Strengthening the Road to College: California's College Readiness Standards and Lessons from District Leaders

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Executive Summary

During the past decade, education leaders and policymakers have made significant investments to better align California's K-12 and postsecondary education systems and to address persistent disparities in educational attainment by race and socioeconomic status. This report distills important lessons emerging from these efforts, integrating the analysis of statewide quantitative data used by policymakers, education leaders, and higher education systems to evaluate students' postsecondary readiness and interviews of district leaders about their specific efforts to improve students' college readiness, access, and success.

- District leaders view college and career readiness synonymously—preparing students for college and career require the same activities and expectations.
- Based on the College/Career Indicator (CCI)—the primary measure of high school quality on the California School Dashboard—42 percent of the 2017-18 public high school graduates were *prepared* for college and/or career.
- District leaders underscore that rigorous academic preparation is crucial to future college success.
    - Education leaders rate A-G courses—required for meeting admissions eligibility to the University of California and California State University—as a primary tool for preparing students for college, yet only 40 percent of 2017-18 graduates completed A-G coursework.
    - District leaders view Advanced Placement, dual enrollment, and career technical education as critical to preparing students for college and important components of their equity agenda.
- District leaders believe that participation and performance on college admissions exams (SAT or ACT), as well as college enrollment, are key indicators of college readiness, despite their exclusion in the CCI.
    - 45 percent of 2017-18 graduates took the SAT exam during high school.
    - 63 percent of public high school graduates enroll in college after high school.
- Substantial inequality exists across all measures of college and career readiness by racial/ethnic subgroups, socioeconomically disadvantaged (SED) status, and for students who are English learners.
- Most districts engage students in college readiness activities from an early age.
    - Leaders emphasize rigorous coursework in the early and middle grades.
    - Many districts administer the PSAT in 8th, 9th, and 10th grades as an early assessment of college readiness, to inform course placement, and prepare students for high-stakes assessments.
    - Counselors are essential for ensuring that students have the information and knowledge to successfully navigate the transition from high school to college.
- District leaders believe supporting postsecondary success among their students requires engaging students' families and the broader community.

Strengthening the Road to College: California's College Readiness Standards and Lessons from District Leaders

For the past decade, education leaders and policymakers across California have been engaged in efforts to improve college attainment. Currently, only about 60 percent of California's high school students enroll in college after graduation (Kurlaender et al., 2018), and less than half successfully earn a 2-year or 4-year degree (Shapiro et al., 2019). A key aspect to improving college attainment is better preparation for the demands of college while students are still in high school. A signature effort at the state level to improve college (and career) preparation was the adoption of the Common Core State Standards (CCSS) in 2010, which provide a more rigorous and articulated set of standards. Additionally, the development of the California School Dashboard and College/Career Indicator (CCI) make use of multiple measures, such as test scores, course taking, graduation, and absentee rates, in order to hold schools accountable for meeting these new, more rigorous college and career readiness standards. At the local level, many school districts are focused on cultivating a "college for all" ethos, making the college-preparatory A-G curriculum (required courses for meeting UC/CSU eligibility) the norm for all high school students, and exposing students to the demands of college through college-level coursework (e.g., Advanced Placement and dual enrollment). In addition, many school districts have increased access to college entrance exams, such as the PSAT and SAT, by providing fee waivers and administering exams during the regular school-day rather than weekends.

As a whole, these efforts represent significant investments to better align California's K-12 and postsecondary systems of education and to address persistent disparities in educational attainment by race and socioeconomic status. In this report, we integrate findings from both qualitative interviews with district leaders and statewide quantitative data on student outcomes to provide a rich description of college and career readiness among California's public high school students, as well as how educators across the state are working to improve the postsecondary readiness of the students they serve. Drawing on in-depth interviews with superintendents and school leaders, we describe the specific efforts of local education agencies (LEAs) to improve students' college readiness, access, and success. We also present a detailed descriptive analysis of the indicators currently used by state policymakers, school and district leaders, and higher education systems to evaluate student readiness for postsecondary study, paying particular attention to variation by student demographic subgroups and high school of attendance.

We focus on several key areas of findings, which serve to organize this report. First, we explore various definitions of college and/or career readiness. We then take a comprehensive look at indicators of college and career readiness, including high school assessments. Third, we discuss how districts are providing rigorous coursework and a college and career preparatory curriculum. Fourth, we highlight innovative efforts used

by districts to enhance postsecondary readiness. Additionally, we describe how LEAs are monitoring college and career readiness and holding themselves accountable for student outcomes. Finally, in each of these areas, we explicitly address disparities by student subgroups and ask school leaders about their actions to address these persistent inequalities.

Data and Methodology

Qualitative Data from LEAs

To understand district-level efforts to improve the college and career readiness of high school graduates we employed a qualitative approach, drawing on a sample of school districts. We facilitated two in-person focus groups, conducted interviews by video and phone, and observed a convening of California education leaders hosted by the College Board. In total, we spoke with 20 school and district leaders in eight public school districts and one county office of education. Participants included county office of education leaders, superintendents or deputy superintendents, district-level personnel leading college and career readiness initiatives, and secondary school-site leaders. The participants represent the diversity of districts in our state from urban, rural, and suburban communities located in both Southern and Northern California and in coastal areas and the Central Valley.

Using a semi-structured protocol, focus groups and interview questions focused on the following three key areas: 1) defining college and career readiness; 2) the tools, practices, policies, and mindsets for developing college and career ready students; and 3) monitoring students' progress and attainment of college and career readiness. Researchers audio recorded the focus groups and interviews, which were then transcribed and coded. Three researchers conducted two rounds of coding, with each transcript reviewed by at least two researchers. The first round used open coding to identify emerging themes and direct quotes illustrating the themes. The second round of coding employed pre-determined codes aligned with the three focus areas above.

Statewide Quantitative Data

To examine quantitative indicators of college readiness, we leveraged student-level data acquired through our partnership with the California Department of Education to create two analytical samples of California public high school students. For the first sample, we built a cohort of students expected to graduate from high school in 2017-18 using data for the census of 11th graders in 2016-17 (from the California Assessment of Student Performance and Progress – CAASPP – files). These data provided us with information on student performance on the spring 2017 Smarter Balanced assessments in

math and English language arts (ELA), which is an important indicator of college readiness in the state's accountability framework, and includes individual-level demographic data (gender, race/ethnicity, and a socioeconomic disadvantage indicator). We merged these data with student-level data on SAT participation and performance in math and evidence-based reading and writing (ERW) for students graduating in 2017-18.[1] For our second sample, we used student-level data for the College/Career Indicator (CCI) from the 2017-18 school year and follow the California Department of Education's business rules for inclusion in the cohort. While both samples are comprised of mostly the same students, the second sample based on the CCI is larger as it also includes students who may not have participated in the 11th grade CAASPP in 2017 for any number of reasons, including but not limited to students in their 5th year of high school or those who transferred into a California high school as a senior. The demographic characteristics of both samples are included in Table 1.

Table 1. Demographic Characteristics of Analytical Samples for Quantitative Study

	2017-18 High School Graduation Cohort	
Data Source	**11th grade CAASPP**	**College/Career Indicator**
Percentage of Each Cohort		
English Learner	10	14
Socioeconomically Disadvantanged	56	68
Asian/PI	13	13
African American	6	7
Latinx	53	53
White	25	24
Other	3	3
Total Observations	473,758	518,317

Note: The differences in rates of English learners (EL) and socioeconomically disadvantaged students (SED) occur because the variables are measured at different points in time in each sample. In the CASSPP sample, the variables are measured at the time of assessment; in the College/Career Indicator sample, the status is indicated if the student met the definition of EL or SED at any point during high school.

[1] The students in our sample participated in the revised SAT, officially launched in March 2016.

Findings

In this section, we present the findings from both our interviews with district leaders and analysis of statewide administrative data. We integrate these findings to provide a rich description of college and career readiness among California's public high school students and to show how educators across the state are working to improve postsecondary readiness among the students they serve. We first discuss how policymakers and practitioners are defining college and career readiness. We then examine the various indicators of college and career readiness used at the state, district, and school levels. Additionally, we describe the efforts of local education agencies to improve student outcomes through rigorous coursework and then describe innovative tools and practices districts are adopting to expand their toolkit for supporting students' readiness for postsecondary pursuits. Finally, we explore the ways in which districts are monitoring student progress towards postsecondary readiness.

1. Defining College and/or Career Readiness

There is no definition of college and career readiness that is commonly shared, as multiple scholars and organizations have developed definitions highlighting the complexity of what it means to be college and/or career ready. However, most definitions include some aspects of both the academic preparation and social-emotional skills and dispositions integral to success in college and the workforce. Research supports the inclusion of both academic and social-emotional indicators as predictors of college success (Kurlaender & Howell, 2012; Long, Conger, & Iatarola, 2012; Rose & Betts, 2004). Moreover, research also suggests that there are important connections between college outcomes and each of the following: aspirations and motivation, information and knowledge about college, and social-emotional competencies and life-management skills (Kurlaender, Reed, & Hurtt, 2019).[2] Yet, California as a state does not explicitly assess skills beyond academic preparation.

