

Impact Assessment of a Proposed Public Comprehensive University: California State University Stockton

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Executive Summary

This analysis examines the need and potential economic impacts associated with the construction and operation of a California State University (CSU) campus in Stockton California. The analysis clearly shows that Stockton and the surrounding metropolitan area are the most underserved region in California, and that there would be local, regional and statewide economic development benefits from establishing a new CSU-Stockton campus.

Local Need for Higher Education

- Stockton-Lodi MSA (San Joaquin County) is the largest metropolitan area in California and the 2nd largest metropolitan area in the United States without a public college or university.
- The City of Stockton is nearly three times farther from a CSU or UC than any of California's other large cities.
- San Joaquin County's population is among the fastest growing in California.
- College readiness in San Joaquin County has been steadily increasing:
 - The adult population with at least a high school education rose from 62.6% in 1980 to 78.1% in 2015.
 - The high school graduation rate increased from 70.8% in 2009 to 82.3% in 2014.
 - The percentage of high school graduates meeting the minimum freshman admission requirements for a UC or CSU rose from less than 22% in 2005 to more than 30% in 2014.
- The County's residents have shown an increasing propensity to enroll in the CSU system, but enrollment is still limited by access:
 - From 2006 to 2015, County residents enrolled in a CSU rose more than 50% from around 4,800 in 2000 to 7,300 in 2015.
 - Despite overall growth in CSU enrollment, San Joaquin County enrollment in CSU-Stanislaus has declined 15% over the past decade and CSU-Stanislaus enrolls fewer than 20% of San Joaquin County's CSU students.
 - We project San Joaquin County CSU enrollment is about 25% below where it would be with a local campus.

Statewide/Regional Need and Institutional Focus

- Currently, permanent campus capacity across the CSU-System is exceeded by nearly 80,000 full time equivalent students (FTES).
- Inland investments in the CSU system were identified in a recent (2016) Bay Area Council Economic Institute report on as the top recommendation for enhancing economic prosperity in the Northern California Megaregion.¹

¹ Bellisario et al. (2016) *The Northern California Megaregion: Innovative, Connected, and Growing*. Bay Area Council Economic Institute.

- San Joaquin County CSU enrollment is shifting strongly away from the Central Valley and towards the Bay Area and Sacramento, reflecting broader shifts in the regional economy.
- 17 of the 23 CSU institutions in 2017-2018 have some form of enhanced admissions criteria because of excess enrollment demand.
- The lack of engineering programs at CSU-Stanislaus and limited engineering programs at CSU-East Bay, when combined with regional workforce needs and increased Silicon Valley integration, supports a Polytechnic focus for a future CSU-Stockton.

Economic Impacts

This analysis estimates that the direct economic impacts in San Joaquin County associated with construction of a CSU campus in Stockton is between \$436 and \$558 million. That level of direct expenditure equates to direct County employment from 2,081 to 2,673 jobs. After accounting for the indirect and induced impacts in San Joaquin County, the total economic impact associated with construction of a CSU-Stockton is between \$604 and \$774 million. Those total expenditures would equate with 3,346 to 4,292 jobs in the County during construction.

CSU-Stockton construction expenditures economic impacts

Impact Type	Employment		Output	
	7,500 FTES	10,000 FTES	7,500 FTES	10,000 FTES
Direct Effect	2,081	2,673	\$435,662,791	\$557,849,740
Total Effect	3,346	4,292	\$604,206,687	\$773,681,025

We estimate that the direct economic impacts of a CSU-Stockton’s operational and other ongoing expenditures in San Joaquin County are between \$180 and \$240 million. Those direct expenditures equate to direct County employment from 1,795 to 2,393 jobs. After accounting for the indirect and induced impacts in San Joaquin County, the total economic impact associated with operating a CSU-Stockton is between \$269 and \$359 million. Those total expenditures translate to between 2,442 and 3,256 jobs annually in the County.

CSU-Stockton operations and other ongoing expenditures economic impacts

Impact Type	Employment		Output	
	7,500 FTES	10,000 FTES	7,500 FTES	10,000 FTES
Direct Effect	1,795	2,393	\$180,010,246	\$240,013,659
Total Effect	2,442	3,256	\$269,047,155	\$358,729,536

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Glossary

- Direct Effects** These are the changes in jobs, sales, and income related exclusively to initial expenditures.
- Employment** This is the number of full- and part-time jobs based on an annual average of monthly jobs. That is, one job lasting 12 months is equal to two jobs lasting six months each and is equal to three jobs lasting four months each.
- Indirect Effects** These represent the iterative impacts of inter-industry transactions as supplying industries respond to demand from the sector(s) where the initial expenditures occurred.
- Induced Effects** These reflect the contribution benefit payments make to household expenditures by direct and indirect sector employees.
- Labor Income** This is the sum of employee compensation and proprietor income. Employee compensation includes wages, salaries, benefits, and all other employer contributions, while proprietor income consists of payments received by self-employed individuals and unincorporated business owners.
- Output** This represents the value of industry production. It accounts for the total change in the value of production in an industry for a given time period. Output varies as a measure across industries. For manufacturers, the value of production is sales plus or minus any change in inventories. For service sectors, the value of production equals their sales. While for retail and wholesale trade, the value of production equals their gross margin and not their gross sales.
- Total Effects** These are the combined impacts of the Direct, Indirect, and Induced Effects.

1 Introduction

This analysis examines the need for and the economic impacts associated with the construction and operation of a California State University (CSU) campus in Stockton California. Before turning to the economic impacts, the report looks at the need for the campus from a local, regional, and statewide perspective. It also has an examination of the programs structure needed at the proposed CSU-Stockton. The impacts of the skills generated by the institution are also analyzed and contextualized with respect to the existing system of skills development and its role in supporting enhanced regional competitiveness. Section Two concludes with a brief qualitative discussion of the potential community engagement impacts that may be associated with the proposed institution.

The final section of the study focuses on the economic impacts of a CSU-Stockton. It begins with an estimation of the direct costs likely to be incurred in construction. Using a model of the San Joaquin County economy, the direct costs associated with construction are then analyzed with respect to their associated indirect, induced, and total impacts on the economy. The economic impact analysis then focuses on the direct costs of operating the proposed institution. Using the baseline enrollment, operations, auxiliary enterprises, and student expenditure data we generate an estimate of total direct operating costs across three components: institutional operations, auxiliary enterprises, and student expenditures. The components of the total direct operating costs are then examined in model of the economy to estimate the indirect, induced, and total effects of the institution's operations.

2 Community Needs Analysis

This section estimates demand for the proposed higher education institutions in the region and discusses some of the qualitative impacts that may be associated with it. The core demand for the campus is assumed to be San Joaquin County residents. Therefore, in Section 2.1 we summarize historic trends in San Joaquin County residents' enrollments across the existing CSU campuses. In that context, we also highlight accessibility indicators of neighboring CSU and University of California (UC) campuses. Those inputs are then used to formulate an estimate of CSU-enrollment by San Joaquin County residents. While program specific indicators of County residents at the CSUs are not available, in Section 2.2 we use an analysis of the overall degree program structure of the various CSU campuses as a proxy. That analysis is combined with a review of economic growth trends across the County and its primary employment regions to identify the composition of degree programs the proposed campus should contain. The scale and impact of the skills generated by the new campus is then reviewed in Section 2.3. Additional impacts of the proposed campus on such areas as the local system of innovation, outreach activities, internships, and volunteer activities are then briefly highlighted in Section 2.4.

2.1 Estimated Demand for Higher Education

San Joaquin County is the 15th most populated county in California, but it is the only one of those large counties without a CSU or UC institution. The County’s population is also among the fastest growing in California. In the five-year span of 2010 to 2015, San Joaquin population growth was 10th highest out of California’s 58 counties despite the severity of the foreclosure crisis and recession in the county. In that 5-year period the County’s annual population growth was around 1.1% compared to the state-wide rate of 0.8%. Future long-term population growth prospects in the County look even more favorable. According to the most recent California Department of Finance projections,² between 2015 and 2060 San Joaquin County is forecasted to grow at the third fastest rate in the state. During that 45-year period average annual growth is estimated to be 1.8% in the County compared with a state-wide rate of 0.7%.

Despite the County’s proximity to many large urban areas and higher education institutions, three of its cities are among the furthest from a CSU or UC in the entire State.³ Table 1 illustrates this in terms of Stockton, which is nearly three times farther from a CSU or UC than any of the other 15 largest cities in California. The table also shows that Stockton is one of only five of these largest cities in the entire State not to have its own CSU/UC institution.

