An LAO Report

Year-Round Operation in Higher Education

Introduction

Higher education will experience steady, moderate enrollment growth over the next decade. As a result, most University of California, California State University, and California Community College campuses will soon reach their current capacities. The state will then be faced with providing space for these students.

LAO Recommendations

In order to serve these students, we recommend that the three segments move to year-round operation. This means the segments would provide the same level of educational services in the summer as they now provide in the fall, winter, and spring.

By going year-round, the state could serve up to one-third more students in existing instructional facilities and save several billions of dollars that would otherwise be spent on additional buildings. Year-round operation would have no impact on faculty workload. It would also increase students' access to high-demand campuses and allow students to accelerate their time to degree (if they so desired).

Implementation Issues

To move the segments to year-round operation, we recommend that the Legislature:

- ***Fund Capital Outlay Based on Year-Round Operation.*** The state should fund additional instructional facilities only when existing facilities reach their capacities in all four quarters (or three trimesters) of operation.

- ***Give Campuses Flexibility.*** The state should give the segments maximum flexibility in expanding to year-round operation.

- ***Fully Fund All Enrollment Growth.*** The state should fund all enrollment growth, regardless of when students attend classes.

- ***Set Appropriate Fees for Summer Terms.*** The segments should charge no more in summer than they charge in the other terms.

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INTRODUCTION

The three segments of higher education—the University of California (UC), the California State University (CSU), and the California Community Colleges (CCC)—currently have the physical capacity to serve more students. Given projected growth in enrollment over the coming years, however, the segments will soon "run out of room."

The state will then have to decide how to provide the capacity to serve more students. It has two basic options: build new facilities or use existing facilities in a more efficient manner. One of the more promising options in the latter category is year-round operation. This basically involves the use of higher education facilities during the summer, thereby providing complete instructional services over the entire year. The Governor notes in his budget summary that he is interested in specific actions that could be taken by the segments to implement options like year-round operation:

In this report, we:

- Review current enrollment and capacity numbers for the segments and describe the challenge the state faces in accommodating enrollment growth.
- Describe year-round operation and show the potential capital savings to the state of using this option.
- Describe the impacts of year-round operation on students, faculty, and segments' operating costs.

Based on our review, we recommend that the state go to year-round operation at all the segments. We also provide recommendations on phasing in this change, along with other implementation issues.

ENROLLMENT AND CAPACITY

Projected Enrollment

There are many entities that project higher education enrollments, but they all reach a similar conclusion: the segments will experience steady and moderate annual increases in students over the next 10 to 15 years. For the purposes of this report, we have used the projections of the Department of Finance. (While we believe these estimates are on the high side, it allows us to examine the upper end of the capacity needs throughout higher education.)

We have adjusted the department's projections in two ways. First, we have converted "headcount" projections (that is, the number of students on a campus) to full-time equivalent (FTE) students and then adjusted them to reflect only that enrollment that generates a need for space on campus. (Some enrollment—such as student teaching and students

using distance learning—does *not* generate a need for space on campus.) The projections with these adjustments are shown in Figure 1. All references to enrollment related to capacity in this report refer to enrollment that generates a need for space on-campus.

Figure 1

Department of Finance Enrollment Projections

Full-Time-Equivalent (FTE) Students (Adjusted[a])

Annualized	1998 Enrollment	2007-08 Projected Enrollment	Enrollment Increase
University of California	139,059	176,000	37,000
California State University	248,814	325,000	76,000
Community Colleges	920,300	1,110,000	190,000
Totals	**1,308,173**	**1,611,000**	**303,000**

[a] FTE numbers have been adjusted *downward* to reflect only enrollment that generates a need for space on campus.

Figure 2

University of California
Current Enrollment Compared to Capacity

Full-Time Equivalent (FTE) Students (Adjusted[a])

Campus	Current Capacity	1998-99 Enrollment	Capacity Available for Additional Enrollment
Berkeley	33,584	26,465	7,119
Davis	22,368	19,163	3,205
Irvine	15,814	14,744	1,070
Los Angeles	38,357	26,561	11,796
Riverside	10,913	9,116	1,797
San Diego	18,029	16,085	1,944
Santa Barbara	18,973	17,040	1,933
Santa Cruz	11,867	9,885	1,982
Totals	**169,905**	**139,059**	**30,846**

[a] FTE numbers for enrollment have been adjusted downward to reflect only enrollment that generates a need for space on campus.

CURRENT CAPACITIES

Below, we compare the current capacities of each of the segments with current enrollments.

University of California

Enrollment at UC in 1998-99 is about 139,000 FTE. Figure 2 shows current enrollment, current capacity, and capacity available for additional enrollment at each UC general campus. Concern over the ability of UC to accommodate projected enrollment led the Legislature to include language in the *Supplemental Report of the 1998-99 Budget Act* asking UC to evaluate options for accommodating enrollment growth through 2010 and to report back to the Legislature by March 1, 1999. This report should assist the Legislature in determining the need for more space at UC. However, as shown in Figure 2, UC could accommodate an *additional* 30,846 FTE students (22 percent above current enrollment) in *existing* facilities.

Research at the University of California. The University of California, as the state's designated

research institution, needs space for these activities along with space designated for instruction. The UC has also consistently maintained that research facilities are required in order to hire the faculty necessary to instruct an increasing undergraduate enrollment and that undergraduate instruction is provided in these facilities. In view of this, we have used UC space data to compare the current amount of research space to the amount "needed" based on current enrollment and faculty. The data show that the UC system has 8.5 million assignable square feet (asf) of research space. Our analysis of the data indicates that this is about 1.3 million asf above the amount "needed."

