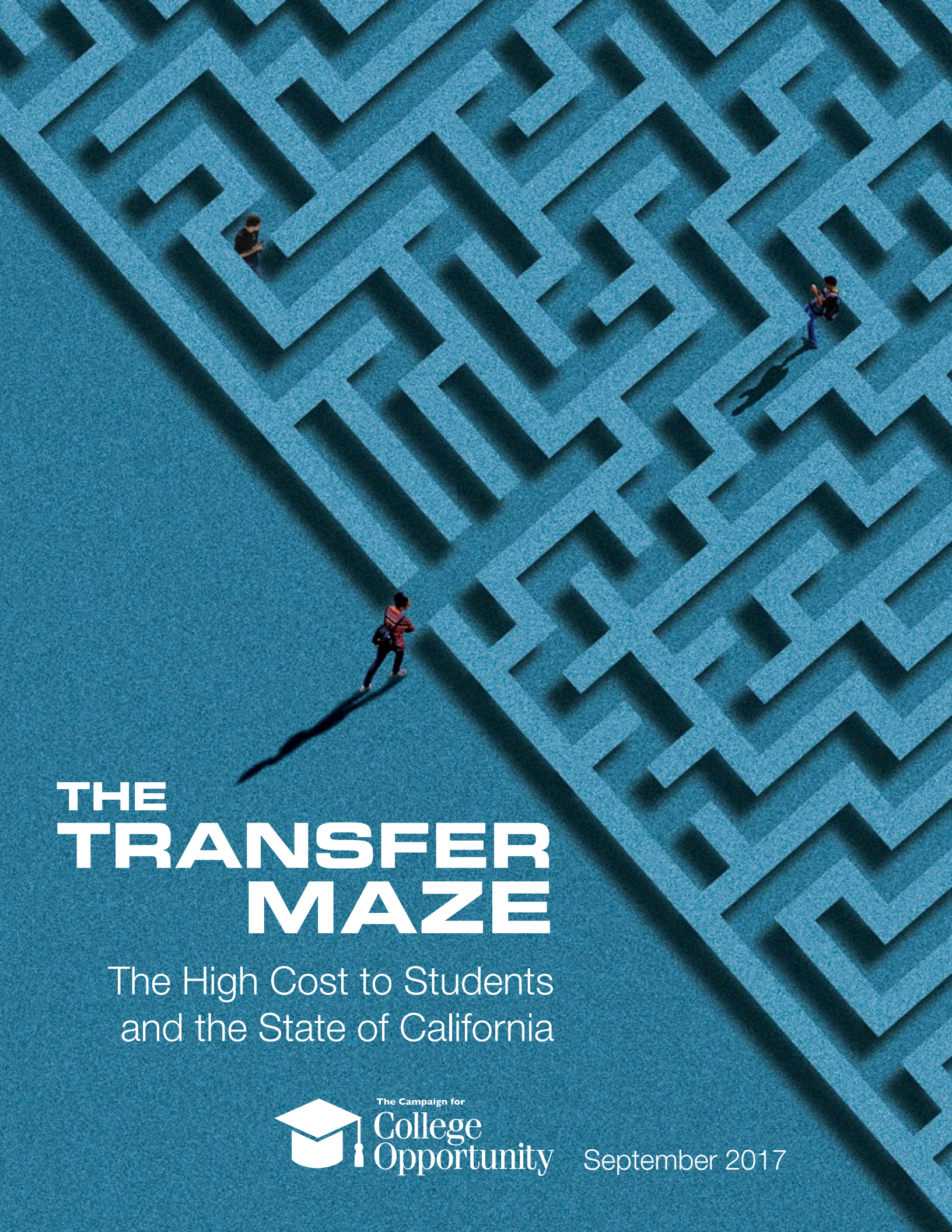




THE TRANSFER MAZE

The High Cost to Students
and the State of California



The Campaign for

College
Opportunity

September 2017



ACKNOWLEDGEMENTS

A special thanks to our principal funders for this project: Angell Foundation, The California Wellness Foundation, College Futures Foundation, ECMC Foundation, Evelyn & Walter Haas Jr. Fund, Ford Foundation, The James Irvine Foundation, Kresge Foundation, Rosalinde and Arthur Gilbert Foundation, Walter S. Johnson Foundation, and Southern California Edison. Their commitment and dedication to increasing opportunity for all Americans in higher education is to be admired. We would also like to thank the additional funders who make our work possible, including: California Education Policy Fund, Lumina Foundation, Sand Hill Foundation, and the Working Poor Families Project.

This report would not have been possible without the critical input, feedback, and significant time of our reviewers and other contributors. The Campaign for College Opportunity is grateful for their involvement, expertise, and guidance. Our reviewers included Mary Gill, Davis Jenkins, Darla Cooper, Rachel Baker and John Fink. Thank you to the community college representatives from the greater San Diego and Imperial counties whose feedback contributed to the development of this report. Thank you to Daniel Byrd, Ph.D., Norbert Negrea and Chris Copolillo for their work at different stages of the report. We would also like to thank the numerous people and organizations, which have been calling attention to this issue for decades. A special thank you to Nyssa Jimenez, David Nguyen and Ben Newsum who selflessly shared their transfer experiences that helped to inform our work.

The principal author and researcher of this report is Leticia Tomas Bustillos, Ph.D. with extensive contributions by Michele Siqueiros, Audrey Dow and Jessie Ryan.

EXECUTIVE SUMMARY

California cannot produce the educated population our workforce and high-tech industries demand without significantly increasing the number of community college students transferring to universities. A strong transfer system is crucial not just for employers who need educated workers, but also for students seeking a clear and affordable path to earning a bachelor's degree as their best bet toward reaching the middle class and experiencing upward economic mobility in this economy. Concerns about the cost of college and state funding for higher education demand that our college leaders and policymakers eliminate the transfer maze and improve the transfer pathway for students. Doing so ensures that college remains accessible and affordable while simultaneously making the best use of taxpayer dollars.

This report highlights the critical role transfer plays in producing college graduates and providing economic opportunity, and the unnecessary barriers that impede transfer for far too many Californians, resulting in high costs to students and the state. **Although the majority of California community college students enroll wanting to transfer, students transferred at an average rate of only 4% after two years of enrollment, 25% after four years of enrollment, and 38% after six years of enrollment.**¹ For the state, these low transfer rates yield high costs associated with a minimum number of seats available to new students and lost tax revenue from people with delayed entry into the workforce or whose economic prospects are reduced as a result of an unfinished degree. **For the student starting at a community college, she or he may pay \$36,000-\$38,000 more to obtain a bachelor's degree than would a student enrolling directly at a four-year college.**²

California's public higher education system is designed to send two-thirds of undergraduate students to one of our 113 community colleges. Policymakers justified this design in the 1960s when fewer jobs required a bachelor's degree and when leaders envisioned a strong transfer pathway that would ensure students could start at community college and transfer within two years to a university to earn a degree. Economic and workforce demands are vastly different today compared to 57 years ago, but with only 29% of undergraduate students enrolled at four-year universities, California doesn't produce enough bachelor degrees.⁵ **In fact, California is dead last in providing access to four-year universities for its residents. New York and Texas each enroll more of their students in their public four-year colleges and universities than we do.**⁶

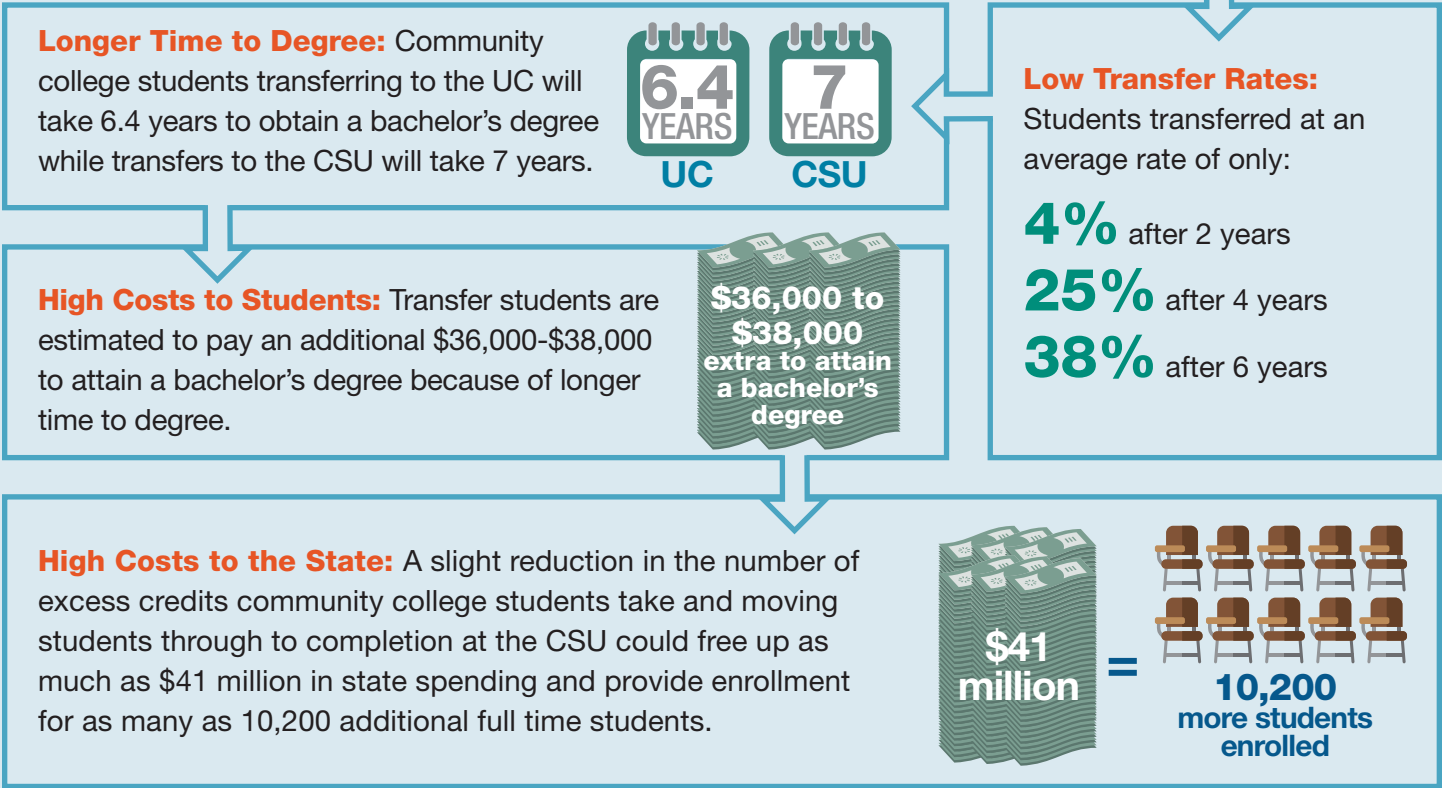
Sixty-eight percent of all new jobs in California will require college credentials by 2020.³ California will be short approximately 1.1 million workers with bachelor's degrees to meet the workforce demands by 2030.⁴

Making matters worse, the large number of community college students seeking to transfer to the CSU and the UC systems are confronted by a transfer maze that compromises the state's ability to ensure students earn a degree. This complexity is evident in several experiences the Campaign for College Opportunity has heard firsthand from students and college counselors across the state.

Despite major reforms in the last several years, transfer to the UC and the CSU remains complicated by factors that are, as students have described, bureaucratic, inconsistent, and confusing. Students are forced to piece together an education plan with inconsistent requirements demanded by the different systems, schools, and departments. Students attending certain campuses may not have access to specifically required courses for their major because their colleges do not offer them or because they cannot fit the limited course offerings into their schedules. Students may be forced to attend overcrowded classrooms or are shut out completely from enrolling in the courses they need. The factors contributing to the transfer maze are so difficult for students to navigate that even college counselors have a hard time providing good advice.

Recent legislative action, budget priorities, and campus changes—including better communication between California’s community colleges, CSU, and UC campuses, have yielded improvements in transfer, but the process remains complex and a majority of students are still spending too much time and money trying to get a degree.

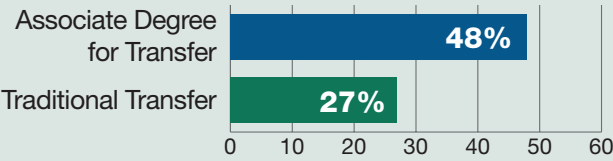
KEY FINDINGS



THERE IS GOOD NEWS

The Associate Degree for Transfer Reduces Time to Degree: 48% of students with the new Associate Degrees for Transfer (ADT) to the CSU graduate within two years with their BA compared to only 27% for traditional transfer students.

Earning a BA Degree 2-years after Transfer



RECOMMENDATIONS

To ensure a clearer pathway for transfer, the Campaign for College Opportunity makes the following recommendations:

■ Increase state funding to enroll more students directly in our public universities and to ensure the UC and CSU can serve an increasing number of community college transfer students.

- Lift the caps on enrollment into the UC and CSU.
- Priority for funding must be given to close equity gaps and improve the transfer rates of students of color in particular who trail behind their peers.
- Community colleges must use funds to both adhere to the framework for effective transfer programs and support the development and sustainability of a robust transfer culture.
- Target funds to support better advising for community college students.
- Target support in the form of professional development for faculty to work with students.



■ Honor and strengthen the Associate Degree for Transfer pathway so that this is the preferred method of transfer for California community college students.

- Streamline general education requirements to provide clarity on transfer.
- Improve alignment of UC transfer requirements with the Associate Degree for Transfer and provide a guaranteed admission to these transfer students into the UC.
- Ensure course scheduling and availability at community colleges is based on student demand and helps increase students' ability to transfer in a timely fashion.
- Reinstate the SB1440 Implementation and Oversight Committee (IOC) to ensure coordination between the UC, the CSU and the California Community Colleges.

■ California Community Colleges should move to adopt guided pathways to improve student success.

- Develop and scale appropriate, well-defined structures (in admissions, assessment, placement, curricula, advising) that enable students to plan a course of study that can help fulfill the transfer promise.

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INTRODUCTION

Seventeen-year-old Ben Newsum was filled with anticipation when he stepped through the doors of Modesto Junior College (MJC) in the spring of 2012. Raised by a single parent, Ben was proud he had managed to graduate from high school early. And like so many California students, he saw community college as an affordable option where he could complete his lower-division coursework before transferring to a university two years later. After Ben enrolled at MJC, he immediately met with a counselor and said, “I want to transfer. What should I do?” That is when Ben’s real adventure with California’s Transfer Maze began.



BETWEEN 2012 AND 2017, BEN:

- **Attended 5 community college campuses**
- **Accumulated 95 units, though only 70 were required for transfer in his major**
- **Was enrolled for 5½ years**
- **After experiencing countless stress-induced nights...**
- **Admitted to UC Davis’s Genetics and Genomics Program!**

In April 2017, Ben learned that all of his hard work paid off when he received his admission notice from UC Davis. He often wonders what happened to the other students he met on his transfer journey: the friend who became frustrated and contemplated dropping out after learning she had taken the wrong transfer classes, and the waitlisted students standing outside the biology lab, only one semester away from reaching their transfer dreams. He worries that they may have had to put their transfer goals on hold, some indefinitely. Reflecting on his transfer journey and that of his friends, Ben notes, “Transferring from a community college is hard, you have to learn the system... it’s deep, bureaucratic, and really difficult.”

As Ben’s story illustrates, the increasing numbers of California community college students seeking to transfer to a four-year university are confronted by a transfer maze of complexity that compromises the state’s commitment to education for all. This complexity is evident in the countless stories the Campaign for College Opportunity has heard firsthand from students and college practitioners across the state.ⁱ Across diverse regions and differing student backgrounds, the stories they share all have common elements that speak to confusing transfer pathways that are difficult to navigate for the student alone. Above all, there is a sense among students that their journey to transfer is premised more on sheer luck, rather than deliberate planning. Though legislative action and cooperation between systems have led to improvements, the complexity that remains means that students spend far too much time and money navigating a convoluted maze originally conceived as a clear path to a bachelor’s degree. The costs for the state are high. The costs for the students are even higher, as talent is trapped in the maze without a clear roadmap to get out and without a degree that provides economic security. California must act.

ⁱ The Campaign for College Opportunity conducted individual interviews and focus groups with students and higher education practitioners to inform this report.

