

Report on Campus Research Support Policy Overhead Allocation to Research Units

EXECUTIVE SUMMARY

The Research Support Advisory Committee has worked for two years to develop a new model for how the administration of sponsored research should be funded on the Berkeley campus. Our goal was to establish a fair, transparent, rational, and *scalable* model for insuring that administrative support for sponsored research keeps pace with the level of research activity in administering units.

As a basis for its deliberations, the Committee gathered data about the actual costs of administering sponsored research on the Berkeley campus:

- Costs were assessed for 10 units in FY 01-02 and 21 units in FY02-03.
- These units spend ~7.5% of direct research expenditures to administer sponsored research.
- The cost/expenditure of research administration is remarkably consistent across campus units with widely varying levels of research activity.

Strategic Decisions:

- Since knowledge of actual administration costs makes it possible to assess a fair and appropriate fee for administering research gifts, the Committee decided to address contracts and grants separately from research gifts.
- The Committee recommends a go-forward, scaling model for allocation of incremental overhead to insure that adequate resources are provided for administration of contracts and grants as levels of activity change.
- This model for overhead allocation would replace the current annual allocation based purely on a unit's overhead generation.

The proposed model for Overhead Allocation:

- Bases annual overhead allocation on incremental changes in Program 44 direct research expenditures (excluding gifts) and sub-awards, with sub-awards weighted half as much (4%) as other research expenditures (8%). Together these factors approximate 7.5% of the incremental increase in direct expenditures (excluding research gifts) but more effectively track actual costs.
- Proposes to smooth fluctuations in allocations by using a three-year average of two annual increments in direct expenditures (excluding gifts) as the base for calculating allocations.

- Proposes to adjust the base by an overhead factor between 0.5 and 1.0 that takes into account each unit's level of overhead recovery and at least partially correlates with the unit's ability to direct charge administrative costs (the floor at 0.5 insures support to low overhead generating units).
- Allocates 2.0% of the average incremental direct expenditure to central research administration units that likewise need to scale with research activity.
- Invests 1.0% of the average annual incremental direct expenditure in future research: namely, the Berkeley Futures Grants and Cost Sharing Funds.
- Thus would distribute ~10.5% of the average annual incremental in direct expenditures to support research each year.
- These annual allocations would be made in the form of temporary recurring funds to units and thus would accrue with time in units with increasing levels of research activity. These annual allocations would be made in the form of temporary funds to units. If the unit's annual research expenditures increase, then the allocation will increase according to the formula. Conversely, if the units annual research expenditures decrease, so will the allocation.

The Proposed Model for addressing Administrative Costs of Research Gifts:

- Recognizes that the costs of administering Research Gifts are comparable to that of administering contracts and grants.
- Proposes a new administrative fee for research gifts that is based on the actual costs of administering the sponsored research.
- Proposes that Research Gifts be assessed an up front administrative fee of 10.5%: 7.5% to cover costs of the administering unit; 2% to cover the costs of the central campus units involved in research administration; and 1% to investment in future research via the Berkeley Futures Fund and Cost Sharing Fund (thus the fee parallels the proposed allocation of incremental overhead to support research by the central campus).
- Proposes that the current 2% Fee on Research Gifts (that is directed to Chancellor's discretionary funds) should be eliminated.

The Committee proposes that the new Allocation Model be used in place of the former Overhead Allocation mechanism for the FY05 Allocation of 03-04 Incremental Overhead in Fall, 2004. The Committee proposes that the Research Gift Administrative Fee be assessed on all new Research Gifts registered after November 1, 2004.

Report on Proposed Campus Research Support Policy

Background

In May, 2002, Executive Vice Chancellor and Provost Paul Gray and Vice Chancellor for Research Beth Burnside convened an advisory committee charged with developing a new model for how the administration of sponsored research should be funded on the Berkeley campus. Although Berkeley faculty have been enormously successful in increasing funding for sponsored research over the last decade, a scaling mechanism has never been implemented to ensure that adequate operating funds are provided to units to support the increased administrative workload and other costs generated by an increase in research activity. During this same time, regulations and reporting requirements have increased substantially. As a result, in many units staff have become overwhelmed by the escalating workloads associated with administering this increase in sponsored project activity. It is widely recognized that the campus needs a mechanism to ensure that funding to units corresponds to research activity sufficiently to permit adequate administrative support for research, while also allowing for central flexibility to permit the campus to respond appropriately to campus-wide research support issues.

Over the two years of its activity, the membership of the Research Support Advisory Committee (RSAC) has included the following administrators and faculty (some in evolving roles):

- Vice Chancellor Beth Burnside, Research - Chair
- Vice Chancellor James Hyatt, Budget and Finance
- Acting Vice Chancellor Bill Webster, Budget and Finance
- Vice Provost Cathy Koshland, Academic Facilities and Planning
- Dean Clayton Heathcock, College of Chemistry
- Dean Richard Newton, College of Engineering
- Acting Dean David Auslander, College of Engineering
- Dean Geoff Owen, Biological Sciences
- Dean Steve Shortell, School of Public Health
- Professor David Hodges, College of Engineering
- Professor Ron Gronsky, Chair, Academic Senate
- Director Gregg Carr, Financial Management & Analysis, Budget & Finance
- Susan O'Brien, Special Assistant to the Vice Chancellor for Research
- Director Nora Watanabe, VC- Research Office

The committee has been staffed by

- Chief of Staff Anita Joplin, VC-Research Office
- Director Laurie Goldman, VC-Research Office

Concomitant with the initiation of the Research Support Advisory Committee, Paul Gray and Beth Burnside established an Engineering ORU Task Force to recommend a replacement for the previous Engineering ORU funding model which had been eliminated by changes in federal guidelines. This Task Force was charged with analyzing business processes, recommending optimal organizational structures, and estimating the funding needs of the Engineering ORUs. A subcommittee of this group gathered data on

research administrative costs not only for Engineering ORUs but for other campus units as well. This data was essential to the deliberations of the Research Support Advisory Committee and provided the foundation for the development of its proposed model for funding sponsored research. The Task Force was comprised of the following people:

Controller Greg Brown, Chair *
Acting Controller John Ellis
Associate Dean David Auslander, College of Engineering
Professor Jonathan Bray, Civil Engineering
Associate Dean George Johnson, College of Engineering
Susan O'Brien, Special Asst. to the Vice Chancellor for Research
Budget Director Lori Cripps, VC-Research Office
Assistant Dean Marcia Steinfeld, College of Engineering
Elaine Meckenstock, VC-Budget and Finance Office
Paula Milano, VC-Budget and Finance Office
Chief-of Staff Anita Joplin, VC-Research Office *
Director Nora Watanabe, VC-Research Office, Staff to the Task Force

* left the committee before completion of the project

Drawing on this extensive data gathering enterprise and subsequent analysis, the Research Support Advisory Committee has developed and proposes here a new campus model for supporting research administration at both the administering unit and campus-wide levels.

