An LAO Report

Higher Education Enrollments: Is A Tidal Wave Coming?

Introduction

Much has been written of the growing enrollments in California's community colleges, California State University (CSU), and University of California (UC). Various reports characterize these future increases as the "baby boom echo" or "Tidal Wave II."

LAO Findings

Projected Enrollment Growth Not of Tidal-Wave Proportions. If 1996 college-participation rates among Californians continue, we project that total enrollments in 2005 will be 2,142,000, or 98,000 (4.8 percent) above the peak enrollments of 1991.

- This represents annual growth of 0.3 percent from 1991 to 2005. Such growth, rather than of tidal wave proportions, would actually be dramatically lower than the 2.7 percent annual growth in enrollments experienced by the three segments between 1970 and 1991.

- From the perspective of accommodating growth, the state faces less of a challenge than it has in the past.

Enrollment Growth Is Not an Unmanageable Force. Whereas tidal waves are natural phenomena beyond our control, enrollment growth in higher education can be managed.

- Public policies strongly influence who goes to college and which colleges students attend. By managing enrollment growth cost-effectively, the Legislature can maximize higher-education opportunities for Californians.

- The Legislature can manage growth, for example, through policies affecting (1) eligibility standards, (2) student fees and financial aid, (3) allocation and articulation of students among the three segments, and (4) priorities for educational offerings.

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INTRODUCTION

Higher education has been a growth industry in California. In 1958, while a state panel was preparing its *Master Plan for Higher Education in California*, there were 83 public and 72 private colleges and universities in California serving over 226,000 full-time-equivalent students. Today, there are approximately 138 public and 111 private colleges and universities serving over 1.5 million full-time-equivalent students. This represents annual growth in college enrollments of about 5 percent since 1958, compared to annual growth in the state's population of 2.2 percent during that time.

As Figure 1 shows, of the 2.1 million students attending a college or university in California in 1996-97, 1.9 million, or 91 percent, attended a state-owned college or university. (The numbers in Figure 1—and throughout the rest of this report—refer to *headcount* rather than *full-time-equivalent* enrollment. We describe these two terms in the accompanying text box.) Approximately 193,000 students, or 9 percent, attended independent colleges and universities in the state, and many of them received state financial aid. Given its significant role in higher education, the state needs information about enrollment demand with which it can construct higher education policies and budgets.

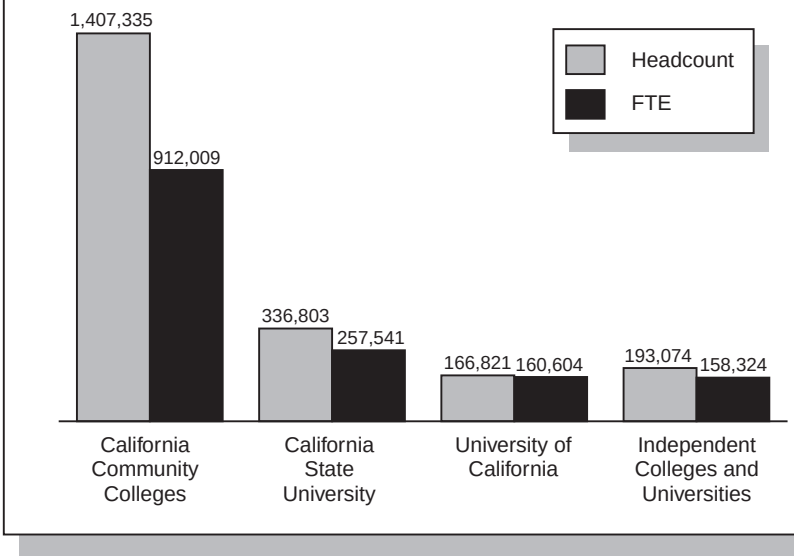
In this paper, we:

- Project future enrollment based on projected population growth and current college-participation rates.
- Compare our projections with those of the Department of Finance (DOF) and California Postsecondary Education Commission (CPEC).
- Discuss ways in which the state can manage student enrollment growth.

Figure 1

Total Headcount Enrollment at California Colleges and Universities

1996-97



HEADCOUNT VERSUS FTE ENROLLMENT

In this paper, we generally refer to headcount enrollments, rather than full-time-equivalent (FTE) students. Headcounts treat each student attending college as one student, whether the student attends on a part-time or full-time basis. The FTE measure counts, for example, two half-time student as one FTE student. In 1996, one headcount enrollment equaled .96 FTE in UC, .76 FTE in CSU, and .65 in the community colleges. For UC and CSU, FTE per headcount enrollment has gone up or down by at most 3 percentage points. Over the past 20 years, the number of FTE per headcount enrollment in the community colleges has varied from a high of .65 (1996) to a low of .57 (1992). The ratio varies more for community colleges because they serve a higher percentage of part-time students, whose enrollment varies more with economic and social changes.

Although the FTE measure better reflects the operating and capital costs required to serve students—and is the measure the Legislature uses for state budgeting purposes—we use the headcount measure in this analysis to more easily compare our projections with the headcount enrollment projections of the DOF and CPEC. Therefore, unless we note otherwise, we refer to headcount enrollments in this paper.