Preparing for careers means you are also preparing for college. While some might debate whether college and career readiness are synonymous, the education leaders we interviewed were universally in agreement that "readiness" is inherently foundational to future success in both college and career. As one district leader states, "There is not a job with a livable wage in our current economy that does not require some sort of postsecondary training." Another district leader commented, "We're finding that even in our local industry partnerships, the students need the same level of education

[2] There are many studies that establish these important connections. For a full description, along with a comprehensive list of references, please see: https://www.edpolicyinca.org/publications/improving-college-readiness-research-summary-and-implications-practice.

and skill, even if they're planning to go straight into the work field or some vocational training, they need that same level of high rigor…some of our districts have really moved in that direction to have their high school grad requirements equal A-G [college eligibility requirements]." Overall, district leaders clearly believe that preparing students for college and preparing students for career require the same set of activities and expectations.

Similarly, the State Board of Education has also adopted an integrated definition with the implementation of the CCI, the primary indicator of school quality in college preparation for high schools and one part of the California School Dashboard.[3] The CCI includes eight pathways, outlined in Table 2, through which students may demonstrate their preparedness for college and career. These pathways collectively demonstrate a commitment to both college and career readiness through the inclusion of academic preparation typically considered as college preparatory (i.e., Advanced Placement and International Baccalaureate) and pathways likely considered career preparatory (i.e., career-technical education and military leadership).

In addition to the eight pathways included in the CCI, district leaders across the state noted key college eligibility and success measures as important aspects of their definition of college and career readiness. For some, there was a distinction between college readiness and college eligibility and enrollment. One Northern California district leader suggested that eligibility for admissions to college (i.e., A-G course completion, SAT participation, college application) and developing the skills and knowledge necessary for success once in college are different, but both are important aspects of defining college readiness. Most district leaders agreed that college admissions exams such as the SAT or ACT (both participation and performance) are critical elements in the definition of college readiness not included in the CCI. Some also suggested that FAFSA completion should be included in a comprehensive set of measures that define college eligibility and readiness. Finally, several district leaders overpoweringly noted that the true measure of college readiness is students' actual enrollment and persistence in college.

[3] The CCI is a school-level accountability measure indicating how well high schools are preparing students for success after graduation. Individual students are deemed *Prepared*, *Approaching Prepared*, or *Not Prepared* for college and career based on eight indicators. The school-level accountability measure is then determined by dividing the number of students in the current graduating class categorized as *Prepared* by the total number of students in that year's class. The proportional difference between the current and prior year is then calculated to determine growth or decline. For more detailed information on the College/Career Indicator (CCI) the description and Technical Guide available from the California Department of Education: https://www.cde.ca.gov/ta/ac/cm/documents/dashboardguide18.pdf

Table 2. Pathways within the College/Career Indicator

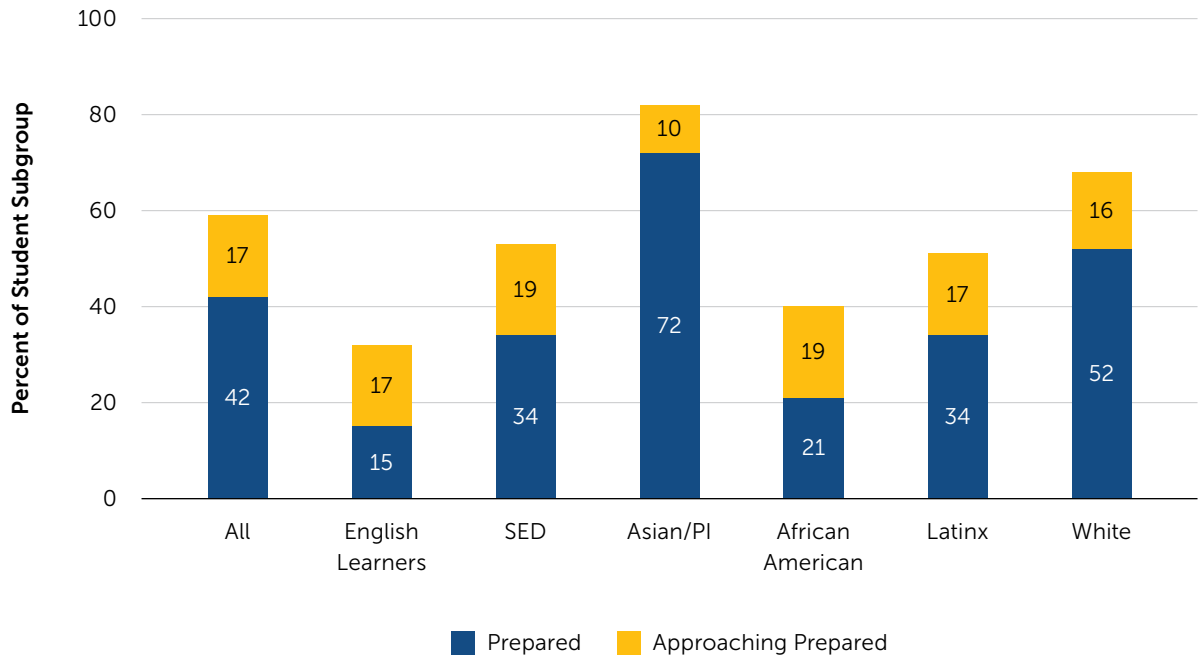
Pathway	*Prepared*	*Approaching Prepared*
Smarter Balanced Assessments in ELA and Math	Score of Level 3 or higher in *both* ELA and math	Score of Level 2 or higher in *both* ELA and math
International Baccalaureate (IB) Exams	Score a 4 or higher on two IB exams	
Advanced Placement (AP) Exams	Score a 3 or higher on two AP exams	
College Credit Courses	Complete 2 semesters or 3 quarters of college coursework with a C- or better in academic/CTE subjects where college credit is awarded	Complete 1 semester or 2 quarters of college coursework with a C- or better in academic/CTE subjects where college credit is awarded
A-G Completion + 1 Criteria	Complete A-G courses with a C- or better *and* one of the following: • Score a Level 3 or higher on ELA/math and Level 2 or higher in other subject area • Complete 1 semester/2 quarters of college credit courses with a grade of C- or better in academic/CTE subjects • Score a 3 or higher on one AP exam • Score a 4 or higher on one IB exam • Complete CTE pathway	Complete A-G courses with a C- or better
CTE Pathway + 1 Criteria	Complete a sequence of courses of at least 300 hours and earn a C- or better in the capstone course *and* one of the following: • Score a Level 3 or higher on ELA or math and Level 2 or higher in other subject area • Complete 1 semester/2 quarters of college credit courses with a grade of C- or better in academic/CTE subjects	Complete a sequence of courses of at least 300 hours and earn a C- or better in the capstone course
State Seal of Biliteracy	Earn State Seal of Biliteracy *and* Score a Level 3 or higher on ELA	
Leadership/Military Science	Complete 2 years of Leadership/Military Science *and* Score a Level 3 or higher in ELA or math *and* a Level 2 or higher in other subject area	Complete 2 years of Leadership/Military Science

Source: 2018 California School Dashboard Technical Guide Final Version, page 79
https://www.cde.ca.gov/ta/ac/cm/documents/dashboardguide18.pdf

2. Indicators of College and/or Career Readiness

Applying California's definition of college and career readiness, 42.2 percent of high school graduates in the 2017-18 statewide cohort were deemed *prepared* by completing at least one pathway of the College/Career Indicator and an additional 17.1 percent were deemed *approaching prepared*. While these indicators of college and career readiness have not been assessed against college and labor market outcomes due to data constraints, validating them will be important future work. At this point the CCI indicators provide valuable information on the heterogeneity of preparedness across student subgroups and across schools. These rates vary substantially across student subgroups (Figure 1) and by high school of attendance (Figure 2). More than 80 percent of Asian students and almost 70 percent of White students meet the criteria for *prepared* or *approaching prepared* compared to only about 40 percent of African American students and 50 percent of Latinx students. Additionally, fewer English learners and socioeconomically disadvantaged (SED) students meet the CCI criteria than their counterparts.

