



# Higher Education in California

## New Goals for the Master Plan

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with research support from Qian Li

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AP PHOTO/ERIC RISBERG

### SUMMARY

Fifty years ago, state policymakers and higher education officials adopted California's Master Plan for Higher Education. This plan still largely defines policies concerning the state's public higher education systems: the California community colleges (CCC), the California State University (CSU) system, and the University of California (UC) system. Most would agree that the Master Plan has served California and its students well for many decades.

Today, however, higher education in California faces two crises: the budget problem and the education skills gap—an impending shortfall of the projected supply of college graduates relative to demand. PPIC projects a deficit of one million college educated workers in California by 2025 unless the state is able to substantially increase rates of college enrollment and graduation. California cannot close the gap by drawing college educated workers from elsewhere. Instead, the state will need to produce more graduates through its own colleges and universities. Additional funding would be required to accomplish this goal, a tall order in today's fiscal climate.

Updating key components of the Master Plan is a crucial part of the effort to close the education skills gap. This report proposes three strategic modifications to the plan:

- Eligibility goals for the CSU and UC systems should be gradually increased to new levels by 2025. The share of the state's high school graduates eligible for UC should grow from the top 12.5 percent to the top 15 percent of high school graduates. The share eligible for CSU should grow from the top 33.3 percent to the top 40 percent.

- The Master Plan should set explicit goals for transfer from the community colleges to UC and CSU. A target for larger shares of bachelor's degrees awarded to transfer students at both systems should be defined.
- A new component of higher education policy that focuses on outcomes—specifically, completion rates—should be added to the Master Plan.

An important consideration in adopting these goals is whether sufficient numbers of California's high school graduates will be college-ready. This report considers both the current college-readiness of California's high school students and the potential of remediation programs—programs designed to help college students improve basic skills. We find that CSU's approach, which requires that students complete all remediation work within one year, is highly effective and recommend that a similar approach be adopted by community colleges.

Updating California's Master Plan along these lines will have additional benefits. In particular, we find that increasing eligibility levels would lead to a more diverse student body—racially, ethnically, and economically—in both the UC and CSU systems.

Funding challenges represent perhaps the largest obstacle to meeting the new goals. Our projections suggest that the costs of our proposals, once fully implemented in 2025, would amount to about \$1.6 billion per year (in current dollars) under current (2009–2010) practices. Finding these funds will not be easy. But in the long run, failure to achieve new progress in higher education will cost California even more.

Please visit the report's publication page  
<http://www.ppic.org/main/publication.asp?i=916>  
to find related resources.

## Introduction

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California's Master Plan for Higher Education, officially known as the Donahoe Higher Education Act, was adopted by the state legislature in 1960. The plan established a set of principles and a structure that still largely govern the state's tripartite system of public higher education. Many would argue that the Master Plan was forward-thinking for its time, leading to the development of the best public system of higher education in the world. Today, the Master Plan is turning 50. And the state's economy is increasingly demanding greater numbers of highly skilled and educated workers. The time is ripe for revisiting and updating the Master Plan for the 21st century.

### The Need for More Postsecondary Education

Generational increases in educational attainment, a long-standing trend in California and the United States for decades, have now leveled off. In fact, young adults in California are *less* likely than older adults to have graduated from college. In contrast, and in competition with California and the United States, rates of college enrollment and graduation continue to increase in other developed countries and in many less-developed countries. Indeed, the United States is the only OECD country in which young adults are not substantially more likely than older adults to have graduated from college.<sup>1</sup>

The situation is even more dire in California. California has lagged behind other states in college attendance and graduation. In 2008, older adults born in California were almost one-third more likely to have graduated from college than younger adults born in the state (31.6% versus 24.9%); in the rest of the United States, the difference was only one-sixteenth (30.9% versus 29.0%).<sup>2</sup> Of the 20 most populated states, California ranks 18th in direct high school to college enrollment rates (including students who go to community colleges as well as those who go to private institutions); of all states, California ranks 40th.

At the same time that college graduation has lagged, educational attainment has become an even more impor-

tant predictor of labor market success. Education serves as the primary means by which individuals can achieve upward economic mobility. Over the past few decades, wages for individuals with no more than a high school diploma have stagnated. In contrast, college graduates in California and the United States have continued to experience increasing improvements in their economic well-being. Wage premiums for college graduates—the degree to which wages for college graduates exceed those of less-educated workers—have grown dramatically over the past quarter-century, so that today, a worker with a bachelor's degree earns almost twice as much as a worker with only a high school diploma. Even in the current economic downturn, unemployment rates for college graduates are in the single digits and are less than half the unemployment rates of workers with only a high school diploma.

Work by PPIC (Reed 2003, 2008; Johnson 2009) and others (Offenstein and Shulock 2009; Brady, Hout, and Stiles 2005) has convincingly demonstrated the advantages of higher education and the challenges facing the state if improvements in college enrollment and college completion are not realized. Specifically, improvements in educational attainment would lead to higher incomes, more tax revenue generation, and less demand for social services.

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## California has lagged behind other states in college attendance and graduation.

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PPIC research has also identified an impending shortage of one million college educated workers in the state (Hanak and Baldassare 2005, Neumark 2005, Johnson and Sengupta 2009, Reed 2008, Johnson 2009). Our economic projections suggest that by 2025, 41 percent of jobs in California will require at least a bachelor's degree. However, given current trends, the state's population is unlikely to supply these highly educated workers: PPIC's population projections indicate that just 35 percent of adults in 2025 will have at least a bachelor's degree. This gap between economic demand and

population supply is what we call the workforce skills gap. It can be resolved in just two ways: by improving Californians’ educational outcomes or by lowering the quality of jobs in the state. Clearly, improving educational outcomes is a much-preferred strategy for the state and its residents.

The state’s policies regarding higher education, therefore, are critical—and will largely determine the supply of college graduates available to California’s employers. After all, higher education in California is largely a public endeavor (although private institutions do play an important role, especially at the graduate level). Over 80 percent of all college students in California are enrolled in a public institution, and three of every four baccalaureate degrees awarded in California each year are awarded by either the University of California or the California State University (Figure 1).

When the Master Plan was established in 1960, only 11 percent of working-age adults in California had a college degree.<sup>3</sup> The Master Plan’s goals of access, affordability, and quality allowed for the top 12.5 percent of high school graduates to be admitted to a University of California campus and the top 33.3 percent of high school graduates to be admitted to a California State University campus.<sup>4</sup> The Master Plan thereby both anticipated and provided for a large increase in college enrollment and the awarding of

college degrees in California. It was understood that the state needed to provide funding to realize the enrollment increases, and until the past decade or two, the state was, for the most part, willing and able to do so.

Today, 50 years after the Master Plan went into effect, the same quotas for the UC and CSU systems are still in place—even though workforce demands in California have changed dramatically. Currently, 31 percent of working-age adults in California have at least a bachelor’s degree—a dramatic increase over 1960 but still too low for an economy that will increasingly demand more highly educated

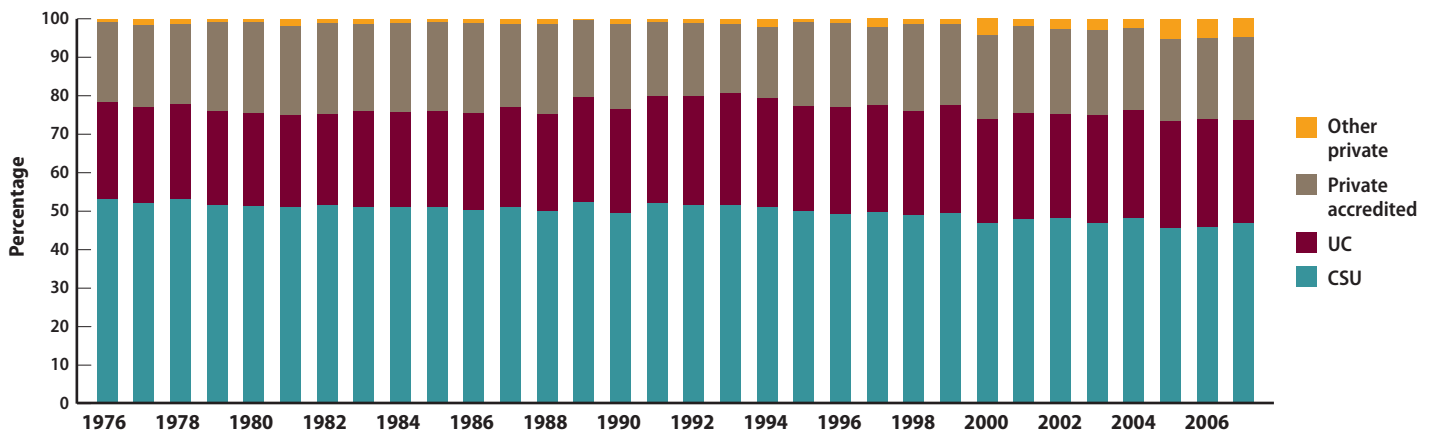
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workers. In today’s economic and educational context, then, the Master Plan perpetuates levels of college completion that are insufficient for the challenges of the 21st century.

