

**ASU** W.P. Carey  
School of Business  
Arizona State University  
Seidman Research Institute



**THE ECONOMIC AND FISCAL IMPACTS OF  
SCOTTSDALE UNIFIED SCHOOL DISTRICT,  
AND THE VALUE OF ITS  
HIGH SCHOOL GRADUATES**

Seidman Research Institute  
Arizona State University

April 16, 2023

## L. WILLIAM SEIDMAN RESEARCH INSTITUTE

*The L. William Seidman Research Institute serves as a link between the local, national, and international business communities and the W. P. Carey School of Business at Arizona State University (ASU).*

*First established in 1985 to serve as a center for applied business research alongside a consultancy resource for the Arizona business community, Seidman collects, analyzes and disseminates information about local economies, benchmarks industry practices, and identifies emerging issues that affect productivity and competitiveness.*

*Using tools that support sophisticated statistical modeling and planning, supplemented by an extensive understanding of the local, state and national economies, Seidman today offers a host of economic research and consulting services, including economic impact analyses, forecasting, survey research, attitudinal and qualitative studies, and strategic analyses of economic development opportunities.*

*Working on behalf of government agencies, regulatory bodies, public or privately-owned firms, academic institutions, and non-profit organizations, Seidman specializes in studies at the city, county or state-wide level. Clients include:*

- *Arizona Commerce Authority (ACA)*
- *Arizona Corporation Commission (ACC)*
- *Arizona Dept. of Health Services*
- *Arizona Dept. of Mines and Mineral Resources*
- *Arizona Diamondbacks*
- *Arizona Governor's Office of Strategic Planning and Business*
- *Arizona Hospital and Healthcare Association*
- *Arizona Investment Council (AIC)*
- *Arizona Mining Association*
- *Arizona National Football Championship*
- *Arizona Public Service Corporation (APS)*
- *Arizona School Boards Association*
- *Arizona Super Bowl Host Committee*
- *Arizona Technology Council*
- *Arizona Town Hall*
- *Banner Health*
- *BHP Billiton*
- *The Boeing Company*
- *The Cactus League*
- *The Central Arizona Project (CAP)*
- *Chicanos por la Causa*
- *The City of Phoenix*
- *The City of Phoenix Fire Department*
- *The City of Prescott*
- *Copperpoint Insurance*
- *David and Gladys Wright House Foundation*
- *Dignity Health*
- *The Downtown Tempe Authority*
- *Environmental Defense Fund (EDF)*
- *Envision Healthcare*
- *EPCOR Water*
- *Epic Rides*
- *Excelsior Mining*
- *Fiesta Bowl*
- *Freeport McMoRan*
- *Glendale Community College*
- *HonorHealth*
- *Intel Corporation*
- *iState, Inc.*
- *McCain Institute*
- *Maricopa Integrated Health System*
- *Navajo Dept. of Economic Development*
- *NCAA Final Four*
- *Pakis Foundation*
- *Phoenix Convention Center*
- *Phoenix Philanthropy Group*
- *Phoenix Sky Harbor International Airport*
- *Protect the Flows*
- *Public Service New Mexico (PNM)*
- *Raytheon*
- *Republic Services, Inc.*
- *Rosemont Copper Mine*
- *Salt River Project (SRP)*
- *Science Foundation Arizona (SFAZ)*
- *Tenet Healthcare*
- *Turf Paradise & Delaware North*
- *United Nations Global Compact*
- *Valley METRO Light Rail*
- *Waste Management Inc.*

# EXECUTIVE SUMMARY

This study estimates the value that Scottsdale Unified School District (SUSD) brings to the regional economy, based on annual operations, capital expenditures associated with the bond project, and the wages and taxes paid by SUSD graduates currently working in Arizona.

## Economic Impact of SUSD Operations in FY2022

SUSD’s aggregate annual budget for FY2022 totaled \$245.6 million. It included a maintenance and operations fund of \$176.9 million, an unrestricted capital fund of \$25.5 million, and federal projects other than impact aid of \$43.3 million. The maintenance and operations fund included salaries, wages, and benefits of employees, totaling \$150.6 million. Direct employment in FY2022 was 2,882 FTE employees, including teachers, teachers’ aides, administrators, and other staff. According to the vendor purchase files, 57% of vendor transactions were with suppliers located in-state, while 45% of transactions were with suppliers located within Maricopa County.

Table ES1 summarizes the total (direct, indirect, and induced) economic impacts of SUSD operations in FY2022 for the State of Arizona and separately for Maricopa County.

**Table ES1: State and County Level Total Economic Impacts Associated with SUSD Operations, FY2022**

TOTAL FY2022	TOTAL EMPLOYMENT <sup>1</sup> (Jobs)	STATE GDP <sup>2</sup> (Millions 2022\$)	LABOR INCOME <sup>3</sup> (Millions 2022\$)	GROSS OUTPUT <sup>4</sup> (Millions 2022\$)
<b>ARIZONA</b>	5,008	\$329.2	\$272.4	\$458.1
<b>MARICOPA COUNTY</b>	4,475	\$290.6	\$245.3	\$399.5

In FY2022, SUSD operations contributed \$329.2 million to State GDP in Arizona. SUSD operations also accounted for 5,008 total jobs, and \$272.4 million labor income in Arizona.

---

<sup>1</sup> Employment is a count of full- and part-time jobs, including both wage and salary workers, and the self-employed  
<sup>2</sup> State GDP represents the dollar value of all goods and services produced for final demand in Arizona. It excludes the value of intermediate goods and services purchased as inputs to final production. It is synonymous with value added, or Gross Domestic Product (GDP) at a national level.  
<sup>3</sup> Labor Income includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income.  
<sup>4</sup> Gross Output is principally a measure of an industry’s sales or receipts, which include sales to final users in the economy (GDP) or sales to other industries (intermediate inputs).

Focusing on the smaller geographic area of Maricopa County, SUSD operations contributed \$290.6 million to State GDP. They also accounted for 4,475 total jobs, and \$245.3 million labor income in Maricopa County.

**Economic Impact of SUSD Capital Investments in FY2022**

Capital investments consist of construction and non-routine maintenance, and capital equipment purchases. Significant construction activities in the district started in FY2017 and are ongoing, facilitated by a voter-approved bond project. Seidman separately estimates the impacts of the bond project’s capital investments.

Direct capital expenditures facilitated by the bond project were approximately \$184.9 million (expressed in nominal dollars), of which 97% were spent in the state (including 94% in Maricopa County). Purchases that were made with vendors/suppliers located outside of Maricopa County or the State of Arizona were excluded from the economic impact estimates.

Table ES2 estimates the total (direct, indirect, and induced) economic impacts of SUSD’s cumulative capital investments, FY2017-FY2022.

**Table ES2: State and County Level Total Economic Impacts Associated with the Cumulative Capital Investments of SUSD, FY2017-2022**

TOTAL FY2017-2022	TOTAL EMPLOYMENT (Job-Years <sup>5</sup> )	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
<b>ARIZONA</b>	2,323	\$224.4	\$147.6	\$360.3
<b>MARICOPA COUNTY</b>	1,978	\$201.7	\$131.3	\$319.6

Seidman estimates that Arizona’s economy has gained a cumulative \$224.4 million in State GDP, \$147.6 million in labor income, and 2,323 job-years between FY2017 and FY2022 due to SUSD’s capital investments alone.

---

<sup>5</sup> This value is represented in job-years. It is not synonymous with ‘jobs.’ A job-year is equivalent to one person having a job for one full year. For example, if one person is employed for 20 years, that would equate to one job or 20 job-years.

SUSD's economic impacts for Maricopa County are \$201.7 million in cumulative State GDP, \$131.3 million in labor income, and 1,978 job-years.

## **SUSD Graduate Wages**

A thorough analysis of the economic and fiscal impacts of SUSD should also consider the value of the school district's graduates currently working in Arizona.

