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The 1990-91 Budget:
Perspectives and Issues

Capital Outlay for Postsecondary Education

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Capital Outlay for Postsecondary Education

How Should the Legislature Accommodate Enrollment Growth in Postsecondary Education?

Summary

Over the next 15 years, enrollments in California's three segments of postsecondary education are expected to grow by between 30 percent and 50 percent. To accommodate these growing enrollments, each segment is proposing major facility expansions on existing campuses. The five-year capital outlay plans prepared by the segments propose total expenditures over the next five years of $3.6 billion to fund the initial phase of these expansions, as well as alterations of existing facilities to meet various program needs. In addition, the University of California (UC) is proposing three new UC campuses, the California State University (CSU) is proposing five new CSU campuses and the California Community Colleges (CCC) estimate a need for 23 new community college campuses.

Our review indicates that UC should expedite the development of one new campus, reassess the enrollment assumptions associated with a second new campus and suspend planning for a third new campus. Our review indicates that there currently is no demonstrated need to plan for any new CSU campuses. Due to significant shortcomings in the CCC planning model, we are unable at this time to advise the Legislature as to either the necessary expansion of existing community college campuses or the number of new CCC campuses needed. We further find that billions of dollars will be needed in the next five years and beyond for postsecondary education capital outlay, but the capital outlay planning by the segments does not adequately inform the Legislature on how needs related to projected enrollment growth are to be met. Thus, the Legislature does not have the information it needs to make sure it funds postsecondary education facilities based on its priorities.

INTRODUCTION

The Legislature faces many significant decisions to plan for and fund postsecondary education facility needs in the short-term and into the next century. These needs are generated largely by enrollment increases projected to occur over the next 15 years. Over this time period enrollments in each of the three segments of postsecondary education--the University of California, the California State University and California Community Colleges--are expected to grow 30 percent to 50 percent. To accommodate this growth, the state will have to undertake a multi-billion dollar capital outlay program to renovate facilities and construct new facilities throughout the segments. To address the capital outlay needs associated with this growth, the Legislature will have to determine how much expansion of current campuses is necessary; how many new campuses, if any, are to be developed; and how best to finance these facilities.

In this analysis, we assess for each segment of postsecondary education: (1) long-range enrollment plans, (2) the potential need for new campuses, and (3) how each segment's five-year capital outlay plan addresses needs associated with enrollment growth.

UNIVERSITY OF CALIFORNIA

The University of California (UC) was established in 1868 as the state's land grant university. It encompasses eight general campuses and one health science campus. (For the purposes of this analysis, we will deal only with the eight general campuses.)

UC currently serves about 147,000 undergraduate and graduate students. As virtually all UC students attend school full-time, there is little difference between the number of students and full time equivalents (FTEs), a term commonly used in budgeting. For simplicity's sake, we will use only number of students throughout this section on UC.

Undergraduate Enrollment Projections for UC

In October 1988, the university issued a general campus enrollment plan for the period 1988-89 through 2005-06. These projections were revised in December 1989 and extended to include the year 2020-21. In addition, in November 1989 the Department of Finance's (DOF) Demographic Research Unit developed projections of UC enrollments for the period 1989-90 through 2020-21. Figure 1 displays the UC and DOF projections for undergraduate enrollment for the years 2005-06, 2010-11 and 2020-21.

Figure 1

Projections of UC Undergraduate Enrollment[a]

Years	UC	Department of Finance
1989-90 (estimated)	120,000	120,000
2005-06	162,000	175,000
2010-11	176,000	176,000
2020-21	182,000	169,000

[a] Average annual "headcount." Figures have been rounded to the nearest one thousand.

UC projects that undergraduate enrollments will grow from 120,000 students in 1989-90 to 162,000 students in 2005-06. This represents an average annual growth rate of almost 2 percent, and a 35 percent increase over the period. The DOF, on the other hand, projects 175,000 undergraduates in 2005-06 (a 46 percent increase over the period). The difference between the two projections arises primarily from the university's assumption that a higher rate of the undergraduates who would be eligible to attend UC would instead "...opt to go to the other segments (public and private) because they could not obtain their top choice or choices of campus or program within UC."

Our review indicates that the UC and DOF projections represent a reasonable range of possible enrollments for 2005-06. In other words, we believe the state should plan on accommodating at least 162,000, and as many as 175,000, UC undergraduates in 2005-06.

Growth Beyond 2005-06. Between 2005-06 and 2020-21 UC projects slower, but continued, enrollment growth whereas DOF projects a slight enrollment decline (from 175,000 to 169,000). Consequently, by 2020-21 UC's projection of 182,000 undergraduates exceeds DOF's projection by 13,000 students. It is important to note, however, that enrollment projections for 2010 and beyond are significantly more speculative because the age cohort constituting most of the undergraduate "pool" for that period has not yet been born. Nevertheless, the importance of the projections to 2020, from a planning standpoint, is that under either projection, enrollments remain at a high level after 2005-06. Thus, facilities built to accommodate enrollments for 2005-06 likely will continue to be needed.

Graduate Enrollment Projections for UC

While the undergraduate enrollment projections are based primarily on demographics, UC's graduate enrollment plan is based on educational policy. That is, the university has established, for each campus, desired levels of graduate students (expressed as a percentage of total enrollment). In 1987, UC proposed to gradually raise the graduate enrollment ratios for seven of the eight campuses, resulting in a systemwide average of 21.3 percent (by comparison, the current-year ratio is 18.1 percent).

In October 1988, however, UC proposed to increase this percentage to 22.6 percent. The Legislature, in the *Supplemental Report of the 1989 Budget Act,* directed UC to develop additional justification for its proposed higher rate and stated legislative intent that until the Legislature reviews this justification, graduate enrollment increase requests would be evaluated based on the *1987* plan. As of this writing, no such justification has been submitted to the Legislature.