### A Short History of the Master Plan

The Master Plan was a response to a chaotic and unstructured time in California’s development of a higher education

Figure 1. Public universities produce the bulk of bachelor’s degrees in California



SOURCE: Author’s calculations based on California Postsecondary Education Commission (CPEC) data.

NOTES: Other includes private for-profit colleges and those not accredited by the Western Association of Schools and Colleges (WASC). Private accredited includes nonprofit colleges accredited by WASC.

system and was intended to provide higher education opportunities to a rapidly growing population. Before the Master Plan, the establishment and siting of new public institutions was not the result of well-thought-out plans but was often based on politics.<sup>5</sup> The Master Plan was developed to provide a sensible and systematic framework for higher education in the state and sought to ensure universal access to higher education. This latter goal made California unique among states.

The plan established a division of responsibilities among California's three segments of public higher education. The community college system was to provide low-cost (initially free of tuition or fees) postsecondary educational opportunities for any interested Californian. Its mission included lower-division academic coursework that could lead to transfer to a four-year college or university, vocational or career technical education, basic skills education, and enrichment courses. The California State University was to provide the bulk of undergraduate education and to offer some master's programs, and the University of California was to be the state's primary research university, offering bachelor's, master's, professional, and doctoral degrees.

Through this division of responsibilities, the state sought to ensure access and quality in its higher education systems. Access was ensured by low fees and the state's student aid program. Impending dramatic increases in enrollment, known to and even forecasted by the Master Plan committee, were to be accommodated without any charges for instruction (tuition); fees were allowed for, but only to "collect sufficient revenues to cover such operating costs as those for laboratory fees, health, intercollegiate athletics, student activities, and other services incidental to, but not directly related to, instruction" (California State Department of Education 1960).<sup>6</sup>

Undergirding the Master Plan and essential to its success was the commitment of the state. Up to the 1980s, California and its residents supported the system's growth through capital expenditures for new buildings, including new campuses, and provided funds for operating expenses, most notably for instruction, that kept student fees among the lowest in the nation. Today, that commitment has



TONY AVELAR/THE CHRISTIAN SCIENCE MONITOR/GETTY IMAGES

*Over 80 percent of all college students in California are enrolled in a public university.*

changed. Budget problems in California, brought about by the recession and policymakers' inability to reach resolutions, have led to substantial funding cuts, especially at UC and CSU. Furloughs, increased fees, student protests, and decreased access have been headline news. At a hearing of the newly formed state legislature's Joint Committee on the Master Plan, the leaders of all three public segments argued that lack of funding endangers their mission and the state's economic future. Sources of funding for higher education are not specifically identified and mandated in the Master Plan, and yet funding decisions will be critical to the ability to fulfill the plan's goals.

On numerous occasions over the past 50 years, policymakers have reviewed and sought to revise or re-energize the Master Plan (Callan 2009). Those reconsiderations have not altered the major tenets of the Master Plan, including the eligibility proportions for UC and the CSU.<sup>7</sup> Nor have the revisions led to substantial changes in the division of responsibilities between the systems.<sup>8</sup> In fact, the most significant change in higher education policy over the past 50 years has not been a consequence of any purposeful reconsideration of the Master Plan. Instead, the most



dramatic change has occurred in response to budget constraints. To plan successfully for the future of California's higher education system—to update the Master Plan effectively—the state must set new goals with specific and strategic funding mechanisms in mind.

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### Focus of This Report

In previous work, PPIC identified three pathways that would help to close the projected skills gap and increase the number of bachelor's degrees awarded in the state: increases in college enrollment (including eligibility at UC and CSU), increases in transfers from community colleges to four-year colleges and universities, and increases in graduation rates at those four-year colleges and universities (Johnson 2009). The Master Plan governs these pathways either directly, as is the case in eligibility, or indirectly, as is the case with transfers.



DAVID PAUL MORRIS/GETTY IMAGES

*California faces a potential shortage of one million college educated workers by 2025.*

In this report, we examine these pathways and explore two additional issues—equity and funding—that must be considered in updating higher education policy in California. First, we focus on eligibility, transfer, and completion and suggest new higher education goals for the state, including updates of some of the fundamental tenets of the Master Plan. Next, we examine equity issues and show how new Master Plan eligibility goals would increase the share of underrepresented groups in the state's colleges and universities. Finally, we lay out the dimensions of the funding requirements to meet new Master Plan goals. Taken together, these topics should form the foundation of any deliberative discussion of future goals for the state and its higher education systems.<sup>9</sup>

## Increasing Eligibility

The proportion of high school graduates eligible for UC and CSU has not changed in the 50 years since the Master Plan was adopted. By practice and as funded by the state (until recently), the top 12.5 percent of public high school graduates are eligible for UC and the top 33.3 percent are eligible for CSU.<sup>10</sup> Students from private high schools in California are expected to meet at least the same admissions standards as those from public high schools, and students from out of state are subject to more rigorous standards.<sup>11</sup>

Increasing college eligibility levels from those set in 1960 is an important way for California to close the impending workforce skills gap. PPIC's projections indicate that an increase in direct college enrollment rates of about 20 percent over the next 15 years—combined with increases in transfer rates and degree completion—could largely close the education skills gap by 2025 (see Technical Appendix A, available on the PPIC website at [http://www.ppic.org/content/pubs/other/410HJR\\_appendix.pdf](http://www.ppic.org/content/pubs/other/410HJR_appendix.pdf)). To this end, eligibility rates for UC would need to increase from 12.5 to 15 percent of the top ranked high school graduates. Eligibility rates for CSU would need to increase from 33.3 to 40 percent.<sup>12</sup> These increases in eligibility should be slowly phased in over the next 15 years. Along

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with new targets for transfers and increased completion, discussed later in this report, these increases in the proportion of students eligible for UC and CSU would add almost 700,000 new college graduates (adults with a bachelor's degree) to California's population by 2025, thereby closing about two-thirds of the projected shortage of one million college graduates.

### Eligibility at UC and CSU

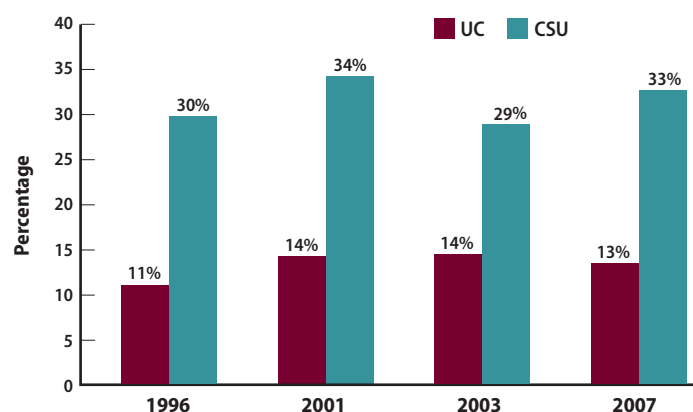
Identifying the students eligible for UC and CSU is not simple. UC and CSU have established criteria for eligibility that include course requirements, grades, and test scores. Students who meet the minimum criteria are not guaranteed acceptance at the campus or program of their choice but will be accepted by at least one campus. Over time, UC and CSU have increased high school course requirements and grade point average (GPA) standards to maintain eligibility at levels close to the Master Plan proportions (12.5% at UC and 33.3% at CSU). The high school courses used to determine eligibility are known as the “a–g” course requirements. The share of students satisfying the a–g requirements has increased, even as the requirements have been made more rigorous. In 1986, 26 percent of California's high school graduates had completed the a–g requirements—by 2006, that share had increased to 36 percent.<sup>13</sup>

Rather than accepting more high school graduates as more students have met the minimum standards for eligibility, UC and the CSU have increased those standards. This practice has led to a kind of standards creep, with standards becoming more rigorous once too many students fulfill the a–g requirements. For example, between 1983 and 2007, UC increased the history, math, and laboratory science requirements, established a new visual performing arts requirement, and increased the required GPA (in required courses).

CSU has also increased requirements. Over time, the UC and CSU course requirements have become more alike—by 2007, the number of years required in each subject has become identical. However, test scores and GPAs for UC eligibility have remained much higher: A student must maintain a GPA above 3.0 in the required subjects to be eligible for UC whereas the CSU system requires an overall GPA of 2.0 or above. (As discussed later in this report, UC has developed a new, more flexible eligibility policy that will be put into place for students entering the university as freshmen in 2012.)

The latest analyses by CPEC suggest that the share of high school graduates eligible for UC and CSU is close to what was envisioned in the Master Plan, even with more rigorous standards (Figure 2). In the recent past, the share of high school graduates meeting CSU's eligibility requirements has varied from 29 percent to 34 percent, partly reflecting the timing of changes in eligibility standards. It is also worth noting that in 2003 and 2007, 14 percent of the state's high school graduates met UC's eligibility standards—more than envisioned in the Master Plan and close to what we are suggesting as the new goal for the UC system. Moreover, before adoption of the Master Plan, about 15 percent of public high school graduates met the admissions standards at UC, and 50 percent met the standards at CSU (University of California 2003).

