



# The Economic Value of Guilford Technical Community College



**G**UILFORD TECHNICAL COMMUNITY COLLEGE (GTCC) 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 county, generating new dollars and opportunities for Guilford County. GTCC provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, GTCC is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

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

This study measures the economic impacts created by GTCC 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:

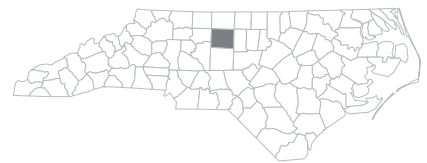


### Economic impact analysis



### Investment analysis

All results reflect employee, student, and financial data, provided by the college, for fiscal year (FY) 2019-20. Impacts on the Guilford County 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.



GUILFORD COUNTY, NC

GTCC influences both the **lives of its students** and the **county economy**.



GTCC promotes economic growth in Guilford County through its direct expenditures and the resulting expenditures of students and county 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 attract students from outside Guilford County, whose expenditures benefit county vendors. In addition, GTCC is a primary source of higher education to Guilford County residents and a supplier of trained workers to county industries, enhancing overall productivity in the county workforce.

## Operations spending impact



GTCC adds economic value to Guilford County as an employer of county residents and a large-scale buyer of goods and services. In FY 2019-20, the college employed 1,596 full-time and part-time faculty and staff, 66% of whom lived in Guilford County. Total payroll at GTCC was \$55.3 million, much of which was spent in the county for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the college spent \$42.9 million on day-to-day expenses related to facilities, supplies, and professional services.

GTCC’s day-to-day operations spending added \$78.3 million in income to the county during the analysis year. This figure represents the college’s payroll, the multiplier effects generated by the in-county spending of the college and its employees, and a downward adjustment to account for funding that the college received from county sources. The \$78.3 million in added income is equivalent to supporting 1,824 jobs in the county.

## Construction spending impact



GTCC 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 county economy. In FY 2019-20, GTCC’s construction spending generated \$6.7 million in added income, which is equivalent to supporting 96 jobs.

### IMPACTS CREATED BY GTCC IN FY 2019-20



Operations spending impact

**\$78.3 million**



Construction spending impact

**\$6.7 million**



Student spending impact

**\$19.2 million**



Alumni impact

**\$438.7 million**



TOTAL ECONOMIC IMPACT

**\$542.9 million**

OR

Jobs supported

**8,662**

## Student spending impact



Around 30% of students attending GTCC originated from outside the county in FY 2019-20, and some of these students relocated to Guilford County to attend GTCC. These students may not have come to the county if the college did not exist. In addition, some in-county students, referred to as retained students, would have left Guilford County if not for the existence of GTCC. While attending the college, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$19.2 million in added income for the county economy in FY 2019-20, which supported 430 jobs in Guilford County.

## Alumni impact



The education and training GTCC provides for county residents has the greatest impact. Since its establishment, students have studied at GTCC and entered the county workforce with greater knowledge and new skills. Today, thousands of former GTCC students are employed in Guilford County. As a result of their education from GTCC, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2019-20, GTCC alumni generated \$438.7 million in added income for the county economy, which is equivalent to supporting 6,312 jobs.

## Total impact

GTCC added \$542.9 million in income to the Guilford County 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 \$542.9 million impact was equal to approximately 1.6% of the total gross regional product (GRP) of Guilford County. This contribution that the college provided on its own college was over half the size of Real Estate & Rental & Leasing in the county.

GTCC's total impact can also be expressed in terms of jobs supported. The \$542.9 million impact supported 8,662 county jobs, using the jobs-to-sales ratios specific to each industry in the county. This means that one out of every 44 jobs in Guilford County is supported by the activities of GTCC and its students. In addition, the \$542.9 million, or 8,662 supported jobs, stemmed from different industry sectors. Among non-education industry sectors, GTCC's spending and alumni in the Health Care & Social Assistance industry sector supported 976 jobs in FY 2019-20. If the college did not exist, these impacts would not have been generated in Guilford County.

### GTCC IMPACTS BY INDUSTRY (JOBS SUPPORTED)



**One out of every 44 jobs** in Guilford County is supported by the activities of GTCC and its students.



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

## Student perspective



In FY 2019-20, GTCC served 14,710 credit and 15,095 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 GTCC's students in FY 2019-20 amounted to a present value of \$110.2 million, equal to \$13.2 million in out-of-pocket expenses (including future principal and interest on student loans) and \$97 million in forgone time and money.

In return for their investment, GTCC's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average GTCC associate degree graduate from FY 2019-20 will see annual earnings that are \$8,500 higher than a person with a high school diploma or equivalent working in North Carolina. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$297.5 thousand in higher earnings per graduate. The present value of the cumulative higher future earnings that GTCC's FY 2019-20 students will receive over their working careers is \$428.1 million.