UC's 1988 graduate plan projects that enrollment will increase from its current level of 26,600 to 47,300 in 2005-06. This estimate is based on the assumption that the graduate enrollment ratio would reach the 22.6 percent proposed in the 1988 plan. Since, however, the Legislature has not yet adopted that ratio, we believe it is premature to use it for planning purposes. If, instead, the 1987 graduate enrollment ratios are used, total graduate student enrollment would stand at 41,500 in 2005-06, or 5,800 less than proposed by UC.

Accommodating Enrollments on Existing Campuses

Figure 2 compares, for each UC general campus, current enrollment and UC's projected enrollment for 2005-06. With the exception of Riverside (see below), the projected enrollment figures for 2005-06 also represent the *maximum* enrollment currently planned for the existing campuses. As the figure shows, the university's plan assumes that the eight campuses will be able to accommodate 187,700 students in 2005-06, an increase of almost 41,000 (28 percent). Thus, assuming funds are provided to build new facilities, the system has the ability to handle substantial enrollment growth on its existing campuses.

UC Riverside Could Grow More Rapidly. As shown above, the university's planned enrollment for Riverside in 2005-06 is 18,000. (This figure was revised upward from 15,000 by the UC President's Office last December.) The 18,000 figure, however, does not represent the university's *maximum* planned enroll-

Figure 2

The University of California Current and Planned Enrollment for 2005-06 at Existing General Campuses

Campus	Current Enrollment[a]	Planned Enrollment in 2005-06[b]
Berkeley	29,600	28,700
Davis	19,900	25,000
Irvine	15,100	25,000
Los Angeles	31,000	31,000
Riverside	8,000	18,000
San Diego	15,900	25,000
Santa Barbara	18,300	20,000
Santa Cruz	9,300	15,000
Totals	147,100	187,700

[a] UC's estimate for 1989-90. Average annual headcount.
[b] Based on UC's general campus enrollment plan.

ment for Riverside, but simply the enrollment that it believes can reasonably be achieved by 2005-06. We believe UC's plan underestimates the university's ability to absorb enrollment growth at that campus. Last year, in response to concerns raised by us and others, the Legislature directed UC in the *Supplemental Report of the 1989 Budget Act* to evaluate the feasibility of enrolling up to 25,000 students at Riverside by 2005-06 or beyond. UC is to send its evaluation of this issue to the Legislature by January 1, 1991.

University Concerned over Difficulty with More Rapid Growth at Riverside. UC officials have expressed concern that more rapid enrollment growth at Riverside, coupled with the need to replace retiring faculty, could strain that campus' ability to recruit high quality faculty. While we share the university's concerns about the importance of educational quality, we believe UC needs to advise the Legislature on: (1) the rate of enrollment growth at which recruitment would become a problem and (2) which measures, if any, UC and/or the Legislature could adopt to ameliorate this potential problem.

For example, funding could be provided in advance of enrollment growth at Riverside in much the same way as would be done in the case of a new campus. This advance funding could be used

to hire visiting scholars to free-up time for permanent Riverside faculty to devote to recruiting. In addition, UC faculty from other campuses could be asked to assist at Riverside and thereby free up time for Riverside faculty. Help from faculty at other campuses is not uncommon and should be encouraged. In fact, faculty from other campuses would be used for recruiting purposes at the proposed new campuses.

Thus, at this time it is still unclear to us why Riverside could not grow to its maximum enrollment by 2005-06. Pending receipt of information from UC to the contrary, we believe the Legislature should use the higher figure for capital outlay planning purposes. This would increase the total enrollment that could be accommodated by the existing campuses to 194,700.

Other Options. The Legislature may want to consider other options to accommodate projected enrollment. These include increasing enrollments at UC Santa Barbara and UC Santa Cruz beyond planned levels. These sites could accommodate more students, and at one time UC planned for larger enrollments at these campuses. Community opposition to expansion of these campuses beyond current planned levels, however, would be significant. In addition, if enrollments increase faster than projected by UC, or if increasing enrollment to 25,000 (by 2005-06) at Riverside proves infeasible, *temporary* increases above planned enrollments at these and other campuses could be considered as an option. Finally, the university could consider holding classes year-round. All of these options would allow the state to accommodate additional enrollment at the existing campuses.

Conclusions on Need for New UC Campuses

Our analysis indicates a demonstrated need for only one new UC campus by 2005-06. We find further that UC should (1) develop this campus on a faster track than currently proposed, (2) reassess the enrollment assumptions as they relate to the need to plan for a second campus, and (3) suspend planning efforts for a third campus.

As mentioned above, in October 1988 the university issued a general campus enrollment plan for the period 1988-89 through 2005-06. Based on the projected enrollments and UC's assessment of its ability to accommodate enrollments on existing campuses, UC proposed establishment of three new campuses later in this decade. (Specifically, the campuses would open in the fall of 1998, 1999 and 2000.) In December 1989, the university revised slightly its enrollment projections and continued to plan for three new campuses.

Figure 3 shows, for the year 2005-06, UC's current projections of total enrollment for 2005-06, the extent to which this enrollment would be accommodated on existing campuses and the "unaccommodated" enrollment which would result. It also shows our estimate of a range of potential "unaccommodated" enrollment, using (1) UC's and DOF's undergraduate enrollment projections, (2) our recommended graduate student ratio (discussed above), and (3) the assumption that 7,000 additional students can be accommodated at UC Riverside (also discussed above).

Figure 3

Projected UC Enrollment Accommodated and Unaccommodated for 2005-06[a]

	UC Plan	LAO Estimated Range[b] Low	LAO Estimated Range[b] High
Projected Enrollment:			
Undergraduate	161,800	161,800	175,300
Graduate	47,300	41,500	43,800
Total Enrollment	209,100	203,300	219,100
Projected Enrollment at Existing Campuses	187,700	194,700	194,700
Unaccommodated Enrollment	21,400	8,600	24,400

[a] Average annual headcounts.