California State University

Enrollment at CSU for 1998-99 is about 253,000 FTE compared to a capacity of 288,000 FTE. Figure 3 provides a campus-by-campus comparison of

Figure 3

California State University
Current Enrollment Compared to Current Capacity

Full-Time Equivalent (FTE) Students (Adjusted[a])

Campus	Current Capacity[b]	1998-99 Enrollment	Capacity Available for Additional Enrollment
Bakersfield	4,552	4,335	217
Chico	13,718	12,373	1,345
Dominguez Hills	9,931	7,148	2,783
Fresno	16,110	14,058	2,052
Fullerton	18,755	17,033	1,722
Hayward	11,300	9,210	2,090
Contra Costa Off-Campus Center	1,000	633	367
Humboldt	7,078	6,539	539
Long Beach	22,737	19,707	3,030
Los Angeles	16,022	12,447	3,575
Maritime Academy	1,108	553	555
Monterey Bay	1,800	1,668	132
Northridge	22,884	18,223	4,661
Channel Islands Off-Campus Center[c]	1,100	801	299
Pomona	14,027	13,206	821
Sacramento	21,849	17,026	4,823
San Bernardino	11,719	9,811	1,908
San Diego	24,161	22,610	1,551
Calexico	764	511	253
San Francisco	18,361	18,700	—
San Jose	20,458	17,905	2,553
San Luis Obispo	15,267	13,877	1,390
San Marcos	4,381	3,405	976
Sonoma	5,368	5,226	47
Stanislaus	4,738	3,921	817
Stockton Off-Campus Center	850	384	466
Totals	**288,930**	**253,046**	**35,883**

[a] The FTE numbers for enrollment have been adjusted downward to reflect only enrollment that generates a need for space on campus.

[b] Includes projects funded for construction through 1998-99 and facilities designated by the Trustees as "temporary."

[c] The CSU Channel Islands currently operates as an Off-Campus Center of CSU Northridge and its fall 1998 enrollment is included in Northridge's. The Trustees have expressed the intent to operate the site as a center until enrollment reaches 5,000 FTE, at which time consideration will be given to establishing it as a campus. No master plan capacity has been established for the center. Existing buildings, however, have been altered to accommodate an enrollment of 1,100 FTE.

current enrollment, current capacity, and capacity available for additional enrollment. As the figure shows, the CSU system could enroll over 36,000 FTE additional students (14 percent above current enrollment) in *existing* facilities. The amount of available space for more enrollment varies by campus from over 4,000 FTE students at Northridge and Sacramento to less than 100 FTE students at two campuses.

California Community Colleges

On a statewide basis there is substantially more capacity than enrollment at the 71 community college districts. However, students at the 106 campuses encompassed by these 71 districts are almost exclusively commuters and practical choices of campuses for them are generally limited by geography. Currently, 67 districts could accommodate additional enrollment in existing instructional space. As enrollments increase, the need for additional instructional space will depend on the amount of existing space and the enrollment growth at each district. Based on district-by-district enrollment projections produced by the Chancellor's Office, additional instructional space will be needed at 31 of the 67 districts by 2005-06.

Impact of Enrollment Growth

If public higher education in California continues to operate on the traditional three-quarter (or two semester) schedule, instructional space shortages will be experienced in the not-too-distant future. Based on the enrollment projections discussed above, CSU will experience shortages sometime after 2001-02 and UC after 2005-06. Community colleges present a mixed picture, but many districts will experience shortages by 2005-06.

Cost of Meeting Growth Through New Construction

Given the way the state currently uses its capacity, the higher education segments will soon run out of space and require new facilities. To estimate the capital costs associated with these facilities, it would be necessary, for instance, to know the enrollment break-out by segment and what the mix would be of construction on existing campuses and development of new campuses. These factors cannot be predicted with any degree of certainty, but it is possible to gain some understanding of the magnitude of the potential cost by examining the five-year capital outlay plans of the segments. For example, the CSU plan provides for expenditures of almost $547 million during the next five years for instructional buildings that will increase that segment's capacity by over 29,000 FTE students. The costs to provide requested facilities to UC and CCC combined could easily be of the same magnitude.

YEAR-ROUND OPERATION

Given the costs noted above, it is critical to consider alternative ways of accommodating enrollment growth. One such option is year-round operation.

What Is Year-Round Operation?

Currently, most higher education facilities do not conduct regular terms during the summer. Year-round operation means that campuses would conduct regular academic programs over the entire calendar year—including during the summer. Rather than serving students during three quarters or two semesters, campuses would provide courses in four quarters or three trimesters. A year-round campus would provide courses and services in quantity and quality that were comparable in every term during the year. With perhaps slight variations, enrollments would be equal in each of the terms, including summer.

Year-round campuses could provide a full academic year of instruction to one-third more students per calendar year compared to the traditional three-quarter or two-semester campuses. This would be done without increasing the number of students on campus at any one time. Students could respond to year-round operation in many ways. Some students might vary the seasons in which they take their annual break. Others might choose to attend on a year-round basis in order to graduate more quickly. Similarly, faculty would have a choice among four seasons in which to take their breaks, or they could choose to teach an additional term for additional compensation.

It is important to emphasize that the enrollment at a campus must be scheduled so that it is generally uniform over all four quarters. To do so, students who would otherwise attend school only in the fall, winter, and spring terms would have to adjust their scheduled to attend some summer terms.