Table 1 Largest cities in California and their distance to nearest CSU or UC

Rank	City	Population	Distance (in miles) to closest CSU/UC
1	Los Angeles	3,971,883	0
2	San Diego	1,394,928	0
3	San Jose	1,026,908	0
4	San Francisco	864,816	0
5	Fresno	520,052	0
6	Sacramento	490,712	0
7	Long Beach	474,140	0
8	Oakland	419,267	5
9	Bakersfield	373,640	0
10	Anaheim	350,742	6
11	Santa Ana	334,909	11
12	Riverside	322,424	0
13	<u>Stockton</u>	<u>305,658</u>	<u>50</u>
14	Chula Vista	265,757	17
15	Irvine	256,927	0

Compiled by CBPR based on U.S. Census Bureau, campus websites and Google Maps data

The Stockton area’s lack of public higher education opportunities also stands out in national comparisons. The Stockton-Lodi Metropolitan Statistical Area (MSA) is the 77th largest in the United States by population. We researched the presence of public colleges and universities in other MSAs in the U.S. to see if there were others that were similarly unserved. We found that the Stockton-Lodi MSA

² California Department of Finance (2014), Total Population Projections for California and Counties: July 1, 2015 to 2060, CA DoF Demographic Research Unit, December.

³ See Appendix One: California Cities’ Distances to Nearest CSU or UC Campus for details.

is the second largest in the United States that did not have a public college or university with at least 1,000 students. The only larger MSA without a public university is the Lehigh Valley on the boundary of Pennsylvania and New Jersey (Allentown-Bethlehem MSA), where the Penn State branch campus enrolls about 900 students, compared to the roughly 100 enrolled in the CSU-Stanislaus Stockton Center. It should also be noted that the Lehigh Valley has 6 private universities with over 1,000 students, compared to just one (University of the Pacific) in the Stockton-Lodi MSA.

Despite historically low levels of human capital in San Joaquin County, educational attainment has been steadily increasing. For instance, the percentage of the adult population with at least Bachelor’s degree increased from 11.5% in 1980 to 18.8% in 2015.⁴ Similarly, the adult population share with at least a high school education rose from 62.6% in 1980 to 78.1% in 2015.⁵ Some additional indicators of the improving educational outcomes in the County are illustrated in Figure 1. That figure shows the County’s high school graduation rate increased from 70.8% in 2009 to 82.3% in 2014 and its share of high school graduates who met the minimum freshman admission requirements for a University of California (UC) or California State University (CSU) institution rose from less than 22% in 2005 to more than 30% in 2014.

Figure 1 Public high school graduation rates (left) and graduates with UC/CSU required courses (right)

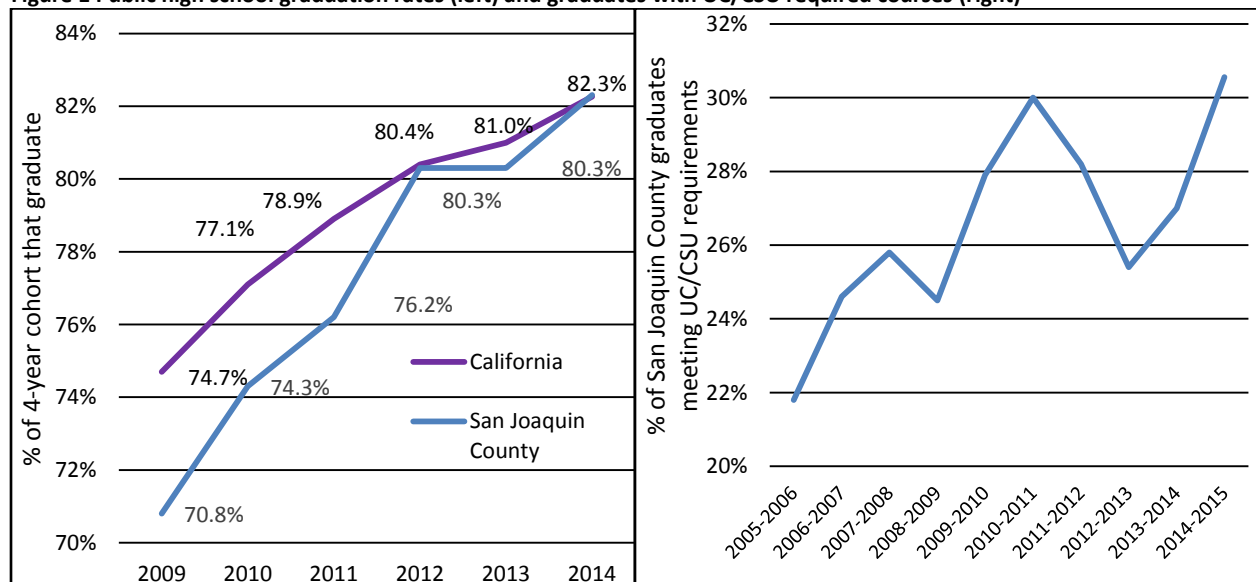


Figure 2 shows that the County has both a high gap between those with high school and Bachelor’s degree or higher, 59.6% compared to 50.4% state-wide, and those with some college or an associate’s degree, 33.2% compared to 29.6% state-wide. The potential to impact both measures with the presence of a CSU is particularly important because of the large income gains associated with moving from with high school level or some college or associate’s degree to a bachelor’s degree. Recent Census data shows County residents with a bachelor’s degree earned \$15,888 or 45% more annually than residents

⁴ U.S. Census Bureau educational attainment data on the San Joaquin County population 25 years and over from 1980 Census and American Community Survey 2015 (1-yr).

⁵ U.S. Census Bureau educational attainment data on the San Joaquin County population 25 years and over from 1980 Census and American Community Survey 2015 (1-yr).

with some college or an associate’s degree.⁶ Even more significant in terms of impact on income is the fact that residents with a bachelor’s degree earned some \$23,528 or 84% more annually than residents with a high school diploma as their highest level of education.

Figure 2 Higher education attainment gaps (left) and some college/Associate degree (right)

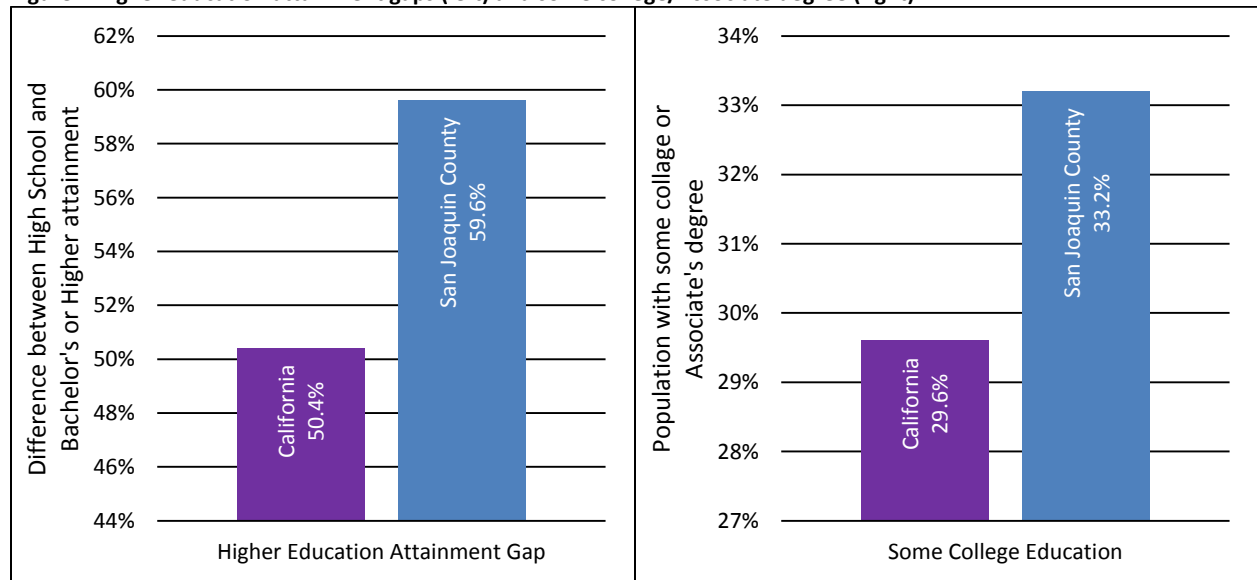
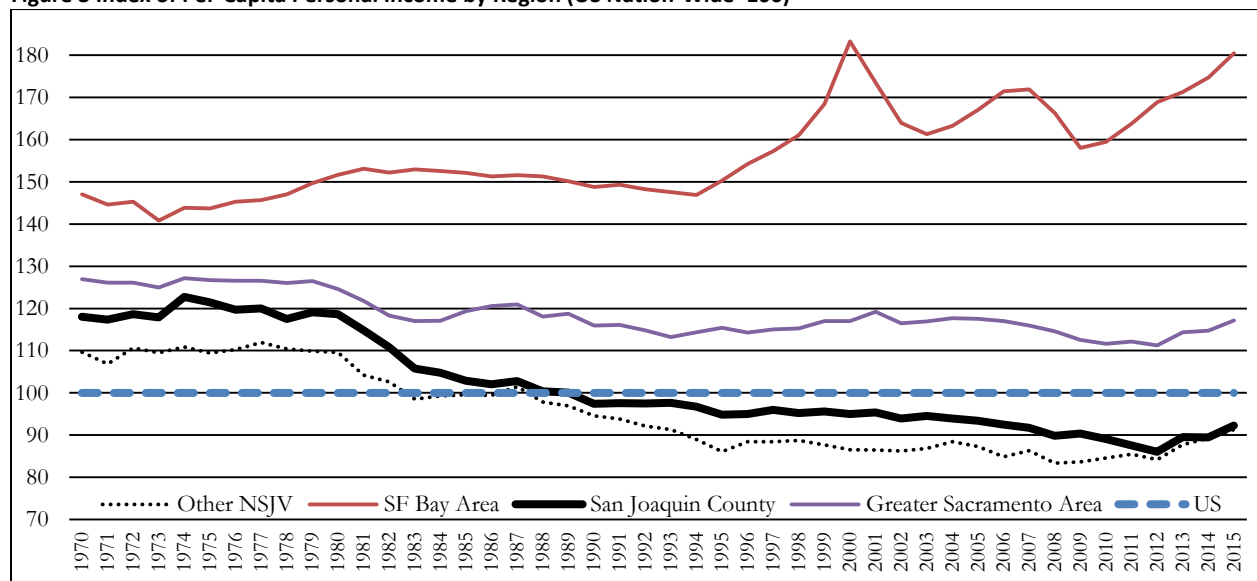


