

Commitment to Focus

ACADEMIC PRIORITIES

1988 - 1993

**TWIN CITIES CAMPUS
UNIVERSITY OF MINNESOTA**

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ACADEMIC PRIORITIES

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PROVOST'S INTRODUCTION¹

Planning is not new at the University of Minnesota. This document presents the fifth set of institution-wide, centrally directed academic program changes for the Twin Cities campus since 1975, so it may be viewed as simply another step in the evolution of a great land-grant university which self-consciously and publicly continues to adapt to changing circumstances. There is truth to this view because many of the recommendations that follow can be traced to a long series of task force reports on challenges that face the institution. Indeed, these recommendations should not be viewed as revolutionary. Rather, they propose a redesign, a better balance among our multiple missions, the development of a clearer map of the institution's academic future, college by college and across the University.

However, to write only of continuity and evolution would be to miss the significance of the overall change taking place at the University. Since 1985 when President Keller wrote his *Commitment to Focus* essay, the University has been adapting to the state's changing needs. The first stage has now largely been completed. This was to accommodate the University's programs to the overall higher education system of the state and its changing population. The Regents have directed the administration to reduce undergraduate numbers by 8,000, shift the balance of our programs toward upper division and post-baccalaureate study, and coordinate undergraduate programs with the community college system. The structural changes now proposed will form a new institutional matrix within which the University will move forward to meet Minnesota's developing needs.

Most of the University's present institutional structure was developed during the Vincent presidency (1911 - 1917). Institutions, for good reason, are built to provide continuity and stability; the University has been stable in structure since the Vincent years, slowly adapting to the large demographic surge of enrollment over the past four decades. In the late

¹These recommendations have been formulated out of the *Strategy for Focus* planning efforts, staffed by the office of the Provost, that began in 1986; they are presented here as a set of recommendations generated under the direction of President Keller. I am grateful for the effort and quality of work put in by faculty, students, and deans. The Faculty Consultative Committee, chaired by professor Ellen Berscheid in 1986 - 87 and currently by professor W. Phillips Shively, deserves special thanks. The Advisory Task Force on Planning, chaired by professor Charles Campbell, presented an extraordinary set of recommendations that helped immensely in shaping our position statements.

1980s, however, we find the University clearly in another period of sustained, conscious change. Circumstances demand it, if we are to succeed in meeting the society's needs and the University's aspirations. These plans will lead to the most fundamental reshaping of the Twin Cities campus structure since the Vincent years.

General Themes

These recommendations may be viewed from the vantage point of three structuring principles. First, the recommendations may be broken down roughly into categories of increasing specificity: General health of the institution; core academic programs; land grant related programs; and specific opportunities for improvement. College-by-college recommendations form a second classification by which the recommendations may be read. The funding recommendations are summarized, starting on p. 72, from each of these first two points of view.

The third way to look at the recommendations is to use as a map the three main themes that have emerged in this planning effort:

- The arts and sciences programs, wherever they are, must be better supported. Overall, they do not now match the quality of our best professional programs, but ultimately, the professional schools are anchored to the programs in the arts and sciences: health and agricultural sciences to the biological, physical and engineering sciences; education, law, management, and public affairs to the social and behavioral sciences; and the fine arts to the humanities.
- The nature and quality of the University's undergraduate programs on the Twin Cities campus require re-examination, and several require improvement. Because arts and sciences offerings are at the core of the undergraduate program, this theme, too, implies more attention to the arts and sciences.
- Programs particularly relevant to the economic development of Minnesota are a special responsibility of the University because of its land grant mission; existing programs and proposals for new developments must be judged in the context of our focused mission, and the most promising ones supported vigorously.

All of the proposals in the document that follows can be read as contributing to these three themes.

The Task Ahead

The word "quality" appears frequently throughout the following pages. This is no accident. The University of Minnesota cannot discharge its responsibility to the citizens of the state unless it can increase the quality of its education, research and service. We strive to become one of the strongest public institutions in the country not to satisfy our own egos, but to provide the quality that the state deserves and must demand. To accomplish this will require careful staging of expenditures to build strength on strength. This document provides the broad brush strokes; but much detailed work remains to be done to make sure that funds are invested wisely.

There is much debate about the comparative advantage of our economic sectors related to those of other countries. It is in our flagship public universities that America's ultimate comparative advantage rests. If the recommendations presented here lead to a higher quality of undergraduate education in a university of more racial diversity, the next generation of students will be significantly better prepared than today's, and Minnesota's quality of life will benefit. If the quality of the targeted land grant-related programs improves, the economic health of the state will reflect that improvement. And if the proposed investment in the arts and sciences core programs has the intended effect on the quality of our best units, on the University's strong professional programs, on undergraduate education and on our land grant-related programs, improvement will be enduring.

THE UNIVERSITY'S PRIORITIES

Here is a summary of the highest priorities for funding; these will be discussed in more detail throughout the document.

General Health of the Institution

Every structure must have a base of support, and the soundness of the structure is dependent on the soundness of the base. The University's support base consists in its libraries, its computing services, and other services that underlie our academic programs; unless they are strong, we cannot hope to provide the quality of service in our academic programs that the state has a right to expect.¹ Parts of the base in urgent need of strengthening include the libraries and computing services; instructional equipment and support services; undergraduate support services, particularly advising; minority programs both for students and faculty; and programs in support of international education.

Core Programs

Within the educational programs of the institution, some are central to the University, in that other programs rely on them and build on their strengths. With respect to undergraduate education, lower division programs in the arts, sciences and engineering² form the basis for the more specialized work that comes in majors throughout the University at the upper division. At both undergraduate and graduate levels, specialties in agriculture and the health sciences draw on chemistry and the basic biological sciences; management and public affairs draw on economics, mathematics, psychology and statistics; engineering specialties draw on chemistry, mathematics, physics, and such basics of engineering as the analysis of circuits, of friction and of turbulence. The arts, sciences and engineering form a knowledge base on which our understanding in a broad range of fields is built, and high

¹This plan addresses only the academic programs of the university, so we do not here address important issues regarding renovation of the physical plant of the campus, updating of its cumbersome and outdated accounting system, or other important services.

²Throughout this document, the arts, sciences and engineering are intended to include all of the liberal arts, including the humanities as well as fine and performing arts, and the social and behavioral as well as the physical, biological and mathematical sciences.

quality in those areas is essential to high quality in the University in general. To protect and where necessary to restore the strength of these core areas is among the highest priorities in order for the University to meet the state's needs. Particular needs lie in the biological sciences, engineering, the humanities, mathematics, the physical sciences, the social sciences, and in lower division education in general.

Land Grant-Related Programs

The concept of the land grant university was established by the Morrill Act of 1862 on the premise that higher education should be accessible to poor as well as rich, and that it should be practical (particularly in agriculture and the mechanic arts) as well as classical. The concept of the land grant mission has expanded from agriculture and the mechanic arts to include other practical studies, and to include research and service as well as teaching, as the economy of the state has grown in complexity. Other public institutions have been developed, too, to help meet the responsibility for making higher education accessible to all, and to provide practical education in many fields.

The University of Minnesota bears most of the responsibility in the state for graduate education and research, without which the responsibilities of a land grant university cannot be discharged. It has a responsibility that is unique within the state for education in agriculture and in most of the health sciences, and a responsibility that is almost unique for education in engineering and in other areas that help to develop the state's economy and society. Programs identified as of high priority for new funds, either because of serious underfunding or important new opportunities, include support for computer science and electrical engineering; pharmacy; public health; new initiatives in multidisciplinary research for the Agricultural Experiment Station; expansion of the outreach function of the Minnesota Extension Service; an expansion of the services of the Veterinary Diagnostic Laboratory; and an expansion of the administrative services provided by the Office of Research and Technology Transfer Administration.

Specific Opportunities for Building Quality

Part of the University's present detailed planning effort has been to identify circumstances in which an *opportunity* to improve quality is coupled with *benefits* to the University, the state and the nation if we do so. These opportunities will change from time to time. At present, investments are recommended in several such programs, widely distributed across the University. They include the School of Architecture and Landscape Architecture.

Biomedical Engineering, Biomedical Ethics, the Humphrey Institute, the Institute for Applied Mathematics, the Theoretical Physics Institute, other research centers and interdisciplinary programs. The rationale for the particular expenditures proposed are summarized in the discussion of funding recommendations.

Ordering of Priorities

Even with a focused mission, the University of Minnesota has more priorities on its agenda, each of them important, than it can address with present resources or with resources that we can expect to obtain in the near term. These recommendations are based on difficult underlying choices; they deliberately postpone some important priorities in order to address others, considered to be even more important, either because of present need or present opportunity. Some of the resources required to meet these priorities are available for immediate use; more will become available as the five-year planning period progresses.

The most important priorities are to strengthen those research, graduate and professional education programs judged to have the largest impact on the University and the state (both its quality of life and its economy), and to offer undergraduate education of the highest quality in the context of a major research institution. The most urgent needs are to improve the general health of the institution, especially the library, computing services, instructional equipment, affirmative action, minority programs and undergraduate advising. Of almost equal importance are the core programs in the biological sciences, because of their inherent importance to the state, and in engineering, both because of their importance to the state and because of the extreme pressure created by student numbers and inadequate facilities. Very high in the priorities which follow are other initiatives to improve the core programs in social sciences and humanities; to enhance undergraduate education, particularly at the lower division; and to expand international education.

Priorities, Plans and Recommendations

The priorities presented here drive the administration's plans and recommendations. The plans are not completely described by the discussion that follows, however. Important recommendations have been advanced by the Implementation Task Force on Undergraduate Education, by the Special Committee on Minority Programs in support of Commitment to Focus (Taborn Committee), by the Advisory Task Force on Planning, by the Minnesota Student Association from its Fall, 1987 forum, and by the Council of Graduate Students. Some of the recommendations coming from those groups have not yet been acted on by the

administration; some have already been presented to the Regents; others await further action in the Senate or other governance structures; some require sustained administrative attention but no present policy action. The fact that not all issues are discussed here does not mean that the others are unimportant, or that they have been lost sight of in the planning effort; those not yet acted on will be considered when appropriate.

ADMINISTRATION POLICIES AND RECOMMENDATIONS

ACADEMIC POLICY

Here are issues of educational policy, affecting students and the programs the University offers them, and of faculty policy, affecting the relationship between the University and its faculty members. The subject of equal opportunity and affirmative action applies to both.

EQUAL OPPORTUNITY AND AFFIRMATIVE ACTION

For Students

Administration position: The Provost will, in consultation with each college dean, establish explicit numerical goals for improvement in minority student graduation numbers and graduation rates. College administrators shall be made accountable for achievement of these goals, with annual review of accomplishments and recognition for successes. The Provost shall explore appropriate central initiatives, e.g., working through schools in Minneapolis and St. Paul, to help colleges to meet longer-term goals.

Rationale: The administration is determined to improve the University's record on recruitment and retention of minority students. The Martin Luther King program in the College of Liberal Arts provides a valuable starting point for improvement of retention. Two new steps have been undertaken: First, successful programs have been developed by Health Sciences and the Institute of Technology, to attract talented minority youth in junior and senior high schools; the Special Committee on Minority Programs (Taborn committee) recommended that those programs be expanded to other parts of the University, and that expansion is already under way, with the help of a Minnesota Campaign grant from Super Valu. Second, the Office of Academic Affairs is conducting a search for a new associate vice president for minority programs who will provide leadership.

Despite the significant efforts made in recent years, there is room and need for improvement. Moreover, the college *Strategy for Focus* plans show that, when these plans were

submitted in March, 1987, the undergraduate colleges had not yet addressed the issue of maintaining minority enrollments as new enrollment limits and new preparation standards take effect. The University needs to make sure that each administrator with responsibility for recruitment and retention accepts personal responsibility for success of the minority program, with an explicit goal for numbers of graduates to work toward. It also needs to seek new approaches to improve its record of success.

For Faculty

Administration position: The Provost will by Spring, 1989 establish explicit five-year goals for improvement in recruitment and retention of women and minorities in each college and in each department. Administrators shall be made accountable for achievement of these goals, with annual review of accomplishments and recognition for successes. Beginning this academic year, the Provost will provide education for deans and department chairs with respect to the range of successful affirmative action efforts that they might consider, special problems facing women and minority faculty, and special assistance that might increase their chances for success. Progress in achieving affirmative action goals shall be one criterion by which deans and department chairs are judged in administrative reviews for reappointment.

Rationale: The administration is determined to improve the University's record with regard to affirmative action in academic employment. First administrative steps have been to undertake a search for a new associate vice president for minority programs, in the Office of Academic Affairs, and a new assistant in the Office of Equal Opportunity and Affirmative Action, to work exclusively on difficulties facing women academic staff.

Despite significant gains made in recent years, there are still substantial parts of the University in which women and minority faculty members are inadequately represented; there are parts in which women and minority faculty members are not fully integrated into the professional and intellectual life of their academic unit; and the *Strategy for Focus* plans from the colleges, in most of the University, do not deal with the low numbers of minorities and women in the faculty, or the issues involved in promoting their integration into a predominantly male, non-minority faculty. It is clear that special efforts are required for recruitment, development and retention of minorities and women. The University needs to make sure that each administrator with responsibility for recruitment and retention of academic staff accepts personal responsibility for success of the affirmative action program in employment. It also needs new approaches to improve its record of success.

EDUCATIONAL POLICY

Length of class period

Administration position: Unless persuasive evidence to the contrary is offered, the administration will change the length of the basic class period to 50 minutes, starting in September, 1989.

Rationale: The Senate Committee on Educational Policy has this item on its agenda, and recommendations are expected this academic year; the early committee discussion appears consistent with the change endorsed by the administration, included here in anticipation of their support.