Figure 2. The proportion of high school graduates eligible for UC and CSU has been higher than Master Plan targets

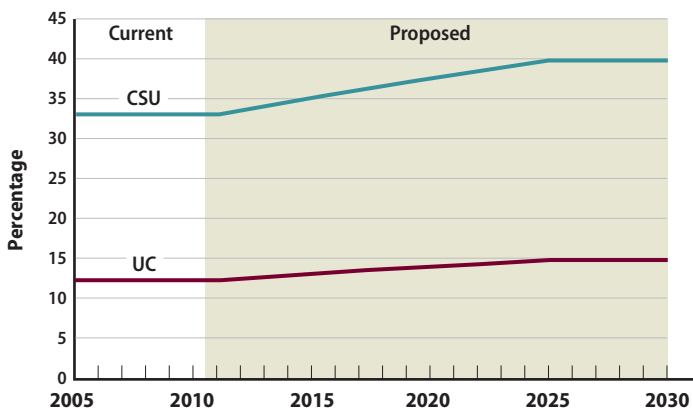


SOURCE: CPEC analyses for 1996–2007 estimates.

Given the recent eligibility numbers, and historic practices, our proposed increases in eligibility appear quite modest, especially once the gradual implementation of the new targets is taken into account. Under our proposal, the share of high school graduates eligible for UC would reach 13.75 percent in 2018 and 15.0 percent in 2025; the share eligible for CSU would reach 36.7 percent in 2018 and 40.0 percent in 2025 (Figure 3).

As has occurred in the past, we expect that increasing shares of high school graduates will meet the eligibility criteria, as long as those criteria are not increased. To manage eligibility levels, annual studies should be undertaken to determine the share of high school students who meet the criteria. Standards for eligibility should be adjusted in light of the eligibility targets for high school graduates.<sup>14</sup> The state's new K–12 student longitudinal database, the California Longitudinal Pupil Achievement Data System (CALPADS), should allow relatively easy determination of the appropriate eligibility levels. In addition, UC's new standards for 2012 allow greater flexibility in identifying eligibility and are therefore well suited to meeting new goals with more students.<sup>15</sup> CSU might need to adopt a similar approach. Regardless of how it is done, any update of the Master Plan must revise eligibility levels as one component of a multifaceted effort to increase the number of bachelor's degrees awarded in California in the coming years.

Figure 3. New eligibility levels should be phased in over time



### College Readiness

Would newly eligible students indeed be college ready? The evidence is somewhat mixed. Most measures of the abilities of California's high school graduates show strong improvements across time, so that today's high school graduates are notably more prepared for college than graduates were 10 or 20 years ago. But in general, our findings suggest that California's high school graduates, on average, are slightly less qualified for college than their peers nationwide. However, there is wide variation in college readiness in California, wider than in the rest of the nation.<sup>16</sup> And some states with high school graduates who appear no more ready for college than California's graduates have higher college enrollment rates (e.g., Georgia, Iowa, and Colorado).

In this section, we consider the following measures of college readiness:

- course-taking behavior in high school,
- scores on standardized exams,
- a–g course requirements, and
- family context, including parents' educational attainment.

In terms of course-taking, California's high school students lag behind their peers in the rest of the country, but they are increasingly taking college preparatory courses. For instance, in 2005, 44 percent of California high school seniors took rigorous math courses (advanced math, including pre-calculus, trigonometry, and calculus), compared to 52 percent of seniors in the rest of the country.<sup>17</sup> However, the increase in the share of California's students taking these courses has been impressive: In 1994, only 36 percent of California's seniors took high-level math courses while in high school. Even more dramatic, the share of California's seniors taking the highest-level math class—calculus—has increased from 12.5 percent in 1995 to 21 percent in 2005. Our proposal to increase UC eligibility levels from 12.5 percent to 15 percent appears relatively modest in light of these much sharper gains in the share of high school students taking calculus.

Gains on standardized tests, such as the SAT and Advanced Placement (AP) exams, have also been realized over the past 15 years. In 1994, average SAT scores



in reading and math combined (writing was not a part of the exam at that time) were 995, compared to 1013 in 2009. Today, California's high school graduates score just above the national average on the SAT (1511 versus 1509 combined scores for reading, writing, and math in 2009). And it is not only the top students who take the SAT: Almost half (49%) of California's high school graduates take the exam, similar to the share nationwide (46%).<sup>18</sup> California's high school students also have impressive rates of success on AP tests, which show college-level mastery in specific subjects: They rank 8th out of the 50 states in the number of AP exams passed per one thousand 11th and 12th graders, with sharp gains in both the number of students taking exams and the number of exams passed. In California, the AP exam passage rate increased from 135 per thousand 11th and 12th graders in 1996 to 210 per thousand by 2008, indicating that a growing and substantial share of California's high school graduates have already successfully completed at least some college-level coursework while still in high school.<sup>19</sup>

Perhaps the most important measure of the college readiness of California's students is completion of the a–g course requirements. As noted above, these course requirements are set by UC and CSU and are used to determine eligibility for admission. The requirements are occasionally modified. From 1985 to the mid-1990s, the share of California's students completing the courses increased substantially but has since leveled off as the requirements were increased. Our assessments, based on an evaluation of high school transcripts, suggest that about 40 percent of high school graduates in 2005 would have met the 1983-level a–g requirements, compared to the 35 percent that met the 2005-level standards.<sup>20</sup> Thus, our proposal to increase CSU eligibility to the top 40 percent of students would have already been realized had the eligibility requirements not been increased.

Of course, college readiness is not simply a matter of academics. It also depends on the nonacademic resources available to students, including family income and parents' educational attainment. Certainly, California has a higher share of high school students from families in which one or both parents have low educational attainment levels.

Indeed, of the 50 states, California has the highest share of parents who have not completed high school. This matters because parents' educational attainment is by far the strongest predictor of a child's educational outcomes.

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### California's high school students have impressive rates of success on Advanced Placement tests.

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Poverty rates for K–12 students are also relatively high in California, with one in six students living in poverty and another 22 percent living in near poverty.<sup>21</sup> To the extent that college-readiness also depends on affordability, these poverty rates show that large shares of California students face financial challenges.

As we can see, the general trend in California has been toward improvements in the skills of high school graduates over the past couple of decades. These improvements suggest that meeting our proposed eligibility requirements within the time frame we suggest would not pose an enormous obstacle to California's high school students or to the institutions that serve them. However, increasing the share of high school graduates eligible for UC and CSU rightfully raises concerns about the ability of newly eligible students to keep up academically. The next section addresses the role that remediation programs might play in addressing these concerns.

#### **Remediation**

The need for remediation—that is, improvement in basic skills—of incoming college students is not a new issue for California's colleges and universities. Although remediation is not a significant issue for most UC students, it is a problem in the CSU and CCC systems. Currently, a majority of students in these systems require remediation to bring them up to college entry-level standards.

At CSU, over half of incoming freshmen need remediation in either math or English.<sup>22</sup> The good news is that

the share of students needing remedial classes is substantially lower now than just 10 years ago—68 percent of all CSU incoming freshmen in 1998 compared to 56 percent in 2008, with particularly strong improvements in math (Figure 4). Moreover, the vast majority of CSU students successfully complete remedial courses and are able to move into college-level curricula. In 2007, 80 percent of students who needed remediation were successful in remediating within the year.

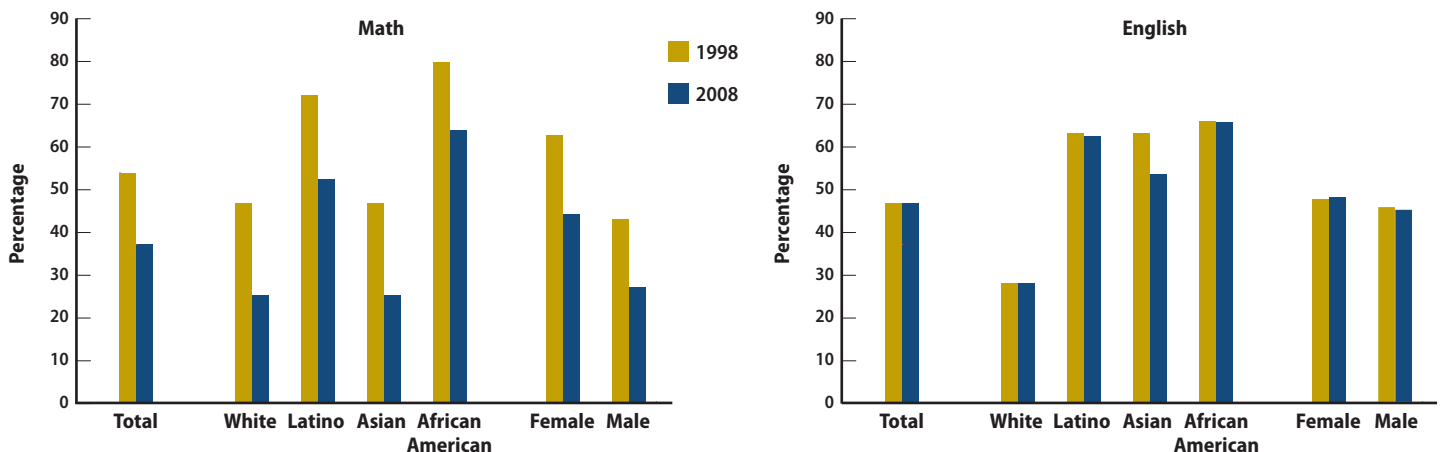
Even more encouraging, retention rates for students who need remediation are fairly high and only slightly lower than those for students who were fully proficient at the time of entry: 76 percent of students who required remediation returned to the university in the following year, versus 83 percent of students who did not require remediation. CSU has strong incentives for students to successfully complete remediation: To continue in school, CSU students are required to attain proficiency by the end of their first year.<sup>23</sup>