Figure 3 Index of Per-Capita Personal Income by Region (US Nation-Wide=100)



This income differential is particularly important for San Joaquin County since it is an economically disadvantaged area. Figure 3 illustrates the County’s divergence from national per capita personal income (PCPI) over the last several decades. It shows that since the early 1980s San Joaquin County has fallen behind the national PCPI. In 1980, the County’s PCPI was 20% above the nation but by 2015 it was

⁶ U.S. Census Bureau American Community Survey 2015 (5-yr) data on median earnings in the past 12 months by educational attainment.

8% below the nation. Numerous other indicators such as unemployment rates, per capita money-income, and households in poverty show a similar pattern of socio-economic need that the lower cost educational opportunities of a CSU are well positioned to accommodate.

Despite access challenges, San Joaquin County’s residents have shown an increasing propensity to enroll at CSU campuses. Figure 4 demonstrates that San Joaquin County enrollment shares lag the statewide average, not surprising given the lack of a CSU campus. However, in the ten-years from 2006 to 2015, the difference between State-wide CSU enrollment shares and those in San Joaquin County declined by 50%. The sustained growth in actual CSU enrollment is further illustrated in Figure 5 which shows that the actual number of County residents enrolled in a CSU rose from around 4,800 in 2000 to 7,300 in 2015.

Figure 4 CSU enrollments as a share of the total population 1999-2015

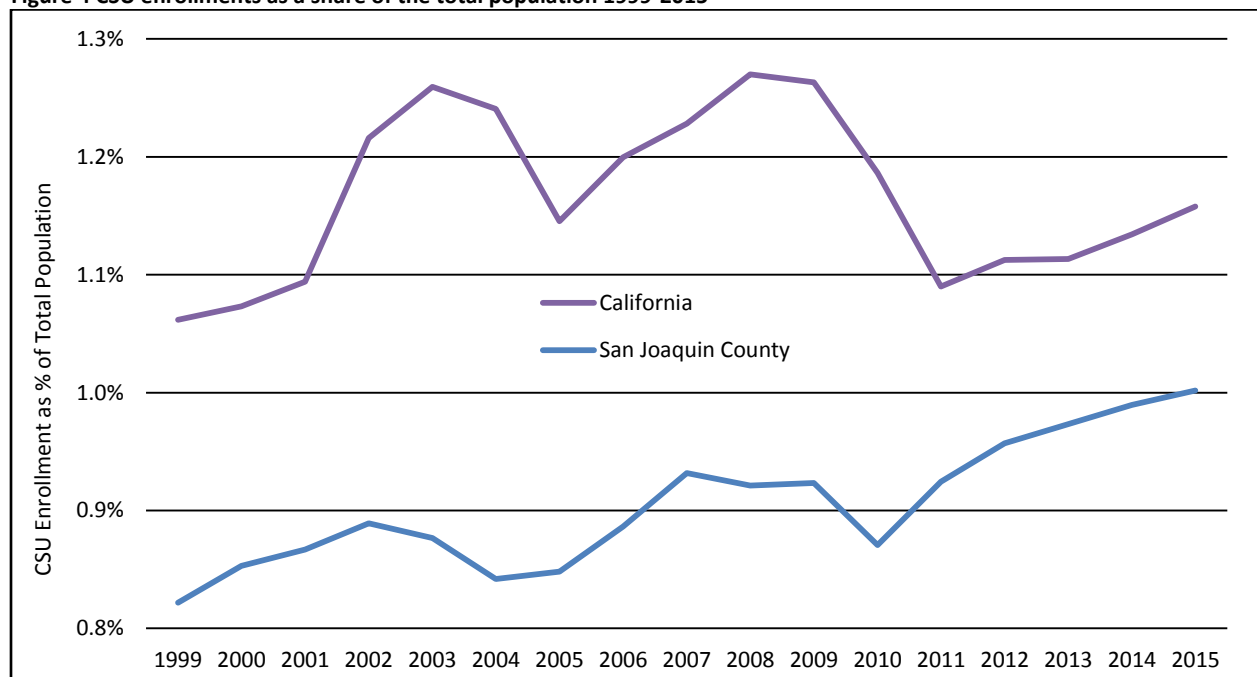


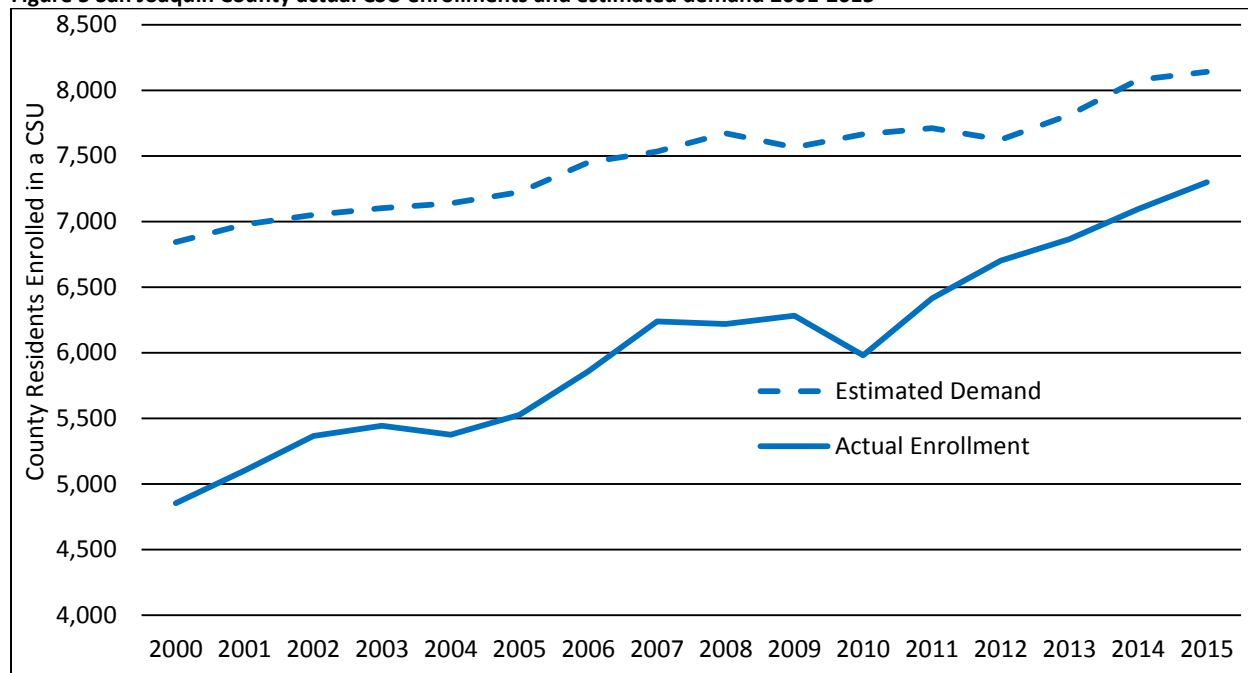
Figure 5 illustrates this impact using the *California Postsecondary Education Commission’s* enrollment forecasting methodology to estimate historic County resident enrollment demand.⁷ Looking at the difference between estimated and actual demand for CSU enrollment between 2001 and 2015, the County has been consistently below the expected level of demand.