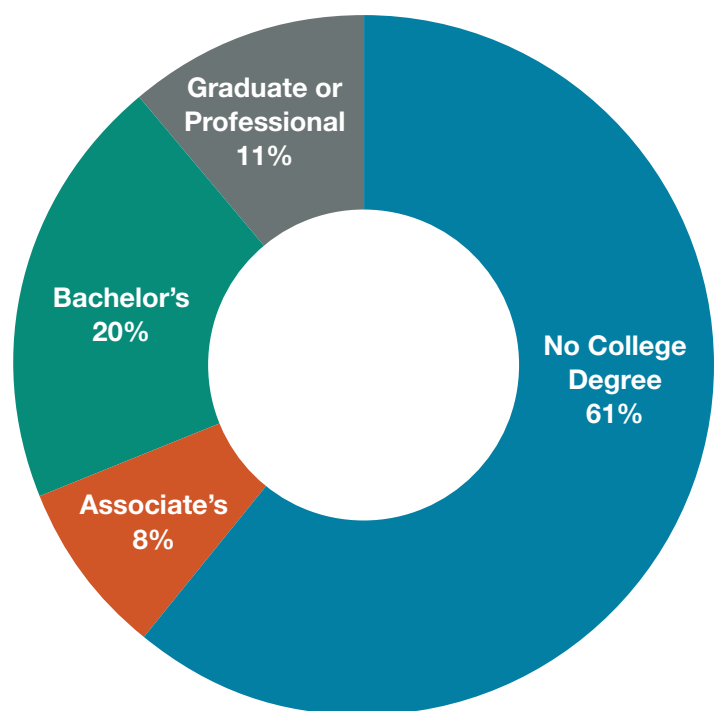
A STATE IMPERATIVE TO IMPROVE TRANSFER

A vast majority (68%) of all new jobs in California will require college credentials by 2020,¹ yet only 39% of Californians 25 years and older have those needed college credentials today (see Figure 1).² If current trends continue, the state will be short approximately 1.1 million workers with bachelor's degrees to meet the workforce demands of the state by 2030.³ It is a California imperative that our state and its college leaders take deliberate action to improve transfer and degree completion among its student body. An immediate first step begins with fixing transfer and eliminating confusion and unnecessary institutional barriers.

The rigid structure of California's 1960 Master Plan—where the top 12.5% of students are eligible for admission to the UC and the top 33.3% are eligible for admission to the CSU—creates an imbalance of enrollment where approximately 70% of the state's public higher education students attend one of 113 community colleges. Though the intent of the Master Plan is to “ensure that all students have an opportunity to earn a bachelor's degree from a public university even if they did not qualify for university admission directly from high school,”⁴ this enrollment imbalance has created an environment where California produces far too few bachelor degrees for its population size and the needs of our economy.

Today, California ranks dead last in access to four-year universities⁵ (see Appendix I and Appendix II). While the very low fees that make California's community colleges an attractive option for individuals, especially older, working-age adults, it is worth noting that the added expenses of books, transportation, living expenses and extended time to degree can make the community colleges just as expensive, if not more, as a public four-year university. States comparable to California in terms of size and/or demographics, such as New York and

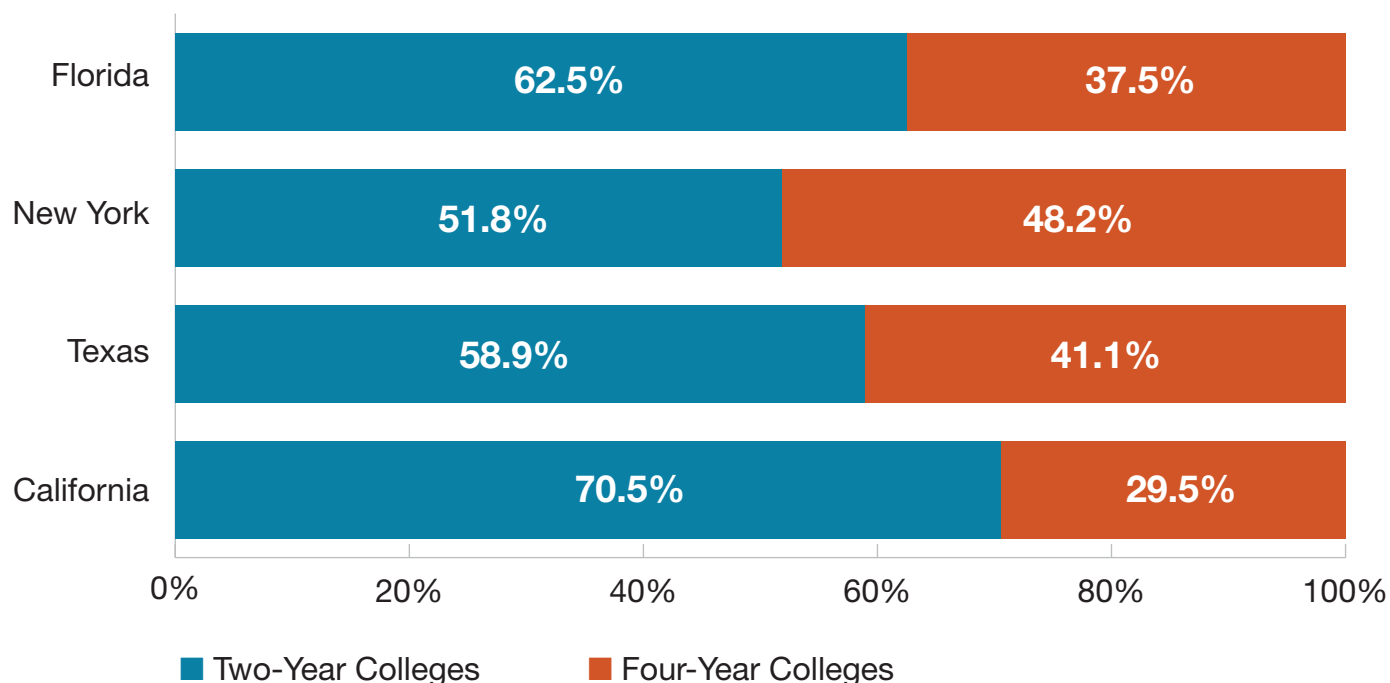
FIGURE 1: Only 39% of Californians 25 years and older have a degree or credential



Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates (Table S1501)

Texas enrolled more students in their public four-year colleges and universities in fall 2015 than did California (see Figure 2).⁶ This is an important distinction because unless the state is able to provide a seamless transfer pathway to a four-year college or university, the caps imposed by the Master Plan jeopardize the ability of a disproportionate number of students from ever attaining a bachelor's degree.

FIGURE 2: More of California's college-going population are enrolled in the community colleges in fall 2015 than students in other states



Source: National Center for Educational Statistics/IPEDS Fall Enrollment Data (2015)

Once students transfer into the UC and the CSU, they complete their bachelor's degrees in high numbers. Unfortunately, too few students get to the point of transferring into the UC or the CSU; thus contributing too few students to the bachelor's degree pipeline. And while the research shows that the UC has high graduation rates among first-time freshmen,⁷ the CSU only graduates approximately half of its students within six years.⁸ Collectively, these outcomes place California 43rd among states in awarding bachelor's degrees to the state's college-age population.⁹

In other words, given the large number of undergraduates enrolled, our public universities produce too few college graduates.

NOT ENOUGH STUDENTS ARE TRANSFERRING

The goal of transfer reform is to ensure greater transparency and increased simplicity of transfer. Though strides have been made and more students are transferring since 2010, California is still not transferring enough students to meet future workforce demands. California's community colleges enrolled more than 1.5 million students in fall 2016, of which 273,000 students enrolled for the first time in a community college (see Table 1).¹⁰ The remaining one million students consist of lateral transfer students,ⁱⁱ returning students,ⁱⁱⁱ continuing students,^{iv} and special admits.^v Given the population enrolled, the number of annual transfer is far too low to meet the needs of the state. This is especially true for underrepresented students who account for nearly 70% of the community college student body.

TABLE 1: Enrollment at the California Community Colleges exceeded 1.5 million in fall 2016

	Total Population	Percent Total Population	First-Time Freshmen	Percent First-Time Freshman
African American	90,679	6.0%	17,446	6.4%
AANHPI ^{vi}	222,849	14.6%	37,202	13.6%
Latino ^{vii}	684,200	44.9%	134,396	49.2%
Multi-Ethnicity	56,649	3.7%	10,377	3.8%
Unknown	67,005	4.4%	12,839	4.7%
White	400,825	26.3%	60,936	22.3%
Total	1,522,207		273,196	

Source: California Community College Data Mart (2016)

ii Lateral transfer students are those who transfer **between** community colleges or from a four-year college or university.

iii Returning students are those who had been absent for one or more terms from the institution.

iv Continuing students are those enrolled in the previous term and in the current term.

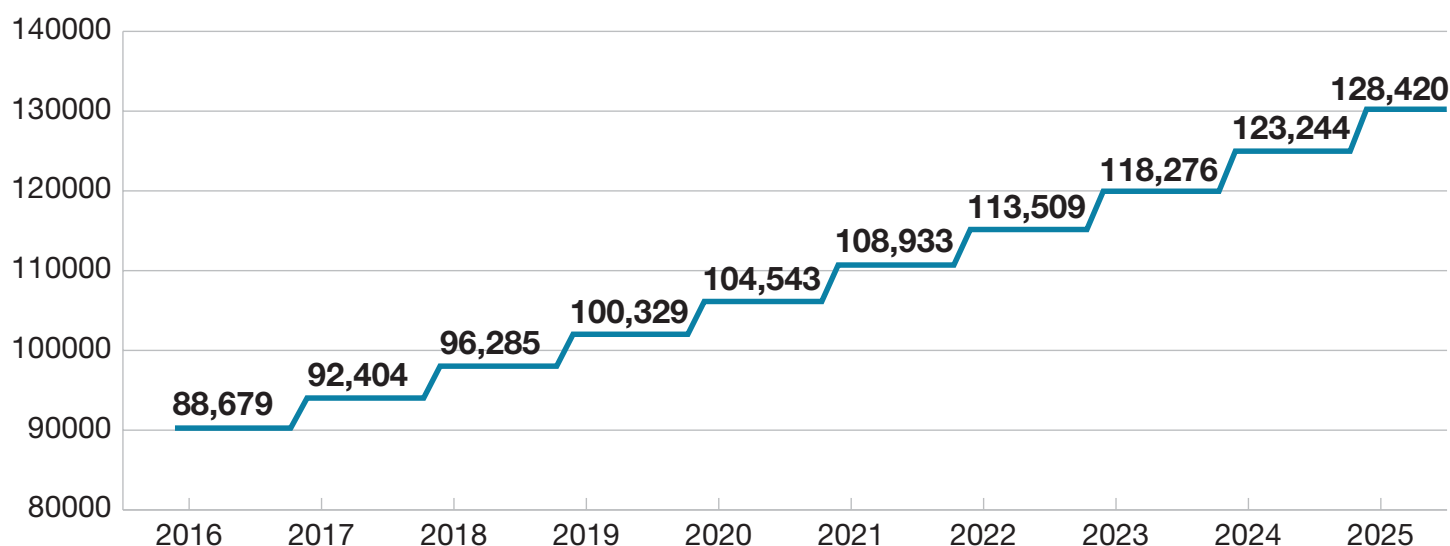
v A special admit student is one currently attending high school.

vi Asian American, Native Hawaiian and Pacific Islander (AANHPI)

vii The term "Latino" will be used throughout this report instead of Hispanic and Chicano, which is often used by the UC, CSU and California Community College data systems.

National data suggest that approximately 80% of community college students indicate transfer is an option they are considering.¹¹ In California, however, the actual transfer outcomes are nowhere near the intended transfer goals of students. Of all students that enrolled between 2005 and 2009, more than 650,000 students demonstrated intent to transfer from the California Community Colleges, but less than one-half transferred within six years of enrollment.^{viii} This translates to 50,000–65,000 students annually transferring from the state’s community colleges. In order to keep up with growing economic demands, California needs 60% of its working age population to have college degrees by 2025.¹² Transfer student success is vital to meet this objective and we’re already behind—by 21,679 students in 2016 (see Figure 3). Keeping up with demand means keeping up with the output of transfer students to four-year universities, and California needs to press forward with larger outputs increasing annually to reach its projected needs by 2025.

FIGURE 3: California must transfer more than one hundred thousand students by 2025 to meet economic demands



Note: Numbers represent the total transfers needed each year to reach CA's 2025 goal

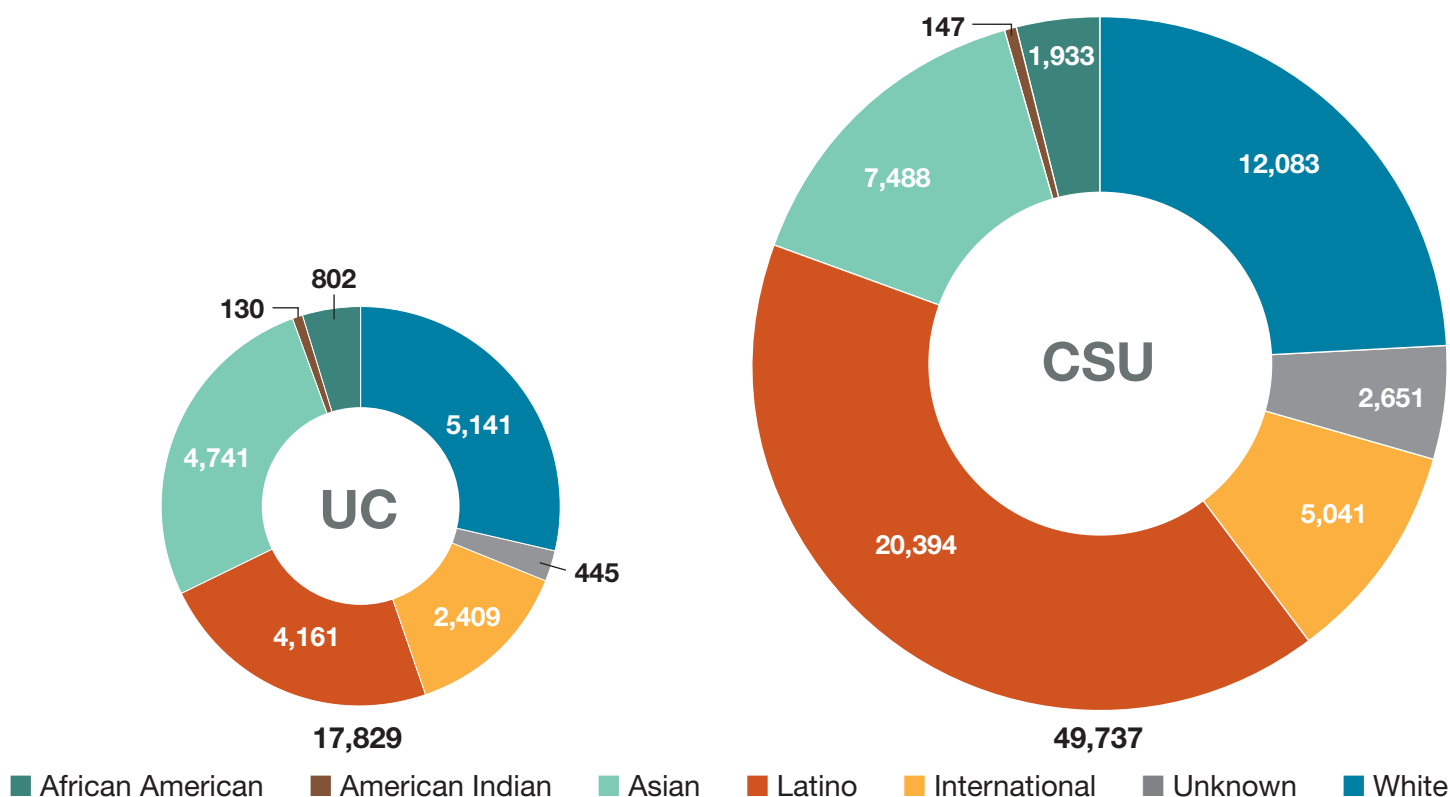
Source: National Center for Higher Education Management Systems, (2017)

In fall 2016, 67,000 students transferred into the University of California (UC) and the California State University (CSU) systems, with seven out of 10 transfers enrolling at the CSU.