The Committee's Goal and Strategy

- **Goal:** *Establish a transparent, rational, and scalable model for insuring that administrative support for sponsored research keeps pace with the level of research activity in administering units*
- **Strategy:** *Use data about the actual costs of administering sponsored research to develop a fair and rational model for overhead allocation to insure adequate support to units responsible for administering sponsored research*

Although campus-level service organizations such as Extramural Fund Accounting and the Sponsored Projects Office play critical roles in campus research support, the bulk of research administration at Berkeley is provided by departmental and research unit staff. These staff initiate all financial and personnel transactions, interface with central campus units, track and report effort and expenditures, and manage their local facilities infrastructure. Demands on departmental staff continue to escalate as a result of increasing research volume, ever-greater compliance and reporting requirements, and decentralization of responsibility and accountability for campus accounting and HR activities.

Currently there is no standard organization model or definition of workload standards for core research administrative support across the numerous campus research units, nor is there a standard financial model for funding research administrative functions. As a first step toward a more rational and transparent research support policy, the Research Support Advisory Committee gathered information that permits us to assess the actual current costs of research support in a sample of departments and units across the campus. Using two years of cost data (FY 2001-02 and FY 2002-03), we have determined the actual costs of all research administrative staff (salaries + benefits) in selected campus research units, and then related these costs to that unit's Direct Research Expenditures (Program 44 expenditures) and other metrics reflecting research activity. This information provides the foundation for our proposed new model for research support funding for the campus. Before describing our proposed new model in detail, we first present the findings of our data gathering exercise.

What It Actually Costs To Support Research at Berkeley: Observations

Costs of Core Research Administrative Support Functions Within Administering Units

Administering Units Selected For Analysis:

For FY 2001-02, we conducted an analysis of eleven research units; for FY 2002-03, we examined those same units again and added ten more, for a total of twenty-one units. The units examined are shown in the following table:

3 colleges that administer research at the college level	Chemistry ** Education Public Health **
5 academic departments	Environmental Science, Policy, and Management Integrative Biology ** Molecular & Cell Biology ** Physics ** Plant and Microbial Biology
6 ORUs	Earthquake Engineering Research Center ** Electronics Research Laboratory ** Engineering Systems Research Center ** Institute for Environmental Science &

	Engineering ** Institute of Transportation Studies ** Space Sciences Laboratory **
4 units that share research support services	Astronomy (department) Center for Integrative Planetary Science (ORU) Radio Astronomy Lab (ORU) Theoretical Astrophysics Center (ORU)
3 units in similar fields of study in same building with no shared support services (data combined for all 3)	Psychology (department) Institute of Human Development (ORU) Institute of Personality and Social Research (ORU)

*** included in both FY01-02 and FY02-03 surveys*

These twenty-one units represent a wide variety of research activities and in FY02-03 accounted for \$252M in Direct Research Expenditures, representing approximately 80% of total campus research expenditures. Two groups of units were compared in our analyses to assess the possible benefits of combining grant and contract administrative support services for smaller units: 1) the astronomy departments and related ORUs, which share an administrative structure responsible for handling sponsored research administration in Campbell Hall, and 2) the Psychology Department and two ORUs housed in Tolman Hall, all three of which carry out sponsored research administration individually.

Definition of Core Research Administrative Support Functions In Administering Units:

The following departmental research support functions were identified as core research administration functions, and the Salaries and Benefits of staff engaged in carrying out these functions were examined:

- Pre-award administration
- Post-award administration
- Unit management, analysis, and general administrative support
- Human resources/payroll
- Purchasing/material management
- Desktop computer support for admin staff
- Basic facilities—safety, keys/security, telephone moves and coordination

The following functions were excluded from our definition of core research administrative support functions and thus not included in the data considered:

- Deans' offices
- Unit directors
- Faculty effort
- Secretarial support to faculty
- Administration of technical recharge units
- Program staff
- Libraries, promotion/public relations, development, student services

Using survey forms provided to each of the selected units, research administration FTE (and partial FTE) were identified by name, title, and function in each of the units. Payroll data for these administrative titles were pulled and reconciled with the survey information by staff in Budget and Finance. Benefits were added at an assumed rate of 20% on all salaries. Instructional offsets were calculated in academic units for staff with joint responsibilities, based on relative expenditures in Instruction and Research.

Costs Of Core Research Administrative Support Functions In Administering Units:

The table below summarizes for all twenty-one units the total costs of administrative staff salary and benefits for each unit, total FTE, total Direct Research Expenditures (Program 44 Direct Expenditures), and other metrics associated with sponsored research activity, such as overhead generated.

