



THE ECONOMIC IMPACT OF
**Cincinnati State Technical and
Community College**

EXECUTIVE SUMMARY

CINCINNATI State Technical and Community College (Cincinnati State) 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 region, generating new dollars and opportunities for the Cincinnati State Great Metropolitan Service Area. Cincinnati State provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, Cincinnati State is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

Cincinnati State influences both the lives of its students and the regional economy. The college supports a variety of industries in the Cincinnati State Great Metropolitan Service Area,¹ serves regional businesses, and benefits society as a whole in Ohio from an expanded economy and improved quality of life. The benefits created by Cincinnati State even extend to the state and local government through increased tax revenues and public sector savings.

This study measures the economic impacts created by Cincinnati State 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) 2015-16. Impacts on the Cincinnati State Great Metropolitan Service Area 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 Ohio are reported under the investment analysis. In addition, returns from Cincinnati State's Workforce Development Center (WDC) for the students and businesses are measured.



The value of Cincinnati State influences both the lives of its students and the regional economy.

¹ For the purposes of this analysis, the Cincinnati State Great Metropolitan Service Area as is comprised of Dearborn, Franklin, and Ohio Counties in Indiana; Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties in Kentucky; and Brown, Butler, Clermont, Clinton, Hamilton, and Warren, Counties in Ohio.



Economic impact analysis

Cincinnati State promotes economic growth in the Cincinnati State Great Metropolitan Service Area through its direct expenditures and the resulting expenditures of students and regional 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 the Cincinnati State Great Metropolitan Service Area, whose expenditures benefit regional vendors. In addition, Cincinnati State is a primary source of higher education to the Cincinnati State Great Metropolitan Service Area residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

Operations Spending Impact



Cincinnati State adds economic value to the Cincinnati State Great Metropolitan Service Area as an employer of regional residents and a large-scale buyer of goods and services. In FY 2015-16, the college employed 1,050 full-time and part-time faculty and staff, 99% of whom lived in the Cincinnati State Great Metropolitan Service Area. Total payroll at Cincinnati State was \$52.9 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 \$22.9 million on day-to-day expenses related to facilities, supplies, and professional services.

Cincinnati State's day-to-day operations spending added \$75 million in income to the region during the analysis year. This figure represents the college's payroll, the multiplier effects generated by the in-region spending of the college and its employees, and a downward adjustment to account for funding that the college received from regional sources. The \$75 million in added income is equivalent to supporting 1,383 jobs in the region.

Student Spending Impact



Around 15% of students attending Cincinnati State originated from outside the region in FY 2015-16, and some of these students relocated to the Cincinnati State Great Metropolitan Service Area to attend Cincinnati State. These students may not have come to the region if the college did not exist. In addition, some in-region students, referred to as retained students, would have left the Cincinnati State Great Metropolitan Service Area if not for the existence of Cincinnati State. While attending the college, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$10.3

IMPACTS CREATED BY CINCINNATI STATE IN FY 2015-16



\$75 million
Operations Spending Impact



\$10.3 million
Student Spending Impact



\$571.9 million
Alumni Impact



\$657.2 million
TOTAL IMPACT

- OR -

10,303
JOBS SUPPORTED

million in added income for the regional economy in FY 2015-16, which supported 206 jobs in the Cincinnati State Great Metropolitan Service Area.

Alumni Impact



The education and training Cincinnati State provides for regional residents has the greatest impact. Since its establishment, students have studied at Cincinnati State and entered the regional workforce with greater knowledge and new skills. It is estimated that 85% of Cincinnati State's alumni remain in the regional economy. Today, thousands of former Cincinnati State students are employed in the Cincinnati State Great Metropolitan Service Area. As a result of their Cincinnati State educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2015-16, Cincinnati State alumni generated \$571.9 million in added income for the regional economy, which is equivalent to supporting 8,714 jobs.

Total Impact

Cincinnati State added \$657.2 million in income to the Cincinnati State Great Metropolitan Service Area economy during the analysis year, equal to the sum of the operations spending impact, the student spending impact, and the alumni impact. For context, the \$657.2 million impact was equal to approximately 0.5% of the total gross regional product (GRP) of the Cincinnati State Great Metropolitan Service Area. This contribution that the college provided on its own is half the size of the entire Utilities industry in the region.

