

The Economic Value of Norco College's Career and Technical Education





NORCO COLLEGE'S Career and Technical Education (NC's CTE) creates value in many ways. The college plays a key role in helping CTE students increase their employability and achieve their individual potential. The college draws CTE students to the region, generating new dollars and opportunities for the NC Service Area.¹ NC's CTE provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, NC's CTE is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

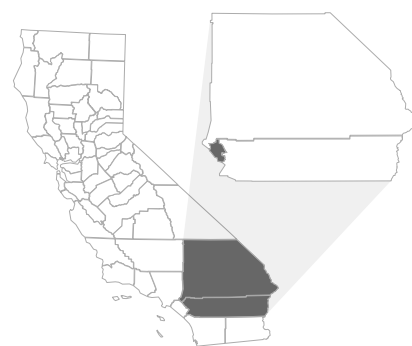
NC's CTE influences both the lives of its students and the regional economy. The college supports a variety of industries in the NC Service Area, serves regional businesses, and benefits society as a whole in California from an expanded economy and improved quality of life. Additionally, the benefits created by NC's CTE extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by NC's CTE on the business community and the benefits the college's CTE 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, specific to CTE and provided by the Riverside Community College District, for fiscal year (FY) 2023–24.² Impacts on the NC Service Area economy are reported under the economic impact analysis and are measured in terms of added income. The returns on investment to CTE students, taxpayers, and society in California are reported under the investment analysis.



**The NC Service Area
(in San Bernardino and
Riverside Counties, CA)**

NC's CTE influences both the **lives of its students** and the **regional economy**.

¹ For the purposes of this analysis, the NC Service Area is comprised of the following 12 zip codes in Riverside and San Bernadino Counties: 91708, 91752, 92503, 92505, 92860, 92877, 92878, 92879, 92880, 92881, 92882, and 92883.

² Due to data limitations, the number of CTE faculty and staff and CTE revenues and expenditures were estimated by Lightcast using a proportion based on CTE credits.



Economic impact analysis



NC's CTE promotes economic growth in the NC Service Area through its direct expenditures and the resulting expenditures of CTE students and regional businesses. The college serves as an employer and buyer of goods and services for its CTE operations. The college's CTE activities attract students from outside the NC Service Area, whose expenditures benefit regional vendors. In addition, NC's CTE is one of the primary sources of higher education to the NC Service Area residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

Operations spending impact



NC's CTE adds economic value to the NC Service Area as an employer of regional residents and a large-scale buyer of goods and services. In FY 2023-24, the college employed 77 full-time and part-time CTE faculty and staff, 20% of whom lived in the NC Service Area. Total payroll specific to NC's CTE was \$30.3 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 \$18.4 million on expenses related to CTE facilities, supplies, and professional services.

NC's CTE operations spending added \$34.3 million in income to the region during the analysis year. This figure represents the college's CTE payroll, the multiplier effects generated by the in-region CTE spending of the college and its employees, and a downward adjustment to account for funding received from regional sources. The \$34.3 million in added income is equivalent to supporting 116 jobs in the region.

Student spending impact



Around 40% of CTE students attending NC originated from outside the region in FY 2023-24, and some of these CTE students relocated to the NC Service Area to attend NC. These CTE students may not have come to the region if the college did not exist. In addition, some in-region CTE students, referred to as retained CTE students, would have left the NC Service Area if not for the existence of NC. While attending the college, these relocated and retained CTE students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$10.0 million in added income for the regional economy in FY 2023-24, which supported 156 jobs in the NC Service Area.

Impacts created by
NC's CTE in FY 2023-24



Operations spending impact

\$34.3 million

+



Student spending impact

\$10.0 million

+



Alumni impact

\$28.1 million



Total economic impact

\$72.4 million

OR



Jobs supported

653



Alumni impact



The education and training NC's CTE provides for regional residents has the most notable impact. Since the establishment of the college, CTE students have studied at NC and entered the regional workforce with greater knowledge and new skills. Today, thousands of former NC CTE students are employed in the NC Service Area. As a result of their education from NC, the CTE students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2023-24, NC's CTE alumni generated \$28.1 million in added income for the regional economy, which is equivalent to supporting 381 jobs.