ENROLLMENT GROWTH IS NOT OF TIDAL WAVE PROPORTIONS

To estimate how the baby boom echo will affect enrollment in California's three higher education segments, we:

- Measured the rate at which Californians attended community colleges, CSU, and UC in 1996 for seven age groupings and four ethnicity groupings—a total of 28 cohorts.
- Applied these most recent participation rates to demographic projections of California population after 1996.

ENROLLMENT GROWTH SLOWER THAN HISTORIC RATES

We project that if 1996-97 participation rates continue through 2005-06, enrollments will grow at a slower pace than they have historically. Total enrollment in the three public higher education segments would grow to 2,142,000 students, an increase of 231,000 students over enrollments in 1996-97. (Enrollments would increase by 177,000 in the community colleges, by 35,000 in CSU, and by 20,000 in UC.) Figure 2 (see page 4) shows our projections not only through 2005-06, but out an

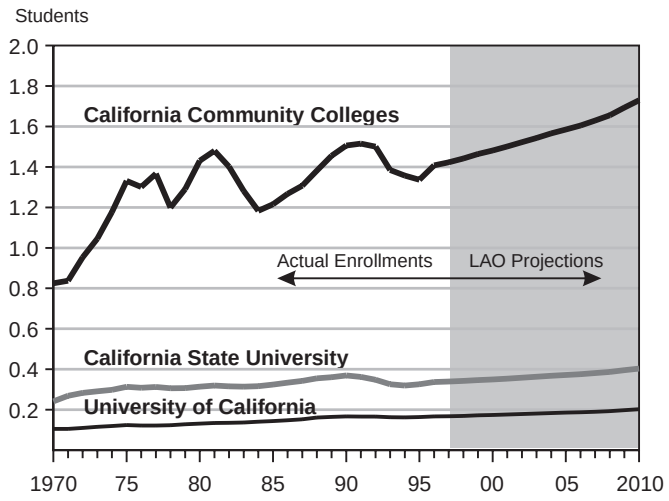
additional five years (also assuming that current participation rates continue).

Effect on Operations Costs Should Not Be Extraordinary. The costs of operating state colleges and universities generally are proportional to the number of students that they serve. To anticipate future operating costs, we can compare 1996-97 enrollments to the projections described above for 2005-06. If participation rates remain what they were in 1996-97, enrollments in each of the three segments would grow by a total of 12 percent by 2005-06, or 1.3 percent per year over this nine-year period. (The growth rates would be virtually the same through 2010-11.) By contrast, total enrollment in the three segments increased by an average of 1.9 percent per year from 1970 to 1996. From this perspective, accommodating enrollment growth should not be any more of a challenge in the next nine years than it has been since 1970.

Figure 2

LAO Projected Headcount Enrollment Increases[a] In California Public Higher Education

(In Millions)



[a] Assumes continuation of 1996-97 participation rates.

Capital Needs for Growth Should Be Lower Than in Past. To understand how enrollment growth will affect demand for additional campus space, buildings, and equipment, we can compare projected enrollments with prior peak enrollments. In 1991, total enrollment was at its highest level in history. At that time, the segments were able to accommodate a total of 2,043,000 students.

If current college-participation rates continue through 2005-06, we project that total enrollments in the three segments will be 98,000, or 4.8 percent, above total enrollments in 1991. This represents total growth of 0.3 percent per year from 1991 through 2005-06. By comparison, total enrollments grew by an average of 2.7 percent per year from 1970 through 1991. Viewed from this perspective, the capital demands of enrollment growth should pale in comparison to the two decades before recent peak enrollments in 1991.

The story is the same for each of the segments. If current participation rates continue through 2005-

06, enrollments would be 69,000 (0.3 percent per year) higher in the community colleges, 3,000 higher in CSU (virtually the same), and 19,000 higher in UC (0.7 percent per year) than they were during the prior peaks in 1990 and 1991. (The UC and CSU peaks occurred in 1990. The community colleges peak occurred in 1991, as did the peak for total enrollment in the three segments.) For each segment, the projected rate of enrollment growth from their prior peak through 2005-06 is well below annual growth for the 20 years preceding the peak. Community colleges serve a more local market, however, than do UC and CSU. In some districts, the rate of enrollment growth will be above our statewide projections, while in others, it will be lower.

