

# EXECUTIVE SUMMARY

## *Demonstrating the Economic Value of Maricopa County Community College District*



FEBRUARY 2015

ANALYSIS OF THE ECONOMIC IMPACT & RETURN ON INVESTMENT OF EDUCATION

*Maricopa County Community College District (MCCCD) creates value in many ways. The district plays a key role in helping students increase their employability and achieve their individual potential. It provides students with the skills they need to have a fulfilling and prosperous career. Further, it supplies an environment for students to meet new people, increase their self-confidence, and promote their overall health and well-being.*

The contribution of MCCCD influences both the lives of students and also the regional economy. The district serves a range of industries in Maricopa County and supports local businesses, and society as a whole in Arizona benefits from an expanded economy and improved quality of life. The benefits created by MCCCD even extend to the state and local government through increased tax revenues and public sector savings.

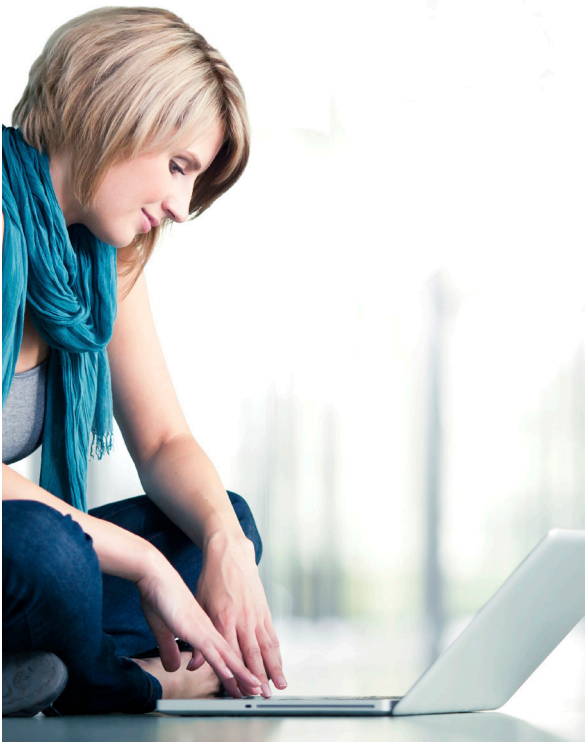
The purpose of this study is to investigate the economic impacts created by MCCCD on the business community and the benefits that the district generates in return for the investments made by its key stakeholder groups—students, society, and taxpayers. The following two analyses are presented:

- **REGIONAL ECONOMIC IMPACT ANALYSIS**
- **INVESTMENT ANALYSIS**

All results reflect student and financial data for Fiscal Year (FY) 2013-14. Impacts on the business community are reported under the economic impact analysis, and the return on investment to students, society, and taxpayers are reported under the investment analysis. Both analyses are described more fully in the following sections.

# ECONOMIC IMPACT ANALYSIS

*MCCCD promotes economic growth in Maricopa County in a variety of ways. The District is an employer and buyer of goods and services, and the living expenses of students from outside of Maricopa County benefit local businesses. In addition, MCCCD is a primary source of education to Maricopa County residents and a supplier of trained workers to Maricopa County industry.*



The regional economic impact analysis examines the impact of MCCCD on the local business community through increased consumer spending and enhanced business productivity. Results are measured in terms of added income and are organized according to the following three impacts:

1. Impact of district operations;
2. Impact of the spending of students who relocated to the region, and;
3. Impact of the increased productivity of alumni that were employed in the regional workforce during the analysis year.

## OPERATIONS SPENDING IMPACT

MCCCD is an important employer in Maricopa County. In FY 2013-14, the district employed 9,856 full-time and part-time faculty and staff. Of these, 97% lived in Maricopa County. MCCCD spends \$527.8 million in payroll, much of which circulates through the regional economy in purchases for groceries, rent, eating out, clothing, and other household expenses.<sup>1</sup>

MCCCD is itself a large-scale buyer of goods and services. The district spends \$362.8 million to cover its expenses for facilities, professional services, and supplies.

The total income that MCCCD created during the analysis year as a result of its day-to-day operations is an estimated \$732.4 million. This figure represents the district's payroll, the multiplier effects generated by the spending of the district and its employees, and a downward adjustment to account for funding that the district received from local sources.

<sup>1</sup> Considering data limitations, 2012-13 college financial data is used as a proxy for 2013-14. All other data reflects the 2013-14 reporting year.

## JOB EQUIVALENTS BASED ON INCOME

Job equivalents are a measure of the average-wage jobs that a given amount of income can potentially support. They are calculated by dividing income by the average income per worker in the county. Based on the added income created by MCCCCD, the job equivalents are as follows:

Operations spending impact = **14,571** job equivalents

Impact of student spending = **4,786** job equivalents

Alumni impact = **125,341** job equivalents

Overall, the added income created by MCCCCD and its students supported **144,697** job equivalents.