During this 15-year period, actual County CSU enrollment has averaged about 25% less than what we would expect based on the key variables we use in our model: first-time freshman CSU eligibility; freshman CSU participation rates; community college CSU transfer rates; and persistence & graduation rates of enrolled CSU students. However, despite the lack of a CSU or UC in the County, the growing propensity of the County’s residents to attend a CSU has narrowed this gap by nearly 70% between 2001

⁷ See Appendix Two for methodological details.

and 2015. In 2001, actual enrollments were 37% lower than estimated demand, but by 2015 actual enrollments were only 12% lower than expected. Another way of assessing the impact on demand that the presence of a local CSU might have is to compare the difference in enrollment between Stanislaus County where there is a CSU and San Joaquin County. While both counties share similar socio-economics in 2016 the share of Stanislaus County’s population enrolled in a CSU was 35% higher than in San Joaquin County.

Figure 5 San Joaquin County actual CSU enrollments and estimated demand 2001-2015



Given these trends, we consider the probable number of County residents that would enroll at a CSU-Stockton. Using the *California Postsecondary Education Commission’s* enrollment forecasting methodology,⁸ we see County demand for CSU enrollment increasing by an additional 1,000 students, or 11%, in the decade to 2026. While that suggests about 8,500 County residents will be enrolled in a CSU under current trends, it does not account for the likely increase in attendance associated with the presence of a campus. Therefore, we assume that there will likely be an additional 25% of the population attending a CSU if a CSU-Stockton were to be established⁹ which would mean 10,625 San Joaquin County residents would likely attend a CSU in 2025 if there were a CSU-Stockton.

However, it is not reasonable to assume all residents would attend CSU-Stockton. Across current CSU institutions, the proportion of county residents that attend the CSU in their county ranges from more than 85% at institutions like Chico State and Fresno State to less than 10% at institution like CSU-Dominguez Hills and California Maritime Academy. We think that it’s reasonable to assume a CSU-Stockton would capture about 50% of its resident CSU enrollments. This is less than institutions like CSU-

⁸ See Appendix Two for details.

⁹ While this is less than the 35% factor seen in Stanislaus County, it is taken to represent a substantial likely increase in the County propensity to attend.

Stanislaus, 62%, and San Jose State, 59%, but higher than Cal State East Bay, 34%, and CSU Monterey Bay, 36%.¹⁰ Therefore, we estimate about 5,300 San Joaquin County residents would enroll at CSU-Stockton if it were established by 2025 but the number could be as high as 6,600 if it attracts a similar share of County residents as CSU-Stanislaus.

2.2 Market Needs and Institutional Focus

Beyond the demand from County residents, CSU-Stockton would add another important higher educational resource to the Northern California Megaregion. This would enhance access for residents in the neighboring Motherlode Region which also lacks a CSU/UC institution and increase educational opportunities for all the 12.2 million people that reside in the Northern California Megaregion.

Table 2 illustrates some of the need for additional CSU opportunities by comparing each of the CSU institutions' permanent student capacity, in terms of full-time equivalent student (FTES), to actual Fall 2015 FTES enrollment. It shows that each campus has more students than their permanent capacity and that for the system there are almost 80,000 more students than what the existing 23 CSU institutions permanent capacity can accommodate. Most of the CSUs have attempted to accommodate this demand by adding temporary capacity and imposing campus or program impaction criteria, which raises admission requirements to constrain demand. In fact, 17 of the 23 CSU institution in 2017-2018 have some form impaction.¹¹

Table 2 Existing CSU permanent campus FTES capacities and actual enrollment

	Capacity	Actual	+/- Capacity		Capacity	Actual	+/- Capacity
Bakersfield	6,552	8,937	-2,385	Northridge	25,676	33,502	-7,826
Channel Islands	5,117	5,449	-332	Pomona	17,993	20,702	-2,709
Chico	12,198	16,140	-3,943	Sacramento	21,311	25,173	-3,862
Dominguez Hills	10,015	11,325	-1,310	San Bernardino	13,551	17,465	-3,914
East Bay	11,584	13,539	-1,955	San Diego	24,416	30,765	-6,349
Fresno	16,714	21,052	-4,338	San Francisco	19,008	24,850	-5,842
Fullerton	24,416	31,405	-6,989	San Jose	21,809	26,569	-4,760
Humboldt	7,087	8,228	-1,141	San Luis Obispo	16,504	20,241	-3,737
Long Beach	25,731	31,200	-5,469	San Marcos	7,915	10,709	-2,794
Los Angeles	17,603	23,252	-5,649	Sonoma	7,682	8,563	-882
Maritime Academy	997	1,173	-177	Stanislaus	6,943	7,777	-834
Monterey Bay	5,421	6,731	-1,310				
Total All CSU Campuses					326,242	404,747	-78,505
Note – Impacted Institutions are in BOLD							

Given this level of system-wide capacity shortage as well as the need for enhanced local educational opportunities, we believe that for 100 San Joaquin County resident enrollees in CSU-Stockton, there will be between 50 and 100 students from outside the county. Based on these assumptions, the necessary

¹⁰ These enrollment shares are based on 2015 CSU Enrollment by County of Origin data published by the California State University Office of the Chancellor at www.calstate.edu.

¹¹ Based on CSU Campus Impaction Information accessed 11 January 2017 at: <http://www.calstate.edu/SAS/impaction-campus-info.shtml>

size of the CSU-Stockton campus is between a 7,500 FTES and a 10,000 FTES institution.¹² In analyzing the economic impacts of a potential CSU-Stockton we therefore consider the impacts as a range between these two institutional sizes.

Before analyzing the economic impacts of the CSU-Stockton through its construction and its operations, it is necessary to make some assumptions about the kinds of programs that CSU-Stockton will offer. This institutional focus will influence construction costs since the composition of classrooms, laboratories, performing arts and other types of spaces will vary by the programs being offered. Similarly, operating costs will vary by the programs' associated student-faculty ratios, faculty salaries and support staff costs. To determine program composition, we analyze historic CSU enrollment trends of County residents and of transfer students from the County's community college – San Joaquin Delta College.

Table 3 Composition of San Joaquin County resident enrollment at CSUs

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sacramento	25.6%	25.1%	24.8%	26.9%	26.9%	27.0%	27.1%	26.8%	26.8%	27.3%
Stanislaus	29.2%	28.6%	26.4%	25.1%	24.6%	24.6%	22.4%	20.8%	19.8%	19.8%
San Jose	5.9%	6.9%	7.4%	7.0%	7.1%	8.5%	9.0%	10.1%	10.6%	11.0%
East Bay	3.3%	3.6%	4.4%	5.2%	5.2%	5.0%	5.7%	6.5%	6.4%	6.6%
Fresno	7.4%	7.1%	7.6%	7.0%	7.1%	7.2%	7.4%	7.0%	6.4%	6.2%
San Francisco	5.7%	6.7%	6.7%	7.0%	7.1%	6.5%	6.5%	6.2%	6.0%	5.7%
Chico	4.7%	4.9%	5.1%	4.7%	4.3%	4.3%	4.9%	4.9%	5.0%	5.1%
San Luis Obispo	4.3%	4.4%	4.3%	4.0%	4.2%	3.7%	3.2%	3.4%	3.5%	3.3%
Sonoma	2.3%	1.9%	2.0%	2.1%	2.1%	1.9%	2.1%	2.3%	2.3%	2.5%
All Others	11.5%	10.7%	11.3%	10.8%	11.4%	11.3%	11.6%	12.1%	13.2%	12.6%
Total #	5,859	6,240	6,220	6,283	5,980	6,416	6,703	6,867	7,096	7,299

Table 3 shows the enrollment trends at CSUs across the state and details the nine most popular campuses for County residents. There are some interesting trends that emerge in reviewing the past decade of enrollments. Sacramento State's enrollment share has stayed relatively constant, accounting for around 27% of the County's CSU enrollees. However, CSU-Stanislaus has declined in this period from 29.2% of County CSU enrollees in 2006 to 19.8% in 2015. In contrast San Jose State went from 5.9% of the County's CSU enrollees in 2006 to 11% in 2015. County CSU enrollees at CSU-East Bay doubled during the same period, growing from a 3.3% share in 2006 to 6.6% in 2015.

Table 4 shows a similar pattern among San Joaquin Delta College transfer students to CSU institutions. While Sacramento State accounted for about 37% of transfer students between 2006 and 2015, the share of transfer students declined significantly at CSU-Stanislaus and Fresno State. In contrast, sustained growth in transfer student shares were recorded at CSU-East Bay and San Jose State. This enrollment shift could reflect the greater focus on Science, Technology, Engineering and Mathematics (STEM) programs at San Jose State compared to CSU-Stanislaus and the desire of San Joaquin County residents to build skills in these areas to participate in the technology-oriented economy of the Northern California mega-region. Considering these enrollment trends, as well as the critical shortage of skills in

¹² In the 5-year period from 2011 to 2015 across the entire CSU system the ratio of actual enrolled students to FTES was 1.17. Therefore, the 9,375 to 10,625 students which we estimated would attend the CSU-Stockton equates to between 8,012.8 and 9,081.2 FTES which leads to our analysis of the 7,500 FTES and the 10,000 FTES institution.

STEM fields across the Northern California Megaregion, an institutional orientation towards science and engineering programs at a CSU-Stockton is justified.