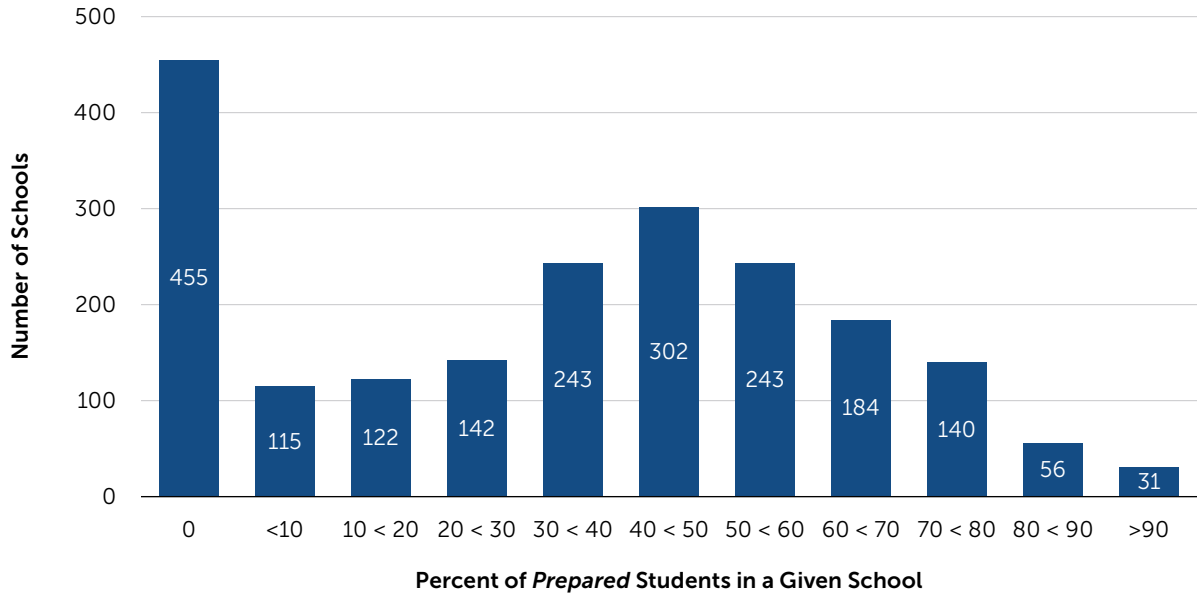
Figure 1. Percentage of Students *Prepared* and *Approaching Prepared*, by Subgroup



Note: Statistics calculated from student-level College/Career Indicator data for the 2017-18 cohort. Analytical sample includes all students statewide, as described in Table 1.

Figure 2 depicts the distribution of schools by the fraction of students within each school deemed *prepared* on the CCI. As seen in the figure, there is substantial heterogeneity across schools, with some schools having nearly all (>90 percent) of their students deemed college and career ready (n=31), while other schools have none of their students meeting the CCI criteria for college/career prepared.[4]

Figure 2. Distribution of Schools by Percentage of Students *Prepared* on the CCI



Note: School-level statistics calculated from student-level College/Career Indicator data for the 2017-18 cohort. Total number of schools in sample is 2033 and excludes 842 DASS schools.[5]

A multiple measures approach. Although designed as a school-level accountability tool, one of the benefits of the CCI is the ability to examine individual students' readiness for college and career through the lens of multiple measures. Table 3 presents summary statistics for each of the eight pathways included in the CCI. An examination of the individual pathways indicates that meeting A-G+1 requirements (34.4 percent), scoring at or above the *Standard Met* (Level 3) threshold on both the ELA and math Smarter Balanced

[4] Of the 455 schools with no students meeting the criteria, 135 are traditional public K-12 and high schools, while the remaining are schools designated as alternative schools of choice, continuation high schools, community day schools, special education schools, state special schools, and juvenile court schools in the public schools database obtained from the California Department of Education website.

[5] In our school-level analyses, we exclude Dashboard Alternative School Status (DASS) schools; these schools primarily serve high-needs students in alternative environments (i.e., community day schools, juvenile court schools, state special schools) and are subject to modified accountability indicators. In the March 18, 201, *Current DASS Schools* list obtained from the California Department of Education there were 1074 active DASS schools. For a complete explanation of DASS school eligibility and a list of active DASS schools, please refer to the California Department of Education website: https://www.cde.ca.gov/ta/ac/dass.asp

assessments (26.1 percent),[6] or scoring a 3+ on two AP exams (14.3 percent) are, by far, the most common ways students were deemed *prepared*. Conversely, less than one-tenth of students complete any other individual pathway.

Table 3. Percentage of Students *Prepared* or *Approaching Prepared* on the CCI Pathways, by Subgroup

	All	English Learners	SED	Asian/PI	African American	Latinx	White
Prepared	42	15	34	72	21	34	52
Approaching Prepared	17	17	19	10	19	17	16
Individual Pathways							
SBAC (scores of 3+ in ELA *and* Math)	26	5	17	59	10	16	37
IB (2 exams with score of 4+)	1	0	1	2	0	1	1
AP (2 exams with score of 3+)	14	3	8	42	4	8	20
College Credit (2 semesters C- or better)	4	2	3	4	2	3	5
A-G Completion +1 criteria	34	10	27	63	18	27	42
CTE + 1 criteria	8	3	7	12	4	6	10
State Seal of Biliteracy +SBAC	9	3	8	2	2	9	8
Military Science/Leadership + SBAC	1	0	0	1	0	0	0
Total Number of Students in Subgroup	518,317	73,613	351,486	50,211	34,021	272,753	124,294

Note: Statistics calculated from student-level College/Career Indicator data for the 2017-18 cohort. Analytical sample includes all students statewide. Rates in each pathway calculated based on criteria for *Prepared* in Table 2.

Table 3 reveals substantial heterogeneity across race/ethnicity, English learner status, and socio-economic status, as Asian (71.8 percent) and White (52.2 percent) students are more likely to be deemed *prepared* compared to English learners (14.5 percent), socioeconomically disadvantaged (33.7 percent), Latinx (33.8 percent), or African American (21.2 percent) students. A further examination of subcategories reveals that Asian students are the most likely to meet the A-G (63.3 percent), Smarter Balanced assessments (59.4 percent), or AP (41.6 percent) requirements, while White students are the most likely to meet requirements for CTE (9.8 percent) or college credit (4.7 percent) pathways. Additionally, Latinx students are the most likely to meet the State Seal of Biliteracy requirements (9.2 percent).

[6] This figure differs somewhat from that reported in Table 4 due to differences in the samples used in each table. See the Data and Sample section as well as Table 1 of this report for more information on sample differences.

Not unlike the State Board of Education, which accomplished a multiple measures approach with the CCI, district leaders commonly defined college and career readiness by outlining several different metrics through which they measured individual students' readiness for college. Importantly, all the districts in our sample included A-G coursework completion and SAT participation as key indicators of readiness for four-year college. In fact, in demonstrating a commitment to college readiness for all students, several districts require A-G course completion for high school graduation. As one leader shared, "Our students who graduate with us are by [and] large graduating A-G eligible. We have had that as part of our expectations for all of our graduates since 2003." Many have also identified participation in college-level coursework, such as AP, IB, and college-credit courses through dual enrollment, as important factors in college readiness. One Southern California leader succinctly listed the multiple college and career readiness indicators tracked in the district:

> *Our key performance indicators and our number one LCAP [Local Control Accountability Plan] goal is college and career readiness. And so we track [the] number of students who participate in AP, number of students who participate in the exam, number of students who are engaged in dual enrollment, number of students who are taking SAT, PSAT, and AP, and our overall college-going rate.*

Assessments, benchmarks, and signals. A critical indicator in the CCI is student performance on the Smarter Balanced assessments. Part of the state's accountability system and administered statewide to all 11th graders, the Smarter Balanced assessments align with the instructional standards set by the state. While the CCI is a more recent indicator, standardized assessments have played an integral role in signaling and determining college readiness for over a decade through the Early Assessment Program (EAP), which provides students (and families) with direct information about their readiness for college-level coursework. While initially a voluntary program, since the implementation of the Smarter Balanced assessments in 2015 the EAP is now universal and embedded within the 11th grade assessment.[7] Performance levels on the math and English language arts (ELA) sections also align with the EAP college readiness signals (as shown in Table 4),

[7] In 2011, California joined the Smarter Balanced Assessment Consortium (SBAC), one of two multi-state consortia developing assessments in alignment with the Common Core State Standards. The content specifications for the tests were driven by committees of experts in research, policy, and practice to ensure that the tests cover the range of knowledge and skills established in the Common Core State Standards. The summative assessments are the cornerstone of the Smarter Balanced assessment system, though Smarter Balanced exams consist of multiple parts, including teacher resources and formative assessments. The summative assessments are comprehensive, end-of-year tests of grade-level learning in ELA and mathematics intended to measure students' progress towards college and career readiness. The summative assessments for ELA and math are administered in Grades 3-8 and 11, with some exceptions, and are comprised of two required components: a computer-adaptive test and a performance task. The computer-adaptive portion of the test is designed to match the ability of the student taking the exam by adapting the difficulty of the questions based on responses to previous test items. Conversely, the performance task is non-adaptive and involves interaction with stimulus materials (e.g., readings, video clips, data) or engagement in a problem solution, ultimately leading to an exhibition of the students' application of knowledge and skills, often in writing. (Adapted from Kurlaender, Hurtt, & Reed, 2019).

providing students with direct information about their readiness for college-level coursework based on these performance levels, and what they can do to improve readiness, including 12th grade course enrollment options.