Berkeley Campus FY 2002-03 Research Administration Cost Analysis

	Res Admin Sal+Ben Cost	Res Admin Staff FTE	Prog 44 Direct Expenditures	Modified Total Direct Costs	Overhead Recovery Generated	OHRecov/ DirectExp	AdmStaffCst / Direct Exp	AdmStaffCost / OHRecov	AdmStaffCost / MTDC	Adm FTE / \$1M res
EERC	491,065	8.40	7,430,566	3,302,710	994,079	13.4%	6.6%	49.4%	14.9%	1.13
ERL	3,963,163	72.80	53,044,193	35,212,963	11,745,525	22.1%	7.5%	33.7%	11.3%	1.37
ESRC	501,005	10.15	10,703,261	7,297,633	2,993,133	28.0%	4.7%	16.7%	6.9%	0.95
IESE	240,986	4.90	3,652,733	3,038,067	970,580	26.6%	6.6%	24.8%	7.9%	1.34
ITS	1,385,213	24.00	19,445,084	14,154,591	2,181,508	11.2%	7.1%	63.5%	9.8%	1.23
Chem	1,698,031	25.09	20,685,456	17,361,253	6,596,260	31.9%	8.2%	25.7%	9.8%	1.21
Education	514,444	9.45	8,178,331	5,076,365	1,205,067	14.7%	6.3%	42.7%	10.1%	1.16
ESPM	961,661	18.50	7,751,472	6,923,442	1,153,111	14.9%	12.4%	83.4%	13.9%	2.39
IB	346,469	6.30	3,964,038	3,092,522	941,596	23.8%	8.7%	36.8%	11.2%	1.59
MCB	2,237,183	46.67	32,284,224	26,627,574	11,374,964	35.2%	6.9%	19.7%	8.4%	1.45
Physics	535,400	8.50	7,058,766	5,344,123	1,739,066	24.6%	7.6%	30.8%	10.0%	1.20
PMB	951,697	18.30	14,080,311	11,285,616	2,183,640	15.5%	6.8%	43.6%	8.4%	1.30
Pub Health	1,903,228	34.54	28,118,191	20,370,530	4,430,942	15.8%	6.8%	43.0%	9.3%	1.23
SSL	1,505,075	27.00	27,157,195	18,022,401	5,982,188	22.0%	5.5%	25.2%	8.4%	0.99
Total	17,234,619	314.60	243,553,821	177,109,790	54,491,659	22.4%	7.1%	31.6%	9.7%	1.29

* Astro and **Psych clusters excluded from final analysis due to lack of comparability to other research units in survey.

* Astro-4 units	768,335	12.15	8,894,929	7,201,117	2,116,938	23.8%	8.6%	36.3%	10.7%	1.37
** Psych-3 units	991,454	18.40	6,865,703	5,731,995	2,455,900	35.8%	14.4%	40.4%	17.3%	2.68

Psychology	503,869	8.80	2,338,673				21.5%			
IPSR	158,784	3.00	2,262,465				7.0%			
IHD	328,801	6.60	2,264,565				14.5%			

Notes:

chem and SPH-no dean's office staff
chem adjust for instruction
no directors, no other

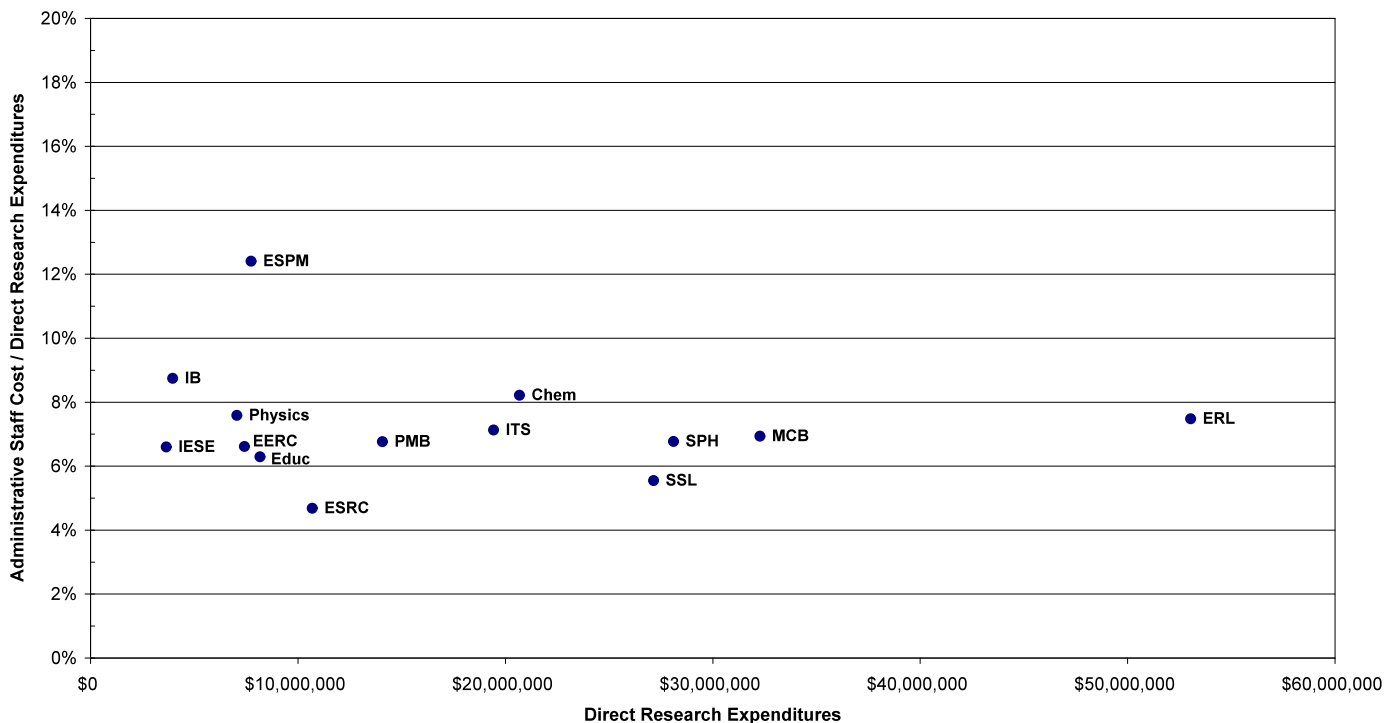
Analysis of Research Administrative Cost Data for Administrative Units:

As a first pass at determining what metric would be most effective as an indicator of the actual workload associated with research activity, the committee considered the correlations of research administration staff costs (salary + benefits) and staff FTE with the three metrics associated with sponsored research activity:

- Total Program 44 Direct Research Expenditures
- MTDC (Modified Total Direct Costs) (i.e. less equipment, stipends, and sub-awards >\$25,000)
- Overhead recovery generated

These analyses revealed that the correlation of Research Administration Staff Costs to Direct Research Expenditures provided the most consistent and convenient campus-wide correlation, with a regression coefficient (R Square) = 0.92. For the fourteen units considered for FY 2002-03, the Research Administration Cost as a percentage of Direct Research Expenditures averaged 7.1%, and this ratio was remarkably consistent across units with research expenditures ranging from \$4 million to \$55 million annually. This data is presented in the following graph.

