



The Economic Value of Guilford Technical Community College

EXECUTIVE SUMMARY



GUILFORD 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. The benefits created by GTCC even 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) 2017-18. 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.

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



Economic impact analysis

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 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 2017-18, the college employed 1,886 full-time and part-time faculty and staff, 69% of whom lived in Guilford County. Total payroll at GTCC was \$55.1 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 \$46.3 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 2,246 jobs in the county.

Construction Spending Impact



GTCC commissioned contractors to build or renovate its facilities in FY 2017-18. The quick infusion of income and jobs that occurred in the county 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 county economy in FY 2017-18, equal to \$7.4 million in added income and equivalent to supporting 109 jobs.

Student Spending impact



Around 28% of credit students attending GTCC originated from outside the county in FY 2017-18, and some of these students relocated to Guilford County to attend GTCC. These students may not

IMPACTS CREATED BY GTCC
IN FY 2017-18



\$78.3 million
Operations Spending Impact



\$7.4 million
Construction Spending Impact



\$34.8 million
Student Spending Impact



\$926.6 million
Alumni Impact



\$1 billion
TOTAL IMPACT

- OR -

15,086
JOBS SUPPORTED

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 \$34.8 million in added income for the county economy in FY 2017-18, which supported 652 jobs in Guilford County.

Alumni Impact



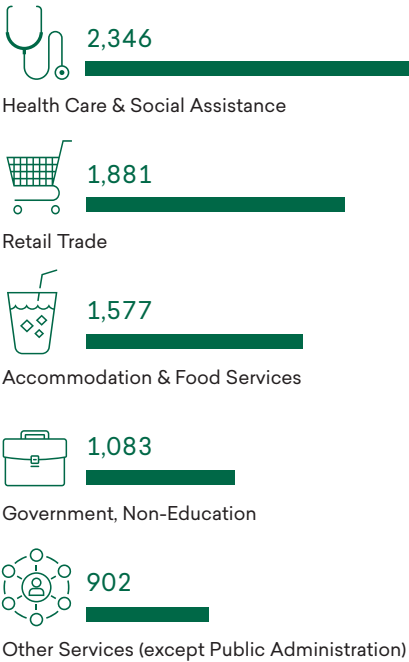
The education and training GTCC provides for county residents has the greatest impact. Since its establishment, students have studied at GTCC and entered the county workforce with greater knowledge and new skills. Today, hundreds of thousands of former GTCC students are employed in Guilford County. As a result of their GTCC educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2017-18, GTCC alumni generated \$926.6 million in added income for the county economy, which is equivalent to supporting 12,080 jobs.

Total Impact

GTCC added \$1 billion 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 \$1 billion impact was equal to approximately 3.0% of the total gross regional product (GRP) of Guilford County. This contribution that the college provided on its own was almost as large as the entire Real Estate & Rental & Leasing industry in the county.

GTCC’s total impact can also be expressed in terms of jobs supported. The \$1 billion impact supported 15,086 county jobs, using the jobs-to-sales ratios specific to each industry in the county. This means that one out of every 25 jobs in Guilford County is supported by the activities of GTCC and its students. In addition, the \$1 billion, or 15,086 supported jobs, impacted county industries in different ways. Among non-education industry sectors, GTCC supported the most jobs in the Health Care & Social Assistance industry sector – supporting 2,346 jobs in FY 2017-18. These are impacts that would not have been generated without the college’s presence in Guilford County.

TOP INDUSTRIES IMPACTED BY GTCC (JOBS SUPPORTED)



One out of every 25 jobs in Guilford County is supported by the activities of GTCC 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 GTCC as an investment from the perspectives of students, taxpayers, and society in North Carolina.

Student perspective



In FY 2017-18, GTCC served 13,641 credit and 19,145 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 2017-18 amounted to a present value of \$157.8 million, equal to \$14.9 million in out-of-pocket expenses (including future principal and interest on student loans) and \$142.9 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 2017-18 will see an increase in earnings of \$9,100 each year compared to 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 \$300.3 thousand in higher earnings per graduate. Altogether, GTCC's FY 2017-18 students will receive \$616.6 million in higher future earnings over their working lives, as a result of their education and training at GTCC.