The Smarter Balanced assessments have broad coverage, with 95 percent of all 11th grade students in California's public high schools completing these exams in spring 2017 (California Department of Education, 2019).[8] Table 4 presents overall statistics for 11th grade student performance on the Smarter Balanced assessments in 2017. Across all students, 28 percent achieved the *Standard Exceeded* performance level in ELA and 13 percent in math, demonstrating readiness for college coursework. Another 32 percent of students achieved *Standard Met* in ELA and 19 percent in math; these students were considered *conditionally ready* for college and informed that they could take specific coursework during their senior year of high school to ensure readiness for college-level coursework. These results suggest that, at most, 60 percent and 32 percent of California's public-school students were assessed as college ready in ELA and mathematics, respectively.

Table 4: Student Performance on the 11th Grade Smarter Balanced Assessments and EAP College Readiness Signals

			Percent of Students at Each Level	
Smarter Balanced Assessments Performance Level		**EAP College Readiness Signal**	**Math**	**ELA**
4	Standard Exceeded	Ready	13	28
3	Standard Met	Conditionally Ready	19	32
2	Standard Nearly Met	Not Yet Ready	24	21
1	Standard Not Met	Not Ready	44	19

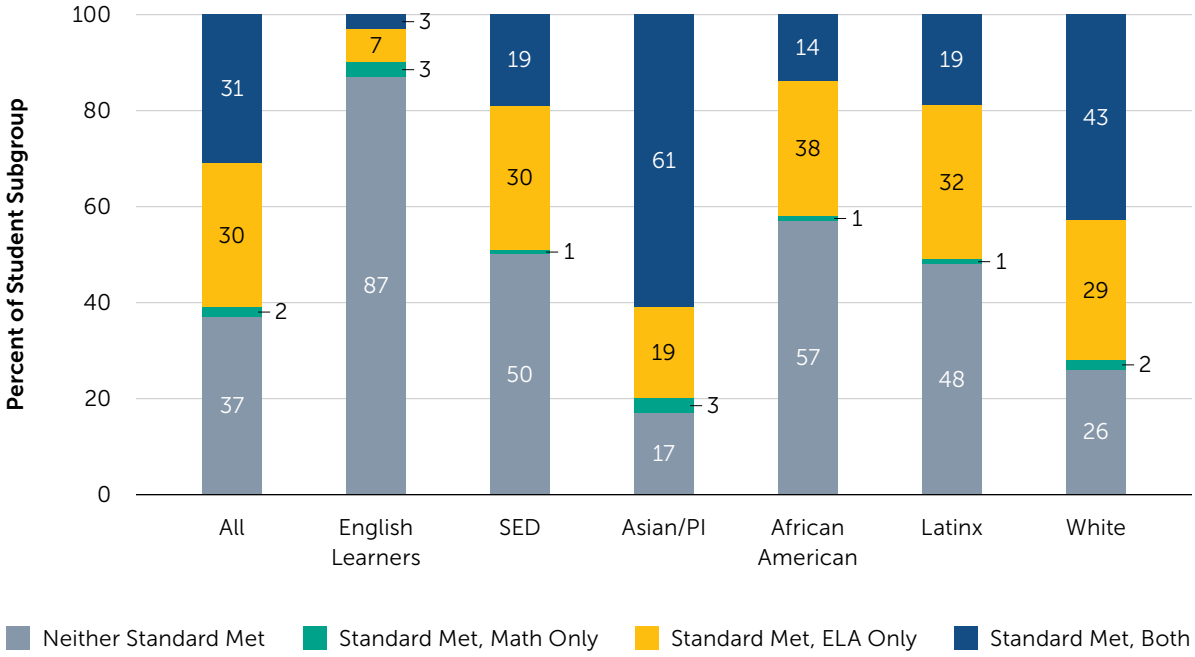
Note: Statistics calculated from the spring 2017 Smarter Balanced assessment scores for 11th graders, who were expected to graduate high school in 2017-18. Analytical sample includes all students statewide.

These average performance levels mask significant heterogeneity across student race/ethnicity, English learner status, and socioeconomic status depicted in Figure 3. In this figure, performance categories are collapsed and we report the percentage of students in each subgroup that met or exceeded the standard for both ELA and math (blue bars), ELA only (yellow bars), math only (red bars), and those that met neither standard (gray bars). Just under one-third (31 percent) of all test-takers met or exceeded the performance standards on the Smarter Balanced assessments in both ELA and math. Nearly a third (32 percent) of students met standards in either ELA (30 percent) or math (2 percent), and a little over a third (38 percent) failed to meet standards in *either* subject.

[8] Our analysis suggests 92.5 percent participation rate in the 11th grade Smarter Balanced assessments in spring 2017. Nearly 5,000 students were exempt from testing participation due to parent requests for exemption, medical emergencies during testing window, or immigration to the U.S. in the preceding 12 months. Over 28,000 students were missing scores because they either achieved the lowest obtainable score or were not tested.

Results also show that, on average, students who are English learners, socioeconomically disadvantaged (SED), Latinx, or African American are less likely to meet the performance standards or be college ready in either ELA or math. For example, results for students who are socioeconomically disadvantaged (56 percent of students in this sample) show that approximately one-half (49 percent) met standards in ELA and one-fifth (20 percent) met standards in math. Even more troubling are results for English learner students, with a vast majority (87 percent) failing to meet standards in either ELA or math.

Figure 3. Student Performance on the 11th Grade Smarter Balanced Assessments, by Subgroup



Note: These rates differ slightly than those reported in Table 3 due to sample differences. Statistics in Figure 3 were calculated from the spring 2017 Smarter Balanced assessment scores for all 11th graders statewide; these students were expected to graduate high school in 2017-18. The rates reported in Table 3 include all actual high school graduates in the 2017-18; this sample may include some students graduating later than expected (and who may have taken the 11th grade Smarter Balanced assessments prior to Spring 2017) and may exclude some 11th graders from 2017 Smarter Balanced assessments sample who were unable to complete high school graduation requirements on time.

SAT participation and performance. District leaders commonly suggested the need to include SAT participation and performance in the set of critical indicators of college eligibility and success. As one district leader shared, "We believe in this focus on the SAT. . . the assessment brings a lot of credibility. People know that it is the gate keeper to college in many cases. And so, there is a commitment on the part of staff to make sure that we provide students as many opportunities as possible to prepare and do well on the SAT." Performance on the SAT thus acts as an important signal, to both admissions counselors and students, about their likely entry and success at a given institution.

Despite its importance for college eligibility, participation in the SAT is not universal. As shown in Table 5, about 45 percent of the 2017-18 graduating cohort participated in the SAT exam during their junior or senior year. Importantly, participation varied by key student characteristics. Asian students participated in the SAT at the highest rate (65 percent), whereas students in other racial/ethnic subgroups participated at rates at least 20 percentage points lower: 46 percent of White students, 39 percent of Latinx students, and 42 percent of African American students. Notably, less than one-fifth of English learners (18 percent) and just over one-third of socioeconomically disadvantaged students (38 percent) took the SAT.

Table 5. Student Participation and Performance on SAT, by Subgroup

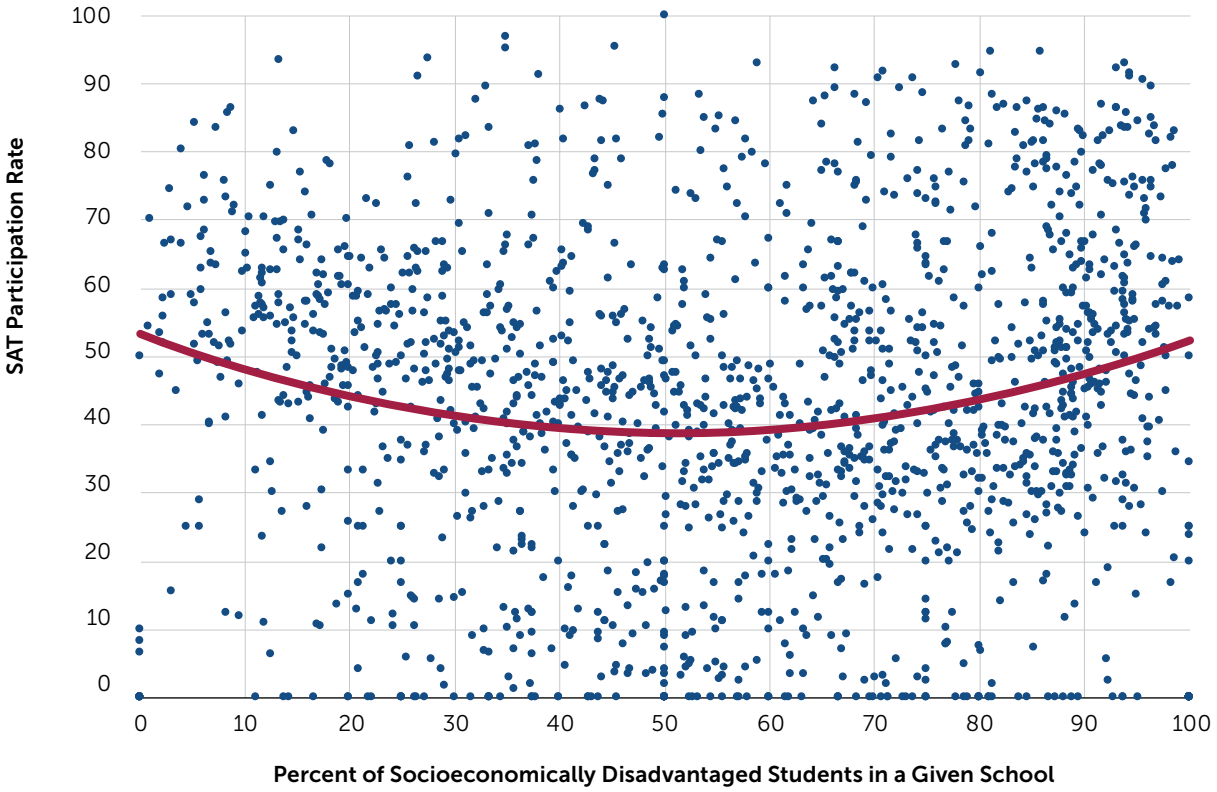
	All	English Learners	SED	Asian/PI	African American	Latinx	White
% Cohort Participation Rate	45	18	38	65	42	39	46
Math							
Average Score	535	436	489	614	468	484	576
% SAT-takers above Benchmark (530)	48	15	30	75	23	27	68
ERW							
Average Score	538	417	495	589	489	494	583
% SAT-takers above Benchmark (480)	70	15	57	85	51	54	88
Average Total Score	1073	853	983	1203	957	978	1160
% SAT-takers above Math and ERW Benchmarks	48	11	30	73	24	28	67