[b] The low estimate uses UC's estimate of undergraduate enrollment and the high estimate uses the Department of Finance's. Both estimates assume (1) the graduate enrollment ratios in UC's 1987 plan and (2) that UC Riverside could grow to 25,000 by 2005-06.

One Campus Needed. UC's proposal for three new campuses is based on its projection of "unaccommodated" enrollment of 21,400 students in 2005-06. On the other hand, using UC's undergraduate enrollment projection and what we believe are reasonable assumptions regarding projected capacity for UC Riverside and the graduate student ratio in the 1987 plan, we estimate an unaccommodated enrollment of 8,600 students. This assumes that the long-term enrollment ceiling for each campus (other than Riverside) will not be increased and that year-round scheduling will not be implemented. On this basis, we believe the Legislature should use this estimate in planning for UC's long-term facilities needs, and we conclude that an unaccommodated enrollment of 8,600 students justifies the need to plan **only one** new campus before 2005-06.

Furthermore, given the likelihood of having at least 8,600 unaccommodated students, we see no reason to delay planning and development of this new campus. Placing the campus on a faster track than the current UC plan would not only ensure the availability of capacity for the 8,600 students, it would also allow UC to accommodate more students in the event UC's undergraduate enrollment exceeds the low end of the range. A concentrated effort by the university to develop this campus could result in an opening date in the mid-1990s rather than in 1998, as currently planned by UC.

Enrollment Assumptions for Second Campus Should Be Reassessed. If the higher end of the projected enrollment range proves correct, a second campus would be needed. For example, if the Department of Finance's enrollment projections are correct, UC will have 24,400 in unaccommodated enrollment. This shortfall could *not* be met by one new campus by 2005-06. The decision to plan for a second campus, however, can be deferred for at least a year without jeopardizing UC's schedule to bring it into operation in time to accommodate a higher enrollment. Deferring this decision would permit UC to concentrate its planning efforts in the coming year on the first campus. This would also allow UC and the Legislature to reassess enrollment projections and their underlying assumptions, as they relate to the need to plan for a second campus.

Suspend Planning for Third Campus. Even at the high end of our estimated range of enrollment for 2005-06, a third campus would not be needed. The additional enrollment at the high end of the range could be accommodated through (1) more rapid enrollment growth at two new campuses and/or (2) temporary over-enrollment at existing campuses. Therefore, we recommend that UC suspend its planning efforts for a third campus. Instead, UC should (1) concentrate its planning efforts on one campus and (2) reassess the need for a second campus based on further experience with enrollment growth.

The University of California's Five-Year Capital Outlay Plan

We find that UC's five-year capital outlay plan does not adequately inform the Legislature on how needs related to projected enrollment growth are to be met. We find further that a significant portion of the plan's proposed expenditures do not address enrollment-related needs.

In the *Supplemental Report of the 1989 Budget Act,* the Legislature directed each of the segments to submit five-year capital outlay plans to the Legislature by September 1, 1989. These plans were to include projected enrollments for each

campus for each year of the plan and are to be updated annually. UC's November 29, 1989 five-year capital outlay plan (1990-91 to 1994-95) indicates that UC expects undergraduate enrollment systemwide to increase by over 12,000 (8 percent) over the five-year period. This includes a 6 percent increase in undergraduate and an 18 percent increase in graduate enrollments.

To meet this enrollment growth, and also to renovate existing facilities that may be obsolete for physical or program reasons, UC's plan calls for the expenditure of about *$1.1 billion* of state monies during the five-year period 1990-91 to 1994-95. The proposed program includes funds for 139 major projects at the nine campuses as well as an ongoing minor capital outlay program (projects costing $250,000 or less). While the plan does *not* include any proposed expenditures for planning or establishing new campuses, it does include projects designed to meet needs associated with enrollment growth at existing campuses. This year the university incorporated several elements into its five-year plan that make it more useful to the Legislature. For example, the plan now covers the full five years, includes estimated costs to complete each project and lists the projects in priority. Although the university's plan has been improved and is generally responsive to the Legislature's directive, we have several concerns about it.

Plan Does Not Provide Enrollment-Related Information. The Legislature directed that the capital outlay plans include, among other information, a discussion of how each project contributes to accommodating needs associated with current/projected enrollments. The UC plan does not include this information. Without this information it is impossible for the Legislature to determine the extent to which the capital outlay plan meets needs generated by enrollment growth or the cost of meeting those needs. This places the Legislature in a difficult position for making funding decisions on UC's capital outlay program.

Plan Includes Significant Expenditures for Purposes Not Directly Related to Enrollment Growth. Some indirect measures indicate that a significant portion of the university's proposed capital outlay expenditures do not meet needs generated by enrollment growth. For example, the university expects enrollment growth at six of the eight general campuses and modest enrollment declines at two campuses--Berkeley and Los Angeles. The plan, however, proposes expenditures of about $160 million (excluding projects related to seismic safety), or 17 percent of the five-year total, at Berkeley and Los Angeles, *even though current capacity at those campuses exceeds current enrollment.*

In addition, our analysis indicates that about $100 million proposed for expenditure in 1990-91 is for projects that are primarily for research-related space rather than enrollment growth. The estimated future cost to complete these projects is over $180 million.

Expenditures for capital improvements that are not related directly to enrollment growth are certainly appropriate and may be necessary. The Legislature, however, needs better information in the five-year capital outlay plan so that it can assess the needs for projects related to enrollment growth (including new campuses) and other improvements, in order to set the Legislature's priorities and strike an appropriate funding balance between the two.

CALIFORNIA STATE UNIVERSITY

The California State University (CSU) system is composed of 20 campuses and nine off-campus facilities which provide instruction in the liberal arts and sciences as well as in applied fields which require more than two years of college education. In addition, CSU may award a doctoral degree jointly with the University of California or a private university.