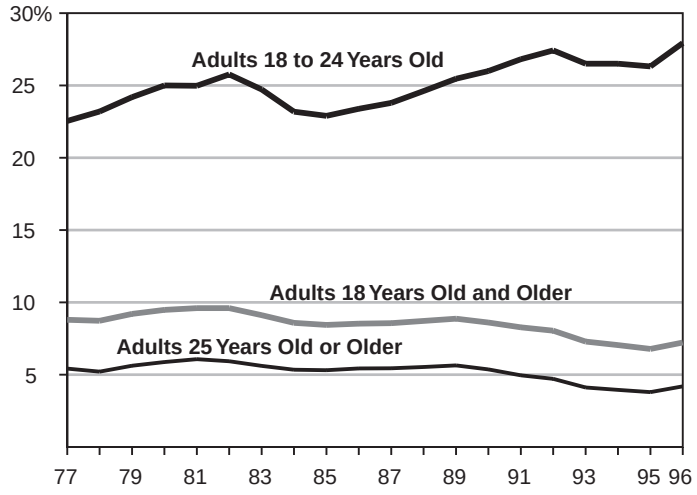
Slight Decline in Overall Participation Rates Masks Shifts in College Attendance

The percentage of adults (persons 18 years of age and older) attending California's public colleges and universities has declined slightly since 1970, which some have cited as a cause for concern. This, however, masks a long-term increase in participation among adults of college age (18 to 24 years old). In fact, these rates are at an all-time high. As Figure 3 shows, the participation rate of 18 to 24 year olds *increased* from 23 percent in 1977 to 28 percent in 1996. By contrast, the rate for those 25 years old and older *fell* from 5.4 to 4.2 percent during this same period. Because there are almost seven times as many adults 25 years old or older than there are in the 18 to 24 year old group and because the percentage of older adults in the population has increased significantly in the past 20 years, the *overall* participation rate for adults fell from 8.8 to 7.2 percent.

The increase over time in participation rates among 18-24 year olds could at least in part explain why participation rates among older adults has fallen. In effect, the state's success in educating increasingly more adults when they are young means that the state faces reduced demand for

Figure 3

Participation of College-Age Students Has Risen While Overall Adult Participation Has Fallen[a]



[a] Percentage of Californians attending CCC, CSU, or UC.

education services from older adults. This phenomenon will tend to depress enrollment growth in the community colleges more than in CSU, and much more so than at UC. This is because the community colleges, and to a lesser extent CSU, have traditionally attracted those older adults who seek to begin college or augment previous college after starting their careers. Undergraduate students in UC are, on average, younger than in the other segments and more often come directly from high school.

Enrollment Projections Are Sensitive to Assumptions About Participation Rates

We have based our projections on current college participation rates for each of 28 age-ethnic cohorts. These rates undoubtedly will vary in the future, as they have historically. Participation rates could go up, but they could also fall, depending on many difficult-to-measure factors. Factors that affect whether a person will attend college, for example, include:

- Prior college experience.
- Educational attainment and income of parents.
- Academic performance during K-12 schooling.
- Eligibility standards of higher education institutions.
- Prices of public and private higher education.
- General economic conditions.
- Preferences for immediate or deferred income upon high-school graduation.
- Differences in unemployment rates and wages among job categories.

Community College Projections Subject to Greatest Uncertainty. Of the three segments, it is most difficult projecting community college enrollments. This is because community colleges offer a broad range of curricula—academic, vocational, avocational, and recreational—to a much broader student population than does CSU or UC. The community colleges, for example, provide an assortment of personal development and recreational courses to attract older adults, many who participate in only one or a few classes in any year.

Also, it is much easier for students to enter and exit community colleges than it is at CSU and UC. As a consequence, enrollments in the community colleges are more sensitive to economic and social conditions than in the four-year colleges.

The ultimate accuracy of projections of total enrollment in the three segments will depend in large part on what happens to community college enrollments. This is because community colleges account for three quarters of total enrollment in the three segments, and their enrollments are the most volatile and unpredictable.

Using Current Participation Rates Probably Will Produce Least Error in Projections. As noted above, we have used current participation rates to project enrollments. University of California officials compared several methods of projecting UC

enrollments. By applying various projection techniques to historic data, they tested how well each method would have predicted eventual UC enrollment changes. They found that using the current participation rates at any time in history produced the smallest enrollment-projection errors.

Given the inherent uncertainty in projecting enrollments, it should not be surprising that projections of future enrollments vary. In the next section, we compare our projections with those of the DOF and the CPEC.

OTHER PROJECTIONS ALSO DO NOT SHOW A COMING TIDAL WAVE

The DOF Demographic Unit each November publishes its projection of enrollments. We refer to this projection as the "DOF main" projection. The DOF also makes other projections based on various assumptions about college participation rates. It does this, in part, to show that enrollment projections are sensitive to assumptions about participation. In one projection, the department assumed that current participation rates would not change. We include this DOF projection, which we call the "DOF constant" projection, in our charts for comparison purposes because it is based on assumptions about participation that are similar to ours.