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



22.2%

Average annual return for GTCC students



10.1%

Stock market 30-year average annual return

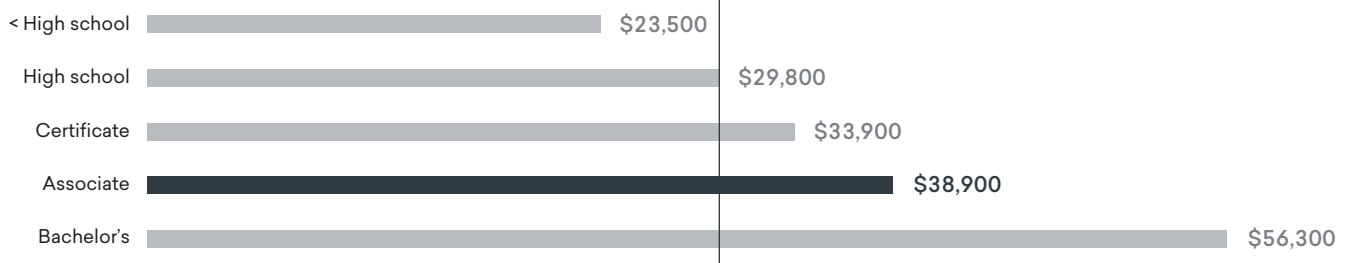


0.8%

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 GTCC will see an increase in earnings of **\$9,100** each year compared to a person with a high school diploma or equivalent working in North Carolina.



Source: Emsi complete employment data.

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 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 22.2%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

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 created 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 2017-18 students' working lives, the state and local government will have collected a present value of \$264.9 million in added taxes.

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. Students' GTCC 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. 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 \$13.6 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$278.5 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$77.1 million, equal to the amount of state and local government funding GTCC received in FY 2017-18. These benefits and costs yield a benefit-cost ratio of 3.6. This means that for every dollar of public money invested in GTCC in FY 2017-18,

*For every dollar of public money invested in GTCC, taxpayers will receive a cumulative value of **\$3.60** over the course of the students' working lives.*



STUDENT PERSPECTIVE

\$616.6 million
Present value benefits

\$157.8 million
Present value costs

\$458.8 million
Net present value

Benefit-cost Ratio	Rate of Return
3.9	22.2%



TAXPAYER PERSPECTIVE

\$278.5 million
Present value benefits

\$77.1 million
Present value costs

\$201.4 million
Net present value

Benefit-cost Ratio	Rate of Return
3.6	13.2%



SOCIAL PERSPECTIVE

\$3.1 billion
Present value benefits

\$280.3 million
Present value costs

\$2.8 billion
Net present value

Benefit-cost Ratio	Rate of Return
11.0	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 \$3.60 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 13.2%, 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 higher student earnings and increased business output, 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. 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.

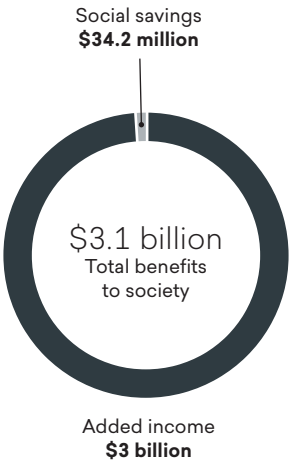
Altogether, the social benefits of GTCC equal a present value of \$3.1 billion. These benefits include \$3 billion in added income through students' increased lifetime earnings and increased business output, as well as \$34.2 million in social savings related to health, crime, and income assistance in North Carolina. People in North Carolina invested a present value total of \$280.3 million in GTCC in FY 2017-18. The cost includes all the college and student costs.

The benefit-cost ratio for society is 11.0, equal to the \$3.1 billion in benefits divided by the \$280.3 million in costs. In other words, for every dollar invested in GTCC, people in North Carolina will receive a cumulative value of \$11.00 in benefits. The benefits of this investment will occur for as long as GTCC's FY 2017-18 students remain employed in the state workforce.

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.

SOCIAL BENEFITS IN NORTH CAROLINA FROM GTCC



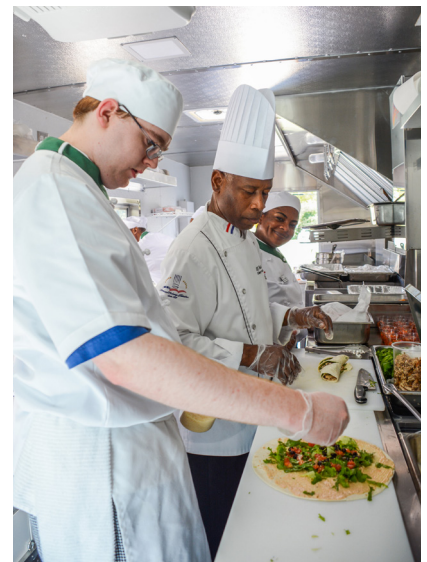
Conclusion

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 2017-18 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'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.



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