Regional Variation in Community College Student Outcomes in California

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Executive Summary

The California Community College (CCC) system serves a large student body, diverse in backgrounds, experiences, and educational goals. In our accompanying report we use data from the CCC system's records to measure variation in achievement across the state's Strong Workforce Regions. We consider a range of achievement measures, including initial enrollments, progression through community college (CC); successful completion of community college with a certificate, degree, or transfer to a four-year public institution in the state; and time between initial enrollment and successful completion. We link this data with high school records from the California Department of Education (CDE) to explore the extent to which regional variations in CCC outcomes can be attributed to variations in students' characteristics and college readiness prior to CCC enrollment. We also explore a range of contextual factors, including population and student demographics, to further contextualize the variation in student outcomes across regions.

Though California's 116 community colleges are connected to one another as part of a larger system, each individual college and campus faces unique dynamics based on the geographic regions they are serving and the needs of their students. are subject to their local contexts and the residents of the regions they serve. In the accompanying report, we discuss characteristics of the populations in each region, as well as the students enrolled in the regions' colleges, to help illuminate the diverse circumstances faced by colleges in the state. The report uses Census data to describe the overall populations and student populations in each region, followed by a deep dive into student characteristics and college readiness among the sample of California high school graduates who subsequently enroll in a California Community College.

KEY FINDINGS

- Some CCCs mostly serve students enrolling directly out of high school, while others serve a larger share of nontraditional or older students. It follows that regions vary in the educational goals of their students. For example, larger shares of students in the Central Valley, Greater Sacramento, and South Central regions seek to earn a degree or transfer to a four year college, while Northern Inland, North Bay and Mid-Peninsula CCs serve larger shares of students who aim to complete credits for a high school diploma or GED or improve basic skills. In Santa Cruz and Monterey, students are more likely to be focused on career advancement than students in other regions.
- Across most measures of academic progress and achievement, the South Central micro region (on the Central Coast) has strong performance relative to other regions, with one of the highest rates of transfer and/or degree attainment and persistence into the second year, with and without adjustments for pre-college preparation.
- While the Silicon Valley micro region rates lowest across most outcome measures, the results suggest that a large share of students in this micro region are enrolling in CC to fulfill goals other than degree attainment or transfer and their success may not be well captured by the specified outcome measures.
- Within the Bay Area, the Santa Cruz & Monterey micro region outperforms the rest of the micro regions across almost every measure of progress and achievement.
- CCCs in rural micro regions – Mother Lode, Northern Inland, and Northern Coastal – show similar outcomes to other micro regions despite being geographically distant from high schools in the region and CSUs and UCs.
- Most of the patterns in outcomes are consistent between the unadjusted and adjusted results, suggesting that controlling for prior student preparation does not substantially change how outcomes vary across regions. One important exception is the Inland Empire. Without adjustments, the Inland Empire micro region rates quite low across all measures, particularly in transfer or degree attainment and earning 60 plus credits in the first two years. After adjusting for student characteristics and pre-college preparation, the outcomes for the micro region look more aligned with other regions.

1. Introduction

The California Community College system is the largest system of higher education in the nation. It comprises 116 colleges and serves over 2 million students every year. These colleges are overseen by the California Community College (CCC) Chancellor's Office. Currently the Chancellor's Office is guided by the Vision 2030, a strategic plan that outlines three strategic directions for the CCC system: equitable baccalaureate attainment, equitable workforce and economic development, and generative AI and the future of learning. This plan builds on the previous strategic plan, the Vision for Success, which laid out an ambitious agenda for system-wide improvement. The Vision for Success set forth six broad goals, which include increasing the number of degrees, credentials, and certificates awarded; increasing the number of students transferring to a UC or a CSU; decreasing the number of excess credits amassed by students who earn associate's degrees; increasing the share of Career and Technical Education (CTE) students who report employment in their field of study; reducing equity gaps along these measures; and reducing regional gaps across the measures listed above. The Vision 2030 plan reinforces these goals to improve completion, transfer and employment, and equity for CCC students.

In 2017, the Chancellor's Office partnered with the California Policy Lab to identify and document the variation in outcomes among the systems' Strong Workforce Regions and address the sixth goal laid out in the Vision for Success. This goal, fully stated, is:

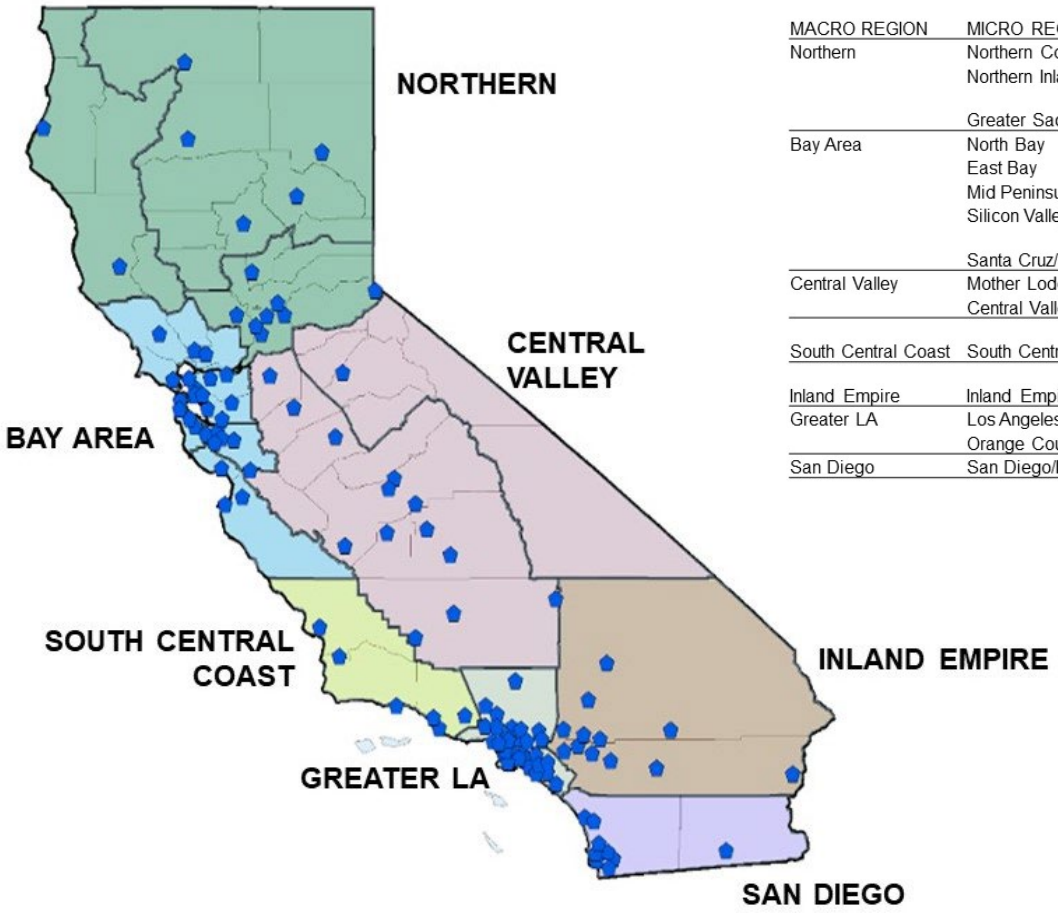
> Reduce regional achievement gaps across all of the above measures through faster improvements among colleges located in regions with the lowest educational attainment of adults, with the ultimate goal of fully closing regional achievement gaps within 10 years. (CCC Chancellor's Office, 2017)

The Strong Workforce program was approved by the Governor and the California Legislature in 2016 to address regional workforce training demands in California (Coghlan, 2016). The program created seven macro regions in the state, subdivided into 15 micro regions. These regions vary widely in terms of size, population density, and other characteristics. Figure A1 shows the macro regions (by color) and micro regions (black boundaries) as well as county boundary lines

(light gray lines). The map also contains the locations of the community colleges in the system.

As Figure A1 demonstrates, there are clusters of colleges around the state's major population centers. The Bay Area and the Greater Los Angeles regions are each home to 28 of the state's community colleges, and together they account for almost half of the system's colleges. Other regions are more sparsely populated, with some micro regions having just a handful, or even (in the Mother Lode Micro Region) only one college within their borders. A new entirely online community college, called Calbright, began offering coursework in the 2019-2020 academic year.

FIGURE A1: Strong Workforce Regions and Community Colleges



MACRO REGION	MICRO REGION	COLLEGES
Northern	Northern Coastal	2
	Northern Inland	5
	Greater Sacramento	8
Bay Area	North Bay	4
	East Bay	10
	Mid Peninsula	4
	Silicon Valley	7
	Santa Cruz/Monterey	3
Central Valley	Mother Lode	1
	Central Valley	13
South Central Coast	South Central	8
Inland Empire	Inland Empire/Desert	12
Greater LA	Los Angeles	19
	Orange County	9
San Diego	San Diego/Imperial	9

In this report, we use data from the CCC system's records to measure variation in achievement across the state's Strong Workforce Regions. We consider a range of achievement measures, including initial enrollments, progression through community college; successful completion of community college with a certificate, degree, or transfer to a four-year public institution in the state; and time between initial enrollment and successful completion. We link this data with high school records from the California Department of Education (CDE) to explore the extent to which variations in students' characteristics and college readiness prior to CCC enrollment may play a role in regional variations in CCC outcomes. We also explore a range of contextual factors, including population and student demographics, to further contextualize the variation in student outcomes across regions.

Throughout this report, we present findings on two groups of students: (1) the **new college entrants sample** comprises all students who first enrolled in a CCC in the 2017-18 school year, and (2) the **new high school graduates sample** comprises students graduating from high school in 2016-17 who subsequently enrolled in CCC by Fall 2020. The first cohort gives us a view of all CCC students in a school year, regardless of when they graduated high school. Community colleges serve students at different stages in their education and careers, with some students coming directly from high school, earning an AA degree, and moving on to a four-year school, and other students coming to community college to learn specific skills that advance their careers. The new college entrants sample encompasses these different types of students. The second sample is a subset of CCC students for whom we can view high school achievement in the CDE data. This sample allows us to explore variation in CCC outcomes while taking into consideration different levels of college preparedness, albeit for a group of CCC students who enroll shortly after high school graduation.

The report is organized as follows. In section 2, we discuss the data we use from CCCCO and the process we use to match records with data from the CDE. Section 3 describes the demographics of each region's community college student population, as well as student characteristics and college readiness by region. Section 4 presents data on student enrollment, progression, and success in community college. Section 5 is the conclusion. Throughout the report, we focus

on variation across California's fifteen micro regions; corresponding tables and figures for all macro regions can be found in the Appendix.

2. Methods and Sample

The CCC data include information on student demographics, college and course enrollment details, certificate or degree attainment, financial aid awards, and other characteristics such as CalWORKs participation, foster youth or parent status, or disability. Our sample includes all students regardless of whether they were enrolled in credit or noncredit courses, so long as they were enrolled in a term within the academic year being analyzed.

The CCCs serve a wide range of students at different points in their lives and careers. We expect variation in student goals and outcomes if regions are serving different mixes of students. Assessing regional variation in CCC outcomes using CCC data alone may not account for differences in baseline characteristics and academic preparation among students attending CCCs in different regions. To capture these potential sources of variation in outcomes, we incorporate CDE data on high school students.

Linking Community College Data with High School Records

The CDE data capture high school performance measures for students who graduated from California high schools in the 2016-17 school year. The data include student identifiers for linking (names, birthdates), student demographic characteristics, and a code for the high school attended. For these high school students, we observe their course taking information, including the number of course credits students attempted and earned, course grades, and whether the course is UC/CSU-approved and/or satisfies A-G requirements. The course grade information is used to calculate students' high school grade point average. College and career readiness indicators include achievement level on state standardized tests, performance in AP/IB tests, whether the student earned any college credits during high school, CTE pathway completion, military credits, A-G completion flag, and the if the student earned the State Seal of Biliteracy.

The CDE data on public high school students is linked to data from the CCC system to identify high school students who enrolled in a CCC at any time between 2011-12 through fall 2020. CDE records

were matched to the CCC records using high school, birth date, and first and last name, and 86% of CCC students with a California high school identifier linked to the CDE data (e.g. attended a public CA high school).

In the 2016-17 cohort year, 49% of records (243,041 records) were exact matches to the CCC data on all four fields. There are 331,068 students who did not exactly match the CCC data based on high school, birth date, first and last name, but did match on high school and birth date. Once we account for misspellings or incorrect data entry we match almost 5,000 additional records. The final linked dataset includes 248,019 students who graduated from high school in 2016-17 and enrolled in a California CC by Fall 2020. In other words, of the total number of high school students present in the CDE data in 2016-17, we match 50% to a CCC enrollment in the 3 years following graduation. This rate is in line with previous studies that have found that 37% of California high school students attend CCs immediately after graduation (Kurlaender et al., 2018), but a higher rate will eventually attend a CCC at some point following their high school graduation.

Student Samples Presented in this Report

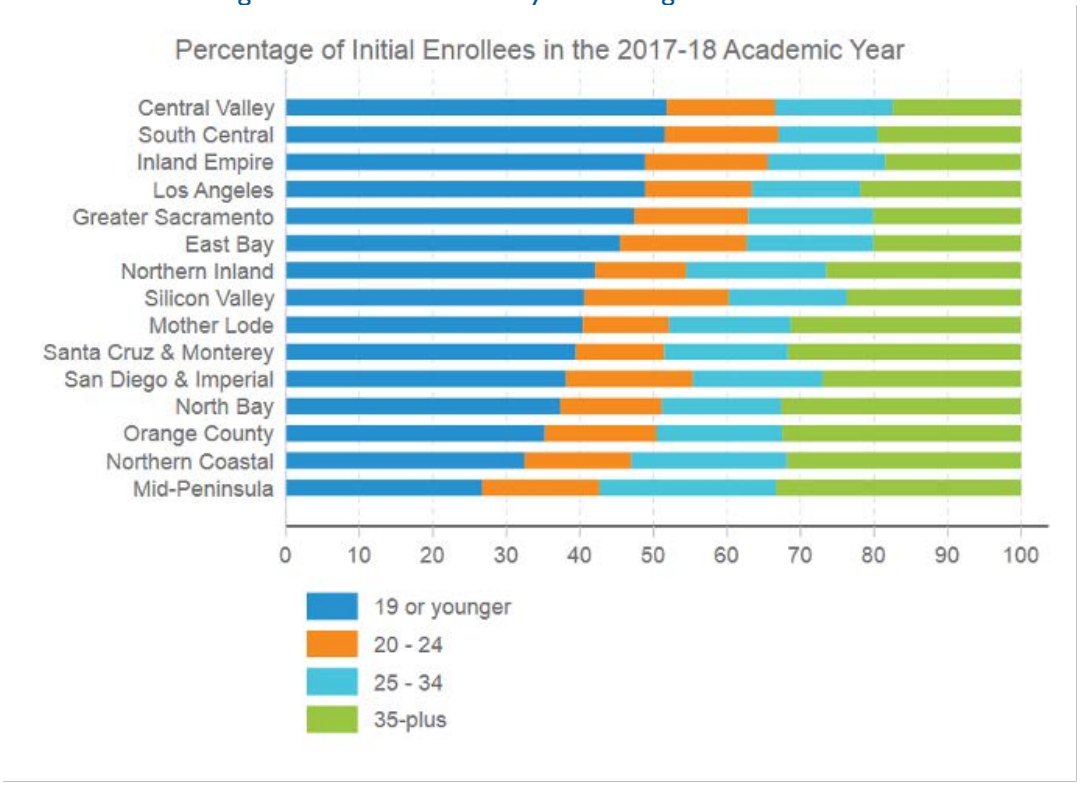
Using both the CCC data alone, and the CCC data linked to the CDE data, our analysis focuses on two groups of students: (1) the **new college entrants sample** comprises students first enrolling in the 2017-18 school year, and (2) the **new high school graduate sample** comprises students graduating from high school in 2016-17 who subsequently enrolled in CCC by fall 2020 (Table A1).

TABLE A1: Analytic samples

SAMPLE	DESCRIPTION
New college entrants New	All CCC students first enrolling in the 2017-18 school year
high school graduates	All students graduating from high school in 2016-17 who enroll in a CCC by Fall
	2020

These samples are structurally different - the first includes all students enrolled in a CCC, and the second selects only those students who enter CCC in the first 3 years after high school graduation. To get a sense of how these cohorts differ, we first consider student age. Figure A2 displays the age of students who first enrolled at community colleges in 2017-18 (new college entrants). Ages are divided into categories: 19 years or younger, 20-24 years old, 25-34 years old, and over 35. Student age at initial CCC enrollment varies across CCC micro regions, with over 50% of CCC students in the Central Valley and South Central regions enrolling at age 19 or younger, but less than 30% of Mid-Peninsula CCC students initially enrolling at that age. While discussion of college students often focuses on young adults, this figure draws attention to the role community colleges play for nontraditional and older students. About one in three students in the Santa Cruz & Monterey, North Bay, Orange County, Northern Coastal, and Mid-Peninsula regions are over the age of 35, but this share is roughly 20% or less elsewhere. This suggests that a large share of CCC students in these regions may have different goals for attending college than students who attend directly following high school.

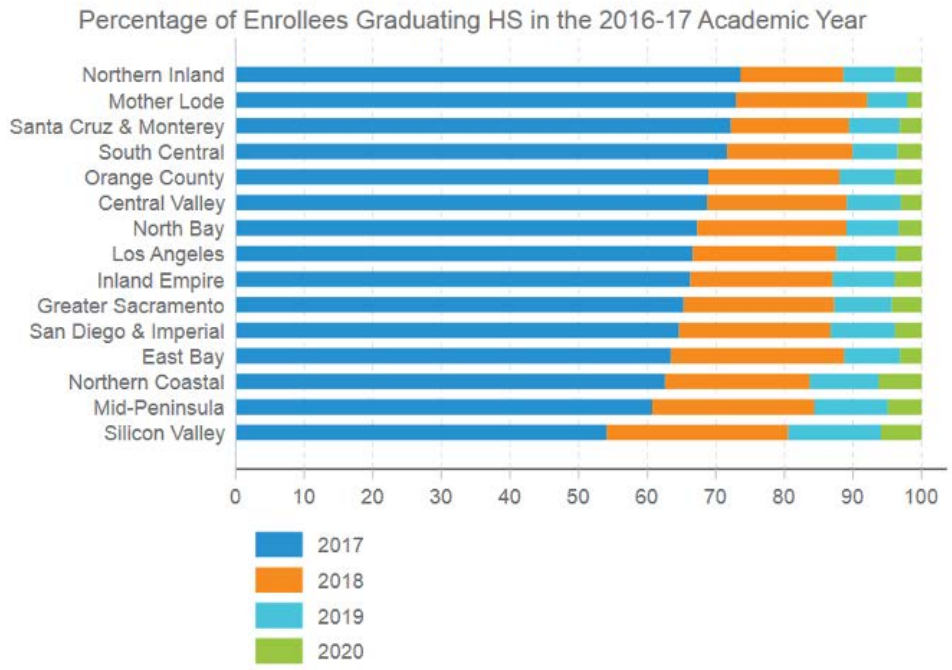
FIGURE A2: Student Age at Initial Enrollment by Micro Region



Notes. Sample: New college entrants. Graph reflects the number of students of a given age enrolling for the first time in community college in the 2017-18 academic year (excluding enrollment as a special admit, i.e., enrollment in community college classes while in high school). Students are not de-duplicated across campuses so a student dual-enrolled in multiple college campuses will be counted twice. Determination of initial term is based on data from 2011 onward, since some student identifiers were re-used from earlier years, even within the same college. Student age at entry is calculated using the student's date of birth and the census date for the student's initial term. The regions are ordered according to the share of initial enrollees who are 19 years old or younger.

Not surprisingly, students in the new high school graduate sample tend to enroll at much younger ages. Figure A3 shows the year of initial enrollment for these students, and about two-thirds enrolled in Fall 2017, and about 85% enrolled by Fall 2018. There is also variation in the year of CCC enrollment across regions, with over 70% of Northern Inland, Mother Lode, Santa Cruz & Monterey, and South Central CC students enrolling in 2017, immediately following graduation as compared to 60% or less of Mid-Peninsula and Silicon Valley CC students enrolling in the same year (Figure A3). Students in the Silicon Valley, Mid-Peninsula, and Northern Coastal regions were more likely to delay enrollment by two or three years following graduation. Our ability to observe student outcomes that take a while to occur (like degree completion and transfers) is limited for students who begin their CCC education in the later years, due to the years for which we have CCC data.

FIGURE A3: Year of Initial CCC Enrollment Among Matched Sample by Micro Region



Notes. Sample: New high school graduates. Graph shows, among 2016-17 high school graduates who go on to enroll in community college up through fall 2020, the calendar year of enrollment. Initial enrollment excludes enrollment as a special admit, i.e., enrollment in community college classes while in high school. Regions are ordered according to the share of students enrolling in 2017, the year of their high school graduation.

The composition of the two samples allows insights about different groups of students. The first captures the full CCC student population, who come to the CCs at various points along their educational pathway and for diverse purposes. The second sample captures more "traditional" college students - the subset of all CCC students for whom we have more information about academic preparedness that we can use to adjust outcome differences across CCC regions. In the analyses of CCC outcomes that follows, results based on the new college entrants sample provide an estimate of differences between regions for the full CCC student population, while results based on the new high school graduate sample include statistical adjustments for high school preparedness for a narrower subset of students. Comparing the results provides insight into how much variation between regions is due to pre-existing differences between students prior to college.

3. Region and College Contexts

Though California's 116 community colleges are connected to one another as part of a larger system, each individual colleges and campus faces unique dynamics based on the geographic regions they serve and the needs of their students. In this section, we discuss characteristics of the populations in each region, as well as the students enrolled in the regions' colleges, to help illuminate the diverse circumstances faced by colleges in the state. We begin by using Census data to describe the overall populations and student populations in each region, followed by a deep dive into student characteristics and college readiness among the sample of California high school graduates who subsequently enroll in a CCC (new high school graduate sample).

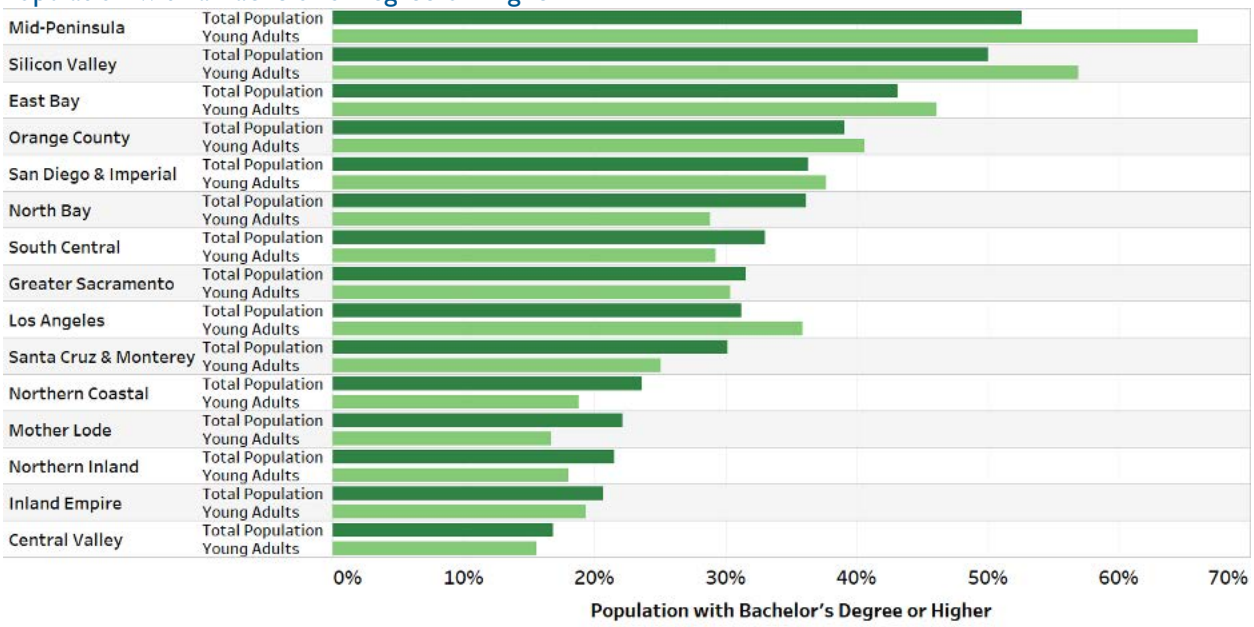
Educational Attainment

Goal 6 of the *Vision for Success* calls for reducing regional achievement gaps by first improving outcomes in regions "with the lowest educational attainment of adults." Figure B1 shows the percentage of the population that has at least a bachelor's degree and the percentage of the population without a high school diploma in each micro region. The Appendix includes breakdowns of educational attainment (and all other measures presented in this report) across macro regions.

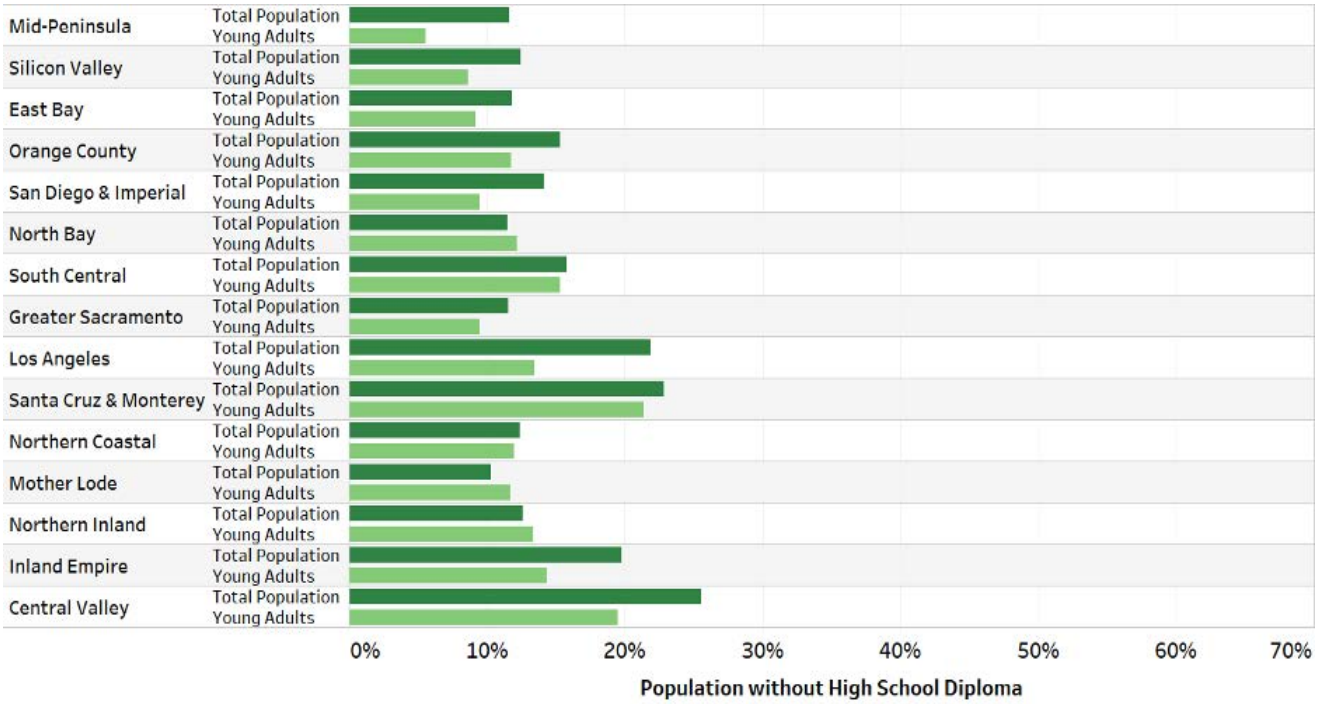
The Bay Area's residents are the state's most highly educated, with over 50% of Mid-Peninsula and Silicon Valley residents holding a bachelor's degree or higher. Shares are a bit lower but still high in other Bay Area micro regions (East Bay, North Bay). Conversely, the Inland Empire and the Central Valley regions contain the lowest shares of degree-holders among their residents. Among the state's regions, the Central Valley is unique for having more residents that have not completed high school than residents with bachelor's degrees.

FIGURE B1: Educational Attainment of Population by Micro Region

A. Population with a Bachelor's Degree or Higher



B. Population with a High School Diploma



Notes. Educational attainment for the general population and for the young adult (age 25-34) population is derived from the US Census Bureau's American Community Survey five-year estimates for 2012-2017. The regions are ordered according to the share of the total population that has a bachelor's degree or higher.

Older adults generally completed their education many years ago. The attainment of young adults is a better indication of recent outcomes. The light bars in Figure B1 display the educational attainment of young adults (aged 25 to 34) in each micro region. Young adults' attainment generally tracks the educational attainment of the regions' total populations, though there are a few exceptions: In Los Angeles and the Bay Area, for example, young adults are notably more highly educated than the adult population. Nevertheless, the five micro regions with the highest percentages of bachelor's degree-holders in the adult population are also the five with the highest percentages of degree-holders among young adults.

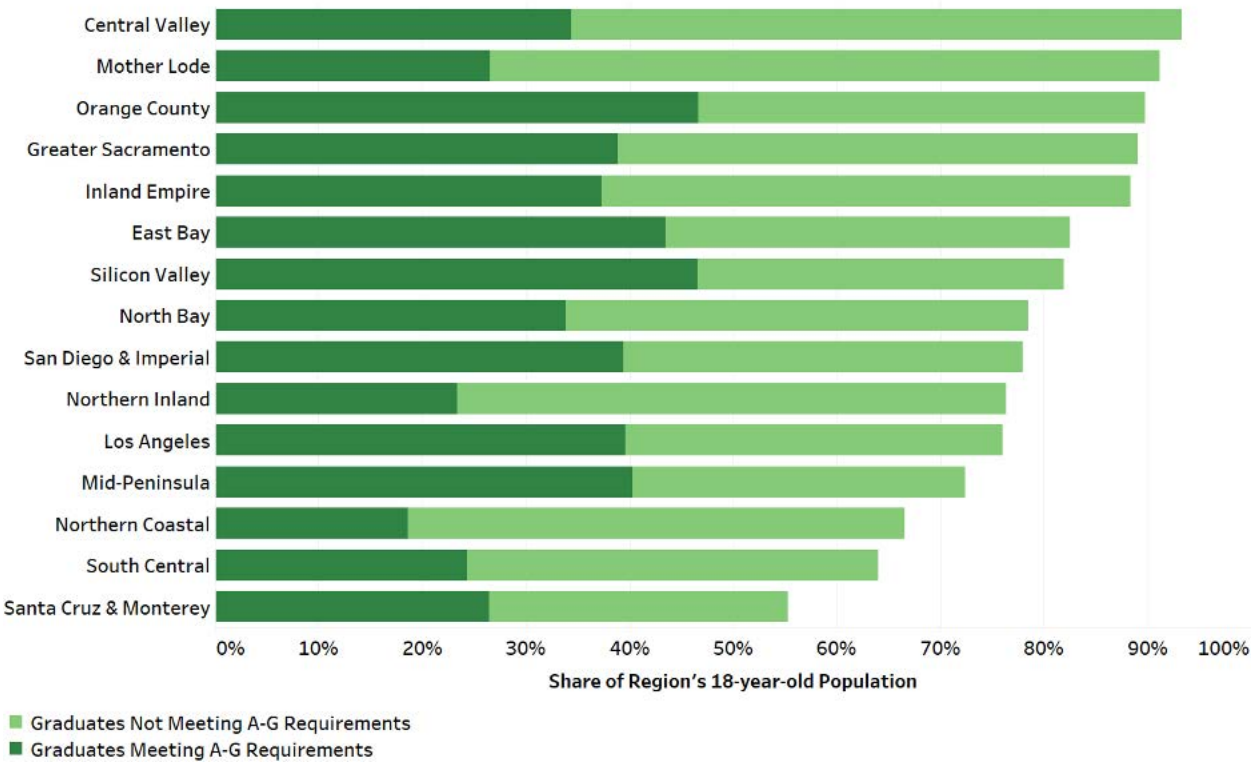
By these metrics, the Central Valley and Inland Empire micro regions, and portions of Northern California, are targets for prioritization for Goal 6 – in particular, the Northern Coastal, Northern Inland, and Mother Lode micro regions. In the pages that follow we discuss demographics and college outcomes of all 15 of the state's micro regions. Where appropriate, we highlight the performance of these three micro regions.