The state has had experience with year-round operation (see nearby box on the history of the state experience). Currently, however, only four CSU campuses offer state-supported summer terms, albeit on a limited basis. The remaining CSU campuses and all UC campuses do not operate year-round. Instead of offering state-supported summer terms, these campuses offer summer sessions providing a limited number of courses to matriculated and nonmatriculated students. The campuses do *not* receive direct state support for the matriculated students in these courses, and they generally charge significantly higher fees per course. These summer sessions and state-supported summer terms differ as indicated in Figure 4.

Impact of Year-Round Operation

If the state implemented year-round operation, it would have the effect of increasing the "capacity" of the higher education segments by up to one-third. Figure 5 illustrates the additional capacity year-round operation would provide at UC and CSU. As shown in Figure 5 (see page 8), a total of over 150,000 FTE additional students could be accommodated within existing facilities at UC and CSU by adoption of year-round operation. This is significantly higher than the 113,000 FTE student

enrollment increase projected by 2007-08. Thus, under a full program of year-round instruction, both UC and CSU would have ample capacity well beyond 2007-08.

Year-round operation would also increase the CCC's ability to accommodate more students. We are not able, however, to quantify how long it would extend the capacity of all the districts throughout the state.

As shown above, the use of year-round operation would allow the state to meet the facilities demands of projected enrollment growth for many years to come without spending another cent on *additional* instructional facilities. Over the longer run, the state would avoid facilities costs equivalent to about one-third the value of the segments' current capacities. For instance:

- ***The CSU,*** based on the current five-year capital outlay plan, would spend about $2 billion to increase its effective capacity by up to 95,000 FTE.
- ***The UC*** would increase its effective capacity by about 55,000 FTE. The cost to build this space, if comparable to CSU, could easily exceed $1 billion.
- It is much more difficult to estimate the effective increase in capacity at the community colleges. As with UC, however, the costs avoided could easily be in excess of $1 billion.

Thus, while it is difficult to quantify the total costs avoided by year-round operation, they could easily be several billions of dollars.

Given these major capital costs that could be avoided by moving to year-round operation, the obvious question is: Why not do it? Below, we examine the impacts that year-round operation would have on the segments.

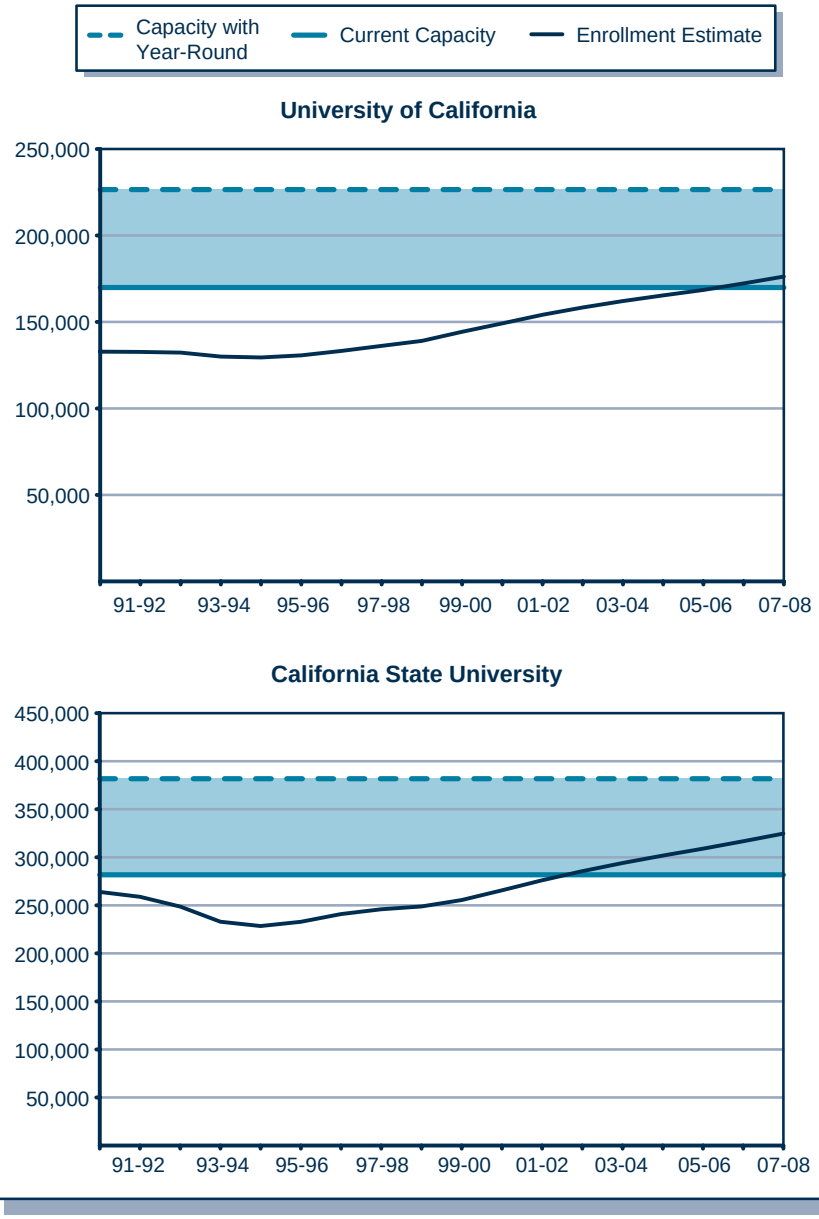
Figure 4

Difference Between Summer Terms and Summer Sessions

	State-Supported Summer Terms	Self-Supporting Summer Sessions
Enrollment	Only matriculated students can enroll.	Any individual can enroll.
Student fees	Students pay the same fees as they do during the rest of the year.	Students, on average, pay higher fees than they do the rest of the year.
College credit	Course credit applies directly to students' progress.	Course credit typically does not automatically apply to students' progress.
State funding	The state directly funds summer full-time equivalent (FTE) students at the marginal cost.	The state does not directly fund summer FTE.