The community colleges are an important access point for bachelor degree attainment, but low transfer rates raise critical questions about how California’s public colleges and universities are or are not providing the necessary supports to promote transfer success.¹³ This is especially true for underrepresented students who are the overwhelming majority in the state’s community colleges (see Figure 4).

viii California Community Colleges Transfer Cohort Methodology tracks cohorts of first-time college students for six years to determine if they show “behavioral intent to transfer.” A student becomes eligible to potentially enter a transfer cohort by enrolling for the first time at any California Community College (CCC). The initial group or cohort of first-time students is evaluated six years after initial enrollment to determine if they have shown behavioral intent to transfer if by six years after initial enrollment a student has completed 12 credit units and attempted transfer-level math or English, the student then enters the transfer cohort. http://datamart.cccco.edu/Outcomes/Transfer_Velocity.aspx

FIGURE 4: Transfer to the UC and the CSU Fall 2016, by Race and Ethnicity



Source: UCOP Info Center, CSU Analytics (2016)¹⁴

Of the 67,000 transfers enrolling in California’s four-year public colleges in fall 2016, only 4,100 Latinos transferred to the UC (6%) and 20,000 to the CSU (30%). Only 800 African Americans transferred to the UC (1%) and 1,900 to the CSU (3%).^{ix}

The amount of time students take to transfer is a significant problem for all students, particularly for underrepresented students. Most students enrolled full time would expect to transfer after two years given that community colleges are often described as “two-year institutions.” Indeed, as Ben shared, “I just assumed community college was a two-year college so that shaped my expectations that I could transfer in two years.” However, as the entering class of 2008–09 demonstrates, this is not the case as students of all ethnicities transferred at an average transfer rate of 4% at the two-year mark of enrollment (see Figure 5).¹⁵

By the seventh year of enrollment, less than half of all students of this class transferred; and of these students, only three out of 10 Latino and four out of 10 African American students transferred.¹⁶

ix Estimates rounded

FIGURE 5: Less than Half of All Students of the Entering Class of 2008-9 Transferred by 2015

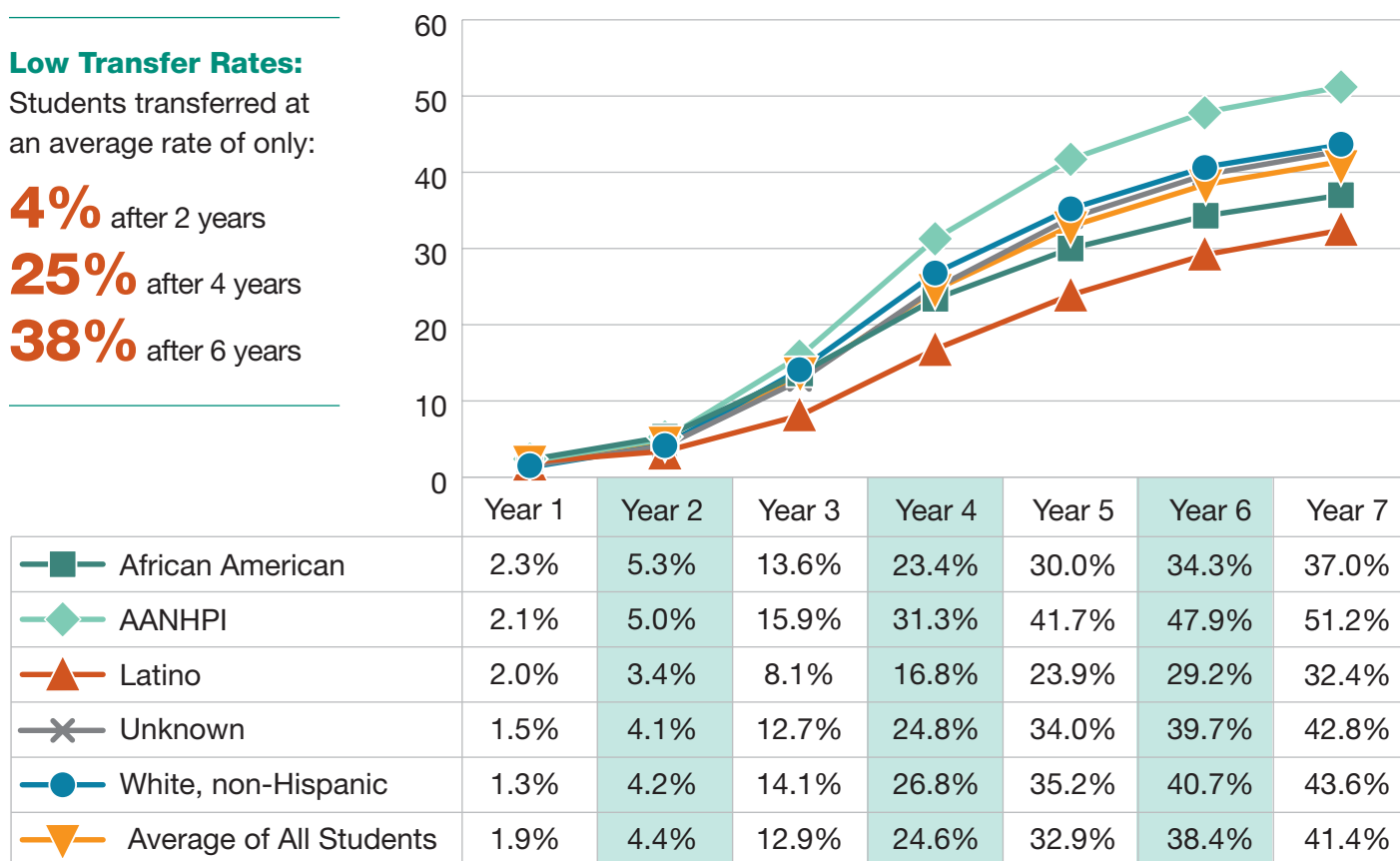
Low Transfer Rates:

Students transferred at an average rate of only:

4% after 2 years

25% after 4 years

38% after 6 years



Source: California Community Colleges Data Mart (2016)

CALIFORNIA NEEDS TO INCREASE DEGREES AMONG ITS DIVERSE POPULATION

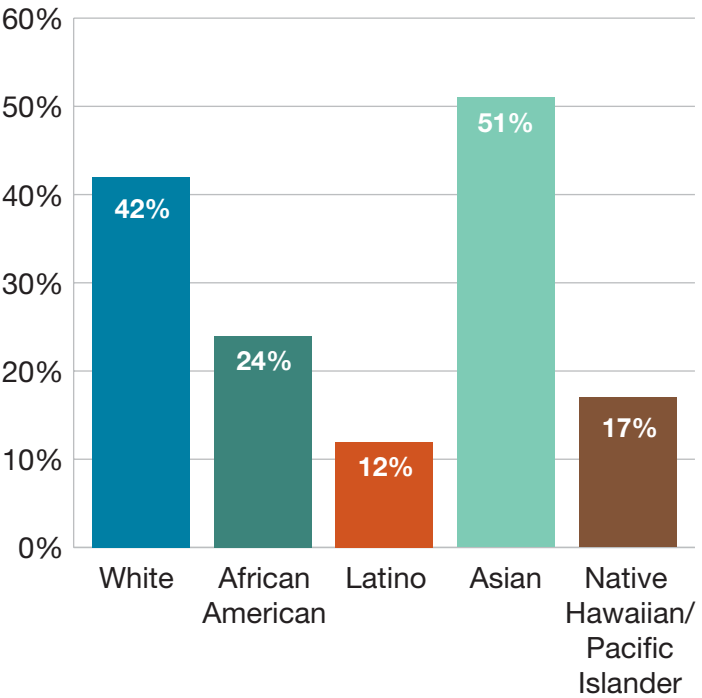
To succeed in this new economy, California must embrace its ethnic diversity and ensure that more of its residents are on track to enter college and graduate with a degree or credential. Yet the world has changed from the days when the Master Plan was conceived in 1960. No longer is the college-going population predominantly White high school graduates ages 18–22 that are immediately enrolling in four-year universities and attending full-time. Today the diversity of the state means that more and more students are older, not attending full time and working — they are post-traditional.^x However, California is not adequately meeting the needs of its emerging, more diverse student body.

^x “Post-traditional students have a more diverse profile that represents a growing majority. They may not be college-ready, delay initial postsecondary enrollment while entering the workforce, enroll at a community college, often need remedial education, take courses part-time, online, and at multiple institutions, live off-campus with their parents or with their own dependents, and take more than four years to complete a degree. Many work 30 hours or more a week and are Latino or African American. They make college choices based on cost of attendance, location, and accessibility.”

Source: *Using a Latino Lens to Reimagine Aid Design and Delivery*, Excelencia in Education, 2013.

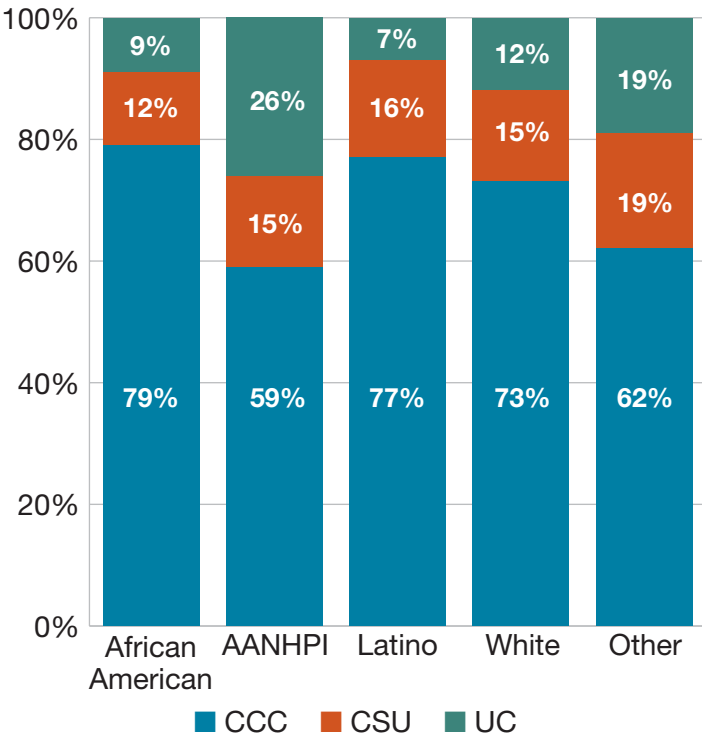
There are wide gaps in skill and degree attainment among people from underrepresented communities that make investments for better, more targeted supports to improve transfer crucial to the state’s goal of increasing bachelor degree holders (see Figure 6). For example, **only 12% of Latinos ages 25 years and older hold bachelor degrees or higher, even though they represent approximately 31% of the state’s 25-years-and-older population.**¹⁷ Degree attainment must be increased for African Americans and Native Hawaiian/Pacific Islanders, who currently earn roughly 50% or fewer higher education degrees than their White peers.

FIGURE 6: Still too few African Americans and Latinos ages 25-years and older have bachelor’s degrees in California



Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates (Table S1501)

FIGURE 7: More than three-fourths of African American and Latinos are enrolled in the community colleges in fall 2016



Source: UCOP Info Center, CSU Analytics, CCC Data Mart

In 2010, more than six million of California’s residents were college-aged (18–29 years) and 64% were from an underrepresented group.¹⁸ Despite being the new majority in the state, Latinos; African Americans; and several Asian American, Native Hawaiian, and Pacific Islander (AANHPI) groups continue to be underrepresented in four-year college enrollment and degree attainment and overrepresented in community college enrollment. This is especially true for **African American and Latino students who are enrolled at triple the rates than they are in four-year universities** (see Figure 7).

CALIFORNIA'S TRANSFER PATHWAYS

WHEN STUDENTS TRANSFER, MOST DO NOT EARN AN ASSOCIATE DEGREE

While the evidence is clear about the importance of improving degree attainment, structural and systemic challenges in California's higher education system prevent the realization of this goal. First, in our current state of transfer, only one-fourth of California Community College transfer students obtain an associate's degree or certificate prior to transferring.¹⁹ The most recently available data indicate that only 25% and 42% of students transfer to the UC and the CSU with an associate's degree, respectively.²⁰ While transfer student retention and graduation rates from the UC²¹ and CSU²² are high, ensuring that students obtain an associate's degree along the way ensures that students leave with a degree, even if they do not complete their bachelor's degree. This is important, as research suggests that individuals with an associate's degree earn on average 29% more than high school graduates,²³ and students who complete an associate's degree are more likely to earn a bachelor's degree²⁴ and earn more in wages.²⁵

ASSOCIATE DEGREE FOR TRANSFER: A GUARANTEE OF TWO DEGREES

A significant initiative to strengthen transfer was passed legislatively in 2010. The Campaign for College Opportunity, in partnership with the CSU Office of the Chancellor, the California Community Colleges Chancellor's Office, student leaders and other stakeholders worked to pass the Student Transfer Achievement Reform Act (SB 1440, Padilla)²⁶ and follow-up legislation SB 440.²⁷ These legislative achievements ushered in the development of the Associate's Degree for Transfer Program, which created a 120-unit seamless path to a bachelor's degree. SB 1440 directed the California Community Colleges and the CSU to work in partnership to achieve three overarching goals: (1) create clearer transfer pathways that reduce the number of excess units taken; (2) create an Associate's Degree for Transfer; and (3) increase the number of students transferring to a four-year college. To achieve these objectives, each system was required to do the following (See Table 2):

- Create the Associate Degree for Transfer.
- Guarantee admission to the CSU with junior standing.
- Require no more than 60 units at the community college.
- Require no more than 60 units of upper-division coursework.
- Enable joint collaboration between community colleges and the CSU to develop Transfer Model Curricula (TMC^{xi}) for specific majors.

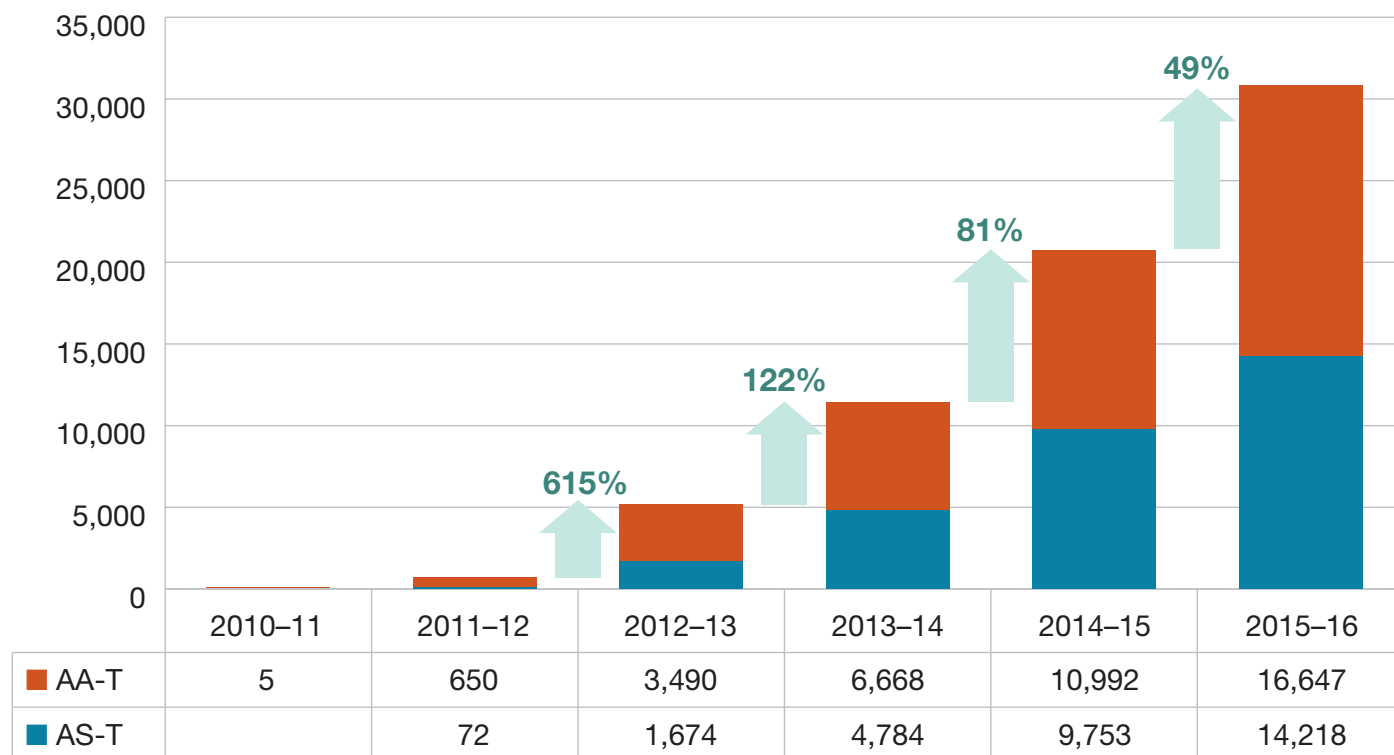


xi TMCs are a set of courses determined by a joint CSU and California Community Colleges faculty group to meet the lower-division coursework requirements for an Associate Degree for Transfer in specific academic disciplines.

