



BUILDING LOCAL ECONOMIES OF SCALE:

THE IMPACT OF TRIBAL COLLEGES & UNIVERSITIES IN RURAL AMERICA

AMERICAN INDIAN HIGHER EDUCATION CONSORTIUM



ARIZONA TRIBAL COLLEGES & UNIVERSITIES

ECONOMIC IMPACT STUDY

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AT-A-GLANCE: ARIZONA TCUs ECONOMIC IMPACT



Impact of Arizona TCUs

Arizona Tribal Colleges & Universities (TCUs) generate more benefits for national taxpayers than the TCUs cost to support. (FY2022-2023 Data)



Arizona TCUs

There are two (2) Tribal Colleges located in the state of Arizona out of 35 total Tribal Colleges & Universities across the nation. Those two colleges include: Diné College and Tohono O'odham Community College.



Return on Investment

For every dollar of public money invested in Arizona TCUs, national taxpayers will receive a cumulative value of \$1.10 over the course of the students' working lives. (FY2022-2023 Data)



\$125.4 Million & 1,716 Jobs

Arizona TCUs added \$125.4 million in income to the Arizona economy during the analysis year, equal to the sum of operations and construction spending impacts; the student spending impact; and the alumni impact. The \$125.4 million impact supported 1,716 state jobs, using the jobs-to-sales ratios specific to each industry in the state. (FY2022-2023 Data)

EXECUTIVE SUMMARY

Arizona Tribal Colleges and Universities (Arizona TCUs) create value in many ways. The colleges play a key role in helping students increase their employability and achieve their individual potential. The colleges draw students to the state, generating new dollars and opportunities for Arizona. The colleges provide students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, the colleges are places for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

Arizona TCUs influence both the lives of students and the state economy. The colleges support a variety of industries in Arizona, serve state businesses, and benefit society as a whole from an expanded economy and improved quality of life. Additionally, the benefits created by Arizona TCUs extend to the local, state, and federal government through increased tax revenues and public sector savings.

This study measures the economic impacts created by Arizona TCUs on the business community and the benefits the colleges generate in return for the investments made by their 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 colleges, for fiscal year (FY) 2022-23. Impacts on the Arizona 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 are reported under the investment analysis.

* Arizona TCUs consist of Diné College and Tohono O'odham Community College.

ARIZONA TCUs ECONOMIC IMPACT SUMMARY

Arizona TCUs promote economic growth in Arizona through their direct expenditures and the resulting expenditures of students and state businesses. The colleges serve as employers and buyers of goods and services for their day-to-day and construction operations.

The colleges’ activities attract students from outside Arizona, whose expenditures benefit state vendors. In addition, the colleges are primary sources of higher education to Arizona residents and suppliers of trained workers to state industries, enhancing overall productivity in the state workforce.

TCU OPERATIONS SPENDING IMPACT

Arizona TCUs add economic value to Arizona as employers of state residents and large-scale buyers of goods and services. In FY 2022-23, the colleges employed 466 full-time and part-time faculty and staff, 99% of whom lived in Arizona. Total payroll at Arizona TCUs was \$24.1 million, much of which was spent in the state on groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the colleges spent \$30.3 million on expenses related to facilities, supplies, and professional services (excluding construction).

The operations spending of Arizona TCUs added \$36.1 million in income to the state during the analysis year. This figure represents the colleges’ payroll, the multiplier effects generated by the in-state spending of the colleges and their employees, and a downward adjustment to account for funding that the colleges received from state sources. The \$36.1 million in added income is equivalent to supporting 554 jobs in the state.

IMPACTS CREATED BY ARIZONA TCUs

(FY2022-23)