High School Graduates

Performance in college is heavily influenced by prior academic performance. Figure B2 displays the number of students earning a high school diploma in the 2016-17 school year, as a share of the regional population of 18-year-olds. Each bar also shows the proportion of high school graduates who have fulfilled the University of California's A-G requirements, a proxy for college readiness.

Though the Central Valley leads the state in overall high school graduation with over 90% of the 18 year-old population in the region earning a high school diploma, it does not stand out to nearly the same degree in the share of students meeting A-G requirements (with less than 40% meeting the requirements). In Orange County and Silicon Valley, nearly half of the regions' 18 year-old population completes these requirements.

FIGURE B2: High School Graduates by Micro Region, 2016-17



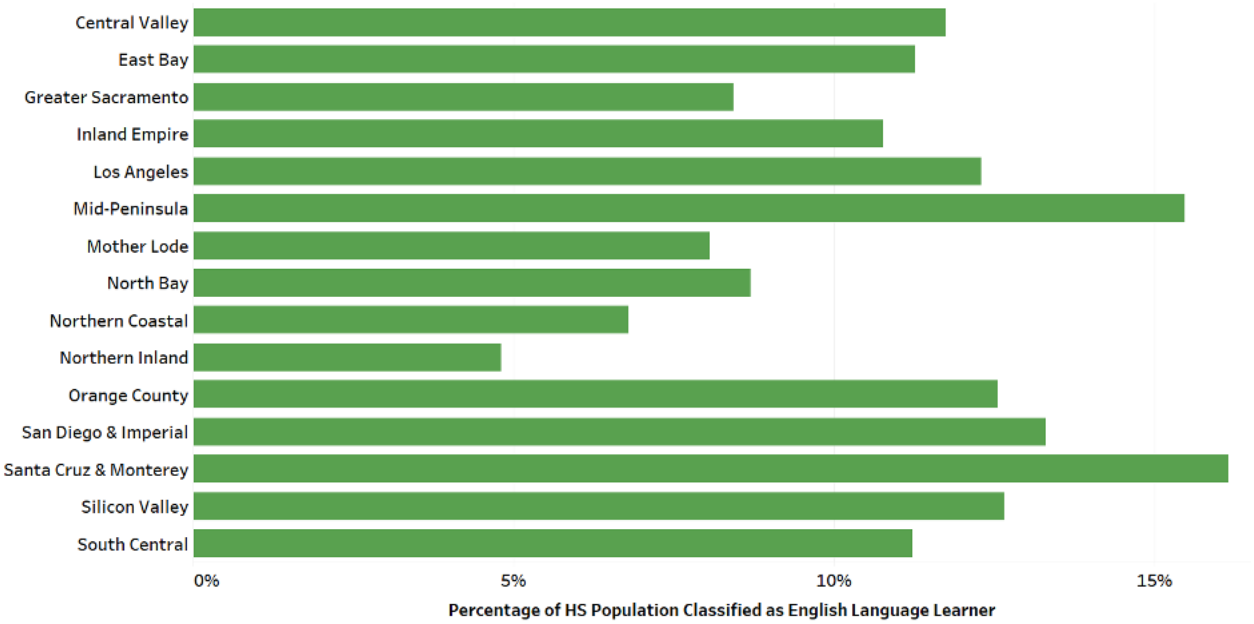
Notes. Information on the total number of high school graduates, i.e., the number of students earning a high school diploma, and on those meeting California's A-G requirements in 2016-17 was obtained from statistics published by the CA Department of Education. High schools are assigned to micro and macro regions based on geographic location. Totals are normed by the number of 18 year-olds within the region, taken from the US Census Data. The regions are ordered by the sum of the regular and A-G graduate shares.

English Learners in Regional High Schools

Another factor that relates to the academic preparedness of a college's incoming student body, as well as the type of programming a college might provide, is the share of students who are learning English. Figure B3 displays the share of high school students in each region who are classified as English Learners.

We see higher rates of English-Learner classification in the southern portion of the state, though the Bay Area and its component regions also have higher shares. Specifically, the Santa Cruz & Monterey and Mid-Peninsula micro regions contain high shares of English learners (around 15% of high school-aged students in the region).

FIGURE B3: English Language Learners in Regional High Schools by Micro Region, 2016-17



Notes. Information on the number of English Language Learners enrolled in high school in 2016-17 was obtained from the CA Department of Education's website. Schools are assigned to micro and macro regions based on geographic location. The regions are ordered alphabetically.

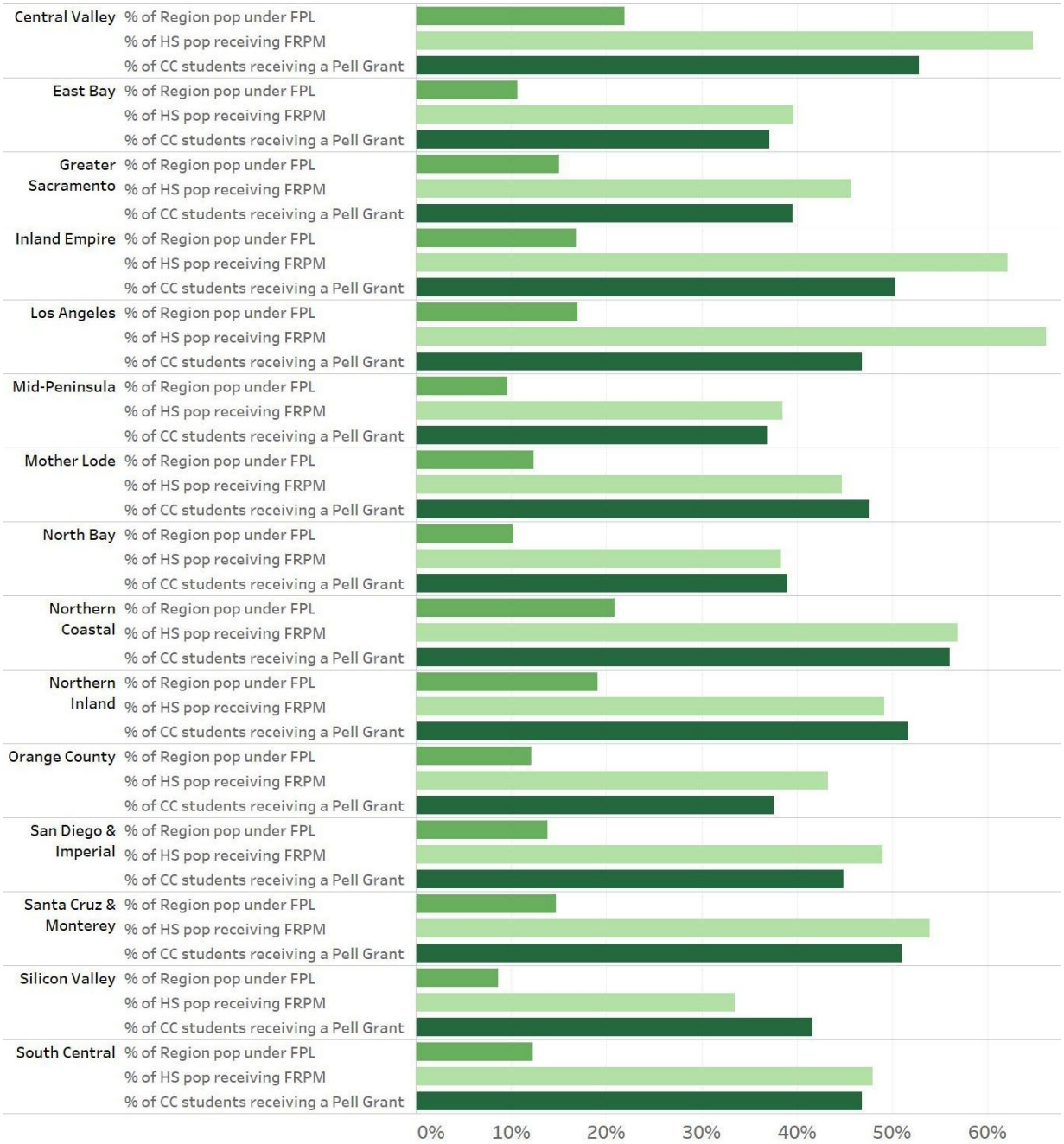
Socioeconomic Status

The relationship between poverty and educational achievement is well-documented, as students from less affluent backgrounds tend to complete less schooling and to be less well prepared for college. On a regional level, raising persistence and completion rates at CCCs in high-poverty regions will be particularly challenging.

Figure B4 displays a range of measures related to socioeconomic status. We display the share of the region's population that falls below the federal poverty threshold, the share of the region's high school population that qualifies for Free or Reduced-Price Meals (FRPM), and the share of the region's community college students receiving Pell Grants.

The three panels of Figure B4 highlight the challenges faced by residents of the Central Valley micro region, where the poverty rate is substantially higher than the rate in the next nearest region. Other regions with notably above average poverty rates are the Northern Coastal and Northern Inland micro regions.

FIGURE B4: Measures of Poverty by Micro Region



Notes. Data on poverty rates were taken from the U.S. Census Bureau's American Community Survey 5-year estimates from 2012-17 (the period aligning with our sample). Data on the number of students qualifying for free or reduced-price meals was obtained from the CA Department of Education's website. Schools are assigned to the micro and macro regions based on geographic location. The Pell Grant measure is the number of students who enrolled during the 2015-16 academic year and received a Pell Grant, as a share of the total number of students entering as non-special-admit/high school students.

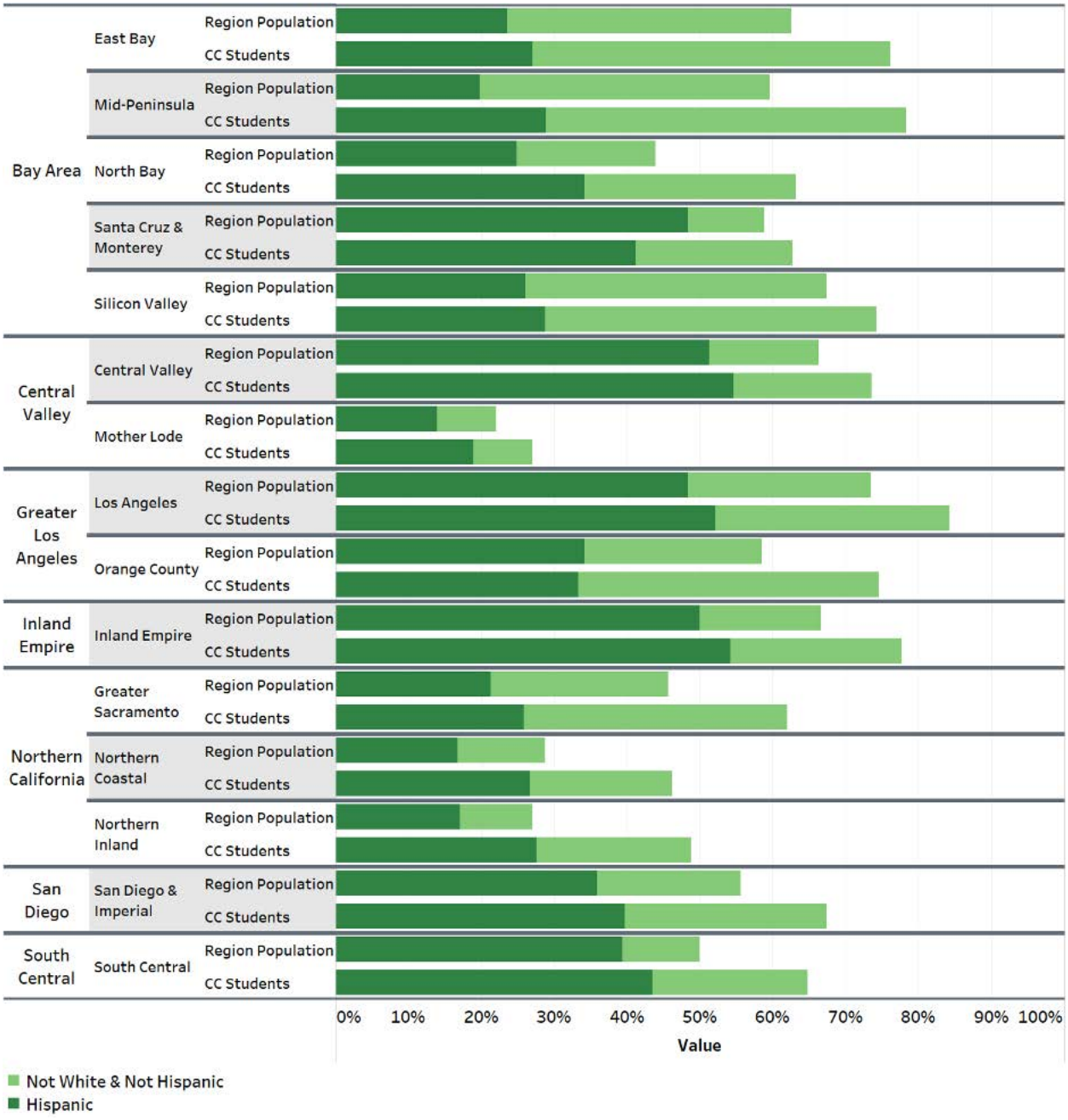
The other two measures generally show similar patterns. Proportions of the high school population qualifying for free or reduced-price meals largely mirror poverty rates, though Los Angeles and the Inland Empire have disproportionately large shares of FRPM students given their poverty rates. There is more variation in Pell Grant receipt, perhaps driven by differences in the share of students enrolling in community colleges. The South Central micro region has a much higher share of students receiving Pell Grants than one might expect given the percentage of the region's population falling below the poverty line. The reverse appears to be true of the Mid-Peninsula micro region, where the Pell receipt rate is relatively low despite middle-of-the-pack poverty. Note that variation in Pell receipt rates may in part reflect differences in who enrolls in college in the first place.

Race/Ethnicity of Regional and Community College Population

The state's regions vary substantially in the racial and ethnic identities of their residents. Figure B5 shows the shares of each region's population that are Hispanic and non-White, as well as the corresponding shares of the community college student bodies. Northern California micro regions tend to have lower shares of Hispanic and non-White residents than micro regions in Greater Los Angeles, Inland Empire, and the Bay Area. Though not distinguishable in the graphs below, the Bay Area has the largest share of Asian residents, specifically in the Mid-Peninsula and Silicon Valley micro regions. See Appendix Table I-B2 for additional groups.

Overall, the racial and ethnic breakdown of the community colleges largely mirrors the breakdowns of the broader populations in the regions, but the share of community college students who identify as non-White is larger than the share of the broader regional population in every region.

FIGURE B5: Racial and Ethnic Demographics of Regional Population by Micro Region



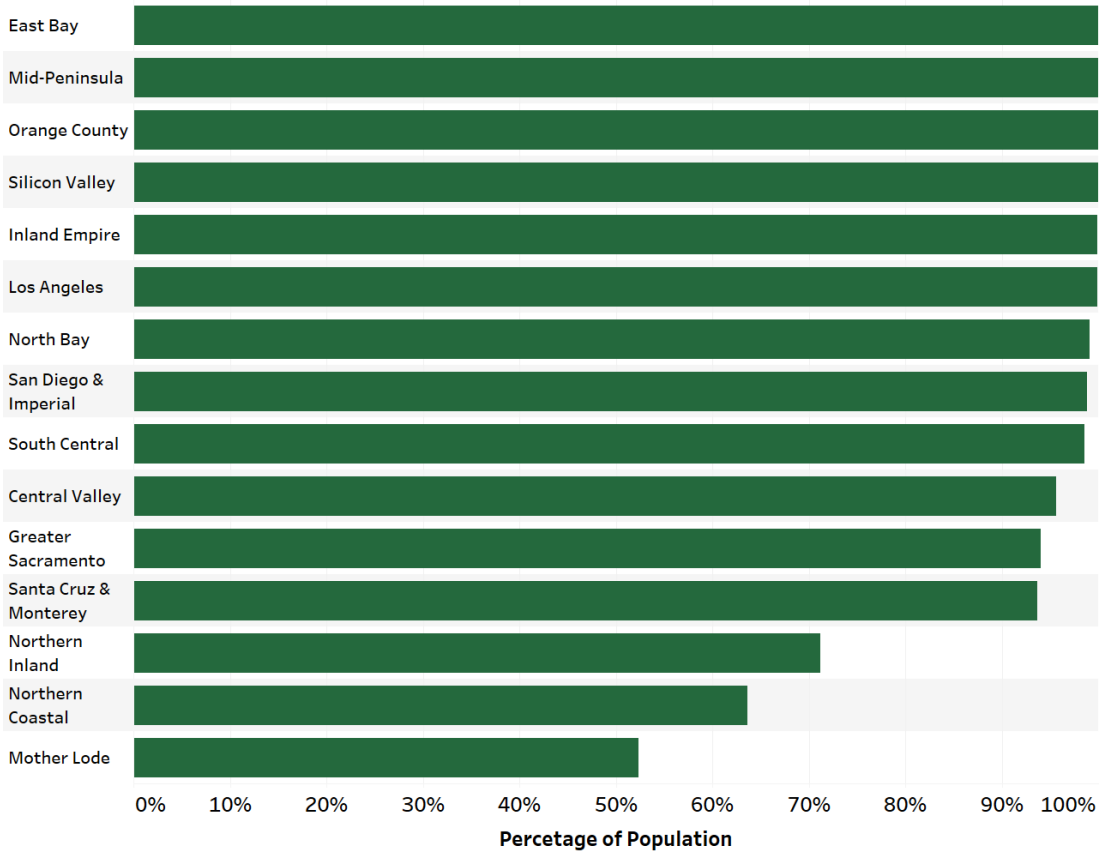
Notes. Race and ethnicity data on overall regional populations are derived from the US Census American Community Survey 5-year estimates from 2012-17 (the period aligning with our sample). Individuals identified as "Two or More" races were included with people identified as "Other." Race and ethnicity data on community college students is self-identified and reported by the CA Community Colleges Chancellor's Office and reflects enrollees during the 2015-16 academic year. Regions are ordered alphabetically.

Proximity to Community College

An important component of college enrollment is access. Figure A1, on page 1, illustrates the clustering of the state's community colleges around the Bay Area, Los Angeles, and San Diego. Students outside those regions may have to travel farther to reach the nearest community college. Digital technologies may offer an alternative, particularly following the COVID-19 pandemic and the opening of the state's new online community college in Fall 2019, but only for students with sufficient technological access.

As might be expected, a greater share of high school students in the micro regions within the state's metropolitan areas have community colleges nearby. Indeed, no high schools in Orange County are more than 10 miles from their nearest community college. In contrast, the rural Mother Lode, Northern Coastal, and Northern Inland regions stand out as having large shares of high schools that are more than 25 miles from the nearest community college.

FIGURE B6: Availability of Community College by Micro Region

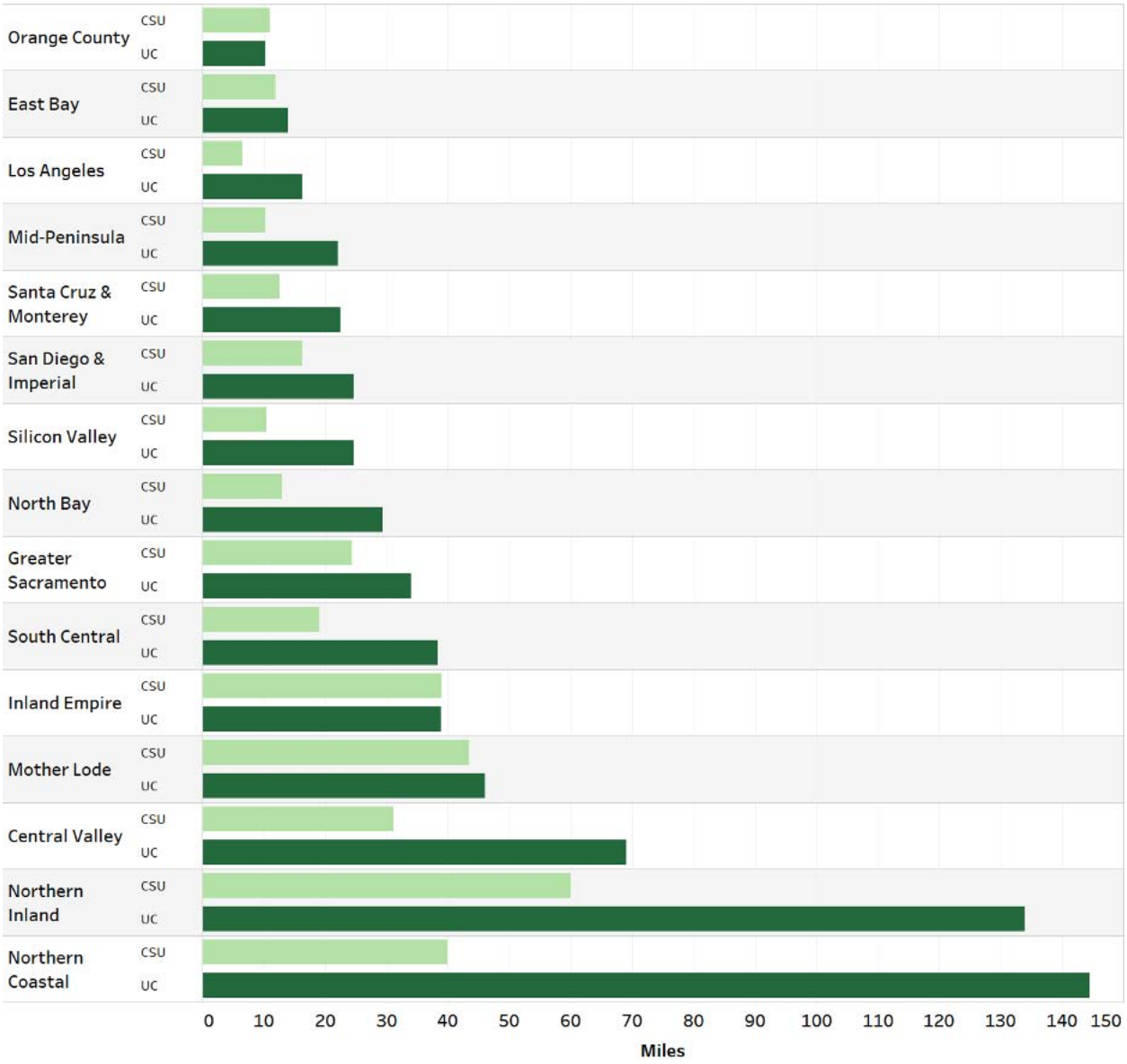


Notes. Distances were calculated point-to-point, using latitude and longitude for California high schools and community colleges. The regions are ordered based on the share of high schools whose nearest community college is within 25 miles.

Access to Four-Year Institutions

Just as geographic access to community college is an important consideration when discussing community college enrollments, geographic access to public four-year institutions is also an important contextual factor. In regions with few four-year institutions, transfer may be more difficult. In addition, more students who otherwise might matriculate directly at four-year institutions may elect to begin at community colleges instead. For students in the most remote locations of the state, enrollment in community college online may be the best option.

FIGURE B7: Availability of Public Four-Year Institutions by Micro Region



Notes. Distances were calculated point-to-point, using latitude and longitude for community college campuses, UC campuses and CSU campuses. The regions are ordered based on the average distance from community college to the nearest UC.

Figure B7 shows the average distance from community colleges in each region to their nearest CSU campus and their nearest UC campus. Below, we show that colleges in the Central Valley exhibit transfer rates to the UC system that are somewhat lower than those seen in other regions, but somewhat higher transfer rates to CSU campuses. Figure B7 sheds light on this, showing that Central Valley students are, on average, quite far from their nearest UC campus,

despite the opening of UC Merced, but much closer to their nearest CSU campus. This contrast is even starker in the Northern Inland and Northern Coastal regions, where the average distance from community colleges to their nearest UC – UC Davis – is over 100 miles, while the average distance from their community college to the nearest CSU is 40 – 60 miles depending on the region.

College Readiness Among High School Graduates Who Enroll in CCC

In this section, we report measures of college readiness among the subsample of students whom we observe in high school (the new high school graduate sample). Again, this is a subset of all CCC students, and representative only of the population of students who go directly from high school to college. The college readiness measures align with California's college readiness indicator system,[1] and are based on indicators (or combinations of indicators) in the CDE data except for cumulative senior GPA, which we construct (see Appendix I).[2]

We observe variation across the micro regions in several key indicators of college readiness (Table B1). First, less than half of the sample overall has completed the A-G course requirements by the end of high school (46.5%), but in some micro regions, completion rates are higher: Silicon Valley (56.2%), San Diego & Imperial (53.3%), and Mid-Peninsula (51.9%). In micro regions such as Mother Lode (25.8%) and Northern Inland (31.4%), smaller shares of the sample completed these requirements prior to enrolling in CCC. Another indicator of college readiness is the share of students who have opted to complete a Career Technical Education pathway in lieu of a more traditional academic pathway. In select micro regions (Central Valley, Mother Lode, and Northern Inland) over one-quarter of the new high school graduate sample completed a CTE pathway, compared to Mid-

[1] For more information, please visit the California Accountability Model & School Dashboard web page at https://www.cde.ca.gov/ta/ac/cm/index.asp.

[2] To construct GPA, we average grade points across all A-G courses a student takes. Based on UC/CSU guidelines for high school GPAs, plusses and minuses do not affect grade points, and no points are added for honors classes or APs. Because our course data starts in 2013-14, for most students graduating high school in 2016-17, their cumulative GPA should include all four years of high school.

Peninsula and Silicon Valley, where less than 13% of the sample completed the CTE pathway.

Standardized test scores are a common measure of college readiness, and again, we observe variation across micro regions in the share of the sample meeting grade-level standards in English Language Arts (ELA) and mathematics. In the East Bay, Mid-Peninsula, Orange County, and San Diego & Imperial micro regions, around one-third of the sample earned a Level 3 or higher on at least one of the exams. In Silicon Valley, over 44% earned a Level 3 or higher. Conversely, less than one-quarter of the sample in Central Valley, Inland Empire, Mother Lode, Northern Coastal, Northern Inland, and Santa Cruz & Monterey entered CCC having earned a Level 3 or higher on one of the exams.

Finally, CCs in different micro regions serve populations with different needs. Therefore, it's not surprising that there is variation in the share of the sample earning the State Seal of Biliteracy (SSB) which recognizes graduates who have attained a high level of proficiency in speaking, reading, and writing one or more languages in addition to English and in meeting standards on the ELA exam. Micro regions with the largest share of the sample earning the SSB and earning a 3 or higher on the ELA exam are Orange County (15.1%), Silicon Valley (13.2%), and Mid-Peninsula (12.0%), while smaller shares earn the SSB and 3 or higher on the ELA exam in Mother Lode (1.4%), Northern Inland (2.8%), and Central Valley (5.3%).

We observe less variation in mean cumulative GPA in the senior year, and the measures of military science credentials, International baccalaureate exam passage, or college coursework completion, as these are very rare among the sample (less than 1% of students complete these measures).

TABLE B1: Measures of College Readiness Among Matched Sample of Enrolled Students by Micro Region

	% COMPLETED A-G COURSE REQUIRE-MENTS	% COMPLETED CTE PATHWAY	MEAN CUMULATIVE GPA IN SENIOR YEAR	% EARNED LEVEL 3 OR HIGHER ON ELA OR MATH STANDARDIZED TEST	% EARNED STATE SEAL OF BILITERACY AND 3+ ON ELA STANDARDIZED TEST	% EARNED 2 YRS OF MILITARY SCIENCE AND 3+ ON ELA OR MATH STANDARDIZED TEST	% PASSED 2 OR MORE AP EXAMS	% PASSED 2 OR MORE IB EXAMS	% PASSED YEAR OF COLLEGE COURSE-WORK
Central Valley	38.7	25.1	2.68	18.9	5.3	0.4	5.2	0.4	0.6
East Bay	44.6	22.1	2.80	32.8	9.1	0.1	13.1	0.1	0.2
Greater Sacramento	45.9	18.9	2.84	31.4	8.2	0.1	11.3	1.2	0.3
Inland Empire	43.0	13.5	2.69	21.6	7.0	1.3	7.0	0.6	0.9
Los Angeles	49.6	19.6	2.72	25.3	9.4	0.5	11.5	0.4	0.2
Mid-Peninsula	51.9	9.2	2.83	34.7	12.0	1.0	16.2	1.3	0.4
Mother Lode	25.8	33.6	2.69	24.4	1.4	0.0	4.9	0.0	0.0
North Bay	37.0	13.6	2.75	27.1	7.8	0.2	9.1	1.0	0.0
Northern Coastal	33.3	22.2	2.76	22.4	7.6	0.3	7.7	0.2	0.8
Northern Inland	31.4	27.5	2.70	24.8	2.8	0.0	6.0	0.3	1.9
Orange County	50.3	16.7	2.80	34.3	15.1	0.3	16.3	0.8	0.1
San Diego & Imperial	53.3	18.1	2.87	32.3	8.3	1.6	15.5	0.8	3.2
Santa Cruz & Monterey	44.3	16.5	2.73	23.3	6.7	0.9	8.9	0.4	0.1
Silicon Valley	56.2	12.7	2.94	44.7	13.2	0.4	27.9	1.1	0.5
South Central	42.3	16.5	2.82	27.5	6.2	0.3	12.1	0.5	0.5
Total	46.5	18.3	2.77	28.4	9.0	0.6	12.3	0.6	0.6

Notes. Data source is student-level high school records from the California Department of Education.

Student Demographics and High School Characteristics Among High School Graduates Who Enroll in CCC

The micro regions differ in the demographics of the students they serve (Table B2). In 12 micro regions, Hispanic students make up the largest share of students in the new high school graduate sample, and in seven micro regions Hispanic students make up over 50% of the student population. Mid-Peninsula, Silicon Valley, and the East Bay serve the highest share of Asian American students (33.8%, 31.1%, and 22.7 %, respectively). Black students make up only 4.4% of the overall new high school graduate sample, and the highest shares of Black students are in the East Bay (7.4%), Greater Sacramento (6.6%), Inland Empire (6.4%), and Los Angeles (6.2%). Native American students make up 0.3% of the overall sample but comprise 5.4% of the new high school graduate sample in the Northern Coastal micro region. White students comprise the largest share of the new high school graduate sample in Greater Sacramento, Mother Lode, Northern Coastal, and Northern Inland.

A slightly higher share of students in the new high school graduate sample identifies as female (50.3%) than male (48.6%) overall. This pattern holds for most micro regions, although students identifying as male comprise a little more than half of the student body in the East Bay, Northern Inland, and Santa Cruz & Monterey micro regions.

TABLE B2: Student Demographics by Micro Region

	RACE AND ETHNICITY								GENDER		
	% ASIAN	% BLACK	% HISPANIC	% NATIVE AMERICAN	% PACIFIC ISLANDER	% TWO OR MORE RACES	% WHITE	% UNKNOWN	% FEMALE	% MALE	% NON-BINARY OR UNKNOWN
Central Valley	7.5	3.5	66.0	0.5	0.3	3.2	18.6	0.5	51.0	47.4	1.7
East Bay	22.7	7.4	37.6	0.1	0.8	7.7	22.7	1.1	47.9	50.8	1.3
Greater Sacramento	14.0	6.6	33.0	0.4	0.8	8.4	36.1	0.8	51.0	47.7	1.3
Inland Empire	4.3	6.4	69.3	0.3	0.3	3.0	15.5	0.8	51.4	47.7	1.0
Los Angeles	11.4	6.2	65.8	0.3	0.3	3.0	10.5	2.6	49.9	49.3	0.8
Mid-Peninsula	33.8	3.4	37.8	0.2	2.0	6.0	15.7	1.1	48.8	49.5	1.7
Mother Lode	0.3	1.0	24.3	0.3	0.7	0.0	73.0	0.3	51.0	46.9	2.1
North Bay	7.1	4.2	44.6	0.2	0.4	7.3	32.8	3.4	49.8	48.7	1.4
Northern Coastal	3.6	2.1	38.4	5.4	0.5	5.6	43.2	1.3	55.3	44.6	0.1
Northern Inland	5.2	2.1	31.2	1.6	0.4	5.9	52.9	0.7	48.4	50.6	1.1
Orange County	16.6	1.8	49.9	0.2	0.2	4.5	24.4	2.4	50.4	48.5	1.1
San Diego & Imperial	8.7	3.0	51.8	0.4	0.4	6.5	28.0	1.2	50.9	48.5	0.6
Santa Cruz & Monterey	3.1	1.3	71.4	0.1	0.3	4.2	18.3	1.2	48.8	50.4	0.7
Silicon Valley	31.1	2.1	38.5	0.1	0.6	5.6	20.7	1.3	50.3	48.9	0.8
South Central	5.2	3.6	55.0	0.3	0.2	4.3	30.1	1.4	50.3	48.8	1.0
Total	12.3	4.4	54.6	0.3	0.4	4.7	21.7	1.6	50.3	48.6	1.1

Notes. Sample: New high school graduates. Data source for race/ethnicity and gender is student records from California Community Colleges Chancellor's Office.