TABLE 2: STUDENT TRANSFER ACHIEVEMENT REFORM ACT (SB 1440 PADILLA) REQUIREMENTS	
California Community Colleges	California State University
• Develop 60-unit Associate Degrees for Transfer	• Guarantees admission to ADT students
• Degrees to include general education requirements and 18 units in a major or area of emphasis	• ADT students enter with Junior standing
• Collaborate with the CSU to develop Transfer Model Curricula (TMC)	• Priority admission to an academic major similar to the community college program completed
	• Guarantee that no more than 60 additional units will be completed towards the bachelor's degree
	• Collaborate with the California Community Colleges to develop Transfer Model Curricula (TMC)

Thirty-two TMCs have been developed covering 1,102 of the most popular transfer majors and 2,268 ADTs have been approved across California's community colleges as of June 2017 in a gradual process involving development and approval by numerous groups, including faculty, curriculum committees, governing boards, and the chancellor.²⁸ Though many of the state's community colleges have met their benchmarks of ADTs offered, approximately 160 ADTs still remain to be developed and/or approved (see Appendix III).²⁹ Since passage of SB1440, more than 68,000 ADTs have been awarded. In 2015–16, the number of degrees awarded nearly equaled the total degrees awarded between 2010 and 2015 and represented a 170% increase compared to 2013-14.³⁰ In fall 2016, more than 15,000 of ADT earners enrolled at the CSU.³¹

FIGURE 8: The number of Associate Degrees for Transfer Awarded has increased exponentially between 2011-2016



Source: California Community Colleges Data Mart (2016)

UC PATHWAYS: GUARANTEE TO COMPETE, BUT NOT TO ADMIT

Also in 2010, AB 2302 (Fong)³² was passed by the state legislature requesting that the UC likewise work to simplify and standardize course requirements for transfer students seeking to apply to both the UC and the CSU. The bill requested that the UC work closely with the community colleges to create degrees that would prepare students for admission to any major at the UC. Though the UC did not take immediate action after the passage of AB 2302, in 2014 they released a transfer action report³³ that included recommendations to (1) streamline the transfer process across the system; (2) work in partnership with the California Community Colleges and the CSU to improve transfer; and (3) increase the presence of the UC on each of California's community colleges.

In releasing the report, the UC acknowledged that the lack of a streamlined pathway for community college students to the UC hurt their efforts to attract qualified students. However, upon review of the ADT curricula, UC officials concluded that the ADT did not fully align with UC upper-division coursework³⁴ and instead of adopting the ADT pathways, the UC announced their own transfer pathways in July 2015. The UC transfer pathways offer students a common set of coursework they can take at the California Community Colleges to prepare them to be competitive for admission to any of the UCs nine undergraduate campuses in 21 majors.³⁵ While new and clearer pathways have been constructed for admission, they do not offer the same guarantee as do the ADTs.³⁶ They do not guarantee admission to the UC system, nor do they incent the completion of an associate's degree. The only guarantee offered is the number of courses required; that is, while some campuses may require less courses, no campus will require more courses than what is identified in each of the major pathways. In the UC system especially, efforts to align curriculum and simplify the transfer process compete against faculty-defined requirements to ensure adequate academic preparation for prospective students.

If there is a guarantee that students at the community colleges can rely on for transfer to the UC, it comes in the form of the Transfer Admissions Guarantee (TAG).^{xii} The TAG is a formal written agreement between the student and the UC that assures admissions upon meeting specific requirements. Six of the nine UC campuses currently offer this agreement to students; they are UC Davis, UC Irvine, UC Merced, UC Riverside, UC Santa Barbara, and UC Santa Cruz. To qualify for this agreement, students must be attending a California community college, submit an application by the filing deadline of September 30th, fulfill all eligibility requirements determined by the UC school of choice, and apply by November 30th for fall admission or July 31st for spring admission.

Unlike the Associate Degree for Transfer, which guarantees admission to any CSU campus, community college students may only enter into a TAG agreement with one UC campus. While most TAG-approved campuses accept all majors for transfer, each campus has different requirements per major that need to be fulfilled, including GPA expectations, prerequisites and courses to be completed. Moreover, and depending on the year, some majors may be closed, suspended or discontinued while other majors may be deemed "highly selective" majors and thus demanding additional requirements, such as additional courses or higher GPAs. Data show that students who transfer with a TAG represent a small share of overall transfers. Systemwide, 29,000 students applied for transfer,³⁷ of which only 7,960 (27%) were TAG applicants.³⁸ Of these applicants, 20,000 transfers were admitted and 15,500 students enrolled at a UC. Among TAG applicants however, only 3,100 students enrolled at a UC, or less than half of all student who applied with TAG agreements.

xii University of California. (2017). *Transfer Admissions Guarantee*. Retrieved from <http://admission.universityofcalifornia.edu/transfer/guarantee/index.html>

LACK OF ALIGNMENT LEADS TO EXCESS COURSES AND DELAYED TIME TO DEGREE

Students who wish to have flexibility in their transfer options so that they are eligible to apply to both the UCs and the CSUs are ultimately limited in their options given the lack of alignment between pathways. While the UC did not adopt the ADT pathways, there is some degree of alignment between certain majors; including, anthropology, history, philosophy, sociology, and communications, where only one or two additional classes are needed to meet the transfer requirements for both. The anthropology major, for example, has near perfect alignment, as the core courses required for the ADT are the same as those required by the UC transfer pathway (see Table 3). However, the CSU requires three more units than does the UC. These additional required courses, according to the UC Major Preparation website, “may be eligible for UC credit at some campuses.”³⁹ In other majors, however, the differences are substantial and sufficiently confusing as to whether courses in one pathway would satisfy the requirements in another pathway.

TABLE 3: The Pathway in Anthropology has Near Perfect Alignment Between the UC and the CSU			
CSU-CCC Transfer Model Curriculum		UC Transfer Pathway	
C-ID #	“Core” Courses	Expected Coursework	
ANTH 110	Physical/Biological Anthropology	Physical/Biological Anthropology	
ANTH 120	Cultural Anthropology	Cultural Anthropology	
ANTH 150	Introduction to Archeology	Introduction to Archeology	
	List A: Minimum 3 units from:		
ANTH 130	Linguistic Anthropology		
MATH 110	Introduction to Statistics		
or	or		
SOCI 125	Stats in Sociology		

Source: University of California, Transfer Admissions

A comparison of the ADT and the UC transfer pathways in business administration shows there is overlap between initial coursework in financial and managerial accounting. Yet, in the next two courses in microeconomics and macroeconomics, there is a slight difference in wording of the course title.⁴⁰ Without explicit guidance, a student unfamiliar with the courses and who does not delve deeper into each course description may either be led to believe that the courses are the same, or may take excess courses thinking they are different.

The same applies for the statistics requirement in both pathways as the difference in titles suggests that one may be a more advanced level than the other. In regard to the requirement for single variable calculus, students are “encouraged to take the STEM version but some UC business administration programs may allow non-STEM calculus”⁴¹ and are therefore advised to go to individual campus websites to see specific requirements.⁴² Last, there seems to be an additional requirement of two courses in English reading and composition for the UC transfer pathway. What is unclear is whether the general education coursework of the ADT would satisfy those requirements. Consequently, without clear guidance, either from a curricular guide or from a counselor, students wishing to pursue a transfer pathway in business administration may find they are dealing with more hurdles than they are prepared to or are willing to address.

TABLE 4: There is too Much Variation Between the UC and the CSU in Business Administration

CSU-CCC Transfer Model Curriculum		UC Transfer Pathway
C-ID #	"Core" Courses	Expected Coursework
ACCT 110	Financial Accounting	Financial Accounting
ACCT 120	Managerial Accounting	Managerial Accounting
ECON 201	Principles of Microeconomics	Microeconomics
ECON 202	Principles of Macroeconomics	Macroeconomics
BUS 125 OR BUS 120	Business Law or Legal Environment of Business	
	List A: Minimum 3 units from:	
MATH 140	Business Calculus	Single Variable Calculus
MATH 110	Introduction to Statistics	Statistics
MATH 130	Finite Mathematics	
	List B: 1–2 Courses (5–7 units)	
	Any course from List A not already chosen	
BUS 140/ ITIS 120 or see sample	Business Information Systems or Computer Skills	
BUS 110 OR BUS 115	Introduction to Business or Business Communication	Introduction to Business (including finance)
		English reading and composition (2 courses)

Source: University of California, Transfer Admissions

While community college students are generally not penalized in the transfer admissions review process if they are not able to complete an aspect of the transfer requirements because the particular community college they attend does not offer the courses they need for a pathway,⁴³ they are taking additional courses at the four-year college to shore up the gaps in their transcript. This is what historic transfer reform via SB1440 was meant to prevent with the ADT pathway as far too many students either take more units at the community college than are required, but may also enroll in more courses at the four-year after transferring. So, unless greater commonality is found between the ADT and the UC Pathways, students may simply opt to go the route of the ADT for its greater clarity of options. A former transfer director stated, “The ADTs have become the path of choice for many California Community College students. If the UC fails to recognize and accommodate them in some way, we could miss out on some of the best and brightest students, because the CSU will be the easier and more obvious transfer path, particularly for first-generation college students who lack the family experience to guide them.”

The clearer pathway to transfer and a bachelor’s degree is a success; but where a student transfers matters, as not all colleges are the same in regard to their programming, curricular offerings, and support services. Nor are they equally available to students in terms of geography. We must have the capacity to increase the number of students able to transfer to both of the state’s public systems of higher education to best meet the needs and talents of California’s diverse student population. One of the ways California can address these challenges is to develop a statewide coordinating body to monitor and oversee the transfer process. To ensure greater accountability for state funds and student outcomes, policymakers should create a coordinating body to assist the systems to work together to further streamline the transfer process and establish statewide standards for transfer. The California Community Colleges, the CSUs and the UCs should be working together in a formal and regular way.

THE TRANSFER MAZE:

One Student's Journey to Cross the Finish Line

Growing up in the heart of California's Central Valley, Ben Newsum saw a college education as key to succeeding in life. He saw community college as an affordable postsecondary option where he could complete his lower-division coursework before transferring to a university two years later. Ben was unaware that students take an average of four years to transfer and only a fortunate few succeed in reaching their two-year transfer goal.

"I just assumed community college was a two- year college, so that shaped my expectations that I could transfer in two years."

Within a short period, Ben found himself caught in a transfer maze ridden by conflicting information and multiple stops and starts. After Ben enrolled at Modesto Junior College, he learned from his counselor that community college students planning to transfer to four-year California public higher education institutions had two options: The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University (CSU) General Education-Breadth pattern of courses. Ben was surprised to learn there were two separate routes to transfer to a public university and decided that the IGETC was the better option, as it would prepare him to transfer to both UC and CSU. He then selected classes that fulfilled IGETC requirements by looking through his course catalogue.



His first semester went well, but shortly thereafter Ben fell gravely ill and was forced to put his dreams of a college education on hold while he focused on recovering. When he returned to college the following year, he was eager to dive back into his studies. This time he decided he would focus on pursuing one of two majors so that he could become a researcher and find cures for various medical conditions. In the interim, Ben had moved to Elk Grove in Northern California. After enrolling in Cosumnes River College, he sought guidance from a counselor who was reluctant to see him without a transcript and, in his words, "not very helpful" in understanding the varying requirements between the two potential biology majors.

Desperate for guidance, Ben asked the counselor to simply treat him as a first-time freshman but was turned away.

Frustrated, once again, Ben selected courses from the college catalogue and managed to get through his classes while working 37 hours a week—often missing work when his employer failed to support his school schedule. Nevertheless, he persisted and in 2015 believed his transfer goal was within his reach.

When Ben sat down with a counselor in 2015, he could barely contain his enthusiasm. He had been taking 18–21 units a semester, had done the math, and figured he was only two semesters away from transferring to a UC; he hoped to be admitted as a biology major to UC Davis. It was at that meeting that Ben was first introduced to ASSIST.org, an online student-transfer website that shows how course credits earned at one public California college can be applied when transferred to another. Browsing through the website, Ben learned that, due to misinformation, he had taken courses that didn't count toward his biology major and that he was, in fact, at least four semesters from reaching his transfer goal. Nearing the end of his financial aid (having reached the maximum semesters at community college), he was devastated.

"I wish I had someone to guide me better. If I just had better, more specific information, this never would have happened."

Ben entered his third community college in the summer of 2016. He was motivated to get in and get out. He requested an education plan, which is a step-by-step guide based on requirements to meet your goals and how soon you would like to complete them. He then set up three separate meetings with counselors; the first to make the education plan, the second to refine it, and the third to ensure he was on track. He also met with his financial aid advisor who reviewed his financial aid award and verified that he would exhaust his funding the following spring and reviewed his "course applicability." What she found astonished Ben. The financial aid advisor determined that Ben was now one science course away from meeting the minimum eligibility requirements for his major at UC Davis. Furthermore, if he rushed to finish his application, he could just meet the deadline for admission the following fall.

He enrolled in a fourth community college that offered the five-unit science laboratory class that he needed to complete his lower-division major coursework. Unfortunately, he was waitlisted in the course. Undeterred, he showed up to class and begged the professor to let him in but there were a dozen other students, many also a single class away from transfer, waiting to be added as well. The professor declined to admit him and as a result, Ben emailed, "every science teacher in Los Rios Community College District asking for advice." Two responded and were very helpful. One pointed him up the hill toward Folsom Lake Community College where a professor graciously enrolled him in her class. To make the class work with his demanding academic schedule, Ben agreed to attend college from 8 a.m. to 10:00 p.m. on Tuesdays and Thursdays (including an hour for his commute to Folsom Lake College).

In April 2017, Ben learned his hard work finally paid off when he received his acceptance UC Davis' Genetics and Genomics program. Despite myriad challenges, Ben Newsum was proactive, highly motivated, and able to conquer the many hurdles thrown in his path. How would you fare trying to navigate the transfer maze?

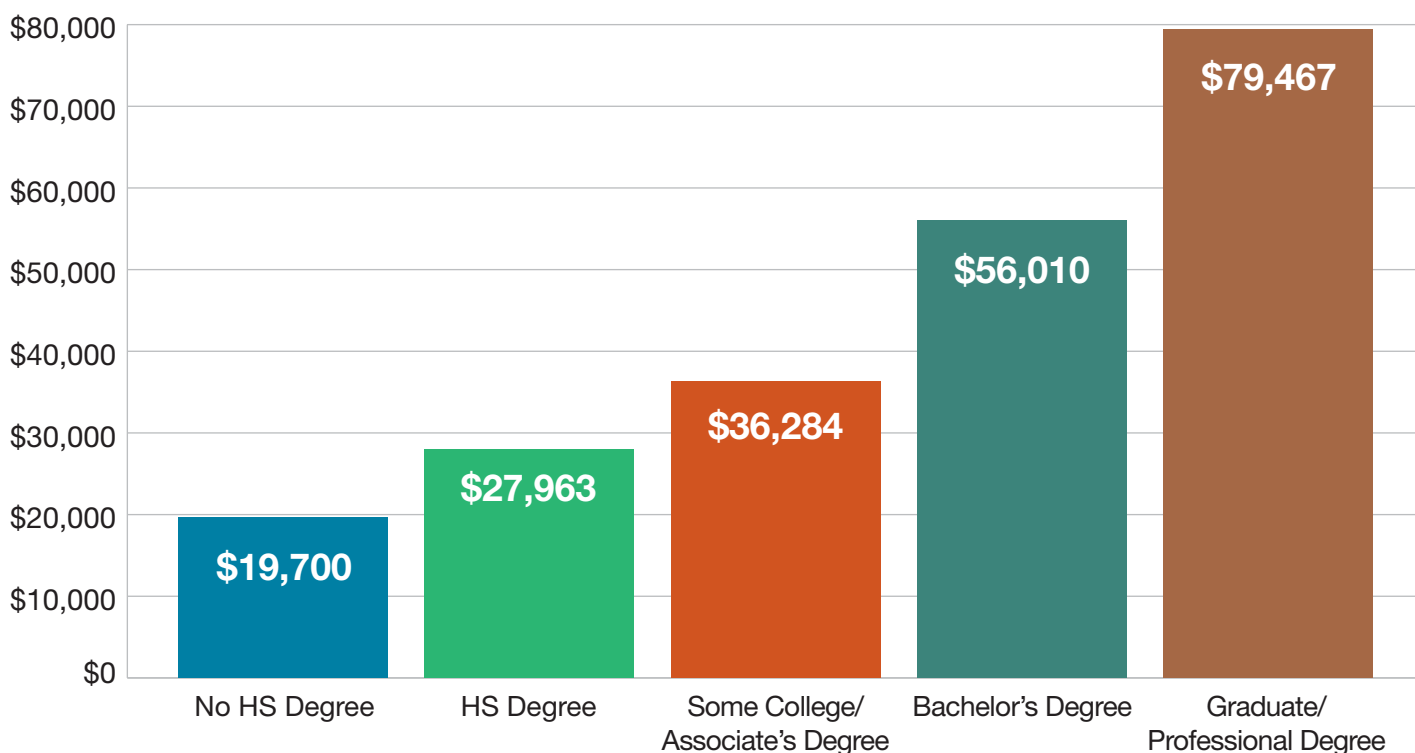
THE TRANSFER MAZE CONSTRUCTED: High Costs to Students and to the State

The transfer maze poses significant costs for California and for the students who are vital to its future economic success. For the state, high costs are associated with a reduced number of seats available to new students and lost tax revenue from individuals' delayed entry into the workforce or whose economic prospects are reduced as a result of an unfinished degree. Research makes clear the benefits of investing in education and supporting the development of a more educated workforce in California (see Figure 9). Not only do residents with greater education have the capacity to earn more in wages, but also their contributions benefit state coffers, attract new businesses, and prompt increases to salaries across the board.