FY 2002-03 Departmental Administrative Cost as a Percentage of Direct Research Expenditures



The most striking finding of our study was this extremely strong relationship between administrative costs and total Direct Research Expenditures. This relationship made it clear that a coefficient applied to Direct Research Expenditures could serve as a remarkably useful metric for ascertaining research support needs across units with widely varying levels of expenditure: it was clear, easily understood, easy to calculate, and intuitively obvious.

To estimate the costs of Supplies and Expenses for administrating units, we examined the S&E costs for the five engineering units since we had detailed expenditure data from these units for FY 2003-04 as a part of the Task Force exercise. The Engineering ORUs range in size from the smallest to the largest unit we have been considering, and they handle more than \$100M of sponsored research funding; therefore, we considered them an adequately representative sample. The units considered were the following:

- Earthquake Engineering Research Center (EERC)
- Electronics Research Laboratory (ERL)
- Engineering Systems Research Center (ESRC)
- Institute for Environmental Science and Engineering (IESE)
- Institute of Transportation Studies (ITS)

Our analysis of these five units indicated that the S&E cost/unit was remarkably consistent across the wide range of activity considered, averaging ~ 0.4% of Program 44 Direct Research Expenditures. Taking this assessment of Supplies and Expense costs together with the Salary and Benefits data above, the data indicates that there is a relatively consistent relationship between administrative costs and Direct Research Expenditures:

**Staff Salaries and Benefits (~7.1%) plus Supplies and Expenses (~0.4%)
= ~7.5% of Direct Research Expenditures**

The committee thus agreed to use this general recognition, that it costs an administrative unit approximately 7.5% of its Direct Research Expenditures to administer sponsored research, as the foundation for developing a model for funding research support. The observation that this metric applied over a wide range of unit sizes (direct expenditures ranging from \$4M to \$55M) in units accounting for 80% of the campus sponsored research expenditures, persuaded the Committee that it was a remarkably strong predictor of actual costs of administering research. Also the consistency of the metric from unit to unit reassured the Committee that there was at least an acceptably level playing field, and thus it would be possible to consider a go-forward model for insuring that research support scales with the level of research activity in campus units. The committee fully recognizes that this finding does **not** demonstrate that 7.5% of direct costs is adequate for optimal support of sponsored research in a premiere research university. The labor necessary to obtain this data made it impossible to benchmark effectively against other research universities. Given the current budget climate, the Committee decided to focus on insuring that research support will scale with activity. Nonetheless, we recommend that future efforts be made to increase the level of research support to assure Berkeley's continued competitiveness.

Considerations in Developing the Proposed Model for Research Support

A Go-Forward Model for Implementation:

A critical revelation of the data gathering exercise was the reassuring discovery that units were spending a relatively consistent per cent of direct expenditures for support of research administrative staff (7.1%) and for supplies and expenses (0.4%). Thus we decided to consider the playing field level enough to permit us to use a go-forward model based on annual allocations of incremental overhead to address the issue of insuring adequate support to units as levels of activity change. This was a critical procedural advantage since the University's financial and budget systems do not distinguish administrative support from instructional expenditures in academic units, and they contain no information whatever on which unit administrative staff support research, as opposed to instruction or other programs. It took two years of extensive effort to generate the data we used for developing the model for only twenty-one units, so assessing all campus units was simply not technically feasible. Without extending the cost survey to all campus units and having access to detailed information about the history of unit funding and staffing decisions over the years, the committee would have had no credible basis for recommending adjustments to units' current base budgets.

The committee therefore determined that, with the exception of research administration in the Engineering ORUs, for which new budgets had to be built from the ground up to replace a previous funding model eliminated by federal guidelines, it would propose a model in which annual incremental funding would be allocated to reflect annual incremental changes in research expenditures, beginning with the FY 2004-05 year. This would be accomplished by **annual allocation to units of some part of the annual incremental increase in overhead generated by the campus**, and the new model would replace the current system of annual overhead allocation now in place.

Campus units not assessed in our study but convinced that they are presently seriously under-funded in relation to 7.5% of direct costs can conduct their own assessment (the Vice Chancellor for Research Office can provide forms and instructions). In the current budgetary climate we have no resources to address baseline underfunding but the VCRO will work with the unit and the cognizant Dean or Unit Head to consider how best to address the situation in cases of serious underfunding.

Fine Tuning The Model

Should Research Gifts be included in the base metric for calculating annual overhead allocations?

The committee devoted considerable attention and discussion to the issue of how Research Gifts should be handled. Research Gift expenditures are included in the total Program 44 Direct Expenditures discussed above. However, although it is clear that Research Gifts cost just as much to administer as grants and contracts, until now Research Gifts have generated no research administration overhead to the campus or to

the administering units. Thus the actual administrative costs of Research Gifts have until now been fully subsidized by the administering units and the campus. Therefore the Committee decided that Research Gifts should be considered separately and should not be included in the yearly calculations to be used for the annual allocation of incremental overhead to units. The Committee concluded that our understanding of the actual costs of administering sponsored research should be used to establish an a fair and appropriate Administrative Fee to Research Gifts to cover their administrative costs, and thus Research Gifts should be handled separately from the overhead allocation process. Therefore Research Gifts are subtracted from the total Program 44 Direct Research Expenditures in all subsequent discussions of our proposed model for overhead allocation. Details of the Committee's recommendations for Research Gift Administration Fees are provided later in this report.

Should equipment and sub-awards be included in the base metric for calculating annual overhead allocations?

Since our new model for research support sought to address the administrative needs of all units, it was critical to identify a research activity metric that optimally reflects the actual workload experienced by unit staff for calculating annual allocations of overhead.

The Committee briefly considered the advisability of including the number of projects and/or employees supported by the sponsored research within the metric to reflect appropriate levels of administrative workload. The number of projects was potentially a relevant variable since it was possible that, per dollar of expenditure, the cost of administering a large number of small awards might be higher than that of administering a smaller number of large awards. We immediately found, however, that it was surprisingly difficult to count projects. Because the campus has no broadly applied specific definition of what constitutes a project, records are not consistent from unit to unit. Furthermore, a large number of inactive funds are listed in the records. Using the best data we could assemble, the Committee found that the relative predictive power of the number of projects was insignificant compared to the predictive power of research expenditures, and the latter was not improved by inclusion of the project data. Similar issues arose with counting the number of GSR's and staff supported by the sponsored research, and similar findings emerged. Thus the Committee focused on Direct Research Expenditures (with Research Gifts excluded) as the primary metric for calculating allocation of overhead.