A generation ago, the expectation was that to earn a single credit, the student would demonstrate mastery of the material covered in one "hour" of class work per week for a full academic term, and complete independent study outside the classroom amounting to approximately two hours of work outside for each class period. The classroom "hour" was actually 50 minutes, to allow time to move between classes. Over the intervening years, the University of Minnesota has changed the typical class period from 50 minutes to 45 minutes as the campus expanded so that moving between classes required more time; this change represents a 10% reduction in class time for each credit awarded. Convenience based on the clock does not justify a reduction in the educational content of a University degree.

Academic effort represented by the credit

Administration position: The administration recommends to the faculty senate that the standard for credits awarded be affirmed to be one credit per class period per week, with an expectation that independent study in support of the classroom work requires at least an additional two hours for each hour spent in class, except where persuasive evidence to the contrary is offered.

Rationale: As with the length of class period, this item is also on the agenda of the Senate Committee on Educational Policy, with recommendations expected this academic year; again, early committee discussion appear to be consistent with the change endorsed by the administration.

In 1971, the campus moved from an organization based primarily on 3-credit courses to one based primarily on 4-credit and 5-credit courses. In some parts of the University there was an accompanying decline in classroom activity per credit: Courses remained at 3 class hours per week but were increased to 4 credits; this latter change was intended to be accompanied by an increase in independent study, so that the amount of material covered was not intended to be diminished. Variations in the balance between work outside class and work inside class can justify variations in the ratio of classroom work to credits. Independent study courses offer the most obvious example; in laboratory and recitation sections, independent study required outside of the laboratory or classroom is typically lower, so a lower number of credits per class hour will in most cases be appropriate for those sections; and new instructional techniques for active learning might lead to different standards for courses using those methods.. But a clear standard is needed as a base against which to judge special cases.

The Semester System

Administration position: The administration recommends adoption of the semester calendar in September, 1990.

Rationale: For a number of years the question of semester versus quarter system has been discussed, debated, and voted upon in the Senate and Twin Cities Campus Assembly. Typically, the faculty have divided about evenly on the question. The administration believes that there have been sufficient changes to warrant this recommendation now, and will present its reasoning to appropriate committees of the Twin Cities Campus Assembly.

One clear cost of the change is the considerable effort needed to reorganize courses. That cost will be reduced by recent planning initiatives which are likely to require major course reorganization in undergraduate programs. Given those changes, it is appropriate to reconsider moving to a semester system.

The fundamental argument for the semester system is its congruence with arts and science educational requirements. The semester allows a greater amount of time for students to probe deeply into the subject being studied. With the greater time comes a greater ability to master a body of knowledge. It is not simply mastery of the subject that takes time, but the ability to assimilate it and the confidence to apply it in other areas. The semester also offers greater potential for students to pursue meaningful research projects and term papers. For

those courses in which breadth is more to be valued than depth, smaller modules of material can be covered by offering courses with fewer credits.

There are several other points to note. First, shortage of laboratory sections has been a perennial problem and has offered an argument for shorter academic terms. However, the anticipated decline of eight thousand students allows greater freedom of scarce laboratory space. Second, the proposed faculty of arts, sciences and engineering will require a University-wide effort in curriculum development. It is an opportune time to stimulate new courses and integrate such efforts as Project Sunrise in the College of Agriculture into the faculty of arts, sciences and engineering. Third, the semester also offers an increase in instructional time that could come from a reduction in hours devoted to examinations and course organization at the beginning of each term. Fourth, students' time will be saved if they register twice yearly rather than three times. Finally, administrative savings come from a reduction in the number of admission points, registrations, appointments of part-time instructors, updating of transcripts, etc., in moving from three to two terms per academic year.

Grading Policy

Administration position: The Provost will, in consultation with vice provosts, college deans, and relevant faculty committees, recommend to the Twin Cities Campus Assembly a method to preserve the meaning of letter grades and to address the problem of grade inflation for the Twin Cities campus.

Rationale: From the mid-1960s to the mid-1970s, the average undergraduate grade point average climbed from 2.5 to 2.95; it has since fallen back to 2.8. The question to be addressed is the desirability of maintaining stability of overall grade averages, and an appropriate mechanism for doing so.

FACULTY POLICY

Membership in the Graduate Faculty

Administration position: The administration recommends that the Dean of the Graduate School pursue, through the School's governance structure, a change in appointment practices to authorize all newly hired faculty with appropriate qualifications to immediately be named full members of the graduate faculty, and to mandate a review of every graduate faculty appointment every five years.

Rationale: As a general rule, the University should be hiring into tenure track positions individuals who it considers competent to undertake graduate student advising and teaching immediately. Giving such faculty immediate graduate faculty membership allows them to develop their research programs more quickly, removes the negative effect of unnecessary administrative barriers, and encourages graduate students to undertake research with younger faculty members, familiar with the most modern research techniques. Periodic review of graduate faculty appointments assures that faculty members with graduate faculty status continue to be actively engaged in scholarship at the forefront of their fields and actively involved in teaching and advising graduate students.

Tenure

Administration position: The administration recommends that the Senate Tenure Committee explore the alternative of adopting a longer term for probationary appointments, and recommend appropriate changes in the tenure code. In addition, the administration recommends that the Faculty Consultative Committee, which is establishing a Task Force to address the question of the impact on tenured faculty members of the elimination of mandatory retirement at age 70, include relevant issues which may result from the Senate Tenure Committee deliberations. The Provost will explore, in consultation with vice provosts and deans, the possibility of basing future tenure guarantees on a nine-month appointment only, and to find mutually advantageous alterations in salary and tenure to encourage voluntary conversion to a nine-month tenure base for current faculty members whose tenure base is for a longer period.

Rationale: Two advantages to extending the length of probationary appointments are that probationary faculty could develop their careers in a more orderly way, and that the University would have a longer period of observation on which to judge candidates. One disadvantage is that a longer probationary period might hamper recruitment of faculty. However, some other universities have a longer maximum period for probationary appointment, often coupled with the option of promotion to associate professor without tenure; it seems likely that the combination of those two changes would minimize the effect on recruitment.

The proposed change to a nine-month base for tenure is intended to make summer support contingent on continued research productivity and research funding, for faculty whose instructional duties do not extend throughout the year. This would both provide an incentive for faculty to seek outside research funding, and insurance for the University in case of

sharp Federal funding reductions. An appropriate incentive for current faculty to make such a conversion would be to offer a significant salary rate increase during the base period, with the opportunity to seek external funding for the summer months.

Retirement

Administration position: The administration will in 1988, in consultation with the Senate, begin a review of policy questions associated with retirement that is not based automatically on age. Explicit recommendations to the Regents will await completion of this review.

Rationale: By Federal law, after 1994 there will be no mandatory retirement at age 70 for faculty members. This change will make it incumbent on the University to have in place clear performance-based standards for continuing appointment of tenured faculty members, that avoid age discrimination, and to examine the structure of its policies related to retirement, so as to assure continuing faculty turnover and vitality.

Sabbatical Leaves

Administration position: The administration will agree to a change to allow increased flexibility in the sabbatical leave program, to provide a higher percentage of income support for leaves of less than a full academic year. It is not possible to identify the appropriate source of funding at this time, however.

Rationale: Last year a faculty development committee presented to the Senate recommendations, now awaiting Senate action, to improve faculty development. The committee confirmed that in colleges where supplemental funds are more available faculty take more sabbatical leaves. Greater flexibility should reduce the disparity, encouraging more faculty members to take advantage of this program for professional and intellectual renewal.

Management Training and Management Reviews

Administration position: The Office of Academic Affairs will develop educational programs intended to improve academic administration, starting in 1988. The administration requests that colleges review their constitutions on the one hand to discourage the practice of rotating chairs, and on the other to assure that fixed administrative terms are specified, with renewal only after formal performance review.

Rationale: The complexity of the administrative assignment and the frequency of turnover in those who are asked to undertake it demand an educational program. They also demand a vigorous effort to make sure that the University benefits from the education that an administrator gains in the first two or three years in office, by continuing the appointment for a longer period (e.g., a five-year initial term). The requirement for fixed terms and formal performance reviews extends to departmental officers and directors of centers and institutes the present University policy that applies to other academic administrators.

ACADEMIC ORGANIZATION

An underlying theme of the recommendations of the Advisory Task Force on Planning and other planning efforts is that important issues have not received adequate administrative attention from the Provost's Office: Undergraduate education, research policy, the quality of the arts and science core of the campus, equal opportunity and affirmative action both in hiring and in student recruitment and retention, are the most important of these issues, but not the only ones. The criticism is valid and may become more pressing as more areas of responsibility are assigned to that office. The problem seems to be not one of insufficient staff, but of insufficient administrators with authority to act. Simply put, the Provost's span of control is stretched beyond its limits of effectiveness by the current organization. The solution is to reduce the Provost's span of control by delegating more authority to others; it will be an outcome of the reorganization recommended here and of the appointment of an associate vice president for minority affairs.

ORGANIZATION OF THE ARTS, SCIENCES AND ENGINEERING

Faculty of Arts, Sciences and Engineering

Administration position: The combined faculties of the colleges of arts, sciences and engineering, plus representatives from professional schools who teach in those units, will form the faculty of arts, sciences and engineering. That faculty will have authority over undergraduate curricular issues and other issues of educational policy that extend beyond the individual college. The Provost, in consultation with the colleges, will appoint an appropriate committee to define the classes of issues that should come to that faculty and the structure for dealing with them.

Rationale: The administration does not intend to reduce the budgetary autonomy of the colleges of arts, sciences and engineering. Specific degree requirements will continue to be set by the individual colleges. The arts, sciences and engineering unit is primarily one for

policy coordination, resource allocation, admission and initial counselling and advising for new students. However, three objectives besides the coordination of undergraduate education may be more successfully achieved under the new structure. First are curricular issues that extend beyond the individual college, such as the liberal education requirement for baccalaureate degrees. The faculty of arts, sciences and engineering may form a more appropriate faculty assembly than the unwieldy Twin Cities Assembly for action, e. g., to set or revise core curriculum, particularly at the introductory level, to suggest changes in admissions requirements, etc. This new assembly could implement the agenda of the previous Council on Liberal Education; issues of graduate education would not come before this faculty. The second objective the new structure can help to achieve is to strengthen quality and research initiatives. The Vice Provost for the Arts, Sciences and Engineering will work with the deans in supporting and developing departments and programs of research and instruction, with particular attention to those that cross college boundaries. The third objective that the new structure can help to achieve is representation within the central administration. The Vice Provost will represent the interests of the arts, sciences and engineering as the Vice Provosts for Agriculture, Forestry and Home Economics and for Health Sciences represent their units.

Administrative Structure

Administration position: The administration will recommend to the Regents the appointment of a Vice Provost for the Arts, Sciences and Engineering, with responsibilities that include the academic administration of the College of Biological Sciences, the College of Liberal Arts, General College, the Institute of Technology, and University College, (though considerable reorganization of those units is recommended). Academic administration includes recommendations on budget, academic appointments and other administrative matters, subject to review by the Provost and approval by the Regents. The office holder shall be a member of the President's cabinet. Because the new position will absorb many of the responsibilities of the assistant vice president for undergraduate education and outreach, that position will be eliminated.

Rationale: More focused central direction is needed to build the quality of the arts, sciences and engineering colleges. The main responsibility of the position is to provide leadership for the colleges reporting to it, to improve the academic quality and reputation of the constituent programs, both graduate and undergraduate. A major responsibility of the Vice Provost would be to make sure that the University's overall priorities are kept at the forefront in the attention of each college.

To make sure that independent professional schools receive the same level of attention, the Provost will assign administrative oversight of those schools to an assistant or associate vice president.

The Vice Provost should be in the President's cabinet to assure that central administration keeps the problems of these colleges in mind. Reputational surveys of higher education have shown a decline in quality of the arts, sciences and engineering at the University over the past 25 years, even though some are of very high quality, and even though a few specific departments have improved in quality over the period. These surveys are consistent with other evidence, including the evaluations of external review committees, and our ability to compete for the best young faculty and top graduate students. A university cannot maintain its overall strength and quality without generally strong arts, sciences and engineering. Taking the organizational and budgetary steps needed to restore the quality of the arts, sciences and engineering must have very high priority if the University is to improve its overall quality, and improve the contribution that it makes to Minnesota. Appointment of the Vice Provost is a first step in that direction. It provides an explicit mechanism to restore coherence to the arts and science core of the University. That step will be strengthened by assuring that the Vice Provost participates in central University decisions.

The Organization of Freshman Admission and Entering Counseling and Advising

Administration position: The Provost, in consultation with the freshman-admitting colleges, will reorganize freshman admission and entering counseling and advising on the Twin Cities campus by Fall, 1990, to provide a single entry point for freshmen, preserving separate paths for students with specialized interests, with central advising and counseling services that are coordinated with the colleges. A continuing objective for the program will be to permit undergraduate students to move easily among majors. To improve advising, on-line computer access to student records will be made available to college advising offices, with computerized identification of graduation requirements already completed and yet to be completed (degree audit system). Specific information about each undergraduate course and instructor should be made available to students on a regular basis.

Rationale: The report of the Advisory Task Force on Planning made improvement of undergraduate education central to its recommendations. The emphasis is entirely consistent with *Commitment to Focus*, and with the conclusions of a long list of task force re-

ports.¹ Issues raised in those reports range across all aspects of the student experience from the welcome (or lack of it) that the University offers to high school students considering their future education, to the intellectual standards set by undergraduate degree requirements. Improvement of the admission and entering counseling and advising process offers a clear opportunity to make concrete improvements to undergraduate education.

Entry: Current practice allows freshman admissions through seven entry ports, often with different standards both in terms of course preparation and level of academic achievement.² Prospective students who already know that they want to graduate from one of these seven colleges can benefit from this range of options; for other students, this variety creates confusion and uncertainty. Students who are uncertain about their major can be particularly ill-served if they do not have ready access to information about the options available at the University. For example, the biological sciences appear to have received less attention as possible career paths than warranted, in view of the intellectual ferment and the industrial and commercial activity being developed on the basis of new discoveries in those fields. Transfer students and new adult students not eligible for immediate admission to their chosen upper division college face problems very much like those of students coming directly from high schools.