## INCOME CREATED BY MCCCCD IN FY 2013-14 (ADDED INCOME)

**\$732.4 MILLION**

Operations spending impact

**\$240.6 MILLION**

Impact of student spending

**\$6.3 BILLION**

Alumni impact

**\$7.3 BILLION**

Total impact

## IMPACT OF STUDENT SPENDING

Around 11% of students attending MCCCCD originated from outside the county in FY 2013-14. Some of these students relocated to Maricopa County. These students likely would not have come to the region if the district did not exist. Out-of-region students spend an estimated \$296.3 million each year to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occur within the region, generating \$240.6 million in new income in the economy during the analysis year.

## ALUMNI IMPACT

MCCCCD's biggest impact results from the education and training it provides for local residents. Since the district was established, students have studied at MCCCCD and entered the workforce with new skills. Today, thousands of former students are employed in Maricopa County.

During the analysis year, former students of MCCCCD generated \$6.3 billion in added income in the region. This figure represents the higher wages that students earned during the year, the increased output of the businesses that employed the students, and the multiplier effects that occurred as students and their employers spent money at other businesses.

## TOTAL IMPACT

The overall impact of MCCCCD on the local business community during the analysis year amounted to \$7.3 billion, equal to the sum of the operations spending impact, the student spending impact, and the alumni impact. This added income was equal to approximately 3.8% of the region's Gross Regional Product.

# INVESTMENT ANALYSIS

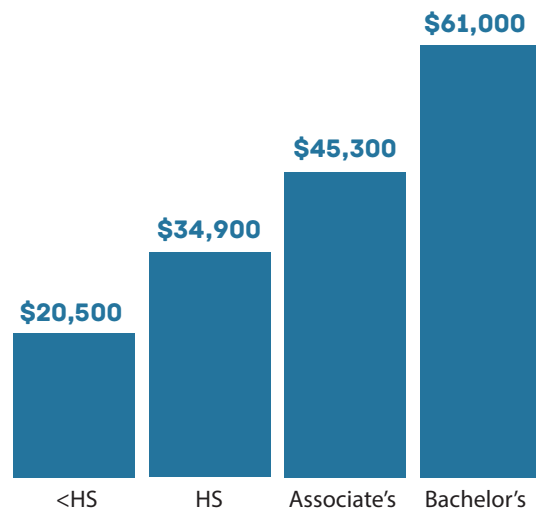
*Investment analysis is the process of evaluating total costs and measuring these against total benefits to determine whether or not a proposed venture will be profitable. If benefits outweigh costs, then the investment is worthwhile. If costs outweigh benefits, then the investment will lose money and is considered unprofitable. This study considers MCCCDCD as an investment from the perspectives of students, society, and taxpayers. The backdrop for the analysis is the entire Arizona economy.*

## STUDENT PERSPECTIVE

In 2013-14, MCCCDCD served 213,454 credit students and 27,892 non-credit students. In order to attend college, students paid for tuition, fees, books, and supplies. They also gave up money that they would have otherwise earned had they been working instead of attending college. The total investment made by MCCCDCD's students in FY 2013-14 amounted to \$1.4 billion, equal to \$225.2 million in out-of-pocket expenses plus \$1.2 billion in forgone time and money.

In return for their investment, MCCCDCD's students will receive a stream of higher future wages that will continue to grow through their working lives. As shown in Figure 1, mean income levels at the midpoint of the average-aged worker's career increase as people achieve higher levels of education. For example, the average associate's degree completer from MCCCDCD will see an increase in earnings of \$10,400 each year compared to someone with a high school diploma or equivalent. Over a working lifetime, this increase in earnings amounts to an undiscounted value of approximately \$426,400 in higher income.

**FIGURE 1. ANNUAL INCOME BY EDUCATION LEVEL AT CAREER MIDPOINT IN MARICOPA COUNTY**



Source: EMSI complete employment data.



The present value of the higher future wages that MCCCDC's students will receive over their working careers is \$6 billion. Dividing this value by the \$1.4 billion in student costs yields a benefit-cost ratio of 4.2. In other words, for every \$1 students invest in MCCCDC in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$4.20 in higher future wages. The average annual rate of return for students is 16.6%. This is an impressive return compared, for example, to the less than 1% return per annum that is generally expected from saving money in today's standard bank savings accounts.

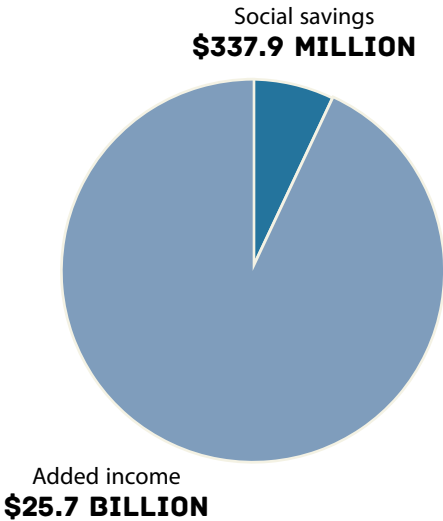
### SOCIAL PERSPECTIVE

Society as a whole within Arizona benefits from the presence of MCCCDC in two major ways. The first and largest benefit that society receives is the added income created in the state. As discussed in the previous section, students earn more because of the skills they acquire while attending MCCCDC colleges. Businesses also earn more because the enhanced skills of students make them more productive. Together, higher student wages and increased business output stimulate increases in income across the state, thereby raising prosperity in Arizona and expanding the economic base for society as a whole.

