

COMMITTEE ON PLANNING AND BUDGET

Enrollment Management at U.C. Santa Cruz: Planning and Information Needs

TO THE ACADEMIC SENATE, SANTA CRUZ DIVISION:

1. Introduction

On March 6, 2002 the UCSC Division of the Academic Senate adopted the goal of achieving a minimum 15% graduate enrollment. Graduate students currently comprise 9% of the student population, lowest among UC campuses. The “Resolution on Enrollment Management” also called for the UCSC Senate and Administration to jointly develop a plan aimed both at establishing this student population and guiding the annual targets. CPB promised at the March 6 meeting to translate this goal into a plan that would articulate the interdependencies between graduate and undergraduate enrollment growth and the changes necessary to achieve the desired goal. The present document identifies the first steps necessary to integrate our graduate enrollment goal into campus long-term planning.

The Senate resolution did not give a target date for achievement of the 15% goal. CPB believes that the expansion of graduate enrollments should occur in a manner that at a minimum preserves the excellence of existing undergraduate and graduate programs. As noted in the resolution, the expansion of graduate enrollments should augment the undergraduate experience at UCSC as well as the campus’s research enterprise. Whether the target is achieved in eight years (2010) or later matters less than eventually achieving the goal in a manner consistent with excellence.

Figure 1.a describes organizational processes at UCSC starting with mission statements, proceeding through goal setting, planning and execution, to evaluation, feedback, accountability, and adaptation. Figure 1.b focuses on campus planning related to achieving the 15% graduate student enrollment target. This paper is organized to follow Fig. 1’s schematic as it applies to implementation of the Senate Resolution on graduate enrollment. Section 2 addresses how graduate enrollment growth is consistent with the UC-wide and our campus’s mission. Section 3 offers an organizational principle to guide campus efforts to achieve the goal, followed by specific recommendations. Section 4 addresses feedback and accountability measures, while Section 5 offers conclusions. Two Appendices provide details on data needs and the proposed accountability framework.

2. Consistency between UCSC’s mission and the 15% goal

The 15% graduate enrollment goal is consistent with the mission of UCSC as a division of the University of California. The campus derives its mission from that of UC (typically stated as teaching, research, and public service):

The University of California may provide undergraduate and graduate instruction in the liberal arts and sciences and in the professions, including the teaching professions. It shall have exclusive jurisdiction in public higher education over instruction in the profession of

law and over graduate instruction in the professions of medicine, dentistry, and veterinary medicine. It has the sole authority in public higher education to award the doctoral degree in all fields of learning, except that it may agree with the California State University to award joint doctoral degrees in selected fields. The University of California shall be the primary state-supported academic agency for research. (1)

This statement stresses the importance of graduate education to the broader UC mission. The importance of supporting and expanding graduate education has been described in a number of recent studies system-wide studies (2,3, 4, and website <http://www.ucop.edu/services/gradeduc.html>), one of which, "Excellence at Risk: The Future of Graduate Academic Education in the University of California" (2), was prepared by a task force jointly appointed by U.C. President Richard Atkinson and UC Board of Regents Chair Sue Johnson and has been widely circulated. On this campus, the 1998 UCSC Millennium Committee report (5: 20), notes the interdependencies of graduate education with the broader mission of UCSC, stated to be an outstanding research university with an uncommon commitment to undergraduate education:

Excellence in research, scholarship, and graduate education leads to an enhanced reputation for the university, then to increased funding through external sources, endowments, gifts, and enrollments, and to greater resources for research, and thus more excellence in research and scholarship. This process helps to attract the best undergraduate students and expose them to the most exciting events in their fields. [] (I)ncreasing the commitment to graduate education will improve the undergraduate experience and the quality of undergraduate education.

UCSC has been considering expanding its ratio of graduate to undergraduate students for over a decade (6,7). In 1990 and 1991, Acting Dean of Graduate Studies and Research James Gill prepared reports on this topic, one of which noted that UCSC's original plans expected a student body including 16% graduate students plus 20% in professional programs within 10 years of establishment. As of 1990, there was a campus goal of 20% graduate student enrollment (6). The 1991 report (7:1) noted that "growth of the graduate school figures prominently in the academic and physical planning for UCSC," and that "the campus is committed to enrolling 20% graduate students."

Thus, pursuing a goal of expanding graduate enrollment relative to undergraduate enrollment at UCSC is consistent both with the system-wide mission and our campus's expression of this mission; has been part of campus planning since the beginning; and has been under active consideration on campus since the late 1980s. The March 6 Senate resolution and this report represent a tangible statement of support and a commitment to plan to achieve the goal.

3. Implementing the 15% graduate enrollment goal

The campus's joint governance structure includes administrative and Academic Senate components. In addition to the formal administrative organization, the Campus Provost/Executive Vice Chancellor also functions with a number of advisory committees (Figs. 2 and 3). The Academic Senate is organized both to carry out its oversight of campus curriculum and to provide advice to the Administration (Table 1).