\$36.1 million
Operations Spending Impact

\$4.8 million
Construction Spending Impact

\$4.0 million
Student Spending Impact

\$80.4 million
Alumni Impact

\$125.4 million
Total Impact

1,716
Total Jobs Supported

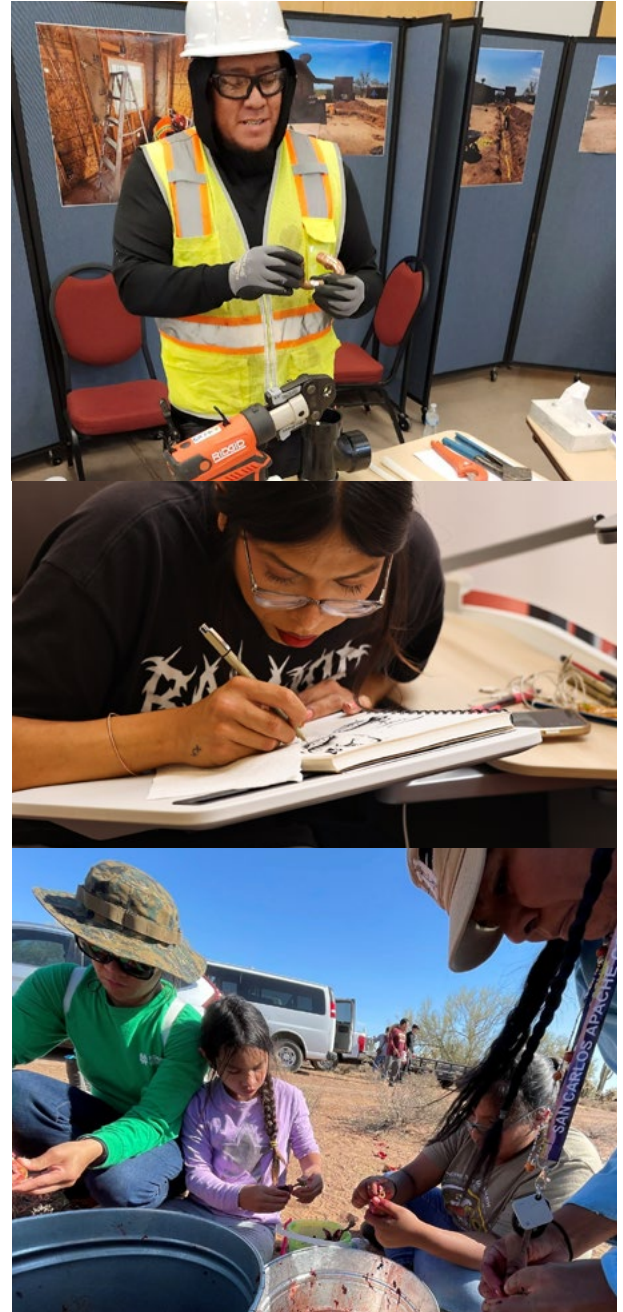
ARIZONA TCUs ECONOMIC IMPACT SUMMARY

CONSTRUCTION SPENDING IMPACT

Arizona TCUs invest in construction each year to maintain facilities, create additional capacities, and meet growing educational demands. While the amount varies from year to year, these quick infusions of income and jobs have a substantial impact on the state economy. In FY 2022-23, the colleges' construction spending generated \$4.8 million in added income, which is equivalent to supporting 66 jobs.

STUDENT SPENDING IMPACT

Around 15% of students attending Arizona TCUs originated from outside the state in FY 2022-23, and some of these students relocated to Arizona to attend the colleges. These students may not have come to the state if the colleges did not exist. In addition, some in-state students, referred to as retained students, would have left Arizona if not for the existence of Arizona TCUs. While attending the colleges, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. Also attributable to Arizona TCUs is the increased spending of in-state students who would have remained in Arizona even if the colleges had not existed. Because of the federal scholarships and grants these students received, they spend more money in the state while attending college than they would have had they not attended the colleges. This spending generated \$4.0 million in added income for the state economy in FY 2022-23, which supported 72 jobs in Arizona.



Photos courtesy of Diné College and Tohono O'odham Community College.