Students also come from varied socioeconomic backgrounds (Table B3). Over 60% of the students in the new high school sample are socioeconomically disadvantaged,[3] and the share is over 70% in the Los Angeles (73.8%), Central Valley (72.5%) and Inland Empire (71.3%) micro regions. Fewer than 50% of students in the sample are socioeconomically disadvantaged in the Silicon Valley (43.3%) and East Bay (45.1%) micro regions. Two micro regions serve a higher share of English learner students than the average (11.2%): Santa Cruz & Monterey (15.5%) and Mid-Peninsula (14.0%); while Northern Inland and Mother Lode serve much smaller shares of English learners (5.9% and 2.4%, respectively). While the share of the sample experiencing homelessness is quite small overall (5.8%), there is variation across the micro regions.[4] In the Inland Empire, Orange County, South Central, and Mother Lode regions, between 7 and 9% of the new high school sample is homeless, while in the East Bay and Silicon Valley micro regions the share is around 2%.

Another indicator of socioeconomic status is parents' education level. Almost half of the new high school graduate sample (47.4%) come from a household where neither parent has a college degree. That share is highest in the Inland Empire (56.9%), Central Valley (54.4%), South Central (52.1%), Motherlode (51.7%), North Bay (51.1%), and Los Angeles (51.1%) micro regions, and lowest in the San Diego & Imperial (34.6%) and Orange County (35.7%) micro regions. Many regions had much higher rates of missingness for this measure, with information missing for 21.2% of the sample overall, and ranging from 5.6% to 37.6% across micro regions, making it difficult to compare regions with accuracy.

[3] The CDE generates an indicator of socioeconomic disadvantage if a student meets one of the following seven criteria: (1) neither parent has received a high school diploma; (2) eligible for or participating in the Free Meal program or Reduced-Price Meal program; (3) eligible for or participating in the Title I Part C Migrant program; (4) considered Homeless; (5) Foster Program Eligible; (6) Directly Certified; (7) enrolled in a Juvenile Course School; or (8) eligible as Tribal Foster Youth.

[4] Per the CDE, information on homelessness is collected twice a year, in the Fall on Census Day for funding purposes, and at the end of the academic year. The following data is required to be submitted by a LEA to identify a student who is homeless: Homeless program membership; the date the student was identified as homeless; the type of Homeless Dwelling the student is living in; whether or not the student is "unaccompanied" – not in the direct care of their parent or guardian; whether the student is a "runaway" – a homeless student who is less than 18 years, without parental/caregiver permission away from home for one or more nights.

TABLE B3: Student Characteristics by Micro Region

	PARENTS' EDUCATION LEVEL					STUDENT CHARACTERISTICS WHILE IN HIGH SCHOOL				
	% NEITHER PARENT HAS COLLEGE DEGREE	% AT LEAST 1 PARENT HAS AA/AS	% AT LEAST 1 PARENT HAS BA/BS	% AT LEAST 1 PARENT HAS GRAD/ PROFESSIONAL DEGREE	% MISSING OR UNKNOWN	% SOCIO-ECONOMICALLY DISADVANTAGED	% ENGLISH LEARNER	% STUDENT WITH DISABILITIES	% FOSTER YOUTH	% HOMELESS
Central Valley	54.4	8.9	10.1	5.2	21.4	72.5	12.3	6.7	0.7	5.8
East Bay	47.4	10.0	22.9	14.1	5.6	45.1	9.6	8.9	0.3	2.1
Greater Sacramento	44.6	8.0	15.4	7.6	24.5	52.5	8.6	8.8	0.7	4.6
Inland Empire	56.9	8.8	13.2	5.5	15.6	71.3	11.2	9.8	0.6	8.5
Los Angeles	51.1	6.3	11.0	6.0	25.5	73.8	11.3	9.4	0.9	6.0
Mid-Peninsula	46.7	7.7	18.4	9.0	18.2	53.4	14.0	9.5	0.5	3.0
Mother Lode	51.7	11.3	18.5	6.2	12.3	51.7	2.4	12.3	1.0	7.5
North Bay	51.1	10.1	18.5	10.6	9.8	50.3	8.4	10.5	0.5	4.2
Northern Coastal	44.6	10.3	14.0	6.3	24.9	62.6	7.5	11.2	0.9	6.6
Northern Inland	48.0	10.8	16.6	8.2	16.4	55.1	5.9	8.6	0.8	4.8
Orange County	35.7	6.4	17.4	11.8	28.6	53.1	12.3	7.7	0.4	8.1
San Diego & Imperial	34.6	5.9	13.3	8.7	37.6	55.1	12.2	8.7	0.3	4.8
Santa Cruz & Monterey	46.1	5.9	6.8	4.3	36.9	66.7	15.5	8.9	0.5	6.2
Silicon Valley	42.2	7.9	23.0	20.0	6.9	43.3	11.2	8.0	0.4	1.8
South Central	52.1	9.1	20.5	10.5	7.9	54.6	9.9	8.5	0.7	7.9
Total	47.4	7.7	15.0	8.8	21.2	61.1	11.2	8.6	0.6	5.8

Notes. Sample: New high school graduates. Data source for parents' education level is student records from California Community Colleges Chancellor's Office. Data source for student characteristics while in high school is records from the California Department of Education.

Students in the new high school graduate sample generally reflect the diversity of the high schools they are graduating from (Table B4). In four micro regions (Central Valley, Inland Empire, Los Angeles, and Santa Cruz & Monterey), students come from high schools with a mean Hispanic population of over 60%, while in Greater Sacramento, Mother Lode, Northern Coastal, and Northern Inland, the mean high school has less than one-third Hispanic students. Students from the East Bay, Greater Sacramento, Inland Empire, and Los Angeles micro regions come from high schools with the largest share of Black students, on average, ranging from 7.3% to 9.1% of the high school population. Students from the East Bay, Mid-Peninsula, Silicon Valley, and Orange County come from high schools with the largest average Asian American populations, ranging from 15.7% to 25.6%.

TABLE B4: Characteristics of Students' High Schools by Micro Region

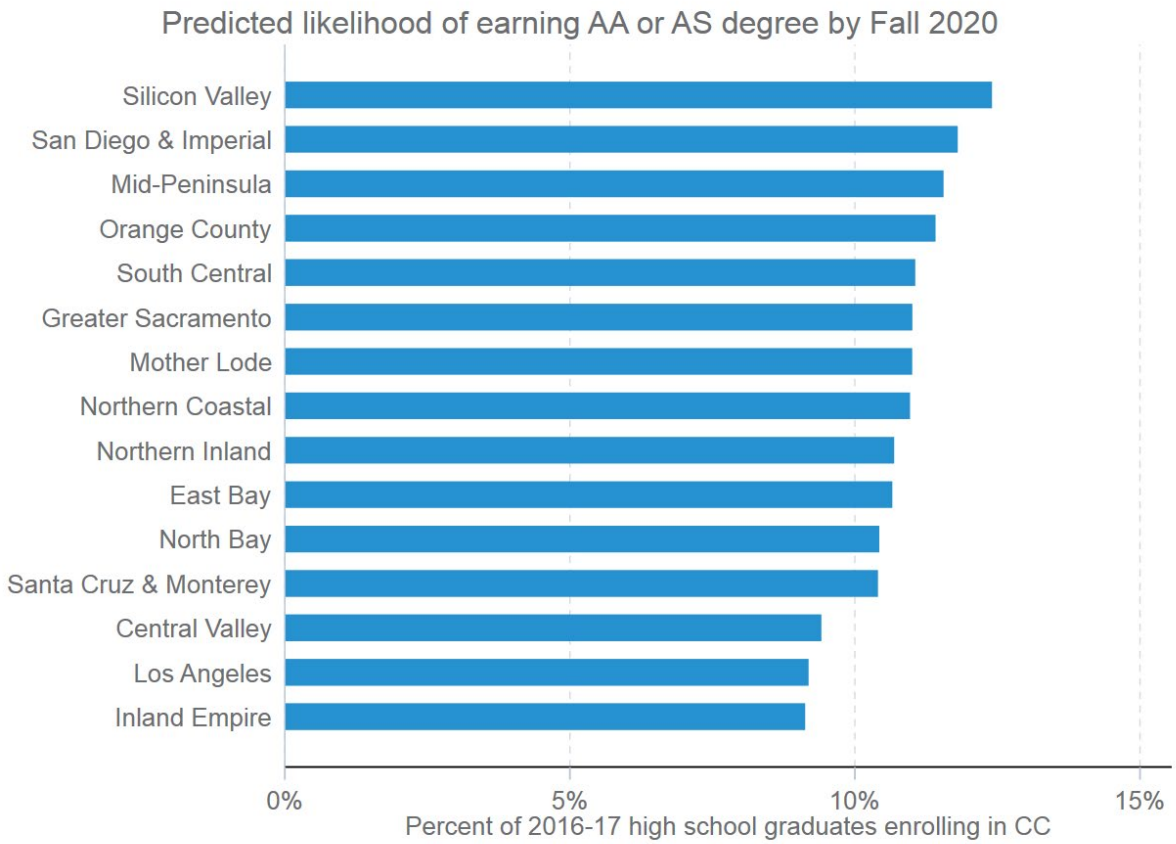
	MEAN PERCENT BLACK	MEAN PERCENT HISPANIC	MEAN PERCENT ASIAN	MEAN PERCENT ENGLISH LEARNER	MEAN PERCENT ECONOMICALLY DISADVANTAGED
Central Valley	4.9	62.7	5.8	12.3	69.1
East Bay	9.1	33.3	17.7	10.1	39.2
Greater Sacramento	8.6	28.7	11.0	7.9	48.0
Inland Empire	7.7	63.0	3.8	12.1	65.9
Los Angeles	7.3	63.6	9.5	12.5	67.3
Mid-Peninsula	4.3	34.6	22.6	14.8	44.2
Mother Lode	1.4	25.2	1.8	3.4	45.6
North Bay	6.0	40.0	4.1	9.6	45.0
Northern Coastal	1.9	30.7	3.2	7.7	57.8
Northern Inland	2.5	28.8	4.9	5.9	51.9
Orange County	2.2	48.1	15.7	12.7	47.6
San Diego & Imperial	4.0	49.6	5.5	12.3	49.6
Santa Cruz & Monterey	1.6	68.7	2.2	17.5	62.5
Silicon Valley	2.8	39.1	25.6	11.5	39.6
South Central	4.7	52.1	4.3	10.6	51.4
Total	5.5	51.7	9.9	11.7	56.0

Notes. Data source is student records from the California Department of Education. Percentages shown represent subgroup shares among the full populations of students at each high school in the 2016-17 academic year.

Mirroring the characteristics of individual students, the students in the new high school graduate sample from the Central Valley, Inland Empire, and Los Angeles micro regions attended high schools that serve the largest shares of economically disadvantaged students (69.1%, 65.9%, and 67.3%, respectively). Students from the Santa Cruz & Monterey micro region attended high schools with a high share of students who are economically disadvantaged (62.5%) and English learners (17.5%).

These characteristics of students and their high schools can be combined into a "college preparedness" index that predicts students' eventual community college degree attainment. The measure reflects the likelihood that students in the new high school graduate sample who enrolled in a CCC in the micro region completed an Associate of Arts (AA) or Associate of Sciences (AS) degree by Fall 2020, or over three years following high school graduation. The mean predicted likelihood of degree attainment varies by micro region (Figure B8), with the Silicon Valley, San Diego & Imperial, Mid-Peninsula, and Orange County micro regions having the highest predicted likelihood of degree attainment (around 12%), while Inland Empire, Los Angeles, and Central Valley micro regions have predicted probabilities of below 10%.

FIGURE B8: Preparedness Index by Micro Region (Matched Sample Only)



Notes. Sample: New high school graduates. The preparedness index is a composite index of students' college readiness, demographics, and background characteristics, weighted by how predictive they are of eventual CCC degree (AA or AS) attainment through fall 2020. We attain this measure by regressing an indicator for degree attainment on all measures shown in Tables B1 - B4 and use the coefficients to predict degree attainment based on students' incoming college readiness, demographics, and background characteristics. The graph shows the mean predicted likelihood of degree attainment, by micro region, among the matched sample of 2016-17 high school graduates who enroll in CCC.

4. Community College Outcomes

In this section, we summarize regional performance and variation along measures related to student enrollment and incoming educational goals, overall success in terms of completion or transfer, progression through years one and two of community college, and the time it takes and number of credits earned before students complete their associate's degrees or transfer to a four-year institution.

Initial Enrollment and Incoming Goals

The definition of student success in community college depends on students' goals for enrolling. A college that enrolls many students seeking vocational certificates will naturally have a lower degree attainment rate than one enrolling more traditional students on an academic track. A first step towards completing a degree or certificate is enrolling in college. Figures C1 and C2 display the number of first-time enrollments (excluding special admits and high school student enrollments) in each region in the 2017-18 academic year. To adjust for differences in population across regions, we divide by the number of high school-graduates in the region in the 2016-17 academic year and express the result as the number of first-time students per 1,000 high school graduates.

Recent research has pointed to the importance of "credit momentum" (Jenkins & Bailey, 2017), as students who attempt at least 15 units in their first semester (corresponding roughly to full-time enrollment) graduate at higher rates than their peers who attempt fewer courses (Attewell & Monaghan, 2016; Belfield, Jenkins, & Lahr, 2016). To reflect this, each bar in the figure below is broken into three segments representing students attempting 15 semester-equivalent units or more in their first term, students attempting more than 12 but fewer than 15 semester units in their first term, and students attempting fewer than 12 semester-equivalent units in their first term.

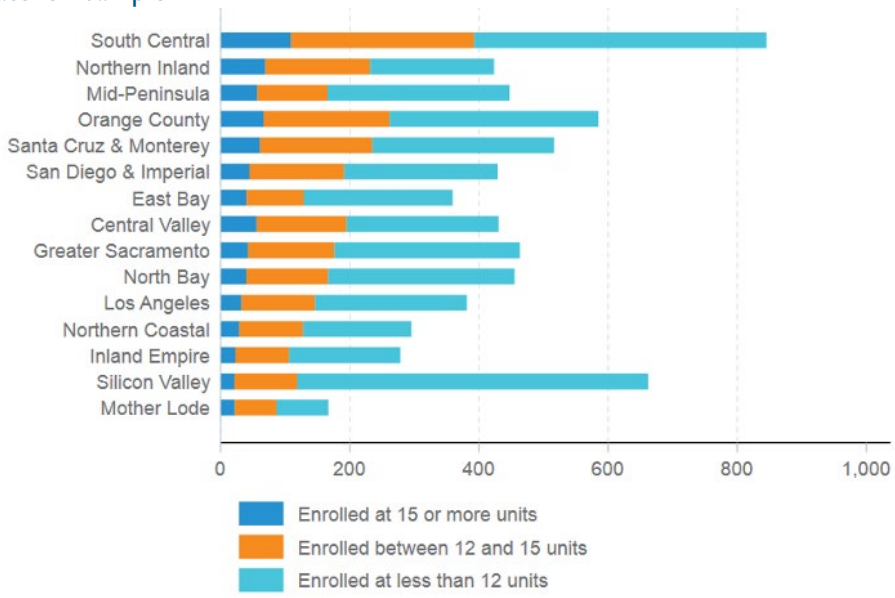
Among the new college entrants sample, colleges in the South Central, Northern Inland, and Mid-Peninsula micro regions enroll

more students (per 1,000 high school graduates from the year prior) than institutions in other micro regions (Figure C1). These regions also outperform other regions in enrollment of full-time (15 or more units) and near-full-time students (between 12 and 15 units). Colleges in the Mother Lode and Inland Empire micro regions enroll the fewest students, with very small shares enrolled full or near-full-time. Enrollment patterns among the new high school graduate sample mirror those of the new college entrants sample (Figure C2).

FIGURE C1: Number of Initial Enrollments per 1,000 High School Graduates, by Micro Region

Notes. Sample: New college entrants. These numbers reflect students who enrolled in a community college for the first time as a non-special-admit/high school student during the 2017-18 academic year. To allow for comparisons across regions, totals have been normalized by the number of high school graduates from the region in the 2016-17 academic year. The new college entrants sample includes CCC students entering college directly from high school and those who enter at later stages in their careers. The regions are ordered based on the normalized number of students enrolling with 15 semester-equivalent units or more. Students are not de-duplicated across campuses so a student enrolled in multiple college campuses will be counted multiple times. The total number of credits at which students are enrolled reflects the total credits at a single campus and does not add up credits across campuses. Units are semester-equivalent units (i.e., multiplied by ⅔ if a student attends a school on the quarter system). The first term of enrollment can be any academic term, including summer. Because some student identifier variables were re-used from earlier years, even within the same college, the determination of initial term is based on enrollment data from 2011 onward.

FIGURE C2: Number of Initial Enrollments per 1,000 High School Graduates by Micro Region, Matched Sample



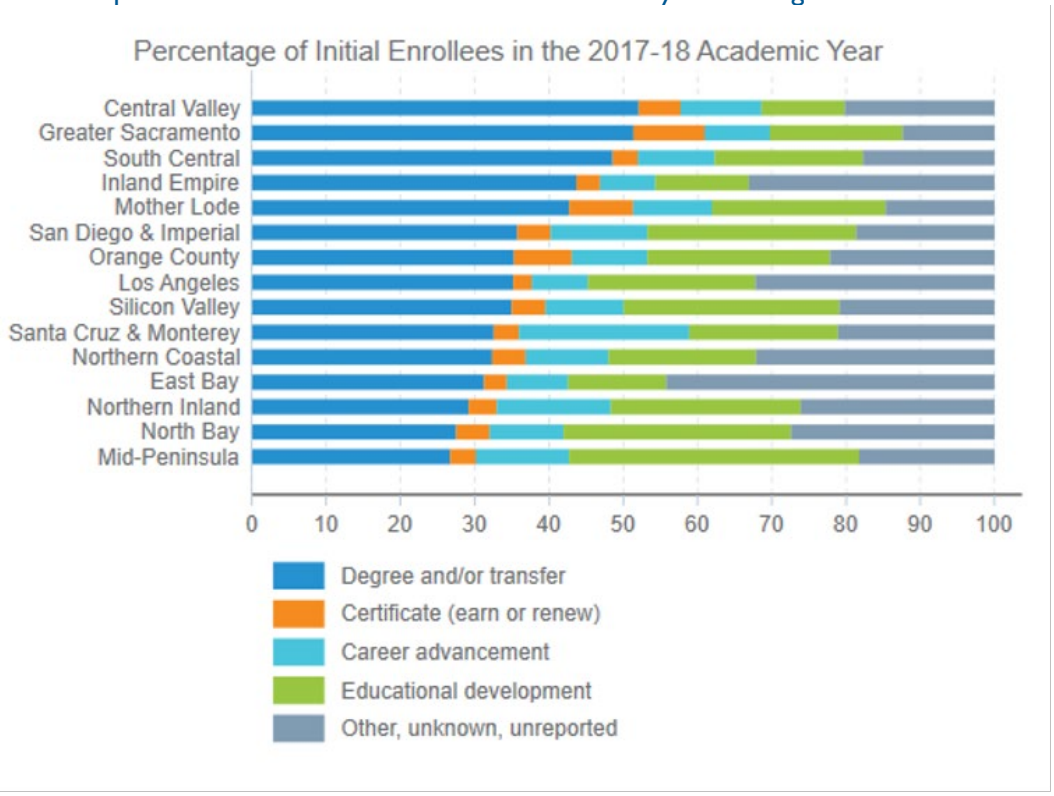
Notes. Sample: New high school graduates. These numbers reflect the number of 2016-17 high school graduates who enrolled in a CCC post-graduation through fall 2020. Totals are normalized by the number of high school graduates from the region in the 2016-17 academic year, to allow for comparisons to Figure C1. Regions are ordered in the same order as Figure C1. The first term of enrollment can be any academic term, including summer. Units in the initial term are summed at the student level, where students are de-duplicated across college campuses; if a student was enrolled in multiple campuses in their initial term, that student is associated with the campus at which they were enrolled for the greatest number of units in that first term. Units are semester-equivalent units (i.e., multiplied by ⅔ if a student attends a school on the quarter system).

Students enroll in community colleges with a range of plans and goals. Figures C3 and C4 show the educational goals reported by students enrolling during the 2017-18 academic year, with bars broken into sections corresponding to the share of students with each stated goal: earning a degree, transferring to a four-year institution or both; earning or renewing a certificate; career advancement; educational development; and other goals, or whose educational goal is unknown or unreported. The micro regions are sorted according to the share of students who identify earning a degree or transferring to a 4-year institution as their educational goal.

In 5 micro regions, degree and transfer-seeking students are a plurality among the new college entrants sample. This group accounts for more than 40% of students in the Central Valley, Greater Sacramento, South Central, Inland Empire, and Mother Lode, but less than 30% in Northern Inland, North Bay, and Mid-Peninsula. North

Bay and Mid-Peninsula students – who are somewhat older than entering students in other micro regions (50% are 25 years or older upon enrollment) – appear more focused on educational development, including completing credits for a high school diploma or GED and improving basic skills, than students in other micro regions. Students attending CCs in the Santa Cruz & Monterey micro region are more likely to be focused on career advancement than their peers around the state.

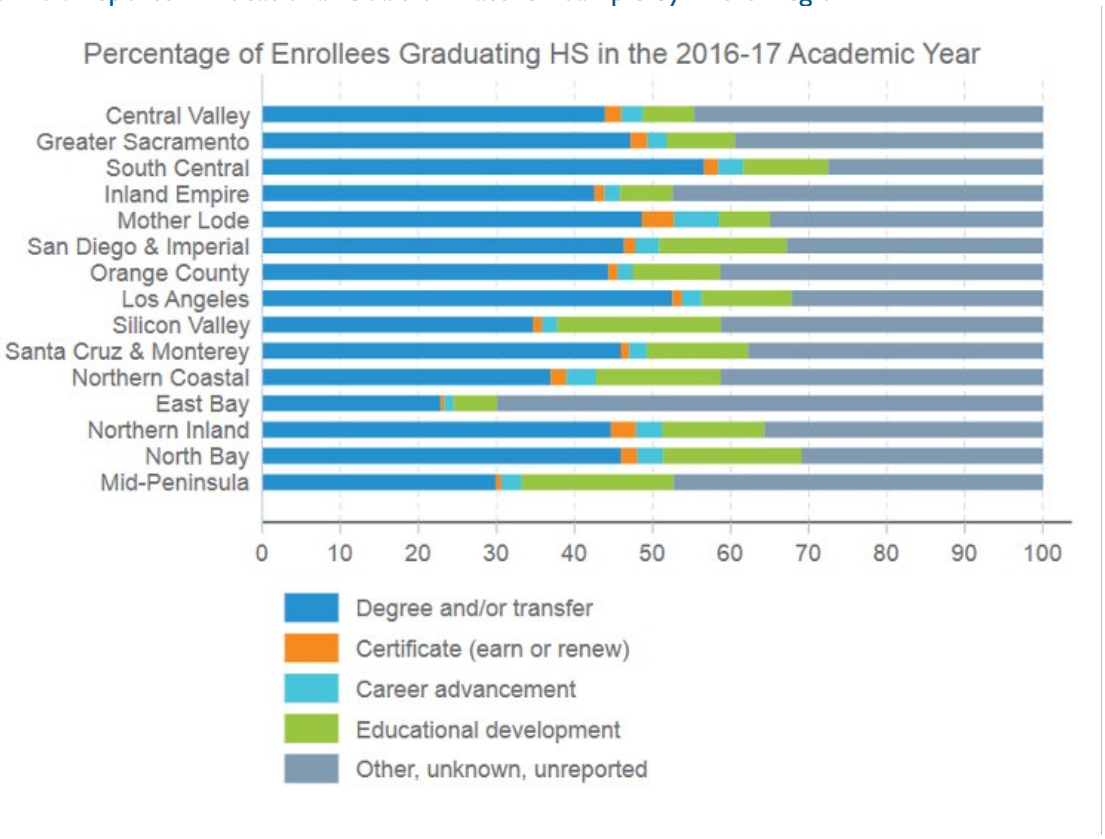
FIGURE C3: Reported Educational Goals of Initial Enrollees by Micro Region



Notes. Sample: New college entrants. Distribution of stated goals is shown for first-time, non-special-admit enrollees. Goals are grouped into a smaller number of categories. Categories for degree and transfer, degree without transfer, and transfer without degree are combined as "Degree and/or Transfer." Categories for earning a certificate and for renewing or maintaining a certificate are combined as "Certificate." Discovering career interests, preparing for a new career, and advancing in current job/career are combined into "Career Advancement." Educational development, improvement of basic skills, completing credits for a high school diploma or GED, and moving from non-credit to for-credit coursework are combined into "Educational Development." The regions are ordered according to the share of students identifying degree and/or transfer as their goal. Students are not de-duplicated across campuses so a student enrolled in multiple college campuses will be counted multiple times. The first term of enrollment can be any academic term, including summer. Because some student identifier variables were re-used from earlier years, even within the same college, the determination of initial term is based on enrollment data from 2011 onward.

Predictably, the educational goals of the new high school graduates sample are more focused on degree or transfer and educational development (including remediation) rather than career advancement or earning a certificate (Figure C4). Further, large shares of students across the micro regions did not state an educational goal, perhaps reflecting the early stage of their post-secondary education. Regional patterns in educational goals differ from the new college entrants sample presented above. Over 50% of students in South Central and Los Angeles stated degree or transfer as their educational goal, while just over 20% or students in the East Bay micro region had the same goal.

FIGURE C4: Reported Educational Goals of Matched Sample by Micro Region



Notes. Sample: New high school graduates. Distribution of stated goals is shown for 2016-17 high school graduates who enroll in CCC post-graduation up through fall 2020. Goals are grouped into a smaller number of categories. Categories for degree and transfer, degree without transfer, and transfer without degree are combined as "Degree and/or Transfer." Categories for earning a certificate and for renewing or maintaining a certificate are combined as "Certificate." Discovering career interests, preparing for a new career, and advancing in current job/career are combined into "Career Advancement." Educational development, improvement of basic skills, completing credits for a high school diploma or GED, and moving from non-credit to for-credit coursework are combined into "Educational Development." The regions are ordered according to the share of students identifying degree and/or transfer as their goal. Regions are ordered in the same order as Figure C3.

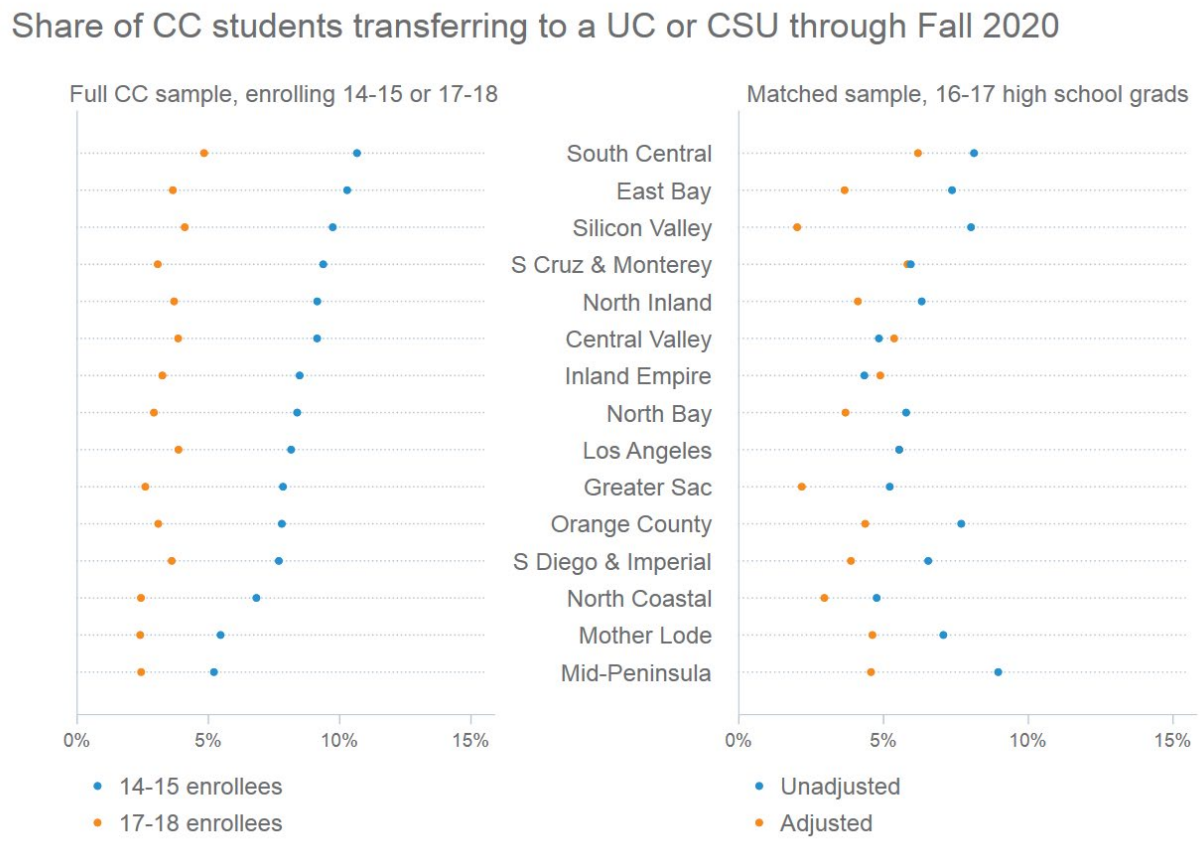
Student Outcomes: Transfers, Certificates, and Degrees

As discussed above, community college students vary in their reasons for attending college and in their goals while there. This makes assessing their success rates at achieving those goals challenging. For many students, success can be measured by attainment of a credential, in the form of an associate's degree or certificate. Others may successfully transfer to a four-year institution without obtaining a community college credential (though this is changing with the introduction of the Associate's Degree for Transfer program, which provides CCC students who meet the California State University's minimum eligibility requirements guaranteed priority admission to a CSU campus, and the Transfer Admission Guarantee program which offers CCC students guaranteed admission to 7 University of California campuses). In this section, we examine several measures of goal achievement. First, we present the share of CCC students who successfully transfer to a four-year institution, the share earning an AA or AS degree, and the share earning a certificate. Then we consider the share who achieve at least one of these three outcomes (certificate, associate's degree, or transfer to a four-year institution).

The first outcome that we consider is transfer to a four-year institution. The intended path to transfer involves two years of coursework at a community college prior to transfer into a four-year institution with junior status, though some students may take more than two years to reach this point and others transfer very quickly after initial enrollment. We focus on the traditional path, allowing for variation in the time to transfer. Figure D1 shows the share of students who transfer to a University of California (UC) or California State University (CSU). The first panel measures this as a share of initial community college enrollees (the new college entrants sample). The orange dots show estimates for students who first enrolled in 2017-18. Because our data extend through Fall 2020, we capture only students who transfer within 3.5 years of initial enrollment. The blue dots show transfers for an earlier cohort, those who enrolled in 2014-15. Notably, these transfer rates are roughly twice as high. Although the figure does not distinguish whether this reflects differences in outcomes between the two entering cohorts or a large number of students who transfer four years or more after starting community college, most of the gap reflects the latter.