Total impact

NC's CTE added \$72.4 million in income to the NC Service Area economy during the analysis year, equal to the sum of the operations spending impact, the student spending impact, and the alumni impact.

NC's CTE total impact can also be expressed in terms of jobs supported. The \$72.4 million impact supported 653 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. In addition, the \$72.4 million, or 653 supported jobs, stemmed from different industry sectors. For instance, among non-education industry sectors, the spending of NC's CTE and its CTE students and the activities of its alumni in the Professional & Technical Services industry sector supported 83 jobs in FY 2023-24. If the college did not exist, these impacts would not have been generated in the NC Service Area.

NC's CTE impacts by industry (jobs supported)



110

Accommodation & Food Services



83

Professional & Technical Services



64

Construction



62

Retail Trade



45

Health Care & Social Assistance

The **\$72.4 million** total impact supported **653 regional jobs**.



Investment analysis



An investment analysis evaluates the costs associated with a proposed venture against its expected benefits. The analysis presented here evaluates NC's CTE as an investment from the perspectives of students, taxpayers, and society in California. As with the economic impact analysis, this analysis considers only FY 2023-24 activities.

Student perspective



In FY 2023-24, NC's CTE served 6,399 credit students. In order to attend the college, the CTE students paid for tuition, fees, books, and supplies. Additionally, CTE students gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by NC's CTE students in FY 2023-24 amounted to a present value of \$22.0 million, equal to \$6.0 million in out-of-pocket expenses and \$16.0 million in forgone time and money.

In return for their investment, NC's CTE students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average associate degree graduate from FY 2023-24 will see annual earnings that are \$9,600 higher than a person with a high school diploma or equivalent working in California. Over a working lifetime, the benefits of an associate degree over a high school diploma will amount to an undiscounted value of \$393,600 in higher earnings per graduate. The present value of the cumulative higher future earnings that NC's FY 2023-24 CTE students will receive over their working careers is \$168.1 million.

The CTE students' benefit-cost ratio is 7.6. In other words, for every dollar CTE students invest in NC in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$7.60 in higher future earnings. Annually, the CTE students' investment in NC has an average annual internal rate of return of 22.4%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

CTE students see a high rate of return for their investment in NC's CTE



Average annual return for NC CTE students

22.4%



Stock market 30-year average annual return

10.1%



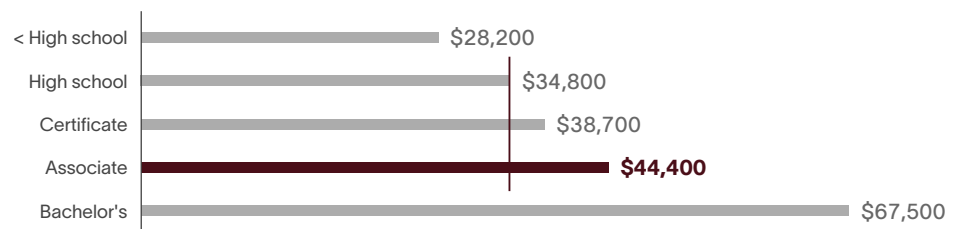
Interest earned on savings account (national deposit rate)

0.5%

Source: Forbes' S&P 500, 1994-2023; FDIC.gov, March 2023

Average earnings by education level at career midpoint

The average associate degree graduate from NC's CTE will see an increase in earnings of **\$9,600** each year compared to a person with a high school diploma or equivalent working in California.



Source: Lightcast employment data



Taxpayer perspective



NC's CTE 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 NC's CTE students will earn more, they will make higher tax payments throughout their working lives. CTE 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 2023-24 CTE students' working lives, the state and local government will have collected a present value of \$61.8 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of NC's CTE students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The education that NC's CTE students receive will generate savings in three main categories: 1) health care, 2) justice system, and 3) income assistance. Improved health will lower CTE students' demand for national health care services. In addition, costs related to the justice system will decrease. NC's CTE 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 NC's CTE will generate \$11.8 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$73.6 million, the present value sum of the added tax revenue and public sector savings. Taxpayer costs are \$38.2 million, equal to the amount of state and local government funding NC's CTE received in FY 2023-24. These benefits and costs yield a benefit-cost ratio of 1.9. This means that for every dollar of public money invested in NC's CTE in FY 2023-24, taxpayers will receive a cumulative present value of \$1.90 over the course of the CTE students' working lives. The average annual internal rate of return for taxpayers is 4.1%, which compares favorably to other long-term investments in the public sector.