Advising: As the University reduces undergraduate enrollment, to maintain a balance between access to all and restricted enrollment will require more intense counseling of applicants and more active communication with their high school counselors. 17% of new freshman entrants drop out of the University within a year or less, so more effective pre-collegiate counseling could help to reduce enrollment while providing better service to both those who enter and those who do not. The joint admissions program with the Community Colleges will help in this sorting out process. Other new advising needs are created by the new preparation standards, both for adult students whose high school graduation preceded

¹See the Final Reports of the Task Force on the Student Experience (July, 1984), the Committee on Quality Undergraduate Teaching and Learning (August, 1985), the Special Committee on Unified and Increased Preparation Requirements (March, 1986), the Special Committee on Coordinating Lower-Division Education on the Twin Cities Campus (May, 1986), and the Implementation Task Force on Undergraduate Education on the Twin Cities Campus (June, 1987).

² Colleges of Agriculture, Forestry, Home Economics and Liberal Arts, General College, University College, Institute of Technology.

the new standards, and for other students who did not complete the requirements in high school.

These new demands, and ongoing advising needs, imply that the Twin Cities campus should take advantage of new technologies to improve college advising offices' access to information. The administration has already authorized preliminary programming work that will permit on-line access to student records, with computerized identification of graduation requirements already completed and yet to be completed (the degree audit system). Continuing funding needed to support the system is recommended here.

Entry level advising creates other demands. Few entering students choose a prospective major and stay with it. Moreover, even those who do know what they want are not assured access to that major in upper division. As the most dramatic example, even though freshman admission to the Institute of Technology is restricted to the upper 30% of high school graduates, fewer than half of IT freshmen will qualify for upper division work in popular engineering and computer science majors; in CLA only those in the upper one-fourth of their class can major in journalism. Enhanced advising and coordinated premajor requirements can help deal with the high frequency of changes in majors, and the limited size of some programs. Another issue of importance is to make sure that specific information about each course and each instructor is made available, particularly to lower division students.

The Organization of Undergraduate Education

Administration position: As part of the reorganized undergraduate education on the Twin Cities campus, the Vice Provost will work toward expanded opportunities for professional school faculty to participate in undergraduate education. He or she will also have as continuing objectives increased attention to faculty responsibility for advising, to providing a humane environment for the student, and the crucially important improvement in the quality of the classroom experience that is at the core of improvement in undergraduate education.

Rationale: Administrative coordination of the arts, sciences and engineering under the Vice Provost provides an opportunity to make concrete improvements in undergraduate education, the need for most of which have been identified by previous task forces:

Active learning opportunities: *Commitment to Focus* states that we should "fashion a role to fit our strengths" in undergraduate education. This means to emphasize active under-

standing of modes of inquiry and participation in artistic expression, consistent with our role as a research university; it means to take advantage of opportunities offered by the metropolitan area for internships, field learning and community service; it means to accept the University's international role by making it an integral part of the undergraduate educational experience; and it means to encourage activities that support academic programs, and that foster understanding of and respect for the broad range of backgrounds and viewpoints that are found in the University community. A coordinated revision of curriculum will be needed to accomplish these changes; the coordinated arts, sciences and engineering faculty will be a vehicle for carrying it out.

The role of professional schools: Our present organization precludes extensive involvement by the faculties of post-baccalaureate professional schools in undergraduate education, and limits participation in that education by the faculties of professional schools in the broader education programs of the University. More flexible liberal education electives that include courses offered by professional school faculty in the arts and sciences curriculum will give uncommitted students greater access to the faculty of professional schools and *vice versa*, and will provide general education courses that link the arts and sciences to important issues of public policy and other professional concerns. Faculty in the professional schools will, in some cases, transfer instructional effort to courses in underlying core arts, sciences and engineering, helping to sever the tight link between the focus of research activity and the focus of instruction in a department or college.

Admissions for new high school students, communication with the high schools and financial aid for new high school students are functions that may be better undertaken in the Office of the Vice Provost for Arts, Sciences and Engineering than in the general student support services office. Advising, counseling, placement and lower division honors functions now carried out in either the Office of Academic Affairs or in the separate colleges may also be better provided in the new Vice Provost's Office than in their former homes. The Offices of the Provost and the Vice President of Student Affairs will undertake a study to recommend reconfiguration of these student services, in consultation with affected colleges. The Vice Provost should also work with the Minnesota Student Association to assist in their proposed course information project. Further description of how a reorganization of undergraduate education might function is outlined in an Appendix. The suggestions given there are not mandates; details should be worked out by the Vice Provost and the affected colleges, in consultation with their student boards and the Minnesota Student Association.

Colleges to be included in the Arts, Sciences and Engineering

Administration position: Colleges reporting to the Vice Provost for Arts, Sciences and Engineering will include the College of Biological Sciences, a college of humanities and fine arts and a college of social and behavioral sciences formed from the present College of Liberal Arts, General College, the Institute of Technology, and University College. In addition a School of Architecture and Landscape Architecture (now in the Institute of Technology) shall report both to this Vice Provost and to the Vice Provost for Agriculture, Forestry and Home Economics. The Vice Provost will also be named as Dean of University College, with a program director to manage the day-to-day affairs of the college.

Rationale: *The College of Liberal Arts* assembly has now voted to support division of the college, as recommended by the Advisory Task Force on Planning. The reorganization is intended to guard against both the dangers of "balkanization" and diseconomies of scale attached to excessive centralization.

General College is part of the arts, sciences and engineering, because its general studies and preparatory programs are an important component of the overall education that will be offered to lower division students. *Plan for Focus* recommended that General College be merged into the general structure of the arts, sciences and engineering, with the goal of "mainstreaming" the faculty as well as the students into the full intellectual life of the campus as quickly as possible. This recommendation has not been accepted because of the need to assure that the core faculty of that program will continue to treat the preparatory program for special populations as their highest priority; the faculty should be integrated into the broader arts and science education program, however, by aggressive use of transfer of effort, with the goal that each General College faculty member teach at least one course per year outside the college.

Institute of Technology: The arts and science faculty must include mathematics and the physical sciences. The special history of the University has led to a unique organizational structure in which engineering is combined with those sciences in the Institute of Technology. Even though engineering education is professional education, with professional accreditation standards and state licensure for some of its practitioners, the benefits to research and teaching that come from maintaining the link between mathematics, the physical sciences and engineering are so great that they should be preserved within a single college, reporting to the Vice Provost for Arts, Sciences and Engineering. Architecture and Landscape Architecture represent a special situation, in part because of the link of Land-

scape Architecture to both Architecture and to Horticulture. The administration recommends a School of Architecture and Landscape Architecture, reporting to both the Vice Provost for Arts, Sciences and Engineering and the Vice Provost for Agriculture, Forestry and Home Economics.

University College, which offers baccalaureate degrees for inter-college programs and for individually designed programs, is not exclusively a part of the arts, sciences, and engineering, since it offers degrees system-wide, drawing from other professional schools as well as from the arts, sciences and engineering. Nevertheless, most University College students earn their degrees primarily from the arts, sciences and engineering; and for administrative reporting, the nature of the college mission fits more closely with the arts, sciences and engineering than with any other grouping. Moreover, there may be some efficiencies made possible through combining the individualized degree programs from CBS and CLA with those of University College. *Plan for Focus* recommended that University College lose its collegiate status, so that it would become primarily an advising service for students seeking individualized learning opportunities. This recommendation has not been accepted in full because of the need for a college to award the degrees University College now awards. The Vice Provost for Arts and Sciences should bear the additional title of Dean of University College, with the day-to-day affairs of the college managed by a program director.

Interdisciplinary Units in the Arts, Sciences and Engineering

Administration position: With the division of the College of Liberal Arts the Director of the Institute for International Studies, now in CLA, will report to the Office of the Vice Provost for Arts, Sciences and Engineering. The Dean of CLA will also identify other intercollegiate programs to transfer to that office when CLA is divided. Faculty members participating in intercollegiate programs would maintain their tenure homes in college departments.

Rationale: Area studies programs will become intercollegiate programs due to the division of CLA. Interdisciplinary research centers must not be inhibited by collegiate structure. The Institute for International Studies, now in CLA, should report to the Vice Provost for the Arts, Sciences and Engineering so that it can support international academic programs throughout the arts, sciences and engineering. The International Relations program currently reports to the director of the Institute. Foreign Study reports administratively to the Institute, and it provides support for Women in International Development.

Under the reorganization, international area centers and programs and appropriate international research centers will report to the Director of the Institute. It will have academic oversight over a reorganized study abroad program which shall be formed and administered initially by the Office of International Education. The Vice Provost for the Arts, Sciences and Engineering will investigate the advantages and disadvantages of a reorganization of area studies as curricular programs or research centers. The new units will incorporate scholars with appropriate area competence from the entire University community and will coordinate research, instruction, and outreach for the area. Faculty appointed in the future will hold tenure in disciplinary departments; the Centers will report to the Director of the Institute for International Studies. The Vice Provost will designate a number of faculty positions (number and disciplines to be determined in consultation with the Director of the Institute for International Studies) to support the development of nationally distinguished area programs. Highest priorities will be for East Asian Studies and Russian and East European Studies. The Latin American Studies and African Studies programs will at this time be continued as at present.

ORGANIZATION OF THE BIOLOGICAL SCIENCES

Administration position: The Provost will appoint a Policy Council of Biological Sciences consisting of the Deans of the College of Biological Sciences, the College of Agriculture, the Graduate School and the Medical School. The Provost will appoint a faculty advisory committee, to be nominated by the Council. The Council will be charged with responsibility to recommend directions for development for each of the colleges, to review all vacant positions in the basic biological sciences and to make decisions as to where those positions should be assigned, and to coordinate major initiatives in teaching, research, service, facilities and instrumentation.

Rationale: There has been a perception for several years that the biological sciences program at the University of Minnesota is less than the sum of its parts. Large sums of money are received from granting agencies for biological research, but there does not appear to be corresponding national recognition. There has also been a recurring perception that fragmented programs, divided between the Minneapolis and St. Paul campuses and among colleges reporting to three vice presidents, have caused at least part of the problem. *Plan for Focus* recommended that programs be coordinated by means of inter-collegiate departments, each reporting to two or more deans. The administration's recommendation is for the somewhat less cumbersome approach recommended by the deans of the principally affected colleges.

The combined faculties in the biological sciences should plan for, coordinate and participate in all of the educational activities in biology at the University in undergraduate, graduate and professional education. The high priority of the biological sciences, coupled with their increasing complexity, requires improved planning. Planning is needed to facilitate the development of joint programs, to improve communication among academic units, to coordinate faculty recruitment, and to improve the collaborative development and use of facilities. The issue is whether coordination is most needed among departments, where hiring decisions are made and where assignment of responsibilities for individual faculty members are decided, or among colleges, to focus on issues that are not the province of any individual department: Where should new resources be invested? Do new developments require formation of an interdepartmental program? The recommendation made by the Advisory Task Force on Planning implies that departmental coordination is the more urgent need; the alternative adopted here is based on the judgment that it is the broader issues which most require attention and coordination.

ORGANIZATION FOR RESEARCH POLICY

Administration position: The President will appoint the Provost, the Vice Provosts for Agriculture, Forestry and Home Economics, for Arts, Sciences and Engineering, and for Health Sciences, and the Dean of the Graduate School as the Research Executive Council for the Twin Cities campus with the Provost as chair, to resolve questions of research policy. The council will be provided staff assistance by the Director of the Office of Research and Technology Transfer Administration, a representative of the Vice President for External Relations, the Associate Dean of the Graduate School with responsibility for research-related issues, and other relevant administrators. The councils of graduate deans and professional deans will provide direct input to the Research Executive Council. The Provost will appoint a faculty Council of Research Scholars to provide advice on matters of research policy.

Rationale: *Plan for Focus* clearly describes the inadequacy of the present system for formulation of campus-wide and system-wide research policy; its primary recommendation to remedy the situation is the appointment of a vice president for research. That recommendation would have the disadvantage of creating possible conflicts with academic vice presidents and vice provosts, whose responsibilities include research as well as other academic activities for their areas. It also would add to the number of central administrators; it is preferable to avoid doing that unless necessary. The Research Executive Council, with staff support, is expected to perform the same function. The faculty Council, also recom-

mended by *Plan for Focus*, will provide a broad range of experience from the spectrum of research fields represented at the University, as well as providing a number of independent windows to help provide an understanding of current Federal policies, practices and priorities.

ACADEMIC UNITS

AGRICULTURE, FORESTRY AND HOME ECONOMICS

Agricultural Experiment Station

Unit position: The Agricultural Experiment Station (AES) did not submit a planning document other than for the branch stations, which are treated as a support unit. The research program of the AES is reflected in the collegiate planning document of the four colleges (Agriculture, Forestry, Home Economics, and Veterinary Medicine) that conduct the greatest portion of AES research.

The Advisory Task Force on Planning recommended that allocation of Agricultural Experiment Station funds within the College of Agriculture be revised to move a significant fraction of the funds to units outside the Institute of Agriculture, Forestry and Home Economics. The Director of the Agricultural Experiment Station has moved in this direction over the past several years and has now proposed that the Dean of the College of Biological Sciences become an Assistant Director of the Agricultural Experiment Station, in parallel with the Deans of the Colleges of the Institute, and the Dean of the College of Veterinary Medicine. No further administrative action appears necessary at this time.