Figure 5

Year-Round Operations Addresses Growth for Foreseeable Future



Year-Round Operations . . . A Brief History

Original Master Plan Called for Year-Round Operation of Campuses. A 1955 report, the *Restudy of the Needs of California Higher Education,* recommended that college campuses convert to year-round operation so that they could maximize the use of all their existing facilities before building new facilities or campuses. In 1960, the *Master Plan* survey team echoed this recommendation and advocated both year-round operation and state funding for summer terms.

Legislature Provided Funding for Year-Round Operations in 1964. In 1964, the Legislature, for the first time, appropriated funds for UC and CSU campuses to convert to year-round operation. Between 1965 and 1968, four CSU campuses—Hayward, Los Angeles, Pomona, and San Luis Obispo—and two UC campuses—Berkeley and Los Angeles—instituted state-supported summer quarters.

Following these conversions, the Coordinating Council for Higher Education (CCHE)—the forerunner to the California Postsecondary Education Commission—contracted with a private consulting firm to evaluate year-round operation at UC and CSU campuses. The firm concluded that year-round operation generated significant savings. Given the firm's findings, the CCHE encouraged the Governor and Legislature to provide the necessary financial support to sustain existing summer terms and to promote additional conversions.

Progress to Year-Round Operations Slowed in Late 1960s. In the 1968-69 and 1969-70 budgets, the Governor vetoed planning funds for four additional CSU campuses to convert to year-round operation. In 1969, the Trustees decided to phase out state-supported summer quarters. The Trustees claimed that more students could be accommodated systemwide for the same number of dollars if they enrolled during the academic year rather than the summer. In 1969, the Regents also decided to terminate existing summer quarters and to halt all future plans to implement summer quarters at other campuses. Although summer enrollments at Berkeley had reached 36 percent of fall-term enrollments in just two years, the Regents cited low enrollment and a deterioration of services to teachers and students who could not attend a full 12-week session as the key reasons for termination of the summer term at Berkeley and UCLA.

Summer Sessions Discontinued at UC. The *1970-71 Governor's Budget* reflected these decisions and proposed to eliminate completely the summer quarter at public colleges and universities. In the *1970-71 Analysis of the Budget Bill,* the Legislative Analyst recommended that the Legislature reaffirm its approval of year-round operation, finding "The decision to eliminate enrollment of qualified students by discontinuing the efficient year-round use of extremely high-cost facilities must be considered as a major loss of both dollar and educational values." In 1970, the legislative conference committee did not restore funds for summer operations at UC Berkeley and UCLA, but it did restore funds from internal budget savings for summer operations at the four year-round state colleges.

Limited Year-Round Operations at Four CSU Campuses. The CSU campuses at Los Angeles, Pomona, San Luis Obispo, and Hayward operate summer terms on a limited basis. In 1997, for example, summer FTE enrollments on these campuses averaged 29 percent of enrollments during the fall. Enrollments in the summer term ranged from 15 percent of fall enrollments at San Luis Obispo, to 41 percent of fall enrollments at Hayward.

THE IMPACTS ON HIGHER EDUCATION

Based on our visits to campuses, it is clear that serving students on a year-round basis presents many challenges and opportunities to administrators, faculty, staff, and students. In this section, we evaluate how year-round operation might affect higher education. Specifically, we examine year-round operation from the following perspectives:

- ***Operating Costs of Year-Round Operation.*** How might year-round operation affect the costs of delivering higher education services?
- ***Students.*** How might year-round operation affect the price and quality of educational and other services provided to college students?
- ***Faculty.*** How might year-round operation affect the terms of faculty employment and their ability to provide instruction and conduct research?
- ***Extracurricular Activities.*** How might year-round operation affect the ability of campuses to provide services to nonmatriculating students?

Impacts on Operating Costs

Instruction Costs

Experience at the four CSU campuses now on year-round schedules suggests that, at least for the relatively few summer courses they now offer, instruction costs are *lower* than during the nonsummer months. As Figure 6 shows, for example, CSU Hayward estimates that its costs per FTE in the summer ($493 per FTE) are 42 percent of costs in nonsummer terms ($1,155 per FTE).

Figure 6

Direct Instruction Costs at CSU Hayward

	Summer 1997-98	Nonsummer 1997-98[a]
Direct instruction costs (per FTE)	$493	$1,155
Student/faculty ratio	30.3:1	20.8:1

[a] Figures are averages of the fall, winter, and spring terms.

The reasons for these lower costs are many. Campuses indicate, for example, that they are more selective in offering courses in summer that generate above-average enrollments (reflected by the much larger student/faculty ratio for summer courses). Campuses indicate, too, that they generally employ a higher-than-average percentage of instructors (rather than more costly full-time faculty) to teach their summer courses. They also employ full-time personnel to teach additional courses in summer. In doing so, they save some benefit costs.

As campuses increase summer enrollments with year-round operation, they likely would employ full-time faculty in the same percentages as they do in nonsummer terms. Over time then, the cost per FTE student in summer would approach costs in the nonsummer months. We have not seen any evidence, however, that summer instructional costs

would become *higher* than in nonsummer months. Staff and faculty with whom we have discussed this matter generally agree.