Cincinnati State's total impact can also be expressed in terms of jobs supported. The \$657.2 million impact supported 10,303 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. This means that one out of every 134 jobs in the Cincinnati State Great Metropolitan Service Area is supported by the activities of Cincinnati State and its students. In addition, the \$657.2 million, or 10,303 supported jobs, impacted regional industries in different ways. Among non-education industry sectors, Cincinnati State supported the most jobs in the Health Care & Social Assistance industry sector – supporting 1,945 jobs in FY 2015-16. These are impacts that would not have been generated without the college's presence in the Cincinnati State Great Metropolitan Service Area.

TOP INDUSTRIES IMPACTED BY CINCINNATI STATE (JOBS SUPPORTED)



One out of every 134 jobs in the Cincinnati State Great Metropolitan Service Area is supported by the activities of Cincinnati State 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 Cincinnati State as an investment from the perspectives of students, taxpayers, and society in Ohio.

Student perspective



In FY 2015-16, Cincinnati State served 10,168 credit and 4,993 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 Cincinnati State's students in FY 2015-16 amounted to a present value of \$110 million, equal to \$32.1 million in out-of-pocket expenses (including future principal and interest on student loans) and \$77.8 million in forgone time and money.

In return for their investment, Cincinnati State's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average Cincinnati State associate degree graduate from FY 2015-16 will see an increase in earnings of \$10,800 each year compared to a person with a high school diploma or equivalent working in Ohio. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$442.8 thousand in higher earnings per graduate. Altogether, Cincinnati State's FY 2015-16 students will receive \$575.5 million in higher future earnings over their working lives, as a result of their education and training at Cincinnati State.

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN CINCINNATI STATE



18.7%

Average annual return for Cincinnati State students



10.1%

Stock market 30-year average annual return

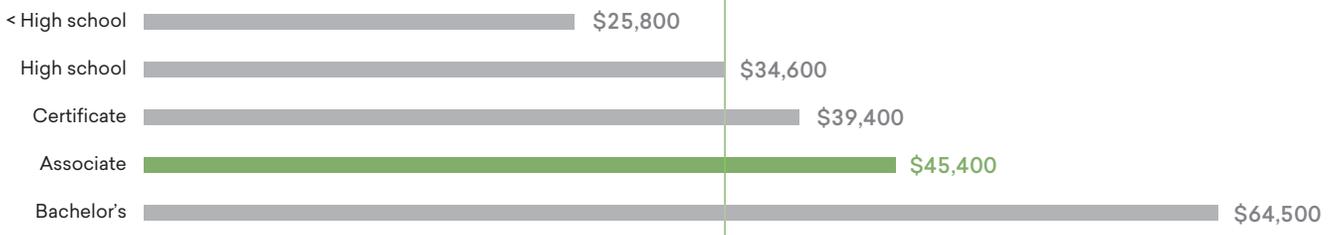


0.8%

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 Cincinnati State will see an increase in earnings of **\$10,800** each year compared to a person with a high school diploma or equivalent working in Ohio.



Source: Emsi complete employment data.

The students' benefit-cost ratio is 5.2. In other words, for every dollar students invest in Cincinnati State, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative present value of \$5.20 in higher future earnings. Annually, the students' investment in Cincinnati State has an average annual internal rate of return of 18.7%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

Taxpayer perspective



Cincinnati State 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 Cincinnati 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 2015-16 students' working lives, the state and local government will have collected a present value of \$150.6 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of Cincinnati State students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students' Cincinnati State educations will generate savings in three main categories: 1) health-care, 2) crime, and 3) income assistance. Improved health will lower students' demand for national health care services. In

addition, students will less likely to interact with the criminal justice system, resulting in a reduced demand for law enforcement and victim costs. Cincinnati 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 college for a copy of the main report. Altogether, the present value of the benefits associated with a Cincinnati State education will generate \$10.2 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$160.8 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$33.1 million, equal to the amount of state and local government funding Cincinnati State

*For every dollar of public money invested in Cincinnati State, taxpayers will receive a cumulative value of **\$4.90** over the course of the students' working lives.*



STUDENT PERSPECTIVE

\$575.5 million
Present value benefits

\$110 million
Present value costs

\$465.5 million
Net present value

Benefit-cost Ratio	Rate of Return
5.2	18.7%



TAXPAYER PERSPECTIVE

\$160.8 million
Present value benefits

\$33.1 million
Present value costs

\$127.7 million
Net present value

Benefit-cost Ratio	Rate of Return
4.9	11.5%



SOCIAL PERSPECTIVE

\$2.2 billion
Present value benefits

\$170.1 million
Present value costs

\$2 billion
Net present value

Benefit-cost Ratio	Rate of Return
12.9	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.

received in FY 2015-16. These benefits and costs yield a benefit-cost ratio of 4.9. This means that for every dollar of public money invested in Cincinnati State in FY 2015-16, taxpayers will receive a cumulative present value of \$4.90 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 11.5%, which compares favorably to other long-term investments in the public and private sectors.