Although it was clear that the core of the research activity metric should be direct expenditures from sponsored contracts and grants, it was not immediately clear whether equipment and sub-awards should be included or excluded. The federal formula for determining overhead generation excludes equipment and pays overhead only on the first \$25,000 of subcontracts. Thus these items are contributing little or nothing to the incremental overhead the model would allocate. However, since both these activities require substantial effort on the part of the administering unit and the central campus

staff, the Committee concluded that their contribution to the workload should be recognized by retaining their expenditures within the research activity metric for the model.

Equipment purchases

Initially the Committee considered excluding equipment expenditures because they are excluded from overhead generation in federal grants and contracts. Furthermore, we suspected that very expensive equipment purchases would be likely to require a relatively lower level of effort on the part of departmental and central campus staff than more numerous purchases of less expensive equipment for the same total expenditure. However, regression and correlation analyses showed that excluding equipment expenditures did not improve the predictive power of total direct expenditures. In fact, equipment expenditures were closely correlated with total research expenditures and thus with administrative costs, perhaps because many equipment expenditures, such as fabrications, do require significant administrative effort. For these reasons, the Committee decided not to exclude equipment expenditures from the direct research (Program 44) expenditures for the purposes of calculating the annual allocation of overhead.

Sub-awards and sub-contracts

At Berkeley, the total volume of research sub-awards is unusually large compared to other research universities, accounting for nearly 20% of all research expenditures. Most sub-awards are made to LBNL or other research universities; some are made to industrial partners. This reflects the remarkable success of Berkeley faculty in leading large multi-investigator, multi-institutional research projects. Upon investigation, the Committee became convinced that sub-awards clearly generate more workload than is recognized by the federal limit of overhead generation to the first \$25,000 of the sub-award. Some sub-awards require difficult and protracted negotiations to get them established and many continue to generate issues that require resolution once they are in place. Therefore the Committee concluded that sub-awards should be taken into account in the new model for overhead allocation.

It was not immediately obvious, however, how sub-awards should be appropriately included in the model. Because sub-awards can be very large, including sub-awards in direct expenditures had major and erratic effects on perceived total research expenditures, producing dramatic increases or decreases in a unit's apparent research activity from year to year. Nonetheless, because regression analyses showed that the dollar volume of sub-awards did influence the correlation of expenditures with administrative costs, the Committee sought to find a mechanism for including some recognition of sub-awards in the model. Since sub-awards were less closely correlated with administrative costs than the remaining components of Direct Research Expenditures, the Committee decided to separate sub-awards from other types of research expenditures, and weight them differentially in the final model.

Based on regression analyses of the effectiveness of several formulas for correlating these two factors with actual administrative costs, the Committee concluded that the base of average annual incremental expenditure used to calculate the annual overhead allocation was optimized by placing half as much weight on sub-awards as on direct expenditures excluding sub-awards. The best correlation with administrative costs was found when expenditures excluding sub-awards were multiplied by 8% and the sub-awards were multiplied by 4%. The sum of these two factors is roughly equivalent to 7.5% of total direct costs, but correlates more closely with actual unit administrative costs.

$$\text{Annual Unit Expenditure Base} = 8\% \times (\text{Direct Research Expenditures excluding Research Gifts and Sub-awards}) + 4\% \times \text{Sub-awards}$$

How to smooth fluctuations in annual allocations that are based on annual incremental changes in Direct Research Expenditures?

Although the Committee wanted to have a model that responded quickly to changes in research activity, we also wanted to insure enough stability to avoid introducing noisy or sharp fluctuations in unit administrative funding. The solution adopted by the Committee was to smooth year-to-year volatility by using a three-year average to generate the unit administrative base for calculating the annual incremental allocation of overhead funds to units, i.e., the average of the two previous annual increments in research expenditures and sub-awards.

Thus, to this point, the model would calculate the FY 05 annual allocation for each unit as follows:

1. *Determine the average annual increment in direct expenditures without research gifts or sub-awards for FY2002-2004*
2. *Multiply this value X 0.08=direct expenditures excluding sub-awards/ research gifts component of the base*
3. *Determine the average annual increment in sub-awards for FY 2002-2004*
4. *Multiply this value X 0.04=sub-award component of administrative base*
5. *Add together the components for direct expenditures and sub-awards to get the Unit Administrative Base*

This process is summarized by the following formula:

$$\text{Unit Administrative Base} = .08 \times (\text{average annual increment in Direct Research Expenditures excluding Research Gifts and Sub-awards}) + .04 \times (\text{average annual increment in Sub-awards})$$

For the final formulation of the model, however, the Committee also needed to take into account two other considerations: first, the recognition that sponsored research from some sponsors provides less overhead than our mandated overhead rate (and hence less than the actual costs of administering the research), and second, the recognition that some sponsors permit units to direct-charge some administrative costs to contracts and grants.

Overhead Recovery and the Ability to Direct-Charge for Administrative Costs

Most federal contracts and grants bring in full overhead recovery, e.g. 52% of Modified Total Direct Costs (MTDC), or roughly 30-35% of Program 44 Direct Expenditures (excluding Research Gift expenditures). Many foundation grants bring in no overhead and many have policies limiting overhead to less than the UCB rate. Because of these policies, campus units whose research is primarily supported by federal contracts and grants bring in proportionally more of the overhead generated by the campus. Unfortunately, it costs just as much to administer contracts and grants that do not generate much overhead.

Some sponsors of contracts and grants permit units to direct charge a part of their administrative and clerical support. Although Circular A-21 generally prohibits paying for administrative and clerical support with direct costs of federal grants or contracts, these restrictions apply only to federal awards and permit exceptions for major federal projects that have special administrative needs. State of California awards often generate very little overhead (and what overhead they do generate is converted into state general funds and does not come back to the campus as overhead), but many state contracts and grants allow direct-charging of administrative support. Several campus units have large federal awards for which it is appropriate to direct-charge for administrative costs, and a substantial component of their administrative costs are direct-charged.

This situation creates a problem for our overhead model, since ignoring direct-charging could lead us to providing a windfall of overhead allocation to units for administrative costs that have already been paid for by direct charging. Since units that can direct charge are generally also bringing in less than their share of the overhead to the campus, this is a serious challenge to the fairness of the model.