Overhead Costs

Some higher education officials expressed concern that various overhead costs (administrative, instructional support, student support, and maintenance services) that are driven by student headcounts might be higher per FTE in the summer than in the nonsummer months. They indicated that the course load for students in summer programs is typically lower than for students in nonsummer courses. As a result, the number of individual students (headcount) per FTE student is greater in most summer programs.

For example, the financial aid and registrar's offices must process applications each quarter or semester for students, whether the students pursue only a few credits or a full complement of 15 units each. According to data from the CSU, these student "cycling" costs account for approximately 3.5 percent of total administrative costs. If students enrolled in an average of 9 units in summer, rather than 15 units in the nonsummer months (we discuss later how the campuses could encourage students to take fuller workloads in the summer), then cycling costs per FTE in summer would be 33 percent higher than in nonsummer months. Increased cycling costs, therefore, could increase administrative costs by roughly 1.2 percent (33 percent times 3.5 percent).

Increases in cycling costs, however, could be offset by other savings in other administrative costs. For instance, many administrative, instructional support, student services, and maintenance functions are staffed to meet fluctuating levels of student activity over the course of the year. Nevertheless, campuses do face periods when staffing exceeds student demand—such as during the summer months. To the extent that campuses increase student activity in the summer months, campuses could use some already available staffing at little additional costs to provide the necessary services.

Furthermore, by serving more students in summer months, the higher education segments could also reduce long-term overhead costs per student. Each campus, whether serving 5,000 or 30,000 students, for example, employs chancellors, deans, registrars, and other administrative personnel. When expanding enrollments in the summer, existing campuses do not employ proportionally more of these positions. (Economists refer to this as "economies of scale.") Indeed, the data show that administrative costs per FTE student by campus decreases significantly with increasing enrollments on campus.

On balance, campuses should be able to reduce the administrative costs of serving students by expanding to the summer months. This is because any increased cycling costs would likely be less than savings from increased economies of scale in providing overall administrative services.

Impacts on Maintenance

Wear and tear on campus buildings is a function of time and the amount of use the facilities receive. If the number of students on a campus increased as a result of year-round operation, facilities would

experience greater wear. The wear caused by additional students in summer, however, would be similar to what would have occurred in additional buildings that would be needed in the absence of year-round operation. As a consequence, year-round operation would not create any net increase (or decrease) in wear on buildings.

Some campus officials have expressed concern that serving more students in summer would reduce the opportunities they have to maintain or repair facilities in the "off season." Although a consideration, campus maintenance managers with whom we spoke indicated that they could plan and execute maintenance schedules even if enrollments grew significantly in summer. They noted that they currently conduct many major maintenance and renovation projects on campuses during the nonsummer quarters and semesters, when enrollments are at their peak. In some cases, however, campuses might incur marginally higher maintenance costs on some projects—for example, to the extent that they shifted work from daytime summer hours to evenings and weekends (at overtime prices). Nevertheless, maintenance personnel generally agreed that any additional costs would not be significant.

Utility Costs

Some people with whom we spoke suggested that in serving more students in summer months, campuses would incur higher utility costs due to air conditioning demands. Our analysis of campus utility costs, however, indicates that summer cooling costs would not increase as much as one might imagine. This is because campuses now cool many buildings in summer, even without using them at or near their capacities. Campuses often must cool entire buildings even when used by only a few people. They also cool buildings to protect them and electronic equipment from high temperatures.

Without year-round operation, the higher education segments would have to incur new costs to heat and cool new buildings to meet growing enrollments. These costs likely would be greater than any added costs to increase air conditioning somewhat during the summer at existing facilities. For example, in an analysis of its heating and cooling costs, CSU Long Beach found that increasing air conditioning in summer would cost less than conditioning new buildings to serve the same number of students.

Impacts on Students

In the view of many, a key consideration in year-round operation is how it would affect students:

- Would students attend college in the summer?
- How would summer enrollment affect the ability of students to find employment?
- How might summer enrollment affect the cost of attending college and the availability of financial aid?

Would Students Attend College in Summer?

What if campuses expanded to year-round operation and too few students attended? After all, students have traditionally attended college in the nonsummer months and many have worked in

summer to help pay for education costs. There are many reasons, however, why campuses should be able to attract students to summer courses.

Students Do Value Summer Attendance. While full summer terms are the exception, several colleges have implemented year-round operation. In a 1989 survey, CSU students ranked "summer courses at regular fees" as the highest priority that the campus could initiate to assist them to "reach their educational goals."

Colleges in other states are expanding summer operations with encouraging success. The University of Washington has placed year-round operation as one of its top priorities to accommodate growing enrollments and promote student access. To attract students to summer courses, it plans to implement annual fee increases in the fall, and encourage entering freshmen to begin courses right after high school graduation. Student representatives on campus have backed year-round plans. Simon Fraser College in British Columbia, which implemented a year-round trimester schedule when it opened in 1966, does not mandate summer attendance for any of its 2,500 students, but maintains equal enrollments in each of its three terms. Approximately 60 percent of its students choose to attend school all year to shorten their time to degree, while the other 40 percent take one semester off per year.

Some UC and CSU officials point to relatively low enrollments in summer sessions as evidence that students would not attend summer terms in numbers comparable to nonsummer terms. It is not accurate to compare the potential demand for summer terms with current use of summer sessions, however, because:

- ***Summer Sessions Do Not Offer Wide Ranges of Courses.*** Campuses typically offer few classes in summer compared to fall, winter, and spring terms. If campuses offered a comparable breadth of courses in summer as in nonsummer terms, students could better meet their curricular needs by attending in summer. Even the four CSU campuses that now offer summer terms offer much less varied curricula in summer than they offer during the other terms.