Social perspective



Society as a whole in Ohio benefits from the presence of Cincinnati State 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 Ohio.

Benefits to society also consist of the savings generated by the improved lifestyles of Cincinnati 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. 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.

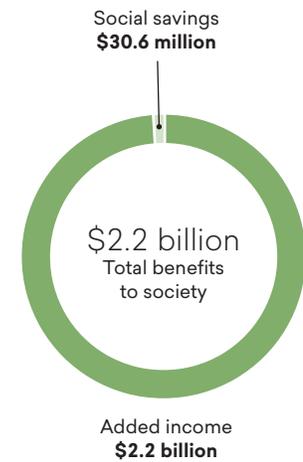
Altogether, the social benefits of Cincinnati State equal a present value of \$2.2 billion. These benefits include \$2.2 billion in added income through students' increased lifetime earnings and increased business output, as well as \$30.6 million in social savings related to health, crime, and income assistance in Ohio. People in Ohio invested a present value total of \$170.1 million in Cincinnati State in FY 2015-16. The cost includes all the college and student costs.

The benefit-cost ratio for society is 12.9, equal to the \$2.2 billion in benefits divided by the \$170.1 million in costs. In other words, for every dollar invested in Cincinnati State, people in Ohio will receive a cumulative present value of \$12.90 in benefits. The benefits of this investment will occur for as long as Cincinnati State's FY 2015-16 students remain employed in the state workforce.

Workforce development investment analysis

In FY 2015-16, Cincinnati State's Workforce Development Center (WDC) served 3,012 students. These students were encouraged by their employers to attend the trainings, leading to benefits experienced by both the students and the

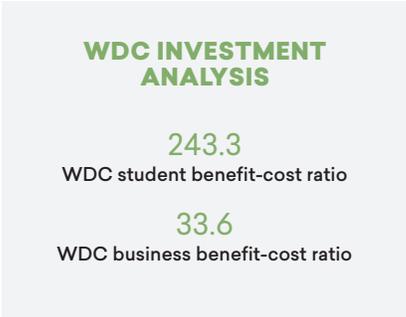
SOCIAL BENEFITS IN OHIO FROM CINCINNATI STATE



businesses themselves. The background for this analysis is Hamilton and Butler Counties.

From the student perspective, very few WDC students had to pay tuition and fees, as most businesses covered their costs. In addition, only 25% of the students experienced some form of opportunity cost; in other words, lost earnings because they were learning instead of working. Total costs to WDC students amounted to \$610.4 thousand. In return for training, WDC students receive increased earnings from their employers. Over the next four and a half years, students will receive \$148.5 million in present value higher earnings. For every dollar students invest, they will receive a cumulative present value of \$243.30 in higher earnings over the next four and a half years.

From the business perspective, businesses absorb almost \$1.8 million in tuition and fees for their employees who are students at the WDC. The businesses also give up productive hours that their employees are now spending in the classroom learning instead of working. In total, businesses experienced \$2.2 million in costs to send their employees to train at Cincinnati State's WDC in FY 2015-16. In return for this investment, the employees of businesses are more productive, thus increasing the profits of the businesses. Over the next four and a half years, businesses can expect a present value of \$73.3 million in increased business profits from their FY 2015-16 WDC trained employees. For every dollar businesses spend on the training of their employees at Cincinnati State's WDC, businesses will receive a cumulative present value of \$33.6 in the form of business profits.



Summary of investment analysis results

The results of the analysis demonstrate that Cincinnati 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 a Cincinnati State education. At the same time, taxpayers' investment in Cincinnati State returns more to government budgets than it costs and creates a wide range of social benefits throughout Ohio. Finally, an investment in the WDC has substantial returns for both the students and the businesses.

Conclusion

The results of this study demonstrate that Cincinnati State 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. Cincinnati State 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, Cincinnati State benefits society as a whole in Ohio 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 2015-16 academic and financial reports from Cincinnati State, 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 Cincinnati State creates value from
multiple perspectives.



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