The organizational goal is to assemble decision-makers and data in ways that facilitate coordinated planning. Achieving the 15% goal requires the coordination of a number of offices and committees.

Table 2 lists some of the data needed to monitor growth and allocate resources. The following administrative offices, joint committees, and Senate committees will play a role in achieving the 15% goal.

Administration

- Office of Executive Vice Chancellor and Campus Provost
- Vice Chancellor for Graduate Education
- Vice Chancellor for Undergraduate Education
- Campus Development Office

Joint Committees

- Growth and Stewardship Committee
- Committee on Admissions and Financial Aid (CAFA)

Academic Senate

- Committee on Planning and Budget
- Graduate Council
- Committee on Educational Policy

The appropriate forum to coordinate achievement of the 15% goal is the CPEVC's Academic Planning Committee (APC). Its mission is to introduce and debate major campus academic programs, and forward recommendations to the CPEVC.

Recommendation #1: Academic Planning Committee

The APC should adopt the 15% goal as a central focus of its efforts. It should revise its membership to include additional decision-makers. Membership should include:

- o VC, Graduate Studies
- o VC, Undergraduate Education
- o VC, Planning and Budget
- o Committee on Admissions and Financial Aid representative
- o Infrastructure Planning Representative
- o Development Representative
- o Others as appropriate

Recommendation #2: Academic Senate Joint Working Group

The Senate should create a joint working group on graduate enrollment including members of CPB, Graduate Council, CEP, and others as appropriate tasked with reviewing and reporting back to their respective committees on campus efforts to implement the 15% goal.

Recommendation #3: Data Development and Management

A planning model has been developed that recognizes the links among freshman, transfer, and graduate admission rates, retention rates, and times to degree. It further identifies overall campus growth targets and expected growth in graduate programs. An example of outputs is presented in Appendix A. This model should be utilized to develop scenarios of medium-term campus growth (5-10 years). The scenarios can help guide investment in new graduate programs, facilities, and other areas necessary to achieve the 15% goal.

This model will be maintained by the Office of Planning and Budget, and should be made broadly accessible (e.g., on the web), with clear distinctions between actual data and modeled data.

Recommendation #4: Graduate Council and Dean of Graduate Studies Tracking of New Programs

The Graduate Council and Dean of Graduate Studies should work together to divide proposals for new graduate programs into three categories based on their likelihood of admitting first students in a given time frame, as follows:

<u>Category</u>	<u>Time until first students admitted</u>
Imminent:	1-3 years
Prospective:	4-6 years
Long term:	7+ years

The Graduate Council and Dean of Graduate Studies should inform CPB and the Academic Planning Committee of the status of proposed new programs so that planners and oversight bodies will have up-to-date information on which to base resource-allocation and other planning decisions.

Recommendation #5: Streamlined Early Response to Initial Proposals

The Graduate Council, working with the Office of Planning and Budget, CPB, and others, should develop a relatively brief template for initial graduate program proposals. The on-campus review bodies should commit themselves to rapid review and feedback on initial proposals. The purpose of this rapid initial feedback is to help guide the preparation of the full proposal, thus potentially avoiding subsequent delays.

Recommendation #6: Annual Report from Dean of Graduate Studies

The Dean of Graduate Studies should produce an annual report summarizing progress toward achieving the 15% graduate student goal. This report should be delivered prior to the beginning of the academic year to inform decisions made throughout the year. It should present trends and implications related to the data listed in Table 2. The Dean of Graduate Studies should work with data providers to coordinate when various elements are assembled so that data presented in the report is up-to-date.

Recommendation #7: Developing Plans and Funding Sources for Graduate Groups

The Graduate Dean working with the Vice Chancellor for Academic Affairs should elaborate how graduate groups can be established. The Graduate Dean should be allocated resources to support new and existing graduate groups, and should develop methods for administering the resources.

Recommendation #8: Planning for Professional Schools

The Graduate Dean should be allocated funds and develop procedures for their allocation to faculty interested in developing proposals for new professional schools. These funds would take the form of "incubation grants" in support of program development.

Recommendation #9: New Role for Annual 5-Year Lists of Proposed Programs

The annual 5-year lists of proposed programs prepared and submitted by divisions with assistance from the Planning and Budget Office, should explicitly address timing of establishment and growth of graduate programs. These plans should address what resources will be needed, when, from where/who, and what strategies the campus will take to provide the resources necessary to establish and grow graduate programs.

Recommendation #10: Assign Development Officers to Proposed Graduate Programs

Development officers should be assigned to all imminent proposals for graduate programs. Deans should assign development officers to within-division proposals. The Vice Chancellor for University Relations should assign development officers to proposals that do not fall under the divisional structure. The development officer should work with the department(s), dean(s), and/or group(s) proposing the program to develop and undertake resource-procurement plans for the program.

Recommendation #11: Prepare for Selective Freshman Admissions

The Committee on Admissions and Financial Aid should develop criteria and procedures for selective admissions. It should then work with the appropriate Senate and Administrative groups to coordinate when selective admissions will commence and according to what criteria.