Between 2011 and 2022, SUSD had an annual average of 1,868 high school graduates. Approximately 75% of these graduates enrolled in college, and 48.5% went on to earn a bachelor's degree within the 4 to-6-year window monitored by the Arizona Board of Regents (ABOR). ABOR estimates that around 70% of SUSD's college graduates (2011-2015) earned their bachelor's degree from an Arizona-based university. Data obtained directly by Seidman from ASU records suggests that these figures may be higher historically.<sup>6</sup>

The wage estimates and number of college graduates currently working in Arizona are based on actual employment and wage data for ASU graduates, 1990 to 2021, who were covered by the state's unemployment insurance program.<sup>7</sup> The average wages for the ASU graduates are applied to NAU and UA graduates. Estimates of those who graduated from in-state universities prior to 1990 and of graduates who were not covered by the unemployment insurance program, such as proprietors, who still work in Arizona are also added to the total estimates.<sup>8</sup>

Table ES3 summarizes Seidman's estimates of the contribution of SUSD graduates currently working in Arizona, based on ABOR data. The aggregate earnings of the SUSD graduates currently working in Arizona are estimated to total \$3.2 billion in 2021 (expressed in 2022 \$).

Based on these earnings, Seidman conservatively estimates that SUSD graduates contributed \$228.2 million in state and local government taxes in 2021 (also expressed in 2022 \$).

---

<sup>6</sup> Comparisons to other school districts in the state or nation are not available.

<sup>7</sup> The most recent data is available for 2021.

<sup>8</sup> To estimate the number of college graduates working in Arizona in wage and salary jobs not covered by unemployment insurance or as proprietors (self-employed), the ASU shares of the Quarterly Census of Wages (QCEW) total were applied to the Bureau of Economic Analysis's (BEA) total employment figure. The method is outlined in detail in Hoffman and Madly (2022).

**Table ES3: Wages and State and Local Government Tax Payments of SUSD Graduates Currently Working in Arizona (2021)**

<b>DEGREE EARNED</b>	<b>WAGES (Millions 2022 \$)</b>	<b>STATE AND LOCAL GOVERNMENT TAX PAYMENTS (Millions 2022 \$)</b>
<b>Graduate Degree</b>	\$494.2	\$34.6
<b>Bachelor’s Degree</b>	\$1,355.1	\$95.9
<b>Some College /Associate Degree</b>	\$891.6	\$62.9
<b>High School Degree Only</b>	\$492.5	\$34.8
<b>Total</b>	<b>\$3,233.3</b>	<b>\$228.2</b>

**Generic Insights about the Contribution of K-12 Education to Regional Economies**

There are additional ways in which K-12 schools can benefit a local economy. These include:

- Raising property values.
- Providing a quality workforce to attract businesses.
- Having a positive impact on quality-of-life factors.

For example, investments in K-12 schools can increase home values, decrease the number of renters, increase the percentage of land developed in the area, and encourage people to move to the area.

Business site selectors often prioritize regions endowed with skilled workforces, and well-funded, high-performing school districts can be a determinate of a skilled and knowledgeable workforce.

The literature also suggests a positive correlation between well-funded, high performing schools and quality-of-life factors, which may result in social benefits over time. For example, well-funded, high performing schools are associated with reduced crime rates, improved health and reduced healthcare costs, and increased community engagement and voter participation.

A quantification of these additional benefits is beyond the scope of the current study, but they are not inconsequential.

On that basis, Seidman’s estimate of the total value of SUSD for the State of Arizona and Maricopa County economies, as summarized in this study, is conservative.

# TABLE OF CONTENTS

- EXECUTIVE SUMMARY..... 2**
  - ECONOMIC IMPACT OF SUSD OPERATIONS IN FY2022 .....2
  - ECONOMIC IMPACT OF SUSD CAPITAL INVESTMENTS IN FY2022 .....3
  - SUSD GRADUATE WAGES.....4
  - GENERIC INSIGHTS ABOUT THE CONTRIBUTION OF K-12 EDUCATION TO REGIONAL ECONOMIES .....5
- INTRODUCTION ..... 7**
- 1. THE CONTRIBUTION OF K-12 SCHOOLS TO STATE AND REGIONAL ECONOMIES: A LITERATURE REVIEW ..... 9**
  - PROPERTY VALUES .....9
  - WORKFORCE QUALITY .....10
  - QUALITY OF LIFE.....12
- 2. THE ECONOMIC IMPACT OF SCOTTSDALE UNIFIED SCHOOL DISTRICT ON THE STATE OF ARIZONA AND MARICOPA COUNTY .....15**
  - ECONOMIC IMPACT METHOD AND DATA ASSUMPTIONS .....15
  - THE ECONOMIC IMPACT OF BOND PROJECT CAPITAL INVESTMENTS .....17
  - THE ECONOMIC IMPACT OF SUSD OPERATIONS IN FY2022 .....20
- 3. SUSD GRADUATE WAGE IMPACTS .....22**
- APPENDIX.....26**
- REFERENCES .....34**

## INTRODUCTION

Located northeast of metropolitan Phoenix, Scottsdale Unified School District (SUSD) serves the educational needs of approximately 21,800 students and families across 29 physical campuses in Phoenix, Paradise Valley, Fountain Hills, Tempe, and Scottsdale, and one online K-12 school.

The history of the Scottsdale school system between 1896 and 1944 is described by W.W. Dick in his 1944 thesis. The city's first school district was established in 1896 consisting of one room. A request for a new school building was made in 1909, based on a vision of a greater and larger community and making Scottsdale a "Home for Humanity." A red brick schoolhouse was then built in 1910. Further expansions followed in 1918, and in 1923, when a new high school building was added. All the new buildings were financed by bonds.

With increasing enrollment came the need to add more buildings. A new grade school was added in 1928 and a new gymnasium in 1929. As the community grew, the school system also grew to meet the needs for more educational facilities, more teachers, more equipment, and more courses - a trend that continues to the present day.

SUSD's schools currently consist of fifteen elementary, three K-8, six middle, five high schools, and one online K-12 school. The students are drawn from 152 zip codes. The main zip codes of origin are 85260 (11.7%), 85251 (10.3%) and 85018 (10.3%). A full list of zip codes is provided in the appendix.

A highly experienced, certified teaching staff of approximately 1,500 professionals fosters a diverse and rigorous educational environment to develop the potential in every individual learner, supported by a further 1,500 SUSD employees.

School funding in Arizona is determined by the State Legislature. There are multiple budget categories some of which are funded by the state, others by local revenues and State and Federal Grants, and some by donations and/or payments made to school districts. These categories include Maintenance and Operations (M&O), District Additional Assistance (DAA), Classroom Site Fund, Instructional Improvement, State and Federal Grants, Bonds, and Special Revenue Funds.



The purpose of this study is to articulate the value that a high-quality K-12 school district can bring to a regional economy. In particular, the study:

- Critiques the literature on how K-12 schools contribute to the economic well-being of a state or regional economy.
- Measures the economic and fiscal impact of SUSD as an enterprise on the Maricopa County and State of Arizona economies.
- Estimates the contributions provided by SUSD to wages earned by students attaining secondary degrees in its system.

Section 1 summarizes the key findings from an extensive literature review.

Estimates of the economic and fiscal impact of SUSD are presented in Section 2.

Section 3 estimates the contributions provided by SUSD to wages earned by students attaining secondary degrees in its system.

# 1. THE CONTRIBUTION OF K-12 SCHOOLS TO STATE AND REGIONAL ECONOMIES: A LITERATURE REVIEW

A literature review suggests that investments in K-12 schools can benefit a local economy in at least three ways. These are:

- Raising property values.
- Providing a quality workforce to attract businesses.
- Having a positive impact on quality-of-life factors.

## Property Values

Evidence can be found suggesting that investments in K-12 schools can increase home values, decrease the number of renters, increase the percentage of land developed in the area, and encourage people to move to the area.

In 2012, the Brookings Institution evaluated the housing-cost gap in the 100 largest metropolitan areas. Brookings generated hypothetical attendance zones using software and census tract data, then compared the average costs of housing near schools in the top 20th percentile of test scores with the average costs of housing near schools in the bottom 20th percentile of test scores. Its study concludes that housing costs are on average 2.4 times more for homes located closer to a high-scoring public school than for homes located near a low-scoring public school. (Rothwell, 2012).