- ***Summer Classes Usually Are More Crowded.*** Summer session classes at CSU and UC typically have more students per instructor than do classes in nonsummer terms. Students might receive, or perceive they are receiving, less attention in summer classes than at other times.

- ***Summer Classes Are Taught Less Frequently by Full-Time Faculty.*** In summer, both CSU and UC use a higher percentage of part-time instructors—rather than full-time faculty—than in nonsummer terms. Students might receive, or perceive they receive, less instructional quality in summer courses.

- ***Students Are Charged More for Summer Classes.*** Students might receive *less* quality from current summer session courses, but they pay *more* for them than they pay for nonsummer courses. At all but four CSU

campuses, students are charged between 120 percent (lecture courses) and 160 percent (laboratory courses) more in summer than for the other terms. (Summer and nonsummer fees are the same at Hayward, Los Angeles, San Luis Obispo, and Pomona.) At UC campuses, students are charged approximately 15 percent more for summer session classes.

Given that summer sessions generally charge students more for a more limited range of courses and have more crowded classes and less experienced instructors, it should not be surprising that they attract as few students as they do. If campuses offered students summer classes with a comparable range of offerings, quality, and price as they do in nonsummer terms, student demand for summer classes might increase significantly. (In the accompanying box, we describe how current pricing policies run counter to basic economic principles.)

Summer Classes Might Appeal to Many Students. Some students simply might prefer to take courses in summer rather than during some other season. They might, for example, prefer to vacation or work during winter or spring. Others might prefer to pursue their studies with few if any breaks during the year in order to finish their degrees more quickly. It would be surprising if higher education, unlike virtually all other services, could not attract customers during the summer if it offered services comparable to those it offers in other seasons.

Year-Round Operation Would Open More Spaces in High-Demand Campuses. The most popular CSU and UC campuses currently turn away many eligible candidates. The CSU San Luis Obispo campus, for example, recently accepted 38 percent of applicants. The UC Berkeley and UCLA campuses recently accepted 30 percent and 33 percent of resident freshmen applicants. Even if popular campuses required students to attend at least some summer terms, demand for enrollment

Summer Pricing Practices Contradict Basic Economics

Businesses typically charge customers less during periods of off-peak demand than they charge during peak periods. Telephone companies, for example, charge users much lower rates to call during the late evenings and on weekends when telephone traffic is low. Economists call the "extra" charge for peak-hour calls either "peak pricing" or "capacity charges." Callers during peak hours cause phone companies to invest capital in more telephone lines, switches, and other capacity to meet peak use. Callers at off-peak hours do not create any need to build additional capacity. Many other businesses use peak and off-peak pricing: for example, hotels and tourist attractions, movie theaters, private toll roads, and parking facilities.

Unlike other businesses, the state prices educational services on college campuses contrary to peak-load pricing methods. Not only does it not provide a lower off-peak price for students enrolling in summer months (when summer enrollments are far below capacities), it actually turns nonpeak pricing on its head by charging *more* for using facilities during summer months.

would likely remain high. Summer terms, then, would increase access to high-demand campuses.

Year-Round Operation Could Increase Employment Opportunities for Some Students

Currently, students seeking summer employment must compete with a large supply of similarly situated students also seeking employment. Whereas the number of students currently seeking summer employment far exceeds the number seeking jobs in other seasons, it is doubtful that the number of available jobs differs among seasons to the same extent. Many summer internships exist as "summer" jobs simply because students traditionally have been available in summer. Employers in markets that are slower in summer might prefer to hire students during nonsummer months. (Imagine, for example, possible opportunities for accounting internships during the tax season.)

Unemployment rates for young adults are highest in summer. Year-round operation would allow students to enter the workforce when it is most advantageous to so. For example, many students at Dartmouth College, which requires all students to attend at least one summer term, obtain internships that require more than three-month commitments. Because they can take summer terms, students subsequently are able to take leave for two or more consecutive terms and graduate on schedule. According to Dartmouth officials, students generally say that the summer terms give them added flexibility in attaining their educational and employment objectives.

Overcoming Inertia. Even if the community colleges, CSU, and UC offered summer terms with comparable curricula at comparable prices, demand for summer attendance might lag in nonsummer terms particularly at the least popular campuses. If for no other reason than inertia, the popularity of summer terms would probably not reach that of the other terms for some time. For this reason, the segments would have to phase in summer terms among their campuses over time. Campuses could provide incentives—like preferences in course selection or reduced fees—to increase the attractiveness of summer terms.

Impact on Student Financial Aid

According to financial aid officers at the Student Aid Commission and in the segments, year-round operation would not change the amount of aid available to students. State Cal Grant recipients could choose to receive their total aid packages as they do now over four years, or they could choose to receive aid more quickly if they attended year-round without breaking from their studies. By comparison, the federal Pell Grant program not only caps total aid packages over academic careers, it caps the amount students can receive in any one year. If the Legislature pursues a year-round operation strategy, it should direct the Student Aid Commission to work with the federal government to allow Pell Grant recipients to spread their total packages over shorter academic careers.