Enrollment Projections for CSU

In October 1989, CSU issued a *Growth Plan for 1990-2005* that included enrollment projections for the period 1990-91 through 2005-06. The plan also includes a proposal to start five new campuses, with the first to be brought on line in 1994. In November 1989, the Department of Finance's Demographic Research Unit developed projections of CSU enrollments for the same time period. (These projections do not distinguish between undergraduate and graduate students. CSU has a smaller percentage of graduate students than UC and, unlike UC, is not proposing to increase that percentage.)

In preparing for its facilities needs for the year 2005-06, CSU assumes that enrollment will grow from 361,000 students in 1990-91 to 541,000 in 2005-06. This is an increase of 180,000 students, or 50 percent. By contrast, DOF--based on demographic data and historic participation trends--projects an enrollment of 466,000 students--an increase of 105,000 students. This represents an average annual enrollment growth of 1.7 percent and growth of 29 percent over the period. The key difference between the numbers arises from an assumption by CSU that, by 2005, it will reach the state's goal of educational equity--that is, the current low participation rates of students from under-represented ethnic groups will increase to rates comparable for those

of whites. (Currently, blacks participate at about one-half, and Hispanics at about one-third, the rate of whites.)

Clearly, attaining educational equity at CSU (and all postsecondary segments) is an important priority. But for capital planning purposes, projections of enrollment need to be based on the best available demographic data, not on policy goals. CSU cannot accomplish this objective as an institution acting alone. The state's K-12 system must graduate qualified students in sufficient numbers to put the policy goal within reach. There is no evidence that we know of which suggests that the laudable objective of equal participation rates can be achieved within the next 15 years. For example, there are currently about 40,000 Hispanics in the CSU system. If the participation rate for Hispanics continues to increase as it has during recent years, there would be about 115,000 Hispanics--almost three times the current numbers--by 2005-06. To meet CSU's plan, however, the system would have to enroll over 190,000 Hispanics--almost five times the current number--over the period. The improvement in black participation rates would have to be even more pronounced in percentage terms in order to meet CSU's objective. In short, CSU's enrollment figure for 2005-06 is not a projection based on demographic trends.

By comparison, the DOF projections are based on enrollments growing generally according to historic trends during the planning period. If these past trends continue, this assumption implicitly reflects substantial increases in the enrollments of under-represented students. In relying on these DOF figures, we note two caveats. First, the trends in participation rates should be carefully monitored to capture changes as they occur and to make necessary changes in out-year enrollment projections. Second, it is possible that, in the near future, DOF will be able to provide projections with more detail by race and ethnic group. This will greatly assist the Legislature in its efforts to equalize future participation rates.

Accordingly, we suggest that CSU develop a more realistic enrollment projection through the year 2005-06 that could serve capital outlay planning purposes. If participation rate experience in the future indicates that CSU is more rapidly attaining this goal, the enrollment projection *can* and *should* be revised upward. Until actual trends (including high school graduation rates) demonstrate otherwise, however, we believe DOF's enrollment projection forms a more reasonable basis for planning CSU facility needs. On that basis, the state at this time should plan on accommodating 466,000 CSU students in 2005-06. Because many CSU students are part-time, this level of enrollment would

be 350,000 full-time equivalent (FTE) students. For the remainder of this section on CSU, we use FTE enrollment figures.

Accommodating Enrollments on Existing Campuses

Figure 4 shows, for each CSU campus, the current enrollment, CSU's projected enrollment for 2005-06 and CSU's recommended master plan ceilings. As the figure shows, CSU's growth plan projects that its existing campuses and off-campus centers

Figure 4

CSU Current and Projected Enrollment and Master Plan Ceilings at Existing Campuses[a]

	Current Enrollment[b]	Planned Enrollment In 2005-06[c]	Master Plan Ceilings
Bakersfield	4,000	8,500	12,000
Chico	14,000	14,000	14,000
Dominguez Hills	6,200	12,000	20,000
Fresno	16,100	25,000	25,000[d]
Fullerton	17,600	20,000	20,000
Hayward	8,300	12,100	18,000
Humboldt	6,800	8,000	8,000
Long Beach	23,600	25,000	25,000
Los Angeles	13,600	18,500	25,000
Northridge	20,900	25,000	25,000
Pomona	14,700	19,100	20,000
Sacramento	19,000	23,400	25,000
San Bernardino	7,800	17,100	20,000[d]
San Diego	25,000	25,000	25,000
San Francisco	20,000	25,000	25,000[d]
San Jose	20,500	25,000	25,000
San Luis Obispo	14,700	17,400	20,000[d]
San Marcos	300	7,000	25,000
Sonoma	5,400	10,000	15,000[d]
Stanislaus	3,900	7,000	12,000
Subtotals	(262,400)	(344,100)	(404,000)
Off-campus centers	3,500	10,400	n/a
Year-round operation[e]	6,000	10,900	n/a
Totals	271,900	365,400	404,000

[a] Full-time equivalent students.
[b] CSU's estimate for 1990-91.
[c] Enrollment planned by CSU.
[d] Increased ceiling recommended by CSU.
[e] Use of summer quarters at four existing year-round campuses.

can be expanded to accommodate an enrollment of 365,400 FTE by 2005-06, an increase of about 93,000 FTE (34 percent increase) over the current enrollment.

Figure 4 also shows that CSU's projected enrollment for the 20 campuses (344,100) is almost *60,000 less than* the total campus enrollments under proposed master plan ceilings (404,000). This master plan total includes CSU's plan to raise ceilings at five campuses: (1) Fresno and San Francisco from 20,000 to 25,000 FTE each, (2) San Bernardino from 12,000 to 20,000 FTE, (3) San Luis Obispo from 15,000 to 20,000 FTE and (4) Sonoma from 10,000 to 15,000 FTE. Although these master plan changes will require a detailed review process, including environmental impact assessments, we have no basis for assuming the ceilings cannot be raised.