Administration position: The Director of the Agricultural Experiment Station will continue to make allocation and budget request decisions that emphasize building greater interdisciplinary and intercollegiate research collaboration and involve additional faculty outside the Institute of Agriculture, Forestry and Home Economics. Future AES budget requests to the Minnesota Legislature for funding interdisciplinary research and additional research outside of the Institute of Agriculture, Forestry and Home Economics will have a high priority.

Rationale: The Agricultural Experiment Station organizes and funds scientific research primarily around the research project with a single lead scientist or principal investigator focused on a specific subdiscipline. However, not all new technology arises out of basic disciplinary research. Many of today's problems in agricultural science can be solved only

by a team of scientists from several disciplines, each contributing his or her unique expertise to the solution of the problem. And the Agricultural Experiment Station has traditionally placed most of its resources with permanent faculty in the Colleges of Agriculture, Forestry, Home Economics and Veterinary Medicine. However, some of the needed scientific expertise is located elsewhere in the University and this scientific talent must be brought to bear in an interdisciplinary fashion on basic and applied research problems within the mission of the Agricultural Experiment Station.

College of Agriculture

Unit position: The College of Agriculture is a diverse college with a complex *Strategy for Focus* plan. The following features are noteworthy:

- Project Sunrise, a major faculty development program that will overhaul the undergraduate curriculum to provide students with unexcelled preparation for an integrated, technical, international society.
- A major review of research funding to support internal reallocation and enhance extramural funding.
- An emphasis on interdisciplinary programs, most made possible by collaboration with other academic units of the University.
- A greater international commitment and involvement both in other countries and in our classrooms and student experiences.
- A major reduction in on-campus undergraduate enrollment and a new focus on nontraditional student needs.
- Emphasis on the recruitment of minority students and faculty.
- Strengthened linkages with the Technical Colleges in Crookston and Waseca.
- Proposed greater use of nine-month (B) appointments for faculty.

The Advisory Task Force on Planning recommended that the Rhetoric faculty be moved to the College of Liberal Arts. Because of concern over the College's ability to assure continued service to the Institute of Agriculture, Forestry and Home Economics at the level now provided, the College rejected this recommendation.

Administration position: The administration approves the College of Agriculture programmatic plan with the changes specified below: A maximum undergraduate enrollment goal will be established in the range of 1,000-1,200 students. The college should increase the percentage of high-ability students. Based on current initiatives in the college it appears reasonable to reduce by one-third the number of degree programs offered in the college. The college should develop broad core courses to serve the basic needs of several majors, and move to adopt modern technology in addressing student needs statewide that cannot be met on the St. Paul campus. Until it is demonstrated that the goal of higher enrollment with higher quality can be achieved, the College of Agriculture instructional (0100) budget should be adjusted to a level consistent with its current and projected enrollment of 750 (including both lower division and upper division students). The college should develop a multi-year plan to transfer excess instructional resources to the highest priority undergraduate needs elsewhere on the Twin Cities campus. As much as possible of this transfer should be accomplished by a transfer of effort to the faculty of arts, sciences and engineering.

Rationale: As recently as 1980, undergraduate enrollment in the College of Agriculture was 1,656; in 1987 it was 757. A maximum enrollment goal in the range of 1,000-1,200 students (including non-traditional students to be served through courses offered in greater Minnesota) is reasonable because that is the number that would most effectively utilize the facilities of the college, and would be most appropriate to the size and diversity of programs. It is possible that changes in student interests will increase enrollments so that the college can return to that level of enrollment, particularly in light of the projection that there will not be enough agricultural graduates to fill available jobs over the next several years. However, it would be imprudent for the University to leave excess instructional resources in the college while waiting to see if enrollment levels were restored. Resources should be moved to the extent possible by transfer of effort to teach courses in the arts and sciences while the faculty members retain their appointment in the College of Agriculture, for three reasons: First, it permits those faculty members to continue their research programs in support of the Agricultural Experiment Station mission; second, it permits easy reversal if enrollments are restored in the College of Agriculture; and third, it facilitates the significant need for and role of these faculty in international development projects.

The number of majors offered should be reduced in order to offer broader, more integrated degree programs as opposed to narrow, specialized ones. The proposal for broad core courses is to increase efficiency, and the proposal to provide programs statewide by taking

advantage of modern technology is intended to reach out to serve students who cannot now be served by the program on the St. Paul campus.

College of Forestry

Unit position: In strengthening its ability to fulfill its mission, the college's plan includes increased interdisciplinary and intercollegiate programs, and strengthened curricula in paper science and engineering and aquaculture (at the graduate level), forestry applications from biotechnology, and housing technology. In each case there is planned complementary funding allocation or reallocation from the Agricultural Experiment Station.

Curricular changes include a more focused programming option in renewable natural resources at the undergraduate level, and discontinuance of the separate majors of fisheries and wildlife. A combined major will provide a common background in understanding the interconnectedness between terrestrial and aquatic environments. The plan sets an undergraduate enrollment goal of 300 - 500 students (1987 enrollment was 284).

The college proposes to change its name to the College of Natural Resources, because "forestry" no longer announces to potential students and faculty the breadth of programs available there.

The Advisory Task Force on Planning recommended that the college be named a School of Natural Resources and placed within the College of Agriculture to save administrative costs. Neither of the two colleges accepts this recommendation. The programs of the College of Forestry are top ranked among their peers nationally, in part because of the strengths this University provides that are critical to the integrative and applied programs the college conducts and in part because the college has been allowed to develop and flourish as a separate college. The missions in forestry, fisheries, forest products and wildlife of the University are best served by a separate college renamed to reflect the broadened natural resource programming that presently exists. In addition, the College of Agriculture is about at a maximum manageable size. The transfer of Forestry to Agriculture would necessitate a change in Agriculture's administrative structure that would not be desirable for either unit; nor would it achieve significant cost savings.

Administration position: The administration approves the College of Forestry programmatic plan, including the name change, with the modifications specified below: The college should increase the percentage of high-ability students. It should also reduce the number of degree programs, and develop broad core courses that can serve the basic sci-

ence needs of several majors. To the extent enrollment and funding allow, faculty members should participate in teaching courses for students in other parts of the University.

Rationale: The College of Forestry, while one of the smaller colleges, is a critical component of the University's commitment through research, education and service programs to help the people and the economy of Minnesota. Minnesota's renewable natural resource base in the form of fisheries, forests and wildlife has a long heritage of exploitation and a relatively short history of scientific results applied through professional management. The University, through the College of Forestry, is a key contributor to the revitalization efforts directed towards these resources. The college should be renamed to reflect the broadened natural resource programming that presently exists (fisheries and wildlife programs in addition to forestry). The number of majors offered should be reduced in order to offer broader, more integrated degree programs as opposed to narrow, specialized ones. The proposal for broad core courses is to increase efficiency. The maximum enrollment goal should be established in the range of 300 - 500 students, as proposed by the College, because that is the number that would most effectively utilize the facilities of the college, and would be most appropriate to the size and diversity of programs.

Administration position: The administration recommends that the mission and activities of the College of Forestry be reviewed as part of a state-wide study on instruction, research and technology transfer programs supportive of natural resources (mineral, water, renewable resources). This study should be conducted under the aegis of the Natural Resources Executive Council of the University with advice from the Legislative Commission on Minnesota Resources, the Department of Natural Resources, and other appropriate state agencies.

Rationale: Consolidation of University natural resource programs within the College of Forestry under the Institute of Agriculture, Forestry and Home Economics mission and land-grant commitment might provide a better focusing of natural resource education, research and technology transfer programs. However, the issue is best reviewed in the broader context of the state's overall needs.

College of Home Economics

Unit position: The College of Home Economics has evolved during the last ten years from primarily an undergraduate unit to one with nationally ranked programs in several departments. The favorable external assessment has been seen in departmental reviews and

during the recent search for a new dean. The college's *Strategy for Focus* plan was developed under the leadership of former Dean McFarland, but has the support of the current dean, who is also considering further plans for the future of the college. The plan is intended to strengthen graduate education and research capabilities, improve undergraduate education and outreach, emphasize recruitment of minority students and faculty, and improve faculty development activities, the international program, interdisciplinary and intercollegiate programs, and activities that lead to external funding through sponsored research grants and gifts.

Administration position: The administration will defer approval of the priorities established by the college's programmatic plan, subject to review now being undertaken by the new dean of the college at the request of the Vice Provost for Agriculture, Forestry and Home Economics. That review is to be completed by the end of the 1987 - 88 academic year; it will include graduate program policies and practices, with steps to increase grant proposals and to encourage graduate student participation in research; the balance of resources between undergraduate and graduate programs (to shift more resources to the graduate program); and annual review of the use of Experiment Station funds. It will establish a maximum undergraduate enrollment goal in the range of 900 - 1,200. Undergraduate enrollment will be decreased, particularly in majors in design, housing and apparel. The college will develop programs and guidelines to increase the percentage of high-ability students. It will reduce the number of undergraduate degree programs by at least 25%, and search for opportunities to substitute broad core courses for narrower, specialized ones. It will recommend a change in name of the college. The faculty associated with the Center for Youth Development and Research will be located in the School of Social Work; the center's supply and expense budget will be merged with that of the school, and an external review will be undertaken to determine whether or not the center should continue, and if so with what administrative and programmatic structure.

Rationale: 1987 undergraduate enrollment was 1,322. Enrollment, particularly in the Design, Housing and Apparel Department, is to be reduced in view of the availability of other undergraduate programs in the region and the need for a stronger graduate program in the college; the reduction will permit part of the college's resources to be transferred to its graduate program. The number of degree programs offered in the college should be reduced in order to offer broader, more integrated degree programs as opposed to narrow, specialized ones. The proposal for broad core courses is to increase efficiency. The college should be renamed to reflect the broadened programming that presently exists; social

work lies well outside the traditional subject matter of a college of home economics, and other components of the program are also not well-described by the current name; so potential students are not made aware of those programs.

The shift of the Center for Youth Development and Research is to bring it back into conformity with the standard configuration of a research center at the University: serving as an institutional vehicle to promote a particular research interest of faculty members employed in the conventional academic departments, but not standing apart from those departments.

Minnesota Extension Service

Unit position: When the *Strategy for Focus* planning process was initiated, the Minnesota Extension Service had just completed an extensive strategic planning process. Thus, the response of the Minnesota Extension Service is found primarily in its strategic plan, "Focus on People" (already approved by the Board of Regents) and in its organizational restructuring plan. These include a reaffirmed mission as the major outreach arm of the University of Minnesota, delineated goals, and clearly defined strategies. The Minnesota Extension Service offers research-based education to people of all ages throughout the state, in cooperation with county, state, federal and private partners. It seeks to enable people to foster full development of youth, adults, families and communities; to improve Minnesota's economy, especially the food and fiber sector; and to provide effective natural resource management.

Four central issues define the program focus of the Minnesota Extension Service: Economic Development, Environment and Natural Resources, Human Development, and Community Leadership.

Administration position: The administration reaffirms and endorses the strategic plan of the Minnesota Extension Service. During 1988, the administration will initiate an administrative review of the Minnesota Extension Service and Continuing Education and Extension with the goal of forming a single University-wide nonformal outreach unit. Future Minnesota Extension Service budget requests to the Minnesota Legislature for enhancing the University-wide role of the Minnesota Extension Service will have a high priority.

Rationale: Both the Minnesota Extension Service and Continuing Education and Extension conduct seminars, conferences, workshops, and other nonformal educational offerings on a fee basis. Historically, there was a distinction with the Minnesota Extension Service focusing on rural, and Continuing Education and Extension on urban, clientele.

This and other distinctions have become increasingly blurred so that it makes sense to consider one coordinated University-wide nonformal educational outreach unit.

Traditionally, the Minnesota Extension Service has placed most of its on-campus resources on permanent personnel in the Colleges of Agriculture, Forestry, Home Economics and Veterinary Medicine. However, as the Minnesota Extension Service strives to address the broad-based, complex issues within its redefined mission, it needs to draw on faculty in some other parts of the University. For example, educational programs in agricultural law and farm financing may need the involvement of Law School faculty, and programs in economic and small business development may need the participation of faculty in the Carlson School of Management. In addition, as society's demands increase for the outreach and technology transfer from other parts of the University, the Minnesota Extension Service is organized and positioned to assume this broader all-University role with additional resources.

ARTS, SCIENCES AND ENGINEERING

College of Biological Sciences

Unit position: The College of Biological Sciences functioned with acting deans for a two-year period that included the *Strategy for Focus* planning period. The plan prepared under those circumstances was carefully developed, taking account of the dramatic changes in the field and the needs of the University, but it is now properly being reviewed under the leadership of the new dean. The basic problem of coordination among biological scientists in different parts of the campus has been addressed;¹ matters of internal organization, including particularly restructuring of the plant sciences, are now being considered.

Administration position: The administration will defer approval of the priorities established by the college's programmatic plan, subject to review now being undertaken by the new dean of the college at the request of the Provost. The administration endorses the efforts now underway, as part of that review, to restructure the University's program in plant biology, in consultation with the Colleges of Agriculture and Forestry. An overall increase in resources for the college will be among the University's highest priorities, to strengthen the quality of research and graduate education in the basic biological sciences, to

¹See discussion starting on p. 22.

improve the quality of undergraduate education in biology, to support research and teaching in agriculture and the health sciences, and to provide more effective transfer of technology to the state's biology-based industries. The transfer of funds will await approval of the Dean's revised plans.

Rationale: The college is a critical component of the University's strength in the basic biological sciences, the base both for improved understanding of fundamental biological processes and for improved solutions to practical problems in the health sciences, agriculture, and other areas, including some of the most urgent issues facing the state and the larger society. Given recent advances in scientific understanding, this area is one of the most promising for rapid further development, and is to be one of the highest priorities of the University.

