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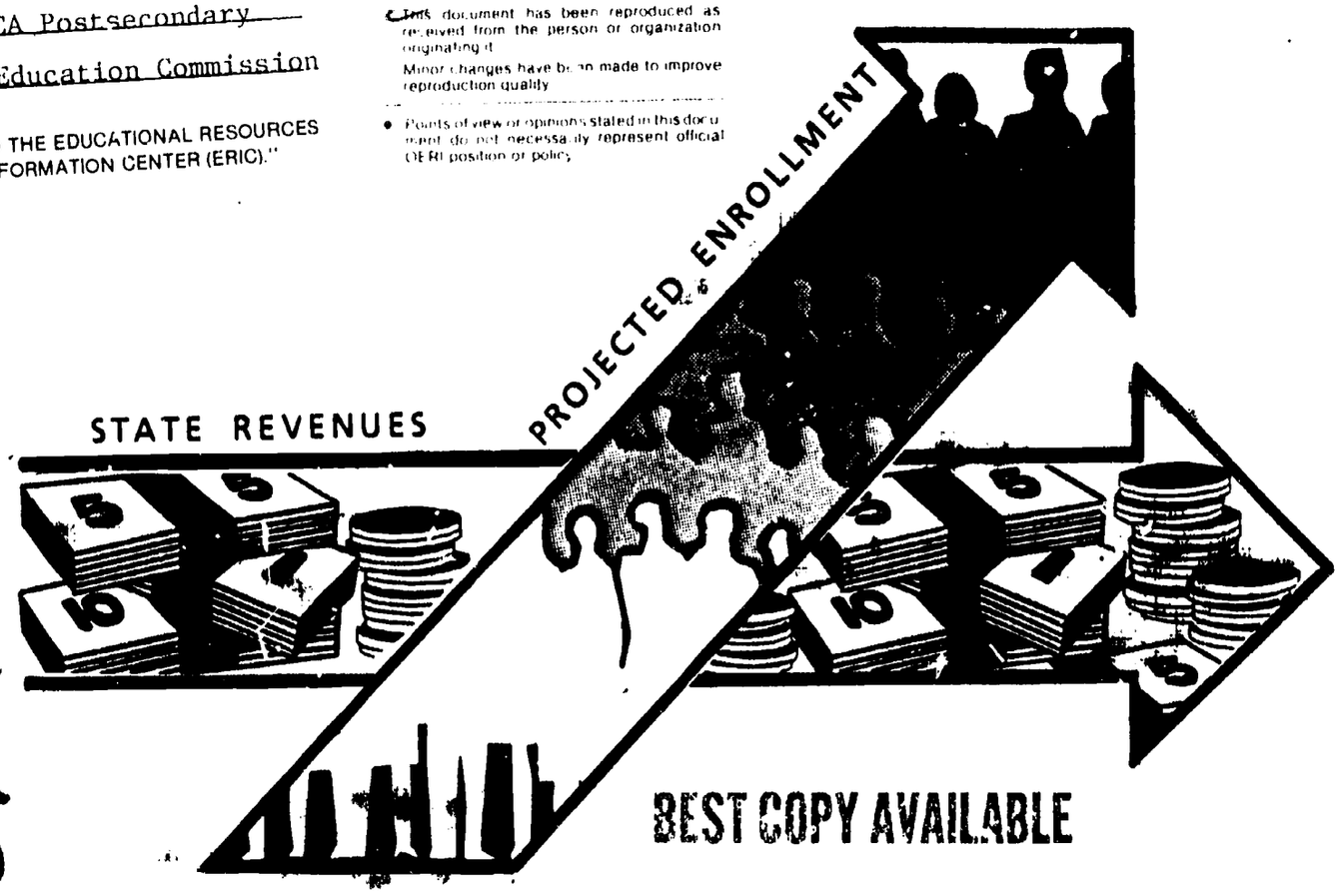
ABSTRACT

This report is the product of nearly 2 years' work by the California State Postsecondary Education Commission on how the State of California should prepare for enrollment increases in higher education through the year 2005. The six sections of the report cover trends that will influence enrollment demand; the current growth plans of the state's higher education systems for expansion; the capital outlay and operating budget consequences of this planned growth; the state's ability to support this growth; and alternatives to growth. Based on the five fundamental assumptions of the recently concluded Master Plan review process, the Commission recommended that: (1) the state should prepare for 70,000 new students by the year 2005; (2) no commitments on expansion plans should be made until voters allow the state a greater spending limit; (3) the process for growth should be orderly, coordinated, and gradual rather than competitive among the systems; and (4) the state should ensure that this planning be directed not just toward expansion but toward increased diversity of student enrollment. With respect to the individual systems of education, the Commission found that: (1) enrollment increases for the California State University should be between 31% and 41%; and (2) the California Community Colleges can expect enrollment to increase approximately 40%. The Commission requested more information about regional priorities before specifying how these enrollments should be accommodated in existing or new facilities. An appendix provides the Senate Concurrent Resolution 66 (1989). Contains 13 references. (GLR)

HIGHER EDUCATION AT THE CROSSROADS

Planning for the Twenty-First Century



CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

Summary

This report is the product of nearly two years of work by the Commission on how the State of California should prepare for enrollment increases in higher education through the year 2005. The Commission prepared the report in collaboration with an advisory committee composed of planning and program representatives of the State's systems of higher education and of the State Department of Finance, the Demographic Research Unit in that Department, and the Legislative Analyst's Office.

The six sections of the report cover California's population trends that will influence enrollment demand; the current growth plans of the State's higher education systems for expansion; the capital outlay and operating budget consequences of this planned growth, the State's ability to support this growth; and alternatives to growth.

The Commission used five fundamental policy assumptions of the recently concluded Master Plan review process as the underpinning for its projections of future enrollment:

1. Continued differentiation of function and mission among the three public segments.
2. Continued access to all qualified and motivated students someplace within the public systems of higher education by means of adequate State funding to support needed growth.
3. Continued accommodation of all qualified applicants to the University of California and the California State University someplace within these systems, although not always at their campus or program of first choice.
4. Achievement by the year 2005 of the State's policy goal that undergraduate enrollment at the California State University and the University of California will be 60 percent upper division and 40 percent lower division, by means of increasing their admission of transfer students rather than by reducing access to freshman students
5. Attainment of the State's goals of financial aid through increased funding for needy students in community colleges, increased support for students in the public universities, and increased grant awards for students choosing to attend independent institutions.

Based on these principles, the Commission has concluded that the State should prepare for net enrollment increases by the year 2005 of close to 700,000 new students. Thus all segments will need to expand existing campuses and plan new ones. Under existing fiscal constraints, however, the operating and capital resources to support growth are not likely to be available. Thus, the Commission recommends against any permanent commitments for expansion until the voters have had an opportunity to vote on a constitutional amendment loosening the State's current spending limit. If this amendment fails, the policy assumptions underpinning this analysis will have to be rethought.

The Commission also recommends that the process for growth be orderly, coordinated, and gradual rather than competitive among the systems and that the State ensure that this planning be directed not just toward expansion but toward increased diversity of student enrollment, since the ability of the State to change the patterns of success among historically underrepresented students will fundamentally influence the need for and pace of growth.

With respect to the individual systems of education, the Commission finds that the University of California's projected undergraduate enrollment increase of 36 percent by 2005 justifies immediate preparation for at least one new campus, with plans for possible additional campuses deferred until the State's need for graduate expansion is better defined. For the California State University, the Commission concludes that overall student demand will increase by between 34 and 41 percent, which will require expansion at existing campuses as well as building new facilities; and the Commission has requested more facts about the State University's regional priorities for expansion in order to develop an analytic basis for identifying these needed facilities. For the California Community Colleges, the Commission envisions increased enrollment demand of approximately 40 percent, and it has requested more information about regional priorities before specifying how these enrollments should be accommodated in existing or new facilities.

The Commission will refine this analysis often in the next several years, first in the summer of 1990 once the results of the June election are known and following further analyses by the segments, and again when data from the 1990 Census are available.

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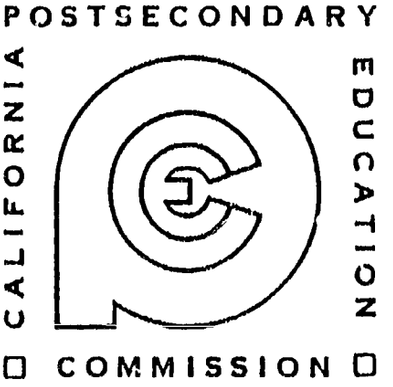
The Commission adopted this report at its meeting on January 22, 1990. Additional copies may be obtained from the Publications Office of the Commission at (916) 324-4991. Questions about the report may be directed to either of its co-authors -- Jane Wellman, the Deputy Director of the Commission, at 322-8017, or Kirk Knutsen of the Commission staff at 322-8013.

HIGHER EDUCATION AT THE CROSSROADS

Planning for the Twenty-First Century



CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
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COMMISSION REPORT 90-1
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Conclusions and Recommendations

CALIFORNIA needs to prepare now for growth in postsecondary education through the early twenty-first century. Current projections of increased enrollment demand show a need to accommodate approximately 700,000 more students within the next 15 years. These projections of needed expansion are, if anything, likely to be low, since they have had to be developed before the 1990 Census, when more accurate information about the effects of recent immigration on California's population will be known. Nonetheless, it is clear that growth needs to occur in all segments -- in the California Community Colleges, the California State University, the University of California, and independent colleges and universities.

This growth can occur in a variety of locations: on some existing campuses where unused capacity exists for expansion, on new off-campus centers, in shared facilities, and on new campuses. With growth will come the responsibility to increase efficiency in operations and to seek new ways of doing business. California's campuses of the future must not, and will not, look exactly like the campuses of the past. Yet all options for growth will need to be developed and implemented, since the press of enrollment growth will engender a diversity of needs, challenges, and responses.

Unfortunately, there's the rub. The State's current spending and revenue limit -- the "Gann Limit" -- will prevent California from supporting all of the growth that is justified by current policy, no matter how ingenious the devices for creatively doing more with less. Under these constraints, postsecondary education cannot afford to expand and may well be forced into a mode of retrenchment.

The California Postsecondary Education Commission cannot recommend such a policy direction, as it flies in the face of the State's long-standing commitment to provide access, quality, choice, and educational equity. This commitment has benefited the State immeasurably and deserves to be supported in the future. Nonetheless, unless the voters of California choose to change their recent posture against growth, the opportunities that have been available to its citizens through the 1980s will not be available to today's children when they reach college age in the 1990s and beyond

The promises of the past are clear and forceful, and the human and intellectual resources are here to make the prospects for the future as bright if not brighter than the past. The decision that Californians will need to make is whether the importance of high quality, accessible, and affordable postsecondary education is worth the necessary investment in fiscal resources. The choices need to be made soon: The children who will be wanting to go to college during the 1990s are in school now. To wait until they are at the campus door, unable to get into college or unable to afford it, will be to deny them the educational opportunities that are available to California's students today.

Imperatives for action

If the resources and ingenuity to support managed growth are there, California's educational future will be bright. In order for the State to continue its historic commitment, several things must happen as imperatives:

First, the State's spending limit must be changed to allow for reasonable growth.

California's investment in postsecondary education is widely recognized as an important part of the infrastructure necessary for continued economic growth. Postsecondary education can and will live within its means, but some reasonable opportunity for growth to meet the needs of a growing population must be found. The rate of annual growth needed to support likely enrollment increases in postsecondary education into the future will be around 2½ percent per year -- not an unreasonable rate of growth, and one that this State has the re-

sources to support. But it cannot be done under the Gann Limit.

Second, assuming the resources are available for expansion, attention must be given to the planning capacity of the State's educational institutions, since planning is a critical part of how institutions prepare themselves to serve students and compete for resources.

The capacity to plan is now unevenly distributed among California's several segments of education, with the greatest need for planning existing in the State's public school system. It makes little sense to build new college campuses when there is a serious deficiency in elementary and secondary classrooms; and in some areas of the State, space that will be needed in the near future for K-12 education is being sold off today. If higher education is to continue to serve its appropriate mission, it must rely on students who are adequately prepared to succeed in it. This is not a matter of altruism on the part of higher educators; it is pure self interest.

Third, plans for the physical expansion of postsecondary education must begin now, in a measured and managed way.

Enrollment growth requires expansion, and the process of developing specific plans for campuses should help to send the message that spending relief is needed to support expansion. Because of the spending limit, however, the plans that are developed should be ones that can be put aside or moved forward more slowly if need be. Planning for expansion will have to occur even without relief from the Gann Limit, but the mechanisms for financing that expansion will have to be changed, and these changes will affect the distribution of student enrollments.

In addition, issues such as the enrollment and academic plans of the segments need more State-level examination before the plans are implemented. Prudent planning can move forward in a measured and managed way without jeopardizing the segments' ability to expand in enough time to accommodate students in the future.

Fourth, the State must prepare for diversity of enrollments as well as for enrollment growth.

California postsecondary educational institutions have in the past several years shown some progress toward diversifying their undergraduate and graduate enrollments; however, progress has been disappointingly slow. As California develops into a state with no single racial sub-group comprising more than 50 percent of the population, its ability to maintain economic growth will depend largely on its success in ensuring the goal of fully diversifying its student and faculty populations. The process of implementing growth plans thus becomes an important opportunity for the State to ensure that its goals of educational diversity are fully implemented. The goals need to be ambitious, but realizable, with the planning process constructed with enough opportunity for self-correction that the plans can be adjusted upward or downward as trends develop.

Recommendations to the Governor, the Legislature, and the people of the State

1. *The State should prepare now for expansion in higher education to accommodate additional enrollments of approximately 700,000 students by the year 2005.*

   The planning process for accommodating these students needs to be decentralized, fluid, and subject to adjustment as improved demographic data become available. To this end, the Commission will continue to collaborate with the segments, the Governor, and the Legislature to refine the current expansion plans. Attention should be given to responding to questions raised in this report, improving the collaboration between the segments in their plans, and meeting the needs of the Governor and Legislature for improved information about expansion needs.

2. *No permanent commitments for expansion, including final conclusions on new campuses or off-campus centers, or acquisition of sites*

for campuses or centers not presently authorized by law, should be made before California's voters have had an opportunity to make a decision about whether the State's current spending limit should be changed.

3. *Between January and June of 1990, the segments and the Commission should collaborate on a refined analysis of growth needs, including attention to enrollment projections and plans for new campuses or off-campus centers. Following the June 1990 election, the Commission should be prepared to revisit the analyses and recommendations contained in this document, to reflect these refined analyses and to update the resource assumptions surrounding growth.*

4. *The State should support collaboration between the segments, including elementary and secondary education as well as private postsecondary education, in planning for the future.*

   The specific process for intersegmental collaboration on long-range planning should be developed by the Commission in consultation with the segments and the Department of Finance over the next six months. The process should encourage regional intersegmental planning that involves K-12 planners as equal partners in the process, and address such issues as sharing of capacity space between segments, as well as closer intersegmental coordination on matters of student preparation for college and university work. In addition, more needs to be done to incorporate private postsecondary education in the long-range planning process. As the Council for Private and Vocational Postsecondary Education is developed, the Commission will seek to ensure their participation in this process.

5. *State and segmental planning should include attention to issues of resource management on campuses which will experience steady-state enrollments as well as to those that will be experiencing growth.*

   As California prepares for the future, most of the planning attention has been on how growth will be accommodated. While substantial growth will occur, it will not occur on all campuses in the systems. In fact, many of the older, most established campuses in all segments will be at steady-state, with enrollments stable because of policy decisions to limit growth, or local opposition to expansion, or because some areas will not be experiencing population growth. These institutions have historically relied, in some measure, on growth to provide them with the program resources needed to maintain institutional dynamism. It will be important for State and segmental policy makers to examine what options exist for enhancing resource flexibility, even in a steady-state situation.

6. *Segmental and statewide planning must be prudent, managed, and careful, with attention given to priorities for growth without jeopardizing the quality of the existing enterprise.*

   As of this writing, the vehicle to adjust the Gann Limit that will be put before the voters in June of 1990 is Senate Constitutional Amendment 1, authored by Senator John Garamendi. SCA 1 would maintain a spending limit but would allow for more growth within it. The successful passage of SCA 1 is minimally necessary to allow growth in postsecondary education

   Even the passage of SCA 1 may not give enough resources to support all of the growth that appears to be on the horizon within the segments' existing plans. Thus, under this resource scenario, tough decisions about growth priorities will still need to be made. The Commission therefore recommends that the planning process move forward in all segments in a way that is coordinated and prudent, with adequate opportunity for revision as better information becomes available. In this process, the Commission will seek to ensure some reasonable equity among the segments in how they prepare for growth, in order to maintain the promise of the Master Plan.

   To this end, the Commission offers the following recommendations with respect to the specific plans of the individual segments:

Recommendations to the Regents of the University of California

1. *The Regents of the University of California are advised and encouraged to continue planning for the addition of at least one additional campus, with decisions about whether more are needed to be deferred at this time.*

   The University of California's projections for undergraduate enrollments seem prudent to the Commission. They are constructed on three policy premises: first, that the K-12 system and the University will improve progress toward educational equity and racial diversity at a pace faster than in the past; second, that the University will at some location be able to accommodate all qualified high school applicants who seek enrollment as freshmen; and third, that the State's Master Plan goal of maintaining a ratio of lower-to-upper division of 40 to 60 percent is met by the system. The Commission plans in the next six-month period to revisit these undergraduate enrollment assumptions with the University and others, as well as to collaborate with the University on its graduate plans as discussed below. Nonetheless, the Commission is prepared at this time to conclude that the projections fully justify immediate preparation for at least one additional campus.

   The Regents' process for site selection for this new campus appears reasonable on its face to the Commission, as the criteria for site selection include issues of access to historically underrepresented students as well as other geographic and economic concerns. The Commission endorses the Regents' conclusion that academic and programmatic concerns for the new campus be priority considerations in the specific site selection process. The Regents will be expected to submit a final proposal for a new campus to the Commission once the site selection for the campus has been approved by that body, pursuant to the revised Commission guidelines for review and approval of new campuses. Consistent with the Commission's plan to phase in implementation of these new guidelines, the Regents' current planning process and this Commission review and analysis of it will be construed to have met the requirements for a preliminary Commission review and approval of a system letter of intent to expand.

2. *Plans for additional University of California campuses should be developed when (1) the University better documents its needs for increased graduate enrollments, and (2) the University re-examines the mix of graduate and undergraduate enrollments on existing campuses as well as the new campus.*

   The University's preliminary expansion plan foresees not just accommodation of demographically-driven undergraduate enrollments but also a substantial expansion of graduate enrollments on existing as well as new campuses. What this plan represents, in essence, is an effort to make each University campus a world-renowned research institution. The issue of how the campuses might be equally excellent but individually different has not yet been brought forward and will need to be as these growth plans are firmed up. The University plans to submit a more thorough analysis of its graduate enrollment plans sometime in the spring of 1990, to better document the basis on which it projects graduate enrollment growth, and to provide more insight into the program plans for the individual campuses. If the graduate enrollment plans are adjusted downward, the University will be able to accommodate more undergraduate enrollments without having to add new campuses. If the graduate plans remain where they are, or if undergraduate demand projections increase, the University will need to move forward with additional campus expansion plans.

   As will be discussed in more detail in Part Seven, there appears on several campuses to be moderate room for increasing lower-division admissions and mitigating to some degree the need for that expansion that is being driven by increasing undergraduate enrollment demand. By lowering the University's planned minimum graduate ratios for certain campuses, or by extending its target date past 2005 for accomplishing the proposed 20 percent graduate ratio for all campuses, there will be room to accommodate undergraduate enrollments on existing cam-

puses at levels higher than those currently proposed by the University.