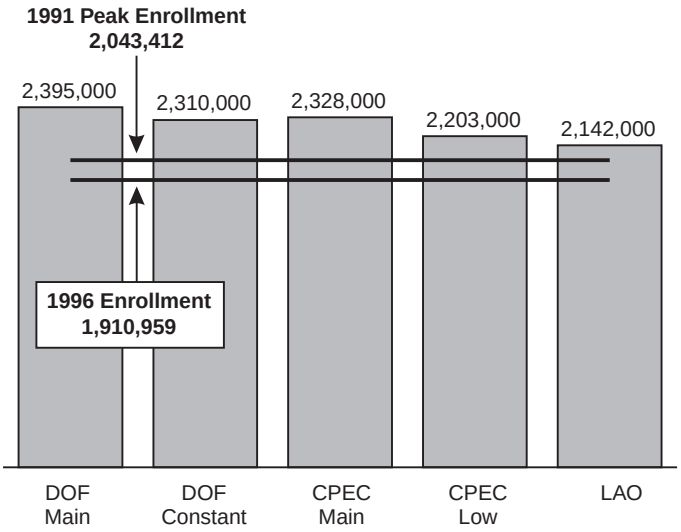
In its 1995 report *A Capacity for Growth*, the CPEC published two projections of enrollment growth. The press and others have frequently cited the higher of CPEC's projections, which we call the "CPEC main" projection. We also include the lower CPEC projection, which we call the "CPEC low" projection, in our charts for comparison purposes.

The main projections of total enrollments of both DOF and the CPEC are higher than the LAO projections. Nevertheless, the DOF and CPEC projections are comparable to historic trends. As Figure 4 (see page 8) shows, DOF's main projection for total enrollment in 2005 is 2,395,000. This is 253,000, or 12 percent, higher than the LAO projection. CPEC's main projection for 2005 is 2,328,000. This is 186,000, or 8.7 percent, higher than the LAO projection.

The DOF main projection represents annual growth of 2.5 percent from 1996 to 2005, and 1.1 percent from 1991 to 2005. The CPEC main projection represents annual growth rates of 2.2 percent and 0.9 percent, respectively. Again, for comparison purposes, actual growth averaged 1.9 percent per year from 1970 through 1996, and averaged 2.7 percent between 1970 and 1991. Even if the higher growth projections of DOF or CPEC occur, the rate of growth will not be significantly higher than has occurred in recent history.

Figure 4

Projections of Total CCC, CSU, And UC Headcount Enrollment in 2005



CPEC Figure Overstates Growth for Capital Planning. In its 1995 report, CPEC said that its main projection of 2,328,000 represented growth of 455,000 students by 2005. Although frequently cited in the press, this number is very misleading for purposes of assessing the state's higher-education capital needs. To derive this 455,000 growth number, CPEC compared its main 2005 projection with enrollments in 1993. Enrollments in that year, however, were 171,000 *below* 1991 levels. The projection of 2,328,000 is only 285,000 higher than the 1991 peak. This number is more relevant when evaluating the capacity for growth within the segments because it represents growth above the number of students that the existing capacity had successfully accommodated.

DOF and CPEC Assumed Increasing Rates of College Participation. The DOF and CPEC main enrollment projections are higher than ours primarily because they assumed that college participation rates would increase significantly from 1996 through 2005, reaching their highest levels in recent history for some groups. Our projections assume that 1996 participation rates will continue into the future. We are not aware of any analytical basis for using rates that are different than the most recent.

CPEC Alternative Projection Comparable to LAO's. In its report, CPEC also published projections for which it assumed that participation rates would grow at roughly half the rate it assumed for the CPEC main projection. As Figure 4 shows, the CPEC low projection of total enrollment in 2005 is 2,203,000. This projection is 2.9 percent above our projection. (Our projection differs from CPEC and other forecasters due to different assumptions about participation rates *and* for other methodological reasons.)

DOF Projections Highest for Each Segment. As Figure 5 shows, the DOF's projections are consistently higher than CPEC's and LAO's across all three segments. It projects that community college enrollment will grow to 1,765,000 by 2005. This is 11 percent higher than the LAO projection.

It projects that CSU will grow to 431,000, and that UC will grow to 199,000. These are 16 percent and 7.4 percent greater than the LAO projections for CSU and UC. As Figure 5 shows, UC's projection of enrollments in 2005 is slightly lower than ours.

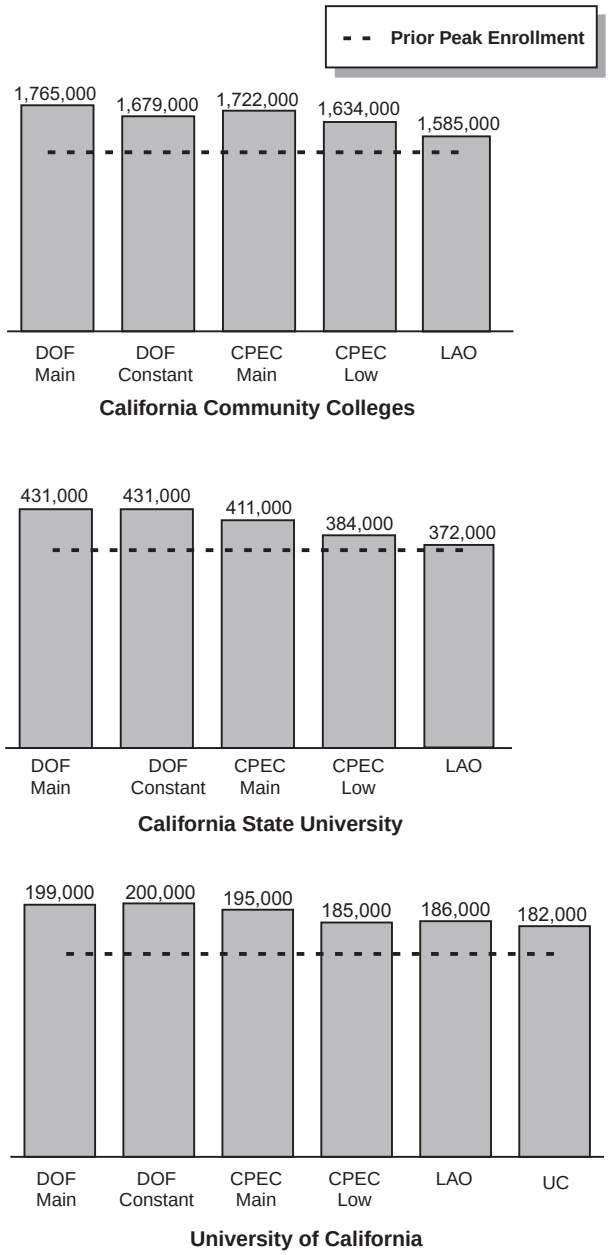
Despite the differences among the DOF, CPEC, and LAO, none of the projections are sufficiently large to suggest enrollment growth will be of tidal wave proportions.

