



ALAMO  
COLLEGES  
DISTRICT

# Analysis of the Economic Impact and Return on Investment of Education

THE ECONOMIC VALUE OF THE ALAMO COLLEGES DISTRICT

October 2018

## EXECUTIVE SUMMARY

 Emsi

# Executive Summary

The Alamo Colleges District (the Alamo Colleges) creates value in many ways. The colleges play a key role in helping students increase their employability and achieve their individual potential. They provide students with the skills they need to have fulfilling and prosperous careers. Further, they supply an environment for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

The value of the Alamo Colleges influences both the lives of students and the regional economy. The colleges serve a range of industries in the Alamo Colleges Service Area, support local businesses, and benefit society as a whole in Texas from an expanded economy and improved quality of life. The benefits created by the Alamo Colleges even extend to the state and local government through increased tax revenues and public sector savings.

This study investigates the economic impacts created by the Alamo Colleges on the business community and the benefits that the colleges generate in return for the investments made by their key stakeholder groups—students, taxpayers, and society. The colleges' service region, for the purpose of this report, is referred to as the Alamo Colleges

Service Area and consists of Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Kerr, and Wilson Counties. The following two analyses are presented:

- **Economic impact analysis**
- **Investment analysis**

All results reflect student and financial data for fiscal year (FY) 2016-17. Impacts on the regional business community are reported under the economic impact analysis. Results are measured in terms of added income. The returns on investment to students, taxpayers, and society are reported under the investment analysis. Both analyses are described more fully in the following sections.



# Economic impact analysis

The Alamo Colleges promote economic growth in the Alamo Colleges Service Area in a variety of ways. The colleges are employers and buyers of goods and services, and the living expenses of students benefit local businesses. In addition, the Alamo Colleges are primary sources of education to the Alamo Colleges Service Area residents and suppliers of trained workers to regional industries.

## OPERATIONS SPENDING IMPACT

The Alamo Colleges District is an important employer in the Alamo Colleges Service Area. In FY 2016-17, the district employed 5,687 full-time and part-time faculty and staff. Of these, 98% lived in the Alamo Colleges Service Area. Total payroll at the Alamo Colleges District was \$240.6 million, much of which was spent in the region for groceries, rent, dining out, clothing, and other household expenses.

The Alamo Colleges are themselves large-scale buyers of goods and services. In FY 2016-17, the colleges spent \$194.9 million to cover their expenses for facilities, professional services, and supplies.

The Alamo Colleges added \$370.2 million in income to the region during the analysis year as a result of their day-to-day operations. 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 colleges received from state and local sources. The \$370.2 million in added income is equivalent to supporting 7,733 jobs.

## CONSTRUCTION SPENDING IMPACT

The Alamo Colleges commissioned contractors to build or renovate a number of facilities during the analysis year. The quick infusion of income and jobs that occurred in the regional economy as a result of this construction spending is only considered short-term due to the one-time nature of construction projects. Nonetheless, the construction spending had a substantial impact on the regional economy in FY 2016-17, equal to \$22.6 million in added income for the Alamo Colleges Service Area, which is equivalent to supporting 344 jobs.

This impact is a result of the Alamo Colleges District's construction spending from a single year, FY 2016-17. In 2017, the district was approved for a \$450 million bond, which will be used to build new facilities, expand and renovate existing facilities, and improve technology across the district. Though this construction will take

**TABLE 1:** Impacts created by the Alamo Colleges district in FY 2016-17

ADDED INCOME	JOBS
<b>\$370.2 million</b>	<b>7,733</b>
Operations spending impact	
<b>\$22.6 million</b>	<b>344</b>
Construction spending impact	
<b>\$170.6 million</b>	<b>2,542</b>
Student spending impact	
<b>\$2.0 billion</b>	<b>30,551</b>
Alumni impact	
<b>\$2.6 billion</b>	<b>41,170</b>
Total impact	





place from FY 2018 to FY 2023 and is not included in this analysis, it will continue to be another means through which the Alamo Colleges District creates an impact on the regional economy.

