The Economic Value of the Sierra Joint Community College District

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

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

This study measures the economic impacts created by Sierra College 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 Sierra College 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 California are reported under the investment analysis.

* For the purposes of this analysis, the Sierra College Service Area is comprised of Nevada, Placer, and Sacramento Counties in California.
Sierra College promotes economic growth in the Sierra College 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 Sierra College Service Area, whose expenditures benefit regional vendors. In addition, Sierra College is a primary source of higher education to the Sierra College Service Area residents and a supplier of trained workers to regional industries, enhancing overall productivity in the regional workforce.

**Operations spending impact**

Sierra College adds economic value to the Sierra College Service Area as an employer of regional residents and a large-scale buyer of goods and services. In FY 2017-18, the college employed 2,056 full-time and part-time faculty and staff, 92% of whom lived in the Sierra College Service Area. Total payroll at Sierra College was $93 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 $61.3 million on day-to-day expenses related to facilities, supplies, and professional services. Sierra College’s day-to-day operations spending added $118.1 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 $118.1 million in added income is equivalent to supporting 2,408 jobs in the region.

**Construction spending impact**

Sierra College commissioned contractors to build or renovate its facilities in FY 2017-18. The quick infusion of income and jobs that occurred in the regional economy as a result of this construction spending is considered short-term due to the one-time nature of such projects. Nonetheless, the college’s construction spending had a substantial impact on the regional economy in FY 2017-18, equal to $1.1 million in added income and equivalent to supporting 14 jobs.

**Student spending impact**

Around 8% of students attending Sierra College originated from outside the region in FY 2017-18, and some of these students relocated to the Sierra College Service Area to attend Sierra College. 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 Sierra College Service Area if not for the existence of Sierra College. While attending the college, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated $46.3 million in added income for the regional economy in FY 2017-18, which supported 947 jobs in the Sierra College Service Area.

Alumni impact

The education and training Sierra College provides for regional residents has the greatest impact. Since its establishment, students have studied at Sierra College and entered the regional workforce with greater knowledge and new skills. Today, hundreds of thousands of former Sierra College students are employed in the Sierra College Service Area. As a result of their Sierra College educations, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2017-18, Sierra College alumni generated $982.7 million in added income for the regional economy, which is equivalent to supporting 10,034 jobs.

Total impact

Sierra College added $1.1 billion in income to the Sierra College Service Area 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 $1.1 billion impact was equal to approximately 0.9% of the total gross regional product (GRP) of the Sierra College Service Area. This contribution that the college provided on its own was as large as the entire Arts, Entertainment, & Recreation industry in the region.

Sierra College's total impact can also be expressed in terms of jobs supported. The $1.1 billion impact supported 13,402 regional jobs, using the jobs-to-sales ratios specific to each industry in the region. This means that one out of every 88 jobs in the Sierra College Service Area is supported by the activities of Sierra College and its students. In addition, the $1.1 billion, or 13,402 supported jobs, impacted regional industries in different ways. Among non-education industry sectors, Sierra College supported the most jobs in the Government, Non-Education industry sector – supporting 1,936 jobs in FY 2017-18. These are impacts that would not have been generated without the college’s presence in the Sierra College Service Area.

One out of every 88 jobs in the Sierra College Service Area is supported by the activities of Sierra College 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 Sierra College as an investment from the perspectives of students, taxpayers, and society in California.

**Student perspective**

In FY 2017-18, Sierra College served 26,800 credit and 224 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 Sierra College’s students in FY 2017-18 amounted to a present value of $155.5 million, equal to $41.7 million in out-of-pocket expenses (including future principal and interest on student loans) and $113.8 million in forgone time and money.

In return for their investment, Sierra College’s students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average Sierra College associate degree graduate from FY 2017-18 will see an increase in earnings of $10,000 each year compared to a person with a high school diploma or equivalent working in California. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of $410 thousand in higher earnings per graduate. The present value of the cumulative higher future earnings that Sierra College’s FY 2017-18 students will receive over their working careers is $871 million.

STUDENTS SEE A HIGH RATE OF RETURN FOR THEIR INVESTMENT IN SIERRA COLLEGE

19.7%
Average annual return for Sierra College 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 Sierra College will see an increase in earnings of **$10,000** each year compared to a person with a high school diploma or equivalent working in California.

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<thead>
<tr>
<th>Education Level</th>
<th>Average Earnings</th>
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<tbody>
<tr>
<td>&lt; High school</td>
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<tr>
<td>High school</td>
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<tr>
<td>Bachelor’s</td>
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Source: Emsi complete employment data.
The students’ benefit-cost ratio is 5.6. In other words, for every dollar students invest in Sierra College, in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of $5.60 in higher future earnings. Annually, the students’ investment in Sierra College has an average annual internal rate of return of 19.7%, which is impressive compared to the U.S. stock market’s 30-year average rate of return of 9.9%.

**Taxpayer perspective**

Sierra College 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 Sierra College 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 $292.2 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of Sierra College students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. Students’ Sierra College educations 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. Sierra College 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 Sierra College education will generate $34.5 million in savings to state and local taxpayers.

Total taxpayer benefits amount to $326.7 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are $113.1 million, equal to the amount of state and local government funding Sierra College received in FY 2017-18. These benefits and costs yield a benefit-cost ratio of 2.9. This means that for every dollar of public money invested in Sierra College in

<table>
<thead>
<tr>
<th>STUDENT PERSPECTIVE</th>
<th>TAXPAYER PERSPECTIVE</th>
<th>SOCIAL PERSPECTIVE</th>
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<tbody>
<tr>
<td>Benefit-cost Ratio</td>
<td>Rate of Return</td>
<td>Benefit-cost Ratio</td>
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<td>$871 million</td>
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<td>Net present value</td>
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For every dollar of public money invested in Sierra College, taxpayers will receive a cumulative value of $2.90 over the course of the students’ working lives.

*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.*
FY 2017-18, taxpayers will receive a cumulative value of $2.90 over the course of the students’ working lives. The average annual internal rate of return for taxpayers is 7.7%, which compares favorably to other long-term investments in the public and private sectors.

**Social perspective**

Society as a whole in California benefits from the presence of Sierra College 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 California.

Benefits to society also consist of the savings generated by the improved lifestyles of Sierra College 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 Sierra College equal a present value of $4.4 billion. These benefits include $4.3 billion in added income through students’ increased lifetime earnings and increased business output, as well as $61.5 million in social savings related to health, crime, and income assistance in California. People in California invested a present value total of $299.9 million in Sierra College in FY 2017-18. The cost includes all the college and student costs.

The benefit-cost ratio for society is 14.6, equal to the $4.4 billion in benefits divided by the $299.9 million in costs. In other words, for every dollar invested in Sierra College, people in California will receive a cumulative value of $14.60 in benefits. The benefits of this investment will occur for as long as Sierra College’s FY 2017-18 students remain employed in the state workforce.

**Summary of investment analysis results**

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

The results of this study demonstrate that Sierra College 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. Sierra College 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, Sierra College benefits society as a whole in California 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 Sierra College, 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

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