Recommendations to the Trustees of the California State University

1. *The State University should refine its enrollment projections, both for undergraduate and graduate enrollments.*

   The Commission's review of the State University's undergraduate enrollment projections have identified some concerns that the Commission recommends be addressed by the State University as the expansion plan is refined. The projections are based on the assumptions that the State University will, by 2005, have reached the goal of educational equity in enrollments of all students, including Black and Hispanic students who are now underrepresented in higher education. The State University appears to have assumed that the achievement differentials in high school graduation will be closed almost immediately -- a projection that cannot be supported with available data. The State University is requested, as it refines its projections, to identify more specifically how it will meet its projections.

   Until this analysis is refined, the Commission has no analytic basis for commenting on the specific number of additional new campuses or centers that may be needed in the State University. The Commission expects that undergraduate enrollment demand in the State University will increase by between 34 and 41 percent; thus, the Commission recognizes that -- in order for historically underrepresented students to be assured of access to the State University, some expansion, on existing campuses as well as on new locations, will likely be needed.

2. *The State University should expand its regional planning.*

   As a regional university, the State University is likely to need to expand access in locations now underserved by the system, at the same time that excess capacity exists elsewhere in the State. The Commission recognizes this dilemma as well as the need for the State University to plan for growth to support access at locations now poorly served by present campuses and off-campus centers. It therefore recommends that the State University, in refining its enrollment estimates, look closely at the need for growth in different regions of the State, since growth demands are likely to be unevenly distributed among these regions. The enrollment potential of existing sites, including any new ones, should be specifically addressed in this analysis The State University is additionally requested to address how its priorities for new sites will address its plans to serve historically underrepresented students.

3. *The State University should consider further cooperation with community colleges in selecting locations for its off-campus centers.*

   The State University's tendency to expand initially in new locations through off-campus centers, where it serves upper-division and graduate students on leased as well as permanent sites, makes good sense to the Commission. It is an expedient but still prudent way to expand, since these centers can be developed into full-service campuses if future needs so justify, or conversely phased out should future needs so indicate. As the State University continues its expansion plans, additional attention should be given to the possibility of locating these centers on either existing or planned community college campuses.

4. *The State University should not acquire additional sites for new campuses or off-campus centers, other than the site authorized under current law in Ventura County, until such time as it develops its statewide and regional plans and determines the priorities for locations of sites.*

   The State University has done a good deal to implement plans for expansion, both because of current enrollment demand and in anticipation of growth. In the past three years, it has moved forward on five new facilities -- a new campus at San Marcos in northern San Diego County, an off-campus center on State-owned property in

Contra Costa County, and off-campus centers in leased facilities in Monterey County, southern Orange County, and Ventura County Each of these facilities, which now serve an estimated 4,800 students, could potentially become full service campuses, although it is not known whether this will occur. The State University has made it a priority to attempt to acquire large sites of land for these off-campus centers on the assumption that the land might be needed in the future and that it will save the taxpayers money to buy it at current prices.

The Commission recognizes the logic of this procedure, but has some concerns about it. First, there are issues of intersegmental equity that are raised, since none of the other segments -- the public schools, the community colleges, or the University of California -- follow this practice on a statewide basis. Second, the mere fact of ownership of property tends to create a strong self-fulfilling prophecy in the form of political pressure to build full-service campuses on these sites, even if they might be relatively low priorities in a statewide context The problem occurs because there is going to be growth in virtually every county in California that, taken out of context, could justify postsecondary expansion.

The State University is now attempting to purchase property for a permanent off-campus center in Ventura County that has been authorized by law. Once that site is acquired, the State University should be prepared to implement the Commission's guidelines for new campuses and off-campus centers, which requires Commission review and endorsement before the site acquisition process moves forward. These guidelines, which will be implemented for all segments, request information on the overall systemwide plan within which individual campuses are proposed, as well as the basis on which those sites are determined to be a priority. Because the State University has already done so much to prepare for expansion, it can direct attention in the next six months to statewide planning that may justify additional expansion beyond these five sites, without seriously jeopardizing its ability to meet student growth demands.

Recommendations to the Board of Governors of the California Community Colleges

1 *The Board of Governors should continue to prepare for community college growth by refining their statewide growth model into specific regional plans that are built upon district-level realities.*

Under current projections, the growth expected in the community colleges is greater both in percentage terms and numerically than that which may occur in the other two segments combined. These projections are based on assumptions that systemwide growth will continue to occur at roughly the same rate as in the past, which is roughly 2.5 percent per year. This rate of growth could well be too low, as it does not reflect the recent experience of the system that has come from renewed attention to the transfer function. However, the plan has not yet been extended to a district-specific level, and this needs to be done along with more attention to alternative enrollment scenarios before moving further. Until such time as these individual district plans are combined into a statewide total, the Commission is unable to comment on the specific need for new campuses or off-campus centers. The Commission is committed as well to exploring with the community colleges and the other segments the possible effect on total enrollments of implementing the Master Plan legislation to strengthen the transfer function.

The process that the community colleges are using to prepare and refine this plan seems to the Commission to be an appropriate one, and under current timetables, it is expected to be completed in June of 1990, which usefully coincides with the opportunity for the voters to make their decision on State spending limitations. If no changes in the State's spending limitations occur, under current law the community colleges may be the only segment of postsecondary education where expansion can occur. Thus the Board of Governors should be prepared to refine their plan, if necessary, at that time.

2. *As the Board of Governors continues their expansion plans, continued attention should*

be given to the possibility of joint locations of State University off-campus centers on either existing or planned California Community College campuses.

3. *The Board of Governors should be prepared to implement the Commission's revised procedures for review and approval of new campuses and off-campus centers as new sites for expansion are identified. The Commission staff will work with the Chancellor's Office to implement these revised guidelines in a manner reasonable for the community college system, recognizing the shared responsibility between the State and local districts in the site acquisition process.*

Recommendation for the independent sector

1. *The State should continue to make progress on meeting its policy goal of increasing the maximum award for financially needy students attending independent institutions to the average cost to the State to educate these students in public four-year universities.*

   California's accredited independent sector provides a resource to the State to help meet the enrollment needs of the future. Trend analysis suggests that, as the gap between tuition in the public and independent sectors have grown in the past seven years, these independent institutions have every year lost some portion of students to the public sector that otherwise would have attended an independent institution. This effect is particularly vivid among those institutions which have admissions standards comparable to the University of California. If the State's Cal Grant policy on maximum awards to these institutions is met, the Commission's analysis suggests that the potential exists to accommodate between 4,000 and 8,000 students per year who would otherwise likely attend a public institution. Yet students are not likely to be able to make this choice if the State is unable to fund its policy goals with respect to the maximum award level for Cal Grant awards to those attending independent institutions. Since this funding level is current State policy as recommended by the recent Master Plan process, the Commission has factored it into its analysis as an alternative for accommodating growth currently projected to occur in the University of California. If the goal is not met, or if these projections do not on refinement prove to be accurate, enrollment pressure on the University of California is likely to increase.

Options if the State's spending limit is unchanged

The Commission hopes and expects that California voters will recognize the importance of supporting reasonable growth in this State in the future, and will choose to loosen the spending limit that now threatens our collective future Nonetheless, as the State's planning agency for postsecondary education, the Commission is obligated to indicate that some very tough decisions will have to be made if there is no relief from the spending limitations. If these decisions have to be made, the options for maintaining access and quality in the face of enrollment growth, without adequate resource availability, are unfortunately both limited and unpleasant. If the voters fail to support relief in the spending limit, the Commission recommends:

1. *All plans for expansion should be suspended and the enrollment estimates recalibrated to reflect the new policy assumption of reduced growth in State resources.*

2. *The current policy assumptions underlying the Master Plan should be reevaluated to reflect reduced State support. All options for living with less should be explored and their consequences identified.*

3. *The Commission should be prepared to take a lead role in putting options for reduced growth before the Governor and the Legislature.*

The policy priority of maintaining access and quality, insofar as it is still possible, should guide the development of these options, which must include -- at minimum -- the following possibilities:

a. The differentiation of function among the segments of higher education might have to become

more sharply defined, with the State forced to direct the segments to prioritize scarce resources to those aspects of their operation that are unique to their mission. Under this scenario, the University of California would have to focus more on graduate education and research, and either increase admission standards to reduce undergraduate access or else reduce some aspect of undergraduate education altogether. The State University would have to turn away from hopes for expansion of their public service and research mission, to focus on upper-division instruction and professional education.

b. As an alternative to sharper delineation of differentiation of function between the segments, the State should be prepared to explore increased differentiation of function among campuses within systems. Under this scenario, individual campuses within systems might have roles and functions that are narrowly drawn within the overall segmental mission, allowing for maintenance of excellence within the segment but recognizing the limitations of resources to allow for all campuses to provide the full range of programs possible under the segmental mission.

c. The recent Master Plan policy of accommodating all eligible applicants to the University of California and the State University would have to be reexamined, with more diversion of lower-division students to the community colleges.

d. Revenues from non-State resources would have to be increased if possible from all sources, but particularly from student fees, where California is below the national average in revenues for higher education. If these fee increases are accompanied by the appropriate subsidies for financial aid, the impact on enrollments could be minimized; but increases in student fees are likely to have their greatest impact on diverting needy students who under current fee and financial aid policies are able to attend the higher-cost University of California.

e. If funds are severely constrained, resources would have to be diverted to programs of greatest demand, with low-usage and high-cost programs closed on a selective basis.

These options are not good ones, nor will they be easy to implement. The effect of any one of them could be to cut off access to high quality education to California's children, whose hard work and potential for excellence deserve better. Californians have chosen to support postsecondary education in the past in a way that is the envy of the world. Californians have also chosen to constrain the State's resources through no-growth and no-tax policies. These two postures have now become incompatible. The State's educational vision cannot be sustained without adequate resources. California can and must do better than allow its educational systems to become second rate.

1 Background for the Report

THE LATEST re-review of the Master Plan for California postsecondary education is now drawing to a close. For the better part of the past four years, the State has reexamined all aspects of its postsecondary educational infrastructure, looking for policy changes, improvements, and modifications needed to steer our educational systems toward the twenty-first century. At the conclusion of this review, California's political and educational leaders have reaffirmed and reiterated the State's historic commitment to a diverse system that will retain the fundamental shape of California postsecondary education and meet the needs of all Californians. The charge to the State now is to fulfill that commitment. Steps are in place now to move in that direction. Legislation to further implement the Master Plan and to give greater resources and strength to the community colleges and to the transfer function have either been passed or are now in progress. The last and perhaps most difficult part of this implementation process lies in preparing for growth, and in the attendant decisions about the distribution of limited resources needed to support this growth.

This report by the California Postsecondary Education Commission speaks to that issue. The Commission is the State agency responsible for coordinating long-range planning for postsecondary education. Its statutory charge is to provide policy advice and analysis to the Legislature, the Governor, and the institutions of higher education about options they either have or should develop, in order to avoid waste of scarce resources and "promote diversity, innovation, and responsiveness to student and societal needs." In addition to this broad-based planning obligation, the Commission is responsible for reviewing the need for and location of new public college and university campuses and off-campus centers; and under current law, the Legislature has stated its intent that it will not approve any new campuses unless so recommended by the Commission.

Origins of the report

This report responds to a directive from the Legislature that the Commission analyze the needs of the State for expansion in postsecondary education through the year 2005 -- a year selected in 1988 because that is the time when that year's newborns will reach college age. The Legislature also asked each segment of higher education to prepare preliminary systemwide projections of undergraduate and graduate enrollments through that year, in order to serve as the basis for their preliminary plans for accommodating these enrollments. It instructed the Commission to review these projections and plans, identify the need for new campuses and off-campus centers by region of the State, comment on the cost consequences of different alternatives for growth, and then transmit its analysis and recommendations by December 1989 to the segments, the Governor, and the Legislature. Finally, the Legislature asked the segments to revise their preliminary plans as needed by December 1990, for transmittal to it, the Governor, and the Commission.

This planning process is proceeding largely on schedule. The Commission has consulted widely with the segments in the preparation of this report and is committed to continuing this consultation as the segments refine their plans. The Commission supports a dynamic and flexible planning process that is largely decentralized among the segments and campuses, but that involves a clear role for the Commission to raise concerns and questions about the policy assumptions under which the segmental plans are developed. In other words, the Commission sees its role as helping to define the terms under which segmental plans are developed, and ensuring reasonable coordination and uniformity between them, in order to set a policy agenda for the State to follow in meeting growth needs.

The Commission expects to continue to analyze and report on growth needs over the next several years, refining its analyses as the segments respond to new information as better data becomes available --

particularly from the 1990 Census. This first report thus sets the stage for more intense discussions about growth. It estimates total statewide enrollment demand for postsecondary education, analyzes the individual segment's plans for accommodating growth, and identifies issues for the State to address in responding to those plans. Following distribution of this report, the Commission expects that the segments will adjust their plans as they see fit, addressing those issues raised in these pages before they develop more specific expansion plans. Under this timetable, the Commission does not expect that it will be asked to respond to requests for any new campuses or off-campus centers for at least another six months.

Assumptions underlying the report

Eight policy and planning assumptions are central to the development of the segments' enrollment plans and to the Commission's analyses in this report. They reflect the operational application of central provisions of California's Master Plan for Higher Education:

1. It will continue to be State policy that every resident of California who has the capacity and motivation to benefit from higher education will have the opportunity to enroll in an institution of higher education.

2. The California Community Colleges will continue to be accessible to all persons at least 18 years of age who can benefit from the instruction offered, regardless of district boundaries, with no "caps" or limits on funding of enrollment growth.

3. The California State University and the University of California will continue to be accessible to first-time freshmen among the pool of students eligible for admission according to Master Plan eligibility guidelines.

4. The university segments will continue to strive to maintain undergraduate enrollments with a proportion of 60 percent upper-division and 40 percent lower-division.

5. Master Plan guidelines on undergraduate admission priorities for the University of California and the California State University will continue to be (1) continuing undergraduates in good standing, (2) California residents who are successful transfers from California public community colleges, (3) California residents entering at the freshman or sophomore level, and (4) residents of other states or foreign counties.

6. The University of California will continue to plan and develop its campuses and off-campus centers on the basis of statewide need.

7. The California State University will continue to plan and develop its campuses and off-campus centers on the basis of statewide needs and special regional considerations.

8. The California Community Colleges will continue to plan and develop their campuses and off-campus centers on the basis of local need.

Scope of the analyses

The analyses in this report are based on technical work that Commission staff has undertaken in consultation with all of the postsecondary educational segments, as well as State officials. To include all of the technical materials that grew out of this process would quadruple this report's length, and so the Commission is publishing those materials as a volume of technical background papers that will be available to interested readers on request. These background papers include:

1. *Planning our Future: A Staff Background Paper on Long-Range Enrollment and Facilities Planning in California Postsecondary Education*

2. *Cost Estimates and Simulations for Capital Outlay Planning*

3. *Cost Estimates and Simulations for Operating Budgets*

4. *Issues Related to Year-Round College and University Operation*

5. *The Role of Accredited Independent Institutions in Meeting California's Future Enrollment Demand*

6. *Joint or Shared Use of Facilities in Higher Education in Selected States*

The remainder of this report summarizes the conclusions of those papers without their details. Part Two of this report presents an overview of the major population trends facing California in the next 15 years, since those demographic trends provide the underpinning for changes in postsecondary enrollment demand. Part Three analyzes the expansion plans of the individual segments, including the enrollment projections upon which their plans are based. Part Four provides information about the capital outlay and support budget consequences of the growth anticipated by each of the segments and adds up the hypothetical total cost to the State of this planned expansion. Part Five puts the resource implications of postsecondary educational expansion in a statewide context and analyzes the likely availability of funds, both through bonding capacity and State General Fund revenues. Finally, Part Six identifies several alternatives -- both promising and not so promising -- to the segments' plans for meeting the needs of expansion.

2 *Demographic Trends in California*

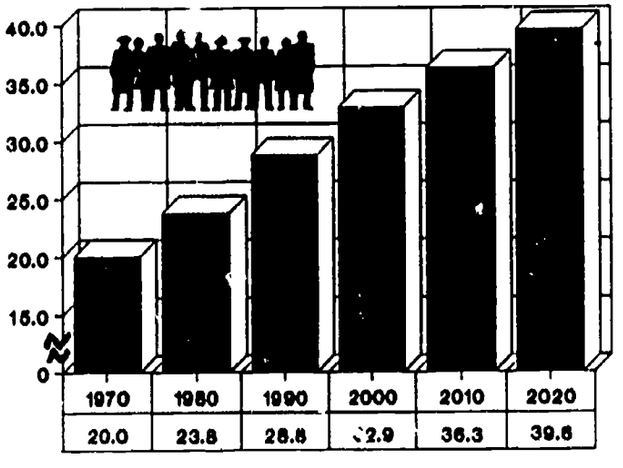
Population growth

An examination of demographic trends in California inevitably begins with population. Simply stated, population growth in California is continuing a century-long trend with explosive growth. Display 1 below shows population growth from 1970 through 2020 as projected by the Demographic Research Unit of the State Department of Finance -- the State's official demographic agency. It depicts steep straight-line expansion, with population projected to almost double in those 50 years, from 20.0 million to 39.6 million. Looking at these numbers in terms of monthly and annual population growth, every month California is adding population sufficient to populate a city the size of Davis, and every year it is adding population almost sufficient to populate a city the size of San Francisco.

One way to get a sense for what the next decades may hold is by comparing population growth from 1940 to 1980 with projected population growth from 1980 to 2020. For those who remember, or have a sense of, what California was like before World War II and the changes that have been wrought because of the growth that occurred between 1940 and 1980, it may be informative to realize that the State will add almost the same number of people between 1980 and 2020 as it did then -- approximately 17 million (Display 2, below). In other words, even though percentage growth will continue to decline because it will be calculated on a larger and larger base, California will accommodate roughly the same number of new citizens in the next 40 years as in the last 40.

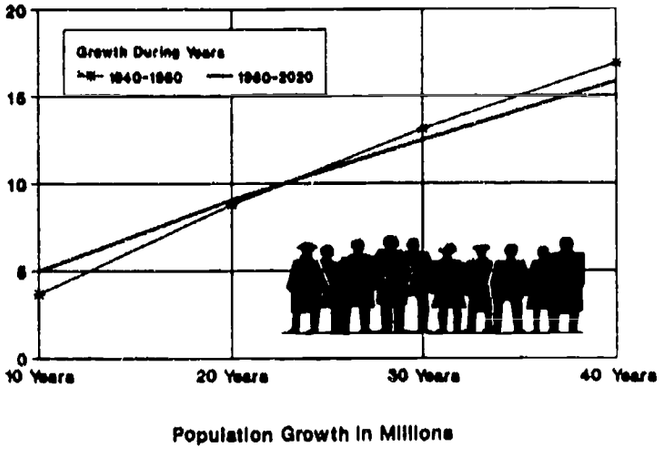
The ways in which this growth will change the face of California are profound, and not all of them can be predicted. It is certain, however, that California will be a much different place in the early twenty-first century than it is now.

DISPLAY 1 Projected California Population, 1970 Through 2020



Source: Demographic Research Unit, State Department of Finance.

DISPLAY 2 California Population Growth, 1940 Through 1980, Compared to 1980 Through 2020



Source: Demographic Research Unit, State Department of Finance.