Note: Statistics calculated from SAT test data for 2016-17 and 2017-18 provided by the California Department of Education with permission from the College Board. The denominator is based on the spring 2017 Smarter Balanced assessment scores for 11th graders who were expected to graduate high school in 2017-18. Using two years of SAT data allows us to capture participation in the SAT exam in either junior or senior year of high school.

These differential participation rates are not surprising to school and district leaders, many of whom include universal SAT participation as a key part of the equity agenda. As such, many offer the SAT free of charge. As one district leader proclaimed, "All [of] our students take the SAT in 11th grade free of charge." Districts also work to support broader SAT participation by offering school-day testing with no cost to students. A district leader serving a high proportion of socioeconomically disadvantaged students described the increased opportunity: "I think that that's been a great access piece for us. We do school-day SAT for our 11th and 12th grade students because we're about 85 percent participation in the National School Lunch Program and we really just wanted to remove those financial barriers to the assessment."

The efforts to provide universal access to the SAT, particularly in districts serving high concentrations of low-income students, is observed in Figure 4, which displays the SAT participation rates for 1622 California high schools by the proportion of socioeconomically disadvantaged students. Here we note an interesting U-shaped pattern; while some schools have few SAT participants,[9] many have 90-100 percent participation, including many that serve a large proportion of socioeconomically disadvantaged students. In fact, in 2019, 150 California high schools had 75 percent or more of their students participating in the SAT; this may be a result of school-day testing, district payment of registration fees, and/or a strong college-going culture in the community. Districts that administer the SAT free of charge to students and/or participate in school-day SAT testing may be removing financial and other structural barriers to participation.

Figure 4. School-level SAT Participation Rates by Percentage of SED Students



Note: School-level SAT participation rates calculated from student-level SAT test data for 2016-17 and 2017-18 provided by the California Department of Education with permission from the College Board. The denominators for SAT participation rates and the school-level proportion of SED students are based on the spring 2017 Smarter Balanced assessment scores for 11th graders who were expected to graduate high school in 2017-18. The total number of schools in the sample is 1622 and excludes 736 DASS schools.

[9] Of the 120 schools with no students participating in the SAT, 59 are traditional public K-12 and high schools, while the remaining 61 schools are labeled as alternative schools of choice, continuation high schools, community day schools, special education schools, state special schools, and juvenile court schools in the public schools database obtained from the California Department of Education website.

Increasing access to college entrance exams for students in predominately low-income locales is a passion for many district leaders. One leader who embraced the moral imperative described it this way:

> *Think about [affluent communities]. This is exactly what they're doing for every one of their kids. They're just paying for it out of their own pocket or whatever, so we have a responsibility to lift our communities up that might not have those means. This is one real powerful way we do it because, yeah, every kid in those wealthier communities [is] taking the SAT twice, and they're paying for it, and all of them have SAT tutors and all that. The more we can do as a school district to lift, we can change the future. We kind of get emotional when we think about it, too, because it's powerful, and we're not without critics either. We've had teachers throw rocks at us [argue over policy], 'Not all kids are going to college.' We have plenty of those rocks, but we move forward beyond that just because we know what the impact will be.*

But participation is only the first step. As one superintendent described it, "Access is great, and we should have it, but it's really how they do on it, so that's the harder part." For students participating in the SAT, how they perform is an important factor in college admissions, and even in course placement decisions. While some believed there was too much focus on test performance, all agreed that normalizing test participation was key. In some school districts this included utilizing the full SAT suite of assessments starting early in middle school. As one district leader described, "Giving our students access in middle school to the PSAT 8s, and building that sort of capacity in 8th grade as an introduction. Our students used to take the PSAT 10 and that was the only test they took. In talking with students now, they're just much more comfortable with college entrance exams. The affected filter has dropped as relates to those exams."

Table 5 shows that the average total score on the SAT for the 2018 California high school graduates taking the exam was 1073, slightly higher than the national average of 1068 (College Board, 2018). Examining scores by subgroup we note that, on average, students who are Asian (1203) and White (1160) score higher than students who are English learners (853), socioeconomically disadvantaged (983), Latinx (978), or African American (957). The SAT also has college and career readiness benchmarks for both the ERW and math sections.[10] Research by the College Board has empirically validated these benchmarks using college performance data, finding that students with a math section score that meets or exceeds the benchmark of 530 have a 75 percent chance of earning

[10] The College Board notes that college readiness is a continuum and that "students scoring below the benchmarks may still be successful in college, especially with additional preparation and perseverance." https://collegereadiness.collegeboard.org/about/scores/benchmarks

at least a C in first semester, credit-bearing college courses in algebra, statistics, pre-calculus, or calculus. Additionally, students scoring at least a 480 on the ERW section have a 75 percent chance of earning at least a C in first semester, credit-bearing college courses in history, literature, social sciences, or writing (Westrick, Marini, Young, Ng, Shmueli, & Shaw, 2019). Across all test-takers in our sample, 70 percent of students met the ERW benchmark and 48 percent met the math benchmark, while only 48 percent scored at the proficient level in both. Similar to the patterns observed with the Smarter Balanced assessments, we note differences by race/ethnicity, English learner status, and socioeconomic status. Asian test-takers were the most likely to meet the benchmark in math (75 percent), while White test-takers were the most likely to meet the benchmark in ERW (88 percent). English learners were the least likely to meet the benchmark in both math (15 percent) and ERW (15 percent).

Because performance on the SAT is so important, districts are working beyond improving participation rates to make the performance data more actionable and asking themselves, "How can we modify our instruction? Better prepare our kids?" One district leader identified the challenges in addressing SAT performance, "One challenge, and definitely an area of growth for us, is going beyond kids and parents accessing their data, and counselors accessing data, to it actually leading to some kind of improvement in the classrooms." District leaders believed that SAT participation and performance are key components to increasing college preparation and that students needed additional experience with high-stakes exams and targeted test preparation, all of which are discussed in more depth later in this report.

College readiness indicators should include college access and success measures. Despite general consensus on how to define college and career readiness, in the minds of some district leaders there was a distinction between college readiness on the one hand and college eligibility and enrollment on the other hand. For example, one Northern California district leader noted the difference: "Are you talking about college readiness as in the students have the skills to be successful in college? Or are you talking about that they meet the criteria for college eligibility? Because those are two different [things]." More specifically, districts leaders wanted to have more information about their students' outcomes after they left high school: Do students actually enter college, what type of college, do they need remediation when they get there, and do they ever obtain a degree?

Nearly all of the district leaders we spoke with noted the importance of measuring college readiness by actual college outcomes. One leader asserts, "We've been talking about college readiness for two or three decades now in our institution. What does it really mean, and how does it actually look? How many kids are actually going to a four-year or

two-year college and completing? So that's I think a really important metric when thinking about this work." All districts in our sample use the National Student Clearinghouse data to monitor college enrollment, persistence, and completion patterns. Examining these trends offers critical information about students' level of preparation for the demands of college.

Recent work by the authors and colleagues, using National Student Clearinghouse data, shows that among California public high school students, 63 percent enroll in college following high school graduation; 26 percent enroll in a four-year college and 37 percent enroll in a two-year college (Kurlaender et al., 2018).[11] As with other indicators of college readiness, these rates vary substantially by race/ethnicity. Notably, the California Department of Education recently expanded DataQuest to include college enrollment information at the district and school-level, calculated from student-level National Student Clearinghouse data.