Table 4 Composition of San Joaquin Delta College transfer students to CSUs

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Sacramento	35.2%	36.6%	35.9%	41.1%	40.3%	39.9%	35.4%	37.3%	33.8%	37.5%
Stanislaus	30.1%	27.4%	28.1%	23.6%	28.9%	25.8%	21.5%	25.5%	27.0%	21.7%
East Bay	2.8%	4.1%	4.1%	6.2%	3.6%	5.4%	8.7%	6.8%	7.1%	7.8%
San Jose	4.9%	6.0%	5.4%	4.0%	4.6%	5.3%	8.0%	8.7%	8.7%	7.6%
San Francisco	7.2%	7.0%	6.8%	6.3%	5.2%	4.8%	3.0%	2.5%	4.6%	6.6%
Chico	3.4%	2.7%	4.1%	4.3%	1.9%	3.4%	2.5%	4.6%	3.0%	5.2%
Fresno	2.8%	3.0%	3.7%	3.0%	5.4%	4.8%	4.3%	1.8%	2.7%	1.9%
Monterey Bay	0.5%	1.1%	1.1%	1.7%	0.9%	1.3%	2.1%	1.6%	2.7%	1.9%
Sonoma	2.8%	1.1%	1.3%	1.7%	0.0%	0.4%	0.8%	1.5%	0.9%	1.9%
All Others	10.3%	11.0%	9.4%	8.2%	9.2%	9.3%	13.8%	9.6%	9.5%	8.0%
Total #	871	820	828	601	802	800	610	789	789	747

In contrast to the CSU assessment that 17 of 23 campuses have impacted enrollment, a recent report by the Legislative Analyst’s Office concluded that another CSU campus was not justified at this time because the system has ample capacity statewide and within every region.¹³ The analysis in the LAO report suffers from two serious flaws that lead to its incorrect conclusion that a CSU-Stockton campus is not justified. First, it relies on an unrealistic definition of campus capacity created by the legislature in the 1970’s in which the average classroom has to be in use 53 hours per week before a campus is considered to be at capacity. We would argue that the CSU impaction figures and assessments of campus capacity are much more realistic estimate of campus capacities.

The second flaw in the LAO study is the CSU regional analysis. The LAO does not analyze whether the current distribution of campuses is optimum or leaves regions underserved in the way this report does for Stockton. Instead, the LAO assumes the current configuration and enrollments are optimum, and it only looks to see if there is current or planned capacity to support projected growth over current levels. Stockton is assigned to the Upper Central Valley region which includes CSU-Stanislaus, which has the lowest enrollment of any region in the LAO analysis at approximately 8,000. Because CSU-Stanislaus has current or planned capacity to handle a projected increase to 10,000 students, the LAO finds Upper Central Valley region, including the Stockton area, is adequately served. The LAO report concludes that there is capacity to meet the Stockton area’s future needs, whereas this analysis interprets low enrollment at CSU-Stanislaus as evidence that the distant campus does not serve the Stockton area’s needs.

A different look at the data in the LAO report shows the problem with its assumption that current CSU enrollment and campuses are adequately serving regional needs. As mentioned above, the Upper Central Valley as defined in the LAO report has 8,000 students in a region with a population in excess of 1.4 million, a ratio of 5.67 CSU students per 1,000 residents, which is 40% below the statewide ratio of 9.53 CSU students per 1,000 residents. This problem is compounded for Stockton area residents,

¹³ Assessing UC and CSU Enrollment and Capacity. <http://www.lao.ca.gov/reports/2017/3532/uc-csu-enrollment-capacity-011917.pdf>

because the adjacent Bay Area and Capital regions where San Joaquin County residents frequently enroll also have CSU enrollment ratios below the statewide average and suffer from enrollment impactation. Thus, inadequate CSU capacity can be seen as a problem throughout the Northern California megaregion.

2.3 Skills and Knowledge Spillovers

A CSU-Stockton will make important contributions to enhancing human capital in a part of the Northern California Megaregion that lags the large and relatively high levels of education and workforce skills in the neighboring San Francisco Bay Area. Currently, this gap between the Bay Area and inland areas, like San Joaquin County, is one of the major barriers to expanding and leveraging the Bay Area's gains more broadly across the megaregion.¹⁴ This has limited the employment opportunities in the County and created significant incentives for residents to endure long commutes along crowded corridors to access better paying employment opportunities in the Bay Area.¹⁵

In addition to these critical contributions to the County and surrounding regions' human capital, a CSU-Stockton will also be well positioned to directly promote and diffuse knowledge. CSUs are active and diverse contributors to scholarship, innovation and knowledge development in a community. CSU-Stockton will build essential skills in its students that will endure after graduation. CSU-Stockton's faculty scholarship and outreach activity creates a public good that supports innovation, economic growth and development.

Experiential learning and internships opportunities across the community from a CSU-Stockton will generate critical knowledge beyond the confines of the classrooms and disciplines. Outreach programs from a CSU-Stockton could enhance youth, elderly and other non-traditional learner opportunities. Research programs and institutes at CSU-Stockton have the capacity to make substantial contribution to social and environmental development around issues of local, regional, national, and international concern.

Besides traditional students, professional and continuing education opportunities created by a CSU-Stockton would make the region more appealing to businesses, especially those in the Bay Area. A recent Bay Area Council Economic Institute report identified these kinds of investments and their associated impacts on educational attainment as being critical to growing economic opportunities. A major component of that would through a CSU-Stockton's ability to enhance skills and thereby the potential of "near-shoring" Bay Area businesses needing relatively higher skilled workforces.¹⁶ Thus, CSU-Stockton will help support the competitiveness and growth of the larger Megaregion and statewide economies.

¹⁴ For a further discussion see: Bellisario et al. (2016) *The Northern California Megaregion: Innovative, Connected, and Growing*. Bay Area Council Economic Institute.

¹⁵ For a discussion of the growing number of inter-regional commuters see: Ahsan et al. (2016) *NSJV Index: Issues for Regional Economic Integration and Growth*. Center for Business and Policy Research, University of the Pacific.

¹⁶ See Footnote 14 for details of the Bay Area Council Economic Institute report.

2.4 Community Engagement and Social Capital

A CSU-Stockton would also be well positioned to make substantial contributions to a wide array of cultural and community based organizations that are in the County. The County is very diverse with significant and well established Hispanic, African-American, Asian and other populations. A CSU-Stockton’s faculty, staff, and students would create additional assets to engage and develop these communities. It would also substantially expand resources available to facilitate engagement with community based non-profits. A CSU-Stockton’s students and employees would be able to engage in a range of community initiatives regionally, nationally and internationally. Complementing its outreach initiatives, a CSU-Stockton could facilitate development of a range of mutually beneficial development initiatives between community and academia that collectively exchange and develop information, knowledge and capabilities.

3 Economic Impact Analysis

The economic impacts of building and operating the two CSU-Stockton alternatives are analyzed in this section of the study. Section 3.1 details the construction impacts of both the 7,500 FTES and the 10,000 FTES campuses. As seen in Table 5, these alternative campus scenarios are estimated to cost between \$441 and \$564 million to build. Those expenditures would create approximately 978,000 to 1,242,000 gross square feet of building space. Section 3.2 analyzes the annual impacts of operating the campuses. In total, annual operational expenditures would cost between \$212 and \$282.6 million. While the analysis is envisioning a campus that could be decades in the future, we can’t predict the year when or if the campus will become a reality. Thus, the economic impact analysis is in current dollars – as if the campus were operating today – in order to provide a conceptual idea of the transformative effect of the campus.

Table 5 Summary direct impacts of CSU-Stockton campus

7,500 FTES Campus		10,000 FTES Campus	
Gross square feet of space	977,944	Gross square feet of space	1,241,915
Construction Costs (\$ millions)	\$440.7	Construction Costs (\$ millions)	\$564.3
Annual Operational Costs (\$ millions)	\$105	Annual Operational Costs (\$ millions)	\$140
Annual Auxiliary Costs (\$ millions)	\$37.5	Annual Auxiliary Costs (\$ millions)	\$50
Annual Student Expenditures (\$ millions)	\$69.5	Annual Student Expenditures (\$ millions)	\$92.6

Analysis of these economic impacts is done with the use of economic modelling software called IMPLAN, which allows us to develop a model of the San Joaquin County economy.¹⁷ This model is in a sense a general accounting system of transactions between industries, businesses, and consumers that estimates the range of economic impacts. We thereby create a complete, extremely detailed Social Accounting Matrices and Multiplier Models of the San Joaquin County economy that enables in-depth examination of the impacts of a CSU-Stockton’s construction and operation.

¹⁷ Specifically, in this analysis we use IMPLAN Version 3.1 with calendar year 2013 data and results adjusted to 2016 values.