Studies in *the Journal of Public Economics* and *Journal of Housing Economics* appear to support Brookings' findings. Barrow et al (2004) conclude that aggregate housing values rise by \$19 to \$20 for every dollar spent on state education. The *Journal of Housing Economics* study finds that a one standard deviation increase in student test scores increases home values between 1% and 4% in a review of school capitalization studies (Nguyen-Hoang, et al, 2011). The *National Bureau of Economic Research* uses the Federal Housing Finance Agency (FHFA) house price index to determine average house prices within school district boundaries. Its study indicates that a 1% increase in taxes spent on teacher salaries leads to a 0.95-1.03% increase in house prices (Bayer, et al, 2020).

In addition to the increased property values, a *Journal of Regional Science* study concludes that people are 3.7% more likely to choose a city residence with a 1% increase in the quality of a local school district (Bayoh, 2006). It is possible as more people move to a given area for a school, population increases, which may result in more land development. This was examined by Hilber and Mayer in the *Journal of Urban Economics*. In a study of 46 states, they find that spending per student is positively correlated with the percentage of developed land within a school district boundary. This correlation is strongest in areas with more elderly residents who do not use schools, indicating that even those without children benefit from school spending (Hilber, et al, 2009).

Brookings also concludes that there are around 30% fewer rental properties in the attendance zones around high performing schools (Rothwell, 2012).

## **Workforce Quality**

Business site selectors often prioritize regions endowed with skilled workforces, and well-funded, high-performing school districts can be a determinate of a skilled and knowledgeable workforce.

For example, the Minnesota Department of Employment and Economic Development website reports site selectors consider the size and quality of an area's labor force using the education level of residents as a proxy for quality. Other quality-of-life factors are also considered, including the perceived quality of K-12 education in the area (Minnesota Department of Employment and Economic Development, 2022). This theme is echoed by Michelle Comerford, a site location expert with Austin Consulting in Cleveland, Ohio, whose manufacturing client required key labor force skills to meet operational needs. As a result, they sought regions with high-ranking public and private schools (Crawford, 2010). Comerford's interview suggests that the top-performing schools add key skills to the local workforce and attract skilled workers from outside the region who demand quality educational opportunities for their own children.

A 2018 study in the *Transport Reviews* journal asked business site selectors to identify the top drivers affecting business location decisions. Study participants generated a list that included the education of the local labor force and the presence of a high school in the area (Balbontin, et al, 2018). Additionally, a 2017 *Site Selection Magazine* survey given to corporate real estate executives returned "workforce skills" as the most important criteria for a business location (Arend, 2017). Both publications suggest that

business site selectors regularly consider the perceived quality of local schools as a metric for their decisions.

CNBC ranks Arizona 34<sup>th</sup> overall in their *2022 Best States for Business* publication. This ranking was, in part, bolstered by Arizona's 7<sup>th</sup> place in CNBC's "workforce category," which in all probability reflects Arizona's right-to-work laws and net-in-migration performance. In fact, CNBC ranks Arizona a lowly 42<sup>nd</sup> in the education metric, measured as a combination of school performance and state investment (CNBC, 2022). Ongoing increases in investments and a keen focus on quality are therefore essential for Arizona to improve the latter metric.

Perhaps the best way to understand how investments in K-12 schools influence economic development and business relocation decisions is to ask local people working in that area in Arizona. To that end, Seidman contacted Chris Camacho, President and CEO of the Greater Phoenix Economic Council (GPEC), Christine Mackay, Phoenix Community and Economic Development Director, Rob Millar, Economic Development Director for the City of Scottsdale, and Paul Tuchin, Principal at Trammell Crow Company, for their opinions. The responses are as follows:

"Businesses consider a wide variety of factors when deciding where to relocate or expand, but access to quality education is a requirement. We have seen a significant shift in how corporate enterprises approach relocation or expansion, considering both the talent available and the curriculum needed to build a future workforce. Quality schools help to retain talent and produce new skilled workers. Over the last 30 years working with businesses exploring Greater Phoenix, we have found a major consideration is access to quality schools."

*Chris Camacho (GPEC)*

"Based on decades of experience, I have had many companies who placed the quality of K-12 education, and the importance of education to their families who would be relocating, high on their list of importance in the relocation decision. I cannot tell you the number of relocating families that I have helped to coordinate meetings with principals of our elementary and high schools."

*Christine Mackay (City of Phoenix)*

“Attracting businesses to regions depends on labor availability, proximity to market, regulations, and expenses, etc. but, education plays a very significant role as well. Decision makers use school quality as a barometer for workforce quality and quality schools are essential to retaining and attracting employees with concerns about access to quality schools for their families.”

*Rob Millar (City of Scottsdale)*

“High Street Residential is excited about the opportunity to build new residential communities in the city of Scottsdale, especially considering the continued demand for quality housing options in the city. Having access to top-rated public schools and their programming is one of the top reasons that our current multifamily residents say influences their decision to live in Scottsdale.”

*Paul Tuchin (Trammell Crow Company)*

## Quality of Life

The literature also suggests a positive correlation between well-funded, high-performing schools and quality-of-life factors, which may result in social benefits over time. For example, well-funded, high-performing schools are associated with reduced crime rates, improved health and reduced healthcare costs, and increased community engagement and voter participation.

Gary S. Becker’s 1968 evaluation of *Crime and Punishment: An Economic Approach* concluded that the cost of punishment outweighs any gains acquired from the criminal activity. This is primarily due to the high cost of imprisonment, which he links to lost earnings. Given the widely accepted correlation between educational attainment and lifetime earnings, the opportunity cost for a high school or college graduate engaging in crime should therefore be greater than the costs incurred by a non-high school graduate, all other things being equal.

A 2020 study by Lance Lochner in the *Economics of Education* uses regression analysis to estimate the individual effects of education on different types of crime. He finds that an increase of one year of schooling reduces property and violent crime by about 11-12% within a state. In a separate study, Lochner estimates the crime reduction associated with men graduating high school generates social savings worth

14% to 26% of the private return. Lochner concludes that a 1% increase in the high school graduation rate for all men ages 20-60 will reduce annual crime costs by \$1.4 billion nationwide (Lochner, et al, 2004). He also estimates social savings of around \$16,000 for each victim of crime over the next seven years if higher-quality school options are offered to high-risk youth (Lochner, 2011).

Reinforcing Lochner's findings, Deming's 2011 study in the *Quarterly Journal of Economics* investigates the impact of high-risk youth winning a school choice lottery using data from the Charlotte-Mecklenburg School District (North Carolina). Each lottery winner was able to attend a better-quality school, measured by teacher effectiveness and peer interactions, leading to a \$30,000 reduction in the social costs of crime per high-risk youth beneficiary.

Atems and Blankenau (2021) investigate the effect of education on crime level over time. They conclude that a 1% increase in state education spending produces a maximum decline in violent crime of 0.38% over 16 years. Property crimes could also fall by up to 0.64% over 19 years.

A study by the *National Bureau of Economic Research* suggests that one additional year of schooling increases voter registration and participation by approximately 30% to 40% (Lochner, 2011). Burden in the *Electoral Studies* journal also investigated the effect of rising education levels over 50 years on voter turnout. Holding all other factors constant, Burden concludes a person's likelihood of voting jumps from 50% to 70% likelihood if they are high school-educated (Burden, 2009).

The health of a local population can improve in regions with good schools. For example, a study by the *National Bureau of Economic Research* established that an additional four years of education has numerous positive health implications, including a 1.8% reduction in five-year mortality, a 2.16% reduction in heart disease, and a 1.3% reduction in diabetes (Cutler, et al, 2006). Individuals benefitting from additional years of education also lose 2.3 fewer workdays to sickness each year. A 2011 25-year study in the *Social Science & Medicine* journal suggests that people with lower levels of education are 30% more likely than those with a higher level of education to be in fair or poor health before accounting for differences in the severity of health ratings. This health disparity rises to 40% if differences in the severity of health ratings are considered (Goldman, et al, 2011).