Under our proposed increased eligibility levels for UC and CSU, we can expect that the newly eligible students would be more likely to require remediation. However, the increased need for remediation may be offset by the increased levels of college-readiness of California’s high school graduates over time. In addition, programs that

reduce the need for remediation already exist and could be expanded: CSU’s Early Assessment Program is an excellent example. This program, developed by CSU in collaboration with the State Board of Education and the California Department of Education, allows high school juniors to voluntarily take math and English proficiency exams that inform them if they meet college proficiency in those areas. Students are encouraged to make up any deficiencies in their senior year of high school. An early evaluation of the program for one CSU campus found that participation in the program led to a 6 percent drop in the probability of needing remediation in English and a 4 percent drop in the probability for math (Howell, Kurlaender, and Grodsky 2009).

At the community colleges, successful remediation remains a challenge. Among those assessed, over 80 percent of community college students were below college-level readiness in math as were over 70 percent in English.<sup>24</sup> The “Basic Skills Initiative” of the Community Colleges Chancellor’s Office seeks to provide information on best practices and outcomes to community colleges with respect to bringing student skills up to college-level standards. Currently, community colleges use a plethora of assessment or placement tests but, unlike the CSU system, students are not required to enter remedial courses, regardless of their performance on those tests. Given

Figure 4. Many CSU freshmen require remediation



SOURCE: California State University (2009).

CSU's relatively successful record with remediation, any update of the Master Plan should include a requirement for remediation. The state could support this requirement by establishing performance measures and outcome objectives that are tied to funding.

Improvements in remediation are central to supporting the new eligibility requirements we propose. They are also key to increasing the number of students who transfer from community colleges to four-year institutions, the topic of the next section.

## Transfer from Community Colleges

Fewer California high school graduates enter four-year colleges than in the rest of the country, but many more enter community colleges.<sup>25</sup> Ensuring successful transfer from community colleges to four-year institutions is therefore critical to increasing the number of college educated workers in the state.

In theory, a system that allows students to complete their lower-division work at a community college and then transfer to a four-year university is cost-effective for the state and for the student. And, indeed, instructional costs per student are far lower in community colleges than at UC or CSU. State General Fund support in 2008–2009 amounted to about \$3,732 per student (\$5,603 including local funds), compared to \$14,504 at UC and \$8,738 at CSU.<sup>26</sup> Fees are also much lower: less than \$1,000 per year at community colleges, compared to over \$5,000 at CSU and over \$10,000 at UC.

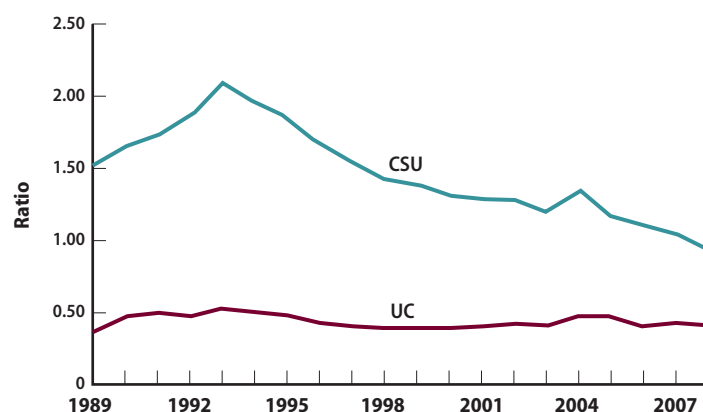
How successful is the transfer function in practice? We find that the ratio of transfer students to first-time freshmen has been fairly stable at UC but has declined dramatically at CSU (Figure 5). The number of transfers to UC has increased from less than 10,000 in 1989–1990 to over 14,000 in 2008–2009, in line with the overall increase in UC undergraduate enrollment of 40 percent. In contrast, the number of transfers to CSU has not changed substantially over the past decade and remains close to 50,000, even though the number of undergraduates has increased

**The Master Plan should explicitly mandate that transfer students constitute a specified percentage of baccalaureate graduates at UC and CSU.**

by 33 percent. Indeed, in 2008–2009, for the first time in at least two decades, CSU admitted more first-time freshmen than transfers.

The Master Plan does not have specific goals with respect to transfer levels or rates, but it does set a target ratio of 60:40 for upper- to lower-division students. This ratio is meant to encourage the enrollment of community college transfer students.<sup>27</sup> However, this ratio only indirectly encourages transfer. Instead, the Master Plan should explicitly mandate that transfer students constitute a specified percentage of baccalaureate graduates at UC and CSU. Setting an explicit goal for transfers has advantages over the current approach: First, it directly focuses on transfer students and, second, it includes the primary objective of ensuring that transfers will lead to more college graduates. To help close the workforce skills gap and to encourage more transfers, we suggest that transfer students should

**Figure 5. The ratio of community college transfers to first-time freshmen has dropped at CSU**



SOURCE: Author's calculation based on CPEC data.



LAURA DOSS/CORBIS

*The most cost-effective way to increase the number of college graduates in California is to improve the completion rates of those already in school.*

constitute 40 percent of all UC baccalaureate degrees and 60 percent of all CSU degrees.

The transfer pathway is not without risk. Students who enter a community college are less likely to finish a degree than otherwise similar students who go straight to a four-year college or university.<sup>28</sup> National survey data make this clear.<sup>29</sup> Of high school graduates who had completed UC and CSU's a–g course requirements with a minimum GPA of 3.0, 66 percent of those who went straight to a four-year

**Improving the transfer function will require an increased emphasis on identifying successful programs and pathways at community colleges, as well as coordination with UC and CSU.**

university earned a bachelor's degree within six years, compared to just over one in five who went to a community college.<sup>30</sup> Improvements in college completion, discussed below, may help to ameliorate this problem.

Improving the transfer function will require an increased emphasis on identifying successful programs

and pathways at community colleges, as well as coordination with UC and CSU.<sup>31</sup> Because of the tremendous number of students enrolled at community colleges, improving outcomes at those colleges could lead to dramatic increases in college completion at the baccalaureate level (as well as at sub-baccalaureate levels). From the state's perspective, increasing the success of the transfer pathway is key to closing the workforce skills gap. Establishing performance standards and outcome measures associated with transfer and tying some funding to attaining those standards would at least partially align the state's goals with the state's funding (Shulock and Moore 2007). The state can also play a key role in encouraging coordination between the systems by giving UC and CSU incentives to accept more transfer students.

## College Completion

The Master Plan does not include goals for college completion, nor have subsequent reviews of the Master Plan suggested that completion rates be a part of the state's goals for higher education. However, previous PPIC research has identified improved completion rates, particularly at CSU, as one of the most cost-effective ways to increase the number of baccalaureate degrees awarded in the state (Johnson and Sengupta 2009). Incorporating outcomes into the state's goals for higher education makes sense and is a logical way to update the Master Plan.

Both UC and CSU have programs and policies to improve persistence. Those programs include reviews of course requirements and curriculum, student support, and academic advising. Because completion rates are already fairly high at UC (with six-year graduation rates in excess of 80%), increases in completion will not lead to large gains in the number of bachelor's degrees awarded.<sup>32</sup> However, at CSU, only about half of incoming freshmen graduate within six years.<sup>33</sup>

Strong gains in completion have occurred at CSU over the past few decades: In the mid-1970s, only one of every three CSU freshmen graduated within six years. Recently,



CSU has identified a new target: to increase six-year graduation rates by 8 percentage points over the next five years (California State University 2010). The target is ambitious, but not unrealistic, as it requires a slight acceleration in the gains in six-year graduation rates that CSU has experienced over the past decade. This target would put CSU graduation rates on a path to reach 69 percent by 2025, which is in line with PPIC studies citing that a similar increase is necessary to help close the projected workforce skills gap.

Including completion goals in the Master Plan would allow the state to identify and measure the outcomes it desires from its higher education systems. Moreover, increasing the completion rates of students already in the state's public universities is the least-expensive way to generate new college graduates, since these students are already in the system. One caution: In establishing completion rate targets, the state and the universities will need to ensure that those targets are not met through lowering the quality of postsecondary education.