Effect on Faculty

The state funds CSU and UC based in part on the number of FTE faculty that campuses will employ for a given number of students. By serving

more students in summer, campuses will serve more FTE students over the course of the year. As a consequence, campuses that serve more students would hire more faculty. *Year-round operation would not change the faculty-to-student ratio or how the state funds faculty*. It also would not change the relative amount of time faculty must spend on instruction, research, and other campus responsibilities. If some of the instructional responsibilities for a faculty member shifted from nonsummer months to the summer, then available time for his or her research, professional development, and other activities would shift from summer to another season.

Currently, many faculty choose to teach courses in summer sessions, and they receive additional pay for doing so. Year-round operation would expand the opportunities for faculty to teach additional courses.

Some campus officials indicated that many faculty use summer to attend conferences or other activities that are most often held in summer. This might add another factor in decisions administrators and faculty make in scheduling teaching duties. From our conversations with administrators and faculty, we believe that campuses could adapt schedules to accommodate these concerns, particularly if year-round operation was implemented gradually.

Impact on Summer Extracurricular Programs

Campuses serve many people in addition to fully enrolled students. For example, campuses provide programs for K-12 students, businesses and their employees, athletic teams, and students from other colleges and universities. Among the largest of these programs are university extension programs that offer wide-ranging curricula to a broad cross-section of matriculating and nonmatriculating students. Summers, when regular classes are not being offered, allow campuses greater flexibility to conduct these programs.

Campuses were not able to provide us with data on the intensity of campus use by extracurricular activities. They indicated, however, that even with these activities, they use facilities much less intensively in the summer than during the nonsummer months. Campuses indicated that they might have to curtail access to campus facilities for some of these programs if they used their campus facilities more for regular courses and students in the summer. Rather than viewing this as a problem, however, we see this as a logical trade-off. If the primary mission of our colleges and universities is to provide higher education to eligible students, then year-round operation would provide the state with greater physical and fiscal resources to do so. To the extent that space is available, campuses should give highest priority for facility use in summer to programs that serve this primary mission. For example, academic-outreach and preparation programs should receive higher priority than sport and recreational camps. By phasing in year-round operation, campuses could adjust their extracurricular programs in a systematic way.

LAO RECOMMENDATIONS

Year-round operation would dramatically reduce state capital costs yet still allow the state to serve growing enrollments in higher education. These savings would be available to the Legislature to meet other priorities in higher education or other programs.

Although requiring some adjustments in how campuses operate, year-round operation would probably not increase operating costs above what they would otherwise be if future enrollment growth were to occur in additional buildings on existing or new campuses. Year-round operation might even reduce operating costs of the segments, to the extent that campuses obtain savings from scale economies.

On balance, serving students on a year-round basis at the community colleges, CSU, and UC would save substantial resources. We recommend, therefore, that the community colleges, CSU, and UC extend their regular academic calendars through the summer months. There are several steps we recommend the state take to implement year-round operation:

- Fund capital needs based on year-round operation.
- Provide state support for all FTE student growth.
- Allow segments flexibility in achieving year-round operation goal.
- Use limited redirection of students during transition period.
- Create rational fee policies.

Fund Capital Outlay Based on Year-Round Operation

We recommend the Legislature fund capital outlay at all three segments based on campus capacity under year-round operation. This will avoid the construction of unnecessary buildings and allow higher-priority projects to be funded.

The Legislature currently funds the construction of new instructional buildings at CSU and UC campuses and community college districts on the basis of the individual campus' or district's capacity when operated three quarters (or two semesters) per calendar year.

In implementing year-round operation, one of the most important steps the Legislature can take is to establish a firm policy on funding *new* instructional space. Specifically, we recommend that in the future the Legislature approve capital outlay funds for such facilities based on year-round capacity. For instance, a campus which is serving 10,000 FTE (its capacity) in each of the fall, winter, and spring quarters previously would have been eligible for additional space to meet projected enrollment growth. Under our recommendation, a campus would increase its summer quarter enrollment in line with increases in enrollment demand until it reached a full summer quarter enrollment of 10,000 FTE. Only at that point would the state consider providing additional instructional facilities.

A strong legislative funding policy on instructional space does two important things:

- It sends a powerful message to the segments to implement year-round operation as quickly as necessary to accommodate future enrollment growth.
- At the same time, it frees the Legislature from having to "micro-manage" the transition to full year-round operation because the segments would have the incentive to transition on their own.

Provide State Support for Enrollment Growth in All Seasons

We recommend that the Legislature provide marginal-cost funding for additional enrollment growth in the California State University and the University of California, regardless of the season in which it occurs.

The state directly funds enrollment growth in regular academic sessions at CSU and UC based on a "marginal cost" funding formula. (The community colleges receive funding for additional students based on a formula for allocating guaranteed funding to K-14 education provided by Proposition 98.) The *1999-00 Governor's Budget* includes $5,487 for each additional FTE student anticipated at CSU and $7,872 for each additional FTE student anticipated at UC in 1999-00. The state does not directly fund additional students that enroll in summer sessions. (It does provide funds for growth in the summer terms at CSU Hayward, San Luis Obispo, Los Angeles, and Pomona.)

The benefits the state receives from higher education are not different when a student attends college in summer than when he or she attends in fall, winter, or spring. Consequently, it does not make sense for the state to subsidize CSU and UC only for the students it educates in the fall, winter, and spring, and not for the ones it educates in summer. Furthermore, by not equally supporting those who attend in summer, the state is inadvertently discouraging campuses from using its facilities efficiently. We recommend, therefore, that the Legislature fund all future enrollment growth in whatever season it happens to occur.

Give Campuses Flexibility

Segments should have flexibility determining the timing of and the methods used to reach their year-round operation goals.