Improving Information on State Enrollment Forecasts

The DOF annually publishes its projections for higher education enrollments. By contrast, CPEC does not routinely publish projections. Despite the importance of enrollment projections to the budget process, the three segments do not provide the Legislature with analyses of enrollment changes on a routine basis. Moreover, the independent colleges and universities in California do not publish projections or plans for accommodating enrollment growth that are publicly available.

Figure 5

Projections of CCC, CSU, and UC Headcount Enrollment in 2005



Given the uncertainty in future enrollment demand, we recommend that the segments provide the Legislature with alternative enrollment projections, and describe the policy implications associated with each. For each alternative enrollment projection, the segments should:

- ***Explicitly Describe Assumptions.*** The segments should explicitly describe their key assumptions about student eligibility, participation, persistence, and other key variables underlying each projection. If a segment assumes in a projection, for example, that a growing proportion of older adults will enroll in their system, then it should explain how this might occur.

- ***Describe the Potential Operating and Capital Costs.*** There are many costs associated with growing enrollments. Each segment should provide the Legislature with five-year and ten-year plans for accommodating alternative projections of enrollments. These plans should explore various options for accommodating growth. For example, the segments should explore ways to use existing capacity more fully, as well as consider new capacity.

- ***Suggest Options for Funding Enrollment Growth.*** So that the Legislature can assess the budget implications of enrollment growth, the segments should suggest options for funding the costs of enrollment growth—such as through productivity improvements that reduce the marginal cost of educating students.

By having this type of information, the Legislature will be better able to address issues related to the likely enrollment growth. In the next section, we examine ways in which the Legislature can manage growth.

THE LEGISLATURE CAN MANAGE HIGHER EDUCATION ENROLLMENTS

The variation in college participation rates over time suggests that Californians respond to many factors in making choices about college. Better understanding these factors can help the Legislature craft policies affecting the availability, quality, cost, and price of higher education. In this section, we discuss the effect on enrollment demand of:

- Eligibility standards.
- Student fees and financial aid.
- Articulation between the segments.
- Course offerings in the community colleges.

RETHINKING ELIGIBILITY TARGETS

Enrollments in each of the segments are determined, in large part, by the number of high school graduates who are eligible to attend UC and CSU.

For example, increasing the percentage of high school graduates that are eligible for UC and CSU shifts some enrollments from community colleges and independent colleges and universities to UC and CSU. Lowering the pool of eligible students has the opposite effect. Legislative policies regarding eligibility criteria for the segments, therefore, significantly affect the allocation of enrollments among the segments.

Master Plan Called for Flexible Eligibility Targets. The 1960 Master Plan stated ". . . admission requirements are valid for any one college if, first, they serve to qualify for admission those applicants whose educational purposes are properly met by the college and whose abilities and training indicate probable scholastic success in the college and, secondly, they serve to eliminate applicants not meeting these requirements." The Master Plan recommended that segments each year statistically analyze and report on the validity of their entrance requirements. The plan said that the segments should evaluate entrance standards based on the scholastic success, persistence, rate of dismissal, and standardized test scores of their students. The 1973 *Report of the Joint Committee on the Master Plan for Higher Education* stated ". . . we propose that the Legislature initially define the undergraduate eligibility pools for all public segments and that changes in the pools be subject to approval by the Postsecondary Education Commission." The Master Plan, then, views eligibility targets as fluid, subject to ongoing determinations of which students are best served by each segment.