## Increasing Equity

The Master Plan focused on wide access to higher education, and subsequent reviews of it have focused on the importance of diversity in public higher education. The 1989 review of the Master Plan particularly focused on equity issues, noting that economic and social mobility is strongly tied to improvements in educational attainment. Today, one constraint to addressing equity problems is the elimination of affirmative action in admissions, a consequence of the 1995 regent's action at UC and Proposition 209's passage in 1996 for CSU.<sup>34</sup> Our proposals to increase eligibility levels could support greater diversity, especially in the CSU and UC systems.

Of the three higher education systems, the state's community colleges are most representative of California's ethnic diversity, but each segment has experienced a tremendous increase in diversity. Despite the elimination of affirmative action in 1995, CSU has experienced a large

increase in the share of Latino students. In 2007, Latinos made up 27 percent of undergraduates at CSU, up from 20 percent in 1995, and no ethnic group constitutes a majority of CSU undergraduates. This increase in diversity, however, has barely kept pace with the increasing diversity of the state's high school graduates. And in the state's most selective system—the University of California—Latinos and African Americans are still particularly underrepresented.

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**Even though eligibility rates for Latinos and African Americans have improved notably over the past decade, those rates are still substantially lower than for whites and Asians.**

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Students from more advantaged backgrounds, with better-educated parents and greater family financial resources, are more likely than students from less-advantaged backgrounds to have met eligibility standards at UC and CSU. To a large extent, differences in eligibility between ethnic groups reflect these socioeconomic differences, with Latino and African American students more likely to be from less-advantaged backgrounds and less likely than whites or Asians to be eligible for UC and CSU. Even though eligibility rates for Latinos and African Americans have improved notably over the past decade, those rates are still substantially lower than for whites and Asians. Eligibility rates are highest for Asian high school graduates and lowest for Latino and African American graduates (Table 1). Differences in eligibility rates are especially large at UC, with rates for Asians over four times higher than those for Latinos and African Americans.

These differences in eligibility pose a particular challenge for UC and to a lesser extent for CSU (where the differences are not so severe). Partly to improve equity, UC has adopted new admissions plans. Under the plan, more whites, Latinos, and African Americans would be admitted, but fewer Asians would be (the group most over-represented).<sup>35</sup>

Table 1. Eligibility rates among high school graduates vary dramatically by race and ethnicity

	2007	2003	2001	1996
<b>UC eligibility rates (%)</b>				
All	13.4	14.4	14.2	11.1
Male	11.2	12.6	12.5	9.7
Female	15.3	16.2	15.8	12.6
White	14.6	16.2	16.9	12.7
Asian	29.4	31.4	32.7	30.0
Latino	6.9	6.5	5.5	3.8
African American	6.3	6.2	4.3	2.8
<b>CSU eligibility rates (%)</b>				
All	32.7	28.8	34.1	29.6
Male	27.3	24.0	28.4	26.3
Female	37.6	33.3	39.4	32.9
White	37.1	34.3	40.0	36.3
Asian	50.9	47.5	52.4	54.4
Latino	22.5	16.0	21.6	13.4
African American	24.0	18.6	20.2	13.2

SOURCE: CPEC eligibility studies.

Increasing eligibility for UC and CSU to the top 40 percent of high school graduates, as we recommend in this report, would lead to a more diverse set of students. The share of Latinos in the 30th–40th percentiles of graduating seniors in California is twice as high as in the top 10 percent (Table 2). There are over three times as many African Americans in the 30th–40th percentiles as in the top 10 percent. Not only would racial diversity increase, but so would economic and social diversity. Students in the 30th–40th percentiles are more likely to come from homes with lower incomes and homes in which neither parent has graduated from college.

**Education is the key means for economically disadvantaged groups to experience occupational and income mobility.**

Increasing the number of transfers also has the potential to diversify the pool of students at UC and CSU. The most recent data show that Latinos and African Americans make up a smaller share of transfers than incoming freshmen at either UC or CSU.<sup>36</sup> But the potential for much more diversity among transfers is very high because the community colleges enroll such a diverse group of students.

Improving equity is important for California. Education is the key means for economically disadvantaged groups to experience occupational and income mobility. Today, wage premiums between college graduates and less-educated workers are at or near all time highs (Reed 2008). California's public higher education systems need to reflect the diversity of the state's population both to close the workforce skills gap and to help alleviate many of the economic inequalities between ethnic groups in California. Equity gains have been made by the state's public education systems, and those gains could be furthered by increasing eligibility levels and transfer rates.

Table 2. Increasing eligibility levels of high school graduates would increase diversity

Student rank	% White	% African American	% Latino	% Asian	% American Indian	% Other
Top 10%	58.7	2.2	13.9	22.5	0.0	2.7
10th–20th percentile	55.3	4.2	15.8	21.3	0.7	2.7
20th–30th percentile	48.6	5.6	25.5	17.6	0.5	2.3
<b>30th–40th percentile</b>	<b>47.5</b>	<b>7.0</b>	<b>27.0</b>	<b>16.1</b>	<b>0.3</b>	<b>2.2</b>
40th–50th percentile	41.7	11.8	34.2	10.7	0.7	0.9
50th–60th percentile	40.2	12.9	34.0	11.5	0.5	1.0
60th–70th percentile	39.8	10.8	33.3	13.9	1.4	0.7
70th–80th percentile	37.1	9.8	42.5	9.5	0.4	0.7
80th–90th percentile	32.6	12.5	46.3	7.8	0.4	0.5
Bottom 10%	24.0	15.2	54.8	4.3	0.9	0.8

SOURCE: Author's analyses of the HSTS, California data, 2005.

## Finding the Money

Perhaps the greatest challenge going forward is identifying how to fund the current system and, if we are to close the education skills gap, how to fund increases in enrollment and improvements in outcomes such as transfer and completion.<sup>37</sup> Judging by 2008–2009 levels of state expenditures per full-time-equivalent (FTE) student, we estimate that our eligibility and transfer proposals—once fully implemented in 2024–2025—would cost the state an additional \$1.6 billion in General Fund expenditures, an increase in higher education expenditures of 17 percent. These costs would support increased enrollments at UC and CSU (\$940 million for enrollment of newly eligible high school graduates and \$440 million for new transfer students) and increases in CalGrants (\$220 million).<sup>38</sup> Additional costs associated with increased retention and transfer programs are difficult to estimate but would certainly be of far lower magnitude.

Although these additional costs appear imposing, they would be phased in gradually over the next 15 years as eligibility proportions and transfer targets slowly increased. Moreover, these additional costs would be ameliorated by the state's demography. Projections by the California Department of Finance indicate that the number of high

school graduates will fall 4 percent between 2010 and 2017 as the children of baby boomers are replaced by the smaller cohorts of children born to members of the baby bust.

Compared to the rapid growth in the number of high school graduates over the past 10 years, the next 10 years will offer some respite in accommodating new high school graduates in the state's higher education systems. (Of course, some postsecondary students are of older ages.)<sup>39</sup> Our projections indicate that the additional enrollment and aid costs to the

Perhaps the greatest challenge going forward is identifying how to fund the current system and how to fund increases in enrollment and improvements in outcomes.

state of our proposed updates to the Master Plan would amount to less than \$100 million in the first year of implementation (2011–2012) and would gradually increase to the \$1.6 billion figure cited above for 2024–2025.

Over the past 50 years, the most significant change to higher education in California has been the state's reduced role in providing funding.<sup>40</sup> Even before the current budget

crisis, the state's funding had been eroding. For example, from 1970 to 2008, the share of the state's General Fund budget devoted to UC fell from 7 percent to less than 4 percent.<sup>41</sup> In 2005–2006, for the first time ever, state General Fund support for prisons and criminal justice surpassed the budget for higher education.

**Budget cuts have led to increased class sizes, reductions in course offerings, faculty furloughs, reduced services, and declines in the hiring of lecturers and new faculty.**

Currently, the largest share of General Fund expenditures for higher education is directed to the state's community colleges (Table 3). Reductions in funding were especially large for UC and CSU from 2007–2008 to 2008–2009. Community colleges have been less vulnerable to cuts, partly because they are incorporated into Proposition 98 funding guarantees for K–14 schools. General Fund expenditures for the CalGrant program amount to almost \$1 billion, and debt service adds another \$750 million, so that total General Fund expenditures on higher education in 2009–2010 are expected to be about \$10.5 billion.

As state support has declined, the systems have responded by raising fees and making cuts. UC and CSU have made up for the erosion in state support partly

through increased student fees (Figure 6).<sup>42</sup> At UC, where the decline in state support has been especially sharp, fee increases did not fully offset state funding declines, leading to a substantial decrease in instruction-related expenditures. Budget cuts have led to increased class sizes, reductions in course offerings, faculty furloughs, reduced services (including library services), and declines in the hiring of lecturers and new faculty. UC has planned to reduce the number of new freshmen admitted and enrolled by almost 5,000 over the next two years (about 7% of freshmen enrollment each year), and CSU is planning to reduce enrollment by 40,000 (about 10% of total enrollment) over the same time frame (Newell 2009). Reductions in funding have been less severe at the community colleges, but enrollment demand has increased with the recession. Because of the open access policy of community colleges, cuts have occurred not directly through reduced enrollments but indirectly through reduced course offerings and services (such as counseling, assessment, and placement).