Recommendation #12: Report to UCOP on campus plans

The Administration and Senate should report to UCOP officials of UCSC's plan to expand its proportion of graduate student enrollment. It should alert the appropriate officials both that the campus may soon make undergraduate/graduate enrollment trade-offs in the context of an overall enrollment cap, and that forward funding of new graduate schools may be required in the foreseeable future. The Administration and Senate should coordinate these communications so that a single clear message that accurately reflects campus planning is provided to UCOP.

4. Feedback and Accountability

The results of our implementation efforts will be monitored both to provide feedback to administrators and to provide data to the Academic Senate for purposes of accountability. The Senate working group on graduate enrollment should monitor the campus's progress toward the 15% goal and the Dean of Graduate Studies should report annually to the appropriate Senate committees (primarily CPB, Graduate Council, and CEP) (Recommendation 6 above). The standing committees will conduct evaluations of progress toward the 15% goal, provide advice to the Administration, and report to the Senate.

Assessing progress must occur at several levels.

1. **Enrollment Management:** The increase in campus revenues generated by undergraduate enrollment growth is one way to fund growth in graduate enrollments. There are, however, limits to how long the campus can pursue this funding strategy before it becomes counter-productive in reaching our 15% goal. CPB has developed a planning model (Appendix A) that identifies the point at which undergraduate enrollments must peak and then decline in order for the campus to reach the desired balance with graduate enrollments within the limitation of the current Long Range Development Plan. From now on, campus planners will need to monitor undergraduate admissions to ensure that the resulting revenues continue to advance, rather than detract from the 15% goal.
2. **Graduate Growth:** Our overall enrollment plan depends upon the phase-in of graduate enrollments to replace undergraduate enrollments. It, thus, requires continuing feedback about the progress of graduate programs that are under development or planning to expand. To the extent that graduate programs are behind or ahead of schedule, campus plans will need to be adjusted accordingly.

3. **Extramural Funds:** To reach our goal, the revenues generated by state-funded enrollments will have to be supplemented by extramural funding. In some fields, graduate programs can be heavily funded by government contracts and grants. In other fields, we will need to rely on fundraising from private sources. We have proposed that a development officer be attached to each graduate program. The campus development office needs to be held regularly accountable for the performance of its staff in supporting graduate programs.
4. **UC State and General Funds:** Graduate programs are more expensive than undergraduate programs: we cannot fund a higher proportion of graduate students unless we increase both the proportion and amount of per student campus spending that goes to instruction and research. Now that the campus has a growth plan that includes an increased percentage of graduate students we need to better manage our resources to directly support this goal. Clearly, this will require a broader, ongoing review of how the campus spends UC and state General Funds with the aim of reallocating a higher proportion of these funds to instruction and research. CPB's methodology for conducting this review, and an illustrative table, are presented in Appendix B

5. Summary/Conclusions

This paper provides recommendations on the deployment of campus resources to achieve the goal of at least 15% graduate student enrollment. It also describes a transparent plan and method of evaluation of the use of funds generated by lower-division enrollment growth to redress the present imbalance between graduate and undergraduate enrollments.

CPB is grateful for the cooperation and assistance of AVC Planning and Budget Meredith Michaels and the staff of the Office of Planning and Budget in preparation of this Report.

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Figure 1a: The 15% graduate enrollment goal is one of many campus goals.