When the Master Plan was first released in 1960, its authors recommended that UC draw from the top 12.5 percent of high school graduates and that CSU draw from the top third, as determined by the segments. (All high school graduates are eligible to attend community college.) At the time, the authors of the plan noted that UC had been drawing from 15 percent of high school graduates and CSU had been drawing from approximately 50 percent. In recommending that the eligibility pools be reduced, the Master Plan stated, "The position of the Master Plan Survey Team is that so long as any high school graduate can be admitted to a junior college . . ., it will not reduce that opportunity for students able and willing to meet the requirements for transfer to the upper division in the state colleges and the University of California." The 1973 and 1987 updates to the Master Plan have reaffirmed that UC and CSU should draw from the top 12.5 percent and 33.3 percent of high school graduates, respectively.

Determining the Appropriate Targets Today. If these eligibility targets were appropriate when the Master Plan was released in 1960, we do not know if they are today. This is because little is known about the success of students as a function of their academic preparedness and method of articulation through college. (Interestingly, the authors of the Master Plan pointed to a similar lack of information before settling on the eligibility targets that are referenced to this day.)

In order for the Legislature to comprehensively address the issue of enrollment growth, it needs information on the validity of current entrance

requirements for UC and CSU based on the performance of students while in college. With this information, the Legislature can better allocate enrollment among the segments. We recommend, therefore, that the Legislature:

- Require the segments, as part of their annual request for funding of proposed enrollments, to report on the validity of eligibility criteria, and the effect that alternative criteria might have on the allocation of students among the segments.
- Increase or decrease the eligibility targets for UC and CSU, based on its determination of where the state can best serve new students.

Where Are the Segments Relative to Their Targets?

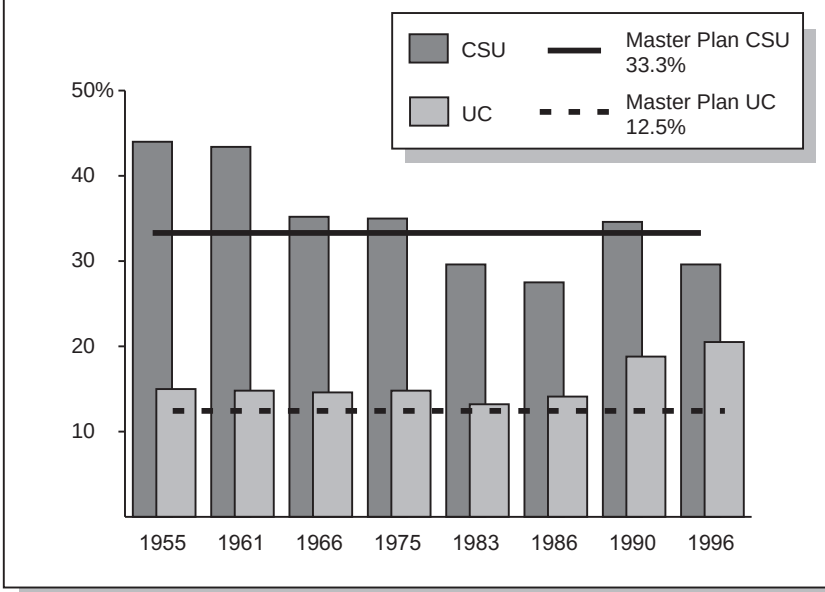
UC Above Existing Eligibility Target. Growth in enrollments at UC can be explained in part by the increasing pool of high school graduates from which it is drawing. As Figure 6 shows, the eligibility pool for UC has grown significantly in recent years. In 1996, UC drew from the top 20.5 percent of high school graduates. This is a level that is almost two-thirds higher than envisioned by the Master Plan. (See box on page 13 on the issue of determining the eligibility pool.)

According to UC, to reduce the eligibility pool from 20.5 to 12.5 percent, it would have to increase the required minimum high school grade-point-average (GPA) from 3.3 to 3.65. Approximately 36 percent of entering UC freshmen in 1997 had high school GPAs below 3.65. If UC had not admitted these students, the students would nevertheless have been eligible to attend CSU, a community college, or many of the independent colleges and universities. For various reasons, this does not mean that freshmen enrollments at UC would fall by the full 36 percent if the university raised its high school GPA requirement to 3.65. Nevertheless, reducing the eligibility pool to the Master Plan target of 12.5 percent of students would reduce freshman enrollments and increase transfer enrollments at UC. It is important to note

Figure 6

Size of Eligibility Pools for UC and CSU

Percent of High School Graduates Eligible



that the maximum possible GPA for many classes has increased from 4.0 to 5.0. The increase in UC's eligibility pool might have resulted in part because the university has not adjusted for this change.

CSU Below Existing Eligibility Target. As Figure 6 shows, CSU is drawing from the top 29.6 percent of high school graduates—slightly below the level envisioned by the master plan. While UC has consistently exceeded its level, CSU has fluctuated above and below its target. If CSU drew instead from the top 33.3 percent of students, enrollments at CSU would increase by an unknown amount. Presumably, this would also reduce the number of students that would go to community colleges and independent colleges and universities.

UC and CSU Should Report to Legislature on Current Eligibility Criteria. As noted above, we do not know whether the existing eligibility targets are appropriate, and we recommend that the segments report each year to the Legislature on their validity.