College of Liberal Arts

Unit position: The College of Liberal Arts has been engaged in internal transformation almost continuously since 1980: Programs have been moved into the College (e.g., Dance), restructured (e.g., Area Studies, Classical and Near Eastern Studies, Ethnic Studies Programs, Women's Studies), eliminated (e.g., Library Science, Criminal Justice Studies, Middle-Eastern Studies) or transferred to other colleges (e.g., Social Work). Undergraduate education has been strengthened through the expansion of the honors program, through recruitment of high ability students, through the Senior Project, through new requirements in world studies, cultural pluralism, second languages, and through Writing Across the Curriculum. Research centers in Ancient Studies, Feminist Studies, Humanistic Studies, and Western European Studies have been started or strengthened. Such initiatives shall continue to be developed over the next five years, in addition to building on interdisciplinary programs underway.

Administration position: The administration supports the continued evolution of these programs and initiatives. However, the primary recommendation is for fundamental structural change, namely that the College of Liberal Arts shall be divided into two colleges, the College of Social and Behavioral Sciences and College of Humanities and Fine Arts.

Rationale: First, although the administration of the college has maintained budgetary integrity over the years and substantial progress has been made in the past decade with new initiatives, sheer size creates fundamental difficulties. The College of Liberal Arts ap-

proaches the size of many universities both in terms of number of reporting units (44), number of undergraduate students (17,082), graduate students (1,718), and faculty (500). The size of the College of Liberal Arts alone presents diseconomies of scale which are difficult to deal with for any group of academic administrators. The size makes it difficult for a small group of administrators to deal effectively with a large number of units and limited resources so that each unit is attended to in a responsive manner.

Second, while all departments in CLA share the general mission of liberal arts, the departments and schools do present differing problems, emphases, and opportunities. The social and behavioral sciences have achieved critical mass and rank highest on quality measures at this institution, but have unmet needs related to their infrastructure, i.e., critical mass of faculty, supply and equipment and teaching assistant support. The humanities and fine arts departments require enhanced resources and attention, and new leadership.

Third, the faculty in the humanities would prefer to have leadership from their own ranks, a dean who would argue their case and present their problems and aspirations to central administration. At the same time, the social and behavioral sciences faculty is rightly concerned about the fragility of many of the departments in their cluster due to raiding efforts from other universities and minimal graduate student and research support. Hence, they feel that close attention to their concerns and goals is crucial.

Implementation Issues

Administration position: By fall quarter 1988, the question of the departmental composition of the proposed colleges should be resolved. Dean Lukermann is asked to address this question through CLA governance channels. After the Dean of CLA recommends the placement of the units, the final decision will be made by the Provost, in consultation with the Dean and appropriate faculty groups.

The search for a Vice Provost for the Arts, Sciences, and Engineering will be initiated as soon as this planning document is approved by the Regents. After the question of the placement of departments has been resolved (Fall, 1988) searches for the two new deans will commence. The goal is to have the three new administrators in place by July 1, 1989.

During the same period, the college's interdisciplinary programs and selected support units will be placed in new or existing arrangements within the larger Faculty of Arts, Sciences and Engineering.

Rationale: There are a great many issues to be dealt with if this new structure is to be launched; it will be important to phase the restructuring in an orderly, staged manner.

The College of Social and Behavioral Sciences:

Administration position: The new dean will be asked to present a plan for growth and change in this cluster of departments. It appears clear, however, that the main funding needs are for additional faculty, graduate assistants, fellowship support, clerical help, and supply, equipment and expense support.

Rationale: While the CLA Office of the Dean provided assessments and proposals on all departments, an effort which was one of the most comprehensive within the University, no conclusions about the need for growth or decline in individual units should be made before the new structures and leadership are in place.

The College of Humanities and Fine Arts:

Administration position: The incoming dean will be asked to present a plan for development of the college that will include growth and reallocation of the size of specific department faculties. In addition to new resources for clerical help, supplies and equipment, it is anticipated that resources will be made available for new faculty hires when the plan is approved. Programs devoted to writing in Composition, Rhetoric and related departments will be coordinated by the Vice Provost and the Vice President for Agriculture, Forestry and Home Economics.

Rationale: The assessments and proposals provided by the Office of the Dean, the evaluation by the Advisory Task Force on Planning, and the evidence of decline in national rankings, all argue that these departments are underfunded, and additional funding will be needed for the new college. The recommendation to establish a new College of Humanities and Fine Arts is based on the view of the administration that the goal of becoming one of the strongest public universities cannot be attained without the strongest possible commitment to the humanities and fine arts. The need to locate the humanities facility and their library resources closer together, pointed out by *Plan for Focus*, is also acknowledged. However a substantial effort in space planning will be required before an explicit recommendation can be made to deal with that issue.

The Arts:

Administration position: Although the administration does not recommend the formation of a third separate college for the fine arts at this time, it is a long term goal to create such a unit out of all or parts of a group comprised of Dance, Architecture, Music, Studio Arts, and Theatre Arts. The administration would like further advice from CLA as to whether the potential recommendation should go forward and would like a report back by Fall, 1988, which addresses this question as well as the issue of placement of the departments.

Rationale: This group of units represents visual and aural dimensions of human experience and may be distinguished from the other humanities departments. These departments are grouped mainly on the West Bank campus, and form a potential college of over 60 faculty members. The major caveat from the administration's point of view relates to the question of funding; the administration may not be able to provide sufficient funds to launch a third new college. However, it should be emphasized that the greater visibility of these units, two of which (Music and Theatre Arts) have substantial ties with the metropolitan music and theatrical communities, constitutes a strong argument for collegiate status.

Ethnic Studies:

Unit position: The Dean supports the proposal of the Ethnic Studies departments to unite with American Studies at the graduate level. At the undergraduate level, the independent integrity of programs in Afro-American and African Studies, American Indian Studies and Chicano Studies should be maintained.

Administration position: Central administration concurs with the proposal to unite the Ethnic Studies departments at the graduate level, and recommends such action to the graduate faculty. The administration also endorses the continuance of independent status for Afro-American and African Studies, American Indian Studies and Chicano Studies at the undergraduate level. These units should continue discussions in progress regarding curricular revision, coordination and cross-listing of courses, faculty searches and joint appointments, and program development. As noted previously, ultimate placement of these units awaits resolution through CLA governance channels, and specific details on final implementation of approved plans await the arrival of the new dean.

Rationale: The departments have presented this proposal to the Dean, and central administration agrees that the concept may further strengthen the individual departments by allowing each to concentrate its resources on curricular needs at the undergraduate level, while simultaneously coordinating a broadened and enhanced graduate level initiative.

Area Studies:

Unit position: The CLA plan presents a thoughtful discussion of the area studies programs: East Asian Studies, Russian and Eastern European Studies, Scandinavian Studies and South and Southwest Asian Studies. The plan recommends that South and Southwest Asian Studies should be closed, and the languages of Hindi and Urdu should be taught under the bulletin designator of Interdepartmental Studies. The program in Arabic has been transferred to Afro-American and African Studies. The remaining faculty should be placed in appropriate units.

Administration position: Central Administration concurs with the recommendation to close the Department of South and Southwest Asian Studies. The administration awaits further advice from the Dean as to whether an undergraduate program in South Asian and Middle East Studies should be organized in the Institute of International Studies.

Rationale: The inability of the college to sustain strong programs in South and Southwest Asian Studies in terms of curricular offerings and faculty research has been a concern of numerous CLA budget committees and special task forces over the past decade. Among stated concerns are a mismatch of faculty curricular interests, low student demand, small numbers of majors, and difficulties in staffing basic language sequences. Also, retrenchment of other units would be necessary to adequately staff the current configuration since the present department lacks the critical mass necessary to sustain a strong graduate or undergraduate program.

Comparative Literature and Humanities:

Unit position: The departments of Comparative Literature and Humanities should be merged, working toward a program in comparative studies in literature, film and art.

Administration position: The administration concurs with the CLA plan.

Rationale: The two departments will form a grouping of large enough weight to be more effective and efficient at both the undergraduate and graduate levels.

Linguistics

Unit position: The college recommended no change in departmental status, but did specify steps to address issues of program quality. The Advisory Task Force on Planning recommended its closure.

Administration position: After consultation with the Dean of CLA, the administration does not recommend closure of the Department of Linguistics.

Rationale: The discipline is important to our understanding of issues that will be central to the University, particularly artificial intelligence and cognition, as well as problems that arise in second language acquisition; and while creation of the new colleges might lead to an alternative proposal for organization, at present there is no advantage to eliminating the department.

Research Centers:

Administration position: The administration notes the relatively large numbers of centers that have been established over the past decade and requests a review of the performance of these centers and a report from the CLA Dean as to which should be increased, maintained, reduced or eliminated. In this context, the administration concurs with the action of the college in closing the Center for Humanistic Studies.

Rationale: The Center has seeded useful projects since its inception in 1982 but has been unable to secure external funding. The 0100 funds can be utilized elsewhere more effectively.

General College

Unit position: General College, in accordance with *Commitment to Focus*, has dropped its certificate programs, is phasing out its degree programs, and is making the transition to a complete concentration on preparatory programs for special entering students who do not meet normal preparation standards. Its exceptionally careful *Strategy for Focus* document shows that the college has planned the transition with care to its new three-part mission: to develop the potential for baccalaureate education in its special student population, to conduct research on teaching and learning, particularly related to their student population, and in cooperation with other colleges, to provide training in post-secondary teaching and student services. Its plan provides for complete reorganization of the college in line with its

new mission (moving away from an organization based on disciplines), the development of new admission criteria, expectations for faculty performance appropriate to the new mission, and a careful staging of transfer of resources from the old to the new as students in the degree programs work their way through those programs.

The Advisory Task Force on Planning recommended that the college should be integrated completely with the other arts, sciences and engineering colleges; the administration accepts the spirit of that recommendation, but not the letter.

Administration position: The administration approves the General College programmatic plan. It will maintain its collegiate identity, with the Dean reporting to the Vice Provost for Arts, Sciences and Engineering. General College faculty members will teach courses in their own disciplines in other colleges, and members of those disciplines will assist in searches for new appointments wherever appropriate. Joint appointments will be made where practicable. Responsibilities for teaching and research in General College will become comparable to those for the other arts and science colleges. The transfer of faculty effort to disciplinary departments, and other transfers following from the change in mission of the college, will represent a significant reallocation of funds to some of the University's highest priority programs.

Rationale: The college should maintain its collegiate identity in order to ensure that serving its special student population remains a high priority. If the college were totally integrated with other units, it would be necessary to monitor each individual department in the other arts and science colleges to assure that they paid proper attention to this important priority, and provided adequate incentives to faculty members to invest their energies in serving these students. In order to integrate the General College faculty with the larger arts and science faculty, however, members of the General College faculty should, to the extent possible, teach courses in those colleges; and future appointments should be shared with other units, with the help of joint search committees, which should help to assure comparable starting salaries as well as integration of new faculty members into the intellectual activities of the other colleges. The balance of responsibilities between teaching and research should be moved toward that found in comparable departments in other arts and science colleges, taking into account variations in the responsibilities for student advising, graduate student instruction and thesis supervision in the different colleges.

Institute of Technology

Unit position: The Institute of Technology has provided a carefully articulated plan for its future. Two changes in expenditure patterns are proposed: An increase in the percentage of the Institute's total expenditures devoted to engineering and computer science, and, within every department, an increase in the percentage of departmental expenditures devoted to instructional and research equipment. Undergraduate majors in engineering will be held at their current level or reduced slightly, in order to bring about a balance between undergraduate and post-baccalaureate education and research. Enrollments in some engineering departments and in computer science have risen dramatically over the past ten years, and funds have not kept pace so that these programs, in particular, are significantly underfunded. The Institute's programmatic plan addresses these problems. With the decline in number of undergraduates throughout the Twin Cities campus there will also be a decline in the demands placed on the Institute of Technology to provide service courses for students in other colleges. These changes will permit a reallocation within selected programs from service instruction to increased support for instructional laboratories, research, and other departmental activities.

The Advisory Task Force on Planning recommended that the School of Architecture and Landscape Architecture be moved to another administrative home, and that two units of the Department of Civil and Mineral Engineering be closed: the Mineral Resources Research Center (because of the declining importance to the state of extractive metallurgy) and the St. Anthony Falls Hydraulic Laboratory (because of declining external funding and pressure for University financial support of its research program). The administration accepts the first of these and rejects the other two, for reasons explained below.

Administration position: An overall increase in resources for the Institute will be the University's first collegiate priority, to improve the quality of undergraduate education, to strengthen the quality of the Institute's research and graduate education and restore the national distinction of programs which have fallen in quality, and to provide more effective transfer of technology to the state's technology-based industry. With two modifications specified below, the administration approves the Institute of Technology's programmatic plan. First, the School of Architecture and Landscape Architecture should become an independent professional school, reporting both to the Vice Provost for Arts, Sciences and Engineering and to the Vice Provost for Agriculture, Forestry and Home Economics. Second, since undergraduate student interest has declined markedly in the programs in geotechnical engineering and extractive metallurgical engineering of the Department of Civil

and Mineral Engineering and the Mineral Resources Research Center, these programs should be streamlined and attached to related programs within the Institute of Technology. It must be emphasized, however, that the Mineral Resources Research Center and the St. Anthony Falls Hydraulic Laboratory should both remain in operation, because of research and technology transfer activities in these areas, which are important to the state.

Rationale: The most relevant facts for planning the future of the Institute of Technology include the following: First, the Institute includes the basic mathematical and physical sciences, which are central to a broad range of intellectual activities in many colleges within the University; second, Minnesota ranks 41st among the states in engineering graduates per capita; third, until recently all of the state's engineering graduates came from the Institute of Technology; fourth, even when the state's new engineering programs are fully developed, the Institute will still produce more than 75% of the state's engineering graduates; fifth, the number of undergraduate engineering and computer science students in the Institute is controlled by severe restriction on admissions; and sixth, despite those severe restrictions, the Institute's faculty/student ratios and laboratory facilities are worse than for any of its peer institutions.