The second panel focuses on the new high school graduate sample, and measures transfers as a share of 2016-17 high school graduates in a region. As with the 2017-18 enrollees, we can measure transfer only within 3.5 years of high school graduation. Interestingly, although the denominators are much larger here and include students who never enroll in community college, the average transfer rates are comparable to or higher than those for 2017-18 community college enrollees: The larger denominators are offset by the higher transfer rates among community college students who enroll shortly after high school. Within the second panel of the figure we explore how the share of CCC students who transfer to a UC or CSU changes once we account for differences in demographic and pre-college characteristics (the adjusted estimates).

FIGURE D1: Transfers to the UC and CSU Systems by Micro Region, Among All Enrollees and Matched Sample

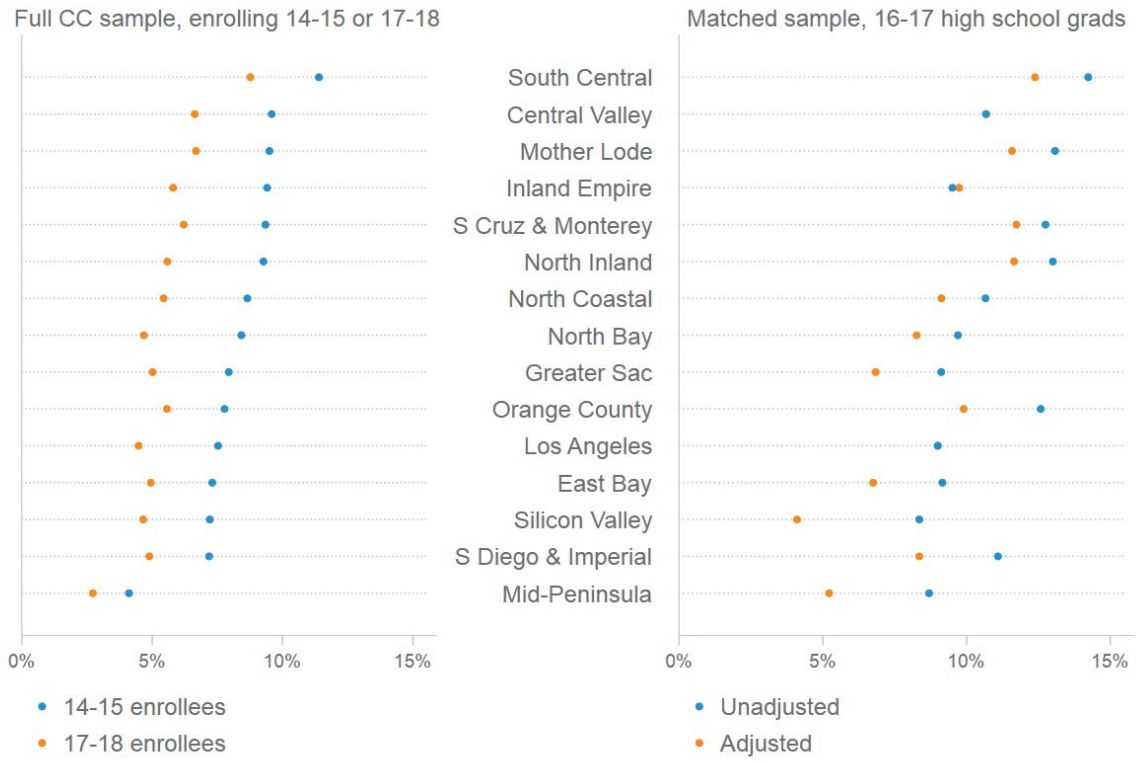


Notes. Figure shows the share of students transferring to a UC or CSU following enrollment in community college for three different samples of students. In the left-hand panel, the orange dots represent the share of transferring students among all CCC students who initially enrolled during the 2017-18 academic year. Because the time between initial enrollment and the latest term in our data (fall 2020) is relatively short, focusing on this cohort of students gives an

abbreviated view of their eventual transfer outcomes. We therefore also show shares of transferring students among all CCC students who initially enrolled during the 2014-15 academic year, represented by the blue dots. In the right-hand panel, the navy-colored dots represent the share of transferring students among 2016-17 high school graduates in the matched sample, unadjusted for any demographic or pre-college characteristics. The orange dots represent the shares of transferring students for the same sample, adjusted for demographic and pre-college characteristics. The regions are ordered according to the full set of 2014-15 initial enrollees (blue dots). Students are associated with the community college campus from which they transferred.

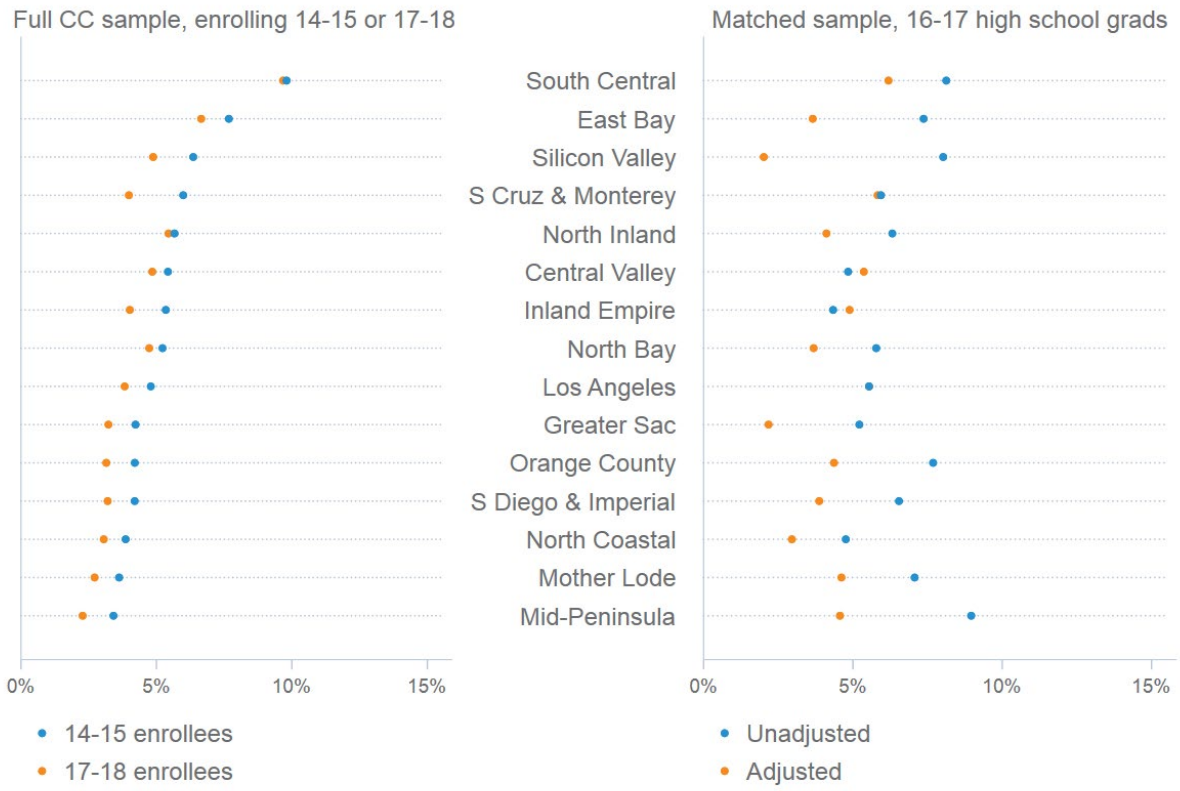
Figure D2 shows our second success outcome, attainment of an AA or AS degree. Definitions are otherwise similar to those in Figure D1. Note that the difference between the 2014-15 and 2017-18 cohorts of enrollees is somewhat smaller here, and the share of high school graduates obtaining degrees within a few years is much larger than that transferring to four-year institutions. As was the case previously, regression adjustments for pre-college characteristics and demographics reduce the estimates of AA or AS degree completion for colleges in most micro regions. Figure D3 shows the share who earn certificates, again with a similar layout. Certificates available across the CCC system include those for bookkeeping, administrative assistance, network security specialist, refrigeration service engineer, healthcare services, child development, and in-home supportive services, among many others. Relatively few students earn certificates more than four years after initial enrollment. There is wide variation across regions in the share of students earning certificates, with the South Central and Orange County micro regions standing out as having higher rates of certificate attainment per high school graduate.

FIGURE D2: Share of CCC Students Earning AA or AS Degrees by Micro Region, Among All Enrollees and Matched Sample



Notes. Figure shows the share of students earning an AA or AS degree for three different samples of students. In the left-hand panel, the orange dots represent the share of degree-earning students among all CCC students who initially enrolled during the 2017-18 academic year. Because the time between initial enrollment and the latest term in our data (fall 2020) is relatively short, focusing on this cohort of students gives an abbreviated view of their eventual degree attainment. We therefore also show shares of degree-earning students among all CCC students who initially enrolled during the 2014-15 academic year, represented by the blue dots. In the right-hand panel, the navy-colored dots represent the share of degree-earning students among 2016-17 high school graduates in the matched sample, unadjusted for any demographic or pre-college characteristics. The orange dots represent the shares of degree-earning students for the same sample, adjusted for demographic and pre-college characteristics. The regions are ordered according to the full set of 2014-15 initial enrollees (blue dots). Students are associated with the community college campus from which they earned their degree. If a student earned multiple degrees, they are associated with the community college campus from which they earned their first associate's degree.

FIGURE D3: Share of CCC Students Earning Certificates through Fall 2020 by Micro Region, Among All Enrollees and Matched Sample

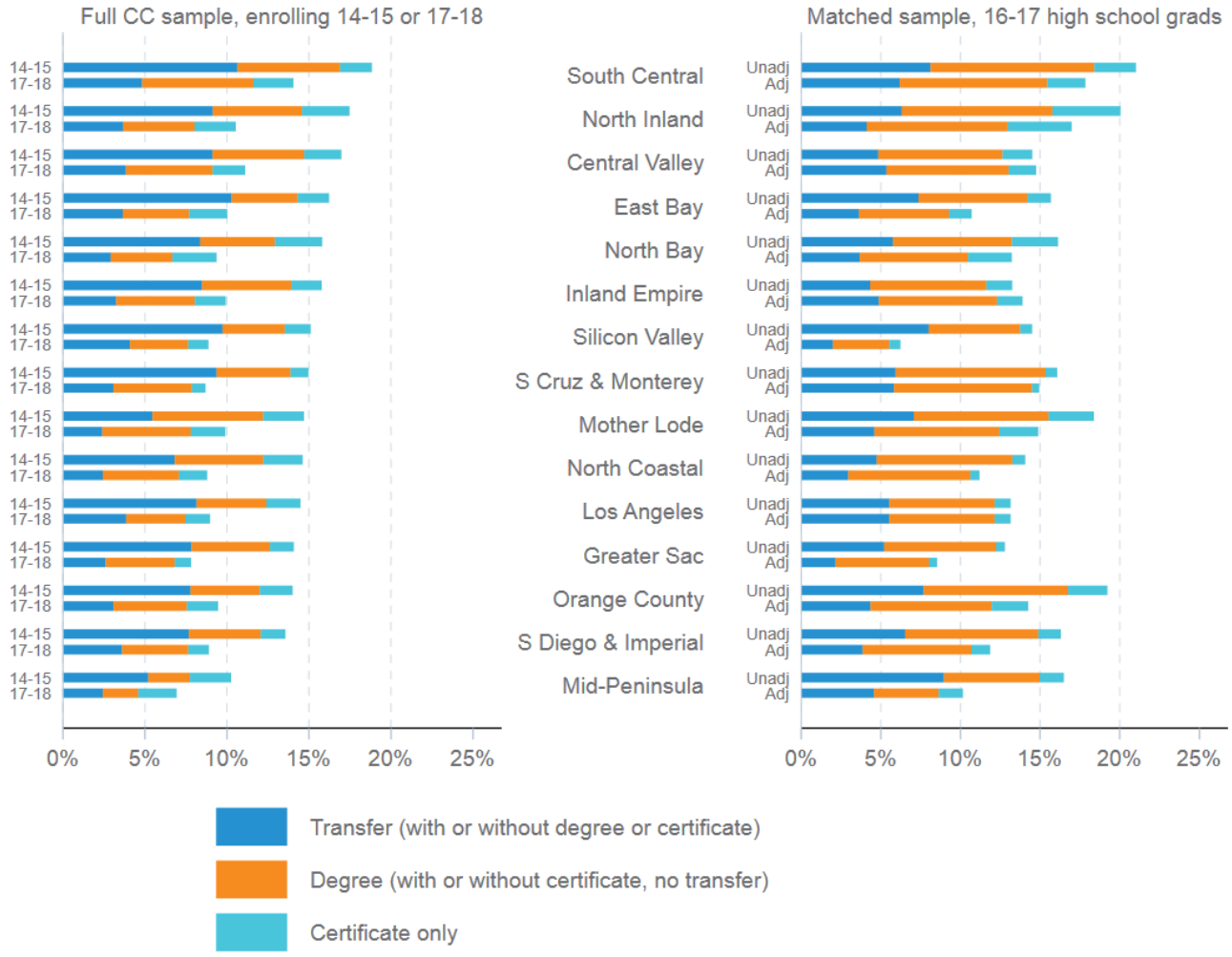


Notes. Figure shows the share of students earning a certificate for three different samples of students. In the left-hand panel, the orange dots represent the share of certificate-earning students among all CCC students who initially enrolled during the 2017-18 academic year. Because the time between initial enrollment and the latest term in our data (fall 2020) is relatively short, focusing on this cohort of students gives an abbreviated view of their eventual certificate attainment. We therefore also show shares of certificate-earning students among all CCC students who initially enrolled during the 2014-15 academic year, represented by the blue dots. In the right-hand panel, the navy-colored dots represent the share of certificate-earning students among 2016-17 high school graduates in the matched sample, unadjusted for any demographic or pre-college characteristics. The orange dots represent the shares of certificate-earning students for the same sample, adjusted for demographic and pre-college characteristics. The regions are ordered according to the full set of 2014-15 initial enrollees (blue dots). Students are associated with the community college campus from which they earned their certificate. If a student earned multiple degrees, they are associated with the community college campus from which they earned their first one.

One challenge in interpreting the results in Figures D1-D3 is that the outcomes are in many cases alternatives – a student may not achieve a certificate because she earned a degree instead, and this should not be considered a negative outcome. Figure D4 combines the three measures. Each bar consists of three segments – one representing transfers, another representing the additional share of the population receiving a degree (without double-counting those who both received

degrees and transferred), and a third representing students who did not transfer or receive degrees but did receive certificates. The total length of the three combined segments represents the share of students who successfully achieved one of the outcomes. The South Central micro region stands out as having the highest completion rates, both when considering the new college entrant sample (almost 20% for the 14-15 cohort) and the new high school graduates sample (over 20% unadjusted and over 15% adjusted). Still, completion rates within these time frames are quite low, with less than 20% of students reaching this milestone across most micro regions.

FIGURE D4: Share of Students Transferring, Earning an Associate's Degree, or Earning a Certificate by Micro Region, Among All Enrollees and Matched Sample



Notes. Figure shows the cumulative share of students transferring to a 4-year institution or earning a degree or certificate for three different samples of students. In the left-hand panel, shares are shown for the cohort of all CCC students enrolling in CCC in the 2017-18 academic year, as well as the cohort enrolling in the 2014-15 academic year.

In the right-hand panel, shares are shown for 2016-17 high school graduates who subsequently enrolled in CCC, both unadjusted and adjusted for demographic and pre-college characteristics. The regions are ordered according to the full set of 2014-15 initial enrollees. Students are associated with the community college campus from which they transferred or earned their degree or certificate. If a student earned multiple degrees, they are associated with the community college campus from which they earned their first one.

Measures of Progression

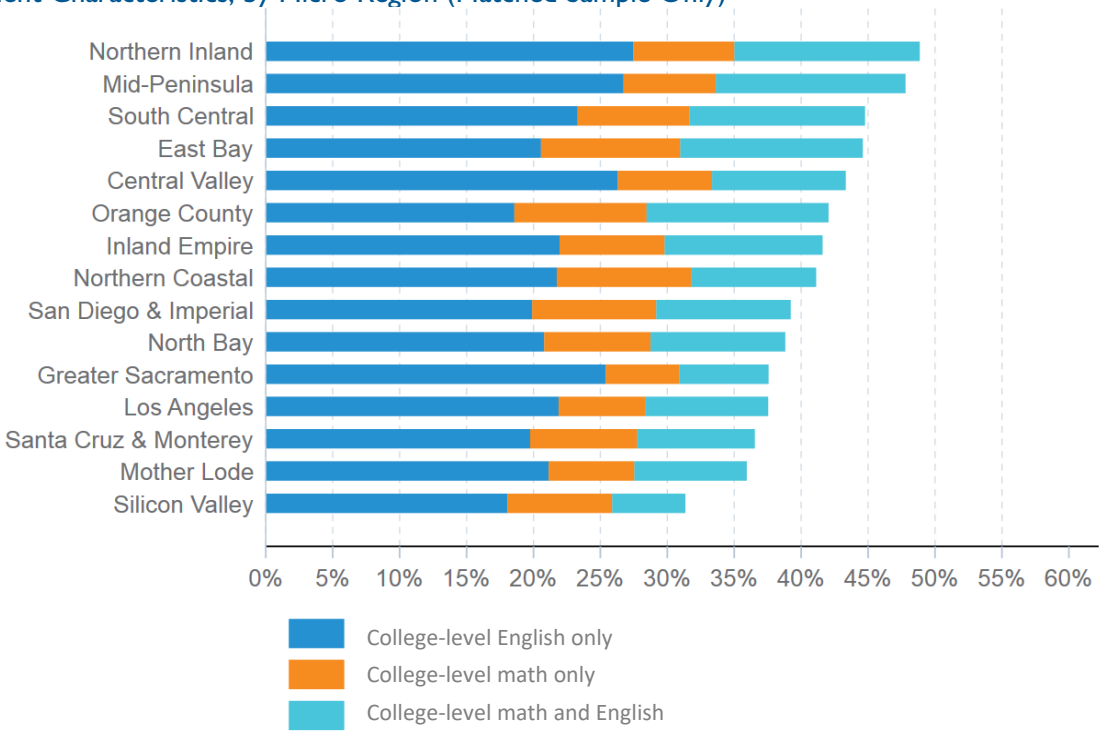
Enrolling in college is a critical first step, but it is also important to ensure that students are enrolling in courses that will propel them towards a degree. In this section, we focus on the new high school graduate sample, and describe their progress through community college adjusting for pre-college preparation and student demographic characteristics. Figure E1 displays the percentage of students in the new high school graduate sample who enrolled in college-level math and English within one year of their initial CCC enrollment. The bars in the figure are divided into sections representing students who only took college-level English, students who took only college-level math, and students who took both college-level math and English.

Course choices likely vary depending on a student's goals. For students intending to obtain degrees, enrolling in college-level English and math is an important first step. But other students – for example, those who come to a community college solely to obtain a vocational certificate – may not need these courses. In other words, variation across regions in the share of students enrolling in college-level English and math reflects variation in students' goals, variation in the extent to which students are college-ready, and variation in the degree to which colleges are helping them enroll in courses that are appropriate for their goals.

Statewide, fewer than one in five students (18.84%) attempt at least one college-level course in their first year, and only 5.7% attempt both college-level math and English. Students in the Northern Inland, Mid-Peninsula, South Central, and East Bay micro regions enroll in college-level coursework during their first year at greater rates than their peers in other regions, with over 30% attempting at least one college-level course and over 10% attempting both college-level math and college-level English. Even in these micro regions, over 50% of students do not attempt either college-level math or English in their first year.

Colleges in the Central Valley and Greater Sacramento are doing better on this measure, relative to their counterparts in other micro regions. As shown in Figure E1, much of this appears driven by students enrolling in college-level English. Students in the Silicon Valley micro region are least likely to enroll in college-level coursework in the first year, with just over 30% taking any college-level course.

FIGURE E1: Share Enrolling in College-Level Coursework in First Year of Enrollment, Adjusted for Student Characteristics, by Micro Region (Matched Sample Only)

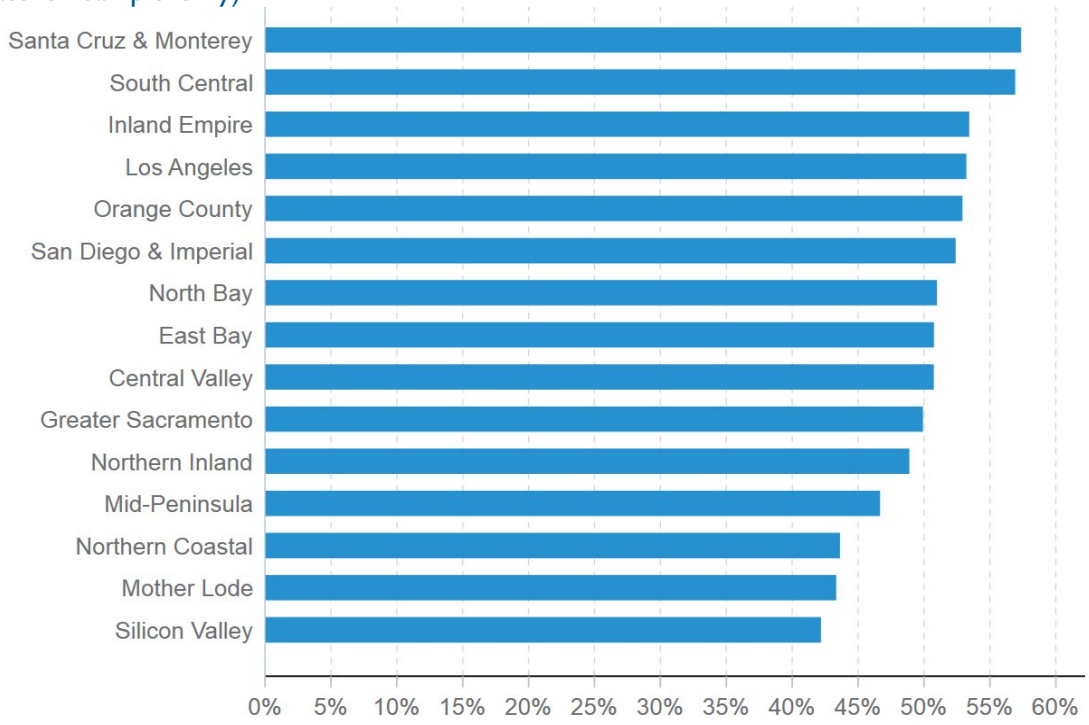


Notes. Sample: New high school graduates. Figure shows the share of students taking at least one college-level course in their first year, among the matched sample of 2016-17 high school graduates attending CCC. The regions are ordered based on the total number of students enrolled in college-level math and/or college-level English in their first year. A student's first year is defined as a full calendar year starting from their initial term of enrollment. Estimated shares are adjusted for student's demographic and pre-college characteristics.

Though enrollment in postsecondary education has climbed over the recent few decades, student persistence rates have lagged (Barnett, 2011). Figure E2 shows the share of students from the new high school graduate sample who re-enrolled in the term one year following their first term of enrollment. For example, a student who enrolled for the first time in the spring of 2017 would count towards a region's total if she re-enrolled for the spring of 2018.

In some micro regions, we see persistence rates of less than half. Students in the Santa Cruz & Monterey and South Central micro regions re-enroll at greater rates than their peers in other regions (around 55%). The rate of persistence doesn't vary much across the micro regions, dropping to a low of 42% in the Northern Coastal micro region.

FIGURE E2: Share Persisting to Year 2, Adjusted for Student Characteristics, by Micro Region (Matched Sample Only)

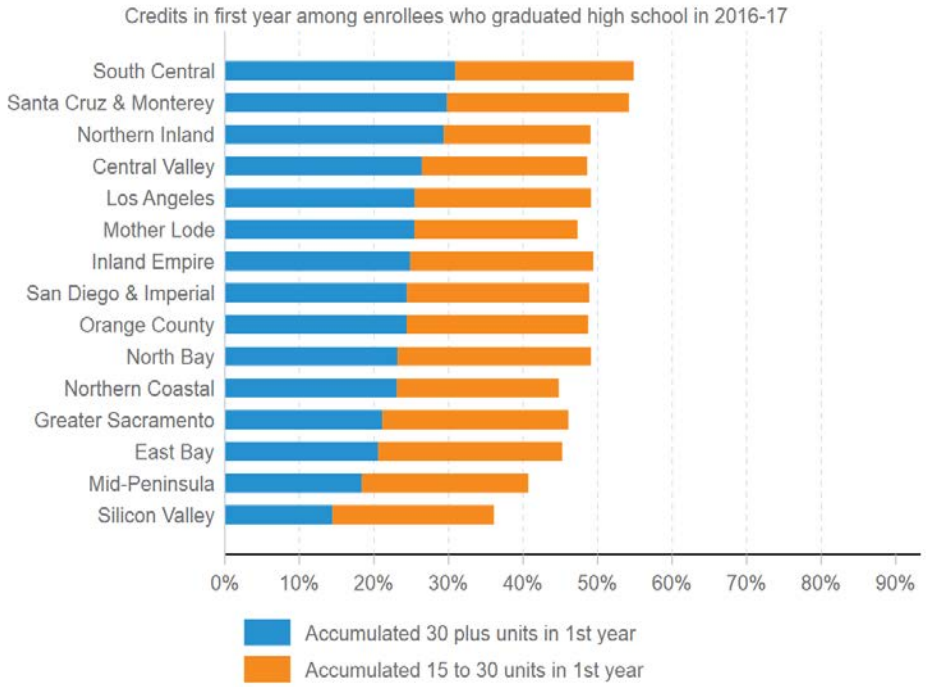


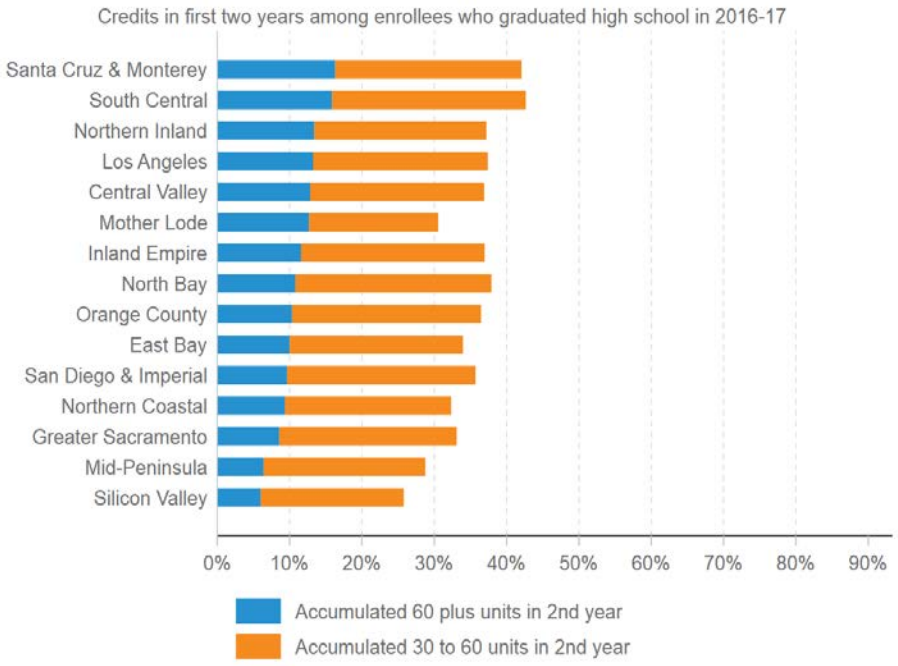
Notes. Sample: New high school graduates. Figure shows, among the matched sample of 2016-17 high school graduates, the share of students who re-enroll in CCC one year following their initial term of enrollment. For example, if a student enrolls in the spring, they will be considered to have persisted to their second year if they re-enroll the following spring. Estimated shares are adjusted for student's demographic and pre-college characteristics.

Associate's degrees generally require 60 semester-equivalent units so to earn an associate's degree in two years a student must generally earn 30 units in each year. Research suggests that meeting early credit momentum benchmarks helps students complete their degree or transfer to a four-year institution (Jenkins & Bailey, 2017). Figure E3 displays the percentage of students in the new high school graduate sample in each micro region who reach key milestones in terms of semester-equivalent units-earned in their first and second years of CCC enrollment. A larger share of students in the South Central and Santa Cruz & Monterey micro regions meet these milestones during

their first and second years than in other regions. Even so, less than 20% of students accumulate enough credits to earn a degree within two years in those regions.

FIGURE E3: Credit Accumulation in Years 1 and 2, Adjusted for Student Characteristics, by Micro Region (Matched Sample Only)





Notes. Sample: New high school graduates. Figures show, among the matched sample of 2016-17 high school graduates, the share of students who earn a given number of credit units in their first year (top panel) and in their first two years (lower panel). Units are semester-equivalent units (i.e., multiplied by ⅔ if a student attends a school on the quarter system). A student's first year is defined as a full calendar year starting from their initial term of enrollment; their first two years are defined as two full calendar years starting from their initial term. Estimated shares are adjusted for student's demographic and pre-college characteristics. Regions are ordered by the share of students earning at least 30 units in the first year and 60 units in the first two years.

Credits and Time to Degree or Transfer

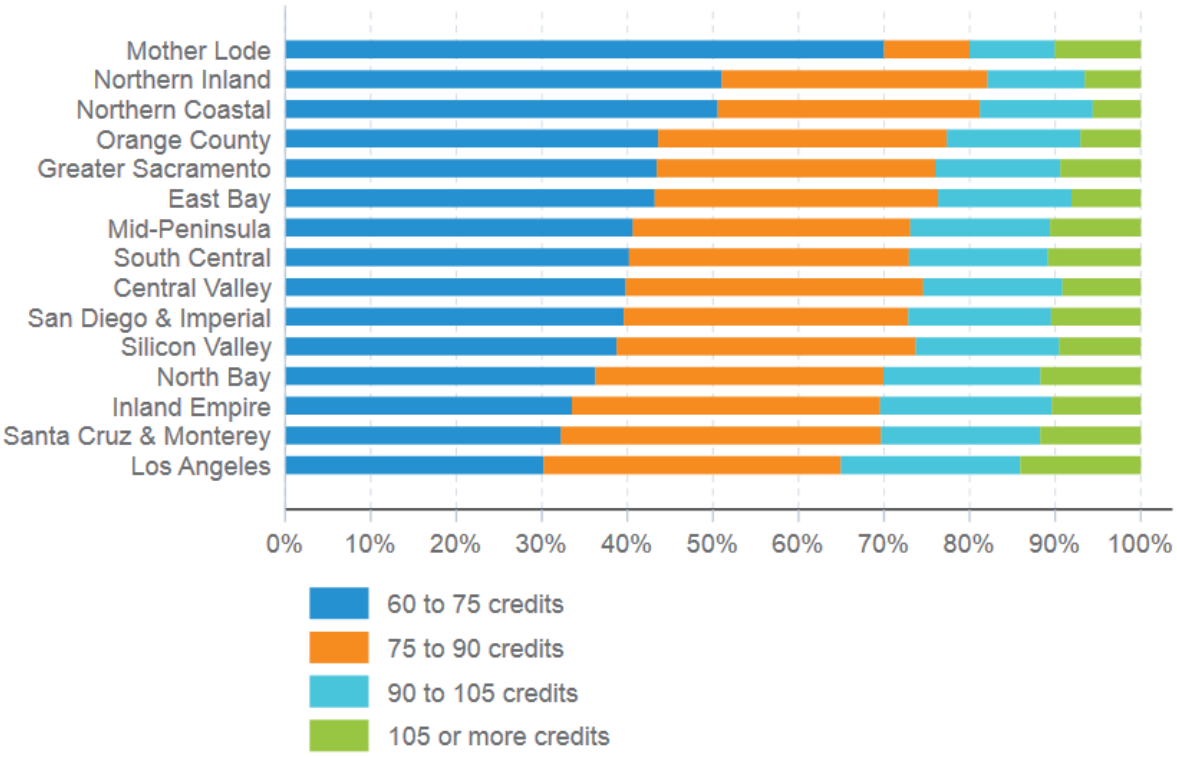
Earning a degree and transferring to a four-year institution are important outcomes, but the time it takes to achieve these milestones is also important. Additional time in school can be costly to students, in particular students who are taking time away from the labor market and those who pay tuition and other fees. In some cases, this combination may cost students tens of thousands of dollars for each additional year of enrollment (Complete College America, 2014). Moreover, students who re-enroll for many years and earn many credits without obtaining credentials consume resources that could otherwise go to serving new enrollees. In the section below, we explore the time taken and credits earned by students as they progress through community college.