ARIZONA TCUs ECONOMIC IMPACT SUMMARY

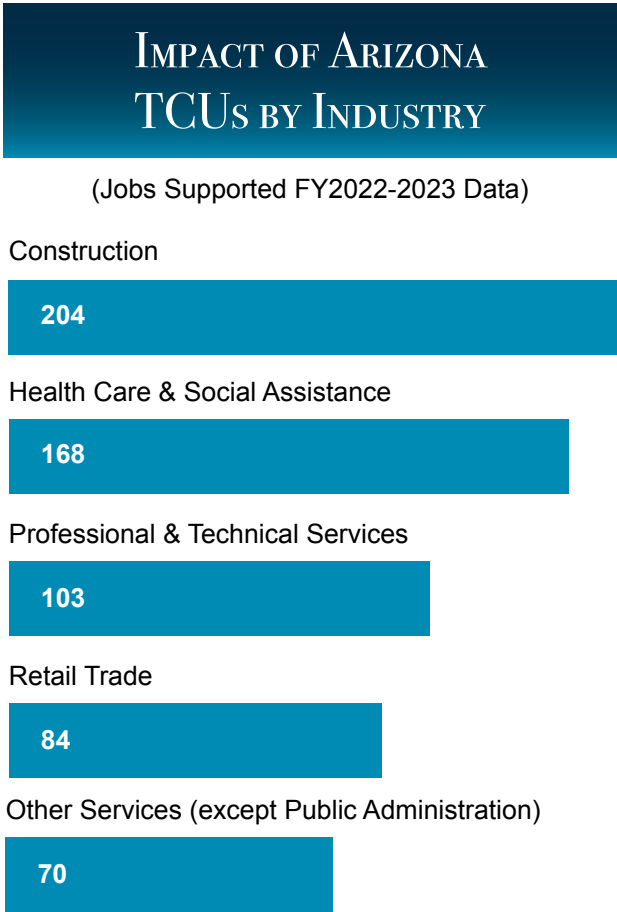
ALUMNI IMPACT

The education and training the colleges provide for state residents has the greatest impact. Since the colleges were established, students have studied at Arizona TCUs and entered the state workforce with greater knowledge and new skills. Today, thousands of former Arizona TCU students are employed in Arizona. As a result of their education from Arizona TCUs, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY 2022-23, Arizona TCU alumni generated \$80.4 million in added income for the state economy, which is equivalent to supporting 1,023 jobs.



TOTAL TCU ECONOMIC IMPACT IN ARIZONA

Arizona TCUs added \$125.4 million in income to the Arizona economy during the analysis year, equal to the sum of the operations and construction spending impacts; the student spending impact; and the alumni impact. The total impact of Arizona TCUs can also be expressed in terms of jobs supported. The \$125.4 million impact supported 1,716 state jobs, using the jobs-to-sales ratios specific to each industry in the state. In addition, the \$125.4 million, or 1,716 supported jobs, stemmed from different industry sectors. For instance, among non-education industry sectors, the spending of Arizona TCUs and their students and the activities of their alumni in the Construction industry sector supported 204 jobs in FY 2022-23. If the colleges did not exist, these impacts would not have been generated in Arizona.



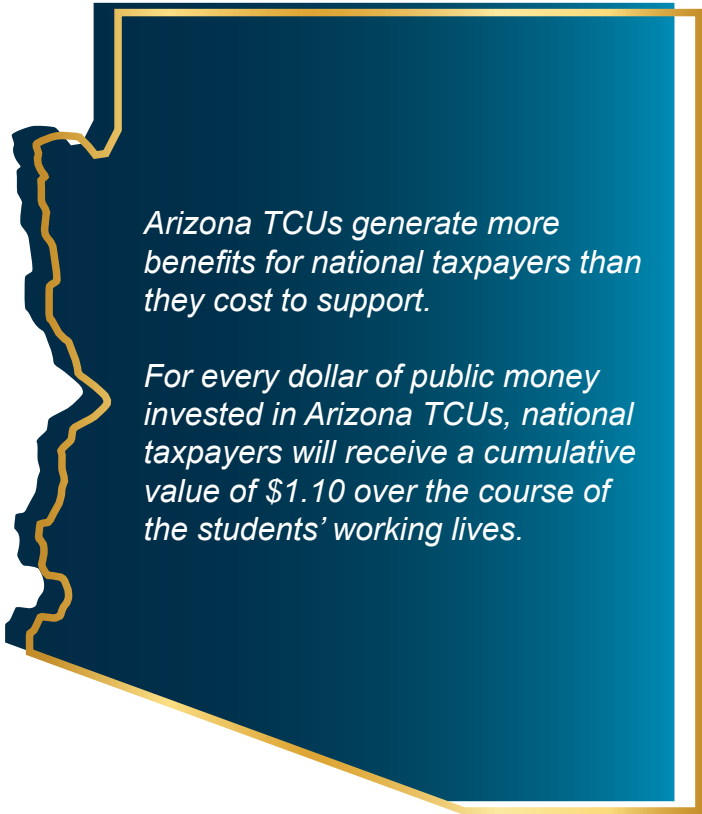
INVESTMENT ANALYSIS

An investment analysis evaluates the costs associated with a proposed venture against its expected benefits. The analysis presented here evaluates Arizona TCUs as an investment from the perspectives of students, taxpayers, and society. As with the economic impact analysis, this analysis considers only FY 2022-23 activities.