Despite the continuing pressure of student demand, escalating requirements for sophisticated laboratory instrumentation, and severe budgetary deficiencies, the Institute has succeeded in maintaining the quality of its nationally distinguished programs, and has even reversed declines in quality of other programs. New resources coming into the Institute will supplement internal reallocations to improve faculty/student ratios in areas of heaviest demand and to restore an appropriate balance within and among the Institute's programs.

The administration recommends that the School of Architecture and Landscape Architecture become an independent professional school, reporting both to the Vice Provost for Arts, Sciences and Engineering and to the Vice Provost for Agriculture, Forestry and Home Economics. This recommendation is in part based on the strong links between Landscape Architecture and Horticulture, which calls for some administrative link between the two, in part on the links between architecture and the humanities and arts, and in part on the difference in culture between architecture and the other fields represented by the Institute of Technology.

The Mineral Resources Research Center is of continuing importance to the economy of the state, and is not recommended for closure, although the appropriate administrative home for the unit is still under review. The St. Anthony Falls Hydraulic Laboratory also contin-

ues to provide an important service to the state and benefits to the instructional program of the Department of Civil and Mineral Engineering. It is not recommended for closure. In the case of these two units the administration recommends that their mission and activities be reviewed as part of a state-wide study on research and technology transfer programs supportive of natural resources (mineral, water, renewable resources). This study should be conducted under the aegis of the Natural Resources Executive Council of the University with advice from the Legislative Commission on Minnesota Resources, the Department of Natural Resources, and other appropriate state agencies.

University College

Unit position: University College offers baccalaureate degrees for inter-college programs and for individually designed programs, system-wide. The College *Strategy for Focus* plan proposes continuation and improvement of those activities, plus a return to the initial mission of the college in experimental education, with the support of new funding. *Plan for Focus* recommended that University College end its collegiate status, so that it would become primarily an advising service for students seeking individualized learning opportunities. This recommendation has not been accepted in full because of the need for a college to award the degrees University College now awards. However, the spirit of the recommendation is incorporated in the following:

Administration position: The Vice Provost for Arts, Sciences and Engineering will be named Dean of University College, with a program director to manage the day-to-day affairs of the college. Funding will remain unchanged pending an evaluation of advising demands under the new arts, sciences and engineering structure. The locus for experimental education programs will be in the colleges, rather than in a centralized location such as University College.

Rationale: University College offers degrees drawing on faculty and courses from professional schools as well as from the arts, sciences and engineering. Nevertheless, most University College students earn their degrees primarily from the arts, sciences and engineering, so that for administrative reporting, the college fits more closely with the arts, sciences and engineering than with any other grouping. Moreover, it may be possible to achieve efficiencies by combining the individualized degree programs from the College of Biological Sciences and the College of Liberal Arts with those of University College.

HEALTH SCIENCES

College of Pharmacy

Unit position: The College of Pharmacy has submitted an excellent *Strategy for Focus* plan that represents a logical extension of an earlier plan developed in response to *Commitment to Focus* and unanimously approved by the Board of Regents. The plan focuses the college's efforts, and proposes the reallocation of approximately \$500,000 from the Pharm D. program, graduate studies in pharmacognosy, continuing education, the drug information program, and other professional education programs, to the B.S. program, graduate studies in medicinal chemistry, research in geriatric pharmacy and computer-assisted molecular modeling, and selected other initiatives.

Administration position: The administration approves the College of Pharmacy programmatic plan. Funding will be increased over the present planning period for laboratory equipment and support for the college. A special effort must be made to increase minority enrollment.

Rationale: Rank funding comparisons show that Pharmacy is at the bottom of its peer group in direct expenditures per full year equivalent student. It is evident that the college will be unable to maintain its current enrollment without additional state funds. Minority enrollment is of particular concern. Data indicates that little progress has been made in this area in spite of the availability of targeted funds such as scholarships for high-ability minority students who are residents of Minnesota or reciprocity states.

College of Veterinary Medicine

Unit position: The college plan envisions major revision of its Doctor of Veterinary Medicine (DVM) curriculum including an expansion of elective rotations to permit tracking in areas of specialization, the development of a regional network of clinical training opportunities, greater emphasis on independent study, and a reduction in the non-educational responsibilities of senior students assigned to the Veterinary Teaching Hospitals. The number of post-DVM residents in the Veterinary Teaching Hospitals would be increased, relieving the heavy service load now placed on faculty and DVM students. This would provide more faculty time for research. The Veterinary Teaching Hospitals and Veterinary Diagnostic Laboratory fee schedules would also be reviewed to ensure that users of these facilities were bearing an appropriate share of the costs of their operation.

Administration position: The administration approves the College of Veterinary Medicine programmatic plan, with the following exceptions: The plan does not deal with the subject of pre-veterinary requirements, leaving unanswered the question of whether a baccalaureate degree should be required for admission to the DVM program. The plan also proposes development of a formal DVM/Ph.D. program and the creation of new administrative positions. Neither of these recommendations appears wise in view of the limited resources available to the college and the need to strengthen existing educational programs. Finally, the projection that Veterinary Teaching Hospitals and Veterinary Diagnostic Laboratory revenues will increase only 5% annually runs counter to the avowed commitment to maximize service revenue.. The College budget shall be maintained at its current level, except for an increase in funding for the Veterinary Diagnostic Laboratory.

Rationale: A review of the College of Veterinary Medicine's budget indicates that it is currently underfunded in relationship to peer institutions. Rank funding comparisons, for example, show that it is at the bottom of its peer group in direct expenditures per FYE student. This situation should be improved by the 20% reduction in class size approved by the Regents under *Commitment to Focus*, and by the provision of additional funding for the Veterinary Diagnostic Laboratory, as recommended below. The savings from the decrease in class size will be left with the college to improve its funding per student; the increase in funding for the Veterinary Diagnostic Laboratory is justified by the workload in that unit, generated by public need for its services.

Department of Mortuary Science

Unit position: The Department of Mortuary Science has submitted a thoughtful plan which proposes a number of changes in its curriculum and raises the possibility of admitting only a single class each year. Its ability to initiate major changes, however, is limited both by accreditation requirements and the small size of its faculty. The latter together with the lack of a research tradition in the discipline has also prevented the department from developing an active research program which would qualify its faculty for tenure under the Tenure Code.

The Advisory Task Force on Planning recommended that the department be eliminated as an academic unit, and possibly transferred to a local state or community college. The considerations that lead to rejection of that recommendation are explained below.

Administration position: The administration approves the Department of Mortuary Science programmatic plan. Administrative responsibility for the department will be transferred to the Medical School. New department personnel who will have teaching responsibility will be hired in the Professional and Administrative series.

Rationale: Four considerations lead to maintaining the department within the University: First, the program is perhaps the best in the nation, enjoys strong student demand, and serves an important need for the state. Second, there are significant benefits both to mortuary science and to other units in the health sciences from the interactions made possible by its present physical and administrative location as part of the health sciences. Third, the net cost of the program to the University is very low since tuition and private donations very nearly cover its expenses. And fourth, the administrative cost of having the unit located in its present facilities on the University campus but administered by another institution would be high.

The department currently reports directly to the Vice President for Health Sciences. This creates a problem since it does not provide access to the various support services which are available in most Deans' offices (counseling, financial aid, student records, etc.). It is therefore appropriate to transfer administrative responsibility for the department to the academic unit with which it has the closest programmatic relationship: the Medical School. The use of the professional and administrative series for new appointments reflects the lack of a research program in the department, precluding tenure-track appointments.

Medical School

Unit position: The Strategy for Focus plan for this large and complex school features an emphasis on interdisciplinary programs involving close collaboration with academic units such as CBS, IT, Agriculture, and CLA. These include: the Human Genetics Institute; the Center for Biomedical Engineering; the Center for Biomedical Ethics; the nuclear magnetic resonance imaging and spectroscopy facility; and an interdisciplinary program in nutrition. Several clinical programs, including the Minnesota Heart and Lung Institute and a Cancer Center, are also given high priority. The plan stresses strengthening of the basic science departments and further development of the M.D. - Ph.D. program. It incorporates enrollment decreases of 16% in the M.D. program (239 to 200 students per class) and 12% in the residency program, both of which were previously approved by the Board of Regents.

Since the Medical School's plan was submitted, a faculty task force has recommended that entering class size in the M.D. program be further reduced to 175. This would be accomplished by 1990 and represents a reduction of 27% over the 1983 level.

The Advisory Task Force on Planning recommended a major reduction in the budget of the Department of Family Practice, which would be accomplished primarily through funding cuts in the family practice residency program.

Administration position: The administration approves the Medical School's programmatic plan, including reduction in M.D. class size to 175, with the following understandings: Two important trends in medical care have not been covered adequately in the Medical School plan and will require additional attention. The plan largely ignores development of a program in geriatrics--an area of increasing importance as our population ages. Secondly, the plan does not adequately stress the development of teaching rotations in ambulatory settings. Experience in the latter is essential for both medical students and residents as more care is delivered outside the hospital. Finally, national changes in medical education may require revision in the targeted size of the residency program; the Dean is requested to bring the need for any such change to the attention of central administration.

The school's operating budget will remain constant so that funds saved as a result of enrollment declines and retirements may be redirected to the new high priority programs identified above.

Rationale: The reduction in class size is justified by the nationwide decline in medical school applicants and a projected surplus of physicians. Continuing funds to support the Medical School's new initiatives will be available as a result of the savings it will generate through enrollment decreases and the anticipated retirement of 30 senior faculty members during the planning period. The school does have a major need for equipment replacement and new basic science facilities, however, and state funds should be sought for these items. The recommendation to reduce funding for Family Practice is rejected in view of evidence that there is still a shortage of family physicians in Minnesota and a strong student demand for family practice residencies. In addition, the assumption that family practice residencies could be funded by hospital revenues appears erroneous in view of the ambulatory nature of the discipline and the relatively low rate of third party reimbursement for primary care services.

School of Dentistry

Unit position: The school has developed an ambitious and innovative plan which would reduce D.D.S.¹ class size from 104 to 75, make major revisions in the D.D.S. curriculum, increase the emphasis on research and graduate (post-D.D.S.) education, reorganize the clinics, and streamline the governance of the school.

The Advisory Task Force on Planning recommended that the school be closed; the administration's decision to reject that recommendation was announced in September, 1987.

A final recommendation, made by Governor Perpich, was that consideration be given to regionalizing dental education in the Upper Midwest. The school is participating in an Upper Midwest Dental Discussion Group which is exploring the feasibility of regionalization and central administration endorses that effort.

Administration position: The administration approves the School of Dentistry plan subject to certain reservations, detailed below. Central administration supports many of the initiatives proposed in the plan, in particular:

- the increased emphasis on research and post-doctoral education, and creation of a Dental Research Institute;
- the concept of major curricular revision;
- a reduction in dental class size from 104 to 75;
- proposed clinic reorganization and development of an intramural practice plan, including a change in focus of the dental clinics from student-oriented to patient-oriented;
- proposed streamlining of the administration and governance of the school (consolidation of departments, reduction in number of associate or assistant deans, and the creation of a small executive committee).

As might be expected with a plan of this magnitude and complexity, there are a number of items which will require further thought and discussion prior to implementation. These include:

¹Doctor of Dental Surgery

- some aspects of the proposed curriculum change, most notably thesis preparation and Graduate School admission requirements;
- implementation of the D.D.S. - MS and D.D.S. - Ph. D. programs. As desirable as these programs are it might be more appropriate to concentrate the school's limited resources on strengthening its existing educational programs;
- the proposal to require that 70% of the faculty spend 40% of their time on research;
- the 48-month D.D.S. curriculum;
- the concept of a separate track for faculty whose duties include only teaching and patient care;
- the proposed name change to College of Oral Health Sciences
- the change of name of the professional degree from Doctor of Dental *Surgery* to Doctor of Dental *Science*.

The School of Dentistry plan omits mention of its proposal to implement a B.S. program in dental hygiene; this should be incorporated into the document. The plan also does not address the issue of pre-dental requirements; while it would be impractical to require a baccalaureate degree for admission in present circumstances, the school's plan should consider the possibility of establishing that standard as a long-term goal. Entering D.D.S. class size will be reduced from 104 to 75. Over the 5-year planning program a portion of state support will be replaced with sponsored research funds.

Rationale: The reduction in class size is appropriate in recognition of a smaller applicant pool, the surplus of dentists, and the school's relatively poor state funding per student: Rank funding comparisons show that the school is at the bottom of its peer group in direct expenditures per FYE student. This suggests that major changes should not be made in the school's budget in spite of its plans for a significant reduction in D.D.S. class size. In view of its goal to emphasize research, however, it should be possible over the planning period to substitute some state funds used to support faculty salaries with sponsored research monies obtained from external sources.

The proposal that a baccalaureate degree be required for admission would appear highly desirable in view of the school's plan to emphasize research and scholarship. However, Central Administration recognizes that it would be unrealistic to institute at this time. None

of the other dental schools in this region require more than three years of pre-dental education, and requiring a baccalaureate degree at Minnesota would make the school relatively non-competitive at a time of declining interest in careers in dentistry. It also would seem prudent to defer major changes in pre-dental requirements until the school's new curriculum is in place. The school is urged, however, to adopt the baccalaureate requirement as a long-term goal.

School of Nursing

Unit position: The School of Nursing has submitted a *Strategy for Focus* plan which maintains the directions and priorities of its *Commitment to Focus* plan approved by the Board of Regents in 1986. These include: establishment of clearly defined research programs; increased emphasis on graduate programs (M.S. and Ph.D.); revision of the undergraduate curriculum leading to a smaller program which prepares top students for graduate work; increased emphasis on faculty development; recruitment of minority students and faculty; and involvement in international research and education in nursing.