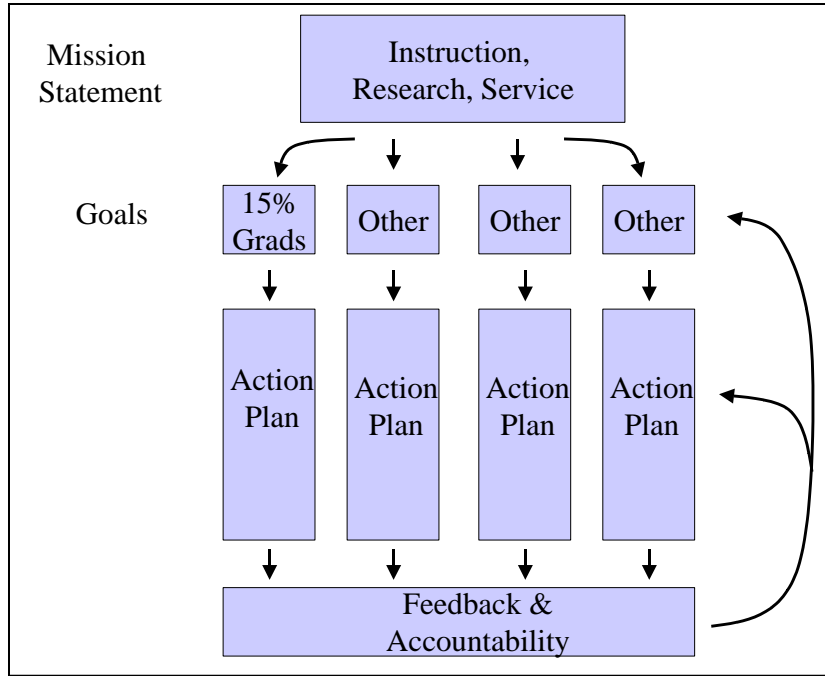


Figure 1.b Campus planning schematic for 15% graduate student enrollment goal

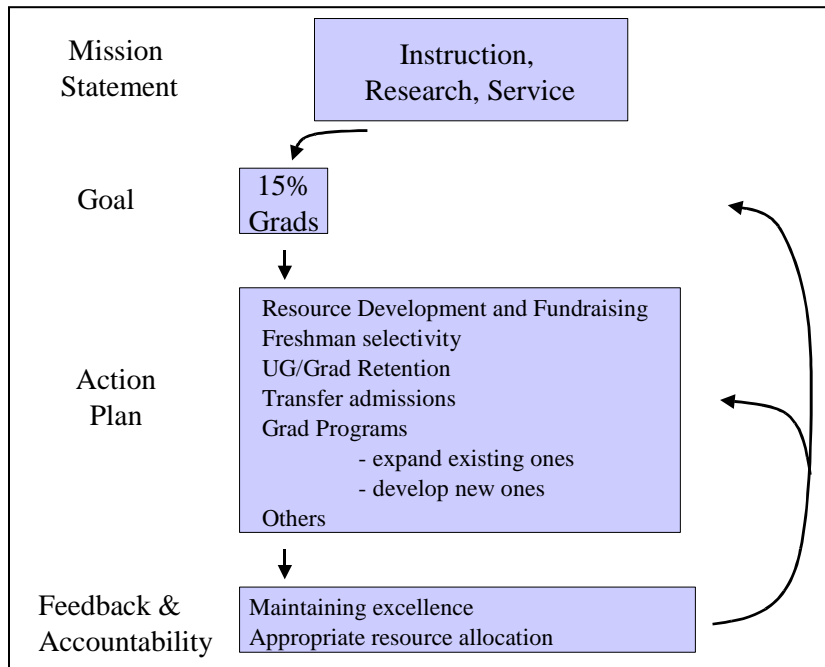


Figure 2a Campus Academic Organizational Structure

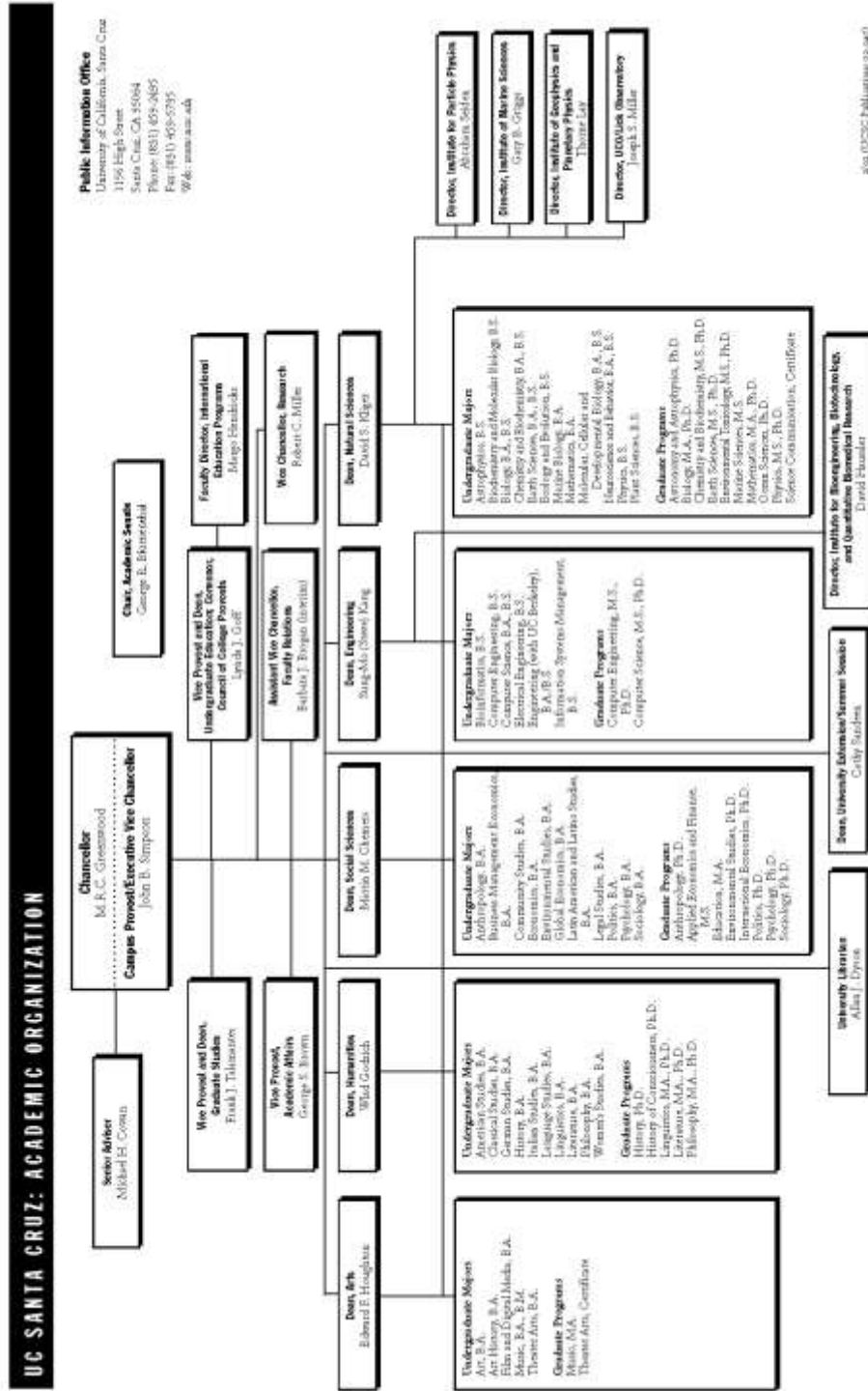


Figure 2b Campus Administration Organizational Structure

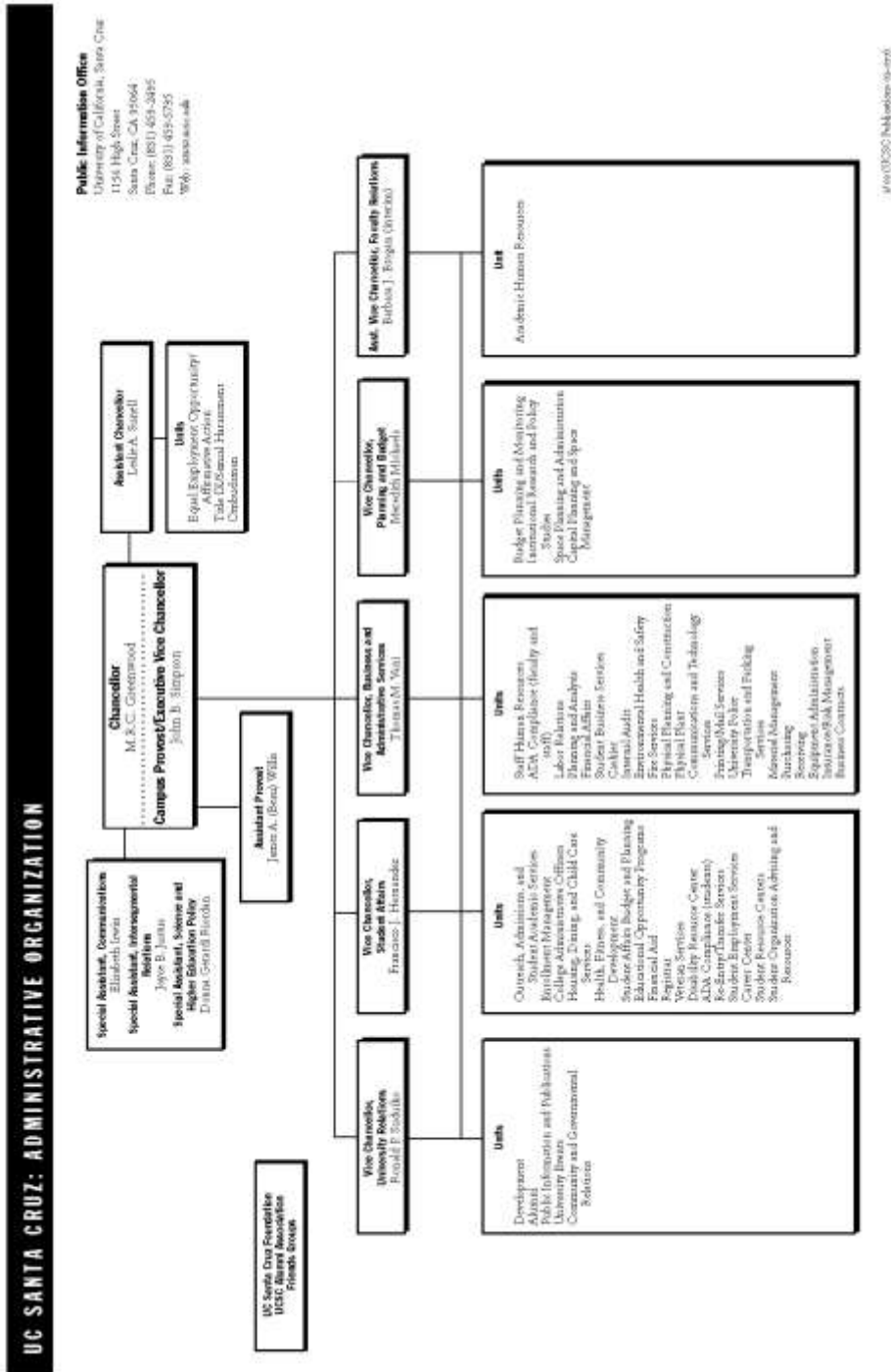