We believe CSU's estimate of the ability of existing campuses to absorb growth is conservative. Under CSU's plan, 11 campuses would still be below their recommended master plan ceilings in 2005-06. Some of these campuses (such as Hayward or Dominguez Hills) may not be able to grow faster than CSU has planned, given problems experienced by those campuses in attracting enrollment. Several of the other campuses, however, have the potential to grow faster than CSU has planned, including Sacramento, Pomona and San Marcos.

Conclusions on Need for New CSU Campuses

Our analysis indicates that there currently is no demonstrated need to plan for any new CSU campuses.

As mentioned above, the CSU growth plan for the period 1990 through 2005 calls for establishment of five new campuses. Under this plan, the new campuses would be brought into operation at two-year intervals beginning in 1994. The plan also calls for establishment of five new off-campus centers to serve upper division and graduate students.

Statewide Enrollment Needs. Figure 5 shows for the year 2005-06 CSU's projections of total enrollment, enrollment accommodated at existing campuses (including summer quarter enrollment) and off-campus centers, and the "unaccommodated" enrollment on which its proposal for five new campuses and five new off-campus centers rests. The figure indicates that under CSU's enrollment projections, the system could not accommodate 41,000 students within existing facilities. CSU's growth plan assumes that this shortfall would be addressed through:

- The five new campuses (20,000 FTE).
- The five new off-campus centers (6,000 FTE).

Figure 5

Projected CSU Enrollment Accommodated and Unaccommodated for 2005-06

	CSU Plan	DOF Projection
Projected enrollment	406,000	350,000
Projected enrollment at existing sites	365,000	365,000
Unaccommodated enrollment (surplus capacity)	41,000	(15,000)

- Other off-site instructional areas (3,000 FTE).
- An undefined combination of measures, including various forms of off-site instruction and expanded use of summer terms (12,000 FTE).

As discussed above, however, we believe CSU's enrollment projection is unrealistically high and that DOF's enrollment projections are more appropriate to use at this time for planning purposes. Under DOF's projection, the potential for existing campuses to accommodate enrollments significantly *exceeds* the expected enrollment level. As Figure 5 shows, existing campuses and centers can accommodate projected enrollment growth (through capacity-expanding construction projects), and still have the potential to accommodate 15,000 *additional* FTE students in 2005-06 and beyond. Moreover, as discussed above, under CSU's recommended master plan ceilings there would be *further* potential to expand existing campuses to accommodate another 60,000 FTE students.

Regional Aspect of Accommodating Enrollment. Some may argue that, even if there were existing capacity in the system as a whole, CSU's regional focus requires that new campuses be built in areas where campuses are reaching or have reached capacity. In considering the question of accommodating enrollment, however, it is important to recognize the *mixed state/regional nature* of CSU campuses. According to CSU's publication, *Origin of 1988 Fall Term Enrollment,* 12 of the 20 campuses draw a majority of their freshmen classes from the region (defined as the metropolitan statistical area) in which the campus is located. The same document indicates that 40 percent of all entering freshmen come from *outside* the region in which the campuses they are attending are located. Thus, a substantial portion of enrollment is from outside the campus region and could be viewed as a statewide component of the enrollment.

Nevertheless, it is conceivable that one or more new campuses could be justified strictly on the basis of regional enrollment needs. We believe, however, there are several options for meeting regional enrollment needs that should be examined *before* undertaking the costly (and irreversible) step of acquiring and constructing new campuses. These options include:

- ***Extending Year-Round Operations.*** Since year-round operation uses existing facilities, it has the potential to reduce future needs for additional space. Currently, four campuses (Hayward, Los Angeles, Pomona, and San Luis Obispo) have state-funded summer quarters. We recommend in our *Analysis of the 1990-91 Budget Bill* (Item 6610-001-001) that the CSU conduct a comprehensive cost-benefit analysis of this option.
- ***Raising Master Plan Ceilings.*** The CSU's growth plan projects that campus master plan ceilings will range from 8,000 to 25,000 FTE students. The CSU should consider raising some of the master plan ceilings for those campuses which are below the maximum level of 25,000 FTE.
- ***Establishing Off-Campus Centers.*** The CSU may wish to establish off-campus centers near students' homes or workplaces. Since such space can often be leased on a short-term basis, off-campus centers could also be used to meet one-time peaks in enrollment demand.

In view of statewide enrollment trends and the variety of options available to meet regional enrollment needs, we conclude that there is no demonstrated need for CSU to plan new campuses at this time. Although the need for new off-campus centers is not justified on the basis of statewide enrollment projections, we reserve judgment on CSU's proposal for five new off-campus centers pending additional information from CSU on the regional basis for these centers.

The California State University's Five-Year Capital Outlay Plan

We find that CSU's recent five-year capital outlay plan does not adequately inform the Legislature on how needs associated with projected enrollment growth are to be met. We find further that a significant portion of the plan's proposed expenditures do not address these needs.

According to CSU's five-year capital outlay plan (submitted to the Legislature August 31, 1989), enrollment at CSU campuses will increase 15,000 FTE (5.7 percent) by 1995-96.

To meet this enrollment growth and also to renovate existing facilities that may be obsolete for physical or program reasons, CSU's plan calls for the expenditure of about *$1.4 billion* of state monies during the five-year period 1990-91 through 1994-95. The proposed program includes 166 major projects at the 20 campuses, eight major projects at two off-campus centers (Contra Costa and Ventura) and ongoing programs for energy conservation and minor capital outlay (projects costing $250,000 or less). This year, CSU has improved its five-year capital outlay plan by providing more information on proposed projects. For example, the plan has been expanded to include limited descriptions of all projects and estimated costs to complete each project. While including this additional information is generally responsive to the Legislature's directive, we still have several concerns about the plan.

First, CSU's capital outlay plan does *not* include any proposal for the planning or establishment of new campuses. Consequently, the current capital outlay plan will not implement the CSU Trustees' growth plan that calls for five new campuses (with the first campus to come on line in 1994). Moreover, the plan does not include any information regarding establishment of off-campus centers.