For every \$1 California invests in higher education, it will receive a net return on investment of \$4.50; and the return doubles for those who complete college.⁴⁴ These investments ultimately pay for themselves as students educated in the state are likely to stay, work in the state, be better employed, earn higher wages, and pay more income and sales taxes while relying less on state assistance programs. Evidence points to the increasing returns to the state in the form of higher taxes over the lifetime of each degree holder, which is substantially more than the cost of their education including any scholarships or other dedicated programs devised to improve degree attainment.⁴⁵

FIGURE 9: College Graduates Earned Two Times More Than High School Graduates in California in 2015



Source: US Census Bureau, 2011–2015 American Community Survey 5-Year Estimates of Median Earnings

By the time today's college graduates reach age 50, they will have repaid the nearly \$4.5 billion dollars the state originally invested in them, plus an additional \$10 billion. Students who graduate with a bachelor's degree in four years will likely earn nearly \$1.3 million more than his or her initial investment of \$72,000 in out-of-pocket college expenses at a CSU.⁴⁶ This investment, however, declines if the same CSU student's time to completion is delayed. A student graduating in six years will invest \$58,000 more than would a student graduating in four years and earn nearly \$53,000 less over his or her lifetime.

Ensuring students complete transfer courses at the community colleges and graduate on time will produce significant cost savings for the student as well as for the state. In California, state and local tax dollars make up a larger share of community colleges' revenues than do student fee dollars. So when students attempt more credits than they complete, those taxpayer dollars are not going to serve additional students.⁴⁷ Indeed, a 1% reduction in the number of excess credits students take at the community colleges could free up to as much as \$21 million in state spending, which could provide enrollment to more than 7,000 additional full-time students at the community colleges.⁴⁸ At the CSU, moving students through to completion by reducing average credits by 1% may free up to \$20 million in state expenditures, which could potentially provide enrollment for as many as 3,200 additional full-time students. A 10% reduction would result in the additional capacity to serve as many as 45,000 additional full-time students, which is almost equivalent to the total undergraduate enrollment at both CSU Los Angeles and CSU Long Beach.⁴⁹

The California Community Colleges are a lower-cost option for students to complete their general education and lower division major requirements before transferring to a four-year college. Yet, these savings are compromised because students may not complete these lower division requirements in the same time frame as students who attend the CSU and the UC for their first two years of education and most are taking longer to complete their bachelor degrees. The large costs that accrue as a result — tuition and fees and other costs, such as housing, transportation, books etc. — are what ultimately take a large toll on students. In fact, these additional costs increase the annual cost (less average grant aid)^{xiii} to attend a community college to \$17,600^{xiv} in comparison to \$17,900 at the CSU^{xv} and \$20,100 at the UC^{xvi} (see Figure 10).

Students attending the community colleges, on average, take approximately four years to transfer; this is the same average time frame that a student at the UC (4.1 years) and slightly less than a student at the CSU (4.8 years) will take to graduate with a bachelor's degree.⁵⁰ Data show that transfer students to the UC will take an additional 2.3 years to complete their bachelor's degree while transfers to the CSU will take an additional three years to attain their degrees.⁵¹ If an estimated average cost to graduate from the UC with a Bachelor's degree after four years will cost \$82,400 and \$85,900 at the CSU, then transfer students are estimated to pay an additional \$36,000-\$38,000 to attain a bachelor's degree because of the longer time it takes to exit from the community colleges.



Though the amount of grant aid given to students — especially students with the greatest need — will offset some of the costs to attend college, the average amount of grant aid students at the community colleges receive is still insufficient to reduce the net costs of starting at a community college and transferring to either a UC or CSU campus.⁵² Indeed, these disparities in funding and longer time to degree, can ultimately make the community college path much more expensive than enrolling directly into the CSU or UC. This is especially true for students with the highest financial need. For the student, this means they will be required to take on more debt and/or work to afford completion of a bachelor's degree. For the state, it means higher costs as it spends more in financial assistance and subsidizing a longer enrollment period as students' time to degree is significantly delayed.

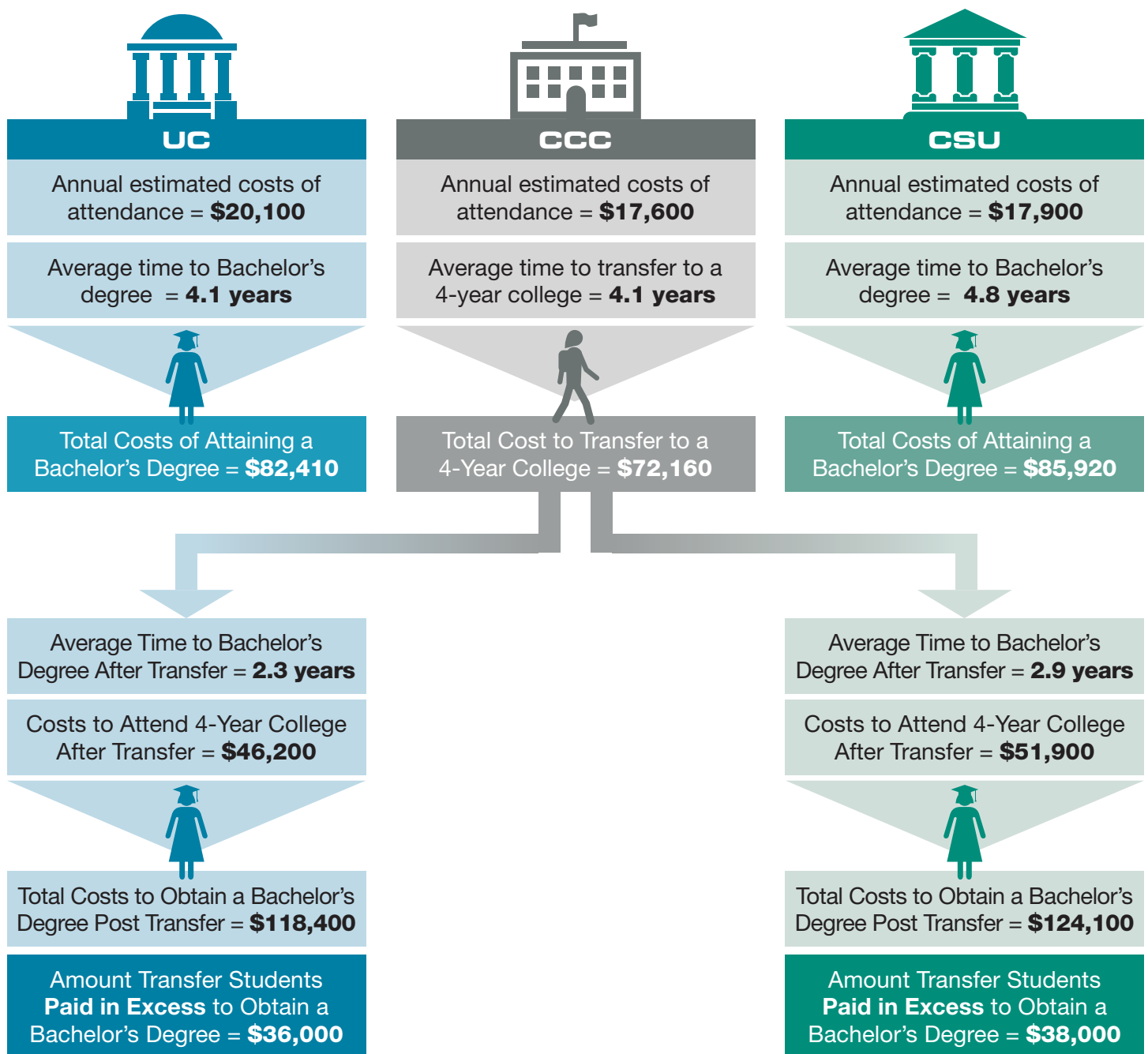
xiii Szabo-Kubitz, 2016

xiv California Student Aid Commission, 2015-2016 Student Expense Budgets.(2015); College Board, Trends in Higher Education: Tuition and Fees by Sector and State over Time. (2017)

xv CSU Mentor, Frequently Asked Questions: Costs. (2017)

xvi University of California, Tuition and Costs of Attendance. (2017)

FIGURE 10: The Extra Time Required of Transfer Students Significantly Increases the Cost of a Bachelor's Degree



TRANSFER STUDENTS MAY PAY \$36,000 MORE AT THE UC AND ALMOST \$38,000 MORE AT THE CSU THAN A STUDENT WHO STARTS AT A 4-YEAR COLLEGE TO GET A BACHELOR'S DEGREE.

Note: Annual estimated costs of attendance include costs from system data minus average annual grant aid as calculated by The Institute for College Access and Success. For the UC, the total costs of attendance is estimated at \$30,300 less \$10,200 in average grant aid which comes to a total of \$20,100. The total cost of attendance at the CSU is \$17,900, which is \$24,300 less average grant aid of \$6,400. To attend a California Community College, the total cost of attendance is estimated at \$19,900. Less \$2,300 in average grant aid, the total cost for students is \$17,600. All estimates have been rounded to the nearest hundredth.

DELAYED TIME TO DEGREE YIELDS HIGH COSTS FOR CALIFORNIA'S MOST VULNERABLE STUDENTS

The average tuition and fees charged for first-time, full-time undergraduate students in California's community colleges is \$1,429.⁵³ Though the Board of Governor's tuition waivers cover two-thirds of students with financial need, the burden of cost rises if students do not achieve their degree objectives in a reasonable time frame.⁵⁴ Tuition and fees may be relatively small compared to the averages of other states, yet delaying transfer yields additional direct and indirect costs, including paying for housing, transportation, and books add to the cost of college for our students. California students amassed an average of 75 units at an additional average cost of \$7,600 for each year they are enrolled in a community college beyond the traditional 60 units.⁵⁵ Students with delayed time to transfer further yielded opportunity costs of \$31,500 in earnings they would have made had they been able to work.⁵⁶ Furthermore, the costs to students increased substantially if they were among the 80% of students who are required to enroll in remedial courses, and more so if they began in the lowest levels of remediation, paying almost 44% more than students who immediately enrolled in college-level, and thereby transfer-eligible, courses.⁵⁷

REMEDIATION AS A BARRIER TO TRANSFER

Another salient trend negatively impacting students at the community colleges is the high numbers of students being placed in remedial courses at the start of their collegiate experience. Systemic and structural issues contribute to the high numbers of students requiring remediation, including poor preparation in K-12 schools. However, high-stakes placement exams have severe consequences for students who may or may not understand the consequences of performing poorly on these assessments while receiving little preparation or support to refresh and prepare before the test.

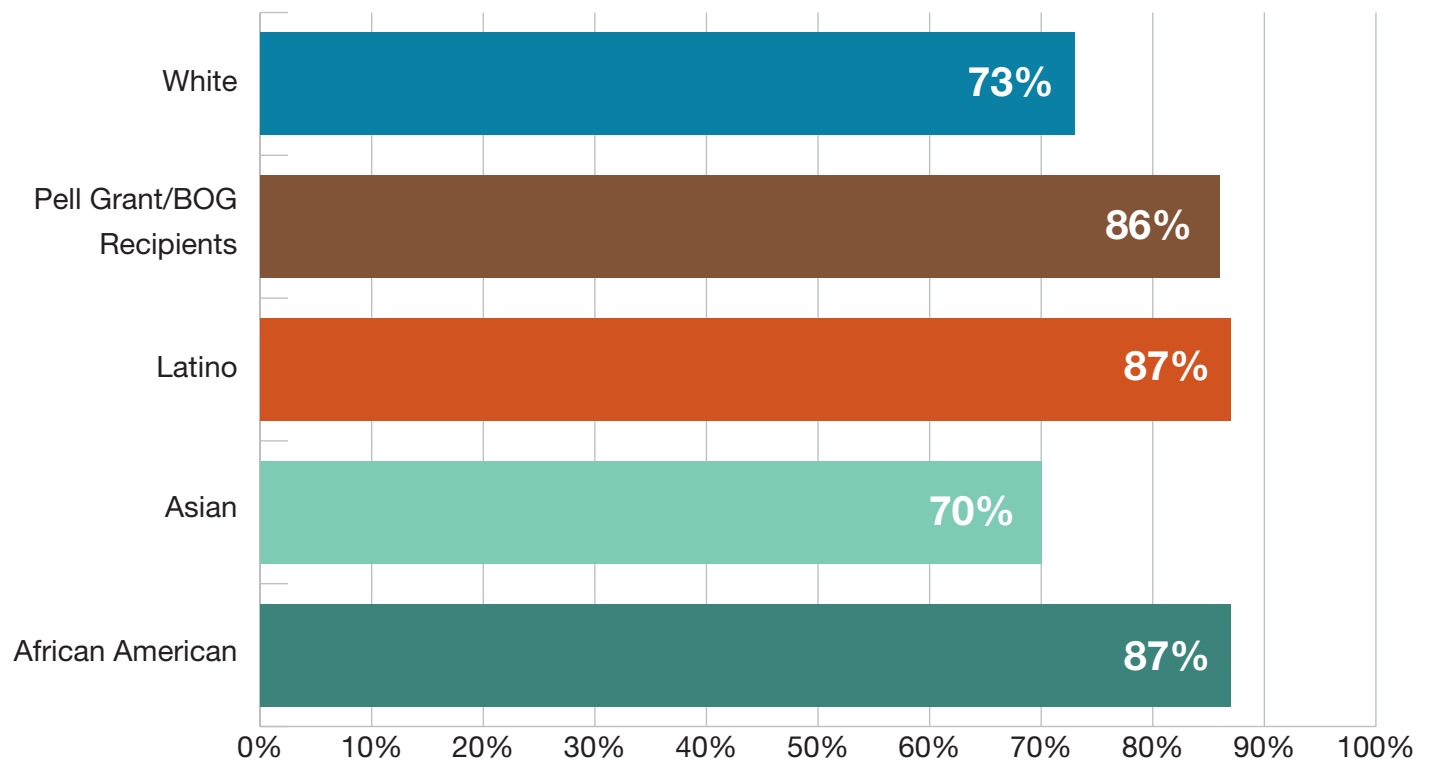
Research shows that placement tests can be flawed and are not an accurate predictor of success in college courses. Rather, more and more researchers have pointed to the higher predictability of success by using overall GPA and high school transcripts to place students.⁵⁸

Yet the overreliance on placement tests alone, and little differentiation of courses that can meet students where they are in their skill development (e.g., traditional vs. co-requisites, fast track courses) means that students are often stuck in courses that may be repetitive and will not provide the needed critical-thinking skills to succeed in college courses post-remediation.

On average, 80% of California's community college students are placed into remediation, with 39% of them placed into both pre-college level math and English.⁵⁹ Students spend as much as 2.5 semesters, or the equivalent of one and a half years, to complete the remedial sequence, which significantly delays not only enrollment in college courses, but eventual plans to transfer. Especially problematic for students required to enroll in remedial math courses is the sheer difficulty of reaching, enrolling, and completing a college-level math course, which too often serves as a gatekeeper for college success. Estimates show that 73% of students are placed in a remedial math sequence that is at least two levels below elementary algebra.⁶⁰

An even worse outcome of a remedial placement upon entry is the fact that only 16% of students go on to earn an associate's degree or certificate in six years, and only 24% transfer to a four-year university.⁶¹

FIGURE 11: More than 2/3 of all students, begin their community college careers place in remedial education



Source: Mejia, Rodriguez, Johnson, 2016

BUREAUCRATIC, INCONSISTENT, AND CONFUSING PATHWAYS

Creating a seamless path to transfer requires the process to be transparent and easily understood by students and their advisors. Moreover, there must be a guarantee that students' courses will be accepted at four-year universities upon completion of the transfer pathway.⁶² Despite the reform of the last several years, transfer to the UC and the CSU remains complicated by a number of factors that are, as students have described, bureaucratic, inconsistent, and confusing. Students are forced to piece together an education plan with little to no overlap between general education and major requirements demanded by the different systems, schools, and departments. Adding to the complexity is the effect these inconsistencies have on counselors and their ability to guide and support students plan to transfer.



