MOBERLY Area Community College (MACC) 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 MACC Service Region. MACC provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, MACC is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

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

This study measures the economic impacts created by MACC 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 MACC Service Region 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 Missouri are reported under the investment analysis.

* For the purposes of this analysis, the MACC Service Region is comprised of Adair, Audrain, Boone, Chariton, Clark, Howard, Knox, Lewis, Macon, Marion, Monroe, Ralls, Randolph, Schuyler, Scotland, and Shelby Counties.
MACC promotes economic growth in the MACC Service Region 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 MACC Service Region, whose expenditures benefit regional vendors. In addition, MACC is a primary source of higher education to the MACC Service Region residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

**Operations spending impact**

MACC adds economic value to the MACC Service Region as an employer of regional residents and a large-scale buyer of goods and services. In FY 2017-18, the college employed 567 full-time and part-time faculty and staff, 91% of whom lived in the MACC Service Region. Total payroll at MACC was $16.8 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 $11.9 million on day-to-day expenses related to facilities, supplies, and professional services.

MACC’s day-to-day operations spending added $21.1 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 $21.1 million in added income is equivalent to supporting 641 jobs in the region.

**Student spending impact**

Around 21% of credit students attending MACC originated from outside the region in FY 2017-18, and some of these students relocated to the MACC Service Region to attend MACC. 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 MACC Service Region if not for the existence of MACC. While attending the college, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated $4.3 million in added income for the regional economy in FY 2017-18, which supported 132 jobs in the MACC Service Region.

**IMPACTS CREATED BY MACC IN FY 2017–18**

- **Operations Spending Impact**: $21.1 million
- **Student Spending Impact**: $4.3 million
- **Alumni Impact**: $64.2 million
- **Total Impact**: $89.7 million

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1,861 JOBS SUPPORTED
Alumni impact

The education and training MACC provides for regional residents has the greatest impact. Since its establishment, students have studied at MACC and entered the regional workforce with greater knowledge and new skills. Today, thousands of former MACC students are employed in the MACC Service Region. As a result of their MACC educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2017-18, MACC alumni generated $64.2 million in added income for the regional economy, which is equivalent to supporting 1,089 jobs.

Total impact

MACC added $89.7 million in income to the MACC Service Region 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 $89.7 million impact was equal to approximately 0.6% of the total gross regional product (GRP) of the MACC Service Region. This contribution that the college provided on its own was larger than the entire Arts, Entertainment, & Recreation industry in the region.

MACC’s total impact can also be expressed in terms of jobs supported. The $89.7 million impact supported 1,861 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. In addition, the $89.7 million, or 1,861 supported jobs, stemmed from different industry sectors. Among non-education industry sectors, MACC’s spending and alumni in the Retail Trade industry sector supported 417 jobs in FY 2017-18. These are impacts that would not have been generated without the college’s presence in the MACC Service Region.

MACC IMPACTS BY INDUSTRY (JOBS SUPPORTED)

- Retail Trade: 417 jobs
- Health Care & Social Assistance: 133 jobs
- Government, Non-Education: 117 jobs
- Accommodation & Food Services: 115 jobs
- Real Estate & Rental & Leasing: 53 jobs
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 MACC as an investment from the perspectives of students, taxpayers, and society in Missouri.

**Student perspective**

In FY 2017-18, MACC served 7,333 credit and 788 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 MACC’s students in FY 2017-18 amounted to a present value of $29.7 million, equal to $16.9 million in out-of-pocket expenses (including future principal and interest on student loans) and $12.7 million in forgone time and money.

In return for their investment, MACC’s students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average MACC associate degree graduate from FY 2017-18 will see annual earnings that are $6,800 higher than a person with a high school diploma or equivalent working in Missouri. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of $306 thousand in higher earnings per graduate. The present value of the cumulative higher future earnings that MACC’s FY 2017-18 students will receive over their working careers is $124 million.

**STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN MACC**

- **15.4%** Average annual return for MACC students
- **9.9%** Stock market 30-year average annual return
- **0.8%** Interest earned on savings account (National Rate Cap)


The average associate degree graduate from MACC will see an increase in earnings of $6,800 each year compared to a person with a high school diploma or equivalent working in Missouri.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Average Earnings</th>
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<tbody>
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<tr>
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<tr>
<td>Bachelor’s</td>
<td>$40,900</td>
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</tbody>
</table>

Source: Emsi employment data.
The students’ benefit-cost ratio is 4.2. In other words, for every dollar students invest in MACC, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of $4.20 in higher future earnings. Annually, the students’ investment in MACC has an average annual internal rate of return of 15.4%, which is impressive compared to the U.S. stock market’s 30-year average rate of return of 9.9%.

**Taxpayer perspective**

MACC 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 MACC 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 $36.7 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of MACC students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students’ MACC education 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. MACC 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 an MACC education will generate $5.8 million in savings to state and local taxpayers.

Total taxpayer benefits amount to $42.5 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are $7.2 million, equal to the amount of state and local government funding MACC received in FY 2017-18. These benefits and costs yield a benefit-cost ratio of 5.9. This means

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For every dollar of public money invested in MACC, taxpayers will receive a cumulative value of **$5.90** over the course of the students’ working lives.

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*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.*
that for every dollar of public money invested in MACC in FY 2017-18, taxpayers will receive a cumulative value of $5.90 over the course of the students’ working lives. The average annual internal rate of return for taxpayers is 14.4%, which compares favorably to other long-term investments in the public and private sectors.

Social perspective

Society as a whole in Missouri benefits from the presence of MACC 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 Missouri.

Benefits to society also consist of the savings generated by the improved lifestyles of MACC 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 MACC equal a present value of $461.1 million. These benefits include $441.9 million in added income through students’ increased lifetime earnings and increased business output, as well as $19.2 million in social savings related to health, crime, and income assistance in Missouri. People in Missouri invested a present value total of $46.7 million in MACC in FY 2017-18. The cost includes all the college and student costs.

The benefit-cost ratio for society is 9.9, equal to the $461.1 million in benefits divided by the $46.7 million in costs. In other words, for every dollar invested in MACC, people in Missouri will receive a cumulative value of $9.90 in benefits. The benefits of this investment will occur for as long as MACC’s FY 2017-18 students remain employed in the state workforce.

Summary of investment analysis results

The results of the analysis demonstrate that MACC 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 an MACC education. At the same time, taxpayers’ investment in MACC returns more to government budgets than it costs and creates a wide range of social benefits throughout Missouri.
Conclusion

The results of this study demonstrate that MACC 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. MACC 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, MACC benefits society as a whole in Missouri 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 MACC, 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.

Emsi is a labor market analytics firm that integrates data from a wide variety of sources to serve professionals in higher education, economic development, workforce development, talent acquisition, and site selection. Emsi is a leading provider of economic impact studies and labor market data to educational institutions in the U.S. and internationally. Since 2000, Emsi has completed over 2,000 economic impact studies for institutions across three countries. For more information about Emsi’s products and services, visit www.economicmodeling.com.