TAXPAYER PERSPECTIVE

Arizona TCUs generate more in national tax revenue than they receive. These benefits to taxpayers consist primarily of taxes that the government will collect from the added revenue created in the nation and state. As Arizona TCU 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. At the national level, the government will have collected a present value of \$63.5 million in added taxes by the end of the FY 2022-23 students' working lives. At the state level, Arizona will have collected a present value of \$12.6 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of students attending Arizona TCUs and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The education that Arizona TCU students receive will generate savings in three main categories: 1) health care, 2) justice system, and 3) income assistance. Improved health will lower students' demand for national health care services. In addition, costs related to the justice system will decrease. Arizona TCU students will be more employable, so their reduced demand for income assistance such as welfare and unemployment benefits will benefit taxpayers. Altogether, the present value of the benefits associated with an education through Arizona TCUs will generate \$7.4 million in savings to national taxpayers. Taxpayers in Arizona will experience \$2.5 million in government savings.



Arizona TCUs generate more benefits for national taxpayers than they cost to support.

For every dollar of public money invested in Arizona TCUs, national taxpayers will receive a cumulative value of \$1.10 over the course of the students' working lives.

Total national taxpayer benefits amount to \$71.0 million, the present value sum of the added tax revenue and public sector savings. Taxpayer costs are \$62.7 million, equal to the amount of government funding Arizona TCUs received in FY 2022-23. These benefits and costs yield a benefit-cost ratio of 1.1. This means that for every dollar of public money invested in Arizona TCUs in FY 2022-23, national taxpayers will receive a cumulative present value of \$1.10 over the course of the students' working lives. In other words, Arizona TCUs generate more benefits for national taxpayers than they cost to support.

INVESTMENT ANALYSIS

TAXPAYER PERSPECTIVE (CONTINUED)

Although it is not recommended to directly compare benefit-cost ratios between institutions since many factors influence them, any benefit-cost ratio above 1.0 is significant and indicates that the institution generates a surplus of benefits. Additionally, the average annual internal rate of return for national taxpayers is 1.4%,

which compares favorably to other long-term investments in the public sector. From the state perspective, Arizona taxpayer benefits amount to \$15.1 million, which will accrue in the future as long as the FY 2022-23 student population of Arizona TCUs remains in the state workforce.

STUDENT PERSPECTIVE

In FY 2022-23, Arizona TCUs served 2,580 credit and 179 non-credit students. In order to attend the colleges, the students paid for tuition, fees, books, and supplies. They also gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by Arizona TCU students in FY 2022-23 amounted to a present value of \$5.5 million, equal to \$3.4 million in out-of-pocket expenses and \$2.2 million in forgone time and money.

In return for their investment, Arizona TCU students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average Arizona TCU associate degree graduate from FY 2022-23 will see annual earnings \$7,700 higher than a person with a high school diploma or equivalent working in Arizona. Over a working lifetime, the benefits of the associate degree over a high school diploma will amount to an undiscounted value of \$277,200 in higher earnings per graduate. The present value of the cumulative higher future earnings that Arizona TCU FY 2022-23 students will receive over their working careers is \$49.7 million.

The students' benefit-cost ratio is 9.0. In other words, for every dollar students invest in an education at Arizona TCUs in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$9.00 in higher future earnings. Annually, the students' investment in Arizona TCUs has an average annual internal rate of return of 28.6%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.1%.