A Note on Measuring the Eligibility Pool for UC

In its November 1997 report *Eligibility of California's 1996 High School Graduates for Admission to the State's Public Universities*, CPEC described the eligibility pool for UC in two ways. It said that 20.5 percent of high school graduates in 1996 were "potentially eligible" for UC because they had achieved the required 3.3 grade-point average on UC-preparatory classes. It said that 11.1 percent of high school graduates were "fully eligible" for UC, the number UC also uses to describe the pool from which it draws. These fully eligible students, according to CPEC and UC, were those students who both achieved a 3.3 grade point average (GPA) *and* took the SAT I and three separate SAT II achievement tests. The university requires students to take these tests, but does not use the test scores to determine a student's eligibility if their GPA is 3.3 or above. (High school graduates with GPAs between 2.82 and 3.3 can become eligible for UC if their SAT I scores are sufficiently high. Few students become eligible this way.) (The UC does use the test scores to allocate students *among* its nine campuses.)

Top high school graduates that choose to attend CSU rather than UC do not need to take either the SAT I or SAT II, and many probably do not. Similarly, top high school graduates that choose to attend other top universities in the country do not need to take SAT II tests, and many probably do not. By excluding such students when it identifies top high school graduates, UC significantly understates the size of the pool from which it draws freshmen. It is much more accurate to say that UC is drawing from the top 20.5 percent of high school graduates.

Nevertheless, if the targets are to be meaningful, then the Legislature should require UC to meet its Master Plan target. The UC should also evaluate for the Legislature what the implications are for meeting it. Similarly, CSU should meet its Master Plan target, and describe what the implications are for meeting it. Without holding the segments accountable for meeting eligibility targets, the Legislature will be less able to manage higher education enrollments.

Student Fees Affect Enrollment Choices

Student fees affect choices students make about whether and where to attend college. By charging students fees which cover only a portion of total costs, the state subsidizes the education of every student attending UC, CSU, and the community colleges. Fees affect overall enrollment demand—lower fees encourage more students to attend college. The relative size of this subsidy for each segment, in effect, establishes state policy about (1) the overall level of college enrollments, and (2) where the state wants students to enroll among the three segments *and* independent colleges and universities.

New Federal Tax Credit for Tuition Costs Will Dramatically Reduce Education Costs for Many. The recently enacted federal Taxpayer Relief Act of 1997 creates significant incentives for higher education enrollment across the nation, including California. The "Hope Scholarship" and "Lifetime Learning" tax credits reduce the after-tax price of tuition and fees for most middle-income California students (or their parents). The Hope Scholarship credit, for example, will for many reduce the after-tax price of tuition in each of the first two years of college by $1,500 at UC, by $1,292 at CSU, and by $390 at community colleges. Chapter 853, Statutes of 1997 (AB 1318, Ducheny), which lowered student fees, will have the additional effect of reducing the after-tax price of tuition in each of the first two years by $190 at UC and by $39 at CSU. (The federal law already drops the after-tax cost of community colleges to zero for students that qualify for the Hope Scholarship credit, so Chapter 853 would have no additional effect on what these students pay.)

The Lifetime Learning credit will, for many upper-division students, reduce the after-tax costs of tuition each year by $760 at UC and $317 at CSU. The state-fee reductions reduce the after-tax costs by an additional $152 at UC and $62 at CSU for upper-division students.

Changes in Tuition Costs Could Significantly Shift Enrollments. The federal tax credits will change enrollments in two important ways:

- ***More Students Will Attend College.*** Lowering the after-tax price to attend college will encourage an unknown number of additional students to attend both public and private colleges and universities.
- ***Students Will Shift From Community Colleges to Four-Year Colleges.*** The federal law reduces the fee differential between the universities and the community colleges. This will shift an unknown amount of enrollment from community colleges to UC and CSU, where the state subsidies per student are significantly higher.

State Should Review Fee Policies in Light of Federal Tax Credit. The federal tuition tax credits create both opportunities and concerns for California. It provides an opportunity for California to increase resources for higher education without significantly affecting the after-tax price of higher education for students and their families. At the same time, however, it could cause significantly fewer students to articulate through the community colleges to four-year colleges and universities, contrary to existing state policy.

We recommend that the Legislature evaluate student-fee policies in light of the opportunities and concerns that the new federal tax credits create for state higher education policy. (We evaluate the implications of the recent federal tax credits in greater detail in another LAO analysis to be released in February 1998.)

Financial Aid Policies Also Affect Enrollment Demand

Whereas state support to the segments subsidizes all students indirectly—by reducing what students pay to go to college—financial aid targets the subsidy to specific students. Dollar-for-dollar, financial aid increases student access to higher education *more* than do general fee reductions. This is because financial aid targets students least able to afford college. In addition, financial aid that can be used at any college or university in California, such as Cal Grants, increases the ability of students to choose between public and private institutions.

In recent years, the Legislature has increased the amount of financial aid provided directly to students through the Cal Grant program. From 1990 to 1998-99 (proposed), for example, it has increased state appropriations for Cal Grants from $162 million to $310 million. As a result, the number of Cal Grant awards increased from 78,000 to 97,000 in that period. The maximum Cal Grant award for students attending private colleges and universities also increased from $5,250 to $8,184, an increase of 56 percent.