IMPLAN was developed in the late-1970s by the United States Forest Service and researchers at the University of Minnesota. The software was initially based on input-output accounts whose analysis was pioneered in the Nobel Prize winning work of Wassily Leontief. As the software evolved, it began using Social Accounting Matrices to incorporate transactions among institutional agents in its analysis. Currently, IMPLAN is among the most widely used economic impact modeling systems. It provides a transparent and detailed approximation of economic impacts that is widely utilized by businesses and government agencies.

The full range of economic impacts that result from the sector's employment, known as the Total Effect, is the sum of the direct, indirect, and induced effects:

- **Direct Effects** are the changes in jobs and income directly supported by the industry such as the campus construction costs or its ongoing operational expenditures.
- **Indirect Effects** represent the iterative impacts of inter-industry transactions as supplying industries respond to demand from the sector(s) where the initial expenditures occurred. An example of an indirect effect would include a local restaurant's employment and purchases of foodstuff to meet the demand of the CSU-Stockton's students.
- **Induced Effects** reflect the expenditures made by recipients of wages in the direct and indirect industries. Examples of induced impacts include employees' expenditures on items such as retail purchases, housing, food, medical services, banking, and insurance.

In this analyses, the total, direct, indirect, and induced effects are reported by employment and output:

- **Employment** is the number of full- and part-time jobs based on an annual average of monthly jobs. In other words, employment is measured as a full year of employment. Thus, 3 temporary jobs that lasted for 4 months are reported as 1 job.
- **Output** represents the value of industry production. It accounts for the total change in the value of production in an industry for a given time period. Output varies as a measure across industries. For manufacturers, the value of production is sales plus or minus any change in inventories. For service sectors, the value of production equals their sales. While for retail and wholesale trade, the value of production equals their gross margin and not their gross sales.

The economic model is defined for San Joaquin County, and economic impacts are calculated for that area. Indirect and induced effects are calculated using regional purchase coefficients calculated by IMPLAN, and thus economic impacts do not include spending outside the region of analysis even if the purchases are made by individuals or businesses located within that region.

3.1 Construction and Capital Related Expenditures

With the composition of County CSU enrollment and human capital needs identified in Section 2, we identified the specific programmatic needs of a new CSU campus through a detailed review of four existing campuses: Cal Poly San Louis Obispo, San Jose State, Sacramento State, and CSU-Stanislaus.

Using enrollment by discipline at Cal Poly and San Jose State as primary guides we derived a distribution of lecture and laboratory enrollment by program.

Table 6 reports the resulting overall distribution between lecture and laboratory space by type. Overall, enrollment composition was assumed to consist of 90% lecture space and 10% laboratory space.

Table 6 Programmatic composition of CSU-Stockton lecture & laboratory space

Lecture Space – of which:		Laboratory Space – of which:	
Classroom (General)	49%	Science - Wet Lab	35%
Business Administration	19%	Engineering	30%
Education	7%	Psychology - Dry Lab	15%
Humanities	10%	Art	10%
Language Arts	5%	Food Sciences/Nutrition	5%
Social Science	10%	Music	5%
<i>Lecture Space Component Shares</i>	<i>100%</i>	<i>Laboratory Space Component Shares</i>	<i>100%</i>

Using those assumptions, the CSU System-wide capital costs and space requirement guides were matched to the enrollment number to derive the space and associated direct costs of constructing a CSU-Stockton campus.¹⁸ Table 7 reports the results of these calculations for both the 7,500 FTES campus and the 10,000 FTES campus.

Table 7 Costs of Construction CSU-Stockton

Type of Project	FTES 7,500		FTES 10,000	
	Size GSF	Total Cost	Size GSF	Total Cost
Classroom	75,000	\$31,595,306	100,000	\$42,127,073
Laboratories	161,798	\$102,718,376	215,731	\$136,957,834
Offices				
Administration	59,738	\$25,041,868	79,100	\$33,158,598
Faculty Office	91,527	\$34,717,791	91,527	\$34,717,791
Library w/o ASRs	75,101	\$28,248,437	79,184	\$29,784,151
Specialty				
Physical Education	90,000	\$32,847,600	120,000	\$43,796,800
Theatre Arts	19,875	\$10,763,448	26,500	\$14,351,264
Auditorium (1200 seats)	10,000	\$6,912,857	10,000	\$6,912,857
Warehouse	3,750	\$610,171	5,000	\$813,561
Corporation Yard (Shops)	30,000	\$6,209,400	33,333	\$6,899,333
Non-State/Campus				
Residence Halls	196,154	\$61,893,631	261,538	\$82,524,840
Cafeteria	19,500	\$8,258,212	26,000	\$11,010,949
Bookstore	22,500	\$8,539,425	30,000	\$11,385,900
University Union	75,000	\$39,352,833	100,000	\$52,470,444
Health Clinic	10,500	\$5,398,050	14,000	\$7,197,400
Activity-Recreation Center	37,500	\$27,092,452	50,000	\$36,123,269
Parking		\$10,544,063		\$14,058,750
Grand Total	977,944	\$440,743,918	1,241,915	\$564,290,817

¹⁸ The gross space requirements were derived from the 2012 *CSU Capital Planning, Design and Construction Standards* and the costs are estimated from the *CSU Cost Guide for State and Non-State Funded Buildings Five-Year Capital Improvement Program 2016-2017 through 2020-2021*.

The direct economic impacts from these construction costs are then analyzed in the economic model of the County’s economy to estimate their total effects. The results for the 7,500 FTES and 10,000 FTES campuses are reported in Table 8 and Table 9 respectively.

Table 8 CSU-Stockton Construction Expenditure Economic Impacts for 7,500 FTES Campus

Impact Type	Employment	Output
Direct Effect	2,081	\$435,662,791
Indirect Effect	535	\$74,051,345
Induced Effect	730	\$94,492,551
Total Effect	3,346	\$604,206,687

In terms of the 7,500 FTES Campus employment directly associated with these expenditures was estimated to equal 2,081 jobs. When adjusted for the local value of output, rather than gross sales; the total direct value of industry production equals \$435.7 million. That direct output generated \$74.1 million in indirect effects and \$94.5 million in induced effects for a total effect of \$604.2 million in economic output. Similarly, direct employment generated 535 indirect jobs and 730 induced jobs for a total employment effect of 3,346 jobs.

Table 9 CSU-Stockton Construction Expenditure Economic Impacts for 10,000 FTES Campus

Impact Type	Employment	Output
Direct Effect	2,673	\$557,849,740
Indirect Effect	683	\$94,610,026
Induced Effect	936	\$121,221,259
Total Effect	4,292	\$773,681,025

Employment directly associated with construction of the 10,000 FTES Campus is estimated to equal 2,673 jobs. When adjusted for the local value of output, rather than gross sales; the total direct value of industry production equals \$557.9 million. The direct output generated \$94.6 million in indirect effects and \$121.2 million in induced effects for a total effect of \$773.7 million in economic output. Similarly, direct employment generated 683 indirect jobs and 936 induced jobs for a total employment effect of 4,292 jobs.¹⁹

3.2 Operations and Other Ongoing Impacts

Three components are analyzed to estimate the total ongoing, annual impacts of a CSU-Stockton: Operational expenditures, Auxiliary enterprises, and Student expenditures. Further details of these components and our estimates for each are reported in separate subsections below. However, before turning to those we briefly summarize those economic impacts for both a 7,500 FTES and 10,000 FTES CSU-Stockton campus.

The total estimated direct annual impact of a 7,500 FTES CSU-Stockton campus is \$180 million or 1,795 jobs. Table 10, shows those direct impacts generate \$41.9 million in indirect effects and \$47.1 million in

¹⁹ See Appendix Two for additional details on the economic impacts of a CSU-Stockton campus’ construction.

induced effects for a total annual effect of \$269.1 million in economic output. Similarly, direct employment generates 283 indirect jobs and 364 induced jobs for a total employment effect of 2,442 jobs.

Table 10 CSU-Stockton annual economic impacts for 7,500 FTES campus

Impact Type	Employment	Output
Direct Effect	1,795	\$180,010,246
Indirect Effect	283	\$41,902,326
Induced Effect	364	\$47,134,582
Total Effect	2,442	\$269,047,155

The total estimated direct annual impact of a 10,000 FTES CSU-Stockton campus is \$240 million or 2,393 jobs. Table 11, shows those direct impacts generate \$55.9 million in indirect effects and \$62.9 million in induced effects for a total annual effect of \$358.7 million in economic output. Similarly, direct employment generates 378 indirect jobs and 485 induced jobs for a total employment effect of 3,256 jobs.

Table 11 CSU-Stockton annual economic impacts for 10,000 FTES campus

Impact Type	Employment	Output
Direct Effect	2,393	\$240,013,659
Indirect Effect	378	\$55,869,768
Induced Effect	485	\$62,846,109
Total Effect	3,256	\$358,729,536

3.2.1 Operational Expenditures

To estimate operational expenditures, several years of CSU financial statements were analyzed across each campus in the CSU-system. These were adjusted to reflect costs per FTES and for the effects of inflation. Table 12 reports these costs for a selection of aspirant campuses and the CSU-system. Based on that analysis and accounting for the impacts of the Great Recession during this period, it was assumed that annual operating expenditures at a CSU-Stockton would be \$14,000 per FTES.