## STUDENT SPENDING IMPACT

Around 13% of credit students attending the Alamo Colleges originated from outside the region in FY 2016-17, and some of these students relocated to the Alamo Colleges Service Area to attend the colleges. These students would not have come to the region if the colleges did not exist. In addition, a number of in-region students would have left the area for other educational opportunities if not for the existence of the Alamo Colleges. While attending the colleges, these relocated and retained students spent \$169.8 million to purchase groceries, rent accommodation, pay for transportation, and so on. A significant portion of these expenditures occurred in the region, generating \$170.6 million in added income in the regional economy during the analysis year, which is equivalent to supporting 2,542 jobs.

## ALUMNI IMPACT

The education and training the Alamo Colleges provide for regional residents results in the greatest impact. Since the colleges were established, students have studied at the Alamo Colleges and entered the regional workforce with new skills. Today, hundreds of thousands of former students are employed in the Alamo Colleges Service Area.

During the analysis year, past and present students of the Alamo Colleges generated \$2.0 billion in added income for the region. This figure represents the higher earnings 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. This \$2.0 billion in added income is equivalent to supporting 30,551 jobs.

## TOTAL IMPACT

The overall impact of the Alamo Colleges District on the local business community during the analysis year amounted to \$2.6 billion in added income, equal to the sum of the operations spending impact, the construction spending impact, the student spending impact, and the alumni impact. The \$2.6 billion in added income was equal to approximately 2.0% of the gross regional product (GRP) of the Alamo Colleges Service Area. By comparison, this contribution that the colleges provide on their own is more than five times as large as the entire Utilities industry in the region.

*One out of every **35** jobs in the Alamo Colleges Service Area is supported by the activities of the Alamo Colleges and their students.*

The total impact is also expressed in terms of the jobs supported by the added income; they are calculated by jobs-to-sales ratios specific to each industry. Overall, the \$2.6 billion impact supports 41,170 jobs. For perspective, this means that one out of every 35 jobs in the Alamo Colleges Service Area is supported by the activities of the Alamo Colleges and their students.

A portion of the total \$2.6 billion is broken out into an industry-by-industry impact ordered by added income. Table 2 outlines the top industries impacted by the Alamo Colleges. Because industries have different jobs-to-sales ratios, the associated jobs supported by the Alamo Colleges differ by impact. Nonetheless, these are impacts that would not have been generated without the colleges’ presence.



**TABLE 2:** Top industries impacted by the Alamo Colleges district

TOTAL INCOME (MILLIONS)	JOBS
<b>\$295.9</b>	<b>2,734</b>
Government, Non-Education	
<b>\$285.3</b>	<b>5,440</b>
Health Care & Social Assistance	
<b>\$163.7</b>	<b>3,066</b>
Accommodation & Food Services	
<b>\$145.0</b>	<b>2,030</b>
Construction	
<b>\$116.7</b>	<b>1,753</b>
Professional & Technical Services	
<b>\$1,565.6</b>	<b>26,145</b>
All other industries	
<b>\$2,572.3</b>	<b>41,170</b>
Total impact	



# 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 the Alamo Colleges as an investment from the perspectives of students, taxpayers, and society. The backdrop for the analysis is the entire Texas economy.