An associate's degree generally requires 60 units of coursework, though as many as 75 is not unusual as students commonly take some classes that are not required for the degree. Only about 28% of students earning associate's degrees statewide earn them with 75 units or fewer. (This excludes students who earn degrees with fewer than 60 units, as this should not be possible without credits from elsewhere.) Figure F1 shows the regional breakdown of this share, along with the shares of students in several categories of excess credit accumulation, for students who completed their degrees in 2018-19. This may point to potential efficiencies from helping students choose courses appropriately to avoid excess course-taking.

There is significant variation across regions, with the share earning 75 or fewer units ranging from 30% (Los Angeles) to almost 70% (Mother Lode). The distribution of credits earned differs in the Mother Lode micro region relative to the rest of the micro regions. A much larger share of students earning a degree in 2018-19 in the Mother Lode region earn between 60-75 credits - the minimum to complete the program - with only 30% of students earning more

credits, while in other regions over half of students complete more than 75 credits to achieve the same goal. The Los Angeles micro region has the highest rate of students who graduate with an extreme number of excess credits (70% earn over 75 credits, and 14% earn 105 semester-equivalent units or more).

FIGURE F1: Credits Earned by Degree-Earning Students by Micro Region

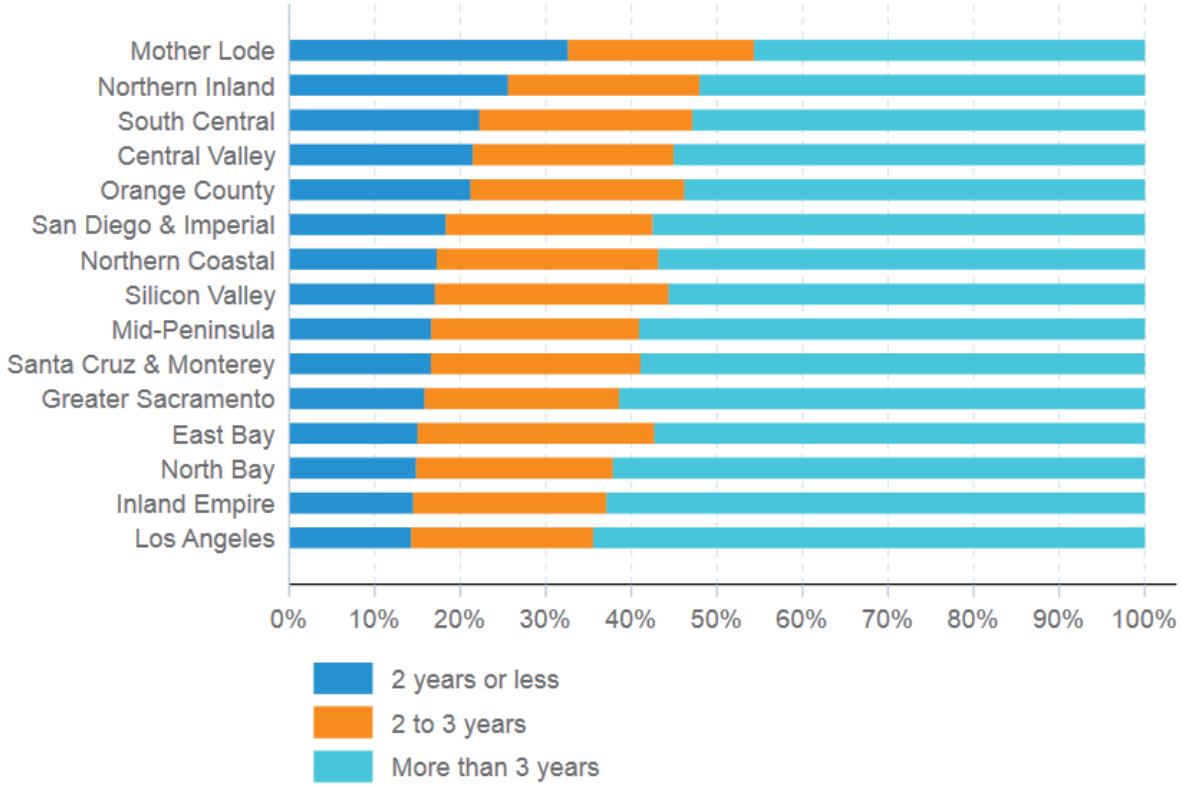


Notes. Sample: All CCC students who earned a degree in 2018-19 with at least 60 units. Figure shows, among all CCC students who earned an associate's degree in 2018-19 with at least 60 units, the credit units earned prior to degree attainment at the campus from which their degree was earned. Units are semester-equivalent units (i.e., multiplied by ⅔ if a student attends a school on the quarter system). If a student earned multiple associate's degrees, figure shows credits-to-degree for the first degree earned. Sample is limited to students who enrolled in community college as a non-special-admit, non-high school student in 2012 or later. Regions are ordered by the share of students who earned a degree with 60-75 units taken.

The number of years elapsed between initial enrollment and attainment of the associate's degree is another measure of program progression. Figure F2 shows how this is distributed in each micro region for degrees awarded in 2018-19. The bars are broken into sections to show the share of students who earned their degrees in two years or less, three years, and longer than three years.

Only about 17% of students who earn degrees do so within two years. Another 23% do so in their third year. There is some variation across regions in the share of students completing their degrees in 2 years, with over 30% of students in Mother Lode who graduate doing so in 2 years or less, compared to less than 20% of students in most other regions. Across all regions but Mother Lode, over half of graduating students take more than 3 years to complete their degree. In the North Bay, Inland Empire, Los Angeles, and Greater Sacramento micro regions, over 60% of graduating students complete in more than 3 years.

FIGURE F2: Time to Degree Among Degree-Earning Students by Micro Region



Notes. Sample: All CCC students who earned a degree in 2018-19 with at least 60 units. Figure shows, among all CCC students who earned an associate's degree in 2018-19, the amount of time taken between a student's initial CCC enrollment and their degree attainment, regardless of whether they were continually enrolled during that time. If a student earned multiple associate's degrees, figure shows credits-to-degree for the first degree earned. Sample is limited to students who enrolled in community college as a non-special-admit, non-high school student in 2012 or later. Regions are ordered by the share of students who earned a degree in 2 years or less.

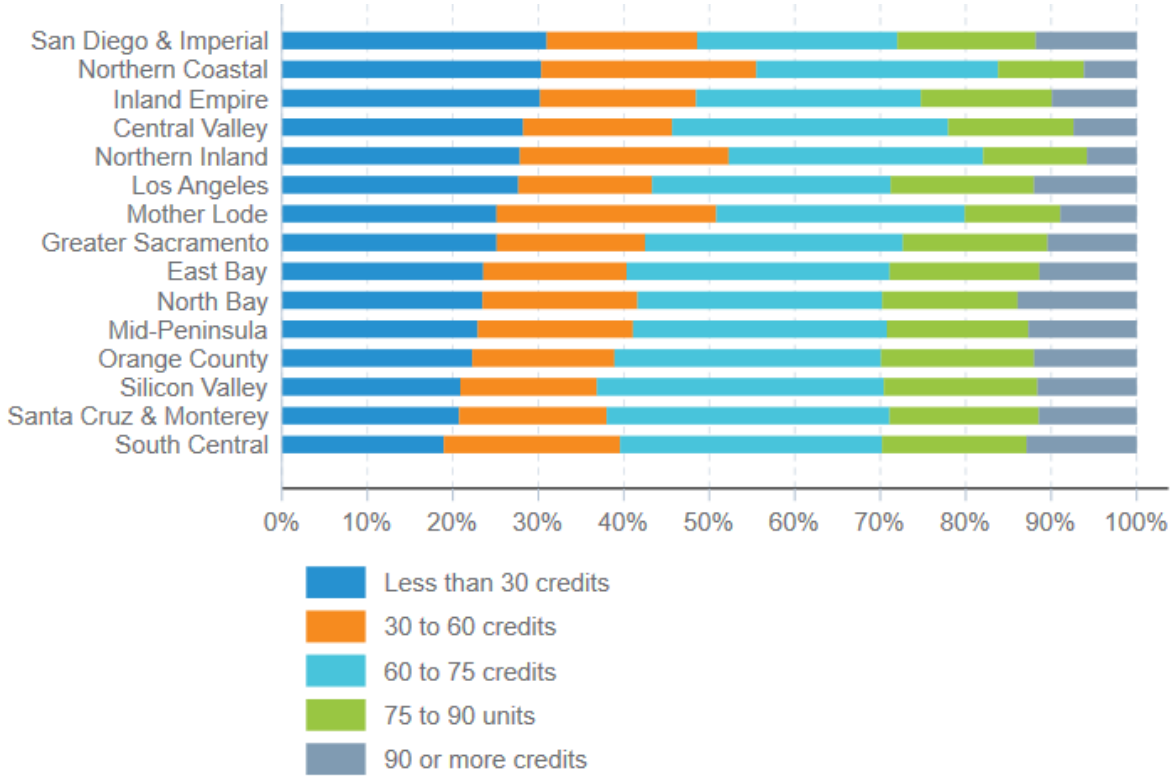
A large share of transfer students who end up earning bachelor's degrees do so with excess credits, and one contributing factor is accumulation of credits that do not apply towards their program or

degree (Fink, Jenkins, Kopko, & Ran, 2018). Figure F3 shows the accumulated transfer-applicable credits earned by students before they transfer to a UC or a CSU. A student who follows the normative transfer path, taking a full-time course load and transferring after two years, should accumulate around 60 semester-equivalent units. Students who transfer with much less than 60 credits likely do that with less than two years of full-time-equivalent enrollment at the community college, while those who transfer with much more than this have likely taken courses that would not be necessary to transfer.

In all micro regions, more than two-thirds of transfers do so with fewer than 75 semester-equivalent units. In the case of the Inland Empire, for example, we see almost 10% of students earning more than 90 credits prior to transfer, but students who transfer tend to take longer than their peers in other regions to go from community college enrollment to enrolling in a four-year institution. Taken together, this would suggest that students aren't enrolling in enough credits per semester to stay on-track for a two-year (or even three-year) transfer. Indeed, from Figures C1 and C2 we can see that students in the Inland Empire micro region do not enroll with full-time coursework loads at the same rates as their peers in other regions.

At the other end of the scale, the Mid-Peninsula micro region has a much larger share of students transferring with fewer than 30 units (indicating less than one year of full-time-equivalent enrollment at the community college prior to transfer) than other micro regions.

FIGURE F3: Credits Earned Among Students Who Transfer to a 4-Year Institution, by Micro Region

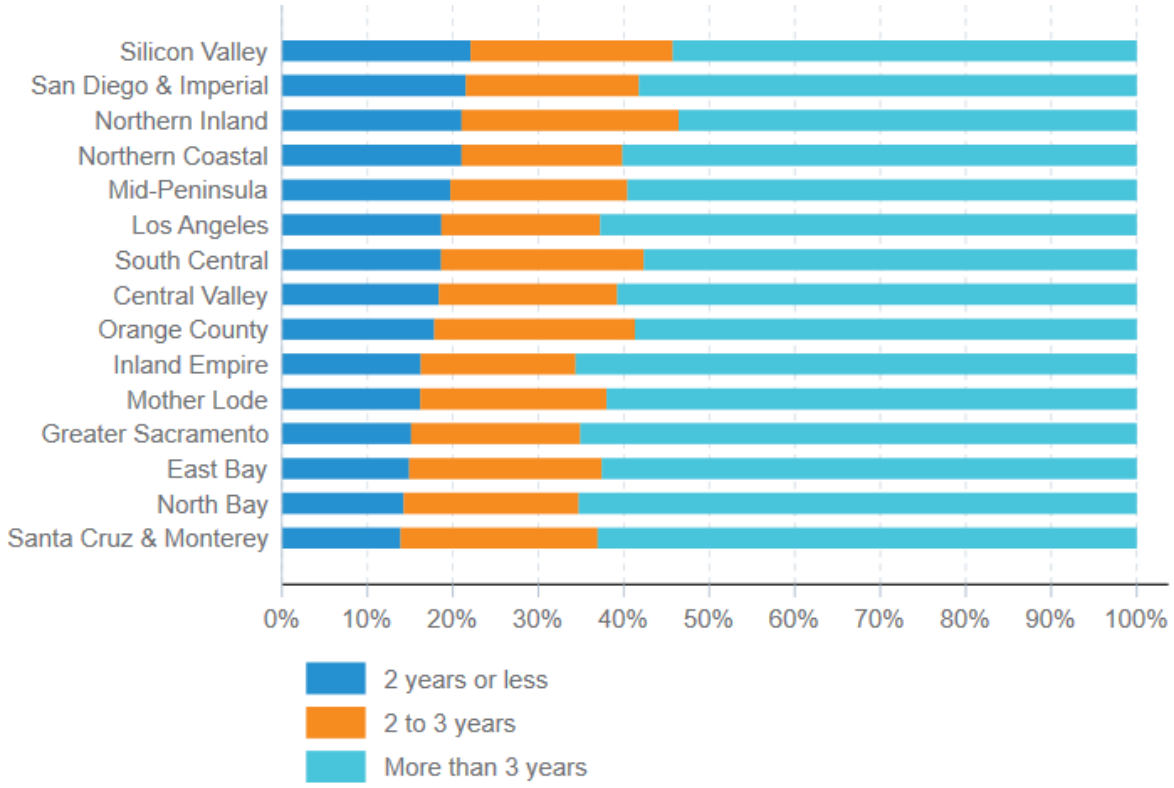


Notes. Figure shows, among all CCC students who began enrollment in a 4-year institution (UC, CSU, or other 4-year institution) in 2018-19, the credit units earned prior to transfer. Units are semester-equivalent units (i.e., multiplied by ⅔ if a student attends a school on the quarter system). Units are summed across campuses if a student attended multiple campuses prior to transfer. Students are associated with the last campus they attended prior to transfer. Sample is limited to students who enrolled in community college prior to a 4-year institution as a non-special-admit, non-high school student in 2012 or later. Regions are ordered by the share of students who transferred after earning 30 credit units or less.

Excess credit accumulation can slow the time to transfer among students who ultimately do attend four-year institutions. In some cases, this may be productive, if CCC students are completing remediation in preparation for college-level coursework. Additionally, if the credits are applicable to the four-year degree, transfer students with excess CCC credit accumulation might spend less time between transfer and degree completion. Figure F3 shows the number of years between initial community college enrollment and transfer to a UC or

CSU, for those students who transferred during the 2018-19 academic year. In most regions, less than 40% of transfers occurred within three years of the student's initial enrollment. This share is highest in the Silicon Valley and Northern Inland micro regions (over 40%), and lowest in the Inland Empire, North Bay, and Greater Sacramento micro regions. Further, in the Silicon Valley, San Diego & Imperial, Northern Inland, and Northern Coastal micro regions, over 20% of transfer students took only two years or less to transfer. Several of these micro regions had the highest shares of transfer students with less than 30 credits earned.

FIGURE F4: Time to Transfer Among Students Who Transfer to a 4-Year Institution, by Micro Region



Notes. Figure shows, among all CCC students who began enrollment in a 4-year institution (UC, CSU, or other 4-year institution) in 2018-19, the amount of time taken between a student's initial CCC enrollment and their start at the 4-year institution, regardless of whether they were continually enrolled during that time. Students are associated with the last campus they attended prior to transfer. Sample is limited to students who enrolled in community college prior to a 4-year institution as a non-special-admit, non-high school student in 2012 or later. Regions are ordered by the share of students who transferred in 2 years or less.

5. Conclusion

California's community colleges serve a diverse set of students in a wide variety of contexts, and colleges in different regions are faced with different sets of challenges and opportunities as they educate and train their students. Table G1 combines information presented on the various outcomes discussed throughout this report. The table contains key statistics from each of the outcome measures and contrasts results with and without adjustments for student characteristics and pre-college preparation. Cells with darker shading indicate better relative performance on a given metric. These charts highlight the overall performance of each micro region across outcomes.

Across most outcome measures, the South Central micro region has strong performance relative to other regions. The South Central micro region has among the highest rates of transfer and/or degree attainment and persistence into the second year, with and without adjustments for pre-college preparation.

The Silicon Valley micro region rates lowest across most outcome measures, both among the Bay Area micro regions and overall. These results suggest that a large share of students in this micro region are enrolling in CC to fulfill goals other than degree attainment or transfer and may not be best captured by the specified outcome measures. Within the Bay Area, the Santa Cruz & Monterey micro region outperforms the rest of the micro regions across almost every measure.

Most of the patterns in outcomes are consistent between the unadjusted and adjusted results, with the exception of the outcomes for Inland Empire. Without adjustments, the Inland Empire micro region rates quite low across all measures, particularly in transfer or degree attainment and earning 60 plus credits in the first two years. After the adjustments for student characteristics and pre-college preparation, the outcomes for the micro region are (or appear) more aligned with other regions.

As this report makes clear, the state's community college regions each face different challenges, serve different student populations, and vary in their performance along measures of persistence and

attainment. The information here should be helpful in deciding which dimensions of performance require the most attention in each region.

TABLE G1: Summary of Outcome Measures by Micro Region Among Matched Sample

	UNADJUSTED FOR STUDENT CHARACTERISTICS						ADJUSTED FOR STUDENT CHARACTERISTICS					
	% Earned degree	% Transfer or earned degree or certificate	% Took college- level math or English in 1st year	% Earned 30-plus credits in 1st year	% Earned 60-plus credits in first 2 years	% Persisted to year 2	% Earned degree	% Transfer or earned degree or certificate	% Took college- level math or English in 1st year	% Earned 30-plus credits in 1st year	% Earned 60-plus credits in first 2 years	% Persisted to year 2
Northern												
Northern Coastal	0.11	0.14	0.44	0.25	0.10	0.45	0.09	0.11	0.41	0.23	0.09	0.44
Northern Inland	0.13	0.20	0.52	0.32	0.14	0.51	0.12	0.17	0.49	0.29	0.13	0.49
Greater Sacramento	0.09	0.13	0.42	0.25	0.11	0.51	0.07	0.09	0.38	0.21	0.09	0.5
Bay Area												
East Bay	0.09	0.16	0.48	0.26	0.13	0.53	0.07	0.11	0.45	0.21	0.1	0.51
Mid-Peninsula	0.09	0.16	0.52	0.25	0.11	0.50	0.05	0.10	0.48	0.18	0.06	0.47
North Bay	0.10	0.16	0.41	0.25	0.12	0.52	0.08	0.13	0.39	0.23	0.11	0.51
Silicon Valley	0.08	0.14	0.37	0.22	0.12	0.45	0.04	0.06	0.31	0.14	0.06	0.42
Santa Cruz & Monterey	0.13	0.16	0.36	0.31	0.17	0.59	0.12	0.15	0.37	0.3	0.16	0.57
Central Valley												
Mother Lode	0.13	0.18	0.40	0.28	0.14	0.46	0.12	0.15	0.36	0.25	0.13	0.43
Central Valley	0.11	0.15	0.43	0.27	0.13	0.52	0.11	0.15	0.43	0.26	0.13	0.51
South Central												
South Central	0.14	0.21	0.47	0.34	0.17	0.58	0.12	0.18	0.45	0.31	0.16	0.57
Inland Empire												
Inland Empire	0.10	0.13	0.41	0.24	0.11	0.53	0.1	0.14	0.42	0.25	0.12	0.53
Greater LA												
Los Angeles	0.09	0.13	0.38	0.25	0.13	0.53	0.09	0.13	0.38	0.25	0.13	0.53
Orange County	0.13	0.19	0.45	0.29	0.14	0.55	0.1	0.14	0.42	0.24	0.10	0.53
San Diego												
San Diego & Imperial	0.11	0.16	0.43	0.29	0.12	0.54	0.08	0.12	0.39	0.24	0.10	0.52

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Appendix I: College Readiness Indicators

TABLE IA: College readiness indicators

COLLEGE READINESS MEASURES	DESCRIPTION
Completed A-G course requirements	% completing A-G course requirements with a grade of C- or better
Completed CTE pathway	% completing Career Technical Education pathway with a grade of C- or better in the capstone course
Cumulative GPA in senior year	Mean, constructed
Earned level 3 or higher on ELA or Math standardized test	% scoring Level 3 "Standard Met" or higher on English language arts/literacy (ELA) or mathematics
Earned State Seal of Biliteracy (SSB) and 3+ on ELA standardized test	% with SSB awarded and scoring of Level 3 "Standard Met" or higher in ELA
Earned 2 years of military science and 3+ on ELA or math standardized test	% with two years of Leadership/Military Science, and scoring Level 3 "Standard Met" or higher in ELA or math
Passed 2 or more AP exams	% scoring 3 or higher on two AP exams
Passed 2 or more IB exams	% scoring 4 or higher on two IB exams
Passed year of college coursework (in HS)	% with two semesters or three quarters of college coursework with a grade of C- or better in academic/CTE subjects where college credit is awarded

Appendix II: Results by Macro Regions

FIGURE I-A2: Student Age at Initial Enrollment by Macro Region

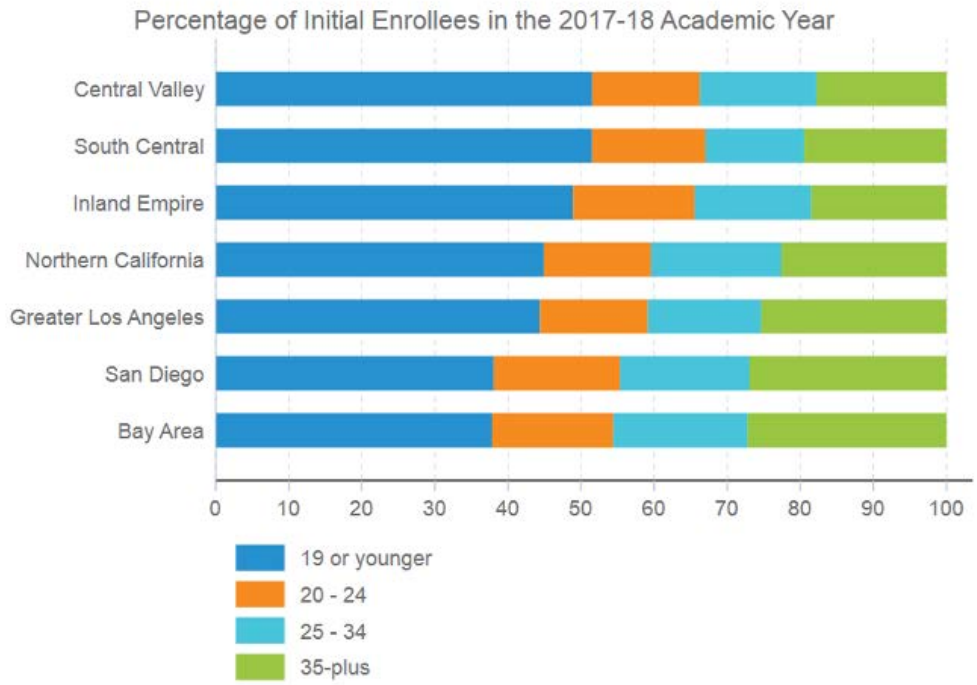


FIGURE I-A3: Year of Initial CCC Enrollment Among Matched Sample by Macro Region

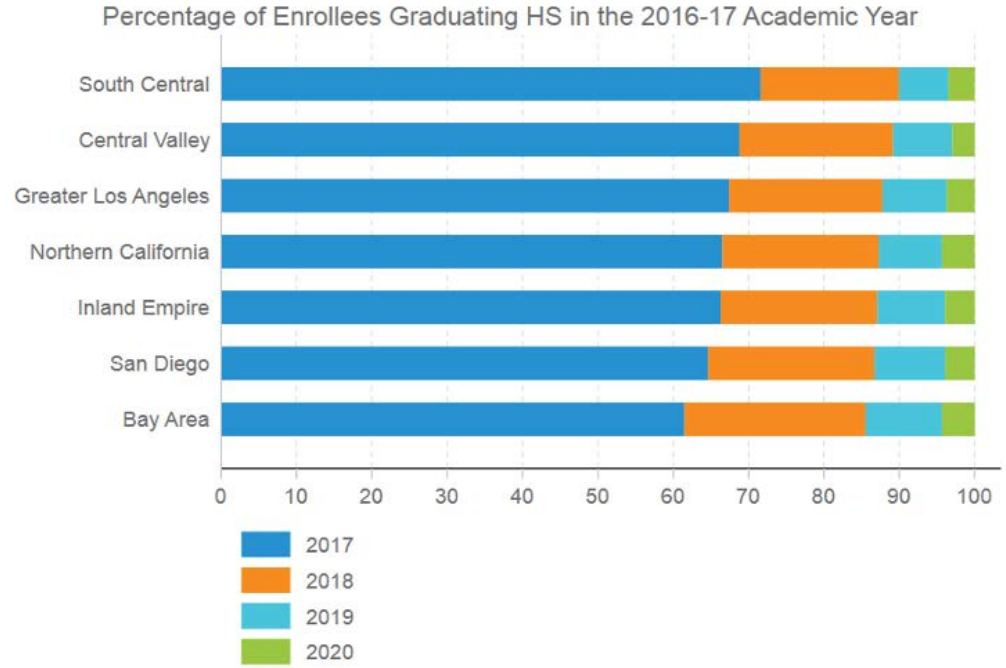


FIGURE I-B1: Educational Attainment of Population by Macro Region

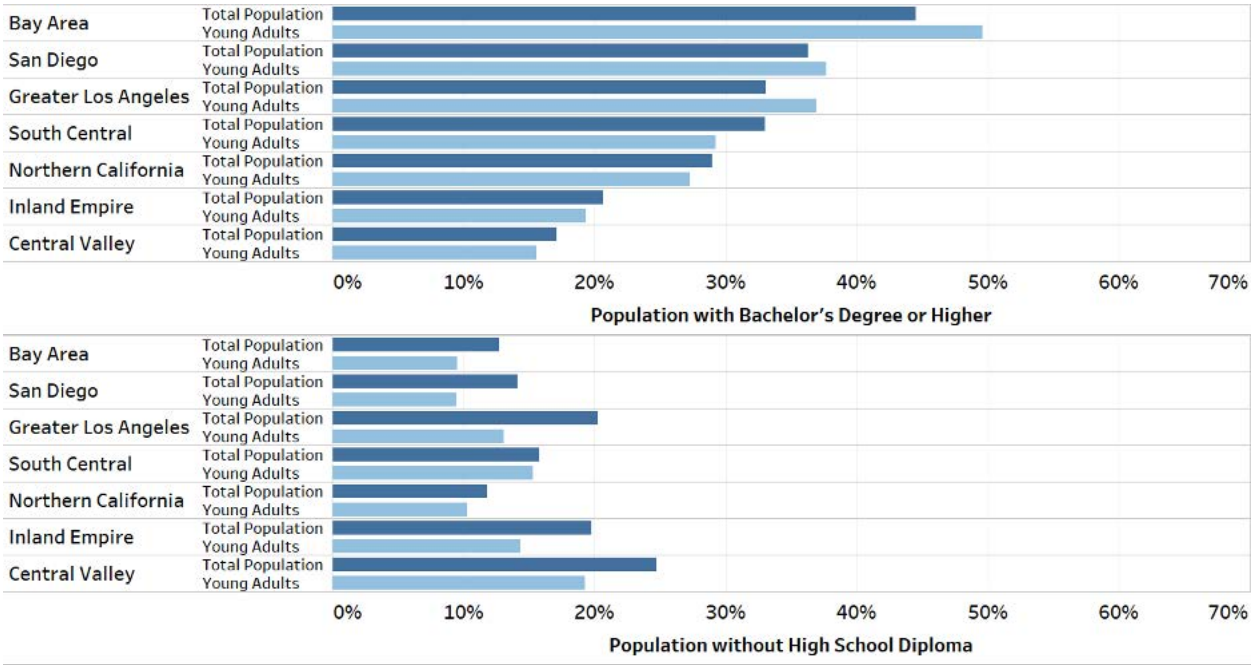


FIGURE I-B2: High School Graduates by Macro Region

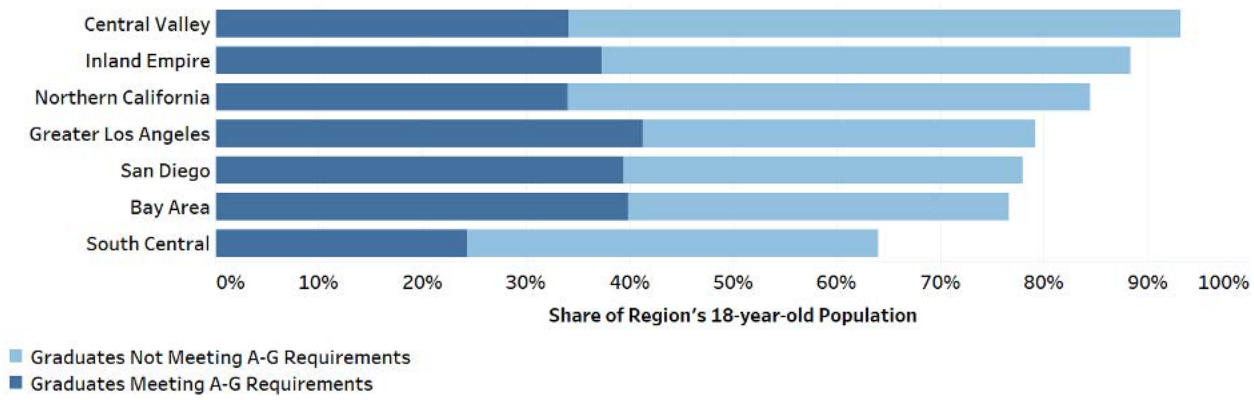


FIGURE I-B3: English Language Learners in Regional High Schools by Macro Region

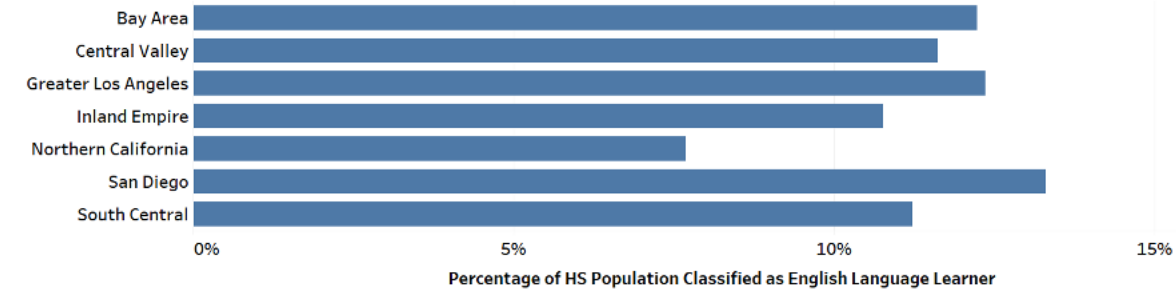
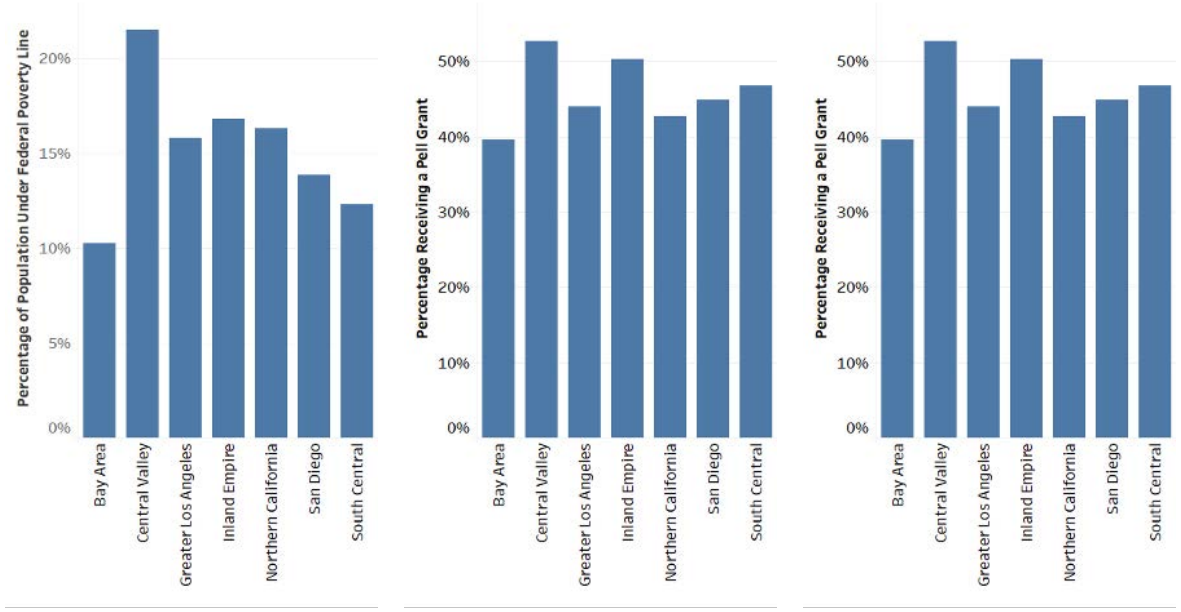