3. Improving College Preparation Through a Focus on Coursework

A critical component of college readiness is students' preparation for the academic demands of college. In fact, extensive research indicates that students who engage in a rigorous course of study in high school have better high school and postsecondary outcomes, including standardized assessment scores (Attewell & Domina, 2008), high school graduation (Schneider, Swanson, & Riegle-Crumb, 1997), college enrollment (Long, Conger, & Iatarola, 2012), college grades (Klopfenstein & Thomas, 2009), college graduation (Adelman, 2006; Attewell & Domina, 2008), and wages (Altonji, 1995; Rose & Betts, 2004). Rigorous academic preparation is, therefore, critical to future college success and comes in several forms. In California, a rigorous sequence of courses is often synonymous with the A-G course requirements needed to be eligible for admission to one of the state's public four-year colleges. Additionally, a rigorous course of study frequently involves advanced courses that provide college-level content, including AP and IB courses, as well as college-credit courses, such as those offered through dual enrollment programs.

Districts leaders are thinking a lot about how to provide academically rigorous courses and appropriately place students in college preparatory coursework amidst an increasingly complex set of options (including AP, dual enrollment, career technical pathways, etc.). One Assistant Superintendent comments, "We have a theory of action here that talks broadly about how we place students with multiple metrics, and put them in coursework that we don't just think they should be in, but actually to stretch them . . . and we monitor the heck out of it."

[11] To learn more about the college enrollment patterns of California public high schools students, see: https://www.edpolicyinca.org/publications/where-california-high-school-students-attend-college.

A-G course requirements. The most frequently cited district practice for ensuring the college readiness of students is A-G coursework. Adopted by the University of California (UC)[12] and California State University (CSU),[13] A-G requirements are subject matter and course requirements that high school students must take and satisfactorily complete with a C- or higher to be considered eligible, at least in part, for admission in either postsecondary system. These courses capture a variety of fields, as denoted by the "A-G" letters assigned to each subject area: (A) history/social science (2 courses), (B) English (4 courses), (C) mathematics (3 courses), (D) laboratory science (2 courses), (E) foreign language (2 courses), (F) visual/performing arts (1 course), and (G) an additional college preparatory elective course in any aforementioned subject.[14]

All education leaders we spoke with rated A-G coursework as a (if not, the) primary tool for preparing students for college. Most districts are striving to ensure that all students graduate with all A-G requirements fulfilled. One district's long-standing commitment was evident in this statement from the superintendent: "Our students who graduate with us are by [and] large graduating A-G eligible. We have had that as part of our expectations for all of our graduates since 2003." To accomplish this, districts are striving to guarantee that all courses serve to fulfill an A-G requirement. One district reported that 95 percent of its courses met A-G requirements. Others emphasized the importance of ensuring that even the career/technical pathways lead to college readiness. For example, one leader stated that "In terms of the college career readiness thing, we don't think of it as an 'or', we think of it as an 'and', and so it's not like those kids in a CTE pathway, we're thinking, 'Oh my gosh, well, those are the kids that are going to end up going into trades and into trade schools and it's not necessary to go through A-G.' We're much more of the mindset around the Link[ed] Learning pathways and the CTE courses being A-G aligned, so the kids get basically both their hands-on experience as well as the academic experience. It's not the 'or', it's the 'and'."

Using the College/Career Indicator dataset, we can observe completion of A-G course requirements independently of the additional criteria necessary to be deemed prepared on the CCI (as provided in Table 2). We see that 40 percent of students successfully complete the A-G coursework prior to high school graduation; this rate is up substantially from 32 percent of high school graduates in 2011-12 (Reed, Kurlaender, & Hurtt, 2016). Not surprisingly, rates vary substantially across student subgroups with the same overall patterns observed with the Smarter Balanced assessments and SAT; Asian

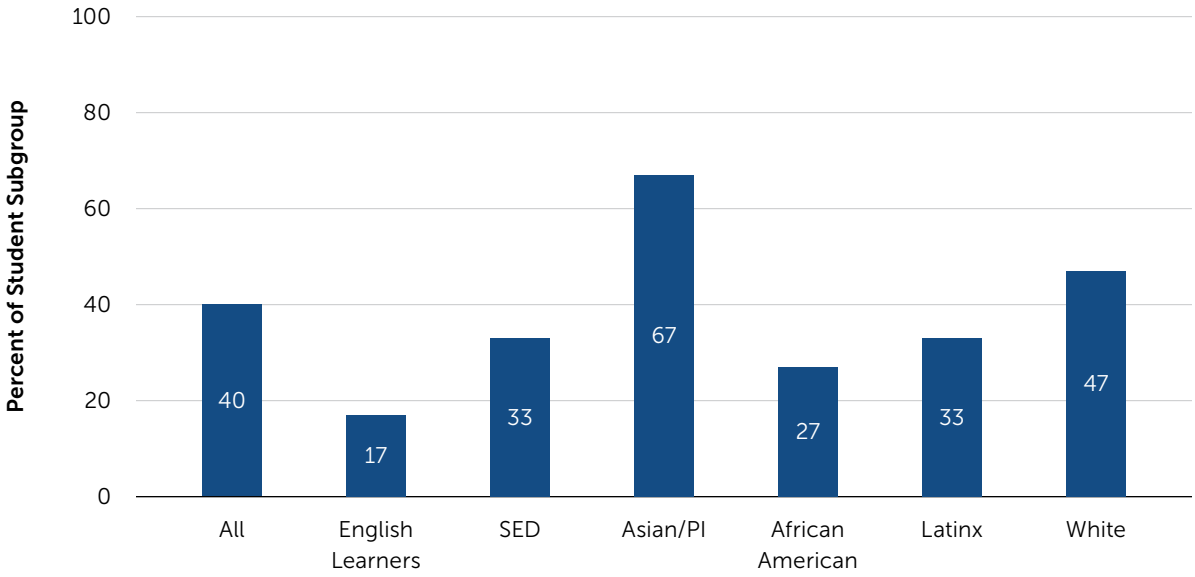
[12] http://regents.universityofcalifornia.edu/governance/policies/2103.html

[13] https://www2.calstate.edu/apply/freshman/getting_into_the_csu/Pages/admission-requirements.aspx

[14] Fifteen of the required courses for admission must be academic or preparatory courses approved by the University of California system. In addition to their A-G subject requirements, the University of California and California State University also use high school grade point average and standardized test scores from the ACT and/or SAT in determining applicants' eligibility for admission.

students have the greatest rates of A-G completion and EL students have the lowest rates. Figure 5 depicts the variation in A-G course completion by student subgroup in the 2017-18 cohort, which indicates that African American students complete A-G requirements at the lowest rate (27 percent) and Asian students complete A-G courses at the highest rate (67 percent), a gap of 40 percentage points.

Figure 5. Percentage of Students Successfully Completing A-G Coursework, by Subgroup



Note: Statistics calculated from student-level College/Career Indicator data for the 2017-18 cohort using only the A-G completion indicator. Analytical sample includes all students statewide.

Advanced Placement (AP) courses. All district leaders viewed AP courses and exams as a critical tool in preparing students for college and an important component of their high school academic programs. Describing the importance of AP courses and exams, a Southern California district leader claimed:

> *I've actually seen students receive the most opportunity for college access by the scores on their AP exams . . . It just seems like our students with strong AP exam scores appear to have more opportunity in the postsecondary realm. And it seems to me like it's the perfect mixture between rigorous coursework on a regular basis, followed with that demonstration of their ability in a formal assessment format.*

The need to equalize opportunities for AP course enrollment was at the forefront of district leaders' minds and many offered different approaches they have taken at their district and school sites. For example, one superintendent explained:

> *We have actually paid for what we call AP coordinators at each high school campus to really work on disproportionality to ensure that we're encouraging all students to take Advanced Placement courses in order to prepare them. And we have an AP coordinator at the district office that helps support the needs of each high school campus. And they've developed things like AP ambassadors, and they have opt-out processes where it's more counseling and consultation.*

Some also spoke about reducing the costs associated with AP exams. One leader described efforts in his district: "Our district pays for the AP exam, we don't put that cost upon the student. So, we're very fortunate for that." Others discussed an explicit effort to break the cycles of self-placement that have resulted in racial/ethnic disparities in course-taking. As one leader explained :

> *We [work] one-on-one with students who would traditionally not sign up for an AP course on their own. Whether it's [an] administrator, whether it's [an] academic counselor, we reach out to the families. We give them an overview of the benefits of taking an AP course, we go over the supports that we provide both before the school year starts as well as during the school year. A couple of our high schools take their students. . . all students who are taking an AP test, on an AP retreat. So we go over supports like that so that the families and the students are assured that if they take this course that they will be supported.*

Dual enrollment. District leaders also considered dual enrollment to be an important tool for increasing college and career readiness, though many described weak overall participation in structured dual enrollment programs in their LEAs while also noting a variety of barriers to that participation:

> *The process to get a student enrolled in dual enrollment is very hard and it creates a lot of obstacles for the students, and the students just don't have the means to get to [their local community college], or they don't quite understand the process; [it] is just so difficult. So, that creates frustration on the student's part and the students will just kind of unfortunately give up.*

Despite the challenges experienced by some districts in securing agreements with local community colleges, several districts have found great partners in local community colleges (and even a few at CSU campuses) providing some opportunities for dual enrollment. Speaking on behalf of a large Southern California district, one leader describes dual enrollment in his district:

I would say our college readiness work focuses on several fronts. [One] would be preparing students with college-level coursework in high school, so actually promoting dual enrollment opportunities for our high school students. These would be courses provided through our college partners, predominantly through [the local community college and CSU]. Our students have a portfolio, if you will, of courses they can take over the summer. And then we offer courses on all of our comprehensive high school campuses throughout the school year.