In addition, the capital outlay plan does include projects designed to meet needs associated with enrollment growth at existing campuses. The plan indicates that instructional facility capacity will increase from 98 percent (systemwide average) of enrollment to 102 percent. Our analysis indicates, however, that the plan contains inconsistencies regarding capacities associated with specific projects and campuses. These inconsistencies, which are numerous and significant, call into question the reliability of the information included in the plan. For example, the plan indicates that either 3,321 FTE capacity or 1,766 FTE capacity will be added at CSU Fresno, depending on the page of the document chosen. In another case, the document indicates in one part that proposed projects will add 4,407 FTE capacity at CSU Northridge. Yet, the plan's summary table indicates that 4,244 FTE capacity would be added at Northridge during 1991-92 through 1993-94, followed by ***deletion*** of 3,330 FTE capacity in 1994-95.

Our analysis further indicates that many of the proposed expenditures do not substantially address needs associated with enrollment growth. For example, CSU San Diego already is at its master plan ceiling in terms of both enrollment and facility capacity. Yet CSU's plan proposes spending more capital outlay funds at San Diego than at any other campus--$141 million over the five-year period.

As mentioned under the section on UC, many projects that do not contribute directly to accommodating enrollment growth may be necessary. The Legislature needs better information in the five-year plan, however, so that it can (1) assess ways to accommodate enrollment growth and other needs and (2) strike an appropriate funding balance between the two.

CALIFORNIA COMMUNITY COLLEGES

The California Community Colleges (CCC) consist of 71 locally governed districts operating 107 colleges throughout the state. In addition, the CCC provides instructional services to students at off-campus sites. The community colleges are authorized to provide associate degrees, occupational certificates and credentials, and various service instruction.

Enrollment Projections

By statute, long-term enrollment projections for use by the community colleges are prepared by DOF. The enrollment projections are formulated by applying expected participation rates to projections of future population groups, categorized according to age and gender. This method is similar to the one DOF uses for determining enrollment projections for both UC and CSU. However, this projection is also based on input from local districts (through an annual enrollment survey), and a qualitative assessment of each district's situation by DOF staff. Using this method, DOF projects community college enrollment to grow from 1,333,000 in 1988-89 to 1,873,000 by 2005-06, an increase of 540,000 students.

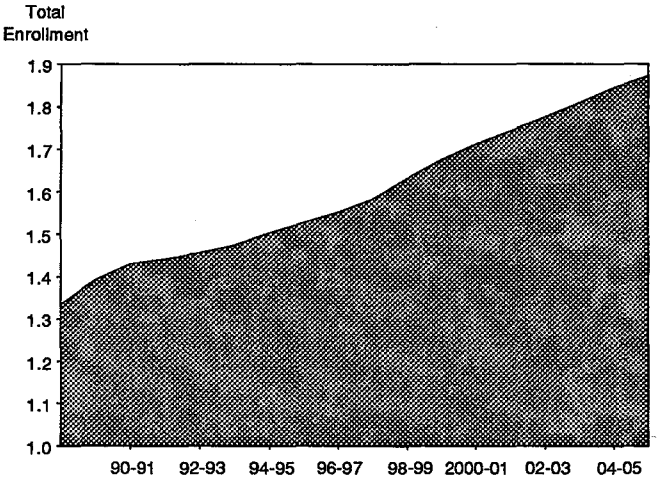
This represents an average annual growth of 2 percent, and growth over the period of 41 percent. This projection is also higher than DOF's 1988 projections, which estimated an increase of 400,000 students over that same period. Figure 6 illustrates the enrollment growth trend between 1988-89 and 2005-06. It shows that over two-thirds of the projected enrollment increase would occur after 1994-95. The DOF's enrollment projections appear to be reasonable for purposes of long-range facilities planning.

Similar to the DOF projections for CSU enrollment growth, the DOF model for community colleges does not make explicit assumptions about how participation rates for underrepresented groups will change by 2005. During the 1980s, increases in total participation rates have reflected the increased participation rates of underrepresented ethnic groups. Therefore, to the extent these trends continue, DOF's projections implicitly reflect increased movement towards meeting educational equity goals. The DOF is currently developing an alternative projection based on the attainment of equal access (participation rates of underrepresented groups equal to that of whites).

Figure 6

California Community Colleges
Projected Student Enrollment

1988-89 through 2005-06
(in millions)



The alternative projection should provide useful information because unlike the other segments of postsecondary education, the California Community Colleges have an open enrollment policy. Simply stated, no minimum criteria or standards must be met to enroll into a community college. Therefore, the possibility of the community colleges achieving equal access within the timeframe of the projections merits examination. These projections should be available for review in spring 1990.

Accommodating Increased Enrollment

We find that the community colleges' current simulation model has shortcomings which make it unreliable as an accurate predictor of the system's future capital outlay needs. As a result, we cannot at this time advise the Legislature as to either the necessary expansion of existing campuses or the number of new community college campuses that will be needed to accommodate projected enrollment through 2005-06.

To plan for the projected enrollment increase, the Chancellor's Office has developed a computer simulation model. The model employs twenty-nine different data elements about each district's enrollment and facilities. This information is processed with space utilization standards and with a series of planning assumptions about such variables as campus capacity, service area limitations, and average construction costs. For *each* of the 71 community college districts, the model projects capital outlay needs through 2005-06 for remodeling and altering existing facilities, constructing and equipping new facilities, and acquiring new sites and developing new campuses. The model aggregates district needs into regional and statewide summaries. (These projections do not incorporate future capital outlay expenditures for safety requirements, correction of hazardous conditions, and physical access for disabled persons.)

Using this model and DOF's 1988 enrollment projections, the Chancellor's Office estimated that about two-thirds of the 400,000-student enrollment growth could be accommodated in existing facilities or by expanding existing campuses. Accommodating the remaining one-third would require 16 additional campuses averaging 8,000 students. The Chancellor's Office has not run the model using the higher enrollment figures in DOF's 1989 enrollment projection (540,000 additional students by 2005-06). The office estimates, however, that accommodating this higher enrollment would require about 5.1 million assignable square feet (asf) of new facilities on existing campuses and the development of 23 new campuses (2.9 million asf).