Figure 3 Advisory Committees to the Campus Provost/EVC

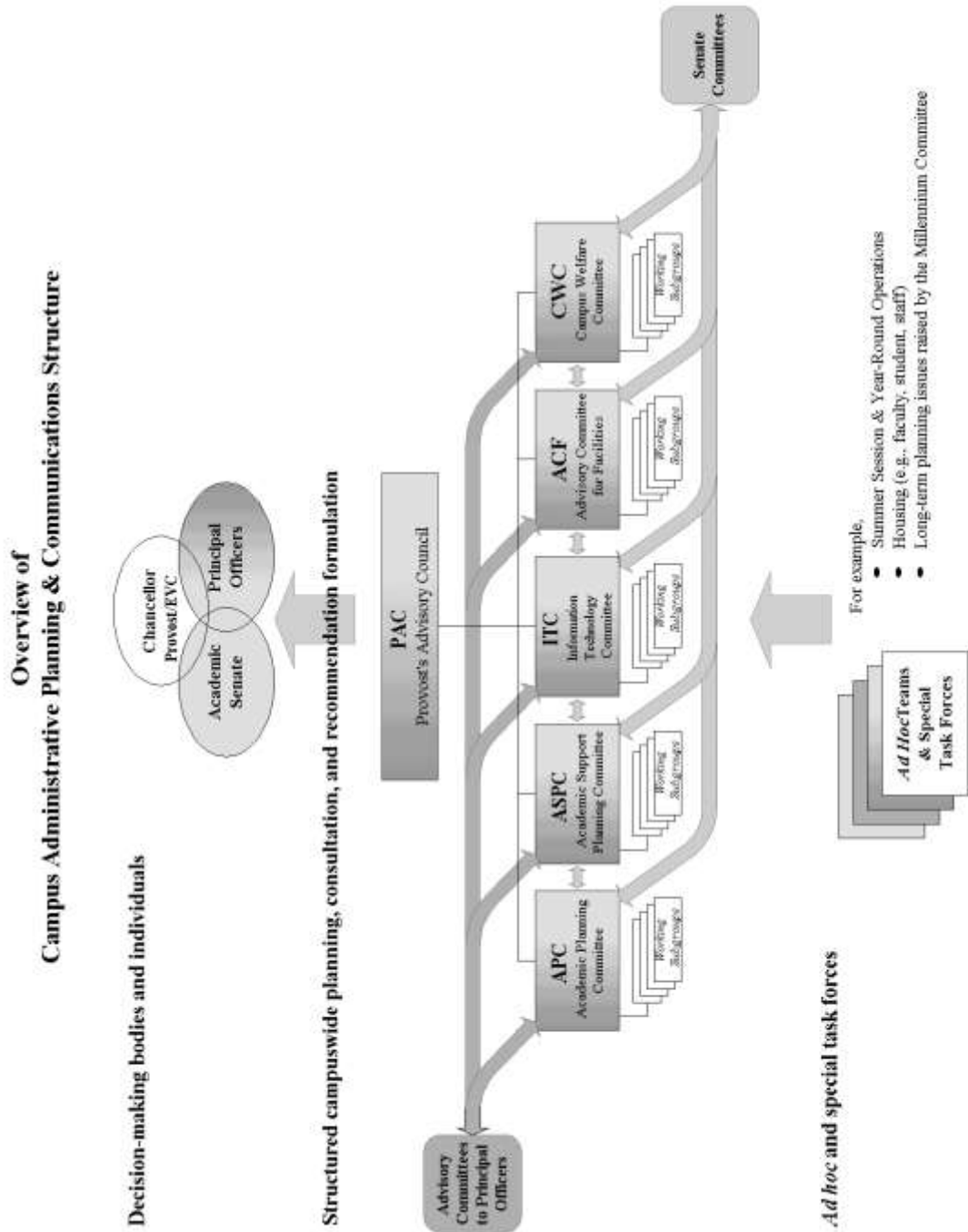


Table 1: Academic Senate Standing Committees

Senate Advisory
Academic Freedom
Academic Personnel
Admissions and Financial Aid
Affirmative Action
Career Advising
Committee on Committees
Computing and Telecommunications
Education Abroad Program
Educational Policy
Narrative Evaluations Student Grievance Hearing Committee
Emeriti Relations
Faculty Research Lecture
Faculty Welfare
Graduate Council
Land and Building Development
Library
Planning and Budget
Preparatory Education
Privilege and Tenure
Research
Rules, Jurisdiction and Elections
Teaching

Table 2: Data and coordination needed to allocate resources and track progress toward 15% graduate enrollment goal