Fees paid by students in California have increased dramatically over time, but even up to the late 1980s, those fees were relatively low. Total annual fees in 1990–1991 at UC were only \$1,820 (or about \$3,000 in inflation-adjusted 2008 dollars). The latest proposal at UC would lead to fees in excess of \$10,000 per year for 2010–2011, placing that system among the nation's most expensive public universities in the nation.<sup>43</sup> CSU fees are to exceed \$5,000 per year, up from less than \$1,000 in 1990–1991. Living expenses, including room and board on campus, add about another \$20,000 per year to annual costs.<sup>44</sup> In contrast, student

**Table 3. General Fund expenditures are highest for community colleges (\$ millions)**

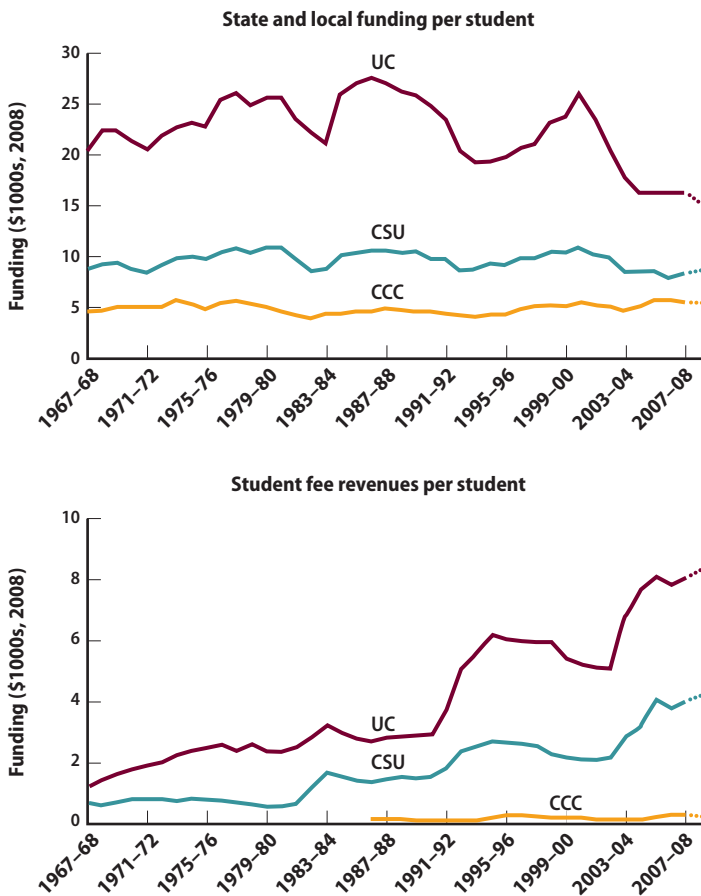
	2007–2008	2008–2009	2009–2010
University of California	3,257	2,420	2,636
California State University	2,971	2,156	2,338
California community colleges	4,170	3,948	3,736
Total for the three segments	10,398	8,524	8,710
Student Aid Commission	867	897	967

SOURCE: Legislative Analyst's Office (2009b).

NOTES: These figures include expenditures for both graduates and undergraduates, excluding health sciences. In 2007–2008, 84 percent of UC students and 90 percent of CSU students were undergraduates.



**Figure 6. Government funding for California public higher education has dropped as student fees have grown**



SOURCE: California Postsecondary Education Commission (2008).

NOTES: Calculations based on FTE students. The community colleges started recording revenues from the system's mandatory student enrollment fee only in 1984. Data for years 2007–2008 and 2008–2009 are estimates. Dollars are adjusted for California Consumer Price Index (CPI) inflation rates (from the Department of Finance).

fees at community colleges are very low compared to fees in other states. Fees at California community colleges amounted to \$817 for full-time students in 2009–2010; the state with the second-lowest fees is New Mexico at \$1,204; and the national average for two-year institutions is \$3,012.

Some portion of the UC and CSU fee increases has been offset by increased aid for low-income students. President Obama proposed a provision in the 2010 budget to increase the Pell Grant maximum from \$5,350 currently (2009–2010) to \$5,500 for 2010–2011. Beyond 2010–2011, the Pell Grant maximum will increase in step with the CPI plus an additional 1 percent. (In the past few years,

though, tuition and fees have been going up at a much faster pace than the CPI plus 1 percent.) CalGrant, the state's higher education grant program for low-income students, announced in August 2009 that awards would be adjusted to cover the 2009–2010 student fee increases. UC has reserved one-third of the recent tuition increases to provide grants for low- and middle-income students.

The extent to which efficiency gains could help reduce costs in higher education is uncertain. UC's costs per student appear to have declined in the face of reduced state support, and CSU's instructional costs remain lower than those at UC. Nationally, there has been a decrease in spending per degree, but it is uncertain whether this reflects productivity gains or quality reductions (Wellman, Desrochers, and Lenthann 2009). The primary instructional expenses are faculty salaries. Even before the recent cuts, faculty salaries at public institutions had not kept pace with their private counterparts.<sup>45</sup> UC insists that, in the long run, the quality of the faculty and research will suffer as a consequence. Regardless, efficiency gains would almost certainly be realized by improving the completion and transfer rates of students who are already in the state's higher education system.

The path forward is not clear. Suggested funding solutions for higher education range from partial privatization to renewed public support (see "Funding options," next page).

### Suggested funding solutions for higher education range from partial privatization to renewed public support.

Californians are strongly in favor of efforts to provide more funding for students through work-study opportunities (85% favor increased funding) and more funding for scholarships and grants (80% favor). But many are opposed to paying higher taxes and most do not support increasing student fees (68% oppose, 29% favor). To keep fees from increasing, half of Californians favor shifting spending from other government programs (49% favor,

## Funding options for California's higher education system

Below, we lay out a few options, not necessarily mutually exclusive, for funding the state's higher education system, focusing on likely outcomes with respect to college enrollment and graduation.

### Option 1. Partial privatization

Under this approach, the state would substantially reduce public support for higher education. Colleges would need to raise most of their own funds for operating and capital budgets. The costs of college would fall increasingly on the users—students and their families. The size of some CSU and UC campuses would likely be reduced, perhaps dramatically, as some students could not afford to attend and as smaller cost differences between public and private institutions led others to choose private universities. Eligibility would depend partly on a student's ability to pay, as is the case with most private colleges in the United States. College enrollment and graduation rates would almost certainly decline. Fewer California high school graduates would be served by such a system, with low- and middle-income students most affected. Community colleges, currently funded for operating expenses partly through Proposition 98, would perhaps turn to local district voters to secure some funding. Savings to the state would depend on the extent of privatization. Some campuses would replace California students with out-of-state students who pay much higher fees. Almost certainly fewer slots would be available to California's high school graduates at the state's most prestigious public universities. Clearly, this option runs contrary to the state's need to close the workforce skills gap.

### Option 2. Status quo

Under this option, higher education funding would continue to decline as a share of overall state funding during lean years. Fees would continue to increase to make up the difference. (At UC and CSU, the share of total funds from student fees doubled from 2000–2001 to 2008–2009.) A variation of this approach, one that UC is pursuing today, is a high-fee high-aid model: Some of the fee increases are used to provide grants for lower-income students, with increases in fees fully offset by increases in aid for students from low-income families. At community colleges, federal assistance could offset some of the fee increases.<sup>47</sup> To the extent that high fees discourage some students, enrollments would probably decline, particularly at the less-popular UC and CSU campuses. Thus, the status quo option is also not conducive to closing the workforce skills gap.

### Option 3. Renewed public support

This option would increase state funding for higher education to accommodate increases in college enrollment and college graduation. Fees would be lower than in most comparable public systems in other states, or a combination of fees and aid would be used to encourage greater enrollment. Additional or redirected state funds would have to be located. Identifying new revenue streams—an oil severance fee (that is, a charge for oil extraction) has been proposed—could help if those new revenues do not simply replace state General Fund expenditures. In 2008, California ranked 22nd of the 50 states in state and local support per student for public higher education. Of the states with greater per student expenditures, 19 had higher direct college enrollment rates than California.<sup>48</sup> Funding challenges aside, this option is most likely to help close the state's impending workforce skills gap.

43% oppose).<sup>46</sup> Of course, higher education funding is enmeshed in the state's larger budget and governance morass. Whatever path is chosen, policymakers, higher education officials, and Californians should have a deliberative discussion of what role we would like higher education to play in our state's future and how we will fund that role.

## Policy Recommendations

Fifty years ago, California's Master Plan for Higher Education provided a forward-looking strategy for handling the challenges then facing the state. California's population was increasing dramatically and policymakers realized that long-term planning for the state's prosperity required a higher education plan that would accommodate large numbers of Californians.

Today, California is at another critical juncture with respect to higher education, particularly in terms of the workforce skills gap and the state's troubled budget. An immediate danger is that short-term decisions will have long-term consequences that run counter to the best interests of the state and its residents. A deliberative discussion of the future of higher education in California—the goals we would like to achieve and the policies necessary to get us there—is essential in such a context. Ultimately, those goals and policies will be set by the people of the state through their elected representatives or directly through the initiative process, by policymakers, and by higher education officials.