Administration position: The administration approves the School of Nursing's programmatic plan. Over the next five years, a portion of state support funds shall be replaced with sponsored research funding. The need for nurses and the school's applicant pool shall be monitored carefully with further adjustments made in entering class size if circumstances warrant.

Rationale: The ability of the school to achieve its programmatic goals will be dependent in large part on the success it has in building a research program and attracting external research funding, since without a research base it will be impossible to develop a quality graduate program, particularly at the Ph.D. level. Although the school's sponsored research funding has been flat in recent years, the Dean and faculty are aware of the need to improve it and have taken a number of steps to obtain additional grant support.

In view of the school's goal to emphasize research, it should be possible over the planning period to substitute some state funds used to support faculty salaries with sponsored research monies obtained from external sources. Monitoring of the class size in comparison with the applicant pool is needed because both nationally and in Minnesota there is a dearth of applicants for admission, combined with a dearth of candidates for existing job openings. The University of Minnesota does not wish to exacerbate the problem of a shortage of nurses, but must maintain the quality of its own graduates.

School of Public Health

Unit position: The School of Public Health was well into a major reorganization when the *Strategy for Focus* planning process started. This included: concentration on four major areas of focus (aging/long-term care, health promotion and disease prevention, health services research, and environmental health); the development of a core curriculum for the Master of Public Health (MPH) program, discontinuation of separate programs in dental public health and veterinary public health; and, the internal reallocation of over \$1,000,000. This process of consolidation and reallocation is continued in the school's *Strategy for Focus* plan.

The Advisory Task Force on Planning recommended that the organized teaching unit and graduate major in public health nursing be discontinued.

Administration position: The administration approves the School of Public Health programmatic plan. Over the planning period the school's state funding will be increased significantly. Central administration does not accept the Task Force recommendation to close the separate program in public health nursing because there is a significant need for public health nurses in Minnesota and the program in the School of Public Health is the only one of its type in the state. However, in view of a recent decline in applicants and concern that its curriculum needs modification (e.g., there is little nursing content), the program and its administrative structure will be formally reviewed. In the long run it would appear desirable to have the program jointly operated by the School of Public Health and the School of Nursing since its content spans both disciplines.

Rationale: The School of Public Health has been extraordinarily successful in attracting sponsored research and training support, primarily from the federal government. It ranks second among academic units at the University in this regard. A special problem which it faces, however, is an unusually low level of state support, whether measured by the fraction of its budget provided by the state (17%) or direct expenditures per student (last in its peer group). This creates instability and forces the school to adjust its priorities to those of external funding agencies. That fact, coupled with the importance of its programs for the state and significant opportunities now before the University to build a program of national distinction, justify identifying this school as a target for new funding support.

OTHER PROFESSIONAL SCHOOLS

Carlson School of Management

Unit position: The Carlson School of Management has produced a dramatic improvement in the quality of its educational programs and in its research activity over the past several years, financed through funds provided by the business community and the University, through increases in tuition, and through reduction of undergraduate enrollment. The school's plan is to continue emphasis on improving the quality of its research and graduate programs, while reducing the undergraduate enrollment to the level of about 1,175 agreed to under *Commitment to Focus*; this reduction is intended to permit further improvement in the quality of that program as well (not in terms of student qualifications, which are already very high, but in terms of faculty/student ratios, class size, and opportunity for students to benefit from the participation of senior faculty in their education).

Administration position: The administration approves the priorities set by the Carlson School of Management programmatic plan, with the following exceptions: The school will reduce its undergraduate enrollment to approximately 750. If it is determined to be feasible with respect to accreditation standards, the school will be asked to provide a small-scale program for approximately 250 undergraduate minors in business to substitute for part of the further reduction in enrollment called for here (from 1175 to 750). The school will be supported in efforts to obtain increased funds from sources other than increased central funding commitments. In the present planning period, increased central funds will be limited to continuing and making permanent present (temporary) funding for the Management Information Systems Program.

Rationale: The administration recommends further reduction of the undergraduate enrollment from the current level of 1,400, and the previously-approved target of 1,175, to approximately 750, plus 250 minors in business, in order to finance an urgently-needed improvement in quality of education of the undergraduate program. The addition of 250 minors is intended to mitigate the effect on students of the reduction, with a significantly lower cost in terms of teaching effort than for majors in business (the courses taken would be fewer per student, and would be primarily core courses, rather than electives). The administration will support efforts to obtain funding from the other sources that the school has used in the past, in order to assist in achieving its overall goals.

One concern regarding the school plan arises from the resource constraints that confront the school (funds, space, suitably-designed classrooms) and the fact that some elements of the school's plans could be carried out only with new resources. Important as the school's mission is to the economy of the state and to the University, further improvements in its programs cannot now be placed so high in priority as to call either for new permanent funding from University sources beyond the Permanent University Fund commitments already made, or for new space for the school. However, because of the importance of the Carlson School, the administration will consider its funding needs from University sources as soon as the University budgeting situation allows.

College of Education

Unit position: The College of Education has been at the forefront of a new national effort to restructure its undergraduate teacher training programs, transforming them to 3-2 and 4-1 formats in which the student specializes in subject matter study for either three years (in the 3-2 program) or four (in the 4-1 program), followed by concentrated study of pedagogy to complete a five-year program. The college plan puts priority on the continued transformation of this teacher training program, on strengthening its research and graduate education programs, and on more effective recruitment and retention of minority students and faculty.

The Advisory Task Force on Planning recommended that programs in vocational-technical education and recreation, park and leisure studies be eliminated. The President has previously announced that the contribution of the vocational-technical education program to the land-grant mission of the University is too important to accept that recommendation.

Administration position: The administration approves the College of Education programmatic plan. In the present planning period, resources will be transferred from lower-priority programs within the college, with part of the resources transferred to the Office of the Provost for reallocation, either through transfer of funds or transfer of instructional effort. Short-term, compensating funds will be reallocated to the college to permit faster progress toward its own high priority objectives, including the strengthening of research centers. The Provost affirms the judgment of the Dean that the (small) program in recreation, park and leisure studies provides an important service of quality which is now high, and should be continued.

Rationale: The College of Education has faced declines in enrollment over the past several years, and accompanying retrenchments as the University was forced to reduce and internally reallocate its budget. In these difficult circumstances, the college has reorganized and consolidated its programs, improved the quality of many, and, as discussed above, is at the forefront of a new national effort to restructure teacher training. These efforts should be supported, with short-term funding to allow for more rapid progress. However, despite retrenchments, instructional funding per student is higher than in comparable programs of the University. Hence, transfer of effort and substitution of external research funds for state instructional funds are justified.

Continuing Education and Extension

Unit position: The major question facing Continuing Education and Extension in its *Strategy for Focus* plan was the challenge presented by *Commitment to Focus* to adjust its programs toward the areas of the University's strengths, with the suggestion that the division's budget be made less dependent on its own earned income in order to make that move feasible. The plan includes a lengthy analysis of that issue, and concludes by recommending that the CEE budget be maintained on an income basis for this planning period.

Other priorities set by the division are consistent with the recommendations of *Commitment to Focus*: To coordinate more closely with colleges in designing programs which reflect the strengths of the University; to increase opportunities for part-time students to complete baccalaureate and post-baccalaureate degrees; to respond to the continuing higher education needs of working adults through classes, conferences and other educational services; to expand the reach of the University through increased capabilities of present electronic technologies, and through exploitation of new technologies; and to collaborate with other outreach programs (Minnesota Extension Service, Center for Urban and Regional Affairs, and programs provided by other post-secondary education systems) for more effective provision of services. Specific changes consistent with these priorities include: closure of the Department of Community Services (which among other services supervises the statewide Elderhostel program); phasing out real estate programs and certain pre-baccalaureate certificates; pursuit of control of the early morning hours for KUOM, through negotiations with the College of St. Olaf; and study of the feasibility of making MacPhail Center self-supporting.

The Advisory Task Force on Planning supported many aspects of the CEE plan, but recommended further restriction on the provision of both undergraduate and graduate educa-

tion through CEE auspices, because of concerns regarding the quality of the education provided in that format (part-time students, little interaction outside of the classroom, courses in some cases conducted by instructors who are not regular faculty members). They also recommended closure of KUOM, and transfer of the Department of Concerts and Lectures to administration by CEE, after elimination of the (small) lectures component of that department's programs.

Administration position: The administration approves the programmatic plan of Continuing Education and Extension, except as noted below. First, the eventual transition to an expenditure budget, as envisioned by *Commitment to Focus*, is still an objective for the future, toward which the administration will work; as it works toward that goal, the administration will during 1988 initiate an administrative review of the Minnesota Extension Service and CEE, with the goal of forming a single University-wide nonformal outreach unit. Second, in conjunction with CEE's plans to expand access to degree programs through course enrollments in CEE, the Dean will undertake a review, in cooperation with other relevant deans, to assure that educational quality is kept comparable to that of the corresponding courses offered without the assistance of CEE. Third, CEE will be given the opportunity to maintain KUOM services, with the understanding that it will be self-sustaining by the end of Fiscal Year 1992; should KUOM gain access to morning broadcast hours through negotiations with WCAL, the Provost will initiate a review of the station and assess the implications of its new potential and value to the University. Fourth, the MacPhail Center will be made independent of continued University funding, with the funds freed retained by the Office of the Provost for reassignment to high campus priorities. Fifth, the Concerts program of the Department of Concerts and Lectures will be transferred to CEE administration. Sixth, the Study-Abroad program offered through Continuing Education and Extension will be coordinated through the Office of International Education as a unified, campus-wide program is developed. Finally, administration of the statewide Elderhostel program will be continued for another year, if necessary, in order to permit orderly transition to an alternative arrangement.

Rationale: The expenditure budget is the best way to make sure that the University's priorities, rather than the opportunity to earn income, drives the decision to offer credit and non-credit courses through CEE; the investigation of the possibility for combining the continuing education component of CEE with the Minnesota Extension Service will determine whether or not either efficiencies or stronger programs could be offered by means of that combination.

The administration rejects the proposal to restrict access to courses for degree credit through CEE; rather CEE's own plan to expand that access should be affirmed, in light of the growing number of part-time and adult students who need such access, as long as the educational quality of the programs can be assured.

The administration accepts the Advisory Task Force judgment that other priorities for the campus are more urgent than the continuation of KUOM and the MacPhail Center. For KUOM, the addition of the morning hours to its broadcast schedule might open alternative ways for the station to achieve financial independence, including a closer affiliation with Minnesota Public Radio. With respect to MacPhail, possibilities for financial independence will not become evident while the University continues to subsidize the program, of value to the community but not a part of the University mission.

The transfer of the Concerts program is for administrative convenience, to give more administrative assistance and attention to a very good program that is not well-placed in reporting directly to the Provost.

The present study abroad program lacks administrative and programmatic cohesion, with responsibilities carried out by the International Study and Travel Center, Continuing Education and Extension, Foreign Studies Program, and the Office of International Education. Participation rates are low and administrative costs are high because of unnecessary and excessive fragmentation of programs and effort. The current arrangement frustrates efforts to establish priorities and a rationale for program expansion. Study abroad planning by individual students is not sufficiently integrated into overall academic advising and program planning.

Finally, CEE should continue to administer the statewide Elderhostel program for one more year, if necessary to assure that an alternate arrangement is made and that continuation of the program will not be threatened; it should be noted that transfer of administration of the statewide program would not affect the University's continued participation in the Elderhostel program.

Graduate School

Unit position: The tradition of the Graduate School is to serve as the guardian of academic quality for the University; the school has had a continuing interest in helping to recruit talented faculty and then supporting their research interests, in attracting the strongest graduate students, in assuring that graduate programs meet the highest standards, and in

supporting the development of new areas of intellectual inquiry, particularly interdisciplinary programs that span colleges. The present *Strategy for Focus* plan for the school is consistent with that tradition. It singles out several important issues to be addressed by the University: the need to reverse the decline in quality of our strongest programs (addressed elsewhere in these recommendations) the relative weakness of interdisciplinary and interdepartmental programs (also, in part, addressed elsewhere in the recommendations). It announces plans to provide a better data base than has been available in the past to evaluate the quality of graduate programs across the University. Finally, it proposes new initiatives requiring increased expenditures to help to improve the quality of research and graduate education.

Administration position: The administration approves the Graduate School programmatic plan, with two additions: The administration requests that the Dean pursue, through the governance structure of the Graduate School, a change in appointment practices to authorize all newly hired faculty with appropriate qualifications to immediately be named full members of the graduate faculty, and to mandate a review of every graduate faculty appointment every five years. The administration also requests that the Graduate School closely monitor graduate programs with small enrollments and recommend to the graduate faculty elimination of those programs for which continuation is not clearly justified, with the goal of substantial further reduction in program numbers. Funding will be provided to support its initiatives for support of research and interdisciplinary programs, under the policy guidance of the Research Executive Council.¹

Rationale: The University has not been at the forefront in the development of new areas of intellectual discovery; partly in consequence, the University has not been particularly successful in obtaining Federal funding support for the development of new areas. The availability of modest funding that can be used to back promising new programs is intended to help to improve that record. The rationale for the recommended changes in the Graduate School plan is discussed under separate headings.²

¹See discussion on p. 79.

²See discussion starting on pp. 11 and 67.

Humphrey Institute of Public Affairs

Unit position: The Humphrey Institute has just completed the transition from the leadership of its first to its second dean. Over the past several years the institute developed in several ways, with new faculty and senior fellows, an increase in its student body, expansion of its research program, a new mid-career program of Education for Reflective Leadership, and a new building. The *Strategy for Focus* plan was prepared before the new Dean arrived, and is now properly being reviewed under his leadership.