Muennig (2008) in *The Price We Pay: Economic and Social Consequences of Inadequate Education* estimates savings of at least \$39,000 in discounted lifetime medical expenditures for each high school graduate. Monetized gains in health and longevity generate an additional \$183,000 per graduate in government savings (Muennig, 2008).

A 2009 study concludes that melanoma healthcare costs are 24% lower for patients with a higher level of education (Buja, et al, 2020).

The *National Bureau of Economic Research* also suggest that a 1% increase in school spending is linked to a 0.21% decrease in the school poverty rate, based on a national sample of school districts from 1990-2015 (Bayer, et al, 2020).

Since poverty is linked with crime, poor health, and civic disengagement, requisite school spending may indirectly decrease crime level and improve health and voter participation by way of reducing the poverty level.

In conclusion, the literature demonstrates that investments in K-12 schools have a positive impact on a local economy. Evidence can be found suggesting that investments in K-12 schools can increase home values, decrease the number of renters, increase the percentage of land developed in the area, and encourage people to move to the area. Business site selectors often prioritize regions endowed with skilled workforces, using well-funded, high-performing school districts as a determinate of a skilled and knowledgeable workforce. The literature also suggests a positive correlation between well-funded, high performing schools and quality-of-life factors, which may result in health and other social benefits over time.

## 2. THE ECONOMIC IMPACT OF SCOTTSDALE UNIFIED SCHOOL DISTRICT ON THE STATE OF ARIZONA AND MARICOPA COUNTY

This section estimates the economic and fiscal effects of Scottsdale Unified School District (SUSD) on the State of Arizona and Maricopa County economy, based on SUSD's employment profile in fiscal year (FY) 2022, and capital investments associated with a voter-approved bond, FY2017-2022.

### Economic Impact Method and Data Assumptions

Economic impact analysis is an effective way of demonstrating the total contribution that an industry, a firm or an organization, or a proposed project will make to a local economy. For example, a school district **directly** affects the local economy through the jobs and wages paid to its staff, purchases made at local businesses, and the taxes it pays to local governments. **Indirect** effects arise when the school district's suppliers hire staff to fulfill its purchasing needs, or the suppliers purchase goods and services to fulfill the industry's needs. **Induced** effects occur when workers either directly or indirectly associated with the school district spend their incomes in the local economy. The sum of direct, indirect, and induced effects represents total economic effects. The sum of indirect and induced effects are multiplier effects. As the monies associated with supplier purchases and employee spending circulates through the economy, the impact of the initial job creation in the school district is therefore "multiplied."

This study makes use of an IMPLAN input-output model, customized for Arizona and Maricopa County, to produce economic and fiscal impact estimates of SUSD. Impacts are calculated separately for two phases of economic activity: a capital investment (construction) phase and an operations phase. The construction phase is assumed to occur in FY2017-2022, when significant construction activities, facilitated by a bond program, took place. The impacts of operations are estimated for the most recent fiscal year, FY2022.

Originally developed and licensed by the Minnesota IMPLAN Group, Inc., this type of economic impact modelling uses classic input-output analysis in association with regional social accounting matrices and multiplier models. Organizing the economy into 546 separate industries, IMPLAN is widely used by economists to assess impacts for state and national economies. Seidman uses the latest version of IMPLAN (based on 2021 data) to provide a snapshot of economic impacts.



In particular, the study measures four types of impact. These are:

- **Employment:** This is a count of full- and part-time jobs. It includes both wage and salary workers, and the self-employed. Jobs over several years can be added to job-years, but it is important to distinguish the term “job-years” from “jobs” in the impact total. A job year is equivalent to one person having a job for one full year. For example, a person employed at SUSD for six consecutive years represents a single job but six job-years of employment.
- **Labor Income:** This includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income.
- **State GDP:** This is synonymous with value added, or Gross Domestic Product (GDP) at a national level. It represents the dollar value of all goods and services produced for final demand in Arizona. State GDP excludes the value of intermediate goods and services purchased as inputs to final production. It can also be defined as the sum of employee compensation (wages, salaries, and benefits, including employer contributions to health insurance and retirement pensions), proprietor income, property income, and indirect business taxes.
- **Gross Output:** This is principally a measure of an industry’s sales or receipts, which include sales to final users in the economy (GDP) or sales to other industries (intermediate inputs).<sup>9</sup>

In addition, fiscal impacts (or tax impacts) are also estimated. These arise from the spending of tax revenues received by Arizona’s state and local governments, which are paid by both businesses and employees directly or indirectly related to SUSD. They include sales taxes, property taxes, income taxes, and other taxes. While SUSD does not directly pay taxes, its vendors and employees do, thus creating an additional layer of impacts on the economy.

Primary data was provided by SUSD for total employment, wage and salary payments, and benefits during fiscal (FY) year 2022. The annual budget as well as vendor purchases by zip code were also provided.

---

<sup>9</sup> Output or “gross receipts” is useful as a facilitating variable in the mathematical solution of regional input-output models. However, it is also acknowledged to be upward biased as an estimate of the effect of an economic activity on local area income. Value added (equivalent to GDP) in IMPLAN is a conceptually more precise estimate of income. Seidman’s economic impact tables will display output as one of the four estimates of impact, but no comment will be provided about this metric due to its inherent upward bias.

Capital expenditures and vendor/supplier purchases by zip code for FY2017-2022 were also provided by SUSD.

All monetary amounts, unless otherwise stated, are expressed in 2022 dollars.

## **The Economic Impact of Bond Project Capital Investments**

Capital investments consist of construction and non-routine maintenance, and capital equipment purchases. Significant construction activities in the district started in FY2017 and are ongoing, facilitated by a bond project. The bond was voter-approved in November 2016,<sup>10</sup> and the monies started being spent the same fiscal year. This section exclusively estimates the economic impacts of capital investments financed by the bond program.

The types of projects completed include school site safety measures, the purchase of pupil transportation and campus support vehicles, and the construction or renovation of school facilities.<sup>11</sup> Direct capital expenditures were approximately \$184.9 million (expressed in nominal dollars), of which 97% were spent in the state (including 94% in Maricopa County). Purchases that were made with vendors/suppliers located outside of Maricopa County or the State of Arizona are excluded from the economic impact estimates.

The economic impact analysis encompasses FY2017 through FY2022, the last full fiscal year for which data is available.

Table 1 estimates the total economic impacts of SUSD's cumulative capital investments, FY2017-FY2022. The total economic impacts represent the sum of direct and multiplier effects for the full 6-year time horizon. Seidman estimates that Arizona's economy has gained a cumulative \$224.4 million in State GDP, \$147.6 million in labor income, and 2,323 job-years between FY2017 and FY2022 due to SUSD's capital investments. The economic impacts for Maricopa County are somewhat smaller, at \$201.7 million in cumulative State GDP, \$131.3 million in labor income, and 1,978 job-years. This is because 6% of the total capital investments are spent with vendors outside Maricopa County, but only 3% outside Arizona.

---

<sup>10</sup> November 2016 is in FY2017.

<sup>11</sup> Source: Bond Project Presentation, Scottsdale Unified School District: <https://sway.office.com/a5sq8Efl2kKQgOil?ref=Link>

**Table 1: State and County Level Total Economic Impacts for the SUSD Bond Program’s Capital Investments, FY2017-2022**

TOTAL FY2017-2022	TOTAL EMPLOYMENT (Job-Years) <sup>12</sup>	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
<b>ARIZONA</b>	2,323	\$224.4	\$147.6	\$360.3
<b>MARICOPA COUNTY</b>	1,978	\$201.7	\$131.3	\$319.6

Annual summary economic impacts for the bond program’s capital investment period of FY2017-2022 are summarized in Table 2 for Arizona and in Table 3 for Maricopa County.

SUSD’s bond program capital investments, FY2017-FY2022, account for a minimum of 67 and a maximum of 630 job-years employment, dependent on the investment year in the State of Arizona. They also account for a minimum of \$6.4 million and a maximum of \$60.9 million State GDP, dependent on the investment year.