FIGURE I-B4: Measures of Poverty by Micro Region



Percent of Region Population Under Federal Poverty Line

Percent of Region High School Population Receiving Free or Reduced-Price Meals

Percent of Region Community College Population Receiving a Pell Grant

FIGURE I-B5: Racial Demographics of Regional Population by Macro Region

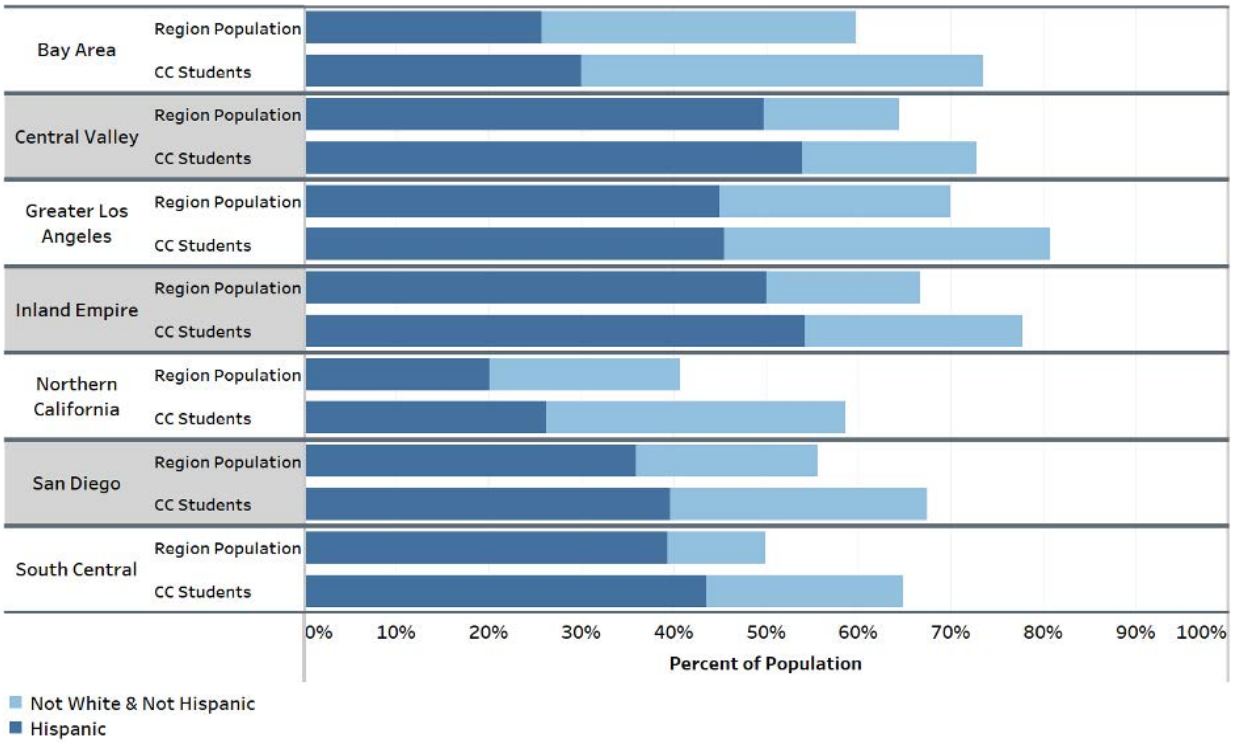


FIGURE I-B6: Availability of Community College by Macro Region

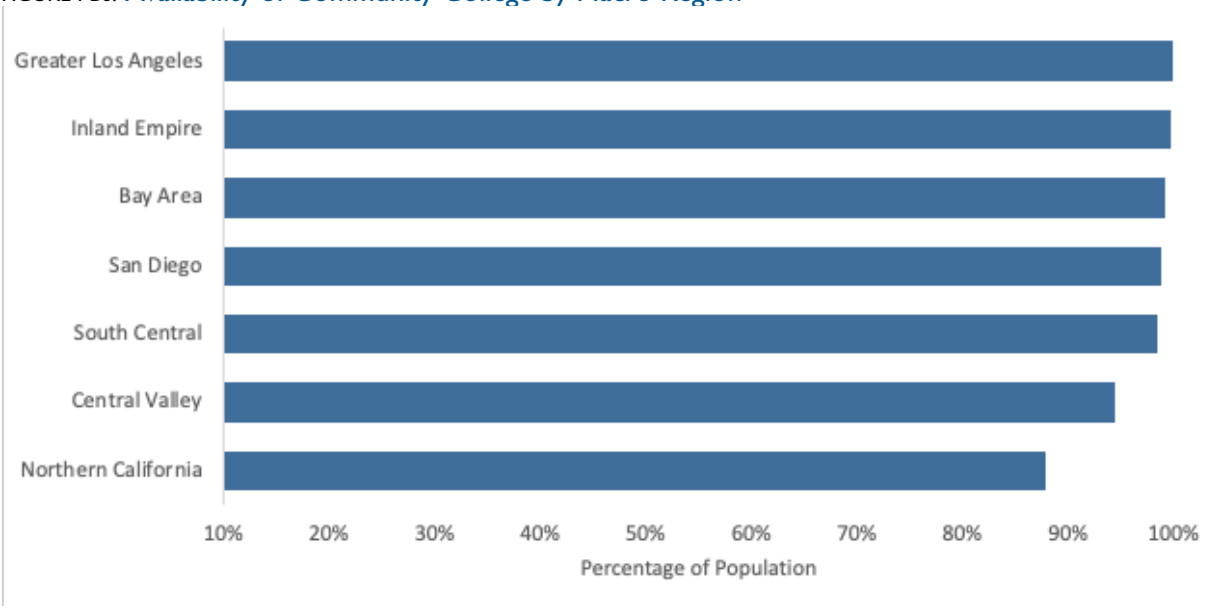


FIGURE I-B7: Availability of Public Four-Year Institutions by Macro Region

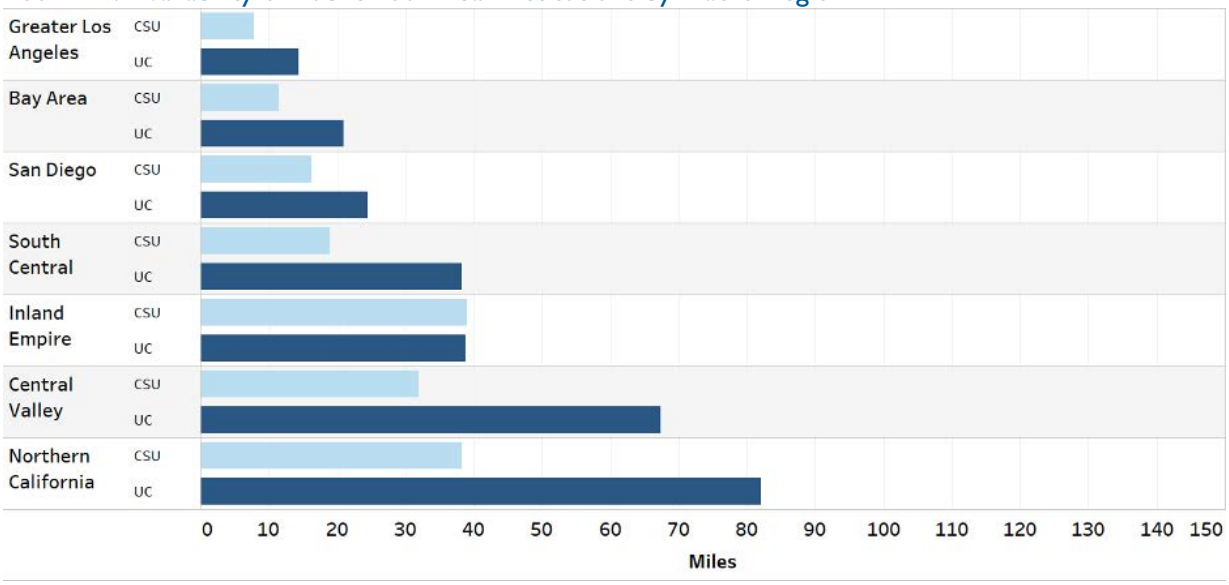


TABLE I-B1: Measures of College Readiness Among Matched Sample of Enrolled Students by Macro Region

	Mean Cumulative GPA in Senior Year	% Earned Level 3 or higher on ELA or Math Standardized Test	% Passed 2 or more AP exams	% Passed 2 or more IB exams	% Passed year of college coursework	% Earned State Seal of Biliteracy and 3+ on ELA standardized test	% Earned 2 yrs of military science and 3+ on ELA or math standardized test	% Completed CTE pathway	% Completed A-G course requirements
Bay Area	2.834	35.2	17.4	0.8	0.3	10.4	0.4	15.4	48.2
Central Valley	2.679	19.0	5.2	0.4	0.6	5.2	0.4	25.2	38.5
Greater Los Angeles	2.745	28.5	13.2	0.6	0.2	11.4	0.4	18.6	49.8
Inland Empire	2.687	21.6	7.0	0.6	0.9	7.0	1.3	13.5	43.0
Northern California	2.815	29.9	10.3	1.0	0.6	7.3	0.1	20.4	43.0
San Diego	2.871	32.3	15.5	0.8	3.2	8.3	1.6	18.1	53.3
South Central	2.822	27.5	12.1	0.5	0.5	6.2	0.3	16.5	42.3
Total	2.773	28.4	12.3	0.6	0.6	9.0	0.6	18.3	46.5

TABLE I-B2: Student Demographics by Macro Region

	Race and ethnicity								Gender		
	% Asian	% Black	% Hispanic	% Native American	% Pacific Islander	% Two or more races	% White	% Unknown	% Female	% Male	% Non-binary or unknown
Bay Area	22.5	4.0	42.5	0.1	0.8	6.4	22.3	1.5	49.2	49.6	1.2
Central Valley	7.5	3.4	65.5	0.5	0.3	3.1	19.2	0.5	51.0	47.3	1.7
Greater Los Angeles	13.2	4.6	60.1	0.2	0.3	3.5	15.5	2.5	50.1	49.0	0.9
Inland Empire	4.3	6.4	69.3	0.3	0.3	3.0	15.5	0.8	51.4	47.7	1.0
Northern California	12.1	5.6	33.0	0.8	0.7	7.8	39.1	0.8	50.8	48.0	1.2
San Diego	8.7	3.0	51.8	0.4	0.4	6.5	28.0	1.2	50.9	48.5	0.6
South Central	5.2	3.6	55.0	0.3	0.2	4.3	30.1	1.4	50.3	48.8	1.0
Total	12.3	4.4	54.6	0.3	0.4	4.7	21.7	1.6	50.3	48.6	1.1

TABLE I-B3: Student Characteristics by Macro Region

	Parents' education level					Student characteristics while in high school				
	% Neither parent has college degree	% At least 1 parent has AA/AS	% At least 1 parent has BA/BS	% At least 1 parent has grad/professional degree	% Missing or unknown	% Socioeconomic disadvantage	% English learner	% Student with disabilities	% Foster youth	% Homelessness flag
Bay Area	46.0	8.6	20.0	13.9	11.6	48.6	11.1	8.9	0.4	2.9
Central Valley	54.3	8.9	10.2	5.2	21.3	72.3	12.2	6.8	0.7	5.8
Greater Los Angeles	45.6	6.4	13.3	8.1	26.6	66.4	11.6	8.8	0.7	6.7
Inland Empire	56.9	8.8	13.2	5.5	15.6	71.3	11.2	9.8	0.6	8.5
Northern California	45.2	8.5	15.5	7.6	23.2	53.4	8.1	8.9	0.7	4.7
San Diego	34.6	5.9	13.3	8.7	37.6	55.1	12.2	8.7	0.3	4.8
South Central	52.1	9.1	20.5	10.5	7.9	54.6	9.9	8.5	0.7	7.9
Total	47.4	7.7	15.0	8.8	21.2	61.1	11.2	8.6	0.6	5.8

TABLE I-B4: Characteristics of Students' High Schools by Macro Region

	Mean percent Black	Mean percent Hispanic	Mean percent Asian	Mean percent English learner	Mean percent econ. disadvantaged
Bay Area	5.10	40.20	17.20	11.90	43.30
Central Valley	4.90	62.30	5.70	12.20	68.80
Greater Los Angeles	5.50	58.10	11.70	12.60	60.30
Inland Empire	7.70	63.00	3.80	12.10	65.90
Northern California	7.20	28.80	9.60	7.60	49.10
San Diego	4.00	49.60	5.50	12.30	49.60
South Central	4.70	52.10	4.30	10.60	51.40
Total	5.50	51.70	9.90	11.70	56.00

FIGURE I-B7: Preparedness Index by Macro Region

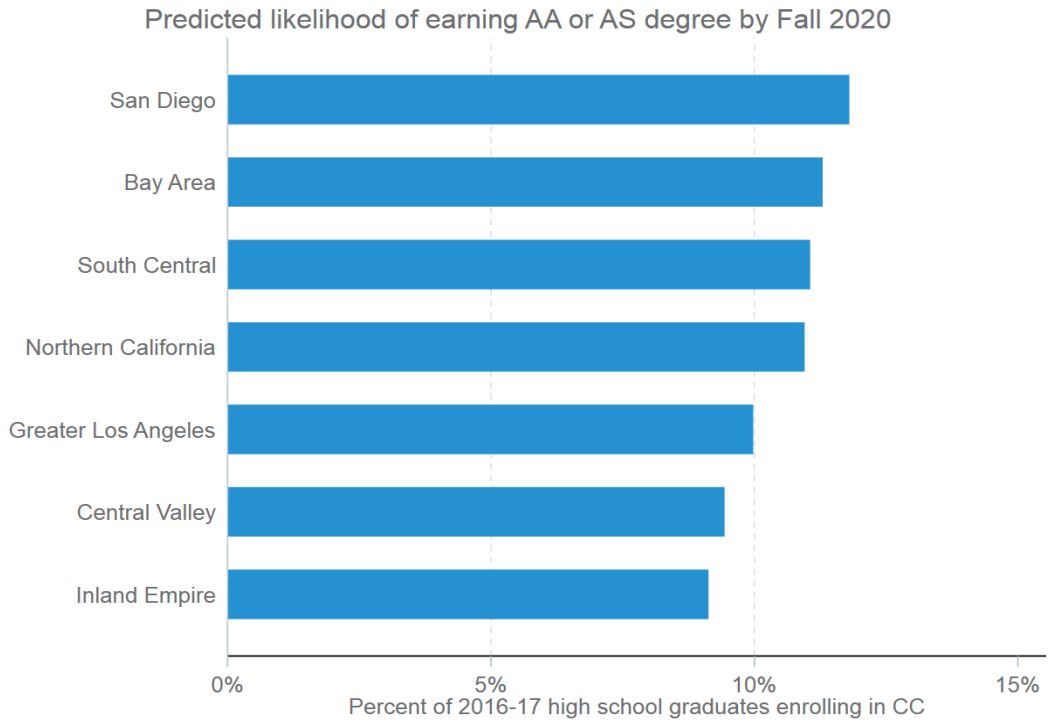


FIGURE I-C1: Initial Enrollments by Macro Region

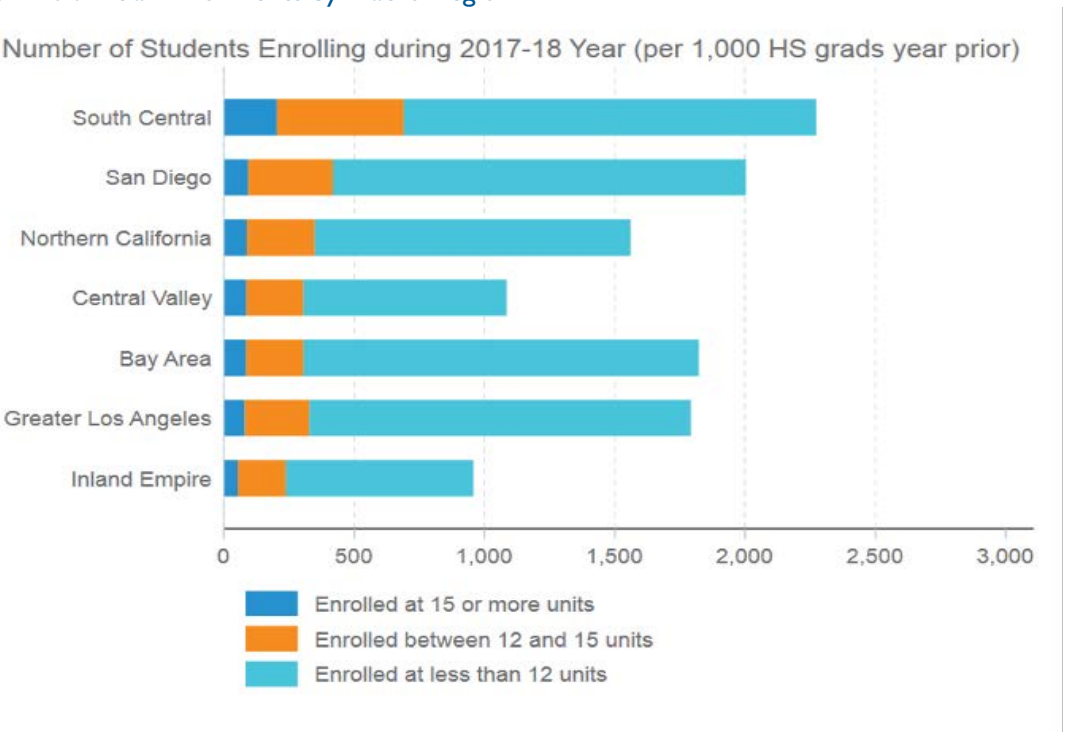


FIGURE I-C2: Initial Enrollments by Macro Region, Matched Sample

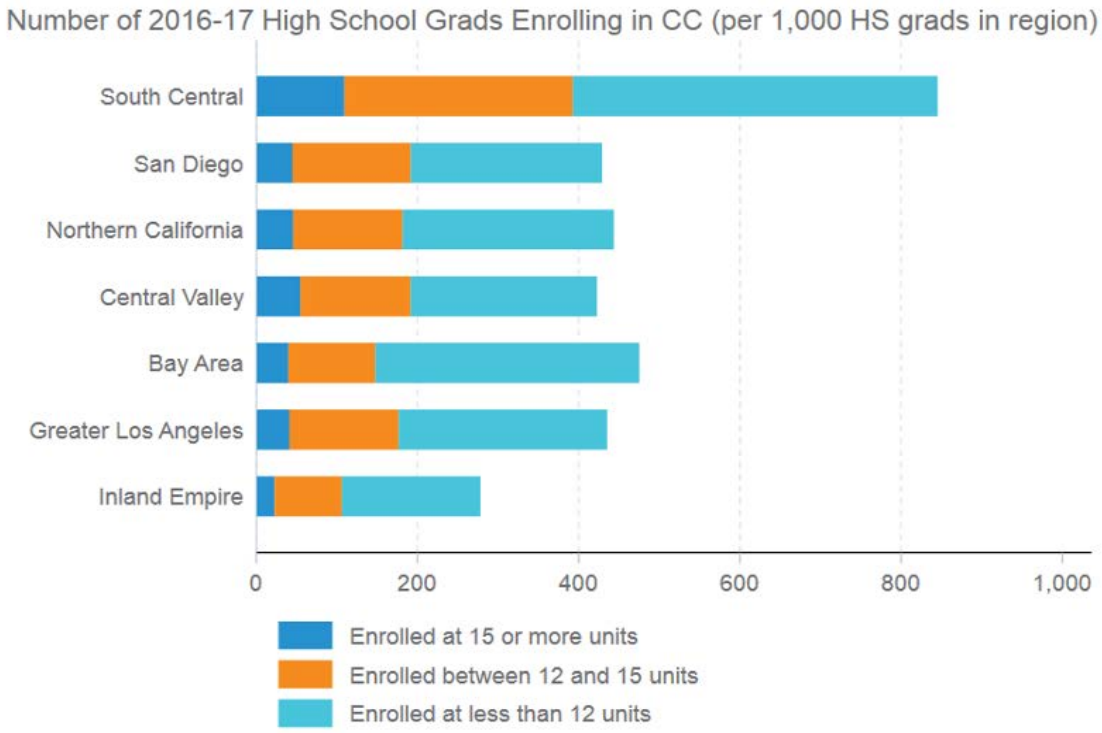


FIGURE I-C3: Reported Educational Goals of Initial Enrollees by Macro Region

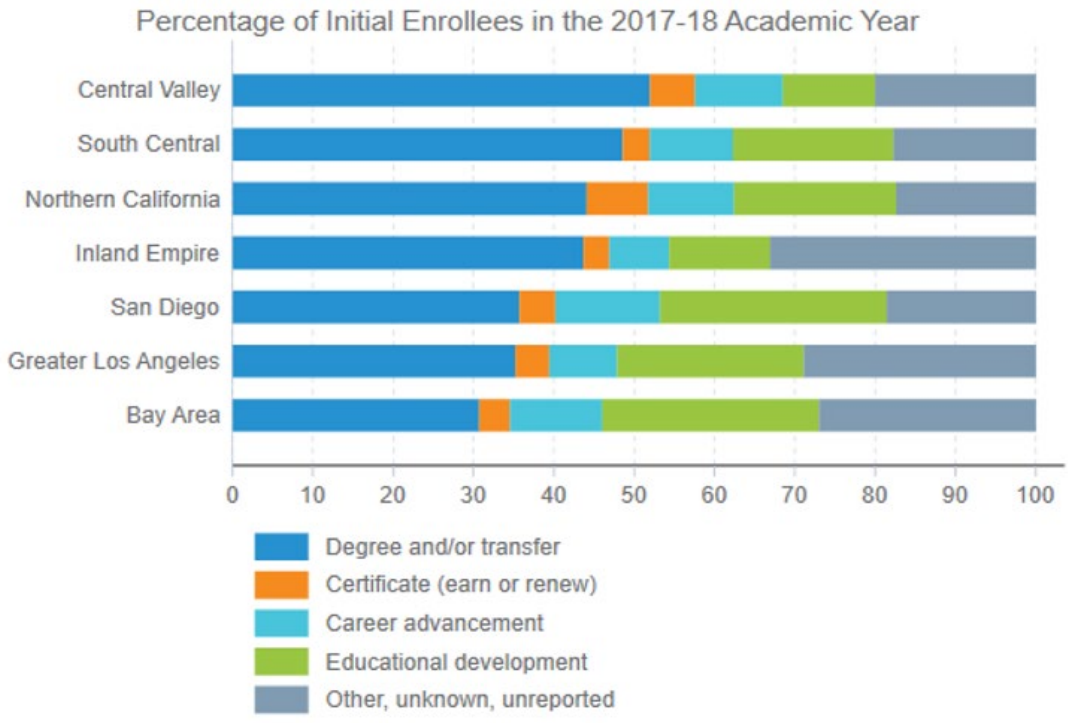


FIGURE C4: Reported Educational Goals of Matched Sample by Macro Region

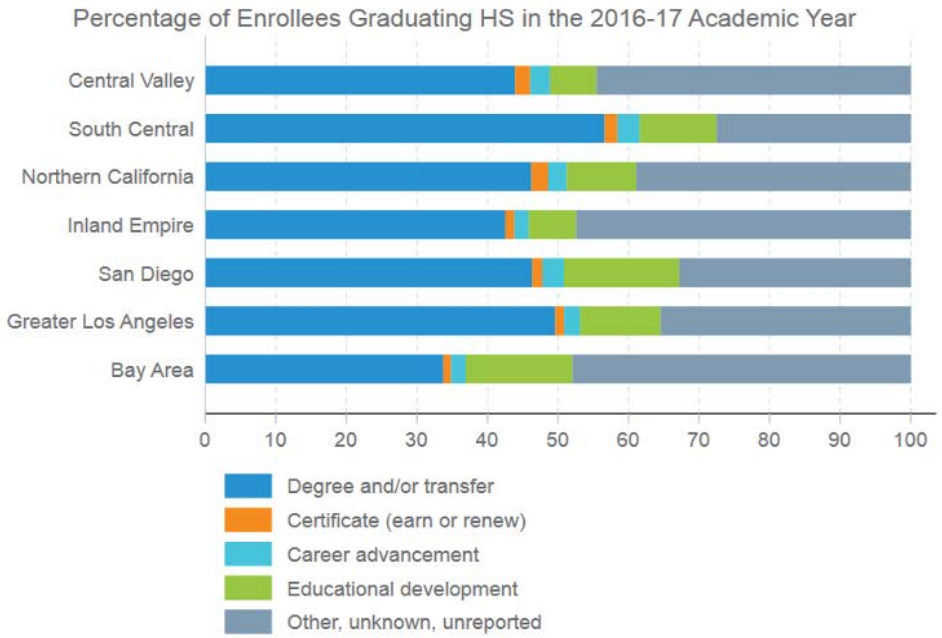


FIGURE I-D1: Transfers to the UC and CSU Systems by Macro Region, Among All Enrollees and Matched Sample

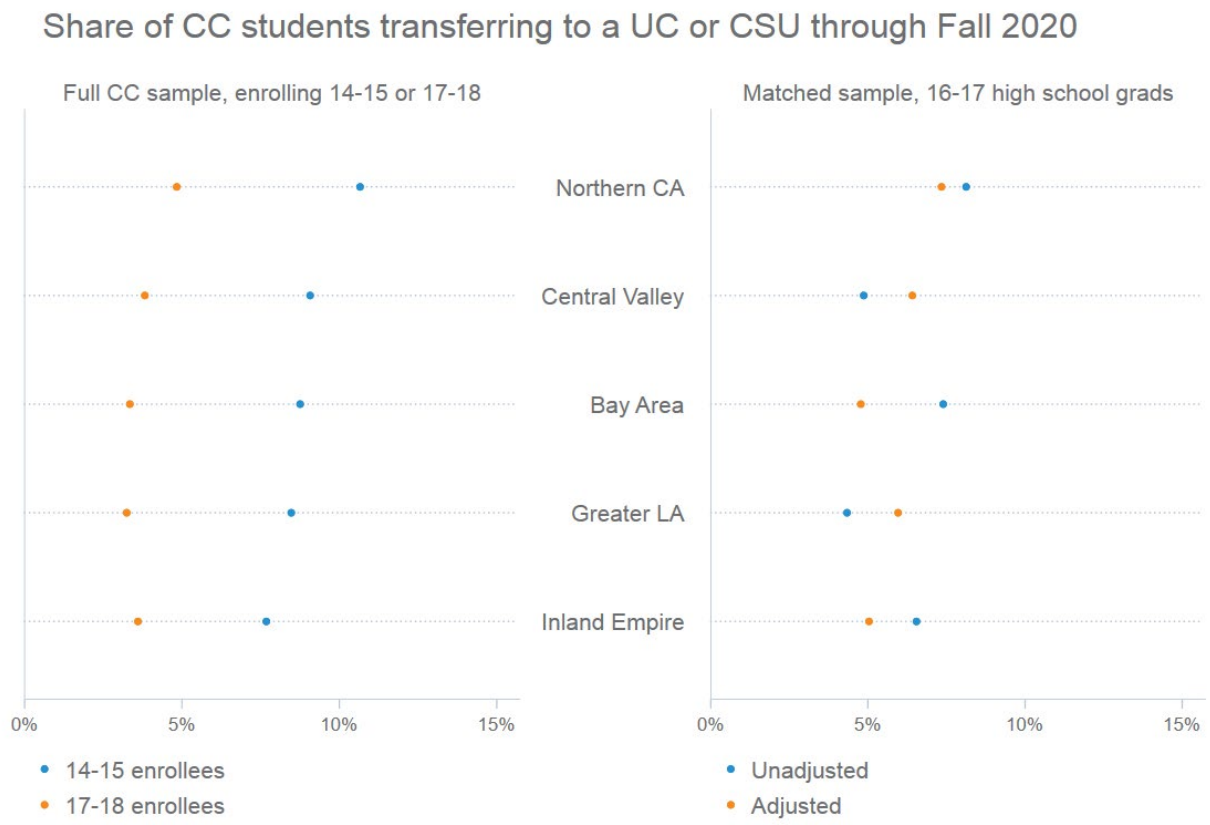


FIGURE I-D2: Degrees Granted by Macro Region, Among All Enrollees and Matched Sample

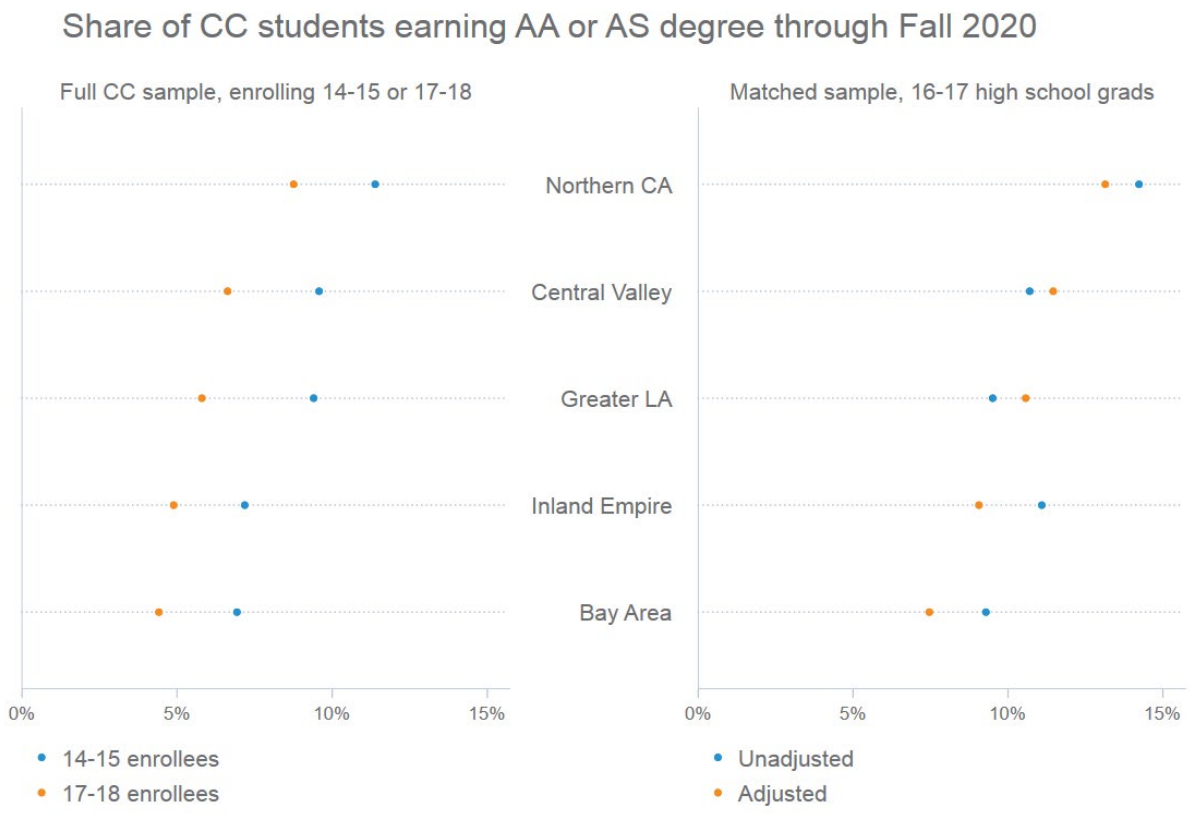


FIGURE I-D3: Certificates Granted by Macro Region, Among All Enrollees and Matched Sample