The UC, CSU, and community colleges also give their students financial aid beyond the amount given by the state directly to students through Cal Grants. For 1998-99, UC estimates that it will provide $240 million in financial aid to its students from general purposes funds. The CSU estimates that it will provide $120 million, and the community colleges estimate that they will provide $130 million for financial aid from general purpose funds. Most of the aid the community colleges give is in the form of student-fee waivers, particularly for low-income students.

Given that financial aid, like fees, affects whether and where students will attend college, the Legislature should carefully consider the effects financial aid has on enrollments among the segments. As discussed above, the Legislature has two important policy levers to affect enrollments:

- ***Whether to Provide Direct Financial Aid or Fee Reductions.*** Direct financial aid, rather than subsidies to public colleges and universities (in the form of across-the-board fee reductions), gives students a broader choice of higher-education opportunities.

Direct financial aid increases the number of students who choose to attend independent colleges and universities. As noted earlier, direct financial aid also increases student access to higher education more than across-the-board fee reductions.

- ***Whether to Provide Cal Grants or College-Specific Aid.*** The Cal Grant program allows students to use aid at any college or university in California. Financial aid provided by UC, CSU, and the community colleges is available only to students attending those public colleges. Financial aid provided through Cal Grants, then, provides students with broader choices, and shifts more students to independent colleges and universities.

Articulation Policies Affect the State's Ability to Accommodate Enrollment Growth

Other levers that the Legislature can use to manage enrollment growth include policies affecting student articulation between the segments. The Master Plan emphasized the importance of articulation between community colleges and four-year colleges and universities. It called for CSU and UC to allocate no more than 40 percent of undergraduate enrollments for lower-division levels (freshmen and sophomores) and at least 60 percent for upper-division levels (juniors and seniors), and to do so by admitting students transferring from community colleges. In 1996-97, UC met the Master Plan goal, while CSU exceeded the goal with 70 percent of its students in the upper division and 30 percent in the lower division.

Of the 33,895 new students enrolling in UC in 1996, 69 percent were first-time freshmen and 26 percent were transfer students from community colleges. (The remaining 5 percent transferred from other colleges and universities.) Of the 68,725 new students CSU admitted in 1996, 42 percent were first-time freshmen and 47 percent were from community colleges.

If the state encouraged more students to pursue their lower-division course work in community colleges, it could shift some enrollment growth from UC and CSU to the community colleges. Shifting enrollments from UC to CSU or community colleges, and shifting enrollments from CSU to community colleges might allow the state to serve student needs more cost-effectively. The *1997-98 Budget Act*, for example, appropriated $7,000 to UC from the General Fund for each increase in full-time-equivalent (FTE) enrollments for the year. It appropriated $4,936 per FTE to the CSU and $3,300 per FTE student taking college-credit courses at a community college.

The Legislature has recognized the importance of intersegmental transfers in promoting access to the four-year colleges and reducing the overall cost of higher education. Current state law, for example, requires the segments to ". . . jointly develop, maintain, and disseminate a common core curriculum in general education courses for the purpose of transfer."

Course Offerings and the Mission of Community Colleges

The Legislature can also affect enrollments at the community colleges through its policies relating to curricula. The Master Plan and state law give the community colleges many roles:

- Offer—as a primary mission—academic and vocational instruction at the lower division level.
- Provide remedial instruction, instruction in English as a second language, adult non-credit instruction, and support services which help students succeed at the postsecondary level.
- Offer community services courses and programs, such as various avocational and recreational classes.

For the Legislature to manage enrollment growth in the community colleges, it needs to know how enrollments most likely would be allocated among college-level, remedial, personal development, vocational, avocational, and recreational courses. With such information, the Legislature could evaluate how well state funds were being allocated among the various missions of the colleges, and could change the allocations through the budget, fee policies, or other mechanisms.

The ability of the Legislature to manage community college enrollments is limited to some extent by the existing community college governance structure. Although the state General Fund provides twice as much support for community colleges than do local property tax revenues, most of the decisions affecting community colleges occur at the local level, within the community college district boards. Nevertheless, the Legislature can adopt and has adopted policies that affect enrollments.

To manage how community colleges grow, for example, the Legislature can vary state funding and/or student fees for enrollments, based on the categories of courses in which enrollments occur. For example, the Legislature could require colleges to charge fees to cover the full costs of recreational courses that are not required for a degree. The Legislature could also vary student fees by the type of student enrolling in the colleges. The recently discontinued $50-per-unit surcharge for students who already had at least a bachelors degree is an example of such a policy.

CONCLUSION

The number of Californians attending college in the near future will grow as the children of the "baby boom" move through their college-age years. While many have referred to this development as Tidal Wave II, our review indicates that the metaphor is misplaced. Unlike a tidal wave, enrollment growth will be steady and moderate (especially by historical standards), and manageable. While the Legislature will need to dedicate more resources to higher education (especially capital resources), it has several policy levers available to manage the coming growth.

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