**Table 2: Statewide Annual Economic Impacts by Year for the Bond Program’s Capital Investments**

ECONOMIC IMPACT METRIC	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	TOTAL FY17-22
<b>Employment</b>	67	519	335	439	630	333	2,323
<b>State GDP</b>	\$6.4	\$50.2	\$32.4	\$42.4	\$60.9	\$32.2	\$224.4
<b>Labor Income</b>	\$4.2	\$33.0	\$21.3	\$27.9	\$40.0	\$21.2	\$147.6
<b>Gross Output</b>	\$10.3	\$80.5	\$51.9	\$68.1	\$97.7	\$51.7	\$360.3

**Table 3: Maricopa County Annual Economic Impacts by Year for the Bond Program’s Capital Investments**

ECONOMIC IMPACT METRIC	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	TOTAL FY17-22
<b>Employment</b>	57	442	285	374	537	284	1,978
<b>State GDP</b>	\$5.8	\$45.1	\$29.1	\$38.1	\$54.7	\$28.9	\$201.7
<b>Labor Income</b>	\$3.8	\$29.3	\$18.9	\$24.8	\$35.6	\$18.8	\$131.3
<b>Gross Output</b>	\$9.2	\$71.4	\$46.1	\$60.4	\$86.7	\$45.9	\$319.6

<sup>12</sup> This value is represented in job-years. It is not synonymous with ‘jobs.’ A job-year is equivalent to one person having a job for one full year. For example, if one person is employed for 20 years, that would equate one job or 20 job-years.

In Maricopa County, SUSD’s capital investments, FY2017-FY2022, account for a minimum of 57 and a maximum of 537 job-years employment, dependent on the investment year. They also account for a minimum of \$5.8 million and a maximum of \$54.7 million State GDP, dependent on the investment year.

Annual average economic impacts for the capital investment period, broken out by direct, indirect, induced, and fiscal effects, are summarized in Table 4 for Arizona and in Table 5 for Maricopa County.

**Table 4: Annual Average Economic Impacts in Arizona for the Bond Program’s Capital Investments**

<b>AVERAGE FY2017-2022</b>	<b>EMPLOYMENT (Job-Years)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	212	\$19.8	\$13.8	\$30.3
<b>Indirect Effects</b>	39	\$4.3	\$2.6	\$8.6
<b>Induced Effects</b>	93	\$9.4	\$5.1	\$16.2
<b>Fiscal Effects</b>	43	\$4.0	\$3.1	\$5.0
<b>Total Economic Impact</b>	<b>387</b>	<b>\$37.4</b>	<b>\$24.6</b>	<b>\$60.0</b>

**Table 5: Annual Average Economic Impacts in Maricopa County for the Bond Program’s Capital Investments**

<b>AVERAGE FY2017-2022</b>	<b>EMPLOYMENT (Job-Years)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	196	\$19.6	\$13.6	\$29.3
<b>Indirect Effects</b>	33	\$3.8	\$2.4	\$7.3
<b>Induced effects</b>	84	\$8.7	\$4.8	\$14.8
<b>Fiscal Effects</b>	17	\$1.5	\$1.2	\$1.9
<b>Total Economic Impact</b>	<b>330</b>	<b>\$33.6</b>	<b>\$21.9</b>	<b>\$53.3</b>

On average over the six-year time horizon, the economic and fiscal impacts of SUSD’s capital investments associated with the bond program account for \$37.4 million in State GDP, 387 job-years employment, and \$24.6 million in labor income per year in Arizona. Approximately 90% of the average annual State GDP contribution, more than 85% of the employment impacts, and 80% of the labor impacts occur within Maricopa County,

Additional detailed economic impacts by fiscal year for the bond program’s capital investment period of FY2017-2022 are provided in the Appendix.

## The Economic Impact of SUSD Operations in FY2022

Regular operational expenditures consist of day-to-day maintenance and operations expenditures spent mostly on instructional activities, and any other ongoing expenditures occurring on an annual basis. The annual budget for fiscal year 2022, as well as vendor purchases by zip code, were provided by SUSD and constitute the basis on which the following economic impacts and fiscal are estimated.

The aggregate annual budget for FY2022 totaled \$245.6 million. It consisted of a maintenance and operations fund of \$176.9 million, an unrestricted capital fund of \$25.5 million, and federal projects other than impact aid of \$43.3 million. The maintenance and operations fund included salaries, wages, and benefits of employees, totaling \$150.6 million. Direct employment in FY2022 was 2,882 FTE employees, including teachers, teachers’ aides, administrators, and other staff. According to the vendor purchase files, 57% of vendor transactions were with suppliers located in-state, while 45% of transactions were with suppliers located within Maricopa County.

Table 6 summarizes the total economic impacts of SUSD operations in FY2022 for the State of Arizona and separately for Maricopa County. In FY2022, SUSD operations contributed \$329.2 million to State GDP in Arizona. SUSD operations also accounted for 5,008 total jobs, and \$272.4 million labor income.

In Maricopa County, SUSD operations contributed \$290.6 million to State GDP. They also accounted for 4,475 total jobs, and \$245.3 million labor income.

**Table 6: State and County Level Total Economic Impacts Associated with SUSD Operations, FY2022**

TOTAL FY2022	TOTAL EMPLOYMENT (Jobs)	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
<b>ARIZONA</b>	5,008	\$329.2	\$272.4	\$458.1
<b>MARICOPA COUNTY</b>	4,475	\$290.6	\$245.3	\$399.5

The economic impact of SUSD’s operations in FY2022 are detailed by direct, indirect, induced, and fiscal effects in Table 7 for the State of Arizona and in Table 8 for Maricopa County.

**Table 7: Statewide Detailed Economic Impacts Associated with SUSD Operations, FY2022**

<b>FY2022</b>	<b>EMPLOYMENT (Job-Years)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	2,882	\$150.6	\$150.6	\$177.1
<b>Indirect Effects</b>	986	\$69.0	\$52.4	\$108.5
<b>Induced Effects</b>	731	\$75.2	\$43.0	\$129.9
<b>Fiscal Effects</b>	410	\$34.3	\$26.4	\$42.6
<b>Total Economic Impact</b>	<b>5,008</b>	<b>\$329.2</b>	<b>\$272.4</b>	<b>\$458.1</b>

**Table 8: Maricopa County Detailed Economic Impacts Associated with SUSD Operations, FY2022**

<b>FY2022</b>	<b>EMPLOYMENT (Job-Years)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	2,882	\$150.6	\$150.6	\$177.1
<b>Indirect Effects</b>	765	\$55.1	\$43.3	\$85.1
<b>Induced Effects</b>	671	\$71.7	\$41.4	\$121.1
<b>Fiscal Effects</b>	156	\$13.1	\$10.1	\$16.3
<b>Total Economic Impact</b>	<b>4,475</b>	<b>\$290.6</b>	<b>\$245.3</b>	<b>\$399.5</b>

Employment multipliers - calculated as the increase represented by jobs created through multiplier effects compared to direct jobs - equal 1.74 in Arizona. This means that for every direct job created by SUSD, an additional 0.7 jobs are created in various other sectors of the Arizona economy.

For Maricopa County, the employment multiplier is slightly smaller at 1.55. For comparison, the employment multiplier in the Flagstaff report was 1.27. This means that for every direct job created by SUSD, an additional 0.55 jobs are created in various other sectors of the Maricopa County economy.

In general, the smaller the geographic area for economic impact measurement, the greater the leakages and smaller the multipliers.

### 3. SUSD GRADUATE WAGE IMPACTS

The economic impact of SUSD in the State of Arizona is not only limited to the benefits derived from enterprise spending, documented in the previous section. It also encompasses the economic value associated with SUSD’s education of students that accrues to Arizona.

Many SUSD graduates go on to earn degrees from Arizona State University (ASU), Northern Arizona University (NAU), or the University of Arizona (UA). Others will enroll in two-year or certification programs; and according to the Census, even those who don’t complete degrees will earn more than those who choose not to pursue college. Some will then go on to stay and work in Arizona, contributing to the productivity and prosperity of the state.