Changes in ethnicity

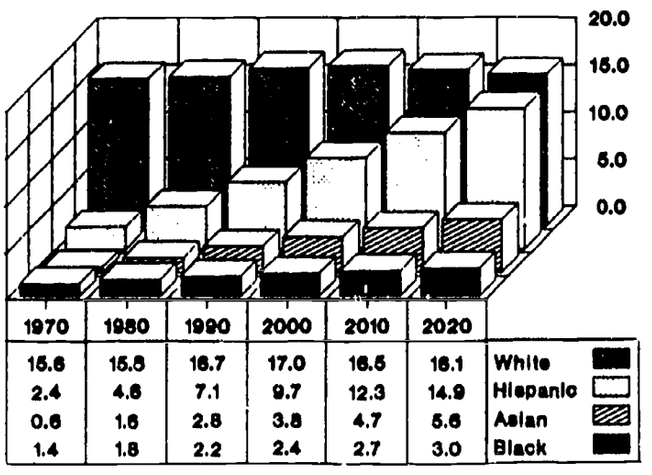
In addition to this tremendous rate of growth, the ethnic mix of the population is also changing dramatically. Display 3 below shows differences in projected population growth between 1970 and 2020 by ethnicity. White population will increase slightly to the year 2000, but after that it is likely to begin declining in real numbers -- largely because whites in California are having children below replacement level, at a rate of approximately 1.7 per couple.

In contrast, California's Hispanic population will continue to increase dramatically, moving from 2.4 million in 1970 to an estimated 15.0 million in the year 2020. Likewise, its Asian population will go from about 0.6 million in 1970 to 5.6 million in 2020. Clearly these are tremendous rates of growth. In addition, the State's Black population will continue to increase in real terms; but compared to other groups, it will actually lose ground as a proportion of total State population.

Another way to view this accelerating diversification of the population is to note the size of California's white population compared to all other ethnic groups (Display 4). As can be seen, white population will continue to decline as a proportion of total population -- and is projected to drop below 50 percent in 2003.

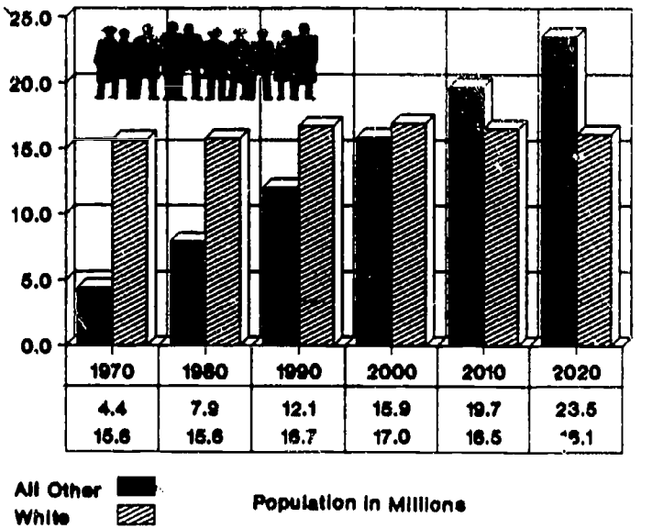
These projections of the Demographic Research Unit reflect historic trends, but a number of factors on the horizon may drive them even higher. As only one example, in light of recent political developments in the People's Republic of China, the coming transfer of Hong Kong from Great Britain to China in 1997 could well result in a historic wave of immigration from Hong Kong that is not included in these projections.

DISPLAY 3 Projected Shifts in California Population by Ethnicity, 1970 Through 2020



Source: Demographic Research Unit, State Department of Finance.

DISPLAY 4 Projected Population Shifts in California, White Population Compared to All Other Ethnicities, 1970 Through 2020

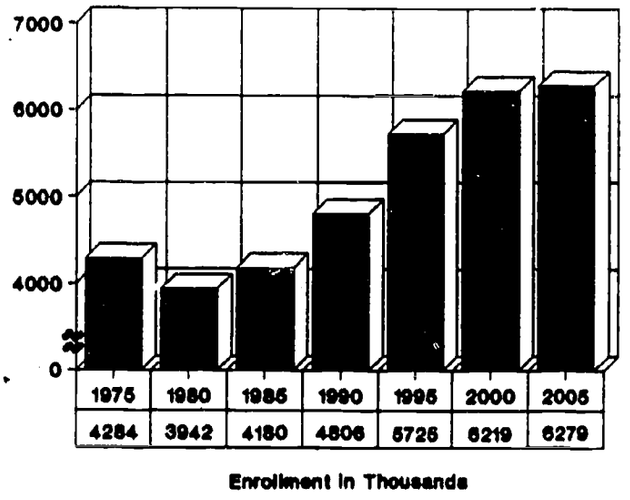


Source: Demographic Research Unit, State Department of Finance.

Growth of the school-age population

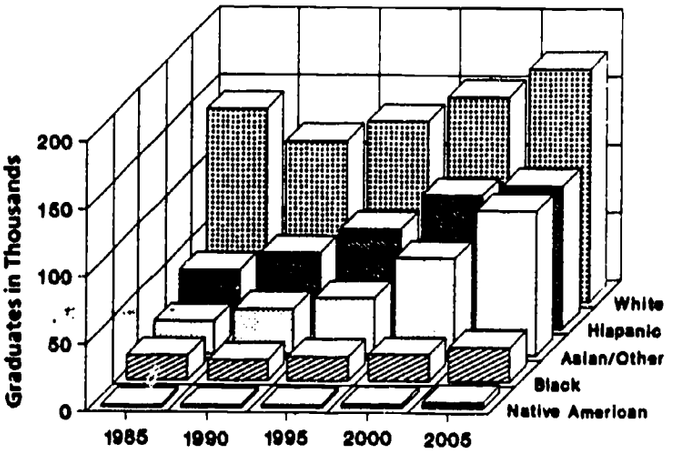
These population projections inevitably drive public school enrollment growth, and Display 5 below shows that California's school-age population is projected to increase dramatically between 1985 and 2005. The years from 1975 to 1980 saw the baby boom bust and a subsequent drop in school enrollment, but since 1980 it has been rising dramatically and will continue to do so to 2005 and beyond. Current projections indicate that overall public school enrollments -- from kindergarten through twelfth

DISPLAY 5 Projected Enrollment in California Elementary and Secondary Schools, 1975 Through 2005



Source: Demographic Research Unit, State Department of Finance.

DISPLAY 6 Projected California High School Graduates, by Ethnicity, 1985 Through 2005



Source: Demographic Research Unit, State Department of Finance.

grade -- will grow from 3.9 million students in 1980 to 6.3 million students in 2005: an increase of 62 percent in just 25 years.

Looking at the ethnic breakdown of these enrollments in terms of projected high school graduates, Display 6 indicates that the pattern of growth in graduation estimates is fairly similar to the enrollment estimates, but their level is consistently well below those projections. Due to current achievement differentials between the State's major ethnic groups, the rates of growth are less for Hispanic and Black high school graduates than for all graduates, even though their overall growth is still strong. These projected graduation rates are based on the assumption of the Demographic Research Unit that, while there will be some improvement in the rates with which these students graduate from high school, there will continue to be achievement gaps between Black and Latino students on the one hand and Asian and white students on the other. At a minimum, California should be prepared to have 382,000 high school graduates in 2005, compared to only 228,000 now.

Implications of population trends for enrollments

It is axiomatic that population trends influence postsecondary enrollments, both in sheer volume or quantity as well as in types of students. The demographic changes that will occur in California's population in the next 15 to 20 years will have a profound impact on both the size and complexion of postsecondary education's student populations. The issue of how the segments should plan both for expansion and for diversity is at the heart of California's need to prepare for the future. It is critically important to this Commission, and to others in the State, that we be fully prepared to ensure that the promise of access and excellence of postsecondary education is met for California's emerging student populations. In order for this to occur, the State must see to it that the capacity exists for all Californians to have not just the same opportunity as have students in the past, but since many students have not been served in the past, in fact improved opportunity will be necessary.

The issue is how to plan for such changes, since they have not occurred in the past, and since observed

demographic trends are the basis for baseline enrollment projections. The following examples illustrate the point; all of these examples use the same population base in the year 2005, the only difference among them being assumptions of how well the State does the job of improving the educational achievement of the emerging populations. If the three public segments continue to enroll historically underrepresented students in the year 2005 at the same rate that they were enrolled in 1989, the changes in California's population by the year 2005 mean that they would prepare to grow by approximately 21 percent. If the segments improve their rate of success in reaching the State's goals of access, but some degree of achievement differential persists among high school graduates (the Demographic Research Unit's assumption), then growth of approximately 39 percent must be prepared for. The exclusive difference between the 21 percent and the 39 percent projection is in increased successful enrollment of Black and Hispanic students, both in high school preparation and graduation and in university enrollment. If the goal of full access is reached in 2005 -- for K-12 graduations as well as postsecondary enrollments -- then growth of more than 46 percent must be projected.

The Commission has sought to push the segments and the State to do more than plan for the past, and to prepare not just for expansion but for diversity as well. The challenge is not a trivial one for the Commission, which is deeply committed to the goal of full access and success for all student populations. To build facilities for students who are unlikely to receive the education needed to enable them to succeed in these institutions is, at best, an inefficient use of scarce State resources, since the costs of building new campuses far outstrips the costs of early outreach and other intervention programs designed to ensure that students are prepared to both reach and succeed in a university setting If resources to do both equally well were not an issue, then the matter would be moot, but in the present State budget situation, that is not the case. On the other hand, to ignore the needs of the future by assuming that dour predictions of the past will continue builds a self-fulfilling prophecy of failure

The Commission has chosen to take a mid-course path: not based on conservative assumptions of continued failure, but which assumes a faster rate of progress than we have seen in the past toward full diversification of enrollments. The Commission has chosen not to force a uniform methodology for projections onto the segments, but instead has urged them to develop plans and procedures appropriate for their missions and student populations, which show realistically and practically how they are going to maintain their goals of access, quality and equity. In reviewing these projections in the next several sections, the Commission analysis comments on the question of how well the segments individually and collectively plan to meet the State's goals of educational equity.

3 *The Segments' Current Growth Plans*

PROJECTIONS of population, school enrollment, and high school graduates form the basis for projections of higher education enrollments. The process of enrollment estimation, and the subsequent translation of these projections into academic and capital outlay plans, is a detailed, ongoing process that needs to be continuous. As mentioned earlier, the Commission supports a flexible and dynamic planning process that allows the individual segments to develop their plans in a decentralized fashion within a coordinated statewide context, informed by the Commission, and appropriately responsive to statewide trends. In order to do this, the Commission asked that the segments use the official State enrollment projections developed by the Demographic Research Unit of the State Department of Finance as an initial estimate for their use, and then revise these estimates upward or downward based on their academic priorities, recent experience, and future policy priorities.

The segments' own enrollment projections are shown in Display 7 below.

- As can be seen, the Chancellor's Office of the California Community Colleges anticipates that their enrollment will grow from 1.333 million headcount students in 1988 to 1.873 million students in 2005 -- for net growth of 540,000 students or an increase of 40.5 percent.
- The State University projects an increase of almost 200,000 headcount students, with growth from 355,106 in 1988 to 541,300 in 2005, or an increase of 52.4 percent.

DISPLAY 7 Segmental Projections of Their Likely Enrollment Growth Between 1988 and 2005

	1988	2005	Percentage Growth
California Community Colleges Total	1,333,191	1,873,210	40.5%
California State University Undergraduates	284,929	465,500	63.4
California State University Graduate and Postbaccalaureate	70,177	75,800	8.0
California State University Total	355,106	541,300	52.4
University of California Undergraduates	118,513	161,800	36.5
University of California Graduate and Professional	26,419	47,300	79.0
University of California Health Sciences	11,804	12,250	3.8
University of California Total	156,736	221,350	41.2
K-12 Total	4,512,963	6,279,403	39.1
Total Public Postsecondary Education	1,845,033	2,635,860	42.8
Total Public Education	6,357,996	8,915,263	40.2

Source: Projections for the California Community Colleges and K-12 from the Demographic Research Unit, State Department of Finance. University of California projections from the University, and California State University projections from the State University.

- The University of California projects growth from 156,736 headcount students in 1988 to 221,350 students in 2005, or an increase of 41.2 percent.

These enrollment estimates are based on different assumptions of how successful the State will be in improving access and the success of historically underrepresented students. Display 8 shows the enrollment implications for each segment of different levels of improvement in the participation of historically underrepresented students, compared to the segments' own projections.

California Community Colleges

The California Community Colleges are the public postsecondary educational segment that serves the largest number of students at the most locations in the State. Because of their history, the system is characterized by a statewide governance system that is relatively weak in comparison to the other segments, in that it has the fewest resources at its disposal with which to do policy-oriented activities such as planning. The Board of Governors is committed to improving their planning capacity; however, this capacity is still an emerging priority.

The statewide plan that has been prepared by the Chancellor's Office is in its early stages of development and projects the most dramatic numeric growth of any of the other systems. It is based on an analytical model that accepts the 40.5 percent enrollment increase estimated by the Demographic Research Unit, and it projects how these additional 540,000 students might be absorbed by the system. The projections assume substantial progress in diversifying enrollments, but somewhat less than full parity. It anticipates that the State's existing 107 community colleges will be able to accommodate approximately four-fifths of the projected net growth, with the remaining students being accommodated on new campuses or other forms of new capacity space. It calculates that new campuses could expand to an average enrollment of 5,200 students by the year 2005 -- and hence implies a need for as many as 23 new campuses.

These enrollment projections and the model utilized by the Chancellor's Office for distributing projected enrollment among the districts appear reasonable to the Commission. The product of the model is flawed, however, by being statewide totals superimposed on a system that is supposed to meet the needs of students for local access. Community college enrollment growth will undoubtedly not be evenly distributed across all 71 districts, and some will expand more than others. In addition to experiencing different volumes of growth, the districts will experience different kinds of growth: some will serve more 18 to 21 year old transfer students, while others will see increased demand for adult and remedial education. The kinds of facilities they will need will depend importantly on the kinds of students that are expected to be served.

The Board of Governors is fully aware of these limitations and has directed the Chancellor's Office to move their plans into an appropriate regional context. Between now and June 1990, the Chancellor's Office expects to take the statewide model and, with the services of an independent contract consultant, translate it to the district level. As that is done, the community colleges' enrollment projections will undoubtedly change, as will the preliminary estimate of what kinds of expansion will be needed to meet the demands of growth.

The California State University

The State University has approached the issue of growth in a manner somewhat different than the two other public segments. It has already done a good deal to implement plans for the establishment of new campuses, both because of current enrollment demand and in anticipation of growth. In the past three years, it has moved forward on five new facilities -- a new campus at San Marcos in northern San Diego County, an off-campus center on State-owned property in Contra Costa County, and off-campus centers in leased facilities in Monterey County, southern Orange County, and Ventura County. All of the off-campus centers might be proposed to become full-service campuses, although it is not known at this time if this will occur. These sites now serve an estimated 4,800 students.

The State University's Growth Plan, which was presented to the Trustees in November 1989, was initiated after this expansion had already started. State University officials view it as a framework to guide

DISPLAY 8 *Demographic Research Unit Projections of Possible Enrollment Growth in California's Three Public Segments of Postsecondary Education Between 1988 and 2005, Given Different Ethnic Participation Assumptions, and Compared with Segmental Projections*

	1988	2005	Net Growth	Percentage Growth
California Community Colleges (No Progress)[1]	1,333,191	1,651,366	318,175	23.9%
California Community Colleges (Projected Progress)[2]	1,333,191	1,873,210	540,019	40.5
California Community Colleges *(Segmental Projection)*	1,333,191	1,873,210	540,019	40.5
California Community Colleges (Full Parity)[3]	1,333,191	1,910,439	577,248	43.3
California State University Total (No Progress)[1]	355,106	389,002	33,896	9.5%
California State University Total (Projected Progress)[2]	355,106	465,700	110,594	31.1
California State University Total (Full Parity)[3]	355,106	534,417	179,311	50.5
California State University Total *(Segmental Projection)*	355,106	541,300	186,194	52.4
University of California Undergraduates (No Progress)[1]	121,739	147,884	26,145	21.5%
University of California Undergraduates *(Segmental Projection)*	118,513	161,800	43,287	36.5
University of California Undergraduates (Projected Progress)[2]	121,739	180,200	58,461	48.0
University of California Undergraduates (Full Parity)[3]	121,739	202,475	80,736	66.3
Total Postsecondary Education (No Progress)[1]	1,810,036	2,188,252	378,216	20.9%
Total Postsecondary Education (Projected Progress)[2]	1,810,036	2,519,110	709,074	39.2
Total Postsecondary Education *(Segmental Projections)*	1,806,810	2,576,310	762,617	42.6
Total Postsecondary Education (Full Parity)[3]	1,810,036	2,647,331	837,295	46.3

Notes: University of California projections exclude health science enrollments. Discrepancies in the University's 1988 actual enrollment are due to differences between fall and year-average enrollment.

1. "No Progress" assumes that all ethnicities participate in postsecondary education in 2005 at their 1988 rates.
2. "Projected Progress" assumes accelerated progress among the segments in admitting eligible underrepresented students and some progress in the K-12 system in improving the graduation rates of underrepresented students. These are the Demographic Research Unit's official projections.
3. "Full Parity" assumes elimination of graduation rate differentials between ethnicities in the K-12 system and that eligible applicants from underrepresented backgrounds are admitted to each segment of postsecondary education at the current white rate.

Source: State Department of Finance, Demographic Research Unit.

their planning activities, although it is subject to revision after the 1990 Census results are released. In it, the State University -- like the other segments -- proposes dramatic levels of growth and expansion. But alone among the segments, it is planning for enrollments that are substantially larger than those projected on the basis of current demographic trends. These enrollment projections are constructed on four policy premises:

1. The K-12 system will produce high school graduates and the State University will enroll students from all ethnicities at the current white rate (except Asians, whose rates are higher);
2. The State University will continue its trend toward admitting larger numbers of older part-time students who are largely white;
3. Qualified high school applicants who seek enrollment as freshmen will continue to be admitted somewhere in the system; and
4. The State's Master Plan goal of maintaining a ratio of lower-to-upper division of 40 to 60 percent will continue to be met by the system.

Using the baseline data developed by the Demographic Research Unit, the State University has projected enrollment growth of more than 52 percent

overall, by assuming that the State will have reached its goals of educational equity by the year 2005 and that eligibility and enrollments of Black and Latino students will be the same as those of white students. Using this assumption, the State University projects enrollment totaling 541,300 students in 2005, in contrast to the 465,700 projected by the Demographic Research Unit -- for a striking difference of 75,600. (The Unit has adjusted its enrollment projections for the State University upward by substantial amounts in recent years -- from a 1986 projection for the year 2005 of 368,600 students to the 1989 projection of 465,700. If this pace of adjustment continues, it would not take long for the Unit's projection to begin approaching the State University's own internal estimates.)

The Commission notes that the State University projects that this 63 percent growth in undergraduate enrollment will be met, in part by improving the participation rates of underrepresented students currently eligible to attend, and partly by increasing the size of this group through closure of the ethnic achievement differentials that currently exist in K-12 graduation rates.

Commission analysis indicates that by applying the full-access assumption to underrepresented students who are currently projected to graduate from high school and become eligible to attend CSU, enrollment growth of approximately 41 percent would be expected in this segment between now and 2005. Growth on this level, while not as high as that currently projected by the State University, would still represent extraordinary progress toward meeting the State's educational equity goals. Going one step further, the Commission projects that if ethnic K-12 graduation rate differentials were immediately eliminated and if underrepresented students then participated in CSU at the current white rate, this newly enlarged eligibility pool would result in undergraduate enrollment growth of approximately 52 percent over the same period. Enrollment growth on this scale does begin to approach the projections currently being used by the State University.

Since the Demographic Research Unit assumes substantial progress in diversification efforts, but not complete success by 2005, they are projecting likely undergraduate enrollment growth in the State University of 34.3 percent.

The Commission believes that the most likely enrollment scenario for the State University between now and 2005 will be growth of somewhere between 34 and 41 percent. Growth on this level by 2005 represents something between substantial progress in diversification efforts and complete ethnic parity in admissions from within the State University's currently predicted eligibility pool. Because of timeline problems relating to improvement in K-12 ethnic graduation rates, the Commission finds that progress beyond this level by the year 2005 is not supported by current data.