Given the scarcity of campus resources and the Committee's concern for the fairness of the model, we wanted to find a way to adjust the model to reduce central campus overhead allocations to those units who could appropriately direct-charge some of their administrative costs and to those units whose overhead generation was less than actual cost to the campus. Unfortunately the level of direct charging by units is not accessible from our financial and HR systems and thus it is not feasible each year to determine how much of local administration is supported by direct-costs unit by unit in the administration of our allocation model.

The committee recognized that often the ability to direct charge for administrative support is correlated with a policy of lower overhead payment by the research sponsor. Therefore the committee decided to recommend that the incremental research support allocation be adjusted by a factor reflecting each unit's level of overhead recovery as a partial proxy for the ability to direct-charge for administration, and to acknowledge the cost to the campus of grants that do not fully recover overhead at the campus rate. The factor was defined as the unit's actual overhead yield as a percentage of the nominal yield that would be achieved if the campus's full overhead rate had been charged to all its

awards. Actual overhead recovery >30% of direct expenditures was considered full recovery and thus given a factor = 1.0. Actual overhead recovery of less than 30% would be prorated—for example, a 20% overhead return would result in a factor of (20%/30%), or 0.66.

The Committee also decided to set a floor for the factor to help address the administrative costs of units whose traditional sponsors' policies restrict overhead below the campus rate. The Committee therefore proposed that whatever the calculated percentage, a factor no lower than 0.5 would be used to adjust the distribution. This floor would insure that those units outside engineering and the physical and biological sciences, units that often have extremely limited ability to collect full overhead on their extramural funding because of their typical sponsors, would not be excluded from the allocation process.

The maximum overhead yield adjustment factor proposed is therefore 1.0 and the minimum is 0.5. Although the Committee recognizes that the correlation between overhead generated and the ability to direct cost is not perfect, the impossibility of assessing direct costing unit by unit constrained us to come up with a policy that could be broadly applied across the campus with reasonable fairness. We think that the overhead factor provides an approximation that allows the model to take into account the effects of direct costing and the level of subsidy already provided to units that do not bring in overhead at the rate shown by our negotiations with the federal government to be the actual costs of administering the research.

The Final Proposed Model For Annual Overhead Allocation For Research Support To Administrative Units

Overhead Allocation = Unit Administrative Base X Overhead Factor

Unit Administrative Base =

0.08 X (Average Annual Increment in Direct Research Expenditures excluding Research Gifts and Subawards)

+ 0.04 X (Average Annual Increment in Subawards)

Overhead Factor = 1.0 for overhead recovery (OHR) of 30% or more

= OHR/30 for OHRs between 15 and 30%

= 0.5 for overhead recovery of 15% or less

Example:

Research unit XYZ	Research expenditures	Subawards	Overhead return
FY02	\$3,500,000	\$200,000	\$1,050,000 (30.0%)
FY03	\$5,000,000	\$400,000	\$1,450,000 (29.0%)
FY04	\$7,500,000	\$600,000	\$2,220,000 (29.3%)

\$2,000,000 average incremental growth in direct research expenditures
 \$200,000 average incremental growth in subawards
 29.5% average overhead return (OHR)

When the proposed model (using the above formula) is applied to Unit XYZ, including the effect of subawards and overhead yield factor, the allocation would be \$149,467, as follows:

Admin base	8% x (\$2,000,000 - \$200,000) + (4% x \$200,000)	=	\$152,000
Overhead yield factor	29.5% / 30.0%	=	0.9833
Research admin allocation	0.98 x \$152,000	=	\$149,467

For comparison purposes, an unweighted 7.5% of average incremental growth in direct research expenditures for Unit XYZ would result in an allocation of \$150,000.

Allocations based on incremental changes in direct expenditures and sub-awards will be provided as temporary recurring funds:

Each year in the fall part of the incremental overhead from the previous academic year will be allocated according to the proposed formula. These funds will be allocated as temporary recurring funds; therefore, if a unit's expenditures consistently increase from year to year, the total allocation will increase each year by the incremental allocation of the formula. For example, if a unit doubles its expenditures over several years, the allocation in the year that expenditures have doubled will approximate one half of 7.5% of the unit's total expenditures (if the factor is close to 1.0). Thus, over time, these allocations will provide a more and more significant part of the unit's administrative costs as expenditures increase. If, on the other hand, a unit's expenditures decrease, the allocation from the previous year will be decreased by the calculated amount. If the unit has not previously received any allocation, no deduction will be made to the unit's operating funds. Thus only recurring temporary funds that have been previously allocated from overhead can be reduced if a unit's funding declines. To reduce administrative inefficiency, the Committee recommends that allocations be made only if the calculated allocation exceeds \$300.

Costs of Central Units providing Research Administrative Support Functions:

Research Administration on the Berkeley campus also depends on several central units that play critical roles in supporting sponsored research activities. These include

- The Research Administration and Compliance Office, which includes:
 - The Sponsored Projects Office – responsible for federal and private contract and grant submission, acceptance, and closeout, negotiation of subcontracts, and compliance with campus, state, and federal regulations concerning sponsored research
 - The Office of the Animal Care and Use Committee – responsible for insuring that campus animal research protocols and procedures comply with federal guidelines
 - The Postdoctoral Affairs Office – responsible for coordinating postdoctoral services and documentation
 - The Conflict of Interest Committee – responsible for reviewing potential conflict of interest issues for campus researchers
- Extramural Funds Accounting – responsible for tracking expenditures in sponsored research, financial closeout of grants and contracts, appropriate billing of the federal government for overhead, billing sponsors of contracts
- The Office for Protection of Human Subjects – responsible for insuring that campus human research protocols and procedures comply with federal guidelines
- Industry Alliances Office – responsible for negotiation of contracts and grants with industry, and for material transfer agreements
- The Office of the Vice Chancellor for Research – responsible for campus research compliance, management of all the above offices except Extramural Funds Accounting, management of the Office of Intellectual Property and Industry Research Alliances, including the Office of Technology Licensing, administration of limited submissions, allocation of matching funds and Berkeley Futures Grants, supervision of >40 campus Organized Research Units, Museums, and Field Stations.