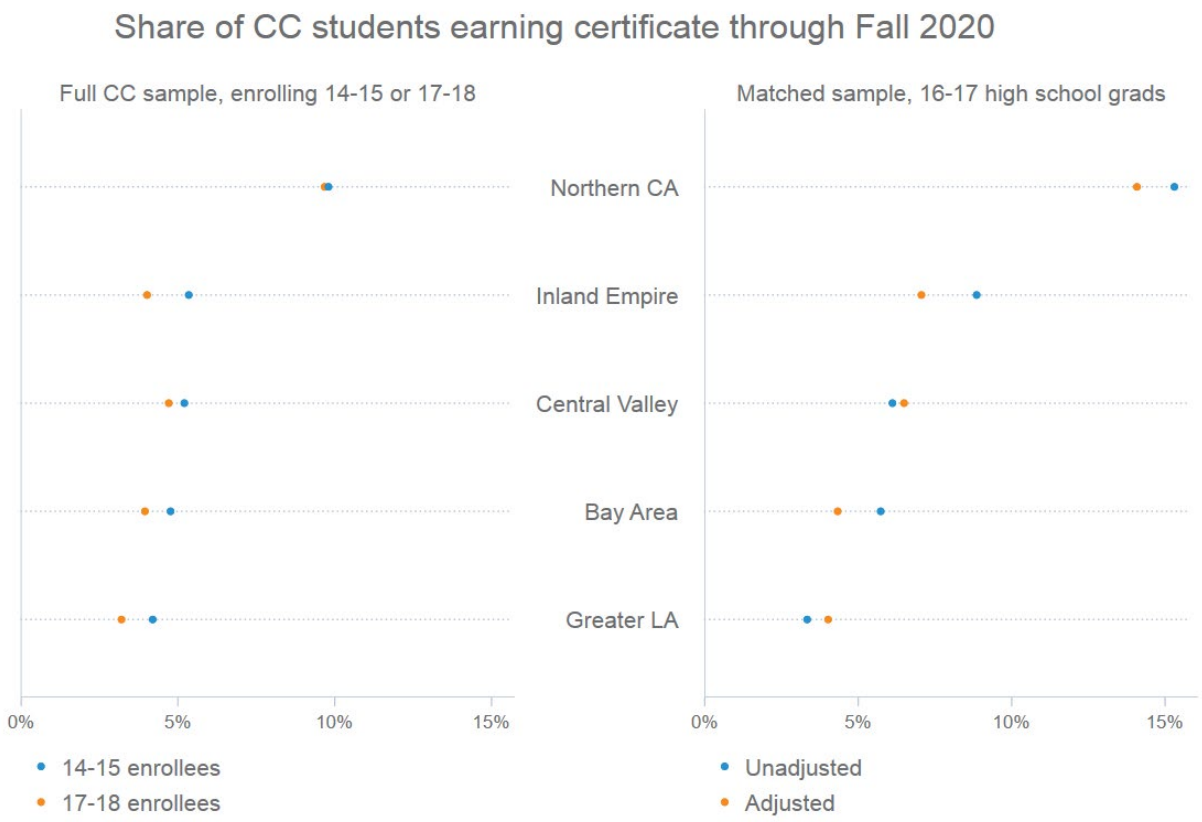


FIGURE I-D4: Share of Students Transferring, Earning an Associate's Degree, or Earning a Certificate by Macro Region, Among All Enrollees and Matched Sample

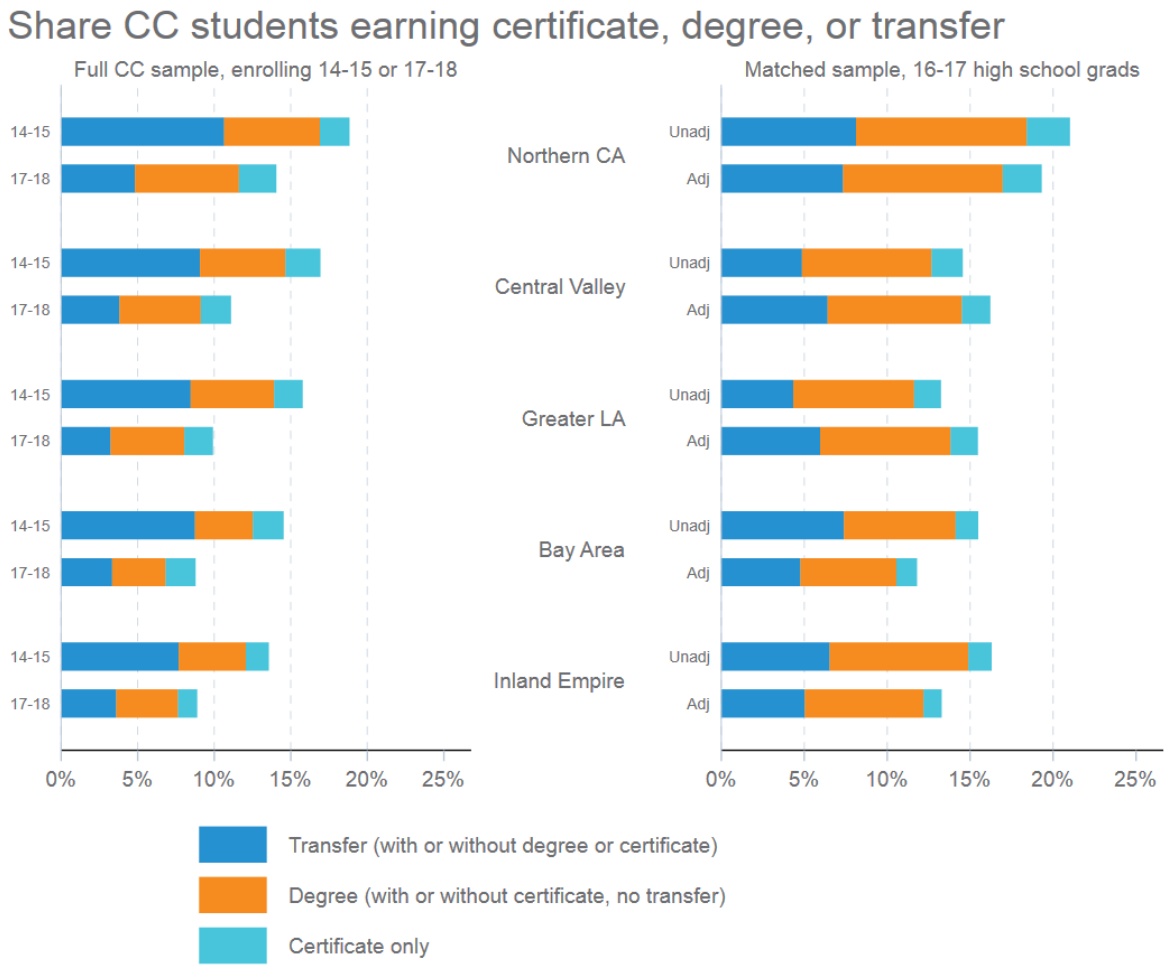


FIGURE I-E1: Enrollment in College-Level Coursework in First Year of Enrollment, Adjusted for Student Characteristics, by Macro Region (Matched Sample Only)

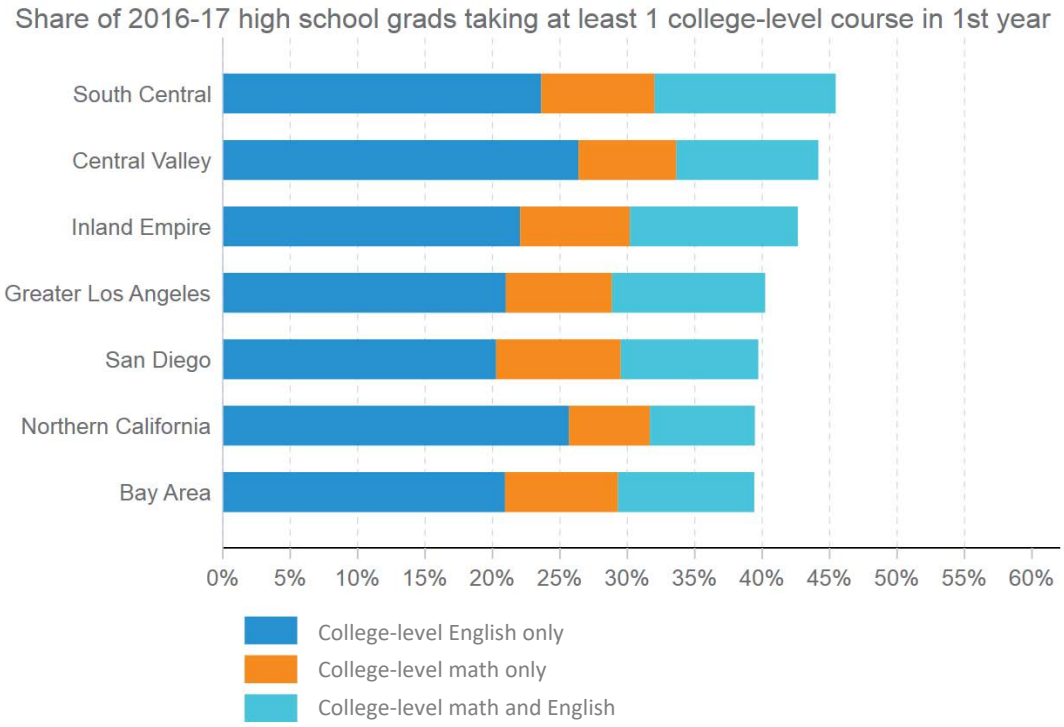


FIGURE I-E2: Persistence to Year 2, Adjusted for Student Characteristics, by Macro Region (Matched Sample Only)

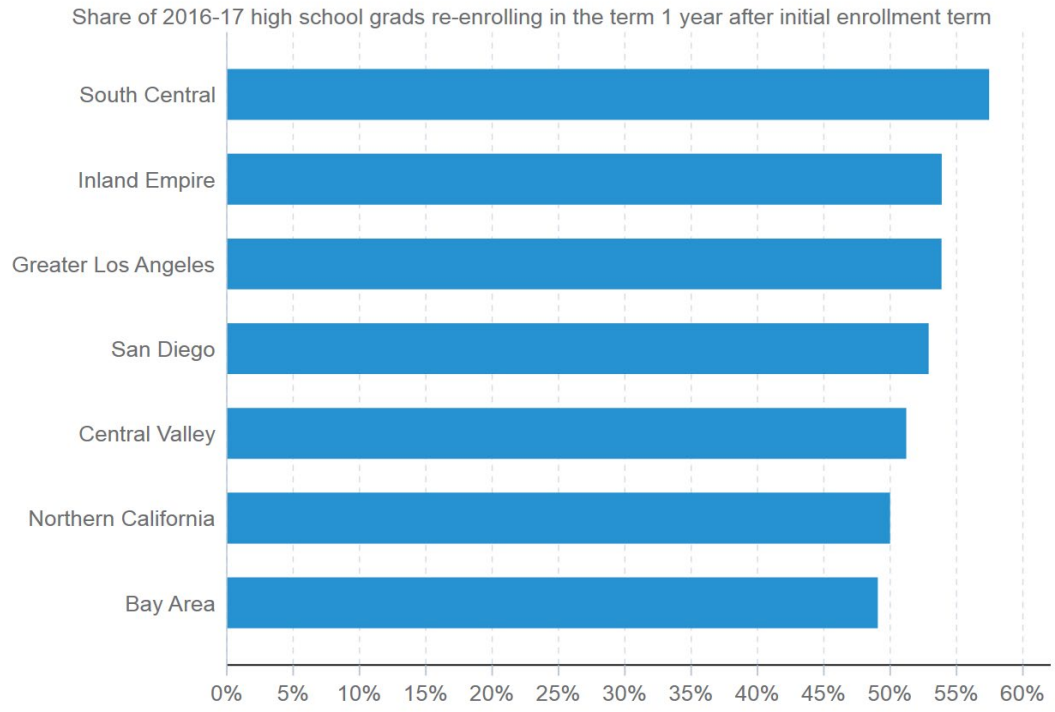


FIGURE I-E3: Credit Accumulation in Years 1 and 2, Adjusted for Student Characteristics, by Macro Region (Matched Sample Only)

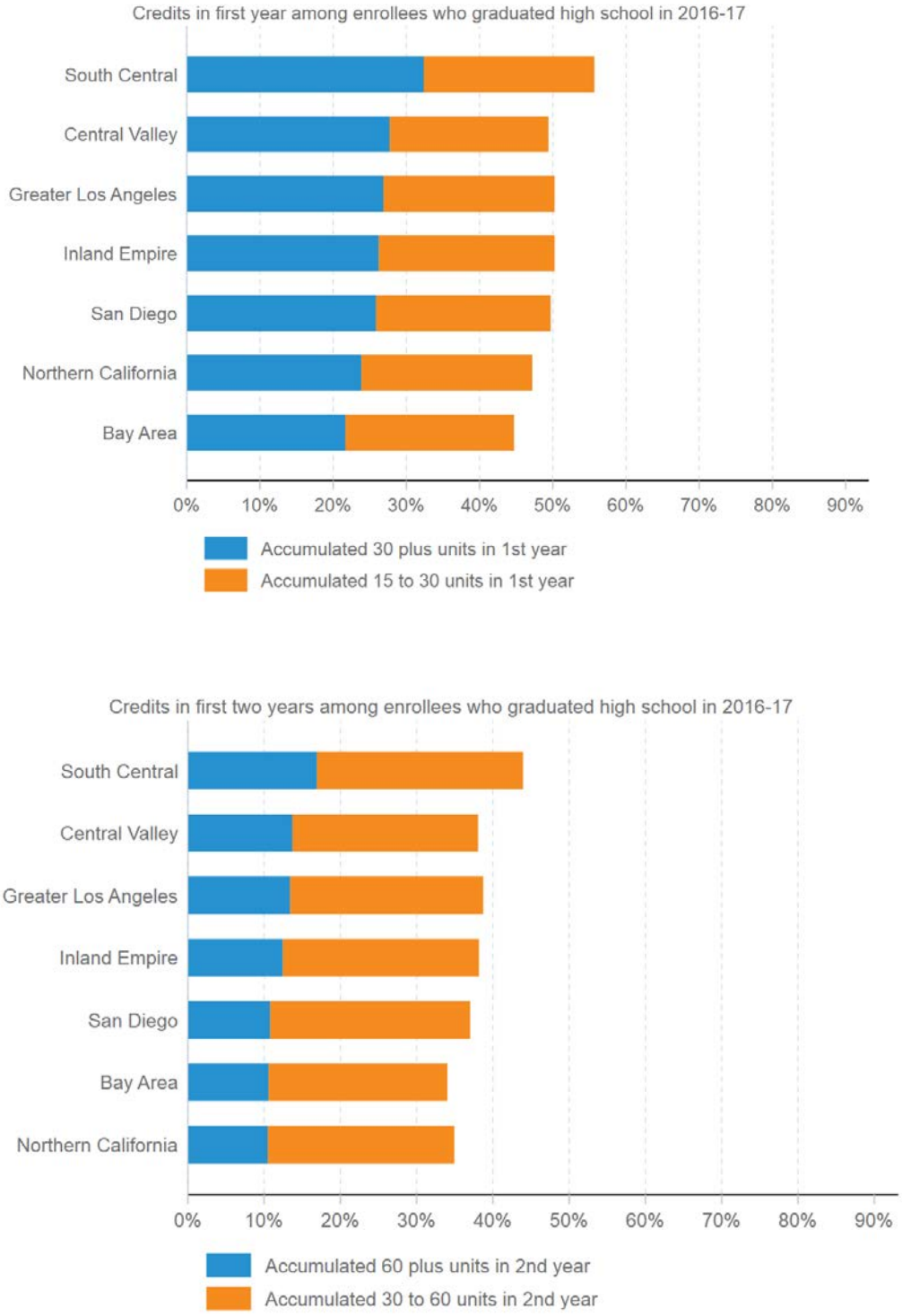


FIGURE I-F1: Credits Earned by Degree-Earning Students by Macro Region

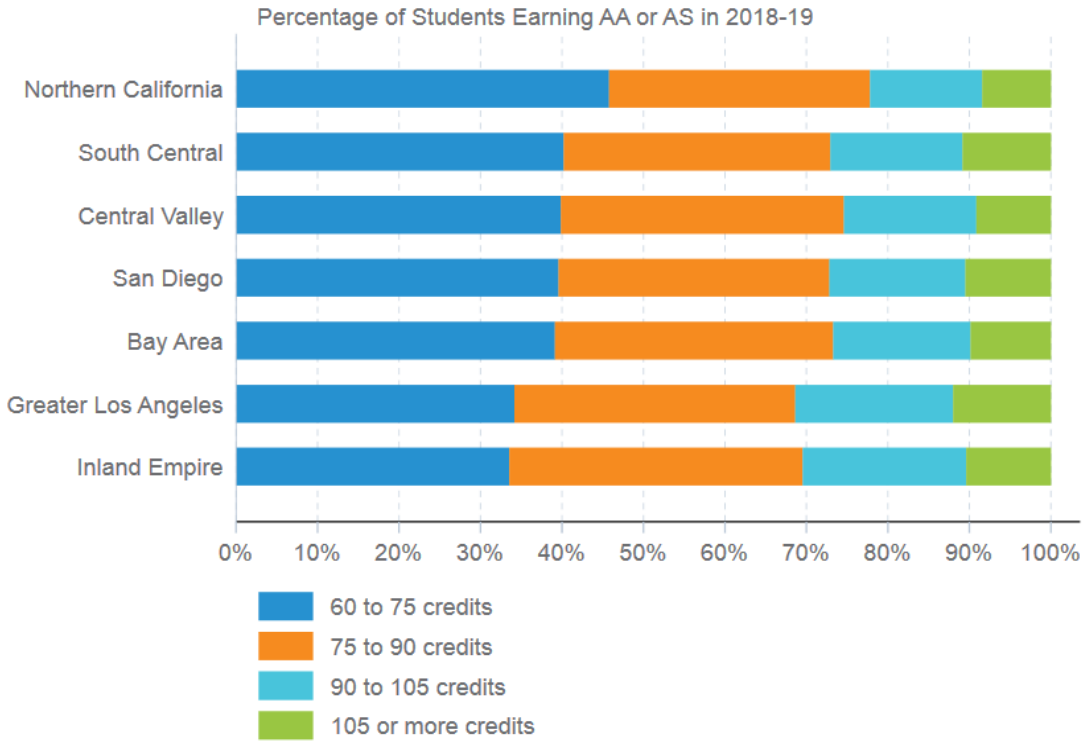


FIGURE I-F2: Time to Degree Among Degree-Earning Students by Macro Region

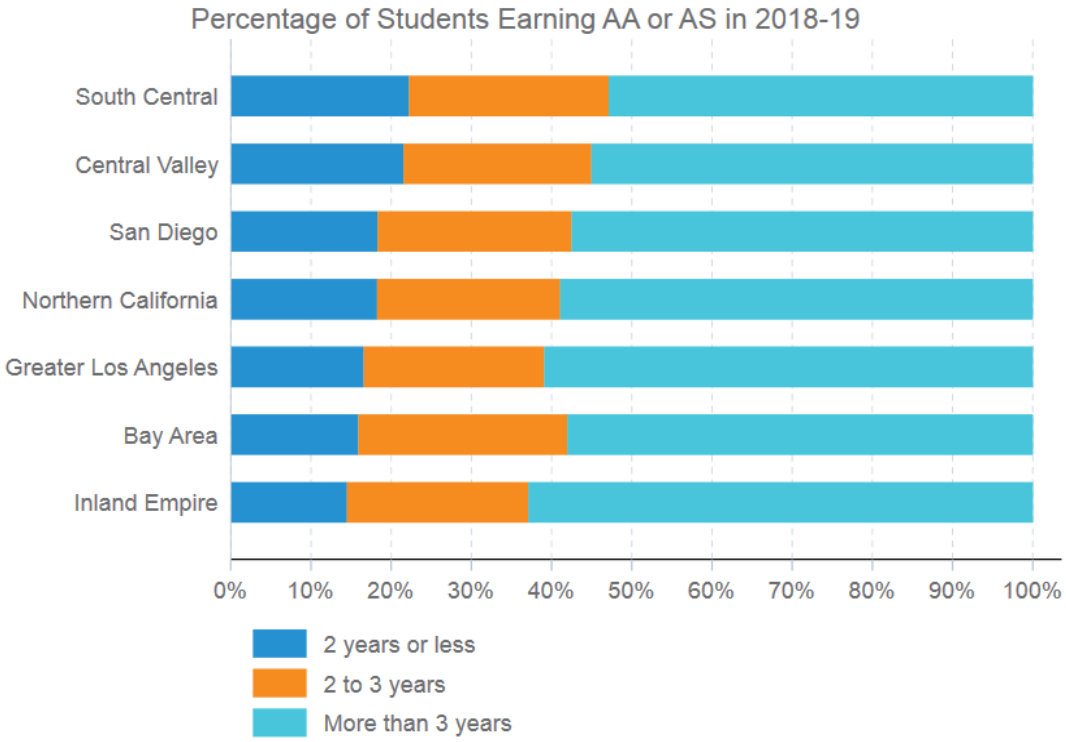


FIGURE I-F3: Credits Earned Among Transfer Students by Macro Region

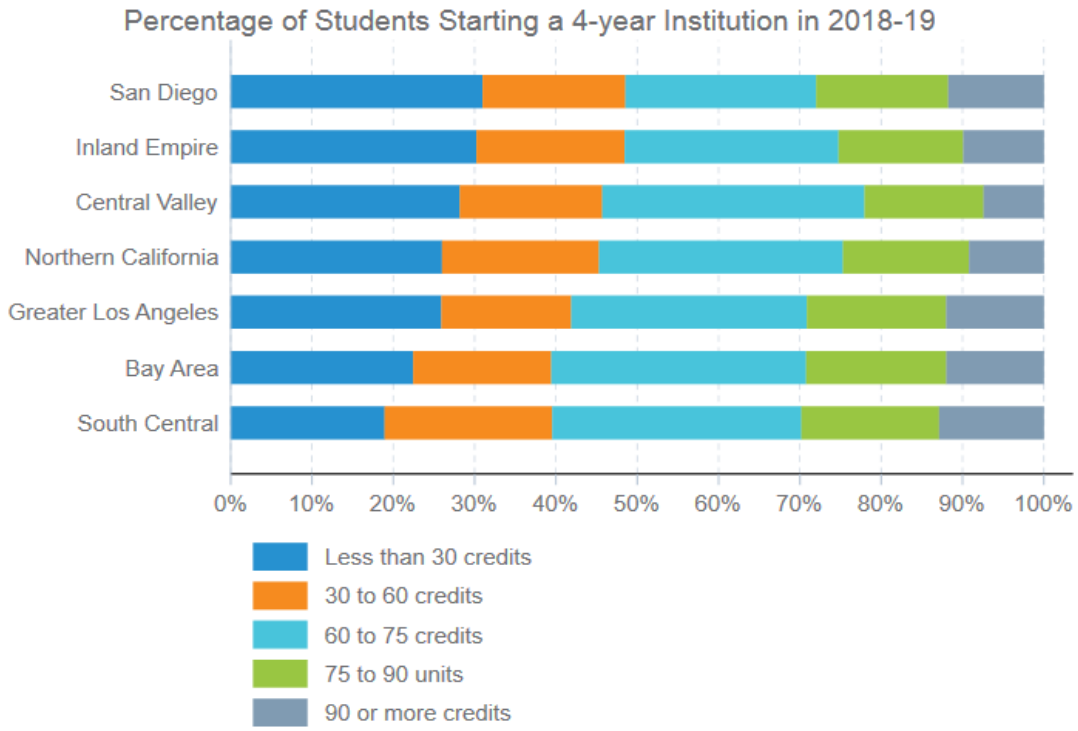


Figure I-F4: Time to Transfer Among Transfer Students by Macro Region

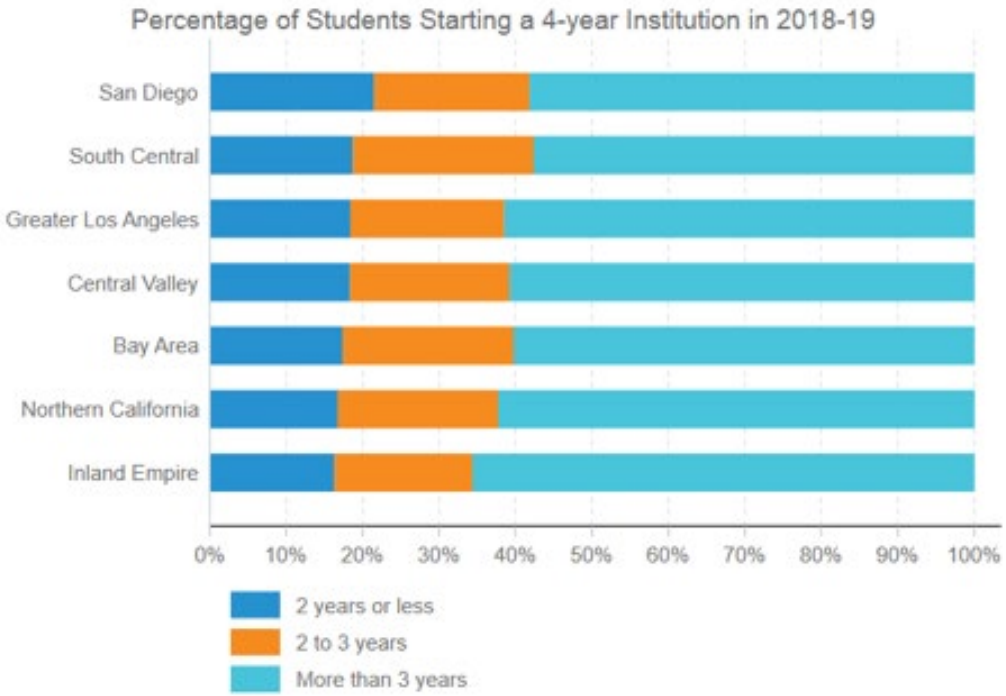


TABLE I-G1: Summary of Outcome Measures by Macro Region Among Matched Sample

	Unadjusted for student characteristics						Adjusted for student characteristics					
	% Earned degree	% Transfer or earned degree or certificate	% Took college-level math or English in 1st year	% Earned 30-plus credits in 1st year	% Earned 60-plus credits in first 2 years	% Persisted to year 2	% Earned degree	% Transfer or earned degree or certificate	% Took college-level math or English in 1st year	% Earned 30-plus credits in 1st year	% Earned 60-plus credits in first 2 years	% Persisted to year 2
Bay Area	0.09	0.15	0.42	0.25	0.13	0.5	0.07	0.12	0.39	0.22	0.11	0.49
Central Valley	0.11	0.15	0.43	0.27	0.13	0.52	0.11	0.16	0.44	0.28	0.14	0.51
Greater Los Angeles	0.1	0.15	0.4	0.27	0.13	0.54	0.1	0.15	0.4	0.27	0.13	0.54
Inland Empire	0.1	0.13	0.41	0.24	0.11	0.53	0.11	0.15	0.43	0.26	0.12	0.54
Northern California	0.1	0.14	0.44	0.26	0.12	0.51	0.08	0.11	0.39	0.24	0.1	0.5
San Diego	0.11	0.16	0.43	0.29	0.12	0.54	0.09	0.13	0.4	0.26	0.11	0.53
South Central	0.14	0.21	0.47	0.34	0.17	0.58	0.13	0.19	0.45	0.32	0.17	0.57

Appendix III: Tables

TABLE A2: Student Age at Initial Enrollment by Micro Region

Micro Region	% Under 20	% 20-24	% 25-34	% 35 plus
Central Valley	51.8	14.7	16.0	17.5
East Bay	45.5	17.2	17.3	20.1
Greater Sacramento	47.4	15.6	17.0	20.1
Inland Empire	48.9	16.7	16.0	18.5
Los Angeles	48.9	14.6	14.7	21.9
Mid-Peninsula	26.7	16.0	24.0	33.3
Mother Lode	40.4	11.7	16.6	31.3
North Bay	37.3	13.8	16.3	32.6
Northern Coastal	32.4	14.5	21.2	31.9
Northern Inland	42.0	12.4	19.0	26.5
Orange County	35.2	15.2	17.2	32.5
San Diego & Imperial	38.1	17.3	17.7	27.0
Santa Cruz & Monterey	39.4	12.0	16.8	31.7
Silicon Valley	40.6	19.7	16.0	23.7
South Central	51.5	15.5	13.5	19.5

TABLE I-A2: Student Age at Initial Enrollment by Macro Region

Macro Region	% Under 20	% 20-24	% 25-34	% 35 plus
Bay Area	37.8	16.6	18.4	27.2
Central Valley	51.6	14.7	16.0	17.8
Greater Los Angeles	44.4	14.8	15.5	25.3
Inland Empire	48.9	16.7	16.0	18.5
Northern California	44.9	14.6	17.8	22.6
San Diego	38.1	17.3	17.7	27.0
South Central	51.5	15.5	13.5	19.5

TABLE A3: Year of Initial CCC Enrollment Among Matched Sample by Micro Region

Micro Region	% Enrolled in 2017	% Enrolled in 2018	% Enrolled in 2019	% Enrolled in 2020
Central Valley	68.8	20.4	7.9	3.0
East Bay	63.5	25.3	8.1	3.1
Greater Sacramento	65.3	21.9	8.4	4.3
Inland Empire	66.3	20.8	9.0	3.9
Los Angeles	66.6	21.0	8.8	3.6
Mid-Peninsula	60.7	23.7	10.7	4.9
Mother Lode	72.9	19.2	5.8	2.1
North Bay	67.3	21.8	7.7	3.3
Northern Coastal	62.6	21.1	10.0	6.3
Northern Inland	73.6	15.0	7.6	3.8
Orange County	68.9	19.2	8.1	3.9
San Diego & Imperial	64.6	22.1	9.4	3.9
Santa Cruz & Monterey	72.2	17.2	7.4	3.2
Silicon Valley	54.1	26.5	13.5	5.9
South Central	71.6	18.3	6.5	3.5

TABLE I-A3: Year of Initial CCC Enrollment Among Matched Sample by Macro Region

Macro Region	% Enrolled in 2017	% Enrolled in 2018	% Enrolled in 2019	% Enrolled in 2020
Bay Area	61.5	24.1	10.1	4.3
Central Valley	68.8	20.3	7.8	3.0
Greater Los Angeles	67.4	20.4	8.5	3.7
Inland Empire	66.3	20.8	9.0	3.9
Northern California	66.5	20.8	8.4	4.3
San Diego	64.6	22.1	9.4	3.9
South Central	71.6	18.3	6.5	3.5

TABLE B1: Educational Attainment of Population by Micro Region

	Bachelor's Degree or Higher		No High School Diploma	
Micro Region	% Total Population	% Young Adults	% Total Population	% Young Adults
Central Valley	16.86	15.59	25.53	19.52
East Bay	43.11	46.13	11.84	9.22
Greater Sacramento	31.54	30.33	11.59	9.45
Inland Empire	20.71	19.36	19.79	14.33
Los Angeles	31.23	35.86	21.84	13.46
Mid-Peninsula	52.57	66.02	11.64	5.54
Mother Lode	22.16	16.72	10.33	11.71
North Bay	36.13	28.85	11.52	12.20
Northern Coastal	23.61	18.82	12.41	11.99
Northern Inland	21.52	18.07	12.62	13.38
Orange County	39.07	40.59	15.29	11.76
San Diego & Imperial	36.28	37.71	14.16	9.44
Santa Cruz & Monterey	30.15	25.08	22.81	21.36
Silicon Valley	50.02	56.94	12.45	8.66
South Central	33.03	29.22	15.78	15.33
Statewide	32.58	34.50	17.51	12.61

TABLE I-B1: Educational Attainment of Population by Macro Region

	Bachelor's Degree or Higher		No High School Diploma	
Macro Region	% Total Population	% Young Adults	% Total Population	% Young Adults
Bay Area	44.53	49.58	12.73	9.52
Central Valley	17.14	15.63	24.73	19.27
Greater Los Angeles	33.10	36.90	20.28	13.08
Inland Empire	20.71	19.36	19.79	14.33
Northern California	28.96	27.33	11.86	10.31
San Diego	36.28	37.71	14.16	9.44
South Central	33.03	29.22	15.78	15.33
Statewide	32.58	34.50	17.51	12.61