<High School | \$26,700

High School | \$32,200

Certificate | \$35,300

Associate | \$39,900

Bachelor's | \$54,100

INVESTMENT ANALYSIS

SOCIAL PERSPECTIVE

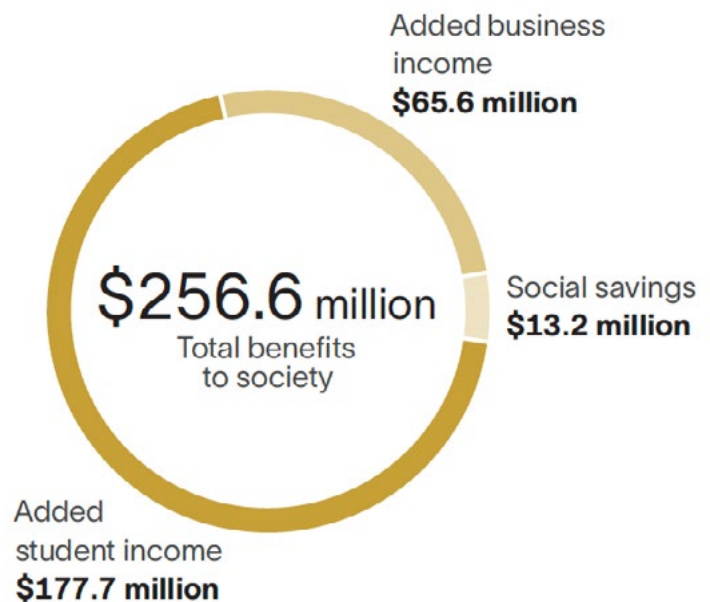
Society as a whole benefits from the presence of Arizona TCUs in two major ways. Primarily, society benefits from an increased economic base in the nation. This is attributed to the added income from students' increased lifetime earnings (added student income) and increased business output (added business income), which raise economic prosperity in the U.S.

Benefits to society also consist of the savings generated by the improved lifestyles of Arizona TCU 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. Health care savings include avoided medical costs associated with smoking, obesity, substance abuse, and depression. Justice system savings include avoided costs to the government and society due to less judicial activity. Income assistance savings include reduced welfare and unemployment claims.

Altogether, the social benefits of Arizona TCUs equal a present value of \$256.6 million. These benefits include \$177.7 million in added student income, \$65.6 million in added business income, as well as \$13.2 million in social savings related to health, the justice system, and income assistance in the U.S. People in the U.S. invested a present value total of \$69.9 million in Arizona TCUs in FY 2022-23. The cost includes all government funding and student costs.

SOCIAL BENEFITS FROM ARIZONA TCUs NATIONWIDE

Social benefits from Arizona TCUs nationwide



The benefit-cost ratio for society is 3.7, equal to the \$256.6 million in benefits divided by the \$69.9 million in costs. In other words, for every dollar invested in Arizona TCUs, people in the U.S. will receive a cumulative value of \$3.70 in benefits. The benefits of this investment will occur for as long as Arizona TCU FY 2022-23 students remain employed in the workforce.

INVESTMENT ANALYSIS

SUMMARY OF INVESTMENT ANALYSIS RESULTS

The results of the analysis demonstrate that Arizona TCUs are a strong investment for all major stakeholder groups—students, national taxpayers, and society. As shown, students receive a great return for their investments in an education through Arizona TCUs. At the same time, taxpayers' investment in Arizona TCUs returns more to state and federal government budgets than it costs and creates a wide range of social benefits throughout the U.S.



Taxpayer perspective

National taxpayers

Present value benefits

\$71.0 million

Present value costs

\$62.7 million

Net present value

\$8.3 million

Benefit-cost ratio

1.1

Rate of return

1.4%

State taxpayers

Present value benefits

\$15.1 million



Student perspective

Present value benefits

\$49.7 million

Present value costs

\$5.5 million

Net present value

\$44.2 million

Benefit-cost ratio

9.0

Rate of return

28.6%



Social perspective

Present value benefits

\$256.6 million

Present value costs

\$69.9 million

Net present value

\$186.7 million

Benefit-cost ratio

3.7

Rate of return

n/a*

CONCLUSION

The results of this study demonstrate that Arizona TCUs create value from multiple perspectives. The colleges benefit state businesses by increasing consumer spending in the state and supplying a steady flow of qualified, trained workers to the workforce. Arizona TCUs enrich the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The colleges benefit taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, Arizona TCUs benefit society as a whole by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students.



ABOUT THE STUDY

This study is part of a series of Economic Impact Studies conducted in partnership with the American Indian Higher Education Consortium (AIHEC) and Lightcast. Lightcast provides colleges and universities with labor market data that helps create better outcomes for students, businesses, and communities. Our data, which cover more than 99% of the U.S. workforce, are compiled from a wide variety of government sources, job postings, and online profiles and resumes. Visit lightcast.io/solutions/education to learn more or connect with us.

Data and assumptions used in the study are based on several sources, including the FY 2022-

23 academic and financial reports from Arizona TCUs, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Lightcast'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 American Indian Higher Education Consortium for a copy of the main report.

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