The students' benefit-cost ratio is 3.9. In other words, for every dollar students invest in GTCC in the form of out-of-pocket expenses and forgone time and

### STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN GTCC



Average annual return for GTCC students

**21.0%**



Stock market 30-year average annual return

10.6%

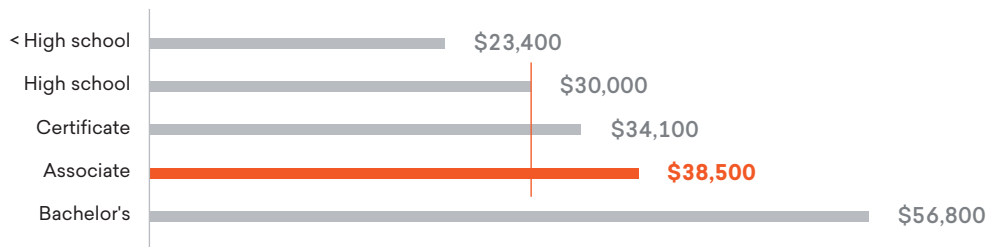


Interest earned on savings account (National Rate Cap)

0.8%

Source: Forbes' S&P 500, 1991-2020. FDIC.gov, 6-2021.

The average associate degree graduate from GTCC will see an increase in earnings of **\$8,500** each year compared to a person with a high school diploma or equivalent working in North Carolina.



Source: Emsi Burning Glass employment data.

money, they will receive a cumulative value of \$3.90 in higher future earnings. Annually, the students' investment in GTCC has an average annual internal rate of return of 21.0%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.6%.

## Taxpayer perspective



GTCC 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 cre-

ated in the state. As GTCC 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 2019-20 students' working lives, the state and local government will have collected a present value of \$137.7 million in added taxes.

For every dollar of public money invested in GTCC, taxpayers will receive a cumulative value of **\$2.10** over the course of the students' working lives.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of GTCC students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The educations that GTCC students receive will generate savings in three main categories: 1) healthcare, 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. GTCC 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 GTCC education will generate \$9.7 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$147.5 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$69 million, equal to the amount of state and local government funding GTCC received in FY 2019-20. These benefits and costs yield a benefit-cost ratio of 2.1. This means that for every dollar of public money invested in GTCC in FY 2019-20, taxpayers will receive a cumulative present value of \$2.10 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 6.7%, which compares favorably to other long-term investments in the public and private sectors.

## Social perspective



Society as a whole in North Carolina benefits from the presence of GTCC in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to the added income

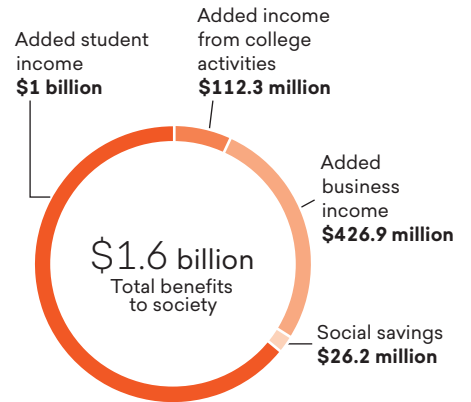
from students' increased lifetime earnings (added student income) and increased business output (added business income), which raise economic prosperity in North Carolina.

Benefits to society also consist of the savings generated by the improved lifestyles of GTCC 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 GTCC equal a present value of \$1.6 billion. These benefits include \$1.0 billion in added student income, \$426.9 million in added business income, \$112.3 million in added income from college activities, as well as \$26.2 million in social savings related to health, crime, and income assistance in North Carolina. People in North Carolina invested a present value total of \$220.9 million in GTCC in FY 2019-20. The cost includes all the college and student costs.

The benefit-cost ratio for society is 7.2, equal to the \$1.6 billion in benefits divided by the \$220.9 million in costs. In other words, for every dollar invested in GTCC, people in North Carolina will receive a cumulative value of \$7.20 in benefits. The benefits of this investment will occur for as long as GTCC's FY 2019-20 students remain employed in the state workforce.

SOCIAL BENEFITS IN NORTH CAROLINA FROM GTCC



Source: Emsi Burning Glass impact model.

## Summary of investment analysis results

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

STUDENT PERSPECTIVE		TAXPAYER PERSPECTIVE		SOCIAL PERSPECTIVE	
Present value benefits	<b>\$428.1 million</b>	Present value benefits	<b>\$147.5 million</b>	Present value benefits	<b>\$1.6 billion</b>
Present value costs	<b>\$110.2 million</b>	Present value costs	<b>\$69.0 million</b>	Present value costs	<b>\$220.9 million</b>
Net present value	<b>\$317.9 million</b>	Net present value	<b>\$78.5 million</b>	Net present value	<b>\$1.4 million</b>
Benefit-cost ratio	<b>3.9</b>	Benefit-cost ratio	<b>2.1</b>	Benefit-cost ratio	<b>7.2</b>
Rate of return	<b>21.0%</b>	Rate of return	<b>6.7%</b>	Rate of return	<b>n/a*</b>

\* 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 GTCC creates value from multiple perspectives. The college benefits county businesses by increasing consumer spending in the county and supplying a steady flow of qualified, trained workers to the workforce. GTCC 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, GTCC 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 2019-20 academic and financial reports from GTCC, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Emsi Burning Glass'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 GTCC creates value from **multiple perspectives**.



Emsi Burning Glass provides colleges and universities with labor market data that helps 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 Emsi Burning Glass 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 [economicmodeling.com/higher-education](http://economicmodeling.com/higher-education) to learn more or connect with us.