Career Technical Education. Increasingly, career technical education (CTE) is viewed as an important component of preparation for postsecondary success. As quoted earlier, district leaders across the state view college and career readiness as synonymous, especially with an increased demand for educated and highly-skilled labor. Additionally, aligning career-technical education with local economic demands results in better outcomes for individuals and communities. One Central Valley leader explained the importance of career technical education as part of a broader postsecondary plan and the positive outcomes resulting from alignment to his community's needs:

We want every student [to] have a postsecondary plan . . . it can be trade school, it can be community college, it can be military or a four-year university, but we've been very strategic in developing our CTE programs [so] that they meet local economic demands . . . companies that are tripping over themselves literally to hire our kids . . . it's not uncommon for a student to get three offers for employment. We have a partnership with [company name redacted]. They're offering out of high school $70,000 with full benefits and a 401k. Now, the trick is always making sure they continue their education . . . Most [of our students] are going to have to work at least part-time [during college], so giving them access to jobs that may also be related to a career is huge. And knowing which companies offer tuition assistance programs [and] good benefits while they're going to school has been very, very helpful in that regard.

In California, about 18 percent of high school graduates complete a formalized CTE pathway and another 19 percent participate in CTE courses without completing a full pathway (Reed, Dougherty, Kurlaender, & Mathias, 2018). In total, just over a third of all high school students are participating in some career technical education; however, as reported in prior work by the authors, participation is not equitably distributed (Reed et al., 2018). Students who participate in CTE pathways are slightly more likely to be male, Latino, English language learners, and from socioeconomically disadvantaged backgrounds than students who do not participate in CTE pathways. Further, across race/ethnic subgroups students participate in different fields of study, which may be a function of local economic demand (Reed et al., 2018).

4. Expanding the College Readiness Toolkit

Beyond the various high school assessments and the focus on a college preparatory curriculum in high school, the district leaders we interviewed employed a robust set of tools and practices to support students' readiness for college and career. These comprehensive efforts shared some key features, including ensuring access to and success in rigorous academic coursework beginning in elementary and middle school, providing test experience and targeted preparation for taking high-stakes college admissions assessments, leveraging counseling and advising practices, and engaging the community.

Starting early. Most districts described efforts to engage students in college thinking and track progress from an early age, at least by middle school. One district actually hosted college visits for elementary school students. Other districts used College Promise Programs, career interest surveys, and college planning and assessments with middle school students to promote engagement in discussions of college options earlier in students' educational trajectories. Additionally, many district leaders described their explicit efforts to engage middle school students in rigorous college preparatory curriculum and planning, some highlighting the use of a variety of tools focused on instruction in the middle school years.

Describing the district's use of a college and career readiness curriculum developed by a UC Berkeley Department of Counseling, one administrator stated:

> *We implement that curriculum starting from middle school. And it embeds that college knowledge gradually through students as they progress through middle school. And then once they are in high school, we talk about the four-year graduation plan, we introduce the A-G requirements, we introduce what college application requirements are.*

Another district leader discussed the implementation of the Springboard Curriculum to ensure classroom rigor in the middle and early high school grades:

> *The curriculum that we've adopted for both English language arts and math for our secondary grades, so grade six through eleven, is the College Board publication called Springboard. And one of the reasons why we adopted that curriculum is because of its direct alignment with the SAT and the high-stakes assessments. And because we want to maintain that rigor for our students through middle school and into high school.*

PSAT. In addition to providing rigorous coursework and a college prep curriculum in the early and middle grades, districts across California are also using other assessments of student achievement and college potential as students matriculate from middle grades to high school, most commonly the PSAT. Citing the absence of a statewide standardized assessment in grades nine and ten, many districts are administering the PSAT in 8th, 9th, and 10th grades as an early assessment of college readiness and to specifically inform course placement, improve instruction, and prepare students for additional high-stakes assessments, namely the SAT.[15]

Leaders from two separate districts describe their process of using the PSAT, as well as other assessments, such as those developed locally:

> *Smarter Balanced leaves us a little bit of a hole in the middle, right between 8th grade and 11th grade. So we tend to… look at other types of assessments along the way, like our local assessments that guide us about student placement and courses and helping kids think about it. And we use PSAT score and the eligibility index information to help kids get a better gauge of kind of how they're doing.*

> *So, the counselors don't typically use the [Smarter Balanced assessment] scores. In high school, students only take the [assessments] once in 11th grade. But they use the PSAT in identifying students who would benefit from additional support for SAT prep.*

For districts in our sample, the use of the PSAT is an integral part of the college-going culture and for monitoring progress towards college. Specifically, students' performance on the PSAT provides schools with important information on placement in AP courses. District leaders often referred to the AP Potential Report as a critical tool for determining AP courses to be offered and identifying students likely to benefit from and succeed in particular AP courses. The AP Potential Report uses students' performance on the PSAT to predict performance on AP exams, giving districts a tool for successfully expanding AP course-taking.[16] As one district leader described, "We were really working hard to take the PSAT results and use the AP Potential to identify more students for AP."

[15] The PSAT 8/9 is administered in 8th and 9th grades and establishes a baseline measurement of college and career readiness as students enter high school. The PSAT 10 and PSAT/NMSQT are the same test offered at separate points in the year. The PSAT 10 can be used to assess college readiness and to pinpoint areas for growth. The PSAT/NMSQT is most recognized for its use for identifying National Merit Scholars. For more information on the PSAT exams, see the College Board website: https://collegereadiness.collegeboard.org/about/alignment.

[16] To learn more about the AP Potential Report, see the College Board website: https://apcentral.collegeboard.org/about-ap/start-grow-ap/grow-ap/ap-potential.

For some, including this district in Southern California, the *AP Potential report* also a key tool in the effort to equalize AP participation:

> *There [are] several thousand students in our district that take the PSAT for free each year. We drive social media campaigns, again, teachers, counselors, principals that are out in the street waving banners for kids and parents as they come in. We've kind of tried to make it fun, and we want the college-going culture and the students that have that aspiration, we want that to be fashionable. We want it to be something that kids are excited about.*

The use of the PSAT in 8th, 9th, and 10th grades also helps students build familiarity with the testing environment and the types of items included in the SAT and other high-stakes or college admissions assessments. We repeatedly heard from school districts that by the time students take the Smarter Balanced assessments and the SAT in 11th grade, they are comfortable and confident in their abilities to perform. As one district leader noted:

> *We are monitoring PSAT growth from one year to the next and students that are outliers are coming up for discussions . . . Are they appropriately placed across the different classes? Because we do have kids that do really well and their course . . . their schedule doesn't necessarily reflect their PSAT score. And so, that has surfaced as a result of using those assessments.*

Test preparation. In addition to rigorous coursework, many districts are integrating test preparation programs in the classroom in order to improve students' preparedness for high-stakes exams that may influence college eligibility.

For some districts, test preparation encompasses the Khan Academy because of its direct alignment to the PSAT and SAT. The integration of individual PSAT performance data and Khan Academy provides students with targeted supplemental instruction in areas where improvement is needed, as described by one district leader in Northern California:

> *Khan Academy is used especially when we use the PSAT scores. When academic counselors work with students on their PSAT scores, when they encourage them to either sign up for the AP classes or the fact that they're preparing for the SAT the next year, that is part of the resources that they go over with them and linking their PSAT scores with Khan Academy so that they can get the practice that [is] more aligned to their areas of need.*

Other districts offer options for test preparation programs, as one district leader stated:

We have two different ways in which our schools offer SAT prep. We have two of our high schools that offer Kaplan and they provide the prep course to all their 11th graders… And then we have a few other high schools which partner with CollegeSpring, and they offer the SAT prep through that program.

For some districts, these test preparation programs are integrated with classroom instruction, while in others the programs are supplementary. When speaking about the integration of assessment and instruction, especially targeted test prep like Khan Academy, one district leader revealed key aspects to successful integration include counselor and teacher commitment, timely information, students' access to technology, and dedicated classroom time:

As soon as the reports are available, [the test coordinator] blasts them out, and I think with associated links to the counselors and the teachers and that way they know, 'Hey, the results are in. Now let's get to the students so that they can start taking a look at the results and getting their accounts connected to Khan Academy and then following up with some classroom time.' It makes it nice that the kids have the laptops because some of that is structured time that's in the classroom, some of it's unstructured time.