It is worth noting that many SUSD students earn degrees and pursue dual or concurrent enrollment at Scottsdale Community College (SCC). Over the last 10 years (spanning academic years 2012-13 to 2021-22), the cumulative number of SUSD graduates completing a degree at SCC was 1,713; and an additional 1,544 obtained certificates.<sup>13</sup> Looking at annual averages, 171 SUSD graduates obtained degrees and an additional 154 obtained certificates from SCC during the last 10 years. There were, on average, 1,298 SUSD dual enrollment students and 1,996 concurrent enrollment students at SCC each year during the last decade. Detailed tables showing annual numbers of degrees and certificates, dual enrollment, and concurrent enrollment SUSD students at SCC are included in the Appendix.

The wage estimates in this final analysis are based on four data sources. These are:

- Student graduation data from SUSD.
- Data from the Department of Education and the National Clearinghouse estimating the number of SUSD students attending college.
- An Arizona Board of Regents (ABOR) six-year cohort analysis of High School graduates that inform college graduation rates in the district.<sup>14</sup>

---

<sup>13</sup> The total number of certificates Includes AGECE certificates

<sup>14</sup> The estimates of wages earned by college graduates does NOT include the college wage premium of those who attend an out-of-state college but return to be part of the Arizona workforce. This is because Seidman has no way of tracking the location of employment for these alumni. There is also no access to graduation or salary records of SUSD grads who may have attended non-ABOR schools in Arizona and earned a bachelor’s degree. Seidman’s analysis credits these SUSD graduates with “some

- ASU’s own records of the high schools each graduate attended. This data spans more years than the ABOR report, and it is not restricted to six-year post-high school cohorts.

The wage estimates and number of college graduates currently working in Arizona are based on actual employment and wage data for individuals who graduated from ASU between 1990 and 2021 and were covered by the state’s unemployment insurance program.<sup>15</sup> The data was obtained via ABOR in collaboration with the Arizona Department of Economic Security. Seidman also applies the average wages of ASU graduates to UA and NAU graduates. Estimates of those who graduated from in-state universities prior to 1990 and of graduates who were not covered by the unemployment insurance program, such as proprietors, who still work in Arizona are added to the total estimates.<sup>16</sup>

Between 2011 and 2022, SUSD had an annual average of 1,868 high school graduates. According to the ABOR report, 75% of these graduates enroll in college, and 48.5% will go on to earn a bachelor’s degree within a 4 to 6-year window monitored by ABOR. The high college attendance rate is likely driven by the access to community college dual-enrollment opportunities afforded to SUSD high school students. Students who take advantage of this opportunity experience a significant boost to their wages.

Focusing exclusively on SUSD high school graduates who earn a bachelor’s degree within four to six years of their high school graduation, 70% will earn it from an Arizona-based university ASU, NAU or UA.<sup>17</sup> More than six out of every 10 of those in-state degrees will be obtained at ASU.

Drawing from the data obtained from ABOR, approximately 20% of all SUSD 2011-2015 high school graduates between earned a bachelor’s degree from ASU between 2015 and 2021. The ABOR sample suggests that an additional 14% graduated from either NAU or UA during those years. The data obtained directly from ASU sources high school of origin for all ASU graduates annually, 2001 through 2021. The database identifies SUSD high school graduates as a share of these ASU graduates from all prior cohorts – not simply a 4 to 6-year window used by ABOR. The ASU degree share for SUSD graduates over this longer

---

college” beyond high school, but they are not assigned the full graduate wage premium since it is impossible to estimate where they are working or how much they make. Hence, the estimates presented in this section are conservative.

<sup>15</sup> The most recent data is available for 2021.

<sup>16</sup> To estimate the number of college graduates working in Arizona in wage and salary jobs not covered by unemployment insurance or as proprietors (self-employed), the ASU shares of the Quarterly Census of Wages (QCEW) total were applied to the Bureau of Economic Analysis’s (BEA) total employment figure. The method is outlined in detail in Hoffman and Madly (2022).

<sup>17</sup> Statistics are based on 2011-2015 data obtained from ABOR.



time horizon is even higher (26%). The significant college attendance and degree completion rates for SUSD alumni is likely fueled by the extensive array of college prep and dual enrollment opportunities available to SUSD high school students.

Seidman estimates SUSD graduate wages by using the refined estimates from the ASU wage study. A key advantage of this ASU wage study is that it is primarily based on actual wage reports, rather than simple averages or norms. The use of actual data helps improve accuracy in two important ways. First, wage data is based on actual wage figures in the unemployment insurance records. Second, a comparison of reported wages and actual ASU graduates helps Seidman understand how many graduates from up to 30 years ago are still participating in the Arizona labor force.

Using ASU wage estimates as direct proxies for the wages and labor force participation of NAU and UA bachelor’s degree recipients, Seidman estimates the wages of graduate students from all ABOR schools based on the shares for ASU, NAU and UA reported in the ABOR data. Seidman is also able to impute the wages of students who graduated from SUSD schools but did not earn a college degree using the college wage premium estimates for each state calculated in *“What You Make Depends on Where You Live: College Earnings Across States and Metropolitan Areas”* by John Winters.<sup>18</sup> Winters provides estimates of the premium earned by college graduates by state over either high school or “some college” counterparts. The estimates for SUSD non-bachelor’s degree recipients are then imputed from Winters’ premia estimates for Arizona.

**Table 9: Wages and State and Local Government Tax Payments of SUSD Graduates Currently Working in Arizona (2021)**

DEGREE EARNED	WAGES (Millions 2022 \$)	STATE AND LOCAL GOVERNMENT TAX PAYMENTS (Millions 2022 \$)
Graduate Degree	\$494.2	\$34.6
Bachelor’s Degree	\$1,355.1	\$95.9
Some College /Associate Degree	\$891.6	\$62.9
High School Degree Only	\$492.5	\$34.8
<b>Total</b>	<b>\$3,233.3</b>	<b>\$228.2</b>

<sup>18</sup> See: <https://files.eric.ed.gov/fulltext/ED605988.pdf>

Table 9 summarizes the contribution of SUSD graduates who are currently working in Arizona. The aggregate earnings of the SUSD graduates currently working in Arizona are estimated to total \$3.2 billion in 2021 (expressed in 2022 \$). Based on these earnings, the SUSD graduates contributed \$228.2 million in state and local government taxes in 2021 (expressed in 2022 \$).

## APPENDIX

**Table A1: Students Enrolled by Zip Code, 2022**

ZIP CODE	STUDENT COUNT
85260	2,550
85251	2,248
85018	2,242
85257	1,980
85255	1,931
85259	1,838
85258	1,706
85250	1,076
85254	1,038
85253	1,026
85008	932
85028	482
85268	339
85281	330
85032	305
85016	153
85256	123
85201	107
85050	83
85022	72
85006	59
85262	59
85020	50
85282	48
85331	41
85042	40
85041	36
85288	33
85054	32
85024	31
85014	29
85027	27
85040	27
85203	27
85021	24
85202	24
85266	23
85213	22

ZIP CODE	STUDENT COUNT
85308	22
85009	20
85015	20
85023	20
85339	20
85013	18
85204	17
85264	17
85037	16
85207	16
85205	14
85225	14
85283	14
85043	12
85086	12
85210	11
85019	10
85053	10
85085	10
85208	10
85224	10
85295	10
85007	9
85017	9
85226	9
85301	9
85383	9
85051	8
85252	7
85302	7
85335	7
85353	7
85029	6
85035	6
85287	6
85326	6
85338	6
85083	5

ZIP CODE	STUDENT COUNT
85142	5
85206	5
85233	5
85303	5
85306	5
85004	4
85012	4
85034	4
85182	4
85212	4
85263	4
85284	4
85286	4
85345	4
85379	4
85003	3
85031	3
85044	3
85122	3
85143	3
85215	3
85305	3
85374	3
85387	3
85388	3
85062	2
85087	2
85140	2
85248	2
85249	2
85261	2
85310	2
85323	2
85354	2
85355	2
85381	2
85392	2
85396	2
85757	2
85960	2