In the following Table, the average cost of these central research support units for FY 2001-04 are shown, along with the Average Percentage of Total Research Expenditures for those years. The committee recommends that each of these units be allocated the indicated percentage of the three-year average increment of direct expenditures (excluding Research Gift expenditures) as part of the annual allocation of overhead. The base levels for Extramural Funds Accounting and the Research Compliance and Sponsored Projects Offices have been found to be substantially under-funded in comparison to other campuses in benchmarking studies currently underway. The committee therefore recommends that the percent for these units be increased slightly to 0.5% so they will scale to maintain higher base funding levels that are under negotiation. The actual value of the 3-year average increment in total direct expenditures (excluding research gift expenditures) for the fall 04 (FY 05) allocation is \$17, 900,000. The actual allocation that would be generated for each unit by this overhead allocation process in fall 04 is indicated in the last column.

Expenditures of Central Campus Research Administration Units

	01-04 Annual Average	Average % of res expend	Committee % proposed	05 OH allocation actuals \$
Extramural Funds Accounting	1,428,313	0.46%	0.50%	89,500
Sponsored Projects Office & Research Compliance Office	1,447,413	0.47%	0.50%	89,500
Animal Care and Use Committee	279,928	0.10%	0.10%	17,900
Committee for the Protection of Human Subjects	317,438	0.10%	0.10%	17,900
VCR Immediate Office	1,869,958	0.60%	0.60%	107,400
Industry Alliances Office	625,082	0.20%	0.20%	35,800
Total for Central Units		1.93%	2.00%	358,000

Taking into account these proposed levels for EFA and SPO, the committee estimates that 2.0% of the 3-year average increment of direct expenditures of sponsored research (excluding gifts) should be directed in the annual allocation process to central units supporting research administration. In the FY05 allocation this fall, that 2.0% would come to \$358,000.

Investment in Future Research:

The Committee strongly supported the idea that resources for investing in future research at Berkeley also be augmented on an annual basis in a manner that scales with the size of the campus research enterprise. Two such activities were identified for inclusion in the model:

- Berkeley Futures Grants (currently \$300,000 per year) -support for PIs developing large multi-investigator, interdisciplinary grant proposals
- The Central Campus contributions to Cost Sharing (currently \$1,000,000 per year)

To insure that these activities scale with the level of extramural funding, the committee recommends that both be augmented from overhead each year at the following percentage of the 3-year average incremental direct expenditures (excluding Research Gift expenditures):

- Berkeley Futures Grants 0.5%
- Cost Sharing 0.5%

Summary of Recommendation for Annual Overhead Allocations

The recommendations of the committee thus specify that the central administration would allocate approximately 10.5% of the average annual increment in Direct Research Expenditures (excluding Research Gift expenditures) toward the support of sponsored research. This average annual increment in research expenditures for FY05 is \$17,900,000.

Recommended Allocations According to the Model for FY05:

	01-04 annual Average	Average % of res expend	Committee % proposed	05 OH allocation actual \$
Extramural Funds Accounting	\$1,428,313	0.46%	0.50%	\$89,500
Sponsored Projects Office & Research Compliance Office	\$1,447,413	0.47%	0.50%	\$89,500
Animal Care and Use Committee	\$279,928	0.10%	0.10%	\$17,900
Committee for the Protection of Human Subjects	\$317,438	0.10%	0.10%	\$17,900
VCR Immediate Office	\$1,869,958	0.60%	0.60%	\$107,400
Industry Alliances Office	\$625,082	0.20%	0.20%	\$35,800
Total for Central Units		1.93%	2.00%	\$358,000
Investment in Future Research				
Berkeley Futures Grants	\$300,000		0.50%	\$89,500
Matching	\$1,000,000		0.50%	\$89,500
Total for Investment in Future Research			1.00%	\$179,000
Total Central			3.00%	\$537,000
Administrative Support for Units			7.50%	\$843,200
Total Research Administration Cost (Unit plus Central): % Direct Expenditures			~10.5%	\$1,380,200

Research Gifts: Administrative Cost Policy

The Berkeley campus is fortunate to receive a growing stream of support for research programs and faculty research in the form of Research Gifts from private sources, including individuals, trusts, foundations business, and industry. In the past the campus has exacted no research administration fees for these gifts received from private sources, in spite of the fact that the costs of administering Research Gifts are not different from those of administering grants and contracts. Now, however, the total of such funds has grown to the extent that it is no longer realistic for the administering units and the central campus to completely subsidize the costs of administering these Research Gifts. As a result of the data generated in our study, it is now possible to specify an administrative

fee for Research Gifts that is rational, fair, and reflects actual costs to administering units and to central campus research support units. Therefore the committee recommends that Research Gifts be assessed an administrative fee consistent with the identified costs of administering the research and parallel to our recommendation for overhead allocation: i.e., the committee recommends that gifts be assessed a 10.5% administrative fee: 2% to central campus units, 1% to investment in future research, and 7.5% to the administering unit. The committee recommends that the current Research Gift Fee of 2% (to Chancellor's Discretionary Funds) be eliminated.

It is important to define what constitutes a Research Gift rigorously so it can be consistently applied across the campus. The Committee recommends the following boundary definitions to distinguish a Research Gift from other gifts and from contracts and grants:

Distinguishing a “Research Gift” from other gifts: A gift is a “Research Gift” when it is designated as unrestricted funds to support the research of one or more specified faculty members or research programs.

Distinguishing a Research Gift from a Contract or Grant: *

- Funds are classified as Research Gifts when the funds are irrevocable, and the donor does not impose contractual requirements; i.e., there are no deliverables.
- Funds are classified as contracts and grants when any of the following apply:
 - The grantor is entitled to receive some consideration, such as a detailed technical report of research results, a report of expenditures, or space and support for a visitor
 - Testing or evaluation of products is involved
 - The research is directed to satisfying specific grantor requirements (eg. terms and conditions stating a precise scope of work to be done rather than a general area of research)
 - A specified period of performance is prescribed, or termination is at the discretion of the grantor
 - Funds unexpended at end of period shall be returned to the grantor
 - Intellectual property rights are requested by the grantor

* From the Policy and Guidelines Memo on GIFTS/GRANTS FOR RESEARCH, July 8, 1990;
<http://www.ucop.edu/facil/fmc/facilman/volume1/rpgift.html>

Transaction Costs of Processing Research Gifts:

Consistent with the assessment of the actual costs of central campus units involved in administering research on campus discussed above, the Committee also obtained from University Relations an estimate of the 5-year average transactional costs to the Development Office entailed in handling Research Gifts. The 5-year average (FY99-FY03) number/year of Research Gifts was 1,115 out of a total of 128,682 gifts, or 0.89%.