Benefits to society also consist of the savings generated by the improved lifestyles of students. Education is statistically correlated with a variety of lifestyle changes that generate social savings across three main categories: 1) health, 2) crime, and 3) unemployment. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, drug abuse, and mental disorders. Crime savings include reduced security expenditure and insurance administration, lower victim costs, and reduced criminal justice system expenditures. Unemployment savings include the reduced demand for income assistance and welfare benefits. For a list of study references to these statistical benefits, please contact the district for a copy of the main report.

Figure 2 shows the present value of the added income and social savings that will occur in Arizona over the working lifetime of the 2013-14 student population at MCCCDC. Added income amounts to a present value of \$25.7 billion due to the increased lifetime incomes of students and associated increases in business output. Social savings amount to \$337.9 million, the sum of health, crime, and unemployment savings in Arizona. Altogether, total

**FIGURE 2. PRESENT VALUE OF ADDED INCOME AND SOCIAL SAVINGS IN ARIZONA**





benefits to society equal \$26 billion (in present value terms).

Society invested \$2.1 billion in MCCCCD educations during the analysis year. This includes all expenditures by MCCCCD, all student expenditures, and all student opportunity costs. For every dollar of this investment, society as a whole in Arizona will receive a cumulative value of \$12.10 in benefits, equal to the \$26 billion in benefits divided by the \$2.1 billion in costs. These benefits will occur for as long as MCCCCD's 2013-2014 students remain employed in the state workforce.

## TAXPAYER PERSPECTIVE

From the taxpayer perspective, benefits consist primarily of the taxes that state and local government will collect from the added income created in the state. As MCCCCD students earn more, they will make higher tax payments. Employers will also make higher tax payments as they increase their output and purchase more supplies and services. By the end of the students' working careers, state and local government will have collected a present value of \$1.9 billion in added taxes.

A portion of the savings enjoyed by society also accrues to state and local taxpayers. Students are more employable, so the demand for welfare and unemployment benefits reduces. Improved health habits lower the students' demand for national health care services. Students are also less likely to commit crimes, so the demand for law enforcement services reduces (study references are available in the main report). All of these benefits will generate a present value of \$111.9 million in savings to state and local taxpayers.

Total benefits to taxpayers equal \$2 billion, equal to the sum of the added taxes and public sector savings. Comparing this to the taxpayer costs of \$499 million—equal to the funding that MCCCCD received from state and local government during the analysis year—yields a benefit-cost ratio of 4.0. This means that for every \$1 of public money invested in MCCCCD, taxpayers receive a cumulative value of \$4.00 over the course of the students' working lives. The average annual rate of return is 10.3%, a solid investment that compares favorably with other long-term investments in both the private and public sectors.

**TABLE 2. SUMMARY OF INVESTMENT ANALYSIS RESULTS**

<b>STUDENT PERSPECTIVE</b>	
<b>\$5,961,422</b>	Benefits (thousands)
<b>\$1,407,489</b>	Costs (thousands)
<b>\$4,553,933</b>	Net present value (thousands)
<b>4.2</b>	Benefit-cost ratio
<b>16.6%</b>	Rate of return

<b>SOCIAL PERSPECTIVE</b>	
<b>\$26,033,774</b>	Benefits (thousands)
<b>\$2,148,920</b>	Costs (thousands)
<b>\$23,884,854</b>	Net present value (thousands)
<b>12.1</b>	Benefit-cost ratio
<b>NA</b>	Rate of return*

<b>TAXPAYER PERSPECTIVE</b>	
<b>\$2,010,604</b>	Benefits (thousands)
<b>\$498,970</b>	Costs (thousands)
<b>\$1,511,634</b>	Net present value (thousands)
<b>4.0</b>	Benefit-cost ratio
<b>10.3%</b>	Rate of return

\* 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.

## SUMMARY OF INVESTMENT ANALYSIS RESULTS

Table 2 presents the results of the investment analysis for all three of MCCCDC’s major stakeholder groups—students, society, and taxpayers. As shown, students receive great value for their educational investment. At the same time, the investment made by state and local taxpayers in the district creates a wide range of benefits to society and returns more to government budgets than it costs.



# CONCLUSION



The results of this study demonstrate that MCCCCD creates value from multiple perspectives. The district benefits local businesses by increasing consumer spending in the region and supplying a steady flow of qualified, trained workers into the workforce. It enriches the lives of students by raising their lifetime incomes and helping them achieve their individual potential. It benefits society as a whole in Arizona by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students. Finally, it benefits state and local taxpayers through increased tax receipts across the state and a reduced demand for government-supported social services.

## ABOUT THE STUDY

Data and assumptions used in the study are based on several sources, including the 2013-14 academic and financial reports from the district, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of EMSI's Social Accounting Matrix (SAM) 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 investment effectiveness and economic impact. For a full description of the data and approach used in the study, please contact the district for a copy of the technical report.

## ABOUT EMSI

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