The problem with improving K-12 graduation rates and having those improvements reflected in CSU enrollments by 2005 exists because of the age distribution of CSU undergraduates, who are on average substantially older than undergraduates in the University of California Because so many students begin their CSU careers several years after graduating from high school, a substantial lag period exists between the time improvement in the K-12 system occurs and the time that improvement is fully reflected in the cohort of older students attending the State University. For example, in 2003 when a 29-year-old person enrolls to attend the State University, he/she will have graduated from high school in 1992. Since this pool of older eligible students is a crucial component of the State University's student body (the average age is 27), unless this K-12 improvement is immediate, eligible enrollees will not exist in sufficient numbers, at old enough ages, to meet the assumptions embedded in the State University's full-access enrollment projections. As a result of this "timing problem," the Commission finds that K-12 ethnic achievement differentials would have to be eliminated almost immediately for the effect to be fully felt in the State University system by the year 2005.

While the K-12 system has shown some progress toward closing these differentials, trend data does not currently indicate that parity in ethnic graduation rates will be achieved by 2005. If progress does not accelerate substantially in this area, then in addition to the problems with older students outlined above, the State University will have the same difficulties in their efforts to enroll sufficient numbers of young ethnic students to meet their full-access projections.

Since immediate correction of deficiencies in the K-

12 system is not a realistic goal, if the State University's enrollment projections are achievable at all, then they implicitly assume that a substantial portion of the projected enrollment gains must come from students other than eligible students from historically underrepresented backgrounds. This means that one or more of the following must be occurring:

1. The State University will revise freshman admissions standards to increase the admissibility of underrepresented students who otherwise would be ineligible to attend (since there is not time between now and 2005 for the K-12 system to equalize these differentials);
2. The State University will capture market share from the community colleges, the University of California, and/or independent institutions by admitting a higher proportion of students who currently attend these institutions (this option would not result in a net improvement in diversification efforts since it represents a shift in demand between segments and not a net change in postsecondary participation rates);
3. The State University will attempt to improve the application rates of eligible students who don't apply to any college, although no evidence has been presented thus far defining the size or ethnic composition of this pool, or the potential for success of this sort of initiative. Given what is known about eligible persons who don't apply to any college, it is unlikely that attracting these persons would contribute substantially to the State University's stated educational equity goals.

If none of these three alternatives come to pass, then the State University's projection of 63.4 percent undergraduate enrollment growth by 2005 is not realistic and will not be attained.

Display 9 on page 22 depicts the State University's projections of individual campus growth to 2005. Display 10 on page 23 shows the variety of changes that the State University is proposing in order to accommodate this anticipated increase in students. These include the following:

1. Enrollments on existing campuses should be increased by 122,000 students between now and 2005 -- moving from 348,000 students now to 470,000 in 2005.
2. Another 12,000 students projected in the growth plan by 2005 are as yet unassigned to any campus, but according to State University officials, these students will be accommodated somewhere on existing campuses through adjustments in the Master Plan enrollment ceilings for a number of campuses. Decisions regarding these unassigned students will be made by the State University sometime in 1990.
3. It proposes year-round operation to add capacity for another 7,000 students, bringing the total number of students accommodated through this practice to 15,000 in 2005
4. Existing off-campus centers will be expanded by 13,000 students, bringing the system to a total off-campus-center enrollment by 2005 of 18,000 students.
5. At least another five upper-division off-campus centers will be created -- one each in Redding, sponsored by the Chico campus; another in Visalia, operated by the Fresno campus; a third in southern San Diego County, run by San Diego State University; and two in the Sacramento Valley region affiliated with the Sacramento campus.
6. Finally, the State University proposes establishing five new full-service campuses in addition to its recently approved San Marcos campus, and it foresees enrollment at all six of these institutions as totaling 26,000 students by 2005. These new campuses may be located on the site of existing or proposed off-campus centers. State University officials have indicated that they do not plan to move forward on proposals for these new campuses until after the 1990 Census gives them an opportunity to verify their enrollment estimates, but the Trustees propose to establish these campuses on a phased schedule beginning in 1994 or soon thereafter, with a new campus going on-line every other year through 2002. They estimate that it will take from three to five years to establish a new campus from an existing off-campus center, and five to seven years for an entirely new institution.

The process by which the State University has moved forward to identify the sites for new campuses is also unique among the segments. It has had a priority to acquire property in areas of the

DISPLAY 9 Anticipated Full-Time-Equivalent Enrollments of Campuses of the California State University, 2005-06

Campus	Main Campus	Off-Site	Summer Quarter	Off-Campus Center	Total
Bakersfield	8,500				8,500
Chico	14,000	1,000		1,000	16,000
Dominguez Hills	12,000				12,000
Fresno	25,000[1]			1,500	26,500
Fullerton	20,000			2,000	22,000
Hayward	12,100		2,000	1,500	15,600
Humboldt	8,000				8,000
Long Beach	25,000	1,000			26,000
Los Angeles	18,500		3,000		21,500
Northridge	25,000			2,000	27,000
Pomona	19,100		3,300		22,400
Sacramento	23,400	750		2,700[2]	26,850
San Bernardino	17,100[1]			1,500	18,600
San Diego	25,000			1,250[2]	26,250
San Francisco	25,000[1]			150	25,150
San Jose	25,000			2,000	27,000
San Luis Obispo	17,400[1]		2,600		20,000
San Marcos	7,000				7,000
Sonoma	10,000				10,000
Stanislaus	7,000			1,000	8,000
Sub-Total	344,100	2,750	10,900	16,600	374,350
Five new campuses, starting 1994-2002					20,000
Unassigned					11,650
Total					406,000

1. Requires change in campus enrollment ceiling.

2. Two centers are proposed.

Source: Jewett, 1989.

State where population growth pressures are likely to require it to accommodate access in the future, on the assumption that it will need to have a presence in the area in the future and that land will become progressively more expensive or be unavailable altogether. The State University tends to move forward in these locations first with off-campus centers, which can then be developed into full-service campuses if the need exists. Excess property can be either held in reserve or sold off if projected enrollment demand does not develop.

The State University has used this process with the development of its San Marcos campus and its Contra Costa off-campus center, and it is now in the process of attempting to locate property for a permanent off-campus center in Ventura County. Its procedure has been to request Commission endorsement of such proposals after the sites have been acquired, and thus no formal Commission action has been taken on the Ventura center; but preliminary analyses suggest that a permanent location in that area is needed and would be supported by the Commission.

Nonetheless, the enrollment projections used by the State University make its plans for new campuses open to question. As mentioned earlier, these pro-

DISPLAY 10 Summary of the State University's Growth Plan Regarding Distribution of Student Enrollment, 1990-2005

Category	1990-91	Growth	2005-06
Main Campuses, Academic Year	348,000	+122,000	470,000
Year-Round Operation (Summer Quarter on Four Campuses)	8,000	+7,000	15,000
Sub-Total, Existing Campuses	356,000	+129,000	485,000
Percent of Total	99%	72%	90%
Off-Campus Centers (Existing and New)	5,000	+13,000	18,000
Percent of Total	1%	7%	3%
New Campuses	0	+26,000	26,000
Percent of Total	0%	15%	5%
Unassigned	0	+12,000	12,000
Percent of Total	0%	6%	2%
Total	361,000	+180,000	541,000
Percent	100%	100%	100%

Note: Student enrollment, rounded to the nearest thousand, is estimated based upon observed student workload factors and projected full-time-equivalent enrollment.

Source: Adapted from Jewett, 1989, p. 17.

jections are based on hopes rather than actual trends regarding increases in college going among underrepresented students. Another potential flaw with its plan is the same issue the Commission has raised with the community colleges' plan -- that its enrollment projections use a statewide model which is superimposed on a system that is designed to meet regional needs for access by students. The growth projected for the State University will not be evenly distributed across the State. Some campuses will have more, others less. Also, growth in some areas will be among 18- to 21-year-old students, whereas much of the growth in areas that are now served by off-campus centers are likely to be of older, part-time students. The kinds of facilities that it will need will depend heavily on the kinds of students that are expected to be served.

University of California

In October 1988, the Regents reviewed preliminary projections for the University that suggested up to three new campuses might be needed by the year 2005. Planning for expansion is now underway on the University's existing campuses through a series of individual campus Long-Range Development Plans designed to set their enrollment ceilings. Once this process is completed, the Regents will identify what additional capacity the University will need, and it will then take final steps to propose potential new campuses. It is expected that the Regents will not take this action until sometime in the fall of 1990.

Based on its preliminary plan, the University expects to need to expand to accommodate 43,287 new undergraduates by 2005, as well as 20,881 graduate students, which computes to a rate of growth of 36.5 percent for undergraduates and 79 percent in graduate enrollments. The undergraduate enrollment projections assume substantial progress toward meeting the State's goals of educational equity, similar to those used in the Community College projections. The percentage of growth in the University is slightly lower than in the Community Colleges because the University assumes that some portion of potential student demand will not materialize because students will be unable to be accommodated on their campus of first choice, as more campuses reach their limits of growth. Some of these students will choose to attend another University of California campus, but many are likely to go to school outside the system. The distribution of

these enrollments among current and potentially new campuses will depend on the completion of the individual campus long-range development plans; however, the University preliminarily expects to accommodate 26,081 undergraduates and 16,549 graduate students on existing campuses, with the remaining 17,206 and 4,332, respectively, in new facilities. (Health science enrollment will stay very stable, with growth of only 446 students.)

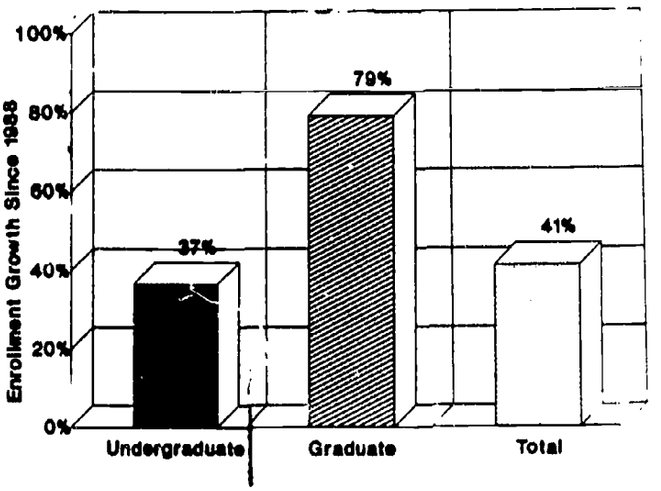
Bases of the University's plan

Although much of the pressure for expansion in University enrollments has come from unanticipated undergraduate demand, the University's plan is based on much more than demographically driven undergraduate enrollments. This is highlighted by Display 11 which shows the percentage increases in undergraduate and graduate enrollment, as proposed by the University. Three planning and policy assumptions underlie the University's plan:

- The first assumption is that of maintaining historic undergraduate access policies. The goal is that the top 12.5 percent of California's graduating high school class, as defined through the University's admissions policies, will be admissible as freshmen, although not necessarily in the campus or program of their first choice.
- The second assumption relates to transfer. It is that the University will achieve the State's goal that 40 percent of undergraduate enrollment be lower division and 60 percent upper division. This principle reflects the State's desire that the University admit a substantial number of transfer students from the community colleges. The University proposes to meet this goal on a systemwide average, rather than on each individual campus.
- The third assumption is a substantial expansion of the University's capacity to produce doctoral recipients through the establishment and implementation of minimum graduate student ratios. The goal is that each campus in the system, including all new campuses, will achieve a minimum of 20 percent graduate students compared to 80 percent undergraduates.

The Commission finds the first two of these three assumptions to be consistent with existing State Master Plan policies on the role of the University

DISPLAY 11 Proposed University of California Enrollment Growth to 2005, Indexed to 1988 Levels

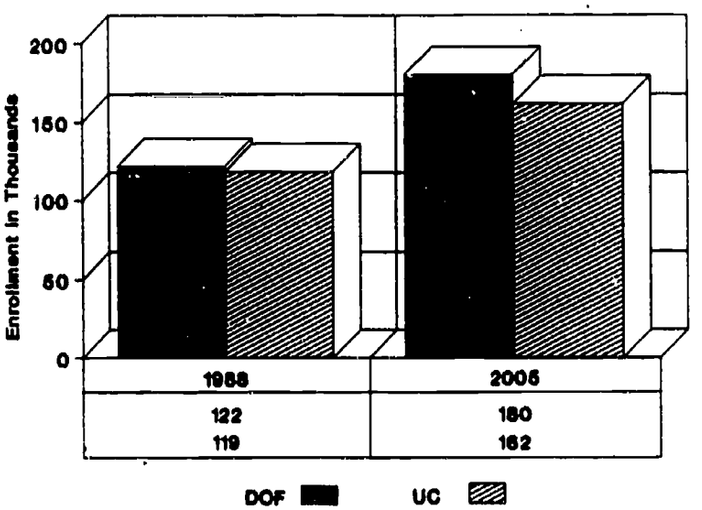


Source: University of California, Office of the President.

and appropriate to the current planning effort. These two assumptions serve as the basis for the University's undergraduate enrollment model, which it develops by using the Demographic Research Unit's baseline data and then adjusting the Unit's projections upward or downward based on its actual enrollment experience. Its undergraduate growth model produces estimates below the Unit's projections of enrollments, as Display 12 on the next page shows. This difference can be explained by an additional assumption involving participation rates that the University applies in its enrollment projections and that has the effect of tempering these projections. The reasoning behind its assumption stems from the observation that part of the University's historic growth driving its current projections occurred on some of its most in-demand campuses and that as these campuses reach maximum capacity, a portion of the University's future eligibility pool will opt to attend other institutions entirely when denied admission to their first-choice University campus.

The enrollment projections of both the University and the Demographic Research Unit are reasonable, well prepared, and -- with the exception of the University's participation-rate assumption -- very similar in terms of base enrollment potentials. The University's undergraduate enrollment projections

DISPLAY 12 Comparison of University of California and Demographic Research Unit Projections of Undergraduate Enrollment Growth, 1988-2005



Source: Demographic Research Unit, State Department of Finance; University of California, Office of the President.

may be too low, however, and will need to be re-examined after the 1990 Census.

Unlike the University's undergraduate enrollment plan, its graduate enrollment plan is not demographically driven but is proposed as a policy and planning priority in order to meet its stated goal of increasing the proportion of graduate students from 18.2 percent at present to 22.7 percent by 2005. Moreover, since the recruitment pool for the University's graduate schools is national and in many ways international, projections based on California demographic trends simply do not play a major role in its graduate enrollment planning.

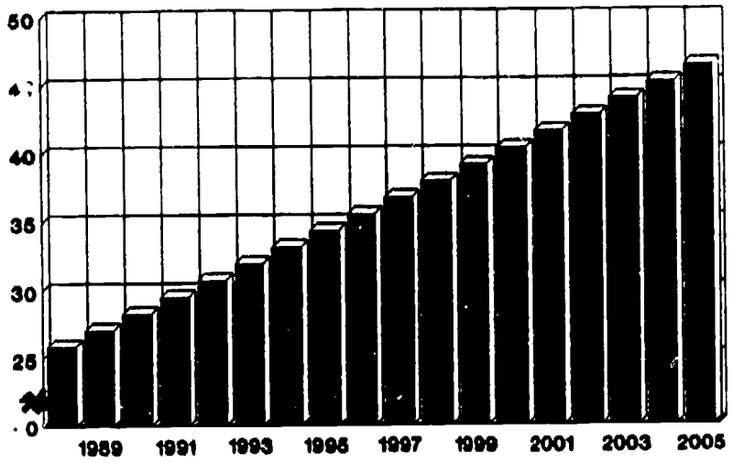
The University has proposed that the State establish, through implementation of its graduate enrollment plan, minimum graduate student ratios of 20 percent on each campus in the system, including the three proposed new campuses. This would mean a minimum of one new graduate student slot for each four new undergraduate students, depending on the campus.

The University's current systemwide graduate student ratio of 18.2 percent is substantially below that of the 1970s, when demand for graduate enrollments began to slacken and the proportion of undergraduate enrollments increased. The University has been attempting to increase graduate enrollments over the past several years, and has met with some resistance from the Legislature in this regard. In 1987, as a result of a legislative request, University officials prepared a comprehensive graduate enrollment plan that proposed graduate enrollments of between 19.8 and 21.0 percent of total enrollment. A new plan that justifies the newly proposed systemwide average figure of 22.7 percent has not been developed; although one is expected by the spring of 1990. However, through application of this graduate enrollment proposal, the University has already proposed major increases in graduate enrollments at several campuses. Specifically, at Irvine it proposed graduate enrollment increases of 212 percent; at Riverside, 169 percent; at San Diego, 186 percent; and at Santa Cruz, 379 percent.

The University's rationale for the growth in graduate enrollments has been the need to train graduate students to replenish projected faculty retirements and provide faculty to accommodate projected growth. As the University develops its graduate enrollment plan further, more needs to be done to develop the quantifiable link between the need for new faculty and the number of graduate students necessary to provide an adequate supply of faculty in the future. The problem exists in part because the University's faculty applicant pools are national and international in nature. The University's production of Ph.D.s provides a substantial but by no means exclusive source of faculty for the University of California and California's other public institutions of higher education. As a result, both the University's 1987 and 1988 graduate enrollment plans represent their best "guesstimates" at the time of necessary graduate enrollments.

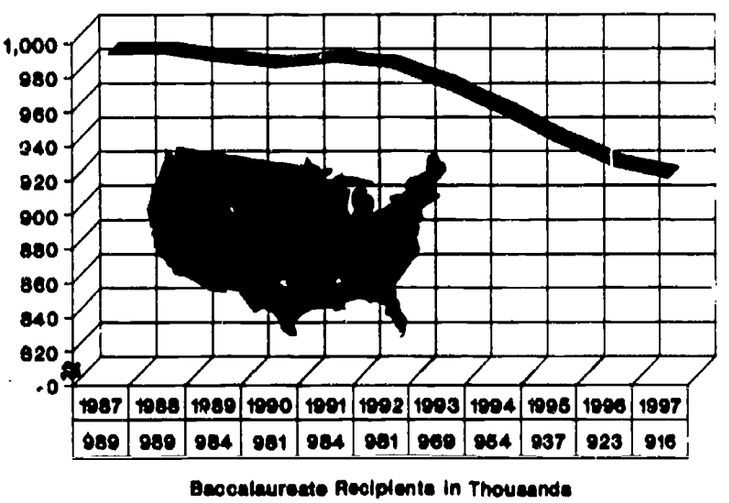
Another issue that will need to be addressed analytically in the University's long-range graduate plan is where the student demand for these graduate student slots is expected to come from. Displays 13 and 14 compare the University's proposed graduate growth with projections of national baccalaureate production -- the best proxy available for its probable applicant pool for graduate students. Between 1987 and 1997, the number of college graduates nationally is projected to drop from 989,000 to 916,000, a decline of 7 percent. This decline in national baccalaureate production compares with proposed 79 percent growth in the University's grad-

DISPLAY 13 University of California Proposed Graduate Enrollment Growth, 1988 Through 2005



Source: University of California, Office of the President.

DISPLAY 14 Projected National Baccalaureate Production, 1987 Through 1997



Source: National Center for Education Statistics, U.S. Department of Education, Office of Education Research and Improvement CS 88-607.

uate enrollment. Although data on projected recipients of bachelor's degrees within California are not available, based on projected undergraduate enrollment it is expected that baccalaureate production in this State will increase over the next 15 years, even in the face of national declines. Despite the fact that increases in State baccalaureate production will ease the University's graduate recruitment problems somewhat, the Commission believes that analytically the national projections suggest that one or more of the following must occur:

1. There will be inadequate student demand to fill available graduate slots;
2. The University will be forced to revise admissions requirements to admit a larger proportion of applicants;
3. The University will in essence capture market share from other institutions, admitting graduate students that would have been admitted to other programs around the country;
4. The University will increase its proportion of foreign graduate students; or
5. As academic job opportunities improve, more baccalaureate degree holders will attend graduate school.