ZIP CODE	STUDENT COUNT
81257	1
82840	1
84008	1
85000	1
85002	1
85005	1
85045	1
85048	1
85060	1
85108	1
85120	1
85139	1
85209	1
85234	1
85265	1
85267	1
85269	1
85280	1
85285	1
85298	1
85304	1
85307	1
85340	1
85359	1
85377	1
85378	1
85382	1
85554	1
85620	1
85648	1
85750	1
85821	1
86040	1
86257	1
86260	1
95251	1
<b>Total</b>	<b>21,793</b>

**Table A2: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, Six-Year Total**

TOTAL FY2017-2022	EMPLOYMENT (Job-Years)	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
Direct Effects	1,275	\$118.7	\$82.7	\$181.8
Indirect Effects	234	\$25.6	\$15.8	\$51.6
Induced Effects	556	\$56.1	\$30.6	\$97.2
Fiscal Effects	259	\$23.9	\$18.4	\$29.7
<b>Total Economic Impact</b>	<b>2,323</b>	<b>\$224.4</b>	<b>\$147.6</b>	<b>\$360.3</b>

**Table A3: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2017**

FY2017	EMPLOYMENT (Jobs)	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
Direct Effects	37	\$3.4	\$2.4	\$5.2
Indirect Effects	7	\$0.7	\$0.5	\$1.5
Induced Effects	16	\$1.6	\$0.9	\$2.8
Fiscal Effects	7	\$0.7	\$0.5	\$0.9
<b>Total Economic Impact</b>	<b>67</b>	<b>\$6.4</b>	<b>\$4.2</b>	<b>\$10.3</b>

**Table A4: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2018**

FY2018	EMPLOYMENT (Jobs)	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
Direct Effects	285	\$26.5	\$18.5	\$40.6
Indirect Effects	52	\$5.7	\$3.5	\$11.5
Induced Effects	124	\$12.5	\$6.8	\$21.7
Fiscal Effects	58	\$5.4	\$4.1	\$6.6
<b>Total Economic Impact</b>	<b>519</b>	<b>\$50.2</b>	<b>\$33.0</b>	<b>\$80.5</b>

**Table A5: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2019**

FY2019	EMPLOYMENT (Jobs)	STATE GDP (Millions 2022\$)	LABOR INCOME (Millions 2022\$)	GROSS OUTPUT (Millions 2022\$)
Direct Effects	184	\$17.1	\$11.9	\$26.2
Indirect Effects	34	\$3.7	\$2.3	\$7.4
Induced Effects	80	\$8.1	\$4.4	\$14.0
Fiscal Effects	37	\$3.5	\$2.7	\$4.3
<b>Total Economic Impact</b>	<b>335</b>	<b>\$32.4</b>	<b>\$21.3</b>	<b>\$51.9</b>

**Table A6: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2020**

<b>FY2020</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	241	\$22.4	\$15.6	\$34.3
<b>Indirect Effects</b>	44	\$4.8	\$3.0	\$9.7
<b>Induced Effects</b>	105	\$10.6	\$5.8	\$18.4
<b>Fiscal Effects</b>	49	\$4.5	\$3.5	\$5.6
<b>Total Economic Impact</b>	439	\$42.4	\$27.9	\$68.1

**Table A7: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2021**

<b>FY2021</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	346	\$32.2	\$22.4	\$49.3
<b>Indirect Effects</b>	63	\$7.0	\$4.3	\$14.0
<b>Induced Effects</b>	151	\$15.2	\$8.3	\$26.4
<b>Fiscal Effects</b>	70	\$6.5	\$5.0	\$8.1
<b>Total Economic Impact</b>	630	\$60.9	\$40.0	\$97.7

**Table A8: Statewide Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2022**

<b>FY2022</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	183	\$17.0	\$11.9	\$26.1
<b>Indirect Effects</b>	34	\$3.7	\$2.3	\$7.4
<b>Induced Effects</b>	80	\$8.1	\$4.4	\$13.9
<b>Fiscal Effects</b>	37	\$3.4	\$2.6	\$4.3
<b>Total Economic Impact</b>	333	\$32.2	\$21.2	\$51.7

**Table A9: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, Six-Year Totals**

<b>TOTAL FY2017-2022</b>	<b>EMPLOYMENT (Job-Years)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	1,179	\$117.6	\$81.5	\$175.9
<b>Indirect Effects</b>	199	\$22.6	\$14.1	\$43.6
<b>Induced Effects</b>	501	\$52.3	\$28.7	\$88.8
<b>Fiscal Effects</b>	100	\$9.2	\$7.1	\$11.4
<b>Total Economic Impact</b>	1,978	\$201.7	\$131.3	\$319.6

**Table A10: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2017**

<b>FY2017</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	34	\$3.4	\$2.3	\$5.0
<b>Indirect Effects</b>	6	\$0.6	\$0.4	\$1.2
<b>Induced Effects</b>	14	\$1.5	\$0.8	\$2.5
<b>Fiscal Effects</b>	3	\$0.3	\$0.2	\$0.3
<b>Total Economic Impact</b>	57	\$5.8	\$3.8	\$9.2

**Table A11: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2018**

<b>FY2018</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	263	\$26.3	\$18.2	\$39.3
<b>Indirect Effects</b>	44	\$5.1	\$3.2	\$9.7
<b>Induced Effects</b>	112	\$11.7	\$6.4	\$19.8
<b>Fiscal Effects</b>	22	\$2.1	\$1.6	\$2.6
<b>Total Economic Impact</b>	442	\$45.1	\$29.3	\$71.4

**Table A12: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2019**

<b>FY2019</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	170	\$17.0	\$11.7	\$25.4
<b>Indirect Effects</b>	29	\$3.3	\$2.0	\$6.3
<b>Induced Effects</b>	72	\$7.5	\$4.1	\$12.8
<b>Fiscal Effects</b>	14	\$1.3	\$1.0	\$1.6
<b>Total Economic Impact</b>	285	\$29.1	\$18.9	\$46.1

**Table A13: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2020**

<b>FY2020</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	223	\$22.2	\$15.4	\$33.2
<b>Indirect Effects</b>	38	\$4.3	\$2.7	\$8.2
<b>Induced Effects</b>	95	\$9.9	\$5.4	\$16.8
<b>Fiscal Effects</b>	19	\$1.7	\$1.3	\$2.2
<b>Total Economic Impact</b>	374	\$38.1	\$24.8	\$60.4



**Table A14: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2021**

<b>FY2021</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	320	\$31.9	\$22.1	\$47.7
<b>Indirect Effects</b>	54	\$6.1	\$3.8	\$11.8
<b>Induced Effects</b>	136	\$14.2	\$7.8	\$24.1
<b>Fiscal Effects</b>	27	\$2.5	\$1.9	\$3.1
<b>Total Economic Impact</b>	537	\$54.7	\$35.6	\$86.7

**Table A15: Maricopa County Detailed Economic Impacts for the Bond Program’s Capital Investments, FY2022**

<b>FY2022</b>	<b>EMPLOYMENT (Jobs)</b>	<b>STATE GDP (Millions 2022\$)</b>	<b>LABOR INCOME (Millions 2022\$)</b>	<b>GROSS OUTPUT (Millions 2022\$)</b>
<b>Direct Effects</b>	169	\$16.9	\$11.7	\$25.2
<b>Indirect Effects</b>	29	\$3.2	\$2.0	\$6.2
<b>Induced Effects</b>	72	\$7.5	\$4.1	\$12.7
<b>Fiscal Effects</b>	14	\$1.3	\$1.0	\$1.6
<b>Total Economic Impact</b>	284	\$28.9	\$18.8	\$45.9

**Table A16: Scottsdale Unified School District Graduates Completing a Degree and/or Certificate at Scottsdale Community College**