Table 12 Comparative operational costs per FTES in real (2015) dollars

	Cal Poly	Sac State	SJSU	Stanislaus	All
2007	\$14,131	\$12,588	\$12,681	\$14,639	\$14,072
2008	\$14,198	\$12,027	\$12,450	\$15,036	\$13,450
2009	\$12,470	\$10,860	\$12,317	\$12,775	\$12,277
2010	\$14,243	\$12,548	\$13,097	\$13,274	\$13,937
2011	\$12,882	\$11,115	\$12,126	\$10,711	\$12,232
2012	\$13,106	\$11,091	\$12,160	\$11,391	\$12,292
2013	\$13,810	\$11,503	\$12,628	\$12,288	\$12,819
2014	\$14,434	\$12,038	\$12,027	\$12,896	\$13,709
2015	\$15,153	\$12,749	\$13,001	\$13,573	\$14,258

The estimated direct annual operational expenditures for a 7,500 FTES CSU-Stockton campus are thereby \$105 million. These direct economic impacts are then analyzed in the economic model of the County's economy to estimate their total effects. The results, reported in Table 13, indicate that

employment directly associated with operations is estimated to equal 989 jobs. The \$105 million direct output generates \$26 million in indirect effects and \$31.2 million in induced effects for a total annual effect of \$162.2 million in economic output. Similarly, direct employment generated 165 indirect jobs and 241 induced jobs for a total employment effect of 1,395 jobs.

Table 13 CSU-Stockton operational expenditures economic impacts for 7,500 FTES campus

Impact Type	Employment	Output
Direct Effect	989	\$105,000,000
Indirect Effect	165	\$26,001,819
Induced Effect	241	\$31,174,915
Total Effect	1,395	\$162,176,733

The estimated direct annual operational expenditures for a 10,000 FTES CSU-Stockton campus are \$140 million. The economic impacts results, reported in Table 14, indicate that employment directly associated with these operations are estimated to equal 1,318 jobs. The direct output generates \$34.7 million in indirect effects and \$41.6 million in induced effects for a total effect of \$216.2 million in economic output. Similarly, direct employment generated 220 indirect jobs and 321 induced jobs for a total employment effect of 1,859 jobs.

Table 14 CSU-Stockton operational expenditures economic impacts for 10,000 FTES campus

Impact Type	Employment	Output
Direct Effect	1,318	\$140,000,000
Indirect Effect	220	\$34,669,092
Induced Effect	321	\$41,566,552
Total Effect	1,859	\$216,235,644

3.2.2 Auxiliary Operations' Expenditures

Information regarding auxiliary operations' annual expenditures were also drawn from a review of CSU financial statements. These were similarly adjusted to reflect costs per FTES and for the effects of inflation. Table 15 reports these costs for a selection of aspirant campuses and the CSU-system. Based on that analysis it is assumed that annual auxiliary operating expenditures at a CSU-Stockton would be \$5,000 per FTES.

Table 15 Comparative auxiliary operations' costs per FTES in real (2015) dollars

	Cal Poly	Sac State	SJSU	Stanislaus	All
2007	\$8,915	\$5,752	\$6,623	\$2,570	\$5,688
2008	\$8,436	\$5,571	\$6,053	\$2,883	\$5,352
2009	\$8,239	\$5,075	\$6,176	\$2,017	\$5,270
2010	\$8,764	\$6,184	\$6,653	\$2,322	\$5,756
2011	\$8,782	\$5,691	\$5,897	\$2,195	\$5,376
2012	\$8,664	\$5,241	\$5,869	\$1,997	\$5,339
2013	\$8,809	\$4,762	\$5,828	\$1,615	\$5,470
2014	\$10,036	\$5,349	\$5,987	\$1,423	\$5,258
2015	\$8,751	\$5,253	\$5,836	\$1,347	\$4,928

The estimated direct annual operational expenditures for a 7,500 FTES CSU-Stockton campus are thereby \$37.5 million. When adjusted for the local value of output, rather than gross sales; the total direct value of industry production equals \$32 million or 369 direct jobs. Table 16 shows that direct output generated \$7.9 million in indirect effects and \$8.6 million in induced effects for a total effect of \$48.5 million in economic output. Similarly, direct employment generated 55 indirect jobs and 66 induced jobs for a total employment effect of 1,859 jobs.

Table 16 CSU-Stockton auxiliary expenditures economic impacts for 7,500 FTES campus

Impact Type	Employment	Output
Direct Effect	369	\$32,025,000
Indirect Effect	55	\$7,874,158
Induced Effect	66	\$8,596,300
Total Effect	490	\$48,495,458

The estimated direct annual auxiliary expenditures for a 10,000 FTES CSU-Stockton campus are \$50 million, which equates to \$42.7 million once adjusted for the local value of output. The economic impacts results, reported in Table 17, indicate that employment directly associated with these expenditures are estimated to equal 493 jobs. The direct output generates \$10.5 million in indirect effects and \$11.5 million in induced effects for a total effect of \$64.7 million in economic output. Similarly, direct employment generated 73 indirect jobs and 89 induced jobs for a total employment effect of 654 jobs.

Table 17 CSU-Stockton operational auxiliary economic impacts for 10,000 FTES campus

Impact Type	Employment	Output
Direct Effect	493	\$42,700,000
Indirect Effect	73	\$10,498,878
Induced Effect	89	\$11,461,733
Total Effect	654	\$64,660,611

3.2.3 Student Spending

A large share of student expenditures occurs at the auxiliary organizations, which we analyzed in Section 3.2.2 above. However, accounting for the full economic impact of a CSU-Stockton campus requires us to estimate off-campus student expenditures as well. This estimation requires several steps:

- We assume that the additional 25% of County students that would be gained with a CSU-Stockton campus would be making similar expenditures in the County even without the campus and therefore their expenditures need to be excluded.
- We use the average of CSU-Stanislaus and Sacramento State’s *Cost of Attendance for 2016-2017* to estimate how much a typical student spends off-campus by excluding items from on-campus and auxiliary organizations such as food, housing, and books.
- We assume based on previous studies of students attending higher education institutions in San Joaquin County that a quarter of the CSU-Stockton students from the County will reside with a family member in which case they are not paying rent.²⁰

²⁰ See Pogue et al. (2010) *University of the Pacific Economic Impact Analysis, 2010*, Business Forecasting Center, University of the Pacific.

- All expenditures for books is assumed to occur at auxiliaries and are therefore excluded from this additional student spending because it has been accounted for under auxiliary operations.
- We assume that eight percent of students will reside on campus.²¹
- We then assume that for students staying on-campus housing all food and housing expenditures would occur at auxiliaries and for student staying off-campus no food or housing would be spent at auxiliaries.
- The County-wide direct expenditures expenditure by sector are thereby composed of a range of expenditures across several sectors which are detailed in
- Table 18 below.

Table 18 CSU-Stockton student expenditure sectoral allocation

Sector	FTES 7,500	FTES 10,000
Retail - Food & Beverage	\$21,075,171	\$28,100,228
Retail – Gasoline	\$6,298,566	\$8,398,088
Retail – Clothing & Accessories	\$4,150,821	\$5,534,428
Real Estate	\$22,594,763	\$30,126,350
Entertainment & Fitness Centers	\$2,172,117	\$2,896,155
Food Services and Drinking Places	\$11,426,529	\$15,235,372
Other personal services	\$1,760,188	\$2,346,917
Total Event Value	\$69,478,153	\$92,637,538

The County-wide economic impacts of these student expenditures for the 7,500 FTES campus are reported in Table 19. When adjusted for the value of output, rather than gross sales, occurring in the retail sectors the total direct value of industry production equals \$43 million. Employment directly associated with these expenditures was estimated to equal 437 jobs. The direct output generated \$8 million in indirect effects and \$7.4 million in induced effects for a total effect of \$58.4 million in total statewide economic output. Similarly, direct employment generated 64 indirect jobs and 57 induced jobs for a total employment effect of 557 jobs.

Table 19 CSU-Stockton student expenditure economic impacts for 7,500 FTES campus

Impact Type	Employment	Output
Direct Effect	437	\$42,985,247
Indirect Effect	64	\$8,026,349
Induced Effect	57	\$7,363,368
Total Effect	557	\$58,374,964

The County-wide economic impacts of these student expenditures for the 10,000 FTES campus are reported in Table 20. When adjusted for the value of output, rather than gross sales, occurring in the retail sectors the total direct value of industry production equals \$57.3 million. Employment directly associated with these expenditures was estimated to equal 582 jobs. The direct output generates \$10.7 million in indirect effects and \$9.8 million in induced effects for a total effect of \$77.8 million in total statewide economic output. Similarly, direct employment generated 85 indirect jobs and 76 induced jobs for a total employment effect of 743 jobs.