Undergraduate access and transfer

Display 15 on page 27 shows a breakdown of the University's proposed growth plan for each campus in the system by 2005. Although the system as a whole reaches the goal of 23.4 percent graduate enrollments with a ratio of upper-to-lower-division undergraduates of 58 to 42 percent (excluding the proposed new campuses), this ratio is achieved very differently from campus to campus. The Berkeley campus plan calls for achieving the 60/40 goal by decreasing lower-division admissions by 9 percent. Offsetting this enrollment loss in Berkeley's lower division, the University proposes to increase graduate enrollment there by 14 percent, which will move Berkeley's proportion of graduate students from 27.5 percent currently to over 30 percent in 2005. Similarly at UCLA, the University proposes to achieve a 60/40 ratio in part by increasing transfers but also by reducing lower-division admissions. Offsetting this drop in UCLA's lower-division enrollment, the University proposes a 14 percent increase in its graduate enrollments, moving its graduate ratio from the current 27.5 percent to 29.5 percent in 2005.

DISPLAY 15 Distribution of Projected University of California Enrollment Growth Across Existing Campuses, 1988-2005

	-- Division -- Lower	Upper	Percent Upper Division	Total Undergraduates	Total Graduates	Total General Campus	Percent Graduates of Total	Health Sciences	Grand Total
Berkeley									
1988	8,510	11,619	58%	20,129	7,638	27,767	27.51%	757	28,524
2005	7,760	11,640	60%	19,400	8,700	28,100	30.96%	750	28,850
Percent Change	-9%	0%	4%	-4%	14%	1%	13%	-1%	1%
Davis									
1988	7,083	8,596	55%	15,679	2,959	18,638	15.88%	1,832	20,470
2005	7,816	11,880	60%	19,696	5,000	24,696	20.25%	1,850	26,546
Percent Change	10%	38%	10%	26%	69%	33%	28%	1%	30%
Irvine									
1988	5,286	6,631	56%	11,917	1,604	13,521	11.86%	1,040	14,561
2005	8,800	11,200	56%	20,000	5,000	25,000	20.00%	1,050	26,050
Percent Change	66%	69%	1%	68%	212%	85%	69%	1%	79%
Los Angeles									
1988	8,544	11,456	57%	20,000	7,599	27,599	27.53%	3,501	31,100
2005	8,385	12,577	60%	20,962	8,700	29,662	29.33%	3,500	33,162
Percent Change	-2%	10%	5%	5%	14%	7%	7%	0%	7%
Riverside									
1988	3,145	2,461	44%	5,606	1,114	6,720	16.58%	48	6,768
2005	5,587	6,084	52%	11,671	3,000	14,671	20.45%	50	14,721
Percent Change	78%	147%	19%	108%	169%	118%	23%	4%	118%
San Diego									
1988	6,136	6,796	53%	12,932	1,751	14,683	11.93%	1,052	15,735
2005	7,920	11,760	60%	19,680	5,000	24,680	20.26%	1,050	25,730
Percent Change	29%	73%	14%	52%	186%	68%	70%	0%	64%
San Francisco									
1988								3,574	3,574
2005								4,000	4,000
Percent Change								12%	12%
Santa Barbara									
1988	6,951	8,391	55%	15,342	1,989	17,331	11.48%	0	17,331
2005	6,368	9,408	60%	15,776	4,000	19,776	20.23%	0	19,776
Percent Change	-8%	12%	9%	3%	101%	14%	76%	0%	14%
Santa Cruz									
1988	4,025	4,219	51%	8,244	626	8,870	7.06%	0	8,870
2005	5,520	6,461	54%	11,981	3,000	14,981	20.03%	0	14,981
Percent Change	37%	53%	5%	45%	379%	69%	184%	0%	69%
Universitywide									
1988	49,680	60,169	55%	109,849	25,280	135,129	18.71%	11,804	146,933
2005	58,156	81,010	58%	139,166	42,400	181,566	23.35%	12,250	193,816
Percent Change	17%	35%	6%	27%	68%	34%	25%	4%	32%

Source: University of California, Office of the President.

The independent sector

In the past, statewide planning for postsecondary education in California has overwhelmingly focused on *public* postsecondary education. To the extent that planning has been extended to private postsecondary education, it has centered on financial aid and the role of aid in providing student access to regionally accredited non-profit postsecondary education.

In its final report, *The Master Plan Renewed*, the Commission for the Review of the Master Plan for Higher Education acknowledged the relative silence of State planning with respect to independent postsecondary education, while calling for more explicit attention to the accredited private sector as a significant piece of the total educational system (1987, p. 3):

> The 1960 Master Plan said little about the role of postsecondary schools, colleges and universities in the accredited private sector. Since then, the accredited private sector has also grown rapidly and can no longer be left out of the plan. In the coming years, the state must acknowledge the accredited private institutions' ability to shoulder much of the increasing demand for educational services, and the accredited private institutions must be encouraged to accept that responsibility as partners in a unified enterprise.

Because of the potential ability for these institutions to contribute in easing the demand for public educational services, their potential capacity available to California residents must be considered in statewide planning. Less is known about their expansion plans than those of the public segments, but the Association of Independent California Colleges and Universities (AICCU) is currently conducting a survey of its members to determine their plans. While the complete results of that survey are not yet available, some information is known about the plans of those institutions with admission standards comparable to those of the University of California (Display 16, page 29).

The Association reports that Loyola Marymount University, Pepperdine University, Saint Mary's College of California, the University of Redlands, the University of Southern California, and the University of San Francisco each plan to expand their current enrollment by between 100 and 300 students by 1995. In all, by 1995 the independent institutions with University-comparable admissions standards plan to enroll approximately 1,300 more students than they presently do.

In addition to this expansion, these institutions may also have room for additional California residents by changing the composition of their student bodies. Over the past several years, California's accredited independent institutions have increased the number of non-California residents they enroll -- primarily because of the declining coverage of maximum Cal Grant A awards for resident Californians. In 1978, Cal Grant A awards covered approximately 71 percent of their average tuition and fees, but by 1988, that percentage had declined to about 47 percent. With that decline came a marked decrease in the number of California residents that these institutions enroll.

The Association of Independent California Colleges and Universities estimates that if these institutions return to enrolling the peak number of California residents they enrolled over the past 12 years, they will be able to accommodate an additional 6,100 California residents. Combining this change in composition with their present unutilized capacity and planned expansion means that these institutions would have the capacity to enroll nearly 10,500 more California resident students in 1995 than they presently do.

Moreover, these institutions are in the process of reviewing their potential expansion plans beyond 1995. They estimate that if the maximum Cal Grant award increases to the level called for by the existing adjustment policy and if other favorable market conditions exist, they would be willing to expand their physical capacity to accommodate an additional 3,700 students. If these expansion plans hold true, it would bring the total potential added enrollment of University-comparable independent institutions to over 14,000. (More detailed information regarding the independent sector's expansion plans is contained in Technical Background Paper 5 to this report.)

DISPLAY 16 Potential Capacity Available at University-Comparable Independent Institutions

	Current Unused Capacity	Expansion Planned by 1995	Potential Capacity Available due to Change in Student Body Composition	Estimated Expansion Between 1995-2005 if Favorable Market Conditions Exist	Total
California Institute of Technology	20	0	111	0	131
Claremont McKenna College	8	0	86	350	444
Harvey Mudd College	22	38	81	0	141
Loyola Marymount University	0	180	653	200	1,033
Mills College	94	67	0	240	401
Occidental College	52	0	214	150	416
Pepperdine University	80	100	658	0	1,138
Pitzer College	8	0	37	0	45
Pomona College	0	0	242	300	542
St. Mary's College of California	437	250	71	0	758
Santa Clara University	0	0	655	300	955
Scripps College	0	0	30	100	130
Stanford University	176	0	646	0	822
Thomas Aquinas College	0	50	5	50	105
University of Redlands	85	250	406	200	941
University of San Diego	0	0	417	100	517
University of San Francisco	117	100	346	750	1,313
University of Southern California	816	306	1,157	500	2,779
University of the Pacific	797	0	84	250	1,131
Westmont College	0	0	127	0	127
Whittier College	291	0	97	250	638
Total	3,003	1,341	6,123	3,740	14,207

Source: Association of Independent California Colleges and Universities.

4 The Cost of Expansion

THIS SECTION of the report presents a framework to estimate the costs of planned expansion of the three public segments of California higher education, including estimates for capital as well as operating costs. It applies these methods to the segments' enrollment projections that were discussed in Part Three in order to develop a working estimate of the cost consequences of their current plans. The Commission's cost estimating methodology is discussed in detail in Technical Background Papers 2 and 3 to this report -- *Cost Estimates and Simulations for Capital Outlay Planning* and *Cost Estimates and Simulations for Operating Budgets*. The Commission discusses the cost consequences of expansion through alternatives to the existing segmental plans, including the option of expanding access to accredited independent institutions, in Part Six of this report.

Capital outlay costs

All three of California's public postsecondary education systems as well as the Commission have undertaken to estimate the likely capital outlay costs associated with the construction of new campuses and off-campus centers. The methodologies pursued by the segments were largely driven by projecting likely future capital outlay costs from current costs, whereas that used by the Commission involved calculating historic costs and adjusting them into current dollars. Despite this difference in methodology, the segments' and Commission's estimates are relatively close, as will be evident in later pages -- lending a degree of confidence among all parties about the general reliability of the projections.

California Community Colleges

The Chancellor's Office of the California Community Colleges estimates that constructing a new off-campus center -- typically the first phase in developing a new campus -- currently would cost approximately $12.2 million for a capacity of 1,150 (ADA) students, while constructing a mature campus with a capacity of 8,000 students would cost approximately $100.6 million. By applying these cost estimates to the community colleges' projection of the need to accommodate 540,019 more headcount students by 2005 and assuming that these students can be accommodated through a combination of expanding existing institutions, new campuses, off-campus centers, and nontraditional delivery systems, the Chancellor's Office calculates a total 1991-2005 capital outlay cost of approximately $2.6 billion. Spreading that cost out over the 15 years between 1991 and 2005, the Commission estimates the annual capital outlay need of the community colleges, solely to finance projected growth, at approximately $175 million per year.

The Commission has been unable to apply its own costing model to community college capital construction because of accounting and reporting differences among community college districts prior to 1977 that made financial comparisons among appropriate community college campuses infeasible. Nonetheless, extensive review by Commission staff of the Chancellor's Office cost estimates has convinced the Commission that those preliminary estimates are reasonable and appropriate for the purposes of this statewide planning project.

The California State University

State University officials estimate that the current capital outlay cost for building a new off-campus center large enough to accommodate 2,000 full-time-equivalent students is approximately $63.5 million. They anticipate that the development of any new campus will be phased in from an existing off-campus center and that the capital expansion of such a center into a full-service campus with an ultimate size of 25,000 full-time-equivalent students would currently cost about $526.7 million.

The Commission's costing model produces results that are very similar to this estimate -- specifically, $597.8 million in total construction costs for a new

campus, or $71 million higher than the State University's estimate for expanding a center. Given the uncertainties involved in these kinds of projections, this difference between the two estimates is essentially insignificant, adding confidence that the State University projection is reasonable and well prepared.

As noted in Part Three, the State University has projected the need to accommodate 180,000 more students between now and 2005. The Commission estimates that if this demand materializes, 26,000 of these students will need to be accommodated on new campuses or off-campus centers, at a total 1991-2005 capital outlay cost of $743 million. Some of the remaining 154,000 students can be accommodated in excess capacity on existing campuses, and the State University proposes accommodating 7,000 of them through expanded use of year-round operation; but to find room for the others on existing campuses would require expanding their capacity, and the Commission estimates capital outlay costs of $1.57 billion to do so -- for total capital outlay costs at the State University over the 15-year planning period of approximately $2.3 billion. Spreading these costs over the 15 years results in capital outlay needs of approximately $154 million each year.

University of California

University of California officials estimate that the University's capital outlay cost for building a new campus large enough to accommodate 3,520 full-time-equivalent students is currently about $209 million, while constructing a new campus to an ultimate capacity of 25,000 full-time-equivalent students would cost some $2.44 billion. This latter figure compares to a $2.32 billion estimate by the Commission's costing model. Given the large number of variables in cost estimates on this scale, the Commission believes the $110 million difference between the two estimates is essentially insignificant.

The Commission has had to adjust the University's estimate, however, in order to make it comparable to those prepared by the other two segments: It has lowered the University's figure of $2.44 billion down to $1.65 billion because the University included in its estimate $792 million for necessary auxiliary enterprise construction, while the other segments did not include auxiliary enterprises in their projections. (Auxiliary enterprises involve self-support structures such as parking garages, dormitories, and student unions that are generally not funded by the State but instead are financed through the University's issuance of revenue bonds that are repaid from revenues generated by the programs themselves.)

The University has projected a need to accommodate 67,432 more students between now and 2005, and the Commission estimates that to accommodate 21,984 of them, new campuses would result in capital costs for 1991-2005 of $1.01 billion, while accommodating the remaining 42,630 by expanding existing campuses would result in capital costs of $1.74 billion. Spreading these total expenses of $2.75 billion out over the 15 years between 1991 and 2005 results in a capital outlay need of the University, solely to finance growth, of approximately $183.9 million per year.

Display 17 on the opposite page summarizes the capital outlay cost estimates for constructing new campuses in each segment.

Total capital outlay costs of implementing the segments' plans

Adding together the three segments' individual expansion plans gives a sense of the statewide magnitude of these proposals. Collectively, the segments anticipate capital expansion of approximately $7.7 billion through 2005, as shown in Display 18, and they expect expansion to continue well past that year. This would represent a capital outlay requirement for postsecondary education, driven solely by growth, of approximately $514 million per year for the period 1991-2005.

Support budget costs associated with growth

To estimate the likely support costs to be incurred by the State as a result of probable enrollment growth, the Commission has computed support budget cost estimates for each of the segments on a gross average cost-per-student basis. The methodologies for these estimates are reported in Background Paper #3: Cost Estimates and Simulations for Operating Budgets. As noted in that document, these estimates are aggregate estimates of the total cost to the State to locate students in one segment

DISPLAY 17 Capital Outlay Cost Estimates for Construction of New Campuses in Each of California's Public Segments of Higher Education, in 1990 Dollars

	Size of Campus (FTE/ADA)*	Cost per Campus
University of California		
Start-Up (New Campus)	3,520	$209,221,140
Total Cost at Build-Out (UC estimate)	25,000	$2,445,021,304
Total Cost at Build-Out (CPEC estimate)	25,000	$2,329,192,860
The California State University		
Start-Up (Off-Campus Center)	2,000	$63,533,000
Total Cost at Build-Out (CSU estimate)	25,000	$526,719,000
Total Cost at Build-Out (CPEC estimate)	25,000	$597,827,598
California Community Colleges		
Start-Up (Off-Campus Center)**	1,150	$12,198,050
Total Cost at Build-Out	8,000	$100,600,000

* Average daily attendance (ADA) is used for the community colleges, full-time-equivalent enrollment (FTE) for the University and the State University.

** Community colleges start-up estimates exclude land acquisition costs which varies from $0 to $400,000 per acre.

Note: The Commission cost estimates are based on historic actuals for representative campuses, adjusted for inflation and current estimated space deficiencies. This includes funding for projects traditionally paid for with non-state funds. Estimates assume a 30-year effective life for University facilities, 50 years for State University facilities, and 50 years for community colleges facilities. University costs and Commission estimates of University costs include auxiliary enterprises not usually financed through State funds.

Source: California Postsecondary Education Commission.

DISPLAY 18 Implementing the Segments' Plans, Capital Outlay Cost Estimates

Growth to 2005	Total Cost	Cost per Year
University of California (30,716 FTE)		
New Campuses	$1,011,600,000	
Existing Campuses	1,747,600,000	
Total	2,759,200,000	$183,900,000
The California State University (134,500 FTE)		
New Campuses/Off-Campus Centers	743,220,000	
Existing Campuses	1,572,135,000	
Total	2,315,355,000	154,357,000
California Community Colleges (540,019 HC)		
New Campuses/Off-Campus Centers	953,304,000	
Existing Campuses	1,681,863,000	
Total	2,635,167,000	175,677,000
Grand Total	$7,709,722,000	$513,934,000

Source: California Postsecondary Education Commission.

as contrasted to another. They do not reflect differences in costs by level of instruction, nor do they attempt to measure the marginal costs of adding students on existing campuses as contrasted to new ones. The resulting estimates appear in Display 19 on page 35.

California Community Colleges

The Commission's support-cost estimate for the community colleges place their gross average cost per ADA student for instructionally related activities at $2,791 -- a figure that is not disputed by the Chancellor's Office. The student equivalence on which this estimate is based is average daily attendance (ADA), rather than full-time-equivalent enrollment, and because ADA represents something less than full-time-equivalent enrollment, this figure somewhat understates the community colleges' per-student costs compared with those of the University of California and the State University. Despite this difference, support costs in the community colleges are still substantially lower than the gross averages in the four-year segments.

The Commission estimates that to finance the growth being proposed by the community colleges, the State would have to augment their support budget in 2005 by approximately $962 million, for a total annual instructionally related support budget of $2.66 billion. To accomplish this, the State would need to augment the community colleges' support budget at a rate of approximately 2.2 percent between now and the year 2005. This estimate ignores inflationary adjustments, merit salary adjustments, program improvements, equalization, or other funding increases that might be required over this period.

The California State University

The Commission's similar analysis for State University support costs generates an annual gross average support-cost estimate of $7,005 per full-time-equivalent student. This estimate does not distinguish between support costs incurred for undergraduate instruction versus graduate instruction. The State University has not disputed the general accuracy of this estimate.

The Commission calculates that to finance the growth being proposed by the State University, the State would have to augment its support budget in 2005 by approximately $942 million, for a total annual instructionally related support budget of $2.75 billion. To do so, the State would need to augment the State University's support budget at a rate of approximately 2.5 percent annually between now and 2005. Like the Commission's estimate for the other segments, this figure ignores funding price increases, merit salary adjustments, or program improvements that would be required over the 15 years.

University of California

For the University of California, the Commission estimates that instructionally related costs at the University's eight general campuses ran approximately $11,592 per full-time-equivalent student in 1987. This is a gross average figure that does not differentiate costs by level of instruction, discipline, or size of campus. As such, these estimates should not be used for budgeting purposes. However, the Commission believes that this figure is an accurate reflection of the support costs necessary to finance the University's systemwide instructional operations at the current undergraduate-to-graduate student ratio of 81 percent undergraduates to 19 percent graduate students. However, since this current ratio is lower than the ratio of net growth being proposed by the University (66 percent undergraduates to 33 percent graduate students), the Commission anticipates that $11,592 per student is an underestimate of State costs for funding the net growth mix currently proposed by the University. Nevertheless, it used this figure to approximate the likely costs associated with the University's proposed net growth between 1988 and 2005 of 67,432 students, and it concludes that the State would need to augment the University's support budget by approximately $777 million dollars in 2005 to accommodate the University's projected enrollment increases in that year. Coupled with the University's reported 1987 support budget, this results in a total instructionally related support budget in 2005 of $2.42 billion.

Stated differently, the State would need to annually augment the University's support budget at a rate of approximately 2.3 percent. As with the Commission's estimates for the other segments, this figure ignores merit salary adjustments and program im-

DISPLAY 19 Average Cost per Student, Support Budgets

	Expenditures	Cost Per Student*
University of California	$1,650,670,700	$11,592
The California State University	1,507,230,014	7,005
California Community Colleges	1,701,860,530	2,791

* Full-time-equivalent enrollment (FTE) is used for the California State University and the University of California, while average daily attendance (ADA) is used for the California Community Colleges.