For every dollar of public money invested in NC's CTE, taxpayers will receive a cumulative value of **\$1.90** over the course of the CTE students' working lives.

Social perspective



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

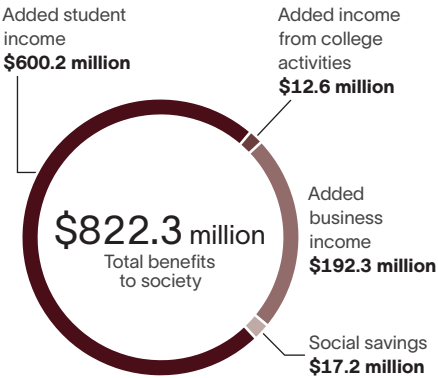
Benefits to society also consist of the savings generated by the improved lifestyles of NC's CTE students. As discussed in the previous section, education is statistically correlated with a variety of lifestyle changes that generate social savings. Note that these costs are avoided by the consumers but are distinct from the costs avoided by the taxpayers outlined above. Health care savings include avoided medical costs associated with smoking, obesity, substance 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.

Altogether, the social benefits of NC’s CTE equal a present value of \$822.3 million. These benefits include \$600.2 million in added CTE student income, \$192.3 million in added business income, \$12.6 million in added income from college activities, as well as \$17.2 million in social savings related to health, the justice system, and income assistance in California. People in California invested a present value total of \$68.9 million in NC’s CTE in FY 2023-24. The cost includes all the college and CTE student costs.

The benefit-cost ratio for society is 11.9, equal to the \$822.3 million in benefits divided by the \$68.9 million in costs. In other words, for every dollar invested in NC’s CTE, people in California will receive a cumulative value of \$11.90 in benefits. The benefits of this investment will occur for as long as NC’s FY 2023-24 CTE students remain employed in the state workforce.

Social benefits in California from NC’s CTE






Source: Lightcast impact model

Summary of investment analysis results

The results of the analysis demonstrate that NC’s CTE is a strong investment for all three major stakeholder groups—students, taxpayers, and society. As shown, CTE students receive a great return for their investments in an education from NC’s CTE. At the same time, taxpayers’ investment in NC’s CTE returns more to government budgets than it costs and creates a wide range of social benefits throughout California.

Summary of investment analysis results

 Student perspective	 Taxpayer perspective	 Social perspective
<div>Present value benefits</div> <div>\$168.1 million</div> <div>Present value costs</div> <div>\$22.0 million</div> <div>Net present value</div> <div>\$146.1 million</div>	<div>Present value benefits</div> <div>\$73.6 million</div> <div>Present value costs</div> <div>\$38.2 million</div> <div>Net present value</div> <div>\$35.3 million</div>	<div>Present value benefits</div> <div>\$822.3 million</div> <div>Present value costs</div> <div>\$68.9 million</div> <div>Net present value</div> <div>\$753.3 million</div>
<div>Benefit-cost ratio</div> <div>7.6</div> <div>Rate of return</div> <div>22.4%</div>	<div>Benefit-cost ratio</div> <div>1.9</div> <div>Rate of return</div> <div>4.1%</div>	<div>Benefit-cost ratio</div> <div>11.9</div> <div>Rate of return</div> <div>n/a*</div>

* 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 NC's CTE 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. NC's CTE enriches the lives of CTE 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, NC's CTE benefits society as a whole in California by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of CTE students.

About the study

Data and assumptions used in the study are based on several sources, including the FY 2023-24 academic and financial reports specific to NC's CTE from Riverside Community College District, 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 college-wide main report.



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.