²¹ This is the same as the share residing on campus at CSU-Stanislaus and is between the proportion residing on campus at Sacramento State, 6%, and those on-campus at San Jose State, 13%.

Table 20 CSU-Stockton student expenditure economic impacts for 10,000 FTES campus

Impact Type	Employment	Output
Direct Effect	582	\$57,313,660
Indirect Effect	85	\$10,701,798
Induced Effect	76	\$9,817,823
Total Effect	743	\$77,833,281

Appendices

Appendix One: California Cities' Distances to Nearest CSU or UC Campus

Table 21 shows that three of the County's cities are among the 15 cities across California with greatest distance to a CSU/UC. In fact, Stockton is by far the largest city in California without its own CSU/UC institution. Stockton's population in 2015 was just over 300,000, but the next largest city without a CSU/UC was Lancaster with a population of just over 160,000. In addition, both the City of Tracy and the City of Manteca rank among the largest cities in the State without a nearby CSU/UC institution.

Table 21 Top-15 California cities furthest from a CSU or UC with over 75,000 residents

City	2015 Population	Closest CSU/UC	Distance (in miles)
Stockton city, California	305,658	CSU Stanislaus	50
Lancaster city, California	161,103	CSU Northridge	54
Palmdale city, California	158,351	CSU Northridge	47
Roseville city, California	130,269	CSU Sacramento	29
Visalia city, California	130,104	CSU Fresno	50
Victorville city, California	122,225	CSU San Bernardino	35
Temecula city, California	112,011	CSU San Marcos	32
Murrieta city, California	109,830	UC Riverside	33
Santa Maria city, California	105,093	Cal Poly San Luis Obispo	32
Hesperia city, California	93,295	CSU San Bernardino	30
Redding city, California	91,582	Chico State	79
Indio city, California	87,533	UC Riverside	70
Tracy city, California	87,075	CSU East Bay - Concord	38
Hemet city, California	83,861	UC Riverside	33
Manteca city, California	75,448	CSU Stanislaus	39
Note – San Joaquin County cities are in BOLD			
Compiled by CBPR based on U.S. Census Bureau, campus websites and Google Maps data			

Appendix Two: San Joaquin County CSU Enrollment Methodology

Our CSU enrollment demand estimates use a California Postsecondary Education Commission methodology.²² Based on this approach, four components were modelled to determine our enrollment demand:

- **First time freshman eligibility:** The number of seniors graduating high school is used as the baseline of the possible number of freshman enrolling in a CSU.
- **Freshman participation rates:** The percent of graduating seniors that choose to enroll at a CSU campus.
- **Community college transfer rates:** The number of transfers from community colleges to CSUs each year.
- **Persistence & graduation rates of enrolled students:** What percentage of students drop out each year, and what percentage of students continue enrollment to graduation.

These four elements were estimated for each ethnic group (Hispanic, American Indian, Asian, African American, and White) to account for differing propensities to attend and remain in college. The California Postsecondary Education Commission provides freshman participation rates, and persistence rates by ethnicity. First time freshman eligibility data was obtained from the California Department of Education (past graduation data), and the California Department of Finance (graduation projections). Community college transfers were obtained from the California State University System website. Graduation rates and community college transfers were adjusted up to account for private school graduates, and transfers from other colleges and foreign students.

Enrollment demand for San Joaquin County was then calculated as the sum of incoming freshman and transfer students for each ethnic group for each year. The California Postsecondary Education Commission report determined that graduation takes an average of just over five years. Therefore, each graduating cohort is the sum of the previous five years of incoming freshman and transfers, adjusted down by the persistence rate each year. In other words, period one’s freshman become period two’s sophomores, etc. By the end of period five, all students are expected to have either graduated, or dropped out. The resulting estimation of demand is reported in Table 22 below:

Table 22 San Joaquin County system-wide CSU enrollment estimated demand

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
6,977	7,052	7,103	7,139	7,224	7,452	7,534	7,673	7,567	7,665	7,713	7,625	7,811	8,079	8,142

²²CPEC (2010) *Complete Series of Undergraduate Enrollment Demand and Capacity Projections, 2009 – 2019*, California Postsecondary Education Commission.

Appendix Three CSU Stockton Construction Economic Impact Details

Sector specific employment impacts of a 7,500 FTES Campus' construction in San Joaquin County are reported in Table 23. Accordingly, the all direct employment effects are in the construction sector. Indirect employment effects were largest in the service sector, 246 jobs, followed by the trade sector, 198 jobs, and 69 in the transportation, information and public utilities (TIPU) sector. Induced employment effects were also largest in the service sector, 552 jobs, followed by the trade sector, 144 jobs. Total employment effects were correspondingly greatest in the construction sector, 2,092 jobs, followed by the services sector, 798 jobs, and the trade sector, 342 jobs.

Table 23 CSU-Stockton 7,500 FTES construction expenditure employment impacts

Sector	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Construction	2,080.8	3.5	7.8	2,092.2
Service	-	246.2	551.8	797.9
Trade	-	197.6	144.0	341.6
TIPU	-	69.1	16.4	85.5
Government	-	6.3	8.2	14.6
Manufacturing	-	9.0	1.1	10.1
Agriculture	-	3.0	0.6	3.7
Mining	-	0.1	-	0.1
Total	2,080.8	534.8	730.0	3,345.6

The output impacts of a 7,500 FTES Campus' construction in San Joaquin County are reported in Table 24. Accordingly, the largest indirect output effect was in the in the service sector, \$32.6 million, followed by the trade sector, \$25 million, and the TIPU sector, \$10.4 million. Induced output effects were also largest in the service sector, \$74.1 million, followed by the trade sector, \$13.7 million. Total output effects were correspondingly greatest in the construction sector, \$437.9 million, followed by the service sector, \$106.7 million, and the trade sector, \$38.7 million.

Table 24 CSU-Stockton 7,500 FTES construction expenditure output impacts

Sector	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Construction	\$435,662,791	\$684,147	\$1,571,271	\$437,918,209
Service	-	\$32,607,840	\$74,101,084	\$106,708,925
Trade	-	\$25,014,743	\$13,724,815	\$38,739,558
TIPU	-	\$10,405,150	\$2,407,233	\$12,812,384
Manufacturing	-	\$3,559,194	\$434,155	\$3,993,349
Government	-	\$1,317,145	\$2,162,582	\$3,479,727
Agriculture	-	\$432,736	\$86,479	\$519,214
Mining	-	\$30,391	\$4,930	\$35,321
Total	\$435,662,791	\$74,051,345	\$94,492,551	\$604,206,687

Sector specific employment impacts of a 10,000 FTES Campus' construction in San Joaquin County are reported in Table 25. Accordingly, the all direct employment effects are in the construction sector. Indirect employment effects were largest in the service sector, 315 jobs, followed by the trade sector, 252 jobs, and 88 in the TIPU sector. Induced employment effects were also largest in the service sector, 708 jobs, followed by the trade sector, 184 jobs. Total employment effects were correspondingly

greatest in the construction sector, 2,687 jobs, followed by the services sector, 1,023 jobs, and the trade sector, 436 jobs.

Table 25 CSU-Stockton 10,000 FTES construction expenditure employment impacts

Sector	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Construction	2,672.80	4.5	10	2,687.30
Service	0	314.8	707.9	1,022.60
Trade	0	251.7	184.8	436.4
TIPU	0	88.3	21.1	109.3
Government	0	8.1	10.6	18.7
Manufacturing	0	11.6	1.4	12.9
Agriculture	0	3.9	0.8	4.7
Mining	0	0.1	0	0.1
Total	2,672.80	682.9	936.5	4,292.20

The output impacts of a 10,000 FTES Campus' construction in San Joaquin County are reported in Table 26. Accordingly, the largest indirect output effect was in the in the service sector, \$41.7 million, followed by the trade sector, \$31.9 million, and the TIPU sector, \$13.3 million. Induced output effects were also largest in the service sector, \$95.1 million, followed by the trade sector, \$17.6 million. Total output effects were correspondingly greatest in the construction sector, \$560.7 million, followed by the service sector, \$136.8 million, and the trade sector, \$49.5 million.

Table 26 CSU-Stockton 10,000 FTES construction expenditure output impacts

Sector	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Construction	\$557,849,740	\$875,179	\$2,015,739	\$560,740,659
Service	-	\$41,707,421	\$95,062,655	\$136,770,076
Trade	-	\$31,902,656	\$17,606,400	\$49,509,056
TIPU	-	\$13,297,441	\$3,087,978	\$16,385,419
Manufacturing	-	\$4,554,587	\$556,974	\$5,111,561
Government	-	\$1,680,978	\$2,774,253	\$4,455,231
Agriculture	-	\$552,882	\$110,934	\$663,816
Mining	-	\$38,881	\$6,325	\$45,206
Total	\$557,849,740	\$94,610,026	\$121,221,259	\$773,681,025