TABLE B2: High School Graduates by Micro Region

Micro Region	% Not Meeting A-G Requirements	% Meeting A-G Requirements
Central Valley	58.94	34.37
East Bay	39.11	43.43
Greater Sacramento	50.15	38.92
Inland Empire	51	37.34
Los Angeles	36.41	39.61
Mid-Peninsula	32.08	40.3
Mother Lode	64.64	26.54
North Bay	44.66	33.83
Northern Coastal	48.01	18.56
Northern Inland	53.01	23.34
Orange County	43.13	46.62
San Diego & Imperial	38.55	39.4
Santa Cruz & Monterey	28.87	26.43
Silicon Valley	35.35	46.59
South Central	39.63	24.36
Statewide	40.54	35.62

TABLE I-B2: High School Graduates by Macro Region

Macro Region	% Not Meeting A-G Requirements	% Meeting A-G Requirements
Bay Area	36.77	39.9
Central Valley	59.11	34.13
Greater Los Angeles	37.98	41.25
Inland Empire	51	37.34
Northern California	50.46	34.03
San Diego	38.55	39.4
South Central	39.63	24.36
Statewide	40.54	35.62

TABLE B3: English Language Learners in Regional High Schools by Micro Region

Micro Region	Share of HS Population Classified as ELL
Central Valley	11.74
East Bay	11.26
Greater Sacramento	8.43
Inland Empire	10.76
Los Angeles	12.29
Mid-Peninsula	15.47
Mother Lode	8.05
North Bay	8.7
Northern Coastal	6.8
Northern Inland	4.81
Orange County	12.55
San Diego & Imperial	13.3
Santa Cruz & Monterey	16.15
Silicon Valley	12.65
South Central	11.23
Statewide	11.62

TABLE I-B3: English Language Learners in Regional High Schools by Macro Region

Macro Region	Share of HS Population Classified as ELL
Bay Area	12.23
Central Valley	11.61
Greater Los Angeles	12.36
Inland Empire	10.76
Northern California	7.7
San Diego	13.3
South Central	11.23
Statewide	11.62

TABLE B4: Measures of Poverty by Micro Region

Micro Region	Percent of Region Population Under Federal Poverty Line	Percent of Region High School Population Receiving Free or Reduced-Price Meals	Percent of Region Community College Population Receiving a Pell Grant
Central Valley	21.88	64.76	52.76
East Bay	10.67	39.65	37.14
Greater Sacramento	15.03	45.68	39.51
Inland Empire	16.82	62.09	50.32
Los Angeles	16.96	66.14	46.81
Mid-Peninsula	9.58	38.51	36.88
Mother Lode	12.38	44.75	47.55
North Bay	10.16	38.36	38.96
Northern Coastal	20.89	56.87	56.01
Northern Inland	19.08	49.18	51.67
Orange County	12.14	43.26	37.62
San Diego & Imperial	13.86	48.97	44.91
Santa Cruz & Monterey	14.69	53.89	51
Silicon Valley	8.64	33.44	41.63
South Central	12.31	47.92	46.79
Statewide	15.1	54.63	45.14

TABLE I-B4: Measures of Poverty by Macro Region

Macro Region	Percent of Region Population Under Federal Poverty Line	Percent of Region High School Population Receiving Free or Reduced-Price Meals	Percent of Region Community College Population Receiving a Pell Grant
Bay Area	10.24	39.28	39.64
Central Valley	21.48	64.19	52.66
Greater Los Angeles	15.81	60.44	44.04
Inland Empire	16.82	62.09	50.32
Northern California	16.29	47.19	42.71
San Diego	13.86	48.97	44.91
South Central	12.31	47.92	46.79
Statewide	15.1	54.63	45.14

TABLE B5: Racial Demographics of Regional Population by Micro Region

	Regional Population		Community College Students	
Micro Region	Hispanic	Not White & Not Hispanic	Hispanic	Not White & Not Hispanic
Central Valley	51.32	15.01	54.64	18.98
East Bay	23.65	38.96	27.02	49.14
Greater Sacramento	21.3	24.36	25.81	36.25
Inland Empire	50.02	16.61	54.23	23.48
Los Angeles	48.42	25.09	52.21	32.06
Mid-Peninsula	19.78	39.81	28.85	49.56
Mother Lode	13.98	8.11	18.89	8.15
North Bay	24.9	18.99	34.25	29
Northern Coastal	16.81	12.02	26.69	19.56
Northern Inland	17.06	10.01	27.61	21.22
Orange County	34.2	24.41	33.35	41.17
San Diego & Imperial	35.96	19.65	39.68	27.77
Santa Cruz & Monterey	48.41	10.45	41.26	21.54
Silicon Valley	26.07	41.37	28.79	45.5
South Central	39.4	10.55	43.55	21.3
Statewide	38.75	23.34	41.00	32.80

TABLE I-B5. Racial Demographics of Regional Population by Macro Region

	Regional Population		Community College Students	
Macro Region	Hispanic	Not White & Not Hispanic	Hispanic	Not White & Not Hispanic
Bay Area	25.75	34.06	30.00	43.45
Central Valley	49.73	14.71	53.97	18.78
Greater Los Angeles	45.04	24.92	45.45	35.32
Inland Empire	50.02	16.61	54.23	23.48
Northern California	20.12	20.64	26.21	32.35
San Diego	35.96	19.65	39.68	27.77
South Central	39.40	10.55	43.55	21.30
Statewide	38.75	23.34	41.00	32.80

TABLE B6: Availability of Community College by Micro Region

Micro Region	Percent of High School Seniors with Community College within 25 miles
Central Valley	95.63
East Bay	100.00
Greater Sacramento	94.01
Inland Empire	99.89
Los Angeles	99.89
Mid-Peninsula	100.00
Mother Lode	52.32
North Bay	99.13
Northern Coastal	63.64
Northern Inland	71.19
Orange County	100.00
San Diego & Imperial	98.81
Santa Cruz & Monterey	93.72
Silicon Valley	100.00
South Central	98.54
Statewide	97.78

TABLE I-B6: Availability of Community College by Macro Region

Macro Region	Percent of High School Seniors with Community College within 25 miles
Bay Area	99.24
Central Valley	94.43
Greater Los Angeles	99.92
Inland Empire	99.89
Northern California	87.90
San Diego	98.81
South Central	98.54

TABLE B7: Availability of Public Four-Year Institutions by Micro Region

Micro Region	Average Distance from CCC to nearest CSU	Average Distance from CCC to nearest UC
Central Valley	31.1	69.0
East Bay	11.9	14.0
Greater Sacramento	24.4	34.0
Inland Empire	39.0	38.8
Los Angeles	6.5	16.3
Mid-Peninsula	10.2	22.0
Mother Lode	43.4	46.0
North Bay	13.0	29.4
Northern Coastal	39.9	144.5
Northern Inland	60.0	133.9
Orange County	11.0	10.3
San Diego & Imperial	16.2	24.6
Santa Cruz & Monterey	12.6	22.5
Silicon Valley	10.4	24.7
South Central	19.1	38.3
Statewide	20.5	36.4

TABLE I-B7: Availability of Public Four-Year Institutions by Macro Region

Macro Region	Average Distance from CCC to nearest CSU	Average Distance from CCC to nearest UC
Bay Area	11.5	20.9
Central Valley	32.0	67.4
Greater Los Angeles	7.9	14.4
Inland Empire	39.0	38.8
Northern California	38.3	82.0
San Diego	16.2	24.6
South Central	19.1	38.3

TABLE B8: Preparedness Index by Micro Region

Micro Region	Preparedness Index
Central Valley	0.092
East Bay	0.100
Greater Sacramento	0.108
Inland Empire	0.087
Los Angeles	0.095
Mid-Peninsula	0.113
Mother Lode	0.109
North Bay	0.111
Northern Coastal	0.113
Northern Inland	0.112
Orange County	0.113
San Diego & Imperial	0.118
Santa Cruz & Monterey	0.107
Silicon Valley	0.123
South Central	0.115

TABLE I-B8: Preparedness Index by Macro Region

Macro Region	Preparedness Index
Bay Area	0.112
Central Valley	0.092
Greater Los Angeles	0.101
Inland Empire	0.087
Northern California	0.109
San Diego	0.118
South Central	0.115

TABLE C1: Initial Enrollments by Micro Region (per 1,000 HS grads per year)

Micro Region	Enrolled at less than 12 units	Enrolled between 12 - 15 units	Enrolled at 15 or more units
Central Valley	786	223	87
East Bay	959	198	91
Greater Sacramento	1052	244	71
Inland Empire	719	184	53
Los Angeles	1339	228	67
Mid-Peninsula	2822	300	150
Mother Lode	549	99	38
North Bay	1331	220	70
Northern Coastal	1083	212	66
Northern Inland	1995	362	173
Orange County	1806	306	115
San Diego & Imperial	1583	325	94
Santa Cruz & Monterey	1317	289	112
Silicon Valley	1819	183	42
South Central	1581	487	204

TABLE I-C1: Initial Enrollments by Micro Region (per 1,000 HS grads year prior)

Macro Region	Enrolled at less than 12 units	Enrolled between 12 - 15 units	Enrolled at 15 or more units
Bay Area	1517	221	85
Central Valley	779	219	86
Greater Los Angeles	1463	249	80
Inland Empire	719	184	53
Northern California	1211	262	88
San Diego	1583	325	94
South Central	1581	487	204

TABLE C2: Initial Enrollments by Micro Region, Matched Sample (per 1,000 HS grads in region)

Micro Region	Enrolled at less than 12 units	Enrolled between 12 - 15 units	Enrolled at 15 or more units
Central Valley	235	139	56
East Bay	230	89	40
Greater Sacramento	287	134	43
Inland Empire	172	83	23
Los Angeles	235	114	32
Mid-Peninsula	282	109	57
Mother Lode	80	64	22
North Bay	289	127	40
Northern Coastal	167	99	29
Northern Inland	192	162	70
Orange County	323	195	67
San Diego & Imperial	237	147	45
Santa Cruz & Monterey	281	174	61
Silicon Valley	543	97	21
South Central	452	284	109

TABLE I-C2: Initial Enrollments by Micro Region, Matched Sample (per 1,000 HS grads in region)

Macro Region	Enrolled at less than 12 units	Enrolled between 12 - 15 units	Enrolled at 15 or more units
Bay Area	327	108	40
Central Valley	231	137	55
Greater Los Angeles	258	135	41
Inland Empire	172	83	23
Northern California	262	136	46
San Diego	237	147	45
South Central	452	284	109

TABLE C3: Reported Educational Goals of Initial Enrollees by Micro Region

Micro Region	% Degree and/or transfer	% Certificate (earn or renew)	% Career advancement	% Educational Development	% Other, unknown, unreported
Central Valley	52.1	5.6	11.0	11.2	20.1
East Bay	31.3	3.1	8.3	13.2	44.2
Greater Sacramento	51.4	9.5	8.8	17.9	12.3
Inland Empire	43.7	3.2	7.4	12.6	33.1
Los Angeles	35.2	2.5	7.5	22.6	32.2
Mid-Peninsula	26.7	3.5	12.5	39.0	18.3
Mother Lode	42.7	8.7	10.6	23.4	14.7
North Bay	27.5	4.5	9.9	30.7	27.4
Northern Coastal	32.4	4.5	11.2	19.9	32.1
Northern Inland	29.2	3.8	15.3	25.6	26.1
Orange County	35.3	7.8	10.2	24.6	22.2
San Diego & Imperial	35.7	4.5	13.0	28.2	18.6
Santa Cruz & Monterey	32.6	3.4	23.0	20.0	21.1
Silicon Valley	35.0	4.6	10.5	29.1	20.9
South Central	48.6	3.4	10.3	20.0	17.7

TABLE I-C3: Reported Educational Goals of Initial Enrollees by Macro Region

Macro Region	% Degree and/or transfer	% Certificate (earn or renew)	% Career advancement	% Educational Development	% Other, unknown, unreported
Bay Area	30.7	3.8	11.5	27.0	27.0
Central Valley	52.0	5.6	10.9	11.5	20.0
Greater Los Angeles	35.2	4.2	8.4	23.2	28.9
Inland Empire	43.7	3.2	7.4	12.6	33.1
Northern California	44.1	7.7	10.7	20.1	17.4
San Diego	35.7	4.5	13.0	28.2	18.6
South Central	48.6	3.4	10.3	20.0	17.7

TABLE C4: Reported Educational Goals of Matched Sample by Micro Region

Micro Region	%Degree and/or transfer	% Certificate (earn or renew)	% Career advancement	% Educational Development	% Other, unknown, unreported
Central Valley	43.9	2.1	2.8	6.6	44.6
East Bay	22.9	0.5	1.1	5.6	70.0
Greater Sacramento	47.2	2.2	2.4	8.8	39.4
Inland Empire	42.6	1.3	2.0	6.7	47.4
Los Angeles	52.5	1.3	2.5	11.6	32.2
Mid-Peninsula	29.9	0.7	2.5	19.5	47.3
Mother Lode	48.6	4.1	5.8	6.5	34.9
North Bay	46.0	2.1	3.3	17.7	30.9
Northern Coastal	36.9	2.0	3.8	16.0	41.3
Northern Inland	44.7	3.2	3.4	13.0	35.7
Orange County	44.3	1.3	1.9	11.2	41.4
San Diego & Imperial	46.4	1.4	3.1	16.4	32.8
Santa Cruz & Monterey	45.9	1.1	2.3	13.0	37.7
Silicon Valley	34.7	1.1	2.0	20.9	41.3
South Central	56.6	1.8	3.2	10.9	27.5

TABLE I-C4: Reported Educational Goals of Matched Sample by Macro Region

Macro Region	%Degree and/or transfer	% Certificate (earn or renew)	% Career advancement	% Educational Development	% Other, unknown, unreported
Bay Area	33.8	1.0	2.1	15.2	47.9
Central Valley	43.9	2.2	2.8	6.6	44.5
Greater Los Angeles	49.6	1.3	2.3	11.4	35.4
Inland Empire	42.6	1.3	2.0	6.7	47.4
Northern California	46.3	2.3	2.7	9.8	38.9
San Diego	46.4	1.4	3.1	16.4	32.8
South Central	56.6	1.8	3.2	10.9	27.5

TABLE D1: Transfers to the UC and CSU Systems by Micro Region, Among All Enrollees and Matched Sample

	Full CCC sample		Matched sample	
Micro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Central Valley	9.1	3.8	4.8	5.4
Northern Inland	9.1	3.7	6.3	4.1
Orange County	7.8	3.1	7.7	4.4
San Diego & Imperial	7.7	3.6	6.5	3.9
Santa Cruz & Monterey	9.4	3.1	5.9	5.8
Silicon Valley	9.7	4.1	8.0	2.0
South Central	10.7	4.8	8.1	6.2
East Bay	10.3	3.6	7.4	3.7
Greater Sacramento	7.8	2.6	5.2	2.2
Inland Empire	8.5	3.2	4.3	4.9
Los Angeles	8.1	3.9	5.5	5.5
Mid-Peninsula	5.2	2.4	9.0	4.6
Mother Lode	5.5	2.4	7.1	4.6
North Bay	8.4	2.9	5.8	3.7
Northern Coastal	6.8	2.4	4.8	3.0

TABLE D1: Transfers to the UC and CSU Systems by Macro Region, Among All Enrollees and Matched Sample

	Full CCC sample		Matched sample	
Macro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Bay Area	8.8	3.3	7.4	4.8
Central Valley	9.1	3.8	4.9	6.4
Inland Empire	8.5	3.2	4.3	6.0
San Diego	7.7	3.6	6.5	5.0
South Central	10.7	4.8	8.1	7.3

TABLE D2: Degrees Granted by Micro Region, Among All Enrollees and Matched Sample

	Full CCC sample		Matched sample	
Micro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Central Valley	9.6	6.6	10.7	10.7
Northern Inland	9.3	5.6	13.0	11.7
Orange County	7.8	5.6	12.6	9.9
San Diego & Imperial	7.2	4.9	11.1	8.4
Santa Cruz & Monterey	9.3	6.2	12.7	11.7
Silicon Valley	7.2	4.6	8.4	4.1
South Central	11.4	8.8	14.2	12.4
East Bay	7.3	4.9	9.2	6.8
Greater Sacramento	7.9	5.0	9.1	6.8
Inland Empire	9.4	5.8	9.5	9.7
Los Angeles	7.5	4.5	9.0	9.0
Mid-Peninsula	4.1	2.7	8.7	5.2
Mother Lode	9.5	6.7	13.1	11.6
North Bay	8.4	4.7	9.7	8.3
Northern Coastal	8.6	5.4	10.7	9.1

TABLE I-D2: Degrees Granted by Macro Region, Among All Enrollees and Matched Sample

	Full CCC sample		Matched sample	
Macro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Bay Area	6.9	4.4	9.3	7.5
Central Valley	9.6	6.6	10.7	11.5
Inland Empire	9.4	5.8	9.5	10.6
San Diego	7.2	4.9	11.1	9.1
South Central	11.4	8.8	14.2	13.1

TABLE D3: Certificates Granted by Micro Region, Among All Enrollees and Matched Sample

	Full CCC sample		Matched sample	
Micro Region	% 14-15 enrollees	% 17-18 enrollees	%.Unadjusted	% Adjusted
Central Valley	5.2	4.7	6.1	6.1
Northern Inland	6.4	4.9	8.9	7.8
Orange County	7.7	6.7	14.3	12.9
San Diego & Imperial	5.3	4.0	8.9	7.2
Santa Cruz & Monterey	4.8	3.8	8.2	7.5
Silicon Valley	3.9	3.1	3.9	1.8
South Central	9.8	9.7	15.3	14.0
East Bay	5.4	4.8	6.0	4.7
Greater Sacramento	3.4	2.3	3.0	1.6
Inland Empire	4.2	3.2	3.3	3.4
Los Angeles	6.0	4.0	5.5	5.5
Mid-Peninsula	4.2	3.1	3.9	2.4
Mother Lode	4.2	3.2	4.2	2.8
North Bay	5.7	5.4	9.1	8.1
Northern Coastal	3.6	2.7	3.1	1.9

TABLE I-D3: Certificates Granted by Macro Region, Among All Enrollees and Matched Sample

	Full CCC sample		Matched sample	
Macro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Bay Area	4.8	3.9	5.7	4.3
Central Valley	5.2	4.7	6.1	6.5
Inland Empire	4.2	3.2	3.3	4.0
San Diego	5.3	4.0	8.9	7.1
South Central	9.8	9.7	15.3	14.1

TABLE D4: Share of Students Transferring, Earning an Associate's Degree, or Earning a Certificate by Micro Region, Among All Enrollees and Matched Sample

	Certificate only				Degree (with or without certificate, no transfer)				Transfer (with or without degree or certificate)			
	Full CCC sample		Matched sample		Full CCC sample		Matched sample		Full CCC sample		Matched sample	
Micro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Central Valley	2.3	2.0	1.9	1.7	5.6	5.3	7.8	7.7	9.1	3.8	4.8	5.4
East Bay	1.9	2.3	1.4	1.4	4.0	4.1	6.9	5.6	10.3	3.6	7.4	3.7
Greater Sacramento	1.4	1.0	0.5	0.5	4.8	4.2	7.0	5.9	7.8	2.6	5.2	2.2
Inland Empire	1.9	1.9	1.6	1.6	5.4	4.8	7.3	7.4	8.5	3.2	4.3	4.9
Los Angeles	2.1	1.5	1.0	1.0	4.3	3.6	6.6	6.6	8.1	3.9	5.5	5.5
Mid-Peninsula	2.5	2.3	1.5	1.5	2.5	2.2	6.0	4.1	5.2	2.4	9.0	4.6
Mother Lode	2.5	2.1	2.8	2.4	6.8	5.4	8.5	7.8	5.5	2.4	7.1	4.6
North Bay	2.9	2.7	2.9	2.7	4.6	3.8	7.5	6.8	8.4	2.9	5.8	3.7
Northern Coastal	2.4	1.7	0.8	0.6	5.4	4.7	8.5	7.7	6.8	2.4	4.8	3.0
Northern Inland	2.9	2.5	4.3	4.0	5.4	4.3	9.5	8.9	9.1	3.7	6.3	4.1
Orange County	2.0	1.9	2.5	2.3	4.2	4.5	9.1	7.6	7.8	3.1	7.7	4.4
San Diego & Imperial	1.5	1.2	1.4	1.2	4.4	4.0	8.3	6.8	7.7	3.6	6.5	3.9
Santa Cruz & Monterey	1.1	0.8	0.7	0.4	4.5	4.8	9.4	8.7	9.4	3.1	5.9	5.8
Silicon Valley	1.6	1.2	0.7	0.7	3.8	3.6	5.7	3.5	9.7	4.1	8.0	2.0
South Central	1.9	2.4	2.6	2.4	6.2	6.8	10.3	9.3	10.7	4.8	8.1	6.2

TABLE I-D4: Share of Students Transferring, Earning an Associate's Degree, or Earning a Certificate by Macro Region, Among All Enrollees and Matched Sample

	Certificate only				Degree (with or without certificate, no transfer)				Transfer (with or without degree or certificate)			
	Full CCC sample		Matched sample		Full CCC sample		Matched sample		Full CCC sample		Matched sample	
Macro Region	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted	% 14-15 enrollees	% 17-18 enrollees	% Unadjusted	% Adjusted
Bay Area	2.0	1.9	1.4	1.2	3.8	3.5	6.7	5.8	8.8	3.3	7.4	4.8
Central Valley	2.3	2.0	1.9	1.7	5.6	5.3	7.8	8.1	9.1	3.8	4.9	6.4
Inland Empire	1.9	1.9	1.6	1.6	5.4	4.8	7.3	7.9	8.5	3.2	4.3	6.0
San Diego	1.5	1.2	1.4	1.1	4.4	4.0	8.3	7.1	7.7	3.6	6.5	5.0
South Central	1.9	2.4	2.6	2.3	6.2	6.8	10.3	9.6	10.7	4.8	8.1	7.3

TABLE E1: Enrollment in College-Level Coursework in First Year of Enrollment, Adjusted for Student Characteristics, by Micro Region (Matched Sample Only)

Micro Region	% College-level English only	% College-level math only	% College-level math and English
Central Valley	26.3	7.0	10.0
East Bay	20.6	10.4	13.6
Greater Sacramento	25.4	5.5	6.7
Inland Empire	21.9	7.9	11.8
Los Angeles	21.9	6.5	9.1
Mid-Peninsula	26.7	6.9	14.2
Mother Lode	21.1	6.4	8.4
North Bay	20.8	7.9	10.1
Northern Coastal	21.7	10.1	9.3
Northern Inland	27.5	7.5	13.8
Orange County	18.6	9.9	13.6
San Diego & Imperial	19.9	9.3	10.0
Santa Cruz & Monterey	19.7	8.0	8.8
Silicon Valley	18.1	7.8	5.5
South Central	23.3	8.4	13.1

TABLE I-E1: Enrollment in College-Level Coursework in First Year of Enrollment, Adjusted for Student Characteristics, by Macro Region (Matched Sample Only)

Macro Region	% College-level English only	% College-level math only	% College-level math and English
Bay Area	20.9	8.4	10.1
Central Valley	26.4	7.3	10.5
Greater Los Angeles	21.0	7.9	11.4
Inland Empire	22.1	8.1	12.5
Northern California	25.7	6.0	7.8
San Diego	20.3	9.2	10.2
South Central	23.6	8.4	13.4

TABLE E2: Persistence to Year 2, Adjusted for Student Characteristics, by Micro Region (Matched Sample Only)

Micro Region	% Persisting to term 1 year after student's 1st term
Central Valley	50.7
East Bay	50.8
Greater Sacramento	49.9
Inland Empire	53.4
Los Angeles	53.2
Mid-Peninsula	46.7
Mother Lode	43.3
North Bay	51.0
Northern Coastal	43.6
Northern Inland	48.9
Orange County	52.9
San Diego & Imperial	52.4
Santa Cruz & Monterey	57.4
Silicon Valley	42.2
South Central	56.9

TABLE I-E2: Persistence to Year 2, Adjusted for Student Characteristics, by Macro Region (Matched Sample Only)

Macro Region	% Persisting to term 1 year after student's 1st term
Bay Area	49.1
Central Valley	51.2
Greater Los Angeles	53.9
Inland Empire	53.9
Northern California	50.0
San Diego	52.9
South Central	57.5

TABLE E3: Credit Accumulation in Years 1 and 2, Adjusted for Student Characteristics, by Micro Region (Matched Sample Only)

Micro Region	% Accumulated 15-30 units in first year	% Accumulated 30-plus units in first year	% Accumulated 30-60 units in first 2 years	% Accumulated 60-plus units in first 2 years
Central Valley	22.2	26.4	24.0	12.9
East Bay	24.7	20.6	24.0	10.0
Greater Sacramento	25.0	21.1	24.5	8.6
Inland Empire	24.6	24.9	25.3	11.6
Los Angeles	23.6	25.5	24.1	13.3
Mid-Peninsula	22.3	18.4	22.3	6.4
Mother Lode	21.9	25.4	17.9	12.7
North Bay	25.9	23.2	27.1	10.8
Northern Coastal	21.7	23.1	23.0	9.4
Northern Inland	19.7	29.3	23.8	13.4
Orange County	24.3	24.4	26.1	10.4
San Diego & Imperial	24.5	24.4	26.1	9.6
Santa Cruz & Monterey	24.4	29.8	25.8	16.3
Silicon Valley	21.7	14.4	19.8	6.0
South Central	23.9	30.9	26.8	15.9

TABLE I-E3: Credit Accumulation in Years 1 and 2, Adjusted for Student Characteristics, by Macro Region (Matched Sample Only)

Macro Region	% Accumulated 15-30 units in first year	% Accumulated 30-plus units in first year	% Accumulated 30-60 units in first 2 years	% Accumulated 60-plus units in first 2 years
Bay Area	23.0	21.7	23.4	10.6
Central Valley	21.7	27.7	24.3	13.7
Greater Los Angeles	23.4	26.8	25.3	13.4
Inland Empire	24.0	26.2	25.7	12.5
Northern California	23.4	23.9	24.4	10.5
San Diego	23.8	25.9	26.2	10.8
South Central	23.3	32.4	27.0	16.9

TABLE F1: Credits Earned by Degree-Earning Students by Micro Region

Micro Region	% 105 or more	% 90 to 105	% 75 to 90	% 60 to 75
Central Valley	9.1	16.3	34.8	39.8
East Bay	8.1	15.6	33.1	43.2
Greater Sacramento	9.4	14.6	32.5	43.4
Inland Empire	10.4	20.0	36.0	33.5
Los Angeles	14.1	21.0	34.8	30.2
Mid-Peninsula	10.6	16.3	32.4	40.7
Mother Lode	10.0	10.0	10.0	70.0
North Bay	11.7	18.4	33.7	36.3
Northern Coastal	5.6	13.2	30.6	50.6
Northern Inland	6.5	11.4	31.1	51.0
Orange County	7.1	15.6	33.8	43.6
San Diego & Imperial	10.5	16.7	33.3	39.6
Santa Cruz & Monterey	11.7	18.6	37.4	32.3
Silicon Valley	9.5	16.8	34.9	38.8
South Central	10.8	16.2	32.7	40.2

TABLE I-F1: Credits Earned by Degree-Earning Students by Macro Region

Macro Region	% 105 or more	% 90 to 105	% 75 to 90	% 60 to 75
Bay Area	9.8	16.9	34.2	39.1
Central Valley	9.1	16.2	34.8	39.9
Greater Los Angeles	12.0	19.4	34.5	34.2
Inland Empire	10.4	20.0	36.0	33.5
Northern California	8.4	13.7	32.0	45.8
San Diego	10.5	16.7	33.3	39.6
South Central	10.8	16.2	32.7	40.2

TABLE F2: Time to Degree Among Degree-Earning Students by Micro Region

Micro Region	% More than 3 years	% 2 to 3 years	% 2 years or less
Central Valley	55.1	23.5	21.5
East Bay	57.3	27.6	15.0
Greater Sacramento	61.4	22.7	15.9
Inland Empire	62.9	22.6	14.5
Los Angeles	64.5	21.2	14.3
Mid-Peninsula	59.1	24.3	16.6
Mother Lode	45.7	21.7	32.6
North Bay	62.1	23.0	14.8
Northern Coastal	56.8	25.9	17.2
Northern Inland	52.0	22.4	25.6
Orange County	53.8	25.0	21.2
San Diego & Imperial	57.5	24.2	18.3
Santa Cruz & Monterey	58.9	24.5	16.6
Silicon Valley	55.6	27.3	17.0
South Central	52.9	24.9	22.2

TABLE I-F2: Time to Degree Among Degree-Earning Students by Macro Region

Macro Region	% More than 3 years	% 2 to 3 years	% 2 years or less
Bay Area	58.0	26.0	15.9
Central Valley	55.0	23.5	21.5
Greater Los Angeles	60.9	22.5	16.6
Inland Empire	62.9	22.6	14.5
Northern California	58.9	22.8	18.2
San Diego	57.5	24.2	18.3
South Central	52.9	24.9	22.2

TABLE F3: Credits Earned Among Transfer Students by Micro Region

Micro Region	% Less than 30	% 30 to 60	% 60 to 75	% 75 to 90	% 90 or more
Central Valley	28.2	17.4	32.3	14.7	7.4
East Bay	23.6	16.7	30.8	17.5	11.4
Greater Sacramento	25.1	17.4	30.2	16.9	10.4
Inland Empire	30.2	18.2	26.3	15.3	9.9
Los Angeles	27.7	15.7	27.9	16.8	12.0
Mid-Peninsula	22.9	18.2	29.7	16.6	12.7
Mother Lode	25.1	25.7	29.1	11.2	8.9
North Bay	23.5	18.2	28.6	15.8	13.9
Northern Coastal	30.4	25.1	28.3	10.1	6.1
Northern Inland	27.8	24.5	29.8	12.1	5.8
Orange County	22.3	16.6	31.2	17.9	12.0
San Diego & Imperial	31.0	17.6	23.4	16.2	11.8
Santa Cruz & Monterey	20.7	17.2	33.1	17.5	11.4
Silicon Valley	20.9	16.0	33.6	17.9	11.6
South Central	19.0	20.6	30.7	16.9	12.9

TABLE I-F3: Credits Earned Among Transfer Students by Macro Region

Macro Region	% Less than 30	% 30 to 60	% 60 to 75	% 75 to 90	% 90 or more
Bay Area	22.4	17.0	31.3	17.3	12.0
Central Valley	28.2	17.5	32.2	14.6	7.4
Greater Los Angeles	25.9	16.0	29.0	17.1	12.0
Inland Empire	30.2	18.2	26.3	15.3	9.9
Northern California	26.0	19.3	30.0	15.5	9.2
San Diego	31.0	17.6	23.4	16.2	11.8
South Central	19.0	20.6	30.7	16.9	12.9

TABLE F4: Time to Transfer Among Transfer Students by Micro Region

Micro Region	% More than 3 years	% 2 to 3 years	% 2 years or less
Central Valley	60.8	20.9	18.4
East Bay	62.6	22.5	14.9
Greater Sacramento	65.1	19.8	15.1
Inland Empire	65.6	18.1	16.3
Los Angeles	62.8	18.6	18.7
Mid-Peninsula	59.6	20.7	19.7
Mother Lode	62.0	21.8	16.2
North Bay	65.2	20.5	14.3
Northern Coastal	60.1	18.8	21.0
Northern Inland	53.6	25.4	21.0
Orange County	58.7	23.5	17.8
San Diego & Imperial	58.2	20.2	21.5
Santa Cruz & Monterey	63.0	23.1	13.9
Silicon Valley	54.3	23.7	22.1
South Central	57.7	23.7	18.7

TABLE I-F4: Time to Transfer Among Transfer Students by Macro Region

Macro Region	% More than 3 years	% 2 to 3 years	% 2 years or less
Bay Area	60.3	22.4	17.4
Central Valley	60.8	20.9	18.3
Greater Los Angeles	61.5	20.1	18.4
Inland Empire	65.6	18.1	16.3
Northern California	62.3	20.9	16.7
San Diego	58.2	20.2	21.5
South Central	57.7	23.7	18.7