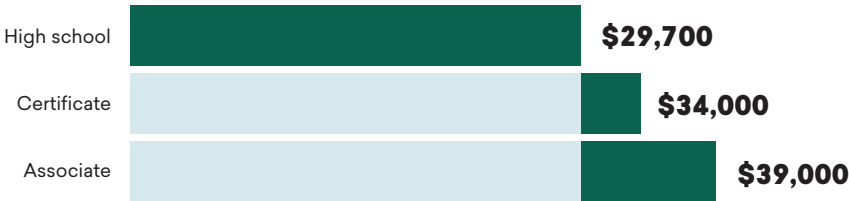
## STUDENT PERSPECTIVE

In FY 2016-17, the Alamo Colleges served 69,561 credit students and 5,919 non-credit students. Of those, approximately 20,000 students took courses at more than one of the colleges. In order to attend college, students paid for tuition, fees, books, and supplies. They also took out loans and will incur interest on those loans. Many students at the colleges receive grant aid, which lowers their out-of-pocket cost of attendance. Additionally, students gave up money that they would have otherwise earned had they been working instead of attending college. The total investment made by Alamo students for FY 2016-17 amounted to a present value of \$364.3 million, equal to \$109.2 million in out-of-pocket expenses (including tuition and fees, books, supplies, and future principal and interest on student loans) plus \$255.2 million in forgone time and money for working and non-working students.

In return for their investment, Alamo students will receive a stream of higher future earnings that will continue to grow throughout their working lives. As shown in Figure 1, mean earnings levels at the midpoint of the average-aged worker's career increase as people achieve higher levels of education. For example, the average associate degree completer from the Alamo Colleges will see an increase in earnings of \$9,400 each

*The average associate degree graduate from the Alamo Colleges will see an increase in earnings of **\$9,400** each year compared to someone with a high school diploma working in Texas.*

**FIGURE 1:** Median earnings by education level in Texas



Source: Emsi complete employment data.



year compared to someone with a high school diploma or equivalent working in Texas. Over a working lifetime, this increase in earnings amounts to an undiscounted value of approximately \$404,200 in higher earnings.

The present value of the higher future earnings that Alamo students will receive over their working careers is \$2.6 billion. Dividing this value by the \$364.3 million in present value student costs yields a benefit-cost ratio of 7.0. In other words, for every dollar students invest in the Alamo Colleges in the form of out-of-pocket expenses and forgone time and money, they receive a cumulative of \$7.00 in higher future earnings. The average annual rate of return for students is 21.7%. This is an impressive return, especially when compared to the 30-year average 10.1% return to the U.S. stock market (Figure 2).

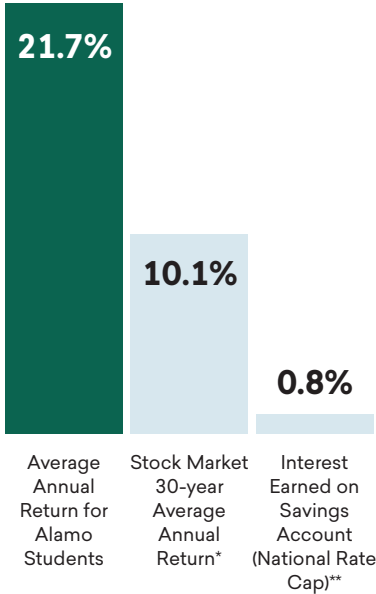
**TAXPAYER PERSPECTIVE**

The Alamo Colleges generate more in tax revenue than they take. 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 Alamo 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 FY 2016-17 students’ working careers, the state and local government will have collected a present value of \$1.0 billion in added taxes.

Benefits to taxpayers also consist of the savings generated by the improved lifestyles of students and the proportionally reduced government expenditures. Education is statistically correlated with a variety of lifestyle changes that generate taxpayer savings across three main categories: 1) health, 2) crime, and 3) unemployment. 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 and criminal justice services is reduced (study references are available in the main report). Students are also more employable, so the demand for welfare and unemployment benefits, such as earnings assistance and welfare benefits, is reduced. For a list of study references to these statistical benefits, please contact the district for a copy of the main report. All of these benefits associated with increased education will generate a present value of \$62.3 million in savings to state and local taxpayers.

Total benefits to taxpayers equal \$1.1 billion, equal to the sum of the added taxes and public sector savings. Comparing this to the state and local taxpayer costs of \$296.3 million—equal to all funding that the Alamo Colleges received from the state and local government during the analysis year—yields a benefit-cost ratio of 3.7. This means that for every dollar of public money invested in the Alamo Colleges, taxpayers receive a cumulative value of \$3.70 over the course of the students’ working lives. The average annual rate of return is 10.2%, a solid investment that compares favorably with other long-term investments in both the private and public sectors.