The simulation model may be a useful tool for estimating the potential *magnitude* of long-range planning needs. The current model, however, should *not* be considered as the final determinant for expanding a campus or establishing a new campus. This is because the model includes a wide range of subjective planning assumptions that, if modified, could significantly alter the projections for the expansion of the community college system. Examples of these assumptions are discussed below.

Potential for Expanding the Use of Off-Campus Facilities. One planning assumption is that a district's current proportion of off-campus to on-campus weekly student credit hours (WSCH) will remain the same through 2005-06. (Currently, about 10 percent of all systemwide WSCH are off-campus.) Increasing the use of off-campus space could reduce the need for building new campuses *or* for expanding existing campuses. Off-campus use could be increased in part by offering more evening classes at existing secondary schools. This alternative could accommodate a substantial number of evening students in existing, and often under-used, lecture space. Using multiple,

decentralized secondary schools would also offer many students an educational opportunity closer to their homes or workplaces than existing community college campuses.

Potential for Inter-District Sharing of Facilities. The Chancellor's Office model omits a key variable which must be considered when determining whether a new campus is fully justified. The model only examines the capacity at District A's existing campuses in determining the need for a new District A campus. The model does not consider whether an existing campus in District B--an *adjoining* district located within a reasonable commuting distance--has the capacity to accommodate more students from District A.

Inappropriate Criterion for Establishing New Campuses. The two conditions imposed by the model in projecting the need for a new campus are that (1) the average size of a district's existing campuses is not to exceed 750 WSCH per campus acre *and* (2) the service area of existing campuses is not to exceed certain limits--based on a 30-minute maximum travel time--for urban, suburban, and rural areas. We believe the first condition is an inappropriate criterion.

First, it is unclear to us why the 750 WSCH per acre standard is the appropriate one. We sampled 20 representative urban, suburban, and rural campuses and found that current enrollments ranged from 44 to 3,350 WSCH per acre. Additionally, ten campuses in our sample exceeded 1,100 WSCH per acre. Thus, many campuses *now* accommodate considerably more students than the capacity standard used in the model for projecting new campuses. We therefore question the use of a single, statewide campus capacity parameter for projecting each district's ability to accommodate enrollment growth. Second, and more importantly, we believe it is inappropriate to use, as a capacity standard, a variable that relates academic load to a campus *land base.* As an alternative to this parameter, the Chancellor's Office, in cooperation with the districts, should determine the capacity of the community college campuses based on what is academically sound.

Further Work. A private consultant is assisting the Chancellor's Office in refining the model. The consultant will also provide long-range planning assistance to those districts for which new campuses are projected. This process will be complete in June 1990, at which time the Chancellor's Office should have a more definitive answer as to the number, location, and timing of new campuses which they believe will be needed by 2005-06. We urge the Chancellor's Office to reevaluate the assumptions used as a basis for its projections and to incorporate the above

changes, along with any other changes they may deem appropriate, prior to completing this process.

The community colleges simulation model is an important first-step in projecting the system's long-range capital outlay needs. In view of the current shortcomings of the model, however, we cannot at this time advise the Legislature as to either the necessary expansion of existing campuses or the number of new community college campuses that will be needed to accommodate projected enrollment through 2005-06. As indicated earlier, however, of total projected enrollment growth in the community college system through 2005-06, over two-thirds will occur *after 1994-95.* Therefore, existing campuses and off-campus centers should be able to accommodate the system's short-term growth. This, in turn, should give the Chancellor's Office sufficient time to refine its proposal before seeking approval by the Legislature.

The California Community Colleges' Five-Year Capital Outlay Plan

We find that the community colleges are not adequately addressing growth-related capital outlay needs, as evidenced by the lack of a systemwide five-year plan as required by the Legislature.

In accordance with the *Supplemental Report of the 1989 Budget Act,* the Chancellor's Office submitted a five-year capital outlay plan. This plan falls woefully short of the supplemental language report requirements. Rather than providing a systemwide plan showing statewide five-year priorities, as required by the Legislature, the Chancellor's Office simply included copies of *each district's* two- to five-year priority list of projects. The Chancellor's Office, however, estimates that the community colleges will be seeking state appropriations totaling *$1.0 to $1.2 billion* during the five-year period 1990-91 to 1994-95.

The systemwide five-year plan was also to include a discussion of the programmatic basis for each project and how the project contributes to accommodating needs associated with current and projected enrollments. This requirement has not been fulfilled in the plan submitted to the Legislature.

The individual district's five-year plans include a calculation of the net increase in WSCH that each capital outlay project will accommodate. Our review of these documents shows that the various projects will accommodate an additional 110,000 students over the next five years, which compares well to DOF's latest enrollment projections. On closer examination, however, it is clear that the proposed expansion is not located where the

enrollment growth is expected. For example, many districts that currently have substantial capacity are planning additional facilities. In fact, two-thirds of the proposed increase in lecture or laboratory space planned for the next five years--enough for 74,000 students--is in districts whose *present* facilities can accommodate over 120 percent of their projected enrollment over the same time period.

A community college five-year plan in essence does not exist and systemwide planning for enrollment growth is totally inadequate. Judging by the current five-year plans of many individual districts, a large portion of proposed future expenditures will *not* address enrollment-related capital outlay needs. It is essential that the Legislature have a systemwide five-year plan in order to assess whether project proposals, including those associated with new campuses, address enrollment growth and other legislative priorities. The Chancellor's Office needs to provide the Legislature with the information requested by the Legislature in the *Supplemental Report of the 1989 Budget Act.*

HOW CAN THE LEGISLATURE BEST PROVIDE THE FACILITIES NEEDED FOR ENROLLMENT GROWTH?