To update the Master Plan for effective management of today's challenges, California needs new higher education policies. We offer the following recommendations and guidelines for policymakers and higher education officials:

- **The state should set clear goals for what it wants to achieve with respect to higher education.** The goals could be broad, such as reaffirming the Master Plan's goals of open access, but *must* be specific. For example, if the state reaffirms the goal of open access, it should define what this means in practice with respect to student fees and financial support.

- **Our projections of economic demand lead us to believe that the state should set new Master Plan goals with respect to eligibility:** The top 15 percent of high school graduates should be deemed eligible for UC, rather than the 12.5 percent currently eligible, and the top 40 percent of high school graduates should be deemed eligible for CSU, rather than the 33.3 percent currently. These goals should be met by 2025, with incremental annual increases from current levels to the ultimate target.
- **Transfer students should make up an increased share of all graduates from UC and CSU.** For UC, the proportion should be 40 percent and for CSU 60 percent. These goals should also be met by 2025.
- **The state should add efficiency goals to the Master Plan,** including transfers, completions, and time to degree. It should consider adding goals for the CalGrant program.
- **The state should measure progress toward meeting its goals for higher education.** Performance measures, such as college enrollment rates, transfer rates, and completion rates, should be identified and measured annually.
- **The state should continue to develop a robust longitudinal student database,** linking K–12, higher education, and employment data for individuals across time. This database should include information about participation in programs, such as early college commitment programs, so that policymakers can evaluate their efficacy. New pilot programs should be implemented with an experimental design that allows accurate evaluations of results.
- **Finally, the state must identify how it will fund its goals.** Indeed, goals must be set with funding mechanisms in mind. Funding should be aligned with the state's goals, so that higher education institutions are rewarded for meeting benchmarks.

Implementing these recommendations would put the state on a path toward closing the impending workforce skills gap and would allow residents the increased economic mobility that derives from higher education. An additional benefit of the higher eligibility and transfer rates would be greater diversity in the pool of students and graduates from the state's universities.

Funding the state's higher education system will be the greatest challenge. Strategic investments could help lead to greater efficacy in higher education spending. Private institutions could play an important role (see the text box). But it is certain that additional public funds will also be necessary to realize the substantial increases in enrollment and graduation that are necessary to meet future economic demands.

As dire as the current budget situation is in California, it has created some momentum for change and there are targets of opportunity. First is public opinion. Californians hold the state's public colleges and universities in high esteem, and there is perhaps more confidence in higher education than in any other function of state government. Moreover, Californians are very concerned with the costs of higher education and are upset about budget cuts. Half of Californians believe that a major change is needed in the state's public higher education system, a 10 percent jump from last year (Baldassare et al. 2009).

Second, the higher education segments are reevaluating their roles. In particular, the University of California has established a commission on its long-term future, and its new admission policy will expand the pool of students who will be considered for admission ("entitled to review" in UC jargon) to 22 percent of California's public high school graduates (University of California Office of the President 2009a). In addition, CSU has developed new goals to increase completion. And the Community College League of California has established a commission to study the future of community colleges.

Finally, the legislature has created a joint committee to review the Master Plan and the state's higher education policies. That committee has focused on the state's long-term needs, with an eye toward closing the workforce skills gap and establishing funding priorities when the economy recovers.

### Private institutions

The Master Plan identifies the importance of the state's private institutions. Currently, private colleges and universities play a relatively minor but important role in undergraduate education in California, awarding about one of every four of the state's bachelor's degrees each year. The fastest growth rates have been among private institutions not accredited by WASC. These institutions are mostly made up of private for-profit universities. Over the past 10 years, the number of bachelor's degrees awarded by these institutions almost tripled. Even so, they still award only about 5 percent of all bachelor's degrees in the state.

The state has limited authority over private institutions. Long-term eligibility and enrollment policies are not subject to state approval or control. However, the state could encourage private school attendance by providing more financial support for students. Private institutions have argued that CalGrants would be the appropriate vehicle for such support. Currently, the state restricts CalGrants to \$9,708 per year for California's high school graduates. Private institutions would like to see this amount increased, noting that state support for CalGrant recipients at CSU and UC are substantially higher once state subsidies for instructional expenses are taken into account. A policy concern is that the much-higher tuitions and fees at private universities could lead to much-higher debt loads for students at these schools. One option would be to increase CalGrants but tie the increases to institutions' ability to at least partially match those grants with institutional support, keeping student debt loads manageable. In addition, the state could tie institutional CalGrant eligibility to certain accountability benchmarks, such as graduation rates and debt loads.

The outcome of these and other efforts to reconsider higher education in California is malleable. In fact, all of the problems that have led to the current crises can be solved, but doing so will require new vision and strong leadership both by policymakers in Sacramento and by higher education officials. ●

Technical appendices to this report are available on the PPIC website:  
[http://www.ppic.org/content/pubs/other/410HJR\\_appendix.pdf](http://www.ppic.org/content/pubs/other/410HJR_appendix.pdf)



## Notes

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<sup>1</sup> The OECD (Organisation for Economic Co-operation and Development) is composed of 30 countries that, with a couple of exceptions, have highly developed economies. They include most of Western Europe, Australia, Japan, Canada, and the United States.

<sup>2</sup> Author's calculations based on 2008 American Community Survey data analyzed by state of birth. Young adults are ages 25 to 29 and older adults are ages 55 to 59.

<sup>3</sup> Author's calculations based on 1960 census data.

<sup>4</sup> These proportions are not codified in statute (Legislative Analyst's Office 2004).

<sup>5</sup> Callan (2009) provides an excellent and concise discussion of the Master Plan and its development. Burdman (2009) provides a thoughtful analysis of more recent developments regarding the Master Plan and higher education policy in California.

<sup>6</sup> UC and CSU technically still do not charge tuition. The distinction between fees and tuition has been lost, however. Fees paid by students at UC and CSU do cover some of the instructional costs incurred by the universities.

<sup>7</sup> Perhaps the most significant change has been that CSU is now authorized to award a doctorate in education degree. Before legislation in 2005, CSU could not independently award any doctorate degrees.

<sup>8</sup> A legislative review of the Master Plan in the late 1980s reiterated the centrality of wide access—the importance of serving the full diversity of the state's population. That review emphasized the role of community colleges and the important role that transfers should play in accomplishing the state's higher education goals (California Joint Committee for Review of the Master Plan for Higher Education 1989).

<sup>9</sup> We do not discuss other components of the Master Plan. Specifically, we do not consider the division of responsibilities between the systems or the role of the state in establishing new programs and new campuses. The Legislative Analyst's Office has developed a series of publications on the Master Plan that address some of those issues (Legislative Analyst's Office 2009c, 2009d, 2010).

<sup>10</sup> In some recent years, the state has not provided full funding to meet enrollment at these eligibility levels. UC and CSU have accepted and enrolled students who met the eligibility requirements even though the universities did not receive sufficient funding to accommodate all of them. UC and CSU call these students

“unfunded students” or “unfunded enrollment.” In 2009, UC estimated that it had 14,000 unfunded students; CSU estimated that it had enrolled over 10,000 unfunded students in 2007–2008.

<sup>11</sup> The Master Plan prohibits lower standards for private high school graduates and allows for higher standards. In practice, students from accredited private schools in California must meet the same standards as those from public high schools.

<sup>12</sup> See Technical Appendix A for details (available on the PPIC website at [http://www.ppic.org/content/pubs/other/410HJR\\_appendix.pdf](http://www.ppic.org/content/pubs/other/410HJR_appendix.pdf)).

<sup>13</sup> Completing the course requirements does not make a student eligible for UC and CSU, as students must also complete other requirements to become eligible, for example, by taking the Scholastic Aptitude Test (SAT).

<sup>14</sup> It is the case that limited but notable numbers of students who are eligible for UC and CSU do not enroll, either choosing to attend a different college (including community colleges, private institutions, and public institutions in other states) or, less commonly, choosing not to attend college at all. Currently, slightly over half of all California public high school graduates enroll in college directly after graduating from high school. Together, UC and CSU directly enroll about one in five high school graduates (whereas one in three is eligible). Our projections assume that the enrollment rate of eligible students would not change as more students were accepted.

<sup>15</sup> UC's new admissions policies will lower the share of high school graduates who are *guaranteed* admission to about 10 percent of high school graduates but will expand the pool of students who are eligible for *consideration* for admission to make up the remaining 2.5 percent of high school graduates, so that the total share of eligible high school graduates would remain at 12.5 percent. The new admission policy will allow about 22 percent of California's high school graduates to be considered for admission.

<sup>16</sup> The difference between 75th percentile and 25th percentile scores in the National Assessment of Educational Progress (NAEP) is wider in California than in any other state (author's calculations based on 8th grade NAEP data).

<sup>17</sup> Author's estimates based on 2005 data from the High School Transcript Study (HSTS).