Numbers of Students – Current and Projected

- Undergraduate level
 - Freshman applications
 - Freshman FTEs
 - Transfer applications
 - Transfer FTEs
 - Retention rates for freshman and transfers
 - Time to degree for freshman and transfers
 - Diversity of class
- Graduate level
 - Application number
 - 1st year FTE
 - Mix of Masters and PhD
 - Time to completion for all students
 - Status of proposals for new graduate programs
 - Timing
 - Estimated number of students over time
 - Diversity of class
- Campus-wide
 - Enrollment cap status
 - Expectations of UCOP

Coordination of functions

- Freshman and Transfer admissions
 - Selective admissions process
 - Admittee recruitment process
 - Campus diversity goals
- Graduate Program Growth
 - Existing programs
 - Graduate student support
 - Fellowships
 - TAs
 - Research/travel money
 - Links with faculty start-up
 - Services – Graduate College
 - Housing
 - Programmatic support
 - Faculty FTE support
 - New programs
 - Planning support
 - Implementation support

Table 2, continued

- Physical Infrastructure needs
 - o Graduate office space
 - o Graduate residences

Financial analysis

- Available Resources
 - o State sources
 - Student FTEs
 - Other enrollment-related
 - o Non-state sources
 - Opportunity money
 - Off the top money
 - Gifts
 - Other resources
- Funding requirements
 - o interim
 - Grad program planning
 - Grad program implementation
 - o On-going
 - Grad student support

Appendix A: A model to track enrollment change at UCSC

CPB and the office of the Vice Chancellor for Planning and Budget have developed a spreadsheet-based enrollment planning model. Its variables include:

- Number of new freshman;
- Number of new transfers;
- Total number of undergraduates;
- Number of new graduate students;
- Total number of undergraduates; and
- Total number of students.

Based on historical campus experience, assumptions are made regarding retention rates and time to degree. Scenarios can be developed that include historical-to-present actual performance combined with assumptions about future growth. Any of the above variables can be considered a dependent variable. For example, if current UCOP targets for UCSC undergraduate growth are adopted combined with average overall student FTE growth of 500 per year, by 2010, the projected graduate student ratio is 11% (Scenario 3, Fig. A.1).

Alternatively, as a part of their long range plans, academic departments and divisions identified a significant number of new graduate programs they would like to launch over the next decade. These proposed plans differ greatly in their state of development, cost (in terms of infrastructure and faculty FTE) and probability of success. If all these programs were launched and reached their projected levels of graduate enrollment according to their proposed timelines, the graduate student ratio would be 16% (Scenario 1).

The model will provide planning insight to such interrelated questions as when freshman selectivity should commence; how rapidly and in what form infrastructure expansion should occur; how graduate education resources should be divided between new and existing programs; links between new faculty FTE requests, including start-up funds, and graduate program expansion; how diversity goals can be achieved as part of overall enrollment management; and expected financial resources resulting from enrollment-driven revenue growth, graduate-enrollment-driven growth in research funding, and growth in funds generated by better coordination between faculty and development officers.

The Office of Planning and Budget has agreed to maintain the model. We recommend that the Academic Planning Committee utilize this model to develop scenarios, identify roadblocks, and recommend resource allocations to the CPEVC. We further recommend that the Dean of Graduate Studies utilize this model as part of annual reporting on progress toward the 15% goal. Numerous offices will provide data and insights to improve the predictive capacity of the model.

Figure A.1 Campus planning model output: three scenarios

Appendix B: A model for monitoring campus expenditures over time

Our methodology was developed during 1999-2000 – a year in which rapid enrollment growth resumed after nearly a decade of near steady-state. Baseline data were, thus, collected for the period 1989-1999. Since then, we have monitored changes in successive ten-year periods, the most recent being 1991-2001.

Although our immediate concerns are local, our general approach is an extension of techniques developed by the UC-wide CPB (UCPB) in 1998-99 to hold campus administrations accountable for reductions in the UC-funded component of teaching and faculty research. Our methodology builds on UCPB's overall approach to measure *change* in expenditures for I&R over time. Our reasoning was as follows:

- The core mission of UCSC is teaching and research – in budgetary terms “I&R.”
- With some exceptions, UCSC receives state funds and student fees from the Office of the President (OP) on the basis of enrollments.
- These enrollment-generated funds, however, are not used only for I&R. They must also cover administration, student services, institutional support (IS), etc.
- Since the early 1990's, OP has distributed enrollment-generated funds to each campus as block grants, leaving each local Administration discretion as to how much shall go to academic administration, student services, IS, etc as distinct from I&R.
- The Senate on each campus needs to know how its administration has exercised this discretion over time, and particularly how the proportion of UC and state general funds that are spent on each function has changed with growth in the campus budget, and with real growth in the dollars provided for campus operations on a per student and per faculty basis.
- To calculate this we must first subtract out those segments of the annual campus expenditure that are not at all subject to administrative discretion: most notably student financial aid, auxiliary enterprises, and sponsored research. The remainder will be designated as the **Adjusted Campus Expenditure**. This derived figure can then be compared with financial schedules showing expenditures in each relevant sub-category, and can be indexed on a per student and per faculty basis. In some years it may also be necessary to adjust out supplemental appropriations designated by the Legislature for special purposes such as public service (e.g. Outreach) and deferred maintenance.
- To be consistent with Adjusted Campus Expenditure, however, further adjustments must be made in the subcategories of the published Financial Schedules. Thus, I&R expenditures are recalculated by subtracting the same dollar figure for sponsored research that was already subtracted from Adjusted Campus Expenditure. (In this way we filter out the major extramurally funded component of I&R on both sides of the picture.)