Counseling and advising practices. The role of counselors and advisors has been shown to be a critical link in improving academic achievement (Carrell & Hoekstra, 2014) and to ensuring that students have the information and knowledge to successfully navigate the transition from high school to college (Hurwitz and Howell, 2014). Yet, access to college counselors in California high schools is a major obstacle, with an average ratio of 760 students per counselor, substantially higher than the national average of 482 students per counselor (ASCA, 2015). The district leaders we interviewed recognized the important role of counseling in students' readiness for college. Counselors in these districts were tasked with reviewing test scores, determining course placement, advising on college eligibility and application, and assisting in the transition from high school to college.

Counselors also work with students to remove financial barriers for college and reduce summer melt, when students who have been accepted to college fail to complete necessary enrollment and financial aid forms. In several districts, high school counselors, school administrators, and community members worked with students and parents to complete the Free Application for Federal Student Aid (FAFSA). In one county, advising efforts extended into the summer between high school and college. High school counselors worked additional paid hours each summer specifically to support students in the college transition process and reduce the potential of summer melt. They provided personalized help with course scheduling, financial aid paperwork, housing arrangements, and other transition tasks. As described by one superintendent in Northern California:

What we do is that we work with Cash for College. They come out to hold separate nights for our families to support them and work with filling out FAFSA, that's one of our goals is to get as many, we want to get 100 percent to fill out the FAFSA, to fill out college applications and so, there is a big push from our counselors and our college coordination specialist to get that support from them. And also, we do have partnerships with outside organizations that also help with the FAFSA and also college applications.

Engaging the community. For many districts, college readiness extends beyond the classroom and even beyond the school buildings. District leaders spoke frequently about the responsibility to engage the community in the work of college and career readiness. This engagement includes both communicating efforts and results to external audiences, and bringing the community into school programs. One Southern California leader spoke about the responsibility to share the positive results of the district's and students' efforts:

I think that it's important for us, as we go through this work, I think we have a responsibility with ourselves and our staff to share these good stories that are out there and use social media as a platform to blast this information back into the community because unless you have that big story… it's not going to surface for the community unless we're intentional about surfacing it. So these little vignettes around kids . . . the majority of students will be first generation college-going students. To be a part of a system that allows for that to happen for families, I think that's really good stuff.

Beyond sharing the successes, district leaders spoke about community engagement and the inclusion of parents and other stakeholders on steering committees, partnering with local businesses and institutions of higher education for educational programming, and joining with nonprofit organizations to decrease students' financial burdens for postsecondary study. One district stressed that attaining the goal of college readiness for all students demands the involvement of parents in strategic planning and monitoring of college readiness indicators. He described the process: "We have parent meetings every Monday at the district office. So, those [parent] committees all provide their LCAP input and the data review process starts in the fall. And every meeting they have an agenda item that has an update on an indicator and then they have input into some of the strategies that we are deploying to address particular indicators." Another describes the importance of making this work be public facing: "We're very public about looking at the data and doing it regularly, twice a year, sharing with our board, sharing with our community, [and] our teachers."

Other districts described a collaborative community effort, where the K-12 school district, institutions of higher education, and local businesses worked together to improve

students' postsecondary readiness. One notable instance of education and business partnerships was the alignment of career-technical education programs with local economic demand in the Central Valley. In other instances, K-12 school districts are partnering with local colleges, both community colleges and CSUs, to offer students access to college coursework. Finally, several districts found strong partners through community organizations designed to decrease financial obstacles to college entry (e.g., Promise Programs).

5. Tracking College and Career Readiness: Individual and Local Accountability

It is essential to consider the dynamic process that cultivates college and career readiness among students and fosters a broader college-going culture in a school community. School district leaders we spoke with recognize the importance of monitoring progress along the way rather than simply summarizing a level of preparedness upon high school matriculation. With the introduction of the CCI, the CDE provides information on the proportion of students designated as *prepared* or *approaching prepared* for college and career. As designed, this information is used in accountability and, as a consequence, for school improvement processes; however, districts across the state are going further in their efforts to monitor students' progress, communicate critical information about paths to improve college and career readiness, and hold themselves accountable for student outcomes.

Monitoring and communicating individual preparation. Recent research shows that some qualified students often fail to apply to and attend high-quality colleges where they are likely to be admitted, resulting in a "mismatch" in college attendance (Smith, Pender & Howell, 2013). This problem is particularly acute among low-income and high-achieving students (Hoxby & Avery, 2013). To address this issue, districts throughout California are developing indicator systems for tracking the progress of individual students towards eligibility and readiness for college and career. At least one Northern California district focused intently on preparing students for the most competitive college for which they are likely to be successful, and communicating the options in a process referred to as "college match". These indicator systems encompass a variety of measures including, but not limited to, performance on the 11th grade Smarter Balanced assessments and the accompanying college readiness indicator (EAP), SAT benchmarks for college readiness, A-G course requirements, performance in college-level coursework, and/or locally developed indices in partnership with postsecondary institutions. Leveraging the indicator systems, districts provide regular information (through reports and letters) to individual students about their readiness for college. Here's how two district leaders described the unique processes in each of their districts:

> *We provide our high school students a letter twice a year that tells them if they're on track to graduate, if they're on track for college. That letter is kind*

of [a] personalized letter that uses things like their grades, and their AP/IB tests, their PSAT/SAT scores, things like that, and it's calculating their college index, CSU index, which then . . . They get a picture or map of California and so the student and their family get one, two, three, or four stars for all the colleges and it gives them information that you're on track to get into . . . [CSU] state, or you're on track to get into UC [Campus] or not, based on their own scores.

Over the last couple of years, we've generated the college eligibility letter, so in short, we develop profiles based off of students who have enrolled in different segments of higher ed across the state, leveraging the National [Student] Clearinghouse data. We then develop a profile and then apply it to our current seniors and send them a customized information packet which encourages students to apply to some of those schools based on their profile, and in these packets we include information about all of the UC . . . depending on the student's profile, information about different UCs, CSUs, FAFSA, their grant, and essentially next steps for either applying or enrolling in college, so that is one effort that we instituted over the last couple of years.

An important element of any indicator or tracking system is the ability to effectively use the information included. The districts we spoke with emphasized advising practices and actively involving parents. The importance of counseling and advising was evident in all districts, yet the approaches varied. Importantly, one district leader spoke directly about the need for advising, especially for the students who fall "off-track" throughout middle school and high school. School counselors often use indicators from tracking systems to advise students on course-taking and to inform students and parents, early and often, about eligibility and preparedness for college, as described above. Counselors, through the use of indicator systems and student-level reports, provide pertinent information about financial aid and that may improve college match.

Local accountability. All district leaders emphasized the need for local accountability to ensure equity and improvement in student outcomes. District leaders described holding school leaders accountable for student preparedness by monitoring key indicators and including outcomes on employment appraisals. One district leader discussed district-wide data reviews, where leaders from multiple schools would convene to examine data about students' college and career readiness. This effort stimulated a culture of data-driven decision-making for college-going that is also focused on equity.

For all districts, the efforts to improve college and career readiness, the metrics for tracking progress and performance, and the accountability mechanisms are all integral to district goals and Local Control Accountability Plans (LCAPs). One district leader stated

emphatically, "It's actually our second goal in our district, goal #2 is that all kids graduate college or career ready, which is one of our LCAP goals. It's in our LCAP, it's measured and reflected in our district progress report, it exists in our strategic plan, which is organized around our five goals. From that perspective, it's everywhere."

Conclusion

These intentional and persistent efforts to improve the college and career readiness of California's youth come at a critical time for California and the nation, as the need for a more college educated labor market continues to grow and as opportunities for educational attainment are not equally distributed. For years, indicators have suggested that far too few students are ready for college and career upon high school graduation. Even still, in 2018 the numbers were startling: 42 percent of students statewide demonstrated preparedness for college on the state's College/Career Indicator; 40 percent of students completed the A-G courses necessary for entrance into the state's public four-year universities; 48 percent demonstrated readiness through their performance on the SAT benchmarks; and 31 percent demonstrated readiness through their performance on the Smarter Balanced assessments and Early Assessment Program. These rates are even lower for historically underrepresented minority students and those from socioeconomically disadvantaged or non-English speaking backgrounds.

Today, significant state and local efforts are aiming to address college preparation and to smooth the transition from high school into college, especially for underrepresented and first-generation college students. The adoption of college and career readiness standards and assessments, increased access to the SAT, and a richer set of college preparatory curricula are all critical components of these efforts. At the local level, district leaders and community stakeholders are augmenting and enhancing the state's efforts through additional investments and innovation. District leaders are committed to inclusively defining college and career readiness, delivering rigorous instruction and authentic career experiences, providing access to and assistance in attaining college eligibility standards, engaging the community, monitoring student progress towards postsecondary readiness, using data to improve student outcomes, and holding themselves accountable. The college hopes of the students and communities they serve depend on it. As one district heartfeltly described:

> *This does a lot for your school and it does a lot for your students, but it also changes your community, too. We're lifting up the entire community and actually creating a condition for future economic prosperity because we believe that the more education one receives, the better their income will be throughout their lifetime. I think that's a big deal. It's not something to be played with. This is the real passion of the work.*

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