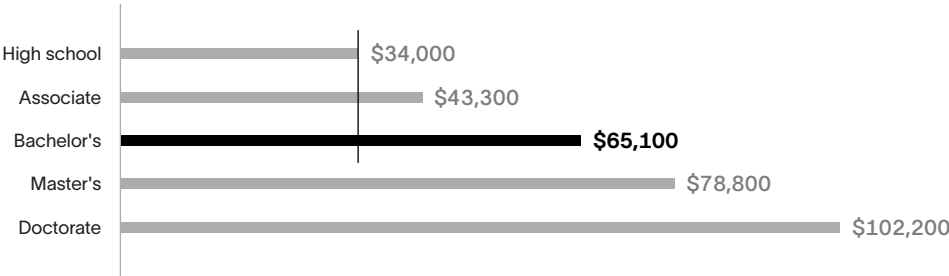
Stock market 30-year average annual return
9.6%



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

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

The average bachelor’s degree graduate from App State will see an increase in earnings of **\$31,100** each year compared to a person with a high school diploma or equivalent working in North Carolina.



Source: Lightcast employment data.

Taxpayer perspective



App State 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 the state. As App State 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 \$528.4 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of App State students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The education that App State students receive will generate savings in three main categories: 1) health care, 2) justice system, and 3) income assistance. Improved health will lower students' demand for national health care services. In addition, costs related to the justice system will decrease. App State 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 university for a copy of the main report. Altogether, the present value of the benefits associated with an education from App State will generate \$81.1 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$609.5 million, the present value sum of the added tax revenue and public sector savings. Taxpayer costs are \$189.5 million, equal to the amount of state and local government funding App State received in FY 2021-22. These benefits and costs yield a benefit-cost ratio of 3.2. This means that for every dollar of public money invested in App State in FY 2021-22, taxpayers will receive a cumulative present value of \$3.20 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 7.1%, which compares favorably to other long-term investments in the public sector.

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

Social perspective



Society as a whole in North Carolina benefits from the presence of App State in two major ways. Primarily, society benefits from an increased economic base in the state. 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 North Carolina.

Benefits to society also consist of the savings generated by the improved lifestyles of App State 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. Health care 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 university for a copy of the main report.

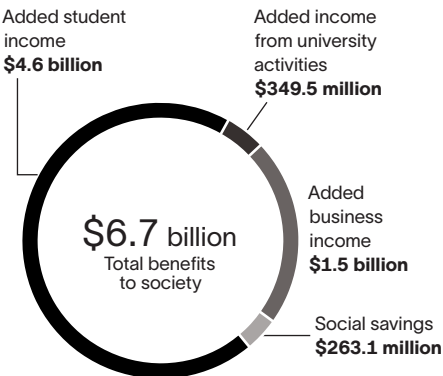
Altogether, the social benefits of App State equal a present value of \$6.7 billion. These benefits include \$4.6 billion in added student income, \$1.5 billion in added business income, \$349.5 million in added income from university activities, as well as \$263.1 million in social savings related to health, the justice system, and income assistance in North Carolina. People in North Carolina invested a present value total of \$741.1 million in App State in FY 2021-22. The cost includes all the university and student costs.

The benefit-cost ratio for society is 9.0, equal to the \$6.7 billion in benefits divided by the \$741.1 million in costs. In other words, for every dollar invested in App State, people in North Carolina will receive a cumulative value of \$9.00 in benefits. The benefits of this investment will occur for as long as App State’s FY 2021-22 students remain employed in the state workforce.


Summary of investment analysis results

The results of the analysis demonstrate that App State 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 App State. At the same time, taxpayers’ investment in App State returns more to government budgets than it costs and creates a wide range of social benefits throughout North Carolina.

Social benefits in North Carolina from App State



Source: Lightcast impact model.



Student perspective

Present value benefits

\$1.9 billion

Present value costs

\$0.3 billion

Net present value

\$1.6 billion

Benefit-cost ratio	Rate of return
5.8	17.8%



Taxpayer perspective

Present value benefits

\$609.5 million


Present value costs

\$189.5 million

Net present value

\$420.0 million

Benefit-cost ratio	Rate of return
3.2	7.1%



Social perspective

Present value benefits

\$6.7 billion

Present value costs

\$0.7 billion

Net present value

\$5.9 billion

Benefit-cost ratio	Rate of return
9.0	n/a*

* 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 App State creates value from multiple perspectives. The university benefits state businesses by increasing consumer spending in the state and supplying a steady flow of qualified, trained workers to the workforce. App State enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The university benefits state and local taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, App State benefits society as a whole in North Carolina 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 App State, 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 university for a copy of the main report.

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



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 to learn more or connect with us.