AUTONOMY AND DECENTRALIZATION

One of the hallmarks of California's public higher education system is its campus and faculty autonomy. Faculty at the UC and the CSU are responsible for setting undergraduate program requirements for their respective campuses.⁶³ This autonomy allows faculty to develop curricular requirements specific to their discipline in innovative ways that can lead to within-campus reforms while simultaneously ensuring the quality of the educational experiences. At the same time, however, an unintended consequence of autonomy is the lack of alignment with curricular requirements of other campuses, even within the same system, that may ensue. A faculty member observed, "We have three separate systems that ultimately have no accountability toward one another, and I think that really holds us back."⁶⁴ This then complicates the transfer process for students because each curriculum is unique to each individual campus;⁶⁵ the requirements that may satisfy transfer at one community college may not necessarily meet the requirements established by the receiving four-year college. Thus, a strong faculty governance structure⁶⁶ and institutional protection of its unique identity⁶⁷ are barriers to the alignment necessary for transfer. A faculty member participating in a transfer task force remarked, "[Faculty] reputation, and their department's reputation, rests on the quality of their program and the students who graduate from their program. And their accreditation relies on that! So they hold tight to control of what students must do to get a degree from their department."⁶⁸

Transfer students are ultimately caught in the middle of these disciplinary battles; they are left—often alone—to navigate pathways with differing criteria and distinctive major requirements to gain admission to the UC or the CSU.

In other words, prior to 2010 reform, "California's 112 community colleges could have developed 112 different degrees in each transfer major, and then each college would have needed to seek acceptance of these degrees from each of the 23 campuses."⁶⁹ At the UC, the variation of pre-major requirements—even within similar majors—further complicates the transfer process for students.⁷⁰ **In fact, more than 110,000 articulation agreements with the California Community Colleges exist that outline what students must do for admission to the UC.**⁷¹ This variation underscores the challenge students face to understand the different transfer options and why they may end up taking additional courses to meet the entrance requirements of multiple colleges.

Adding to this complexity is the decentralized nature of California's public higher education system. The mandate by the legislature to improve transfer caused California Community College and CSU faculty to come together in an ad-hoc group evolving into the Intersegmental Curriculum Workgroup, which was responsible for the implementation and oversight of the curricular development of the TMCs.⁷² Despite these efforts and others leading to greater inter-institutional dialogue pre- and post-mandated reform, evidence points to the continued silos that exist across the California Community Colleges, the CSUs, and the UCs. Each of these operates as distinctive entities with their own leadership, priorities, culture, student population, and resource limitations. And within each, "Individual campuses sometimes work at odds to one another in order to preserve institutional identity, develop specialized fields of study, and so forth... and are accompanied, at times, by a reluctance to share information or engage in other collaborative practices that might enhance transfer."⁷³

For transfer reform to succeed, finding common ground and enacting a degree of standardization between systems and schools is crucial for a smoother pathway to the baccalaureate.

What is needed is an intelligent, sensible and creative way to protect this freedom while simplifying transfer. The emphasis has to be on common preparation for transfer that leads a student to a department that maintains its freedom to define the skills and knowledge necessary to confer credible degrees, and within that preparation, providing faculty the freedom and resources to augment lower-division preparation that they may deem inadequate. There are ways to be more efficient, spend fewer state resources and yet maintain the standards of excellence that have made California's public higher education system a leading model for decades. However, until this happens consistently across the system, the lack of coordination will continue to result in students having to wade through a confusing array of requirements and excess courses to transfer and ultimately attain a degree. It is imperative that the UC, CSU and the California Community Colleges consistently and formally work together to strengthen transfer pathways in ways that work for students.

TOO MANY CHOICES IN GENERAL EDUCATION

Community college students have several options to complete their community college lower-division general education requirements, which can also be used to satisfy transfer requirements (see Table 6). The Intersegmental General Education Transfer Curriculum (IGETC) and the CSU General Education-Breadth (GE-Breadth) are the options available to students at the community colleges. How these courses fit within the broader transfer process are typically described in densely packed websites or information sheets that lay out the options available to students (see Appendix IV). The challenge this poses for students is in knowing the differences between the options and which of the two may best meet their educational objectives. Not knowing may have dire consequences on students, as one campus document notes:

"Selecting a general education plan is an issue that must be planned carefully.... It is critical that all students planning to transfer to a university seek guidance from an academic counselor. Students not seeking guidance may complete inappropriate courses, thus complicating or delaying transfer to the university."⁷⁴

The IGETC is a set of courses that can be used to satisfy general education requirements for both UC and CSU transfer admissions. The IGETC is recommended for students who wish to keep their options open or have not yet decided on a campus or major. The IGETC is not recommended for students intending to pursue majors such as engineering or the natural and physical sciences, where students have to take extensive lower-division courses in preparation for these majors.⁷⁵ The caveat to this is the IGETC for STEM, which is "a pattern of courses currently only available to students earning an associate degree for transfer (ADT) at a California community college that offers IGETC for STEM as an option."⁷⁶ **Moreover, as students are cautioned, the IGETC is neither a requirement for UC admission, nor does the completion of IGETC guarantee a student a spot in any of the UC's campuses.**⁷⁷

The CSU GE-Breadth courses satisfy general education requirements for the CSU system only. Each of the community colleges provides students with a list of courses that can be applied for GE-Breadth certification. The California Community Colleges can certify up to 39 lower-division GE-Breadth semester (58.5 quarter) units, which means that the CSU will accept these courses to meet the CSU GE-Breadth areas. Most CSU campuses require students to complete at least 30 of the 45 general education requirement units prior to transfer.⁷⁸ Exemptions are made for students in majors that have extensive lower-division major preparation requirements (e.g., engineering) and are therefore not required to complete as many general education requirements prior to transferring to the CSU.⁷⁹ Like the IGETC, completion of the GE-Breadth pattern of courses is not an admission requirement, nor does completion guarantee admission to the campus or program of choice.

TABLE 6: Comparison of the Intersegmental General Education Transfer Curriculum (IGETC) and the CSU General Education-Breadth (GE-Breadth)

	IGETC		CSU GE-BREADTH	
	No. of Courses	Units Required	No. of Courses	Units Required
English	1 English Comp 1 Critical Thinking	1 English Comp 1 Critical Thinking	1 Oral Comm 1 Written Comm 1 Critical Thinking	9 semester or 12-15 quarter
Mathematical Concepts or Quantitative Reasoning	1	3 semester or 4-5 quarter	1	3 semester or 4-5 quarter
Arts and Humanities	3 1 Art 1 Humanities	9 semester or 12-15 quarter	3 1 Art 1 Humanities	9 semester or 12-15 quarter
Social and Behavioral Sciences	3 2 disciplines or an interdisciplinary sequence	9 semester or 12-15 quarter	3 2 disciplinary perspectives	9 semester or 12-15 quarter
Physical and Biological Sciences	2 1 Physical Science 1 Biological Science at least 1 course with lab	7-9 semester or 9-12 quarter	2 1 Physical Science 1 Life Science at least 1 course with lab	6 semester or 8-10 quarter
Language other than English	Proficiency equivalent to 2 years of high school in same language	Proficiency	May be fulfilled in the Humanities Requirement	
Lifelong Journey and Self-Development			1	3 semester or 4-5 quarter
Total	11 Courses	34 Semester	13 Courses	39 Semester or 58.5 Quarter

Source: Articulation System Stimulating Interinstitutional Student Transfer (ASSIST)

Outside of the ADT and the recommended UC Transfer Pathways courses, neither the UC nor the CSU systems have a general education requirement for transfer students.^{80,81} While both IGETC and the CSU GE-Breadth provide students with guidelines for completing general education requirements prior to transfer, the acceptance of these courses varies greatly campus to campus and major to major.⁸² Notably, UC Berkeley's Haas School of Business⁸³ and UC San Diego's Revelle College⁸⁴ will not accept the IGETC and students must go to their websites to learn about specific requirements.

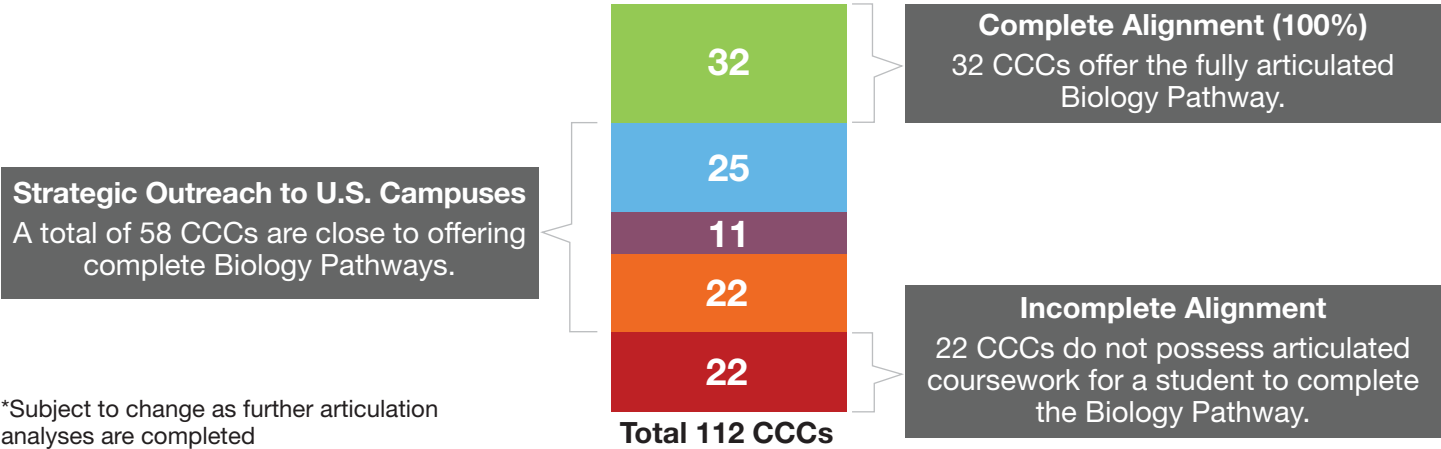
Additionally, the slight differences between the two mean that students who may start pursuing one option, but determine the second option is better, will be required to take additional courses to satisfy the new option.⁸⁰ For example, the IGETC has a foreign language competency requirement that can be met by passing two years of high school foreign language with grades of “C” or better or taking one semester of college-level foreign language. GE-Breadth requires an oral communications course, in addition to U.S. history, Constitution, and American ideals. Last, and equally challenging, is certification of GE completion, which is not an automatic process and must be secured by students. For the IGETC, course requirements for all areas of the pattern must be completed and certified. In contrast, CSU GE-Breadth Certification allows certification of separate GE areas.

These distinctive requirements and nuances of the GE options combined add to the complexity of transfer by presenting students with multitude of possibilities that may or may not directly lead them to completion.

COURSE AVAILABILITY: COMPETING FOR ACCESS OR SHUT OUT ALTOGETHER

Students attending certain campuses may not have access to specifically required courses. Not because the courses are full, or because they are offered only during specific time frames. Rather, their college of enrollment might simply not have the capacity to offer courses to meet demand. For example, the Great Recession had a huge, detrimental impact on course availability. An average of 5,026 students per community college were waitlisted for classes in fall 2013.⁸⁵ Approximately 21 percent of course sections were eliminated between 2007-08 and 2011-12.⁸⁶ Moreover, the lack articulation agreements between the community colleges and UC campuses may result in a lack of available courses required for transfer. So while it is unknown just how many courses students may not have access to for transfer, data from the UC show that only 32 out of 112 community colleges have articulation agreements in the Biology pathway, for example (see Figure 12).⁸⁷ This means that students at 81 community colleges do not have those agreements, which may jeopardize students’ ability to meet the necessary requirements and compete for admissions.

FIGURE 12: Only 32 Community Colleges Have Articulated Agreements with UC Campuses in the Biology Pathway



Source: Monica H. Lin, UC’s New Transfer Pathways, https://ciac.csusb.edu/docs/UC%20Transfer%20Pathways_2015.10.16.pdf

In addition, increases to student enrollments at the community colleges mean that many students will not be able to enroll in courses that they need in the time frame they need to complete them.

Ben Newsum described needing to enroll in a science laboratory course to complete his lower-division major coursework. But he was one of 12 students waitlisted for the course, all of whom would return day after day hoping for the professor to grant them admission to the course. When he was denied admission into the course, Ben was forced to commute to a community college one hour away twice a week to attend the course he needed. Ben's story has become a common reality across all three of California's higher education systems.

Decreased funding from the state has created challenges for the UC and CSU systems to serve the growing number of students enrolling in California's public universities, and has had a trickle-down effect at the California Community Colleges.⁸⁸ For example, between 2009 and 2014, the combination of budget cuts and limited spacing meant that nearly 140,000 students could not enroll at the CSU despite meeting all eligibility requirements.⁸⁹ Because they are not admitted to the four-year colleges of their choice, many of these students are likely to enroll in the community colleges where they compete for spaces in classes and access to resources with students whose attendance at a community college is their only option to access higher education. This effect, combined with record enrollments at the community colleges, place a significant strain on the ability of community colleges to meet the needs of all their students. This means that students are too often forced to attend overcrowded classrooms where some students are forced to sit on the floor, or they are shut out completely from enrolling in the courses they need.⁹⁰

THE COUNSELING CHALLENGE: UNRAVELING THE COMPLEXITY OF TRANSFER

The lack of alignment between systems and between colleges have left students and counselors confused as to what requirements students need to fulfill in order to transfer to their choice of universities regardless of system. A community college counselor remarked, "A lot of things are not upfront and clear in the transfer process... It's a very complex process." As a result, students are either forced to choose one path versus another, or take excess courses at multiple campuses to keep their transfer options open. Other students may choose not to attend their desired schools because of the additional time they would need to spend at the community college. As one student shared, "The varying course requirements for my major limited my options. I had to make the decision not to apply to [my preferred school] because taking the additional classes needed for my major would have extended my time." Perhaps this is not a worst case scenario, so long as a student transfers and earns a Bachelors degree, but these challenges are exactly the reason that the majority of students never end up transferring.

Lacking in this process is a focus on clearly communicated information and the availability of counseling services that can help students negotiate the complexity of transfer.

According to the American School Counselor Association, the ratio of students to counselors at the high school and community college level should be 250:1.⁹¹

In California, the ratio of community college counselors to students was as high as 1,016:1 in 2010–11⁹² but more recently has improved to a ratio of 615:1 as of fall 2015.⁹³ A recent study on transfer highlights the challenges a lack of available counselors pose to students seeking to transfer.⁹⁴ The report describes students being limited to when and how often they could see counselors on their campuses, even noting the challenge of the

appointment system. Students' inability to meet with the same counselor over time meant that they often received inconsistent, sometime conflicting information. For new community college students, many of whom are first-generation college students with no family background in higher education, they often did not know the right questions to ask and were often overwhelmed by the very nature of attending and understanding college.

As one student remarked, "How do you know what to ask when you just don't know what you're asking about?"

If complexity of transfer remains as it is today, community college students must have easy access to well-trained counselors who can answer their questions, even the ones that are not explicitly asked.

A strategy that can and should be adopted is to build up the role of academic advisors on campus. Advisors, unlike counselors, can have any level of education and are trained in a specific area. The state has the ability to allocate additional funds to provide the requisite training needed so that advisors can help students with specific information related to transfer. They then can make a referral to a counselor when a personal issue arises that may compromise a student's ability to continue with his or her educational objective. This serves as an effective way to save money while getting students the help they need much more quickly and efficiently. Without such a strategy, a continued lack of access will have negative impacts on students and may discourage them from transferring.



DECONSTRUCTING THE MAZE

ELEMENTS OF EFFECTIVE TRANSFER PROGRAMS

Transfer should not be hard. Nor should students have to travel through a bureaucratic, inconsistent, and confusing pathway en route to the baccalaureate. Yet the system created in California has led students like Ben, to have to enroll at multiple campuses, take more courses than needed, and expend thousands of dollars in a frustrating search to reach their goal of transfer. However, the possibility of an effective transfer process is within reach as steps have already been taken to implement a more effective transfer pathway with the Associate Degree for Transfer (see Table 7).

TABLE 7: Elements of Effective Transfer Programs		
ELEMENTS OF EFFECTIVE TRANSFER PROGRAMS		
	Associate Degree for Transfer	UC Transfer Pathways
Common general education package		
Common lower-division pre-major pathways	✓	✓
Focus on credit applicability	✓	✓
Junior status upon transfer	✓	
Guaranteed and/or priority university admission	✓	
Associate and/or bachelor’s degree credit limits	✓	
Acceptance policy for upper-division courses		

Source: Adapted from Kisker, Wagoner & Cohen, 2012

Several key elements are identified in the research that produce more effective transfer programs, for all students broadly, and underrepresented students specifically. These include: (1) a common general education package; (2) common lower-division pre-major pathways; (3) credit applicability to specific academic and degree requirements;^{xvii} (4) junior status upon transfer; (5) guaranteed and/or priority university admission; (6) associate and/or bachelor’s degree credit limits; and (7) an acceptance policy for upper-division courses.⁹⁵ As can be seen in Table 7, the Associate Degree for Transfer (ADT) meets several of these identified elements of a successful transfer program. In its progress report to the state legislature, the Legislative Analyst’s Office concluded that the ADT is an effective solution to the challenge of transfer and should be expanded so that more degree options were available to students.⁹⁶

xvi How credits will apply to specific academic and degree requirements at receiving institutions.