<b>ACADEMIC YEAR</b>	<b>CERTIFICATES</b>	<b>AGEC CERTIFICATES</b>	<b>DEGREES</b>
<b>2012-2013</b>	31	124	158
<b>2013-2014</b>	28	172	193
<b>2014-2015</b>	30	167	202
<b>2015-2016</b>	36	207	230
<b>2016-2017</b>	22	133	170
<b>2017-2018</b>	22	127	163
<b>2018-2019</b>	27	127	203
<b>2019-2020</b>	19	79	166
<b>2020-2021</b>	25	80	153
<b>2021-2022</b>	21	96	141
<b>10-Year Unduplicated Total</b>	249	1,295	1,713

**Table A17: Scottsdale Unified School District Dual Enrollment Students Enrolled at Scottsdale Community College, 2012-2013 to 2021-2022**

ACADEMIC YEAR	Arcadia High School	Chaparral High School	Coronado High School	Desert Mountain High School	Saguaro High School	GRAND TOTAL
2012-2013	227	315	43	361	141	1,083
2013-2014	200	345	18	411	175	1,144
2014-2015	185	440	31	433	157	1,245
2015-2016	211	442	22	508	250	1,424
2016-2017	214	420	34	406	215	1,280
2017-2018	199	487	58	474	242	1,455
2018-2019	191	518	30	439	203	1,371
2019-2020	222	546	59	465	222	1,505
2020-2021	164	517	25	336	131	1,167
2021-2022	200	512	52	338	213	1,306

**Table A18: Scottsdale Unified School District Concurrent Enrollment Students Enrolled at Scottsdale Community College, 2013 to 2022 Calendar Year**

CALENDAR YEAR	Arcadia High School	Chaparral High School	Coronado High School	Desert Mountain High School	Saguaro High School	GRAND TOTAL
2013	12	5	12	25	10	64
2014	25	17	28	39	16	125
2015	35	16	41	27	35	154
2016	35	7	66	16	51	175
2017	42	15	64	10	56	187
2018	44	19	78	13	54	208
2019	47	16	74	13	45	195
2020	48	14	69	14	77	222
2021	49	15	67	14	59	204
2022	32	12	59	2	25	130

## REFERENCES

- Arend, M. (2017). *Business climate ranking: Smart money: Site selection magazine*. Site Selection.  
Retrieved January 17, 2023, from <https://siterelection.com/issues/2017/nov/cover.cfm>
- The Arizona Rural Policy Institute: *The Economic Impact of Flagstaff Unified School District #1 on the Flagstaff Area Economy*, August 2012
- Atems, & Blankenau, W. (2021). The “time-release”, crime-reducing effects of education spending. *Economics Letters*, 209, 110143–. <https://doi.org/10.1016/j.econlet.2021.110143>
- Balbontin, & Hensher, D. A. (2018). Firm-specific and location-specific drivers of business location and relocation decisions. *Transport Reviews*, 39(5), 569–588.  
<https://doi.org/10.1080/01441647.2018.1559254>
- Barrow, & Rouse, C. E. (2004). Using market valuation to assess public school spending. *Journal of Public Economics*, 88(9), 1747–1769. [https://doi.org/10.1016/S0047-2727\(03\)00024-0](https://doi.org/10.1016/S0047-2727(03)00024-0)
- Bayer, P., Blair, P., & Whaley, K. (2020). Are we spending enough on teachers in the U.S.? *National Bureau of Economic Research*. <https://doi.org/10.3386/w28255>
- Bayoh, Irwin, E. G., & Haab, T. (2006). Determinants of Residential Location Choice: How Important Are Local Public Goods in Attracting Homeowners to Central City Locations? *Journal of Regional Science*, 46(1), 97–120. <https://doi.org/10.1111/j.0022-4146.2006.00434.x>
- Becker, Gary S. (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76(2), 169-217. <https://www.jstor.org/stable/1830482>
- Burden. (2009). The dynamic effects of education on voter turnout. *Electoral Studies*, 28(4), 540–549.  
<https://doi.org/10.1016/j.electstud.2009.05.027>

- Buja, Rivera, M., Zorzi, M., Sperotto, M., Baracco, S., Italiano, I., Vecchiato, A., Del Fiore, P., Avossa, F., Corti, M. C., Guzzinati, S., Saia, M., Baldo, V., Rugge, M., & Rossi, C. R. (2020). Health outcomes and direct healthcare costs in patients with Melanoma: Associations with level of education. *Acta Dermato-Venereologica*, 100(1), adv00003–2. <https://doi.org/10.2340/00015555-3329>
- Crawford, M. (2010). When Quality of Life Closes the Deal. *Area Development Site and Facility Planning*, 44(7), 14-15.  
<http://login.ezproxy1.lib.asu.edu/login?url=https://www.proquest.com/trade-journals/when-quality-life-closes-deal/docview/201462021/se-2>
- Cutler, D., & Lleras-Muney, A. (2006). Education and health: Evaluating theories and evidence.  
<https://doi.org/10.3386/w12352>
- Deming. (2011). Better schools, less crime? *The Quarterly Journal of Economics*, 126(4), 2063–2115.  
<https://doi.org/10.1093/qje/qjr036>
- Dick, W. W. (1944). *The History of the Scottsdale School System at Scottsdale, Arizona, 1896-1944*, Arizona State Teachers College at Tempe, 1944.
- Goldman, & Smith, J. P. (2011). The increasing value of education to health. *Social Science & Medicine* (1982), 72(10), 1728–1737. <https://doi.org/10.1016/j.socscimed.2011.02.047>
- Hilber, & Mayer, C. (2009). Why do households without children support local public schools? Linking house price capitalization to school spending. *Journal of Urban Economics*, 65(1), 74–90.  
<https://doi.org/10.1016/j.jue.2008.09.001>
- Hoffman, D., and Madly, E. (2022). *The Impact of Arizona State University Graduates Employed in Arizona in 2021*, November 2022. Available at:

<https://economist.asu.edu/reports/impact-arizona-state-university-graduates-employed-arizona-2021>

*How site selectors choose a location*. Minnesota Department of Employment and Economic Development. (2022, June 23). Retrieved January 19, 2023, from <https://mn.gov/deed/government/shovel-ready/program-overview/location.jsp>

Lochner, L. (2020). Education and crime. *The Economics of Education*, 109–117. <https://doi.org/10.1016/b978-0-12-815391-8.00009-4>

Lochner, & Moretti, E. (2004). The effect of education on crime: Evidence from prison inmates, arrests, and self-reports. *The American Economic Review*, 94(1), 155–189. <https://doi.org/10.1257/000282804322970751>

Lochner. (2011). Non-Production Benefits of Education: Crime, Health, and Good Citizenship. NBER Working Paper Series, 16722–. <https://doi.org/10.3386/w16722>

Nguyen-Hoang, & Yinger, J. (2011). The capitalization of school quality into house values: A review. *Journal of Housing Economics*, 20(1), 30–48. <https://doi.org/10.1016/j.jhe.2011.02.001>

Muennig, P. (2008). Consequences in Health Status and Costs. In *The Price We Pay* (p. 125–). Brookings Institution Press. <https://doi.org/10.7864/j.ctt126269.9>

Rothwell, J. (2012). Housing Costs, Zoning, and Access to High Scoring Schools. *Metropolitan Policy Program at Brookings*.

Staff, C. N. B. C. (2022, July 13). *America's top states for business 2022: The Full Rankings*. CNBC. Retrieved January 19, 2023, from <https://www.cnbc.com/2022/07/13/americas-top-states-for-business-2022-the-full-rankings.html>

Winters, J. V. (2020). *What You Make Depends on Where You Live: College Earnings Across*

*States and Metropolitan Areas*, Thomas B. Fordham Institute, May 2020. Available at:

<https://files.eric.ed.gov/fulltext/ED605988.pdf>



**Arizona State University**  
**Seidman Research Institute**

**660 S MILL AVENUE, SUITE 300**

**TEMPE**

**AZ 85281**

**Tel: (480) 965 5362**

**Fax: (480) 965 5458**

**[www.seidmaninstitute.com](http://www.seidmaninstitute.com)**

 **@SeidmanResearch**

***STUDY COMMISSIONED BY SCOTTSDALE UNIFIED SCHOOL DISTRICT WITH THE SUPPORT OF:***



**Trammell Crow Company**

**HIGH STREET**  
RESIDENTIAL