<sup>18</sup> Only 17 percent of California's high school graduates took the American College Test (ACT). They scored slightly higher than the national average on the ACT (22.2 versus 21.1 [out of 36] in 2008). However, the share of California students who do not take either the ACT or SAT is higher than in most other states. SAT data are from the College Board; ACT data are from the ACT website.

<sup>19</sup> The AP exam passage rate for the entire country in 2008 was 166 per thousand 11th and 12th graders, substantially lower than in California. Data are from The College Board (2008).

<sup>20</sup> Author's calculations based on the National Center for Education Statistics HSTS data (1983, 2005). See Technical Appendix B (available on the PPIC website at [http://www.ppic.org/content/pubs/other/410HJR\\_appendix.pdf](http://www.ppic.org/content/pubs/other/410HJR_appendix.pdf)) for a description of the data and methods. From 2004–2008, between 33 percent and 36 percent of high school graduates met the a–g requirements (Hall et al. 2009).

<sup>21</sup> Author's calculations based on 2008 American Community Survey data. For a family of four, the poverty level in 2008 was set at \$21,834; the near-poverty level is up to two times the poverty level. Nationally, 34 percent of students live in poverty or near poverty, compared to 38 percent in California.

<sup>22</sup> At CSU, the proficiency of new students is based on their performance on standardized tests, such as the SAT, or on their performance in entry-level university exams in math and English. Most students who fail the exams must pass a remedial course to be deemed proficient.

<sup>23</sup> Some exceptions are made.

<sup>24</sup> Based on data provided by the California Community Colleges Chancellor's Office (2009).

<sup>25</sup> We control for high school performance and demographic characteristics. See Technical Appendix B for a full discussion.

<sup>26</sup> Dollar figures are for fiscal year 2008–2009. This amount denotes the state's direct General Fund support and does not include any financial aid packages.

<sup>27</sup> At UC's most selective campuses—Berkeley, UCLA, and UC San Diego—the share of upper-division students is about two-thirds, whereas less than half of students at the least selective campuses—UC Merced, UC Riverside, and UC Santa Cruz—are upper division. At CSU, the share of upper-division students peaked at 72 percent in 1993 and had declined to 63 percent by 2007. Much of this decline is related to a reduction in the share of undergraduates who are seniors and at least partly reflects CSU's attempts to prevent students from continuing in school once they have reached the required number of units to graduate. This decline highlights why the use of an upper-to-lower-division ratio of students as a way to encourage transfer is problematic. The ratio could reflect a large number of fifth- (or later) year seniors rather than the entrance of large numbers of transfer students.

<sup>28</sup> A related concern is whether transfer students succeed once they transfer. Persistence and completion rates of transfer students at UC and CSU are similar to those of other upper-division students who entered as freshmen. In other words, completion rates of juniors and seniors do not depend on whether those students transferred from a community college or entered the university directly from high school. Yet another concern is whether transfer students pursue degrees in rigorous majors that offer greater economic returns.

<sup>29</sup> See Technical Appendix B for a description of the data and methods used in this analysis.

<sup>30</sup> Because we cannot control for a host of other factors that might determine such disparate outcomes, including a student's own motivation, we cannot attribute all of this difference to the institutional differences and effectiveness of four-year colleges and community colleges. Nonetheless, this analysis highlights the difficulty that many students have in successfully transitioning from community colleges to four-year universities.

<sup>31</sup> Moore, Shulock, and Jensen (2009) provide an excellent review of effective transfer policies used in other states.

<sup>32</sup> Six-year completion rates at UC have reached 82.3 percent for freshmen who entered in 2002, an increase from 74.9 percent for the 1993 freshmen cohort. Increases in four-year graduation rates have been even more impressive, growing from 34.6 percent for the 1993 cohort to 58.8 percent for the 2004 cohort (University of California 2010).

<sup>33</sup> Very few graduate after six years. The vast majority of incoming freshmen who do not graduate within six years never graduate.

<sup>34</sup> The UC regents have subsequently reversed their 1995 vote, but the university is still bound by Proposition 209. Proposition 209 prevents the state's public universities from using race or ethnicity as a factor in admission decisions

<sup>35</sup> The share of low-income students would increase slightly, as would the proportion of Latino and African American students. But the largest change would be an increase in the share of white students eligible and a decline in the share of Asian students. These plans could be sidetracked by the funding crisis, which might lead UC to accept more out-of-state students in lieu of California high school graduates (University of California Office of the President 2009a).

<sup>36</sup> Based on the author's calculations of CPEC transfer data for 2009. Previous PPIC research shows that even among

community college students most likely to transfer—students ages 17 to 20 with a high school diploma—only 17 percent of Latinos and 19 percent of African Americans succeeded in transferring, compared to 41 percent of Asians and 30 percent of whites. Further restricting the sample to recent high school graduates who took mostly transfer courses in their first year of community college, only 30 percent of African Americans and 30 percent of Latinos eventually transferred, compared to 42 percent of whites and 59 percent of Asians (Sengupta and Jepsen 2006).

<sup>37</sup> Capital expenditures have been less of an impediment. Voters in California readily passed bonds for education facilities. In 2002 and again in 2006, bond acts were passed for facilities from kindergarten to universities. PPIC's November 2009 statewide survey shows that a majority of voters would support a higher education bond measure. Also, UC has been fairly successful in raising private funds for capital (Hanak and Baldassare 2005).

<sup>38</sup> See Technical Appendix B for a discussion of our student flow model and cost estimates.

<sup>39</sup> At CSU in 2008–2009, 21 percent of undergraduates were age 25 and older; at UC, only 9 percent were age 25 and over (estimated from CPEC enrollment data).

<sup>40</sup> California is not alone in these reductions. Across the nation, with few exceptions, state support for higher education has declined, leading the chancellor and vice chancellor of the Berkeley campus of UC to suggest a federal state university in which leading public research universities would serve as national universities with substantial support for instructional expenses from the federal government (Birgeneau and Yearly 2009).

<sup>41</sup> General Fund expenditures to UC and CSU have also fallen as a share of state gross domestic product, from 0.46 percent in 2000–2001 to 0.34 percent in 2007–2008.

<sup>42</sup> We focus on instructional revenues and expenses, to the extent possible given the budget data. This focus derives from the state's funding approach, which is based on students and enrollment.

<sup>43</sup> Total fees include a registration fee, education fee, and miscellaneous campus fees. Campus fees vary by campus and average about \$1,000. Total fees in 2010–2011 will be about \$10,300 according to the University of California Office of the President. College Board data for 2009–2010 show only a few public universities nationally with tuitions in excess of \$10,000.

<sup>44</sup> These costs vary with campus and are generally higher at UC campuses than at CSU campuses. The state provides no direct subsidy to universities for room and board.

<sup>45</sup> For example, the salaries of full professors at Berkeley were 21 percent lower than those of Stanford full professors in 2008–2009, compared to 10 percent lower in 1999–2000. Between 1999 and 2008, faculty salaries for full professors increased 40 percent at Pepperdine, 45 percent at USC, and 50 percent at Stanford, compared to only about 30 percent at UC Santa Cruz, Long Beach State, and UC Berkeley (author's tabulations of the Chronicle of Higher Education 2009). Moreover, a recent UC analysis indicates that faculty and administrators at UC are paid less than at peer institutions, taking into account both salaries and benefits. See University of California (n.d.).

<sup>46</sup> See Baldassare et al. (2009) for a detailed report on public opinion in California regarding higher education.

<sup>47</sup> Murphy (2004) convincingly shows that increases in community college fees could provide more resources for the colleges, and access could be protected through increased aid. More recently, the Legislative Analyst's Office (2009a) has argued that raising fees at community colleges would increase revenue at little expense to students because a large share of community college students would qualify for federal assistance. In the most dramatic scenario, increasing fees to \$50 per unit (up from \$20 in 2008–2009) would raise about \$500 million in federal aid.

<sup>48</sup> Wyoming ranks first and spends more than twice as much per FTE as California. Populous states with large public systems and substantially higher college enrollment rates than California include North Carolina, Georgia, and Maryland. Expenditure data are based on State Higher Education Executive Officers information as reported in National Center for Higher Education Management System (NCHEMS) (n.d.) and are controlled for cost of living and college system mix (community colleges versus four-year colleges).

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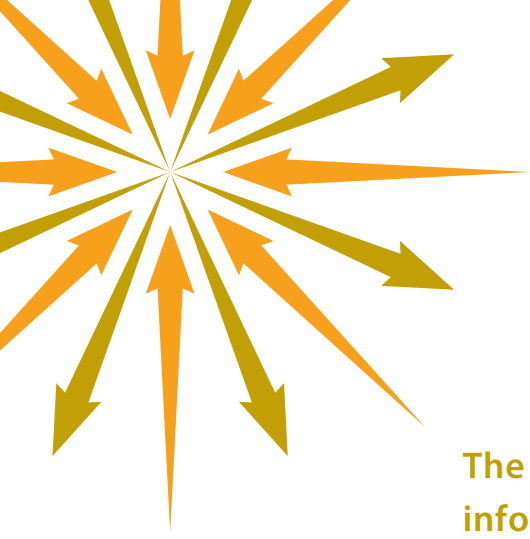
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