**FIGURE 2:** Student rate of return



\* Forbes’ S&P 500, 1987-2016.  
\*\* FDIC.gov, 7-2017.



## SOCIAL PERSPECTIVE

Society as a whole within Texas benefits from the presence of the Alamo Colleges in two major ways. The first and largest benefit that society receives is an increased state economic base. As discussed in the previous section, the higher student earnings and increased business output occurs across the state. This raises prosperity in Texas and expands the economic base for society as a whole.

Benefits to society also consist of the savings generated by the improved lifestyles of students. Similar to the taxpayer perspective above, education is statistically correlated with a variety of lifestyle changes that generate social savings. Note that these costs are avoided by the consumers, and are distinct from the costs avoided by taxpayers outlined above. Health savings include avoided medical costs associated with smoking, alcoholism, obesity, drug abuse, and mental disorders. Crime savings include reduced security expenditures and insurance administration, lower victim costs, and reduced criminal justice system expenditures. Unemployment savings include the reduced employer contributions towards unemployment claims. For a list of study references to these statistical benefits, please contact the district for a copy of the main report.

Figure 3 shows the present value of the higher earnings and social savings that will occur in Texas over the working lifetime of the FY 2016-17 student population at the Alamo Colleges. Higher earnings amount to a present value of \$17.5 billion due to the increased lifetime earnings of students and associated increases in business output. Social savings amount to \$225.1 million, the sum of health, crime, and unemployment savings in Texas. Altogether, total benefits to society equal \$17.7 billion (in present value terms).

Society invested a present value of \$788.1 million for FY 2016-17 Alamo educations. This includes all expenditures by the Alamo Colleges District, all student expenditures, and all student opportunity costs. For every dollar of this investment, society as a whole in Texas will receive a cumulative value of \$22.40 in benefits, equal to the \$17.7 billion in benefits divided by the \$788.1 million in costs. These benefits will occur for as long as the Alamo Colleges' FY 2016-17 students remain employed in the state workforce.

**FIGURE 3:** Present value of higher earnings and social savings in Texas





## SUMMARY OF INVESTMENT ANALYSIS RESULTS

Table 3 presents the results of the investment analysis for all three of the Alamo Colleges District's major stakeholder groups—students, taxpayers, and society. As shown, students receive great value for their educational investment. At the same time, the investment made by state and local taxpayers to the colleges creates a wide range of benefits to society and returns more to government budgets than it costs.

**TABLE 3:** Summary of investment analysis results

	STUDENT PERSPECTIVE	TAXPAYER PERSPECTIVE	SOCIAL PERSPECTIVE
Present value benefits (thousands)	\$2,563,596	\$1,106,640	\$17,679,319
Costs (thousands)	\$364,346	\$296,349	\$788,090
<b>Net present value (thousands)</b>	<b>\$2,199,250</b>	<b>\$810,290</b>	<b>\$16,891,230</b>
Benefit-cost ratio	7.0	3.7	22.4
Rate of return	21.7%	10.2%	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.

For every **\$1** spent by...

### STUDENTS

**\$7.00**

Gained in lifetime earnings  
for STUDENTS

### TAXPAYERS

**\$3.70**

Gained in added tax revenue and  
public sector savings for TAXPAYERS

### SOCIETY

**\$22.40**

Gained in added state revenue and  
social savings for SOCIETY



# Conclusion

The results of this study demonstrate that the Alamo Colleges District creates value from multiple perspectives. The colleges benefit local businesses by increasing consumer spending in the region and supplying a steady flow of qualified, trained workers into the workforce. They enrich the lives of students by raising their lifetime earnings and helping them achieve their individual potential. They benefit state and local taxpayers through increased tax receipts across the state and a reduced demand for government-supported social services. Finally, they benefit society as a whole in Texas 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 2016-17 academic and financial reports from the Alamo Colleges District, 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 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 main report.



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