WHAT SHOULD TRANSFER LOOK LIKE?

The students we spoke with talked about the community college as a second chance institution that would allow them to take their first step to earning a bachelor's degree. Their assessment of the two-year college is not altogether different from its origins—inherently democratic to provide educational opportunities to the least prepared, to the vocationally oriented and to the academically gifted.⁹⁷ At its core, however, has always been transfer; a commitment to provide the first two years of college that is lower in cost and flexible to meet the changing needs of students. For students, their image of the community college has been altered as a result of the complexity engulfing transfer. Simplifying processes and adopting practices that yield a strong, campus-wide transfer culture is essential to the future success of students attending California's community colleges with the intent to transfer.

So in addition to the above elements that are evident in the Associate Degree for Transfer pathway, a clear organizational structure and a mandate for the development of a statewide coordinated system are needed to ensure success from adoption to implementation of transfer reform. Additionally, we need to provide more targeted guidance, build transfer partnerships, and provide a more robust counseling system for students intending to transfer, especially among those students who have lower transfer outcomes (e.g., underrepresented students).

Above all, a campus and its representatives must adopt additional policies, attitudes, and practices that let students know that transfer is a vital, prioritized function of the community college and not just something that it does. In doing so, more students will be well-informed, will feel valued, and are likely to have better outcomes than the current state of transfer and associate degree attainment.⁹⁸

There are several critical factors leading to a strong transfer culture, including leadership, accuracy and dissemination of information, academic support, cross-sectional collaboration, and a variety of additional services supporting student transfer success.⁹⁹

- **Leadership.** A robust community college transfer culture requires strong leadership that lets it be known across campus that transfer is a priority and is embedded in new initiatives and receives the appropriate allocation of resources.¹⁰⁰ They have the opportunity to engage campus representatives—faculty, administration, students—in ongoing dialogue about the importance of transfer, address concerns that arise, and secure buy-in.¹⁰¹ In addition, they can form strategic partnerships with four-year colleges and universities wherein the sharing of information and campus visits are but a few of the strategies that will be employed to facilitate transfer between campuses.¹⁰²
- **Faculty.** Instructors at all levels are on the front lines of the transfer maze and should resume their historic role of advisors for students. They engage with students directly daily and have the power to positively influence the transfer trajectories of students. They can discuss transfer in the classroom, integrate it within classroom assignments, and offer advice on majors and colleges. Equally important is the role faculty play in vetting any new transfer curricula to ensure it meets the highest standards of the discipline, it aligns with required courses at the transferring institution, and is delivered through high-quality instruction to sufficiently prepare students for the four-year college.¹⁰³ Last, they must work in partnership to coordinate across institutions and systems to create and ensure clearly articulate transfer pathways for students.¹⁰⁴

- **Accuracy and dissemination of information.**

Ben and many other students shared with us the challenge of filtering through the vast quantities of information they received from multiple sources. The confusion that arose led them to take a circuitous route to transfer that could have potentially been avoided. Implementation of a guided pathways¹⁰⁵ model facilitates the creation of degree maps, which provide students with unambiguous and clearly understood information about academic program requirements at the start of their transfer journey.

- **Counselors.** Students seek out counselors for advice about the transfer process. But as students shared, access to counselors was limited and when they succeeded in meeting with one, they too often received conflicting information or discouraging advice at different points in their journey.



It is essential that students have access to counselors with minimal delays. Moreover, counselors must be fully trained and have access to the most up-to-date information about transfer requirements to share with students.¹⁰⁶

Through a guided pathways approach, advisement is a collaborative effort between counselors and faculty to provide students tailored transfer advising¹⁰⁷ as early as possible to ensure a seamless transition from initial counseling and identification of interests, majors of study, and transfer destination to more in-depth programmatic advisement and monitoring needed to move students through to transfer.

- **Academic support.** Ensuring students have access to academic services, such as tutoring, is vital to improving transfer outcomes. Students come to the community colleges with a great deal of variance of preparation that requires differing levels of help to succeed in the classroom. The integration of academic and student services will provide the needed academic and social supports students are likely to need in a new environment.
- **Cross-sector collaboration and communication.** It is important that colleges be willing to share information, such as data and changing requirements, to improve the transfer function between systems. Increased transparency will ensure that any and all concerns are addressed upfront because, as the research shows, any breakdown in communication may result in the loss of trust and confidence.¹⁰⁸
- **Transfer services.** A robust, centrally located transfer office is essential. A well-resourced transfer center gives students a centralized location where they can find information, access resources, and receive the necessary guidance to achieve their goals of transfer.

Given the high numbers of students from underrepresented groups, low-income students, and first-generation college students, community colleges must be intentional in their outreach and support for these populations.¹⁰⁹ In addition to the above recommendations, a strong transfer culture that acknowledges the diversity of its student population must adopt the following values and practices:

- **Transfer is achievable.** Community colleges need to communicate the message that transfer is both expected from its students and that it is attainable. The data show poor transfer outcomes among first-generation, low-income, and students of color. A commitment from all college representatives and their peers to convey a uniform message of achievement will inspire confidence among students and ensures they are on track from the first day of enrollment.
- **Provide high-quality instruction.** Just as faculty play a vital role in the transfer outcomes of their students, so does the instruction they provide on a daily basis. Low income and students of color may come from the most disadvantaged communities that did not adequately prepare them for college. Instructional practices must recognize the varying abilities and capital students bring to the classroom and tailor their practices to meet the learning needs of all students.
- **Engender a sense of belonging.** Students who choose to attend a community college are very often the first in their families to do so. Without the familial legacy of a college education, these students are learning processes, language, and expectations never before seen or heard to them. Therefore, it is incumbent on the community college to create an environment that gives students a sense of belonging and stimulates high academic achievement.
- **Intrusive advising.** Colleges must dedicate resources for a more robust counseling system that specifically addresses the needs of underrepresented students, especially those with the poorest outcomes. Because these students are often the first in their families to attend college, they will not always know the right questions to ask or seek out advice when they need it the most. Thus, the counselor and/or advisor must become that first line of offense and defense, to connect with students at the first moment of trouble before they lose track and delay their progress toward transfer. Under a guided pathways construct, progress is tracked, feedback is provided and early alert systems are put in place to quickly intervene with needed supports when students are struggling.

Above all, we need to eliminate the maze that students face with all of its attendant traps, wrong turns, and dead ends. We need to create a clear path with regular and clear signposts and a visible goal.

Conversations with students and counselors reveal what they wish they could have seen en route to transfer or what they would do to improve processes. Their experiences and recommendations have led us to a newly formed “transfer pathway” with two distinct points of entry—for undecided students who are not sure what they want to major in or what college they want to attend and those who are clear about both of these goals—but with one common exit leading toward transfer and completion of a bachelor’s degree.

CLEAR, GUIDED PATHWAYS FOR ALL STUDENTS

STUDENT WANTING TO TRANSFER

1. Has opportunities to explore career/academic interests and potential destination
2. Meet with a counselor and develop an education plan with a clear roadmap to completion
3. Counselor and student identify up to five colleges for transfer
4. Take courses identified for transfer in major of choice that are clearly organized to ensure on-time completion
5. Counselor will review requirements of identified campuses and acceptance criteria to help student determine fit and eligibility
6. Advisement is continuous, progress is tracked, and struggling students are identified at the first moment of trouble to intervene with appropriate supports
7. Student applies for transfer
8. Upon transfer, the four-year college provides an extensive onboarding process and frequent touch points with their counselors

STUDENT UNCERTAIN ABOUT HIS OR HER PATH

1. Student is counseled via orientation and email about development of an education plan
2. Student enters a meta major^{xvii} in the first semester of enrollment that allows him or her to explore a broad area of study within a defined structure without losing track¹¹⁰
3. Counselor may recommend enrollment in personal growth or “college success” classes to help develop better understanding of pathways and college processes
4. Student meets with a counselor to go over his or her interests and develop an education plan with a clear roadmap to completion no later than the second semester of enrollment
5. Student chooses a pathway toward certification, degree, or transfer but encouraged to consider degree and transfer options
6. Advisement is continuous, progress is tracked and struggling students are identified at the first moment of trouble to intervene with appropriate supports



^{xvii} Meta-majors enable students to enter a general major or area of interest and complete coursework before deciding on a more specific major or program of study.

CONCLUSION

Seven years ago, historic transfer reform came to California with the promise of streamlining transfer and providing students the opportunity of upward economic mobility by improving their chances to access and achieve a bachelor's degree. In 2016, however, we wrote:



The transfer maze has stumped students for decades. With only four percent of the 2.3 million community college students transferring to a four-year university, California cannot meet the economic demand for a more highly educated workforce. The historic effort five years ago to create a streamlined, simplified, and preferred pathway for students hoping to transfer from a California Community College to a California State University campus has shown much progress, but we have yet to go the distance on transfer.¹¹¹



The transfer maze continues to thwart students from achieving their goals of transfer and degree attainment. The complexities of transfer—from confusing pathways between systems and the lack of consistent, readily available guidance—means that students must navigate the transfer maze alone without a clearly delineated map identifying a way out. The unacceptably low transfer rates suggest that only the savviest of students will succeed in transferring, yet those who do will do so without completing an associate's degree. For the rest, there is a sense that luck, rather than planning, is what determines who goes on to transfer. This leaves many students to feel like accidental transfers who have spent way too much time and too much money going down a never-ending pathway of insurmountable barriers. As one student said, "I was sad that it was so shocking, like, 'oh wow, I'm going to transfer.' It didn't seem premeditated, it was almost accidental."

California's economic well-being depends on a highly skilled, degreed workforce. We can and we must do better for our students and for our state. To ensure the workforce of tomorrow, we must prioritize transfer and eliminate complexity with due haste so that transfer is more of a guarantee than an opportunity to compete and possibly succeed. To wait is to level a tremendous burden on students in terms of time, money, and opportunity costs. In failing to act, California will pay an extraordinary cost for its inability to harness the potential and the talent of its students.

RECOMMENDATIONS

To ensure a clearer pathway for transfer, the Campaign for College Opportunity makes the following recommendations:



1. Increase State funding to enroll more students directly in our public universities and to ensure the UC and CSU can serve an increasing number of community college students.

- a.** Lift the caps on enrollment into the UC and CSU to better serve a 21st-century economy and the growing demand for a college education by Californians.
- b.** Priority for funding must be given to close equity gaps between groups and improve the transfer, post-transfer and completion rates of all students, in particular those from students of color who trail behind their peers.
- c.** Community colleges must use funds to both adhere to the framework for effective transfer programs described in this report, as well as to support the development and sustainability of a robust transfer culture that promotes high expectations and facilitates transfer.
- d.** Target funds to support better advising for community college students, especially those who are from underrepresented, low-income, and first-generation populations, so that they may receive consistent, readily available information about transfer and other requirements.
- e.** Target support in the form of professional development for faculty to work with students, meeting with them in person at least once each semester. Faculty will help provide an overall road map and general academic information. Faculty serving as a referral point would increase student connection to their campus and career options.

2. Honor and strengthen the Associate Degree for Transfer Pathway so that this is the preferred method of transfer for California community college students.

- a.** Streamline general education requirements to provide clarity on transfer.
- b.** Urge the UC to improve alignment of transfer requirements with the Associate Degree for Transfer and provide a guaranteed admission to these transfer students into the UC system.
- c.** Ensure course scheduling and availability at community colleges is based on student demand and helps increase students ability to transfer in a timely fashion.
- d.** Reinstate the SB1440 Implementation and Oversight Committee (IOC) to ensure coordination between the CSU system and California Community Colleges for a smooth implementation process, and make recommendations for further legislation, regulatory changes, or other policy changes. The charge of the IOC should expand to include increased coordination with the University of California's UC Pathways so students' access to both the UC and the CSU is simplified.

3. California Community Colleges should move to adopt Guided Pathways to improve student success.

- a.** Develop and scale appropriate, well-defined structures (in admissions, assessment, placement, curricula, advising) that can help fulfill the transfer promise. Given the complexity of transfer and the myriad options available to them, a guided pathways model provides clearly structured program maps that enable students to plan out a course of study under the close guidance of faculty and advisors. This model simplifies decision-making and allows students to more efficiently meet their goals of transfer. In doing so, schools will improve completion, cut time to transfer, increase employment opportunities and reduce college cost and student debt.

APPENDIX I: METHODOLOGYⁱ

Figure 2: Student Enrollment in California's Public Colleges and Universities

Student count estimates: This report compares the number of students enrolled in 4-year institutions to students enrolled in 2-year institutions by state. All data on student enrollment were pulled from the National Center for Education Statistics Integrated Postsecondary Education Data System (IPEDS).

Data were limited to U.S. only, Title IV participating public institutions. Data were sorted by the “level of institution” variable to determine whether an institution was a 4-year or 2-year institution. This variable classifies institutions according to whether its programs offered are 4-year or higher (4 year), 2-but-less-than 4-year (2 year), or less than 2-year. As an additional check on institutional classification, the “institutional category” variable was used to check the level of offerings an institution reported.

To reach the state-level estimates, the “Fall Enrollment” variable was used. Using the total number of undergraduates per campus for Fall 2015, we aggregated enrollment numbers at 4-year and 2-year institutions per state and presented each as a percent of the total. The estimate for students attending 4-year institutions in Alaska may be inflated due to classifications in the national database.

Figure 10: Time and Cost of Transfer Students to Obtain a Bachelor's Degree

Transfer student total time to degree. The total time to degree for transfer students shown in Figure 10 represents all transfer students, which includes both traditional transfer students and Associate Degree for Transfer (ADT) earners. The average time to degree post-transfer is described in the annual reports of the University of California^{xviii} and the California State University.^{xix} The average time a student takes to transfer from a California community college was taken from the most recent analysis of average time a student takes to complete their degree conducted by the Campaign for College Opportunity.^{xx}

California State University System. The CSU Undergraduate Outcomes Report in 2016 is the analysis used for 6-year outcomes for the fall 2009 cohort. To estimate time to degree, we used the “actual mean time to degree” statistic, which gives average time to degree for students in the fall 2009 cohort and who graduate within six years. In order to calculate the average time to degree for all first-time freshmen in the fall 2009 cohort, the actual mean time to degree statistics for full-time and part-time students were combined. In the cohort that entered in fall 2009, there were 28,216 full-time students who took an average of 4.75 years to obtain a degree. Additionally, there were 1,188 part-time students who took an average of 5.02 years to obtain a degree. Rather than simply average the two, which would have resulted in an overrepresentation of the part-time contingent, we adjusted our estimate using the population sizes for both students groups to arrive at 4.8 years to obtain a degree for CSU students. We did not use this method to calculate years to degree at a CSU following transfer as the actual mean time to degree provided in the CSU Undergraduate Outcomes Report already includes both full-time and part-time students.

University of California System. The UC 2016 Accountability Report was used for analysis of undergraduate first-time freshmen and transfer graduation rates. Seven-year outcomes for the fall 2008 entering class are reported. The statistic we report on comes from Chapter 3.1.8 “Average time to degree, Cohorts entering Fall 1994 to 2008.” Data utilized for this calculation include both full-time and part-time students.

California Community College System. System data from the California Community Colleges' Chancellor's office does not provide a similar, publicly available analysis. We calculated the benchmark with a sample from 2012-13's graduating class of associate degree earners, and that cohort's median time to degree. This benchmark is a conservative estimate and highlights one of the limitations to the calculation due to the nature of the system's data reporting. Transfer velocity^{xxi} and completion data^{xxii} from the system's Data Mart and 2017 Scorecard suggests that time to transfer could be even longer, yet a proper current average is still unavailable.