It became clear to us as we visited campuses and spoke with administrators, faculty, staff, and students that implementing year-round operation would create many challenges. The nature of these challenges differ by segment, campus, and by departments on each campus.

To successfully implement year-round operation, therefore, the segments and campuses would need maximum flexibility to phase-in necessary changes over time. For example, campuses that are not near their capacities may not need to immediately increase summer enrollments to serve more students. Consequently, the segments might want to phase-in summer terms first on campuses that are near their capacities in nonsummer months. Similarly, campuses might want to phase-in year-round operation starting with particular depart-

ments or types of courses (for example, undergraduate prerequisite courses). As campuses gained experience making these "easier" changes, they would be better prepared to make more complicated ones later on.

Use Limited Redirection During Transition to Year-Round Operation

The segments should continue to redirect students during the transition to year-round operation in order to maximize utilization of all campuses.

Implementing year-round operation will require time for planning and implementation. As discussed above, based on current enrollment projections, existing campuses have sufficient space to accommodate enrollment growth until at least 2001-02 at CSU (and later years for the other two segments). In the event that year-round operation has not been developed sufficiently by that time, the segments can use limited redirection of students to bridge any space gaps until year-round operation is fully implemented. (Redirection simply refers to the practice of a campus that has more students than it can accommodate, referring those students to other campuses.) On the other hand, at the option of the segments, campuses could—as has been done in the past—temporarily enroll more students than the reported capacity.

At the community colleges, if necessary prior to year-round operation, adjoining districts could make joint use of existing facilities and academic programs by directing students to campuses with available space and programs. This potential exists because almost all students are commuters and multiple campuses are within commuting distance of many students living in major urban areas of the state. Figure 7 lists groups of districts that could be considered as serving regions for purposes of joint use of facilities and programs. These regions represent about 60 percent of current statewide enrollment. The Community Colleges Chancellor's Office should consider these regions, or other

Figure 7

California Community Colleges
Potential Regional Groups of Districts[a]

- Los Angeles (Mission, Pierce and Valley), Glendale, and Pasadena
- Los Angeles (West) and Santa Monica
- Los Angeles (Southwest and Harbor), El Camino, Compton, Cerritos, and Long Beach
- Citrus, Rio Hondo, and Mount San Antonio
- Chaffey, Riverside, and San Bernardino
- North Orange and Rancho Santiago
- Coast and South Orange County
- Mira Costa and Palomar
- Grossmont-Cuyamaca, San Diego, and Southwestern
- Los Rios, Yuba, Solano, and Sierra
- Foothill-DeAnza, San Jose-Evergreen, Fremont-Newark, and West Valley-Mission

[a] Campuses are shown in parenthesis.

combinations of adjoining districts, for limited redirection of students if necessary to bridge the gap to full implementation of year-round operation. As is the case with UC and CSU, the community colleges also can enroll more students than reported for short periods pending full implementation of year-round operation.

Set Appropriate Fees for Summer Term

We recommend that the Legislature (1) direct campuses to charge matriculating students summer fees that are not higher than fees they charge in nonsummer terms, (2) offset reduced revenue from reducing summer fees to this level, and (3) consider giving campuses the flexibility to reduce fees during summer, or other off-peak times, to encourage enrollments during off-peak periods.

Summer Fees Should Not Be Higher Than Other Fees. As discussed earlier, charging students more in summer than during nonsummer months when enrollments are near or at capacity is contrary to rational pricing policy. We recommend that the Legislature enact legislation to ensure that campuses do not charge students more for attending classes in the summer.

Small Revenue Losses From Summer Fee Reductions. If CSU and UC charged all currently matriculating summer session students the regular fee, annual fee revenue would fall by roughly $15 million. The reduction in fee revenue could be offset in three ways:

- ***Slightly Raise Nonsummer Fees.*** The segments would have to raise fees in nonsummer terms by about 1 percent to offset revenue losses from much larger fee reductions to matriculating students currently taking summer courses.
- ***Require the Segments to Absorb Revenue Reduction.*** Campuses could make minor cost-saving adjustments in their budgets to offset reduced fee revenue.
- ***Provide General Fund Support to Offset Reduced Fee Revenue.*** The Legislature could appropriate roughly $15 million to hold CSU and UC "harmless."

In light of the savings the state would achieve from year-round operation and the fact that current summer students are charged more than other students, we recommend that the Legislature offset lost fee revenue from reducing fees charged matriculating students for summer courses.

Consider Giving Campuses Flexibility to Reduce Fees During Off-Peak Periods. There may be some campuses which are slower in converting to year-round operation. In such cases, the Legislature may want to consider temporarily lowering fees for summer terms in order to encourage enrollment during that time.

Segments Should Report on Progress

We recommend that the segments report annually to the Legislature on their progress in implementing year-round operation.

As we describe above, if the Legislature establishes the appropriate fiscal incentives, the segments should implement year-round operation as quickly as necessary to address enrollment growth.

Undoubtedly, however, there will be issues that arise requiring legislative attention.

Consequently, to assist the Legislature in their oversight of the implementation of year-round operation, we recommend that each segment provide an annual report to the Legislature detailing their progress in implementing year-round operation and how they are addressing enrollments.

CONCLUSION

By operating their campuses in summers as they do in nonsummer months, the higher education segments could increase the number of students they serve by one-third without increasing peak enrollments in any term above current capacities.

Year-round operation not only allows for the efficient use of existing state resources, but it would avoid the expenditure of potentially billions of dollars in limited state capital outlay resources. Given the current infrastructure demands on the state, these are savings the state cannot afford to pass up.

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