Source: California Postsecondary Education Commission.

provements, which would have to be added to the total support needs of the University, and -- as noted above -- this figure most likely underestimates future support costs because it is based on the University's current graduate/undergraduate ratio, rather than its proposed ratio. The University of California does dispute the accuracy of this estimate

Total support budget cost of implementing the segments' plans

By taking the summation of the estimates of the support budget augmentations necessary to finance the growth proposed by the segments (the University of California, $777 million; the California State University, $942 million; and the California Community Colleges, $962 million), the Commission estimates that approximately $2.7 billion in augmentations will be necessary in 2005 to support the growth proposed by the segments in that year. To accommodate this level of growth will require approximately 2.3 percent annual augmentations in the segments' instructionally related support budgets between now and 2005.

Conclusion

The Commission plans to continue to refine its cost estimating models and apply them to alternative growth plans of the segments as they are developed, but at present it estimates that the segments' current plans would require some $7.7 billion in capital outlay over the next 15 years at an annual bonding level of approximately $514 million. In addition, the Commission estimates that the segments' growth plans would require $2.65 billion more per year in support budgets by the year 2005 than at present, requiring annual augmentation in segmental support budgets of approximately 2.3 percent.

The potential limitations on the State's ability to provide these resources is the subject of the next section in this report.

5 *Funding Available to Support Growth*

AN IMPORTANT aspect of California's historic commitment to postsecondary education has been the State's willingness to provide the resources needed to support both quality and access. With some exceptions -- most notably in the community colleges -- the State has paid for enrollment growth with new General Fund resources. Financing capital outlay has been much less consistent, with the segments' capital budgets generally running well behind their operating budgets in having their total needs funded. In addition, the State has not identified a stable and reliable source of revenue for all capital outlay projects. Capital outlay costs for the last period of substantial expansion came from several sources that are not available in the same supply today: federal funds; State General Funds (now reserved for operating expenses); tidelands oil revenues; and sale of bonds. As the other sources dried up, the State has shifted primarily to bond financing for much of the capital outlay budgets. As the next section shows, the State may not be able to sell enough bonds to support the capital expansion that is needed for postsecondary education in the 1990s and beyond.

Bonding capacity

The State Treasurer's Office estimates that to maintain the State's credit rating and to contain the State's debt burden to responsible levels would require a limit on State bonding of approximately $4 billion per year. Even more important, however, is the limit in the State's practical ability to market these bonds. The State can theoretically issue as many bonds as it sees fit, but the investment community has to have available capital to buy them in order to generate the money that the State needs from the bonds. The Treasurer's Office estimates that the State's ability to market bonds is currently limited to approximately $2 billion per year. While it is not clear how predictive these limits are of the State's future bonding capacity, when coupled with the segments' projected annual bonding needs of $514 million, simple division shows that implementing the segments' current growth plans would comprise approximately 25.7 percent of California's total annual bonding capacity -- compared with the segments' share of about 11 percent of the State's total bonds financed last year.

Juxtaposing this proposed increase in the segments' share of State bonding capacity against other future infrastructure needs of the State for schools, prisons, highways, seismic upgrading, and other projects, leads the Commission to doubt that higher education can more than double its percentage of California's total bonding capacity over the next 15 years. In the end, this constraint of bonding capacity, more than revenue and appropriations limits on the State's budget, may serve as the most intractable limitation on the segments' abilities to expand as they have proposed thus far (Display 20 below).

DISPLAY 20 California's Probable Bond Financing Limits

Category	Amount
Annual Limit on Bond Capacity	$4 billion
Limit in Marketing Bonds	$2 billion
Segments' Annual Bonding Needs	$514 million
Percentage of Segments' Bond Needs to State's Marketing Capacity	25.7%
Segments' Percentage of State Bonds, 1988	11.0%

Source: California Postsecondary Education Commission.

Limitations in available support funds

The capacity of California to provide support funds to accommodate growth in its public colleges and universities will depend on both availability of revenues and the State's spending limit. There is reason for concern on both fronts, made even more

acute by the passage of Proposition 98 in 1988. While the long-term implementation of Proposition 98 is still unclear, that proposition obviously will not solve the Gann appropriations problems for the State's two university systems and may even make them more vulnerable to future budget cuts if revenues fail to grow at adequate levels.

This support budget problem has several dimensions that as a practical matter cannot be separated but that may be examined separately for analytic purposes. They are (1) competition for limited resources from other State budget categories; (2) the Gann Limit and the potential of Senate Constitutional Amendment 1, (3) the vulnerability of the two university systems to revenue shortfalls, and (4) the effects of Proposition 98 on revenue. The remainder of this section discusses each of these problems in turn.

Competition from other State budget categories

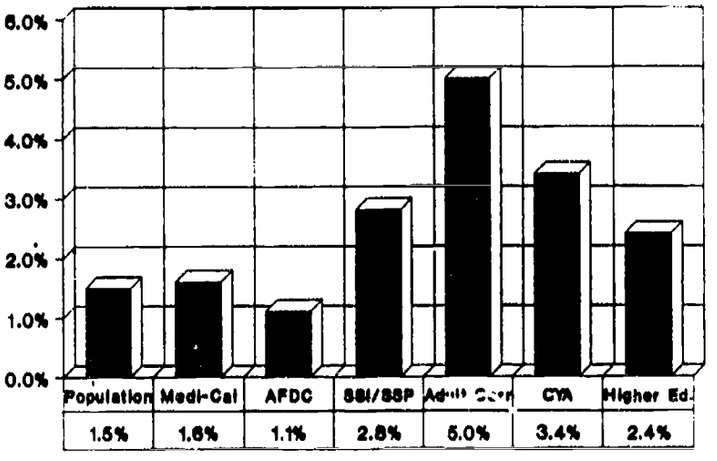
State financing for higher education does not occur in a vacuum. Clearly higher education will be competing over the coming years with other State services for limited funds. Display 21 below outlines projected growth in major State budget categories, compared with projected growth in higher education. It is clear from this display that despite dramatic growth in postsecondary education, most major State expenditure categories are projected to grow even faster. Even in an environment free from appropriations' constraints, it will take a major commitment on the part of both State government and California's citizens to maintain existing levels of services for a growing population through the beginning of the twenty-first century.

The Gann Limit and SCA 1

The Gann Limit remains intact for California's two public universities, despite Proposition 98, which lifted it for school and community college spending. Under the Gann Limit, the controlling factor dictating how much budgets can grow is overall State population growth and inflation. If inflation is assumed to have the same effect for both revenues and expenditures (and this is a fair assumption for planning purposes), then looking at the differences between overall State population growth and enrollment or caseload growth in a particular budget category gives a good indication of the potential Gann problem.

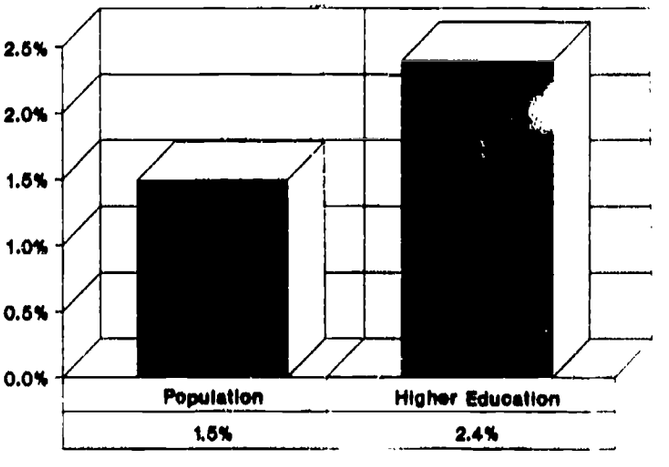
If enrollment or caseload for a particular budget is growing faster than the general population, then funding for that growth will have to be found from some other portion of the budget. Display 22 shows how enrollment projections for all parts of public education compare with overall population growth.

DISPLAY 21 Projected Average Annual Percentage Growth in State Population Compared to Workload Growth in Major State Budget Categories, 1988 - 1998



Source: California Postsecondary Education Commission.

DISPLAY 22 Projected Annual Average Percentage Growth in State Population, Compared to Enrollment Growth in Postsecondary Education, 1988 - 2005



Source: California Postsecondary Education Commission.

This does not present a problem so long as other parts of the budget are growing at rates lower than general population growth. Unfortunately, the age groups within the population that most depend on State funding are growing at a faster rate than overall population. For instance, the major State entitlement programs of Aid to Families with Dependent Children (AFDC) and Supplemental Security Income/State Supplemental Program (SSI/SSP) serve families with young children and older citizens -- two groups whose numbers are growing faster than the 20- to 50-year-old categories.

The Commission on State Finance has statutory responsibility for estimating how the appropriations limitation will work, as well as for General Fund revenue and expenditure forecasting. Its current forecast extends only through 1997-98. According to those estimates, State revenues are expected to grow at an annual adjusted rate of roughly 2.4 percent without inflation, whereas the appropriations limit will grow by only 1.5 percent per year using adjusted estimates.* Thus by this estimate, any budget that grows more than roughly 1 5 percent per year without inflation will either have trouble being funded or will squeeze funding for other budget categories for funds.

As shown in Part Four, in order to fund enrollment growth alone, postsecondary educational budgets will need to grow, on average, by around 2.3 percent per year between now and 2005. In addition to enrollment growth, the segments have historically received funds for increases in real operating costs above and beyond growth averaging approximately 1.5 percent per year, resulting in total likely annual augmentations of approximately 3.8 percent, before inflation adjustments. Any new funding for program improvements or to overcome existing funding deficiencies would be in addition to these costs.

The question naturally arises as to whether other parts of the budget will be growing at a lower rate so as to allow funds to be reallocated to postsecondary education. The answer is a resounding no. Based on a survey of the growth requirements for all parts of the budget, the Commission on State Finance finds that to fund workload increases as required by current law will require growth of 2.1 percent per year. While it can be expected that all efforts will be made to contain costs and find efficiencies, these persistent and sizable gaps between expected needs and the State's ability to pay for them are not likely to be closed. This problem will be especially acute in the human, medical, and other social service categories, where State funding tends to be matched with federal funds and the State's capacity to make unilateral cuts is therefore limited.

In June 1990, California voters may choose to mitigate the conflict between the need to grow and the constitutional limit on State spending. Senate Constitutional Amendment 1 would keep both a spending limit and funding guarantee to K-14 in place, but would (1) increase the spending limit to reflect economic growth, (2) allow the State to use excess revenues in one year to back-fill a revenue shortfall in a subsequent year, and (3) prevent K-14's funding guarantee from jeopardizing other State priorities.

Any growth in higher education hinges upon voter approval of SCA 1. However, passage of SCA 1 does not mean that growth can be unrestrained. The collective growth of necessary programs such as health, welfare, K-12, and corrections in addition to higher education may still outstrip increases in the spending authority from SCA 1. Thus, even if SCA 1 passes, the State may well find itself "up against the limit" in another ten years.

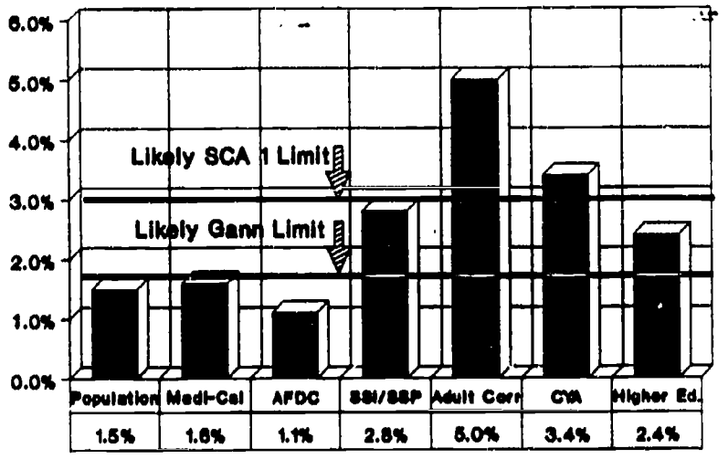
Display 23 on page 40 shows the projected average annual percentage growth in State population compared with likely funding limits.

The universities' vulnerability to revenue shortfalls

There is good reason to believe that California's economy is strong enough to sustain continued growth over the next two decades. In spite of this, recent experiences and good sense both indicate that some downturns may occur. When revenues fail to grow consistently, budgets for the two university systems and student aid are particularly vulnerable, because they are not funded through statu-

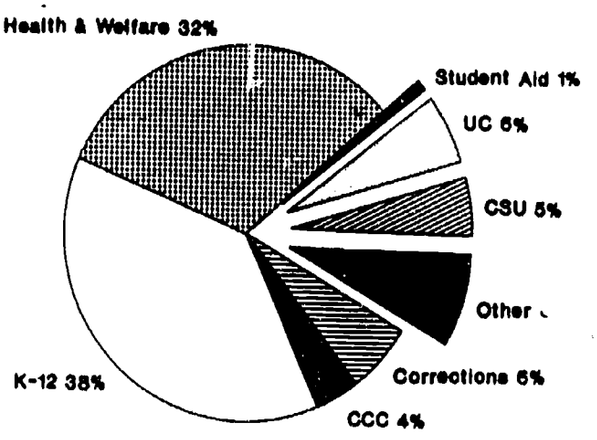
* State Commission on Finance forecasts are driven by special population estimates prepared by the State Department of Finance. Since that commission used different population projections than those used to generate the enrollment estimates displayed in this report, substantial comparability problems exist. To correct for this problem, it was necessary to adjust that commission's revenue, expenditure, and caseload forecasts to make them consistent with the regular population projections published by the Department of Finance in its Report 88 P-4 of February 1988.

DISPLAY 23 Projected Average Annual Percentage Growth in State Population, Compared to Workload Growth in Major State Budget Categories and the Likely Gann and SCA 1 Limits, 1988 - 1998



Source: California Postsecondary Education Commission.

DISPLAY 24 California State General Fund Expenditures by Major Budget Categories, 1988



Note: Exploded pie sections denote budget categories most susceptible to funding shortfalls.

Source: California Postsecondary Education Commission.

tory formula, but instead depend on the annual State budget process for determining funding levels (Display 24).

For example, the historic entitlement of eligible students to attend a public university is a right guaranteed in policy, rather than protected statutorily through funding formulas. Funding for the University and State University thus differs fundamentally from funding for the community colleges, K-12 apportionments, AFDC, SSI/SSP, or Medi-Cal benefits -- all of which are funded as entitlements, which means that the legal right to funding continues even without a State budget. For the two university systems and the Student Aid Commission, as well as for general State government, there is no right to money without a budget. These constraints place the Legislature and the Governor, in many ways, in a budget straightjacket. Since most of the basic spending parameters of this budget are defined either through statute or constitutional guarantees, very few parts of the budget are available or accessible to absorb budget cuts that may be needed in any given year due to revenue shortfalls or appropriations' limitations.

What this means as a practical matter is that if revenue shortfalls occur, it is technically as well as politically easier to turn off the funding faucet on the two universities than for most other parts of the budget. It is technically possible to cut benefit levels or school funding levels, but separate legislation is required to do so, whereas university budgets can be cut through executive action, even without the permission of the Legislature. For the Department of Corrections, some minor savings can be found through reduced staffing, but criminal penalties would have to be reduced for there to be any real savings potential. The political unwillingness to do so, coupled with the fact that such a reduction would take some time to have any real budgetary effect, makes this an unlikely eventuality.

The effects of Proposition 98 on revenue

Proposition 98 is likely to have its most dramatic effect on future funding for California's two public universities in the area of revenue availability. Its major provisions are to (1) guarantee funding for K-14 education at a level not less than that in the 1987-88 budget and (2) require any "surplus" revenues not eligible for spending under the Gann Limit to be spent on K-14 education. The enrollment forecasts for K-14 presented earlier in this report suggest that the programmatic needs for this level of funding are legitimate -- the money will be needed. Indeed, it has long been a priority of the Commission and other parts of the postsecondary

education community that the budgetary needs of both the community colleges and the schools be met.

Although the problem of the Gann Limit and the vulnerability of the university budgets to revenue availability is not a Proposition 98 phenomenon, the proposition creates new and potentially dire problems for the university systems in the event of revenue downturns. As noted above, before Proposition 98, the two university systems were already particularly vulnerable to these downturns. Under Proposition 98, if revenues fail to grow by at least the amount needed to fully fund the K-14 minimum guaranteed spending levels, the two university systems will be subject to still further reductions.

Ironically, in light of the political dynamics surrounding educational finance for the last 10 years, California may find itself in a place where, because of general fiscal constraints and Proposition 98, its community colleges may be the only higher education system that can afford to grow.

6 Alternatives for Accommodating Projected Enrollment Demand

IN RESPONSE to the Legislature's request, the Commission has investigated numerous alternatives to the segments' current plans as possibilities for accommodating their projected enrollment demand. In general, the Commission has focused on those alternatives that can be accommodated under existing Master Plan policies of access, differentiation of function, and quality. In particular, it has explored the consequences of the State's placing higher priority on the alternatives of expanded use of educational technology, increased reliance on transfer, year-round operation, shared used of facilities, and shortened time-to-degree. In this final portion of the report, the Commission briefly summarizes these alternatives and then considers each of the segments' plans in light of them.

Educational technology

The Commission has been disappointed to learn that new educational technologies are still some 10 or 15 years away from being implemented in higher education on a wide scale for the purpose of providing a free-standing alternative to traditional means of delivering educational services. Undoubtedly, new educational technologies hold tremendous promise for revolutionizing the way in which educational services are delivered, but at this point these possible approaches remain largely untested, and in many cases, such as compact disc technologies, the technology is still immature. In addition, the manner in which developments in remote instruction and other approaches will evolve is still largely unpredictable. (A more thorough discussion of these issues may be found in *Technology and the Future of Education: Directions for Progress* -- the 1989 report of the Commission's Policy Task Force on Educational Technology.)

Nevertheless, the potential for rapid development in these technologies is one important reason for the segments to maintain ongoing and dynamic planning processes -- processes that are responsive to and welcoming of technological change and innovation as it happens. While there are other important policy reasons for aggressively investigating, and where appropriate implementing new educational technologies as they come on-line, for the present the Commission does not believe that these technologies hold immediate promise as a cost-effective alternative to traditional educational services for California's students. The costs of implementing these new technologies are likely to be high when they come on-line, at least in the short term. In fact, during the initial phase-in of these technologies, costs per student may be higher than traditional modes of delivery because of the infrastructural investments that will be necessary. These costs will be worth absorbing when the time comes, but it appears that California may still be as much as a decade away from seeing widespread implementation of technologic approaches which hold promise for providing more efficient, but equally effective educational services.

In addition, it is entirely possible that educational technology will not in the short-run dramatically alter the way services are delivered to current students. Rather, it is conceivable that educational technology will provide educational services to students who would otherwise not have had access to a particular segment, campus, or program. As a result, the Commission can see one possible course of events in which educational technology will represent a cost-effective means of delivering educational services, but the services will be geared to people who otherwise would not have been in the educational system at all. This possible outcome means that educational technology may turn out to be a cost-effective mechanism through which the State can provide services to these new students, but these new students may represent a population in addition to what is being currently projected. Another way to make this point is to say that the Commission does not see that educational technology, at least in the short-term, has the potential to replace

access demands that are currently projected The State should not decide to provide access by pushing it off to technology. Educational technology will most likely be in addition to access, not instead of access.