Although there are no precise estimates of the costs to meet postsecondary education capital outlay needs over the next 15 years, it is clear from the segments' five-year capital outlay plans and other information that a *multi-billion* dollar effort will have to be funded. Given the magnitude of this fiscal commitment, the Legislature will have to consider carefully how best to plan and finance these facility needs.

Legislature Needs Better Information

We recommend that the segments provide better capital outlay planning information to the Legislature, particularly with regard to how proposed projects meet needs associated with enrollment growth, and including information on proposed new campuses or off-campus centers.

Competing Statewide Needs and Limited Resources. As discussed above, billions of dollars will be needed in the next five years and beyond for postsecondary education capital outlay. At the same time, these needs will compete with various other statewide needs for limited funding. Consequently, the Legislature needs improved information from the segments so that it can better assess, control and plan for postsecondary education capital outlay needs.

Better Information Needed on How Projects Address Enrollment Needs. The Legislature, in the *Supplemental*

Report of the 1989 Budget Act, already has requested much of what we believe is needed. In attempting to follow this legislative direction, UC and CSU have made significant improvements in the informational content of their plans. Our review indicates, however, that the segments still need to refine information on how proposed projects meet needs associated with enrollment growth and changing program requirements in order to assist the Legislature in determining if proposals meet legislative priorities. For each project, the segments should: (1) indicate the extent to which the space serves undergraduate and graduate enrollments, instructional needs, and other capital improvement needs; and (2) specify the cost of providing the space for meeting enrollment needs. In addition, the segments should include in their five-year capital outlay plans information on the costs and timing of proposed new campuses or off-campus centers and how these centers are related to facilities to be constructed through capital outlay expenditures.

The Legislature needs the above information to make sure that it funds postsecondary education facility priorities as the Legislature sees them.

Legislature Will Have to Rely Heavily on Bond Financing

Improved planning information is important not only so the Legislature can establish priorities within each segment and among segments, it also is critical in preparing a financing plan for needed facilities. Given the magnitude of postsecondary education needs relative to General Fund and tideland oil resources, the state will almost certainly have to rely heavily on bond financing. In the past four years, for example, the state has financed 99 percent of postsecondary education capital outlay costs through either general obligation bonds ($1 billion) or lease-revenue bonds ($611 million). Since the state has used virtually all of its existing authorized general obligation bonds, future expansion of postsecondary education facilities will depend on *new* general obligation bond authorizations by the voters and, potentially, new lease-purchase revenue bond authorizations by the Legislature.

In comparing these two types of bonds, it should be noted that the *General Fund* provides the debt service payments in both cases. General obligation bonds, however, have two principal advantages over lease-revenue bonds. First, general obligation bonds are less expensive (currently an interest rate differential of up to 0.5 percent). Also, the state does not have to obtain insurance for facilities funded with general obligation bonds, as is required under lease-revenue bonds. (UC generally meets this requirement through self insurance.) Second, unlike the case for

lease-revenue bonds, debt payments on general obligation bonds are exempt from the state's appropriations limit and therefore enhance the Legislature's ability to fund competing state needs. (Under the provisions of SCA 1, if approved by the voters in June 1990, it appears that the Legislature could exempt lease-revenue debt payments from the appropriations limit.)

Currently, the Legislature is considering SB 147 (Hart), which would authorize (as amended January 18, 1990) a $900 million general obligation bond measure to be submitted to the voters at the June 1990 primary election. Considering only the first two years (1990-91 and 1991-92) of the five-year plans, the amount proposed under SB 147 falls short of the segments' stated needs by more than $500 million. Some of the projects proposed by the segments may, upon legislative review, not merit funding during 1990-91 or 1991-92. If, however, the Legislature wishes to fund the segments' plans in the two-year period, it may wish to increase the amount of general obligation bonds to be authorized.

If the $500 million "shortfall" were instead funded through revenue bonds, we estimate it would require up to an additional $125 million in principal and interest payments (plus major unknown costs for insurance) over a 20-year period. This added cost is a result of two factors--lease revenue bonds carry a higher interest rate and, under the State Treasurer's current policy, these bonds are paid off using a different financing schedule. Given, however, the 20-year time frame for paying off the debt service, the $125 million cost would be equivalent to $40 million in 1990 dollars.

SUMMARY AND CONCLUSIONS

Above, we have reviewed the ways each segment of public postsecondary education is preparing for enrollment growth over the next 15-year horizon. The following is a summary of our findings and conclusions:

Enrollment. Enrollment for each of the segments is projected to grow steadily between now and 2005-06 (average annual growth of between 1.7 percent to 2.0 percent), resulting in significant increases in the numbers of students the state must accommodate by the end of that period.

Projections. While there is agreement that each segment will experience significant enrollment growth by 2005-06, we have identified concerns with specific projections on enrollment and existing capacity made by the segments. We believe UC and CSU have made assumptions which result in an overstatement of the need for new campuses. Data for the Community Colleges are insufficient for us to draw conclusions at this time.

Need for New Campuses. Based on our review of systemwide and campus enrollment projections, we find that:

- ***University of California.*** The university will need at least one new campus by 2005-06 and should immediately begin planning and development efforts for that facility. In addition, the university should reassess its enrollment assumptions with regard to the need for a second campus and suspend planning for a third campus.
- ***California State University.*** The system at this time should not plan for any additional campuses, as existing campuses will be able to accommodate projected enrollment growth through 2005-06.
- ***California Community Colleges.*** Given the shortcomings in the Chancellor's Office model used to project facilities needs, we cannot at this time assess their need for new campuses.

Funding Expansion of Existing Facilities. Regardless of what decisions are made on new campuses, all three segments will require significant capital outlay improvements and expansion. Over the 15-year period to 2005-06, the state will have to undertake a multi-billion dollar capital outlay program to meet these postsecondary education facilities needs.

Planning. All three postsecondary education segments should significantly improve the information provided to the Legislature in their five-year plans. This would allow the Legislature to better assess, control, and plan for the state's postsecondary education capital outlay needs.

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