



The Economic Value of Wake Technical Community College



WAKE TECHNICAL COMMUNITY COLLEGE (WTCC) 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 Wake County. WTCC provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, WTCC is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

WTCC influences both the lives of its students and the county economy. The college supports a variety of industries in Wake 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 WTCC extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by WTCC 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 Wake 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.



WAKE COUNTY, NC

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



WTCC promotes economic growth in Wake 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 Wake County, whose expenditures benefit county vendors. In addition, WTCC is a primary source of higher education to Wake County residents and a supplier of trained workers to county industries, enhancing overall productivity in the county workforce.

Operations spending impact



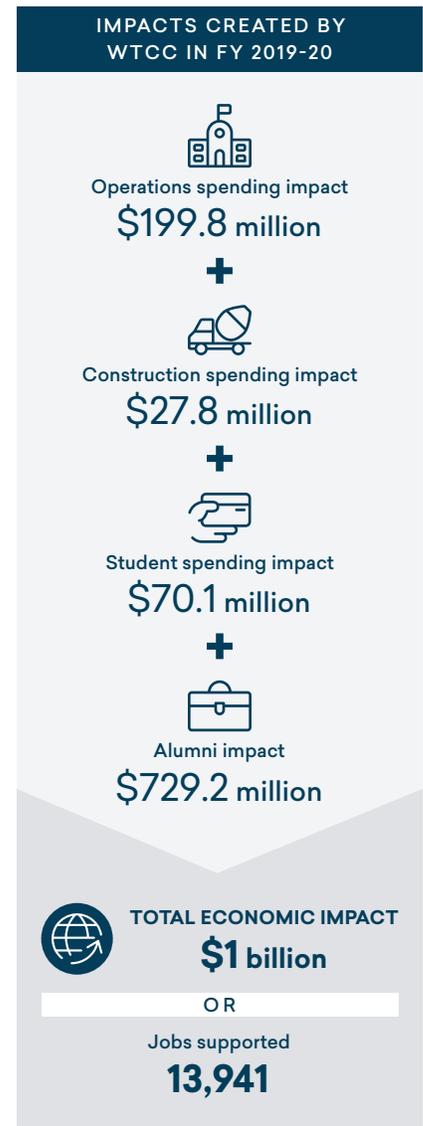
WTCC adds economic value to Wake County as an employer of county residents and a large-scale buyer of goods and services. In FY 2019-20, the college employed 2,490 full-time and part-time faculty and staff, 78% of whom lived in Wake County. Total payroll at WTCC was \$137.2 million, much of which was spent in the county for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the college spent \$73.2 million on day-to-day expenses related to facilities, supplies, and professional services.

WTCC's day-to-day operations spending added \$199.8 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 \$199.8 million in added income is equivalent to supporting 2,987 jobs in the county.

Construction spending impact



WTCC 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, WTCC's construction spending generated \$27.8 million in added income, which is equivalent to supporting 370 jobs.



Student spending impact



Around 25% of students attending WTCC originated from outside the county in FY 2019-20, and some of these students relocated to Wake County to attend WTCC. 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 Wake County if not for the existence of WTCC. While attending the college, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$70.1 million in added income for the county economy in FY 2019-20, which supported 1,448 jobs in Wake County.

Alumni impact



The education and training WTCC provides for county residents has the greatest impact. Since its establishment, students have studied at WTCC and entered the county workforce with greater knowledge and new skills. Today, hundreds of thousands of former WTCC students are employed in Wake County. As a result of their education from WTCC, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2019-20, WTCC alumni generated \$729.2 million in added income for the county economy, which is equivalent to supporting 9,136 jobs.

Total impact

WTCC added \$1 billion in income to the Wake 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 1.3% of the total gross regional product (GRP) of Wake County. This contribution that the college provided on its own was nearly as large as the entire Transportation & Warehousing industry in the county.

WTCC's total impact can also be expressed in terms of jobs supported. The \$1 billion impact supported 13,941 county jobs, using the jobs-to-sales ratios specific to each industry in the county. This means that one out of every 56 jobs in Wake County is supported by the activities of WTCC and its students. In addition, the \$1 billion, or 13,941 supported jobs, stemmed from different industry sectors. Among non-education industry sectors, WTCC's spending and alumni in the Retail Trade industry sector supported 1,483 jobs in FY 2019-20. If the college did not exist, these impacts would not have been generated in Wake County.

WTCC IMPACTS BY INDUSTRY (JOBS SUPPORTED)



One out of every 56 jobs in Wake County is supported by the activities of WTCC 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 WTCC as an investment from the perspectives of students, taxpayers, and society in North Carolina.

Student perspective



In FY 2019-20, WTCC served 30,953 credit and 36,286 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 WTCC's students in FY 2019-20 amounted to a present value of \$365.7 million, equal to \$54.7 million in out-of-pocket expenses (including future principal and interest on student loans) and \$311 million in forgone time and money.

In return for their investment, WTCC's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average WTCC associate degree graduate from FY 2019-20 will see annual earnings that are \$9,800 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 \$343 thousand in higher earnings per graduate. The present value of the cumulative higher future earnings that WTCC's FY 2019-20 students will receive over their working careers is \$1.2 billion.