Enhanced utilization of transfer

It has become axiomatic that increased use of community college transfer is a cost effective way for the State to approach the issue of expansion. Progress to implement the Master Plan goal of 60/40 has been built into the segmental plans: the University of California's plans assume a system-wide ratio of 40 percent lower-division to 60 percent upper-division students, and the State University is already at the 40/60 ratio. Unless the State changes current policy of accommodating all eligible undergraduates who wish to attend someplace within the University or the State University, the Commission does not anticipate these ratios changing beyond 60/40 during this planning period.

However, if the community colleges are successful in attracting first-time freshmen who would otherwise be admissible to the University or State University, there may be potential for enhancing efficiency and containing State costs associated with expansion to accommodate undergraduate enrollment. Student flow models constructed by Commission staff indicate that in order for this approach to be cost-effective it is essential that community college transfer students have roughly the same time-to-degree upon transfer as do indigenous university students. The Commission staff analysis suggests that extensions in time-to-degree upon transfer can diminish the savings in capacity and cost that might otherwise be expected of the transfer function. Since very little is currently known on this topic, this is an issue that warrants further examination if the Commission is able to proceed with its proposed study of student course taking and completion patterns for community college transfer students, as contrasted with native students.

Year-round operation

Another alternative to physical expansion is more efficient use of existing space through summer-quarter instruction and year-round operation. Because past experiments with summer-quarter instruction in California and elsewhere have been generally unsuccessful (in contrast to special summer-term programs), many believe that the idea of year-round operation is unworkable However, summer quarter operations do operate successfully on four of the State University's campuses -- Los Angeles, San Luis Obispo, Pomona and Hayward -- and, as noted earlier, the State University plans to accommodate 7,000 of its projected additional students through increased use of the concept. Also, year-round operation has been put into place in a number of elementary and secondary districts across the nation, including the Los Angeles Unified School District, in order to accommodate the severe shortage of classrooms. Thus, the question occurs as to why it cannot be done on a wider scale in higher education as well.

The Commission explored the issue of the costs and benefits of year-round operation for this planning project, and the details of its analysis are included in its Technical Background Paper 4, *Issues Related to Year-Round College and University Operation*. This analysis concluded that, unless students could be mandated to attend class in the summer, so as to equalize the costs, potentially significant operating cost increases occur for summer-quarter instruction. Although some capital outlay savings may accompany year-round operation, these savings are not at a level to decrease capital requirements significantly and are not available to offset the operating budget increases.

These cost issues, as well as other operational problems with implementing year-round operation, lead to the conclusion that year-round operation is not a good alternative to growth in postsecondary education. Nonetheless, there are some programmatic benefits to year-round operation that might make it appropriate for some campuses. Year-round operation tends to work best, for instance, at urban, commuter-oriented campuses that serve a high percentage of older and part-time students. It thus

makes good sense for the segments, when planning expanded and new campuses, to weigh carefully the feasibility of year-round operation.

Shared use of facilities

Another option for accommodating growth with limited resources is expanded use of facilities that are jointly used by more than one segment. This issue is explored in more detail in Technical Background Paper 6 on that subject, while the following paragraphs present only general findings and conclusions.

California has some experience with shared use of facilities, particularly between the State University and the community colleges, where off-campus centers serving upper-division and graduate students are located in community college facilities. Indeed, three of the State University's existing campuses -- Sacramento, Fresno and Los Angeles -- began as community colleges, before their own physical plants were built. These facilities tend to work well to accommodate the needs of both systems, and options for more sharing of resources of this nature should be explored in the future as the State expands. In addition to providing an option to reduce capital outlay expansion costs, these kinds of arrangements stimulate intersegmental coordination and have the potential to ease the flow of students from one segment to the other.

Other states that are facing expansion pressures are also looking to increased utilization of joint use of facilities. As is the case in California, many of these arrangements are for off-campus centers of universities serving upper-division and graduate programs on community college campuses or adjacent sites. Models include joint ancillary services and facilities such as student centers and personnel services, bookstores and cafeterias, library, computer equipment, and recreational facilities, with some services such as maintenance and janitorial arranged under contract with the host institution in the case of off-campus centers. The experience of other states suggests that while most institutional administration and governing boards prefer to have full control over the sites and facilities that they use to offer credit programs, if there is good-faith willingness to cooperate on the part of both the "tenant" and "owner" institutions, joint use of facilities can work fairly satisfactorily.

The cost consequences of joint use of facilities are analogous in one respect to those of year-round operation. While savings occur in capital outlay, those in the operating budget are relatively small. Some of the facilities that appear to be used most successfully in shared situations are student service or auxiliary enterprise activities, which are not funded with General Fund appropriations on the university campuses. Unless there are clear programmatic benefits to the shared use of facilities, their cost savings may not be significant.

In sum, increased joint use of facilities will not work to meet the pressures of growth for all segments in all instances. However, as the segments plan to meet new population pressures, attention needs to be given to the question of whether shared use of facilities makes sense for particular regions. Because of their missions, and based on their history of successful shared usage of facilities in the past, this option makes particular sense for the State University and the community colleges to explore.

Time-to-degree for undergraduates

While there is marginal potential for capital outlay and support budget savings if undergraduate time-to-degree is shortened, this option, even if pursued successfully, will not accommodate a significant portion of the growth projected over the next 15 years.

In addition, there are indications that this may be an initiative that would be very difficult to successfully pursue. One reason for the lengthening time-to-degree phenomena appears to be the changing student profiles of a diversifying student body. Older students have more family and work commitments, which require smaller unit loads. Further, as the economic backgrounds of students become more diverse, especially in an era of declining financial aid and increasing reliance on loans, the need to work and even drop out of school for a period to save money also increases. All these factors contribute to lower unit loads and longer time-to-degree.

A final consideration contributing to the marginal benefits of shortening undergraduate time-to-de-

gree is that as students take lower unit loads, institutions can and do admit more headcount students to compensate for the increasing part-time nature of the attending student body. This adjustment by the campuses reclaims much of the efficiency that is lost as a result of longer time-to-degree.

Time-to-degree for graduate students

Shortening time-to-degree for graduate students appears to be an entirely different matter than for undergraduates. A preliminary examination of this issue indicates that there may be substantial efficiencies in increasing the productivity of graduate education in certain disciplines. Unfortunately, the complexity of this issue and the time frame in which this study has had to be conducted, coupled with a lack of meaningful historic data on the subject, has made it impossible for the Commission to define specific approaches designed to accomplish this goal. Clearly this is an issue that requires substantial attention on the part of both the Commission and the University of California. The Commission currently plans, as part of the study requested in Senate Concurrent Resolution 66 of 1989 (Hart), to continue this inquiry into graduate education at the University of California. (That resolution is appended to this report.)

Segmental alternatives for accommodating projected enrollment demand

California Community Colleges

When looking at enrollment demand at the community colleges in light of the State's overall fiscal condition, it is clear to the Commission that there is only one alternative to their projected growth: more growth.

The rationale for this conclusion is simple. As indicated earlier, the enrollment projections for the community colleges are based on historic data. To the extent that the community colleges have suffered artificially depressed participation rates as a result of funding limitations, and the Commission believes they have, then the data driving the current projections are likewise depressed below the true enrollment potentials for that period. As Display 25 on the opposite page indicates, community college participation rates plummeted by almost 15 percent immediately after the passage of Proposition 13, recovered somewhat, then dropped again in conjunction with the severe fiscal crisis suffered by the State in the early 1980s.

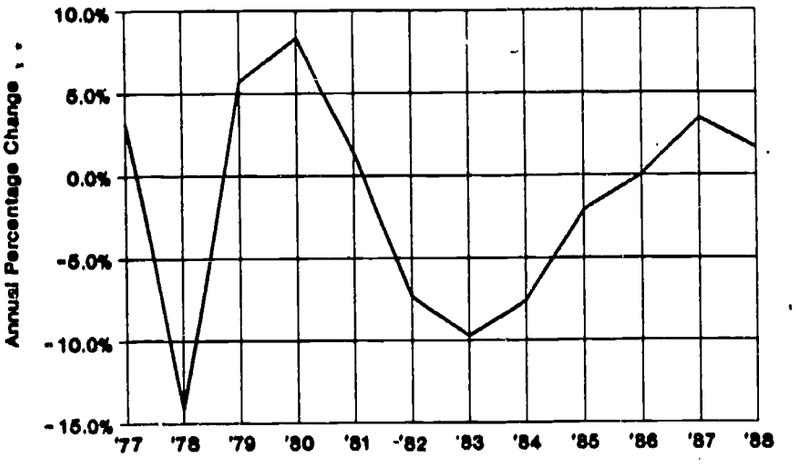
Since there is a wide body of research indicating that community college enrollments are inversely related to the health of the economy (enrollments rise when the economy is bad), the artificiality of the depression in the community colleges' enrollment experience is heightened when one considers that the participation rate drop of the early 1980s also coincided with the worst recession in decades. During those years of most precipitous enrollment decline, large increases would normally have been expected as a result of the recession. It is thus possible to get a sense of the level of understatement that may be present in the historic enrollment experience driving the current projections.

These considerations have been taken at least partially into account in the most recent enrollment projections for the community colleges, resulting in an estimated enrollment in 2005 that is 146,878 students above their 1988 projections for the same year. This 146,878 increase also represents expected growth beyond the estimates used by the Chancellor's Office in developing its proposal earlier this year for the establishment of 16 new campuses. Since release of these new enrollment projections, the Chancellor's Office has revised upward by seven its estimate on the need for new campuses, bringing the total projected number of new campuses which will be needed by 2005 to 23. As unbelievably large as this estimate may seem, it appears to the Commission at this time to be reasonable.

In the short term, the community colleges should continue to refine their statewide planning model such that it can address the system's capacity needs on a regional and local basis. The framework for this model appears reasonable, and the Chancellor's Office estimates that it will be completed by June 1990.

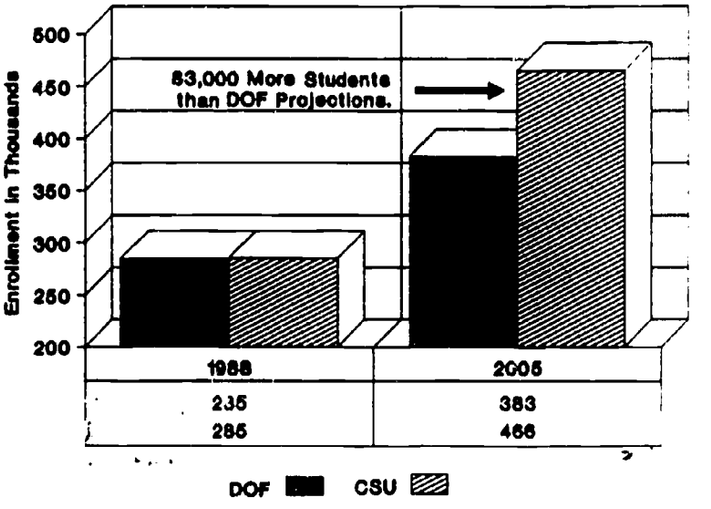
Finally, it is essential that as the community colleges move forward with their expansion plans, the issue of their capacity for planning be addressed.

DISPLAY 25 Annual Percentage Change in California Community College Participation Rates, 1977 Through 1988



Source: California Postsecondary Education Commission.

DISPLAY 26 Comparison of Projections of Undergraduate Enrollment Growth by the California State University and the Demographic Research Unit, 1988-2005



Source: California State University Chancellor's Office and Demographic Research Unit, State Department of Finance.

Simply stated, both equity and common sense dictate that as the community colleges plan to accommodate more than twice the growth of the four-year segments combined, they should have resources for planning that are at least equivalent to the other systems. The Commission believes that currently the community colleges are nowhere close to having the planning resources that will be necessary for them to responsibly and creatively address the growth challenges confronting them. This is a crucial issue facing the community colleges and one that should be addressed sooner rather than later.

The California State University

A discussion of alternatives to new campuses and off-campus centers of the State University must involve two issues: (1) a re-examination of the State University's enrollment projections; and (2) the need for the State University to develop regional plans appropriate for its educational mission.

As noted earlier, the difference between the Demographic Research Unit's undergraduate enrollment projections and those of the State University is 82,900 students by 2005 (Display 26). This difference is driven solely through the State University's assumption that underrepresented students will participate in higher education in 2005 at rates equal to those currently enjoyed by white students.

While the Commission fully shares the State University's hope that this goal will be accomplished in that time frame, there is little in current trend data to indicate that it is necessary to begin intensive planning efforts at this time to bring the additional capacity on-line to accommodate all of these students. The State University, in collaboration with the other postsecondary educational segments and the Superintendent of Public Instruction, has invested a good deal of effort in intersegmental efforts designed to enhance student preparation for college to help make these projections a reality. At the present time, there is some reason for cautious optimism that some of these efforts may pay off. If they do, they will do so for the educational system at large and not just for the State University. The State University will not be able to achieve its projected growth levels if California's high schools do not graduate students equipped with the basic skills they need to succeed in college.

The other problem with the State University's plan is that it is a statewide projection whereas the sys-

tem's mission is regional It is important for the State University to develop a plan that is specific to regions within its statewide construct, and this plan will have important implications for whether and how the State University will be able to meet its goals of full access and educational equity. The pressures for growth in areas now underserved by the State University are likely to be uneven across the regions of the State. If the State University continues to add off-campus centers in areas that are now largely suburban or rural, then these new facilities will probably primarily meet the needs of older white students.

Within this context, the Commission believes that the State University, through its proposed expansion of existing campuses, off-campus centers, and year-round operation, will likely have more than enough capacity to accommodate student demand through the year 2005. Based on enrollment projections of the Demographic Research Unit, if the State were to fully finance the proposed expansion on existing campuses, the State University would still have a surplus student capacity in 2005 of 36,300 students. This level of potential surplus capacity appears to provide the State University with more than enough latitude for making progress toward the full-access goal, while leaving the State adequate flexibility to bring needed new campuses on-line in a timely manner to meet additional demand, should that ultimately prove necessary. In addition, existing data on population growth and demand suggest that it is in the State's urban areas -- particularly in the Los Angeles area -- where underserved populations will be growing at the fastest pace. More attention to meeting the needs of these students on existing State University campuses with excess capacity, such as Dominguez Hills, Hayward, and Los Angeles, should continue to be a high priority.

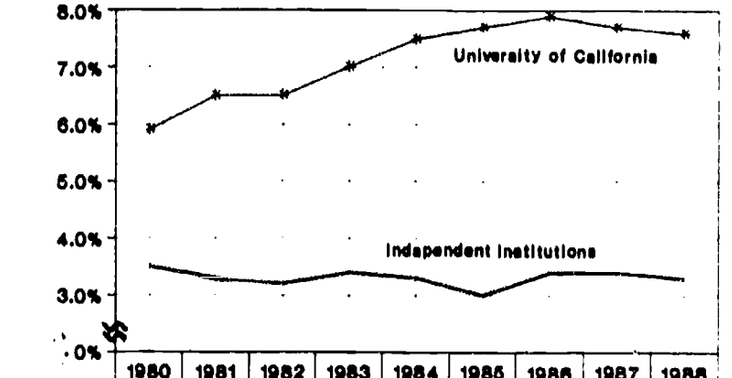
University of California

Current undergraduate capacity in the University of California is 116,219 students, and the University projects that this can be increased at existing campuses by 26,081 students by the year 2005, for a total projected capacity of 142,300 undergraduates. This compares with projected undergraduate enrollment demand of 161,800 students, leaving a net unmet demand, or capacity deficit, of 19,500 students. These are the University's own capacity and enrollment estimates. Putting aside for a moment the University's proposed increases in graduate education, this capacity deficit for undergraduates represents the reason that the University has proposed the creation of up to three new campuses.

The following paragraphs focus on potential alternatives for accommodating these undergraduate students.

The role of independent institutions: During the early and mid-1980s, in the face of declines in the number of California high school graduates, the University of California experienced a very strong and unexpected surge in undergraduate enrollment. If one looks at participation rates between the University and independent institutions during that time (Display 27), it is possible to see at least part of the explanation for this phenomenon: Participation rates for the University of California stabilized in the early 1980s at a time when enrollment projections were made that estimated stable enrollments for the University through the 1980s. However, the University's enrollment experience did not stabilize; in fact it accelerated, with participation rates rising steeply through 1987, with growth slowing somewhat since that time. At the same time, however, the participation rates of indepen-

DISPLAY 27 Annual Changes in Participation Rates for the University of California and University of California-Comparable Independent Institutions, 1980 Through 1988



	1980	1981	1982	1983	1984	1985	1986	1987	1988
U.C.	5.9%	6.5%	6.5%	7.0%	7.5%	7.7%	7.9%	7.7%	7.6%
Inde.	3.5%	3.3%	3.2%	3.4%	3.3%	3.0%	3.4%	3.4%	3.3%

Participation Rate

Source: California Postsecondary Education Commission.

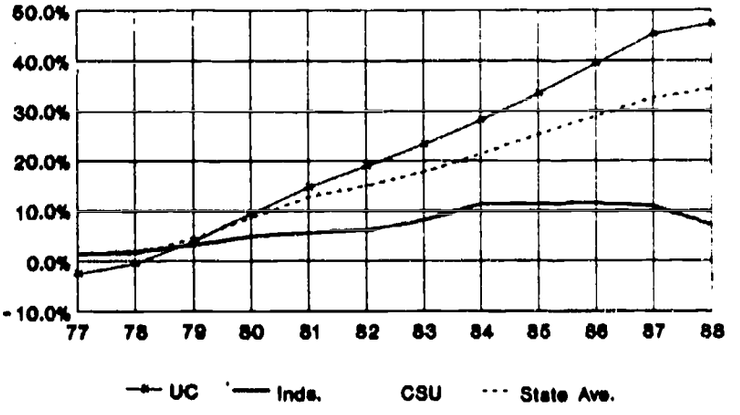
dent institutions with admissions standards comparable to the University slackened, recovered slightly, and then dropped again unexpectedly in an almost perfect tradeoff to movement in the University's rates.

Display 28 shows indexed movement in participation rates and powerfully depicts the tradeoff between enrollments in the University and the independent institutions, indicating clearly that the independent institutions have been losing market share to the University since 1980. The Commission believes that this phenomenon contributed strongly to the unexpected undergraduate enrollment pressures currently being experienced by the University.

The Commission suspects that a large part of the explanation for this shift of undergraduate enrollment to the University can be attributed to the dramatic widening of the tuition gap between it and independent institutions during that time. As Display 29 shows, average tuition at University-comparable independent institutions increased from $3,842 to $11,158 between 1977 and 1988. Even discounting that tuition for students receiving the maximum allowable Cal Grant A award, their tuition has still gone up from $1,142 to $5,908. In comparison, average fees charged at the University of California have risen from $706 to just $1,600. Clearly California's independent institutions have been losing cost competitiveness at a dramatic rate when compared to the University. As a result of this widening tuition gap, it appears that many students who previously would have been expected to choose to attend independent institutions have instead been enrolling in the University.

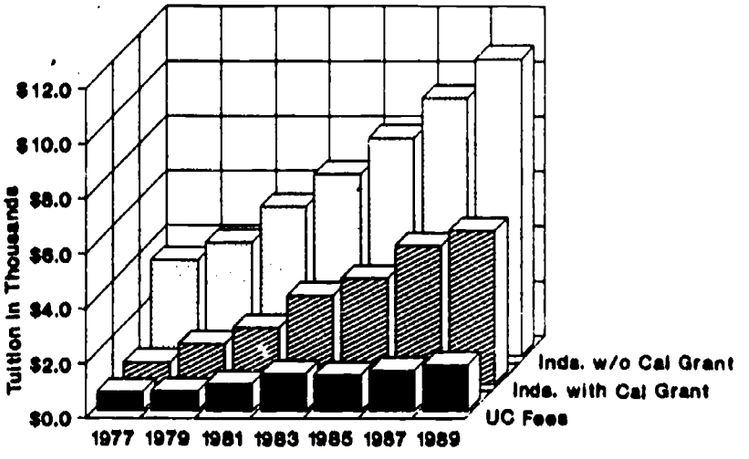
In order to try to estimate the extent of financial aid intervention that would be necessary to shift some of the University's captured market share back to independent institutions, the Commission has conducted a regression analysis of movement in participation rates of independent institutions associated with the percentage that Cal Grants cover of their tuition. Display 30 on page 50 shows the results of that analysis, indicating a very elastic response in participation rates from relatively slight movement in the Cal Grant percentage of independent institution tuition. In fact, this analysis indicates that in 1986, simply slowing the rate of increase in the tuition gap resulted in a positive reaction in independent institution participation rates. Even though

DISPLAY 28 Indexed Percentage Change in Participation Rates for California's Four-Year Postsecondary Education Segments, 1977 Through 1988



Source: California Postsecondary Education Commission.