Multiplying this Research Gift percent of total gift transactions (0.89%) times the total budget of the Development units involved in all gift transactions (\$4.7M) provides an estimate of annual Research Gift transaction cost of \$42,000. We also estimated that 5% of the time of the fundraisers in Corporate and Foundation Relations is committed to issues concerning Research Gifts, thereby adding another \$27,000 to yield a total average annual cost to Development for Research Gifts of \$67,000. This total divided by the annual average number of Research Gifts (1,115) produces an estimated cost of ~\$60 per transaction. This value comes to approximately 0.5% of the \$14.7M research gift dollar total. Since the handling of Research Gifts replaces the role of SPO in handling contracts and grants, the Committee recommends that for Research Gifts, the 0.5% of the central 2% administrative fee directed to SPO in the case of overhead return, be directed to the Development Office to support the costs of administrating the Research Gift transactions.

The 10.5% administrative fee applied to gifts would thus be allocated as follows:

Recommended Allocations of the 10.5% Research Gift Administration Fee (based on FY04 Research Gift Expenditures total of \$14,700,000)				Allocation of Research Gift Administration Fee actual \$
	01-04 annual Average	Average % of res expend	Committee % proposed	
Extramural Funds Accounting	\$1,428,313	0.46%	0.50%	\$73,500
Development Office Transactional Costs/Research Gifts	\$67,000	0.46%	0.50%	\$73,500
Animal Care and Use Committee	\$279,928	0.10%	0.10%	\$14,700
Committee for the Protection of Human Subjects	\$317,438	0.10%	0.10%	\$14,700
VCR Immediate Office	\$1,869,958	0.60%	0.60%	\$88,200
Industry Alliances Office	\$625,082	0.20%	0.20%	\$29,400
Total for Central Units		1.93%	2.00%	\$294,000
Investment in Future Research				
Berkeley Futures Grants	\$300,000		0.50%	\$73,500
Matching	\$1,000,000		0.50%	\$73,500
Total for Investment in Future Research			1.00%	\$147,000
Total Central			3.00%	\$441,000
Administrative Support for Units			7.50%	\$1,102,500
Total Research Gift Administration Fee Allocation (Unit plus Central): % Direct Research Gift Expenditures			10.50%	\$1,543,500

The Research Gift Administration Fee would be assessed upon transfer of a gift to the administering unit as a one-time-only fee. The Research Gift funds (less the Administration fee) would then be available to the recipient for as long as it takes to spend the money. Thus unlike the Overhead allocation process that is triggered by the actual expenditure of the contract or grant, the Research Gift Administration Fee would be assessed upon receipt of the gift, not upon expenditure of the funds. Also unlike the Overhead allocation mechanism which will be transferred as temporary recurring funds and thus accumulate from year to year, the Research Gift Fee would be a one time only fee for each gift and would not accrue from year to year. The Committee proposes that

Research Gifts registered after November 1, 2004 be assessed the new Administrative Fee.

Although the costs of administering Research Gifts are the same as those for administering grants and contracts, to date these administrative costs have been fully borne by the administering unit and the campus. Now that we know the actual costs of administering sponsored research in administrative and central research support units, the Committee concluded that we can and should now specify an administrative fee for Research Gifts that is rational and fair. The remaining costs of facilities, libraries, and other costs addressed in the calculated 52% overhead rate that are used in the conduct of research sponsored by Research Gifts continue to be subsidized by the administering units and the campus.

Indirect Cost Waivers:

The Berkeley Campus must request exceptions to negotiated indirect cost rates from the UC Office of the President. The policies regulating indirect cost waivers spelled out in Chapter 8 of the UC Contract and Grant Manual (particularly 8-600 and 8-634) specify that exceptions are to be considered only for projects that qualify as vital program waivers. The authority to approve exceptions to negotiated indirect cost rates remains with the Senior Vice-President—Business and Finance at UCOP, and has not been re-delegated to Chancellors or Laboratory Directors.

The campus does not request waivers or reductions of the indirect cost recovery unless the project strictly meets the UCOP criteria for a vital program. In any event, the policies on indirect costs in place since 2000 (see the attached Primer on Indirect Costs) make the cost to the campus of waivers or reductions in indirect cost recovery comparable to direct cash contributions. Overhead waivers are granted by UCOP only for vital programs matching the following criteria:

- Small seed grants which may attract future larger awards
- Cases of hardship for a new investigator
- Awards which include contributions of equipment or building renovation funds
- Awards for a community relations interest vital to the campus
- Supplements for a student services activity which the campus must provide
- Supplements for library holdings or public exhibits

If granted a vital program waiver, the project may claim the reduction in overhead as cost sharing; however, in no circumstances are vital program waivers approved for the sole purpose of meeting cost-sharing requirements. The campus automatically grants waivers or reductions of indirect costs for individual agencies or sponsors that have formal policies dictating an indirect cost rate different from the federally negotiated campus rates. These waivers are handled automatically by the Sponsored Project Office.

The Committee reaffirms that the Berkeley campus will conform to University policy in issues concerning overhead waivers. Only projects that meet the vital program criteria will be recommended to UCOP for overhead waivers.

Conclusions

This report reflects the outcome of two years of data gathering and deliberation by the Research Support Advisory Committee. Although trying to understand the complexities of research administration on a campus as diverse, decentralized, and lively as Berkeley is a daunting challenge, we believe we have put together a fair, activity-driven model for research support that will serve the campus well. We think it appropriate that the central administration recognize the impact that Berkeley's growing success in competing for sponsored research funding has upon the units responsible for administering that research in a way that reflects workload and scales with the level of activity. We recognize that no model can perfectly address the unique circumstances in each administering unit. Nonetheless, we are hopeful that our proposed new models for supporting sponsored research will represent a transparent administrative commitment to Berkeley's continuing research success, insure investment in future research success at Berkeley, and encourage both faculty and staff to have confidence that adequate support will be provided as research activity increases.