The students' benefit-cost ratio is 3.2. In other words, for every dollar students invest in WTCC in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$3.20 in higher future earnings.

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



Average annual return for WTCC students

17.9%



Stock market 30-year average annual return

10.6%

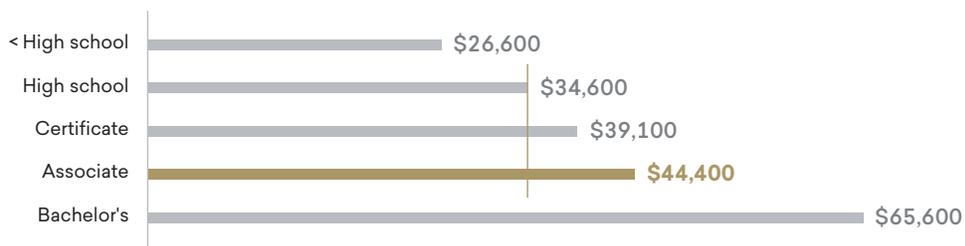


Interest earned on savings account (National Rate Cap)

0.8%

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

The average associate degree graduate from WTCC will see an increase in earnings of **\$9,800** each year compared to a person with a high school diploma or equivalent working in North Carolina.



Source: Emsi Burning Glass employment data.

Annually, the students' investment in WTCC has an average annual internal rate of return of 17.9%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.6%.

Taxpayer perspective



WTCC 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 WTCC 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 \$369.8 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of WTCC students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes.

The educations that WTCC 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. WTCC 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 WTCC education will generate \$22.1 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$391.9 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$177 million, equal to the amount of state and local government funding WTCC received in FY 2019-20. These benefits and costs yield a benefit-cost ratio of 2.2. This means that for every dollar of public money invested in WTCC in FY 2019-20, taxpayers will receive a cumulative present value of \$2.20 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 7.3%, which compares favorably to other long-term investments in the public and private sectors.

For every dollar of public money invested in WTCC, taxpayers will receive a cumulative value of **\$2.20** over the course of the students' working lives.

Social perspective



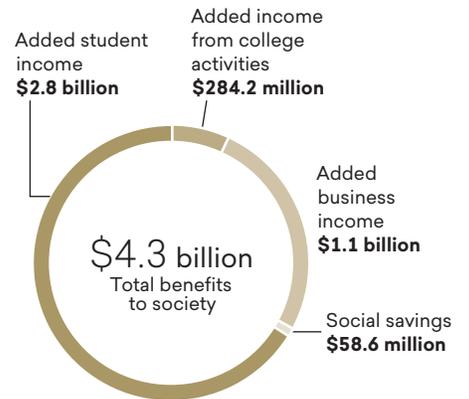
Society as a whole in North Carolina benefits from the presence of WTCC in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to the added income from students' increased lifetime earnings (added student income) and increased business output (added business income), which raise economic prosperity in North Carolina.

Benefits to society also consist of the savings generated by the improved lifestyles of WTCC 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 WTCC equal a present value of \$4.3 billion. These benefits include \$2.8 billion in added student income, \$1.1 billion in added business income, \$284.2 million in added income from college activities, as well as \$58.6 million in social savings related to health, crime, and income assistance in North Carolina. People in North Carolina invested a present value total of \$606.8 million in WTCC in FY 2019-20. The cost includes all the college and student costs.

The benefit-cost ratio for society is 7.0, equal to the \$4.3 billion in benefits divided by the \$606.8 million in costs. In other words, for every dollar invested in WTCC, people in North Carolina will receive a cumulative value of \$7.00 in benefits. The benefits of this investment will occur for as long as WTCC's FY 2019-20 students remain employed in the state workforce.

SOCIAL BENEFITS IN NORTH CAROLINA FROM WTCC



Source: Emsi Burning Glass impact model.

Summary of investment analysis results

The results of the analysis demonstrate that WTCC 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 WTCC education. At the same time, taxpayers' investment in WTCC 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 \$1.2 billion		Present value benefits \$391.9 million		Present value benefits \$4.3 billion	
Present value costs \$365.7 million		Present value costs \$177 million		Present value costs \$606.8 million	
Net present value \$817.1 million		Net present value \$214.9 million		Net present value \$3.6 billion	
Benefit-cost ratio 3.2	Rate of return 17.9%	Benefit-cost ratio 2.2	Rate of return 7.3%	Benefit-cost ratio 7.0	Rate of return 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.

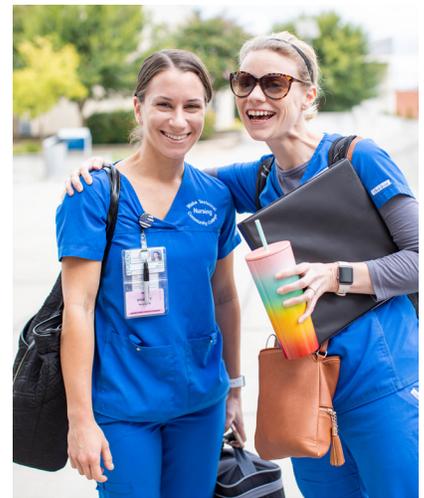
CONCLUSION

The results of this study demonstrate that WTCC 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. WTCC 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, WTCC 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 WTCC, 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 WTCC 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 to learn more or connect with us.