DISPLAY 29 The Growing Tuition Gap Between the University of California and University-Comparable Independent Institutions, 1977 Through 1989

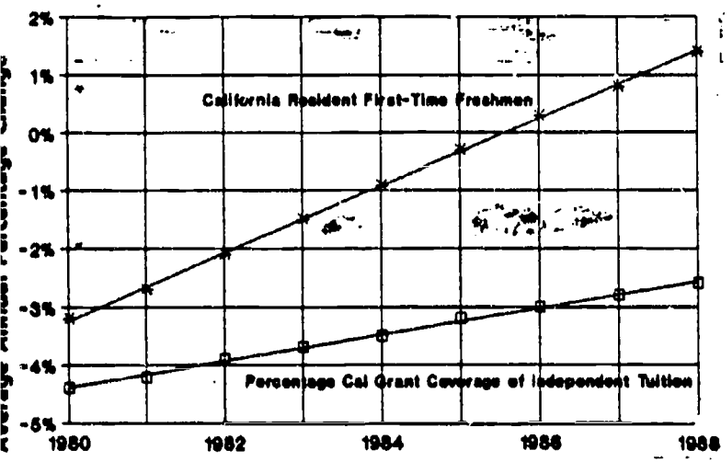


Source: California Postsecondary Education Commission.

the percentage that Cal Grants covered of independent tuition decreased by 3 percent that year, the tuition gap grew more slowly than it had the year before -- and independent participation rates actually improved that year.

This relationship between participation rates at independent institutions and the percentage that Cal Grants cover of the independent institutions' tuition can be extended to simulate the likely move-

DISPLAY 30 Least Squares Lines Indicating Participation Rates of California Resident First-Time Freshmen Attending University-Comparable Independent Institutions Compared to the Percentage of Tuition that the Maximum Cal Grant A Award Covers at These Institutions



Source: California Postsecondary Education Commission.

ment in independent enrollment that can be expected to result from various maximum Cal Grant levels. The Commission's analysis indicates that independent enrollment would increase substantially as a result of increasing the maximum Cal Grant award available for their students. Specifically, the Commission believes that somewhere between 1,300 and 1,700 California resident students per year would enroll in independent institutions rather than the University if the maximum allowable Cal Grant were funded at the levels indicated by current policy -- that is, by increasing the maximum allowable award for needy independent students approximately $1,300 per year, with the maximum award moving from $5,250 to $6,539. Since this projected annual shift involves first-time freshmen only, it must be multiplied by four to reflect the impact that this change would have on total undergraduate enrollment. Taking 1,500 as the average of the 1,300 to 1,700 projected students and multiplying by four results in a total shift of 6,000 California resident students from the University to independent institutions if Cal Grants were funded at the level currently defined in policy.

It should be pointed out that staff of the Association of Independent California Colleges and Universities has performed similar analyses and concluded that the shift in students from the University to independent institutions would be somewhat larger than these numbers indicated by the Commission's analysis. Regardless, both analyses indicate that the shift in demand would be substantial.

Accelerating growth at existing University of California campuses: There might be opportunity to defer the need for new University of California campuses by accommodating more undergraduates on existing campuses. If graduate enrollment plans are reduced, or if graduate growth is delayed, this potential could exist on all campuses. Even if the graduate plans remain the same, more undergraduates could be accommodated in the short-term on some campuses, and other campuses -- particularly the Riverside campus -- could grow beyond the levels indicated in the University's preliminary plan.

From 1984 to 1988, undergraduate enrollment at the University's Riverside campus grew from 3,300 to 5,800 students -- an average annual growth rate of 14 percent. The University's current growth plan proposes that from 1988 to 2005, Riverside's enrollment will grow from 5,800 to 12,000 undergraduates, or an average of 4.3 percent.

This analysis stands at some variance with what the University has been maintaining regarding the need for slow growth at the Riverside campus The main rationale for promoting slow growth are the demands that such growth places on the faculty, because of their responsibility for recruiting additional faculty to replenish retirements and accommodate growth. Because the University is proposing steep growth at Riverside in the early years of this planning cycle anyway, it is not clear what marginal benefits accrue to the faculty in the effort to mitigate recruitment demands. In the later years of the planning cycle, when annual growth will slow to as little as 3.1 percent a year, the institution will actually be in a better position to recruit additional faculty because a larger base of faculty will by that time exist to assume recruitment duties.

If the Riverside campus were to grow at 7.5 percent a year -- which is about half of what it has accomplished over the past four years and only about four-tenths of one percent above what the University proposes for the campus in the early years of this growth plan -- the campus would achieve an enrollment of 20,000 undergraduates in 2005; a net in-

crease in capacity for the campus, and hence the system as a whole, of 8,000 students.

Similarly, there may be potential for adjusting the undergraduate growth trajectories at other campuses in the University system as well, especially if adjustments are eventually made in the University's projected graduate enrollments. While Riverside is clearly the most striking example of such a possibility, this option should be seriously considered as the Long-Range Development Plan process moves forward on other campuses.

The University's graduate enrollment plan: The final alternative related to University of California enrollment growth is a revisiting of its graduate enrollment plan. Display 31 below recaps the current and proposed graduate proportions discussed earlier in this report -- from the current 18.2 percent to the University's best-case scenario of 21 percent in its 1987 Graduate Enrollment Plan, and to its 1988 proposal of 22.7 percent, which includes graduate/undergraduate ratios of 20/80 percent at its three proposed new campuses.

By using the University's own assumption that its graduate enrollments should be driven as a percentage of total undergraduate enrollments, it is possible to calculate the effects of the first two alternatives proposed in this section and examine the effects they would have on the University's needed graduate enrollments. This analysis begins with the University's own capacity estimates, which indicate that its existing campuses can achieve a cumulative capacity by 2005 of 196,950 students. Adding to that estimate a 7.5 percent annual growth rate at the Riverside campus between now and 2005 results in a capacity for 8,010 more students, or a total adjusted system capacity of 204,960.

DISPLAY 31 Current and Proposed University of California Graduate Student Proportions

Category	Percentage
Current Graduate Student Proportion	18.21%
Proposed System Proportion, 1987	19.8-21.0
Proposed System Proportion, 2005, Including New Campuses	22.7
Proposed System Proportion, 2005, Excluding New Campuses	23.35

Source: California Postsecondary Education Commission.

On the demand side, the University projects 161,800 undergraduates in 2005. If the Cal Grant maximum award level is increased to the level set in current policy, Commission analysis indicates that undergraduate enrollment demand for the University would decrease by 6,000 students, resulting in an adjusted undergraduate demand of 155,800 students.

Implementation of the preceding alternatives would result in a capacity surplus for the University of 36,910 students, admittedly before adding any graduate students. Viewed another way, this surplus can be seen as potential capacity to accommodate graduate enrollments. If the State ultimately determines that an increase in the University's proportion of graduate students is justified, a 21/79 ratio of graduate students to undergraduates for the system would utilize all remaining capacity in the system and displace 4,506 undergraduates, resulting in an undergraduate capacity deficit of 4,506 students in 2005. A capacity deficit of this size would be sufficient to warrant the development of one new campus.

While the 21/79 ratio is used for analytic purposes here, if deemed warranted by subsequent analysis, it would be only 3,000 graduate students fewer than the University is requesting, almost 3 percent higher than the University's current ratio, equal to the best-case scenario in the University 1987 Graduate Enrollment Plan, and only 1.7 percent lower than the graduate ratio the University is proposing in the current growth plan.

Conclusion: As noted earlier, the cumulative effect of these alternatives results is a projected undergraduate capacity deficit of 4,506 students in 2005 -- a figure sufficient to justify planning for the development of one new campus. If subsequent analyses determine that a lower ratio than 21/79 is warranted, this conclusion would result in an offsetting increase in undergraduate capacity and might work against the need for development of a new campus, at least in the short-term. In addition, it is possible that full funding of the maximum allowable Cal Grant for independent students could result in a larger shift of student demand from the University

to independent institutions than is currently projected, further mitigating the need for expansion. Finally, a re-examination of the means through which some campuses -- especially Berkeley and UCLA -- propose to achieve the State's goal of a 60/40 ratio of upper-division to lower-division undergraduates could increase the University's undergraduate capacity still further, again mitigating the need for expansion.

On the other hand, there is the possibility that the University's undergraduate enrollment projections are low. If total State population grows faster than expected, if high school graduation rates increase, or if the pace of diversification of the student body accelerates above projected trends, the University may be facing higher rates of undergraduate growth than are currently projected. To the extent that any of these possibilities come to pass, the Commission may be required, as early as the release of results from the 1990 Census, to revisit the issue of developing new campuses of the University.

At this point, projected undergraduate growth and the Commission's limited understanding of the need to expand graduate education in the University appear sufficient to warrant continued planning for the development of one additional campus. This approach will likely provide the University with sufficient capacity to continue to fulfill its historic commitment to undergraduate access, and will clearly provide it with substantial expansion potential after the year 2005. However, there are numerous factors outlined above for which understanding is still far from complete, and which as a result can only be projected with limited confidence. These factors, and the undeniably strong effects that they will have on future enrollment levels, argue strongly for an ongoing and dynamic planning process -- a process in which old assumptions can be revisited and revised as necessary, with the understanding that the growth needs of the University will almost certainly not decrease, they may well need to be substantially redefined either upward or downward between now and 2005.

Appendix Senate Concurrent Resolution 66 (1989)

SCR 66, Hart. California Postsecondary Education Commission: study of and recommendations regarding doctoral degrees issued by the University of California.

This measure would direct the California Postsecondary Education Commission to determine whether there has been an increase in time to completion of doctoral degrees awarded by the University of California, to study factors that have led or may lead to an increase in time to completion of doctorates, and to make recommendations, as specified.

This measure would require that the California Postsecondary Education Commission study and make recommendations regarding methods of increasing the number of minorities and women awarded doctoral degrees by the University of California, as specified.

WHEREAS, The State of California's public postsecondary education institutions exist to serve and educate all Californians; and

WHEREAS, Each year the racial-ethnic composition of the state's population becomes increasingly heterogeneous and the composition of the state's population becomes increasingly heterogeneous and the composition of student bodies of our universities becomes more diverse; and

WHEREAS, The nation's postsecondary education institutions are anticipating extensive faculty retirements by the year 2000; and

WHEREAS, As a result of the expected faculty retirements, California's public postsecondary education system anticipates needing at least 34,000 new postsecondary faculty, such that the University of California projects hiring at least 6,000 new faculty and the California State University projects hiring at least 8,000 new faculty; and

WHEREAS, This presents an opportunity to diversify the faculties of our postsecondary institutions by hiring more minority and women Ph.D.'s, who have been historically underrepresented; and

WHEREAS, It is the unique function of the University of California to grant doctoral degrees to those distinguished and qualified individuals who will comprise a significant portion of the new faculty applicant pool; and

WHEREAS, It is crucial that a substantial number of minorities and women have the opportunity to be awarded doctoral degrees in the next decade so that the postsecondary institutions of California and the nation have a broad range of candidates from which to choose for the replenishment of faculty positions; and

WHEREAS, There have been recent reports indicating that the time to completion of doctoral degree programs has increased, such that students now take longer to earn doctorates; and

WHEREAS, The decreased rate of progress toward doctorates may signal coming shortages of teachers, scientists, and other professionals; now, therefore, be it

Resolved by the Senate of the State of California, the Assembly thereof concurring, That the Legislature hereby directs the California Postsecondary Education Commission to determine whether there has been an increase in time to completion of doctoral degrees awarded by the University of California, and to study the factors which have led or may lead to an increase in time to completion of doctorates, and to make specific recommendations relative to methods of increasing the rate of progress toward receiving doctoral degrees awarded by the University of California without compromising the integrity of the academic process; and be it further

Resolved, That the California Postsecondary Education Commission shall address in its study and recommendations at least each of the following areas:

(1) A comparison of doctoral programs to professional programs including an examination of the institutional and social changes affecting those programs.

(2) Increases in the financial burdens students face in earning doctorates and ways of reducing these financial pressures, including an examination of financial support packages and housing;

(3) Increases in the professional burdens students face in earning doctorates and ways of reducing these professional requirements, including an examination of teaching and research commitments and publication requirements necessary for career placement;

(4) Alternative methods of restructuring doctoral programs to streamline degree requirements and reduce time to completion of degree if found necessary, including, but not limited to, a study of any alternative methods being utilized by the University of California and other major research universities in the United States or elsewhere; and be it further

Resolved, That the California Postsecondary Education Commission shall also study and make specific recommendations relative to methods of increasing the number of minorities and women awarded doctoral degrees by the University of California and shall address in its study and recommendations at least each of the following areas:

(1) The recruitment of minorities and women into doctoral degree programs, including an examination of undergraduate preparation, academic research internships, and mentoring by faculty;

(2) The retention of minorities and women in doctoral degree programs, including an examination of degree requirements, financial support packages, teaching and research commitments, housing, length of time to completion of the degree program, counseling and advisement, and mentoring by faculty;

(3) The career placement of minorities and women awarded doctoral degrees, including an examination of the career placement within the University of California and the California State University; and be it further

Resolved, That no later than 12 months after the enactment of this resolution, the California Postsecondary Education Commission shall submit the results of its study, including specific recommendations, to the Legislature, the Regents, President, and Chancellors of the University of California, the Trustees, Chancellor, and Presidents of the California State University, the Board of Governors of the California Community Colleges, and to the governing bodies of the members of the Association of Independent California Colleges and Universities; and be it further

Resolved, That the Secretary of the Senate shall transmit a copy of this resolution to the California Postsecondary Education Commission, and the governing body for each segment of public higher education in California.

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CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature.

Members of the Commission

The Commission consists of 15 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly. The other six represent the major segments of postsecondary education in California.

As of February 1990, the Commissioners representing the general public are:

Mim Andelson, Los Angeles;
C. Thomas Dean, Long Beach;
Henry Der, San Francisco;
Seymour M. Farber, M.D., San Francisco;
Rosalind K. Goddard, Los Angeles;
Helen Z. Hansen, Long Beach;
Lowell J. Paige, El Macero; *Vice Chair;*
Cruz Reynoso, Los Angeles; *Chair;* and
Stephen P. Teale, M.D., Modesto.

Representatives of the segments are:

Meredith J Khachigian, San Clemente: appointed by the Regents of the University of California:

Theodore J. Saenger, San Francisco; appointed by the Trustees of the California State University:

John F. Parkhurst, Folsom; appointed by the Board of Governors of the California Community Colleges;

Harry Wugalter, Thousand Oaks; appointed by the Council for Private Postsecondary Educational Institutions;

Joseph D. Carrabino, Orange; appointed by the California State Board of Education; and

James B. Jamieson, San Luis Obispo; appointed by the Governor from nominees proposed by California's independent colleges and universities.

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs."

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including community colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory planning and coordinating body, the Commission does not administer or govern any institutions, nor does it approve, authorize, or accredit any of them. Instead, it cooperates with other State agencies and non-governmental groups that perform these functions, while operating as an independent board with its own staff and its own specific duties of evaluation, coordination, and planning,

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California. By law, its meetings are open to the public. Requests to speak at a meeting may be made by writing the Commission in advance or by submitting a request before the start of the meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, Kenneth B. O'Brien, who is appointed by the Commission.

The Commission publishes and distributes without charge some 30 to 40 reports each year on major issues confronting California postsecondary education. Recent reports are listed on the back cover.

Further information about the Commission, its meetings, its staff and its publications may be obtained from the Commission offices at 1020 Twelfth Street, Third Floor, Sacramento, CA 98514-3985; telephone (916) 445-7933.

HIGHER EDUCATION AT THE CROSSROADS: PLANNING FOR THE TWENTY-FIRST CENTURY

California Postsecondary Education Commission Report 90-1

ONE of a series of reports published by the Commission as part of its planning and coordinating responsibilities. Additional copies may be obtained without charge from the Publications Office, California Postsecondary Education Commission, Third Floor, 1020 Twelfth Street, Sacramento, California 95814-3985.

Recent reports of the Commission include:

89-21 State Oversight of Postsecondary Education: Three Reports on California's Licensure of Private Institutions and Reliance on Non-Governmental Accreditation [A reprint of Reports 89-13, 89-17, and 89-18] (June 1989)

89-22 Revisions to the Commission's Faculty Salary Methodology for the California State University (June 1989)

89-23 Update of Community College Transfer Student Statistics, 1988-89: The University of California, The California State University, and California's Independent Colleges and Universities (August 1989)

89-24 California College-Going Rates, Fall 1988 Update: The Twelfth in a Series of Reports on New Freshman Enrollments at California's Colleges and Universities by Recent Graduates of California High Schools (September 1989)

89-25 Overseeing the Heart of the Enterprise: The Commission's Thirteenth Annual Report on Program Projection, Approval, and Review Activities, 1987-88 (September 1989)

89-26 Supplemental Report on Academic Salaries, 1988-89: A Report to the Governor and Legislature in Response to Senate Concurrent Resolution No. 51 (1965) and Subsequent Postsecondary Salary Legislation (September 1989)

89-27 Technology and the Future of Education: Directions for Progress. A Report of the California Postsecondary Education Commission's Policy Task Force on Educational Technology (September 1989)

89-28 Funding for the California State University's Statewide Nursing Program: A Report to the Legislature in Response to Supplemental Language to the 1988-89 Budget Act (October 1989)

89-29 First Progress Report on the Effectiveness of Intersegmental Student Preparation Programs: One of Three Reports to the Legislature in Response to Item 6420-0011-001 of the 1988-89 Budget Act (October 1989)

89-30 Evaluation of the Junior MESA Program: A Report to the Legislature in Response to Assembly Bill 610 (Hughes) of 1985 (October 1989)

89-31 Legislation Affecting Higher Education During the First Year of the 1989-90 Session: A Staff Report of the California Postsecondary Education Commission (October 1989)

89-32 California Colleges and Universities, 1990: A Guide to Degree-Granting Institutions and to Their Degree and Certificate Programs (December 1989)

90-1 Higher Education at the Crossroads: Planning for the Twenty-First Century (January 1990)

90-2 Technical Background Papers to *Higher Education at the Crossroads: Planning for the Twenty-First Century* (January 1990)

90-3 A Capacity for Learning: Revising Space and Utilization Standards for California Public Higher Education (January 1990)

90-4 Survey of Space and Utilization Standards and Guidelines in the Fifty States: A Report of MGT Consultants, Inc., Prepared for and Published by the California Postsecondary Education Commission (January 1990)

90-5 Calculation of Base Factors for Comparison Institutions and Study Survey Instruments: Technical Appendix to *Survey of Space and Utilization Standards and Guidelines in the Fifty States*. A Second Report of MGT Consultants, Inc., Prepared for and Published by the California Postsecondary Education Commission (January 1990)

90-6 Final Report, Study of Higher Education Space and Utilization Standards/Guidelines in California: A Third Report of MGT Consultants, Inc., Prepared for and Published by the California Postsecondary Education Commission (January 1990)

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