- To address our local concern about growth in administrative costs, we also need to **disaggregate/reaggregate** some of the components of existing budgetary categories in the financial schedules. Thus, the subcategories “Academic Administration” (the Deans offices) and “Executive Administration” (the Chancellor’s and Provost’s offices) are broken out of Academic Support and IS, respectively, and reaggreated into a new category. (This allows us investigate the effects of growth in the number and salary of academic administrators on the relative ability of the campus to fund its core mission.)
- As a consequence of this reaggregation, IS at Santa Cruz is recalculated to exclude Executive Management, and Academic Support is recalculated to exclude Academic Administration. (We have not looked, thus far, at the remainder of Academic Support, which includes library funding, etc.)
- Each adjusted and reaggreated sub-category of expenditure is then **indexed** to Adjusted Campus Expenditure, and the rates of growth in each subcategory are compared to each other and to the rate of growth in the total.
- In addition the adjusted total, and each adjusted subcategory is indexed to **Faculty FTE** (both budgeted and filled), and to **Student FTE**.¹ Once again, the rates of growth in each indexed subcategory are compared to each other and to the rate of growth in the indexed total.
- Inasmuch as we are interested in **trends**, and not absolute values, our methodology is applied to rolling ten-year periods. This allows us to see the longer-term effects of administration spending decisions, and it eventually washes out the effects of budgetary events that are unique to the beginning-or end-year of a particular period. (We have, thus far, only applied our methodology to the three most recent rolling ten-year periods.)
- Applying the methodology comparatively across UC campuses is sometimes necessary to control for the effects of system-wide and state policies, and thus hold the campus administration accountable only for budgetary decisions that fell within its discretion.²

The methodology that we developed from these points allows us to use calculations based on published financial schedules to see how our campus uses the funds generated by enrollments (both state-funds and education fees) as well as other UC General Funds to deliver its core mission over time. Each year, we ask the administration how each (adjusted) component of (adjusted) expenditure varies as a proportion of adjusted total expenditures. We also determine the extent to which increases (or decreases) in enrollment-based funding per student FTE and per faculty FTE are proportionally reflected in increases in I&R, IS, and academic administration expenditures per student and per faculty FTE over time. These changes are calculated both as a percentage of total Adjusted Expenditures, and as a percentage of the change in Adjusted Expenditures. Thus, we can measure the effect of growth in enrollment-generated revenue on the average expenditure on I&R per student and faculty FTE, and we can measure what proportion of the increase in enrollment-generated revenue is going to the core I&R mission over time.

¹ The distinction in the table between “filled” and “budgeted” FTE reflects local issues about the use of TAS funds, and is more relevant at the divisional than at the campus level.

² The availability of systemwide data, however, lags campus data by c. 6-8 months.

Limitations: Our methodology does not attempt to define from a static point of view what should or should not be counted as part of the core mission. Thus, we do not concern ourselves, e.g., with which staff positions are “really” to be considered instructional support under I&R and which should “really” be counted as IS and administration. For our purpose, it matters only, whether there are significant changes in the proportional magnitude of a given item wherever it might be reflected in the financial schedules, and that there are no changes in where that particular item appears in financial schedules. If there were to be significant changes, we could refine our methodology by adjusting these items out of both total campus expenditure and the relevant subcategory. This is relatively easy to do. We already do it for extramurally-funded positions.

The possible need to refine our methodology in this way points to a further limitation: it is not a formula for reaching a final judgment on administrative performance, but rather a framework for raising questions based on observable trends. There is, for example, no intrinsic reason why the proportional cost of academic administration should remain constant on a per student basis – other things equal, it should probably decline as enrollments grow. If, however, expenditures for academic administration have grown more than three times faster than adjusted expenses (and sixteen times faster than I&R expenditures), questions will arise. (See figure B.1). These questions can often be answered, and the adequacy of the answers can in turn be measured by seeing how much of the observable trend they explain.

Strengths: An important strength of our methodology is that it has enabled the Senate and the Administration to speak in similar language about topics of mutual concern. Our budgetary questions are now intelligible to the Administration, and their answers are now responsive to our concerns about the declining proportional budgetary commitment to I&R on the UCSC campus over time.

Figure B.1 Sample -Campus Expenditures of Enrollment –Generated Funds Over Time

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