Cost Estimates. The annual costs to attend a UC^{xxiii} and a CSU^{xxiv} in 2016-17 includes the estimated cost of attendance for each system, including tuition, room and board, transportation, books and supplies, and other expenses. All estimated costs and subsequent calculations represented in Figure 10 were rounded off to the hundredth number to keep estimates clear and provide the best overall estimate without attempting to replicate precision. Tuition and fees at a California public 2-year (in district) institution are available from the College Board.^{xxv} The estimated amount as reported is \$1,429. The College Board average costs were utilized over the standard unit calculation cost (\$46 per unit^{xxvi}) because it incorporates fees, which gives a more accurate cost estimate for community college students. This number was then added to the overall estimated living expenses from the California Student Aid Commission for 2016-17.^{xxvii} The Student Aid Commission details the total annual costs a student will have to pay, estimated to be \$18,441, for room and board, transportation, books and supplies, and other expenses. When combined, this results in the total estimated annual costs of attending a California community college at \$19,870. Note that all costs were pulled for students "living off campus" in order to match financial costs as close as possible across all three systems due to the nature of living situations while attending a community college.^{xxviii}

All estimates are adjusted to account for average annual grant aid; we subtract the average aid from the original cost of attendance numbers. The average annual grant aid per student includes institutional, state, and, federal funding sources per Full Time Enrollee (FTE). Grant aid is broken down into CCC, CSU, and UC segments, and all numbers were rounded to the nearest hundredth. These data were originally compiled by The Institute for College Access and Success in December 2016.^{xxix}

Estimates for Figure 10. The calculations produced for Figure 10 are estimates of cost differences between first time freshmen who directly enroll at the UC and CSU from high school and community college transfers. The cost of attendance estimates for the three systems are for one academic year, roughly estimated at nine months for two semesters or three quarters of attendance. The cost of attendance does not take into account the costs of possible summer units students paid for in 2016 (over 700,000 students at community colleges for 2016,^{xxx} 20,000 at the CSU in 2015-16,^{xxxi} and 74,000 at the UC for 2016^{xxxii}), nor does the estimate factor the living expenses a student accrues during those summer months of attendance.

Amounts for annual cost of attendance are estimates specific to full-time students. Although the UC and CSU systems provided cost estimates for full-time students, no such estimates are given for part-time students. Similarly, no cost of attendance estimate for part-time students are given for community college students by the California Student Aid Commission. Calculating these costs would have been problematic especially for community college students due to the way the data are presented. While general breakdowns of enrollment by credit are available, an average credit load for part-time students were not readily available. It would therefore not have been possible to adjust our estimates without making several inappropriate assumptions.

The way the systems calculate time to degree and time to transfer likely limit the accuracy of our analysis. The available data, such as the transfer velocity of a given cohort of California community college students and the California Community College Scorecard do not reach a median point of student transfers. The former provides data up to seven years of enrollment and shows that only 43% of students transfer. The latter calculates transfer *within six years* of enrollment and similarly does not reach a median point of student transfers. As a result, it is not possible to be inclusive of all students without incorporating many contextual and mathematical assumptions.

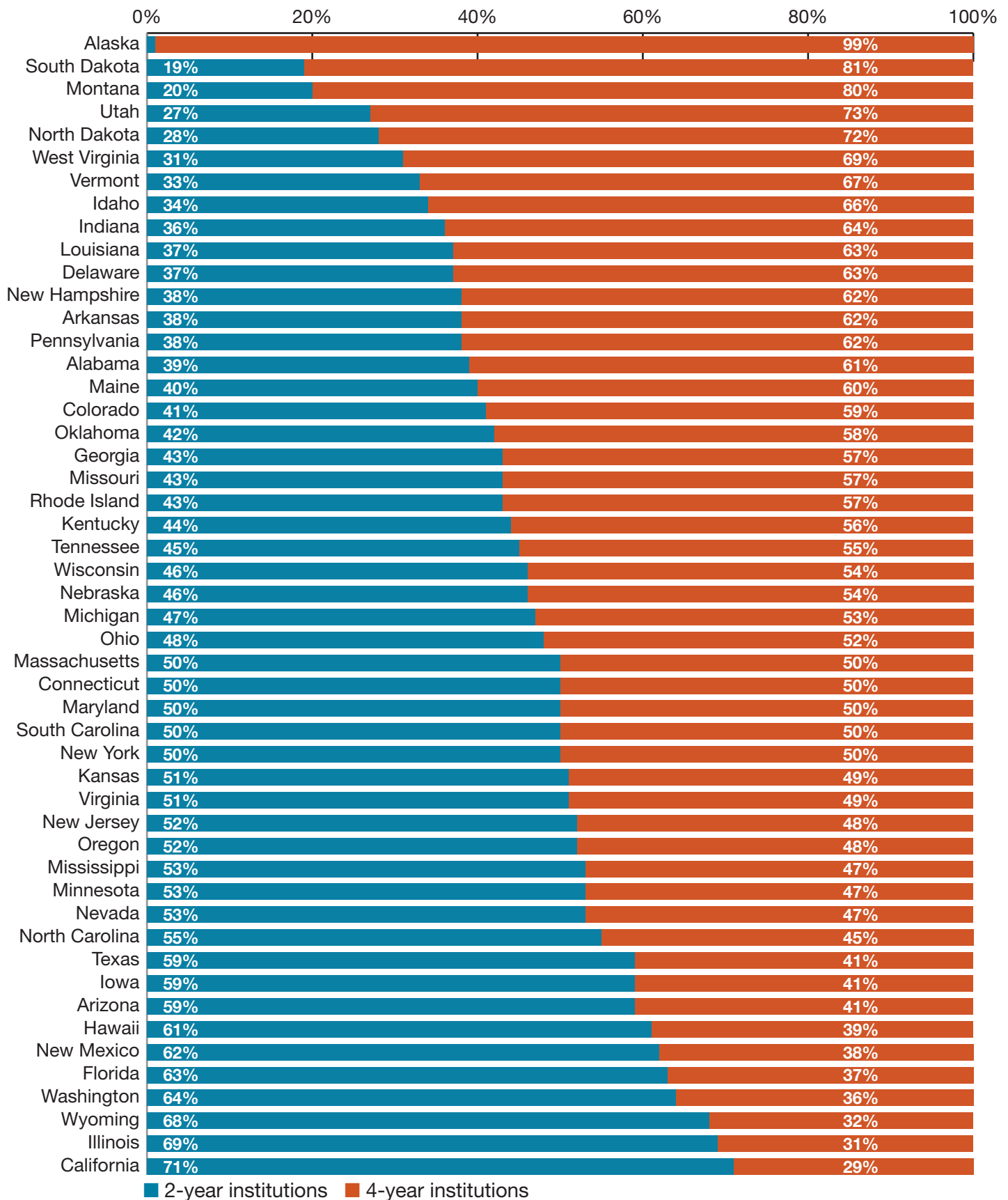
Similarly, the CSU calculation of “average time to degree” only includes students who graduated within six years. Since almost half of CSU students do not graduate within this time frame, the data provided likely underestimate the time to degree. The UC calculation of “average time to degree” similarly includes only students who graduate within seven years. However, almost 90% of UC students graduate within six years when accounting for those that finish at another institution.

While these data are imperfect, we should note that for all three systems, students who do not graduate or transfer within the measured time frame may leave school before obtaining a degree or transferring. Extending data collection indefinitely would therefore capture a limited number of additional graduates.

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APPENDIX II

Students Enrolled in 2-Year and 4-Year Institutions Annually by State, Fall 2015



APPENDIX III

	ADTs Offered	ADTs Still Required
Administration of Justice	94	1
Agriculture Animal Sciences	7	2
Agriculture Business & Food Industry Management	16	0
Agriculture Plant Sciences	15	2
Anthropology	87	1
Art History	72	6
Biology	64	20
Business Administration	111	1
Chemistry	20	43
Child and Adolescent Development	9	0
Communication Studies	105	0
Computer Sciences	35	27
Early Childhood Education	101	0
Economics	69	1
Elementary Teacher Education	59	9
English	105	0
Film, Television & Electronic Media	14	13
Geography	63	1
Geology	61	2
Global Studies	6	0
History	97	0
Journalism	53	1
Kinesiology	89	1
Mathematics	108	1
Music	69	15
Nutrition and Diabetes	32	3
Philosophy	68	0
Physics	76	2
Political Science	93	0
Psychology	107	0
Public Health Science	8	0
Social Justice Studies	8	0
Sociology	101	0
Spanish	75	1
Studio Arts	99	5
Theatre Arts	72	2
TOTAL	2,268	160

Note: Document produced shows the College of Sequoias missing two (2) ADTs; however, the specific ADTs are not appropriately highlighted. This explains the variance between our counts and that of the CCCCCO.

Associate Degree for Transfer (ADT) Progress Report, as of June 7, 2017, retrieved from http://extranet.cccco.edu/Portals/1/AA/Credit/TMC%20All%20Campus%20Updates/2017/Copy_of_AD_T_Proggress_report_as_of_6_7_2017.pdf

General Education Breadth Requirements for College and University

THE INFORMATION CONTAINED IN THIS SECTION OF THE CATALOG IS CORRECT TO THE BEST OF OUR KNOWLEDGE AT THE TIME OF PRINTING. IT IS STRONGLY RECOMMENDED THAT STUDENTS CONSULT WITH A COUNSELOR BEFORE MAKING FINAL ACADEMIC/VOCATIONAL DECISIONS. FOR TRANSFER INFORMATION REGARDING SPECIFIC SCHOOLS OR PROGRAMS, EITHER A FULLERTON COLLEGE COUNSELOR OR THE COLLEGE OR UNIVERSITY IN QUESTION CAN BE CONSULTED FOR MORE DETAILED INFORMATION.

General Education Certification

Fullerton College is authorized to offer two general education certification patterns. The CSU Certification is a 39 unit pattern which fulfills the lower division general education requirements for the Bachelor Degree at the California State University.

The IGETC (Intersegmental General Education Transfer Curriculum) is a 37-39 unit pattern which fulfills the lower division general education requirements for the Bachelor Degree at either the University of California or the California State University.

Certification means Fullerton College has determined these requirements have been met and a notation is made on the transcript. If the student transfers without certification, the university may require the student to complete additional lower division general education.

There are no catalog rights for certification. A course must be on the appropriate general education list at the time it is successfully completed.

Important Note: Selecting a general education plan is an issue that must be planned carefully. Certification is not always advantageous to all students. It is critical that all students planning to transfer to a university seek guidance from an academic counselor. Students not seeking guidance may complete inappropriate courses, thus complicating or delaying transfer to the university.

Students who complete either general education certification requirements need to request an evaluation to be included with the transcript when it is sent to the university. (Refer to Transcript of Record for additional information.)

California State University and University of California Campus Specific General Education/Breadth Requirements

There are several ways that a transfer student may fulfill the CSU and UC lower-division general education requirements prior to transfer. Depending on a student's major and field of interest, the student may find it better to take courses fulfilling those of the transfer campus or college to which the student plans to transfer. Students pursuing majors that require extensive lower-division preparation may not find the Intersegmental General Education Transfer Curriculum or the CSU General Education Certification option to be advantageous.

Students are urged to consult the CSU or UC campus catalog; consult with their FC academic counselor; and use the FC Counseling Resource Center or the Cadena/Transfer Center to obtain additional information regarding CSU and UC campus specific transfer general education course patterns and lists.

California State University Transfer Admission Requirements

Students who did not meet the CSU Admission eligibility index in high school may qualify for admission as a transfer student with a grade point average of 2.00 ("C") or better in all college transferable units attempted. They must also be in good standing at the last college or university attended, have 60 or more semester units, and meet the following:

1. 1987 or earlier high school graduates: complete the CSU general education requirements in communication in the English language (at least 9 semester units) and mathematics (usually 3 semester units), with a "C" or better in each course;
2. 1988 and later high school graduates: complete a minimum of 30 semester (45 quarter) units, with a "C" or better in each course, to be chosen from courses in English, arts and humanities, social science, science, and mathematics of at least equivalent level to courses that meet general education or transfer curriculum requirements. You must complete all CSU general education requirements in communication in the English language (at least 9 semester units) and mathematics (usually 3-4 semester units) as part of the 30 unit requirement.

**CALIFORNIA STATE UNIVERSITY GENERAL EDUCATION REQUIREMENTS
FULLERTON COLLEGE 2009 - 2010**

Legend: C = Completed; IP = In Progress; R = Remaining				C	IP	R
AREA A: ENGLISH LANGUAGE COMMUNICATION AND CRITICAL THINKING (9 units). One 3 unit course required from each section. Grades of "C" or better are required.						
1. <u>ORAL</u> : SPCH 100 F, 105 F, 124 F, 135 F*						
2. <u>WRITTEN</u> : ENGL 100 F or 100HF						
3. <u>CRITICAL THINKING</u> : ENGL 103 F or 103HF, 104 F, 201 F; PHIL 170 F, 172 F; READ 142 F; SPCH 135 F*						
AREA B: SCIENTIFIC INQUIRY AND QUANTITATIVE REASONING (9 units min). One course is required from each section. One matching lab must be included for Physical Science or Life Science if lecture and lab are taken separately. NOTE: Some colleges may require two lab courses if student is not fully certified.						
1. <u>PHYSICAL SCIENCE</u> : CHEM <u>100 E, 101 F, 103 F, 107 F, 111AF, 111BF</u> ESC 100 F, 101 F, <u>103 E</u> , 104 F, 105 F, 116 F, 120 F, 130 F or 130HF, 190 F GEOG 102 F PHSC <u>102 F, 103AF (beg Spr 07), 103BF (beg Spr 07)</u> PHYS <u>130 F, 205 F, 206 F, 210 F, 211 F, 221 F, 222 E, 223 F</u>						
2. <u>LIFE SCIENCE</u> : ANAT <u>231 F, 240 F</u> ANTH 101 F or 101HF BIOL 100 F, <u>101 F</u> or <u>101HF</u> , 102 F, 104 F, 108 F, 109 F, 141 F, <u>170 F, 222 F, 266 F, 268 F, 272 F, 274 F</u> ENVS 105 F, 126 F HORT <u>152 F, 205 F, 207 F</u> MICR <u>220 F, 262 F</u>						
3. <u>LABORATORY ACTIVITY</u> : ANTH 101LF; BIOL 102LF; ESC 100LF, 101LF, 116LF, 130LF; ENVS 105LF; GEOG 102LF <u>Underlined</u> courses from Area B.1 and B.2 also satisfy the Area B.3 Laboratory requirement.						
4. <u>MATHEMATICS/QUANTITATIVE REASONING</u> : (Grade of "C" or better required). MATH 100 F, 120 F or 120HF, 129 F, 130 F, 141 F, 142 F, 150AF, 150BF, 171 F, 172 F, 250AF, 250BF PSY 161 F SOSC 120 F, 121 F						
AREA C: ARTS AND HUMANITIES (9 units min.). At least one course is required from section 1 and section 2.						
1. ART 110 F, 112 F, 113 F, 114 F, 116 F, 117 F, 118 F, 119 F, 120 F, 121 F, 150AF, 150BF, 174AF, 179 F, 182 F, 184 F, 189AF, 196HF, 212 F, 213 F CRTV 120 F, 121 F, 126AF, 126BF, 131 F DANC 101 F, 120 F, 210 F ENGL 208 F MUS 101 F, 102 F, 106 F, 107AF, 110 F, 113 F, 114 F, 116 F, 117 F, 118 F, 119 F, 120 F, 135AF, 196HF PHOT 100 F, 101 F THEA 100 F, 104 F, 105 F, 127 F, 196HF						
2. ENGL 102 F or 102HF, 105 F, 203 F, 204 F, 205 F, 206 F, 207 F, , 211 F, 212 F, 214 F, 218 F, 221 F, 222 F, 224 F, 225 F, 234 F or 234HF, 239 F, 243 F or 243HF, 245 F, 246 F, 247 F, 248 F, 249 F, 250 F, 251 F, 252 F, 253 F ETHS 130 F* (<i>beg F 02</i>) Foreign Language 101 F or 101HF, 102 F or 102HF, 201 F, 203 F, 204 F, 205 F, 206 F, 207 F HIST 110HF*, 111HF*, 112 F* (<i>beg F 02</i>) or 112HF*, 113 F* (<i>beg F 02</i>) or 113HF*, 154 F*, 170HF*, 171HF*, 270 F* (<i>beg Spr 06</i>) PHIL 100 F or 100HF, 101 F, 105 F or 105HF, 135 F, 160 F, 195 F, 200 F, 201 F, 202 F, 210 F, 250 F, 270 F THEA 109 F						

* = Course can only be used in **one** area.

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	African American	7,490	173	400	1,015	1,754	2,244	2,566	2,773
	AANAPI	24,056	513	1,193	3,832	7,523	10,034	11,531	12,317
	Hispanic	43,329	869	1,485	3,501	7,300	10,352	12,662	14,056
	Multi-Ethnicity	29	0	0	3	6	9	12	13
	Unknown	15,185	234	619	1,925	3,767	5,159	6,034	6,494
	White, non-Hispanic	48,671	637	2,050	6,839	13,059	17,136	19,828	21,232
	TOTAL	138,760	2,426	5,747	17,115	33,409	44,934	52,633	56,885

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The Campaign for College Opportunity

Los Angeles Office

1149 S. Hill Street, Ste. 925
Los Angeles, CA 90015
Tel: (213) 744-9434
Fax: (800) 207-3560

Sacramento Office

1510 14th Street
Sacramento, CA 95814
Tel: (916) 443-1681
Fax: (916) 443-1682

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