Administration position: The administration will defer approval of the priorities established by the college's programmatic plan, subject to review now being undertaken by the new Dean of the college at the request of the Provost. This review and revision should be completed by the end of the 1987 - 88 academic year. The review will include a re-thinking of the analytical framework that serves as an intellectual base for the institute's programs, review of the analytical tools needed for the master's degree programs, and exploration of the prospects for collaboration with other University colleges to develop a master's program specializing in science and technology policy and a post-doctoral program that would include public policy. A modest increase in permanent funding will be made available to support the strengthening of interdisciplinary programs that link the institute to other colleges on the Twin Cities campus.

Rationale: The issues raised in this recommendation have surfaced in discussion between the Dean of the institute, members of the institute faculty and other interested members of the University community; they should be incorporated into the re-evaluation of the institute plan.

A reservation regarding the institute's initial *Strategy for Focus* plan is to its discussion of budgetary issues, in which it is asserted that state funds should fully support the costs of the institute degree programs, with privately raised funds going only to support other activities of the center. Private gifts to the University are usually restricted to some agreed purpose, and the University will of course honor restrictions to which it has agreed on the use of funds. But instruction is not generally excluded from the use to which such gifts are put; indeed instruction is a major activity for the holder of endowed chairs, and would be funded from income on the endowment. This reservation is not to deny the need, in present circumstances, for increased funding from the University operations and maintenance budget for the institute's instructional programs, particularly those that will strengthen links with other colleges.

Law School

Unit position: The Law School has over the past several years undertaken vigorous and successful programs to develop its research activities, and to increase minority representation in its student body. It has been particularly successful in obtaining private support for its programs, with significant assistance from contributions provided by commitment of income from Permanent University Funds. Its *Plan for Focus* calls for a continuation of efforts to improve quality and national perception of that quality, with respect to teaching, the competitive position of students among leading law schools, library resources and service, faculty scholarship and service. It also calls, more specifically, for continued expansion of the international component of the program, and for incorporation of new technology (e.g., computerized data bases) into the teaching and practice of law.

Administration position: The administration approves the Law School programmatic plan. The school will be supported in efforts to obtain increased funds from sources other than increased central funding commitments to accomplish the goals of its *Strategy for Focus* plan.

Rationale: The school's plans could be carried out more quickly with new resources. Important as the school's mission is to the economy of the state and to the University further improvements in its programs cannot now be placed so high in priority as to call immediately for new permanent funding from University sources beyond Permanent University Fund commitments. The administration will however support efforts to obtain funding from appropriate external sources. Moreover, because of the importance of the Law School, the administration will consider its funding needs from University sources as soon as the University budgeting situation allows.

ACADEMIC SUPPORT UNITS**Center for Urban and Regional Affairs**

Unit position: The Center for Urban and Regional Affairs (CURA) was established to make the University more responsive to the needs of the larger community, and to increase the participation by faculty and students in addressing major public problems. It supports research on major issues of public concern; in most cases the research is done in conjunction with agencies outside the University. It also serves as a communication link with community groups and agencies interested in obtaining University expertise and, from time

to time, it serves as an incubator for appropriate faculty initiatives in the expectation that they will eventually become independent.

CURA's *Strategy for Focus* plan proposes to continue its current goals, of which the most important is to involve more faculty, from more University units, in projects that serve their own research interests and at the same time help to address issues of major concern to the state. With regard to programs, CURA proposes some shifts in direction, reducing some areas of concentration in order to expand others that are now more important. Areas to be increased include economic development, the environment (especially groundwater and solid and hazardous waste), and public-private relationships in the provision of public services. Areas to be reduced include transportation, for which a new research center has recently been started in the Institute of Technology, and aging.

Administration position: The administration approves the programmatic plan of the Center for Urban and Regional Affairs.

Rationale: The program is effective in serving the needs of the community. The proposal to reduce support for activity relating to aging does not mean that it is of diminishing importance or priority to the University, but rather that the activity has expanded to the point where those most directly involved, the All-University Council on Aging (AUCA) sees a need for expanded funding beyond the limits that CURA could provide; the two groups have therefore jointly proposed that AUCA find another administrative home, leaving the CURA funds now devoted to it for other, newer priorities. The activities that AUCA is interested in pursuing overlap to some extent with collegiate responsibilities; several colleges have identified problems associated with aging as high on their priority list for curricular and research priorities, in part because of the activity stimulated over the past 12 years by AUCA. For now the administration intends to follow the traditional, collegiate, funding sources for these increased activities. For this planning period, no central funds will be allocated to expanding the activity of the All-University Council on Aging. CURA should follow its own evaluation and decision procedures to determine their level of funding for this program.

Computer Services

Unit position: The Office of Information Systems has provided a careful and thorough review of the current status and likely future development of academic computing needs and resources in its *Strategy for Focus* planning document. The plan identifies networked

work stations as the key computing technology for a research university in 1990, with the campus networks interconnected and linked to the coordinate campuses, state, regional and national networks, providing students and faculty with access to shared data bases, electronic communication, and large-scale scientific computing on central systems. The plan also describes the severe funding pressures that will beset the office as revenues generated by the use of conventional mainframe computers (both by members of the University and by commercial customers) declines over the next several years, and suggests approaches to funding that the University should consider. Since the planning exercise was completed, the office has begun to analyze the opportunities for increased efficiencies through consolidation of functions associated with the move back from the Lauderdale site to the campus. Significant funding reallocation will be made possible as a result of that move.

These recommendations deal with the programmatic recommendations and funding for new initiatives; recommendations for the transition to a period when conventional mainframes become less important, and the changes in funding sources and practices that will accompany that transition, will be dealt with later as part of the annual budgetary process.

Administration position: The administration approves the Office of Information Systems programmatic plan. Funding will be provided to support the new initiative in networking, in part from reallocation made possible by the move from the Lauderdale site.

Rationale: The administration agrees that networking will become the aspect of the computer support environment most in need of development in the near future. The other priority will be to maintain other aspects of the program for instructional computing and research support at their current levels.

Concerts and Lectures

Unit position: The Department of Concerts and Lectures has sponsored annual concert series since 1919; Northrop Auditorium, built in 1929 and seating 5,000, has been the site for most of these concerts. Two recent changes have challenged the department: First, the construction of Orchestra Hall with its superior acoustics made Northrop Auditorium uncompetitive for orchestral music and recitals. More recently, the cessation of the Metropolitan Opera tour has eliminated a major function of the department and the auditorium. The department's response to the loss of the Minnesota Orchestra and other classical music performances was to develop a specialty, unique to the region, in dance -- well adapted to the large hall and the excellent stage floor (constructed in 1976). It has not yet

developed a response to the loss of the Metropolitan Opera series. The Chicago Lyric Opera would be interested in coming, but would require deepening of the stage in order to accommodate their sets, at a cost of \$3.5 million. The Department has increased the level of artistic risk it undertakes by co-presenting a series of experimental works with the Walker Art Center; it would be interested in expanding this kind of activity (presenting lesser-known artists of high quality, new works and new forms such as recent works that join theatre and dance), but would need more financial support in order to fund the innovation.

The Department's *Strategy for Focus* plan points out the urgent need for renovation of the hall, a unique facility in the region, with funding needs well beyond resources available from present ticket revenues.

The lectures function represents approximately 15% of the department's activities. It consists of sponsorship of 50 to 75 lectures per year, mostly originating in individual departments but sponsored centrally because of potential broad interest, beyond the individual department; funds for these lectures are dispensed with the advice of a Campus Committee on Convocations and the Arts.

The Advisory Task Force on Planning recommended that the lectures function be abolished, and that the department be transferred to Continuing Education and Extension as an administrative home.

Administration position: The Department of Concerts and Lectures, renamed as the Department of Concerts; will be moved to Continuing Education and Extension for administrative oversight. The administration will defer approval of the Department's programmatic plan, subject to review by the Dean of Continuing Education and Extension.

Rationale: A difficulty that the Department has faced has been administrative inattention. As one of the smaller units of the more than 20 that report directly to the Academic Vice President, it does not receive adequate assistance. Moving the Department to CEE should provide more direct attention to its needs and to those of Northrop Auditorium. The subsidies offered by the Campus Committee on Convocations and the Arts for lectures are small (several hundred dollars per lecture); the program does not justify the faculty and student time that goes into applying for and awarding these small sums.

Educational Development Programs

Unit position: The Office of Educational Development Programs has built strong centralized programs in honors and in educational development, and proposes their continuation. The Advisory Task Force on Planning has, however, recommended that these programs be decentralized insofar as possible.

Administration position: The Office of Educational Development Programs will be closed, and its functions decentralized to the offices of vice provosts, colleges and (in the case of system-wide functions) chancellors. Administrative expenses of the office will be retrenched to go to high priority needs of the University.

Rationale: As a general matter, academic support programs will not be administered directly from the Provost's Office. Efficiency and effectiveness will be enhanced by tying the educational development programs more closely to the plans of the individual colleges, allowing them the flexibility they need for effective design of curriculum; the important function of oversight, to make sure that the funds are put to the purposes intended, can be assured through administrative means: deans and vice provosts will be held accountable for outcomes. Details of the decentralization should be arranged between the Provost and Vice Provosts.

Office of International Education

Unit position: The Office of International Education was established in 1986, combining the staff and functions of two units, the Office of International Programs and the International Student Adviser's Office, into a more rational and efficient structure.

Administration position: The administration approves the Office of International Education plan, already implemented in part. Upon the reorganization of the Institute of International Studies within the Office of the Vice Provost for Arts, Sciences and Engineering, the Office of International Education will assume initial administrative responsibility for reorganizing a study abroad program for the Twin Cities campus, over which the Institute of International Studies will have academic oversight. A later evaluation will be made to determine whether administrative responsibility for the program should be transferred to the Institute of International Studies.

Rationale: The Office of International Education plan takes advantage of the combined resources of the two offices (the Office of International Programs and the International

Student Adviser's Office) in its plan to enhance services for its diverse clientele: foreign students and faculty, U.S. students and faculty, and the local and state community. The present study abroad program lacks administrative and programmatic cohesion. It is not well integrated with the University's international programs; the Office of International Education is equipped administratively to institute a program that would be better tied to the colleges.

Office of Student Development

Unit position: The Office for Student Development *Strategy for Focus* plan, like that of other units outside the Office of Academic Affairs, will be reviewed in detail over the next several months. However, the reorganization of lower division education, and the decline in undergraduate enrollment, will imply an associated reorganization of this office. This document treats just that aspect of the plan.

Student Support Services will reallocate resources to expand recruiting of high ability students, to undertake a more intense effort in recruiting high ability minority students, and will redirect its publications program to aid in advising and counseling students about educational needs and opportunities. As the work load falls with enrollment, resources freed will be retrenched and made available to apply to such high priority programs as undergraduate academic advising. Having just completed the development of a central student data base, Student Support Services will be able to respond more effectively to collegiate requests for information relating to course demand, scheduling, academic standing, and needs peculiar to academic advising.

The University Counseling Service will also experience work reductions as the undergraduate student population falls. Resources generated from these reductions will be channeled to academic advising for undergraduates. The Counseling Service will also reallocate staff and financial resources to support academic advising services including the training of collegiate advising staff who are in direct contact with students. It recognizes the increased need for placement testing for prospective and new students to enable them to make improved academic choices of colleges and programs. In support of that activity, the University Counseling Services will direct resources to the improvement of prospective student testing and to the assessment of learning outcomes, particularly for lower division undergraduate students.

Administration position: The administration accepts this aspect of the plan of the Office for Student Development.

Rationale: The changes are intended to redirect resources of the office toward high priorities of the University, and to establish greater coordination between student support services and the academic programs.

University Art Museum

Unit position: The University Art Museum has evolved over the past several decades into a collection that is particularly strong in early 20th century American art. The Art Museum serves the curricular needs of the campus, particularly in making available materials for course use in anthropology, art history and studio arts; and it serves a valuable outreach function through its travelling exhibits. Its *Strategy for Focus* plan proposes a continuation of those functions; it urges the expansion of exhibit space and the provision of an adequate climate controlled environment for storage of its collection.

Administration position: The administration supports the efforts of the Art Museum colleagues to raise funds for a new art museum building. Moreover, the central administration will make its Development Office capabilities available for the fund-raising effort.

The building conceptualized by the administration would place the museum facilities within a larger multi-purpose building that would house a new faculty club, meeting rooms for University business, a state of the art conference room designated the Regents Room, and a small lecture room appropriate for distinguished lecturers. Thus, the University Art Museum would provide the basis for, but be only a large part of a larger structure dedicated to serving the University community. Need for each of the functions noted is clear and it is equally clear the state funding for them is problematic. If these functions are integrated they make an important addition to our University building plans. Moreover, when taken together it will be easier to assemble the funds necessary to complete the building project.

The administration approves the University Art Museum programmatic plan, provided that private funds can be found for its space needs and programmatic expansion. Failing success in raising funds for the building, the administration recommends closing the University Art Museum.

Rationale: Unfortunately, budgetary constraints prevent the increased 0100 funding necessary for the Art Museum to achieve its goals on State funding. Moreover, it is clear that

the absence of proper facilities severely inhibit the collection's use. Unless the facilities can be improved, the museum collections would be of greater benefit in another location where it can be preserved and displayed effectively.

University Libraries

Unit position: The *Strategy for Focus* plan for the University Libraries establishes goals in the areas of access, bibliographic control, collection development and preservation, and reference services. Strengths and weaknesses of the University Libraries are identified in each of the areas. The plan proposes an allocation of new funds which establishes as priorities the improvement of services and collection growth.

Administration position: The administration approves the University Libraries plan, but at a substantially higher level of funding than is proposed. The Interim University Librarian shall prepare a revised plan and budget which takes maximum advantage of the infusion of new resources into the Libraries. The plan should pay attention to professional development of the staff and enhancing technical facilities.

Rationale: The restoration of the University Libraries to a level of national distinction is among the highest priorities of the University, since it serves as the base on which much of the University's overall program is built. The increase proposed in the Libraries' own plan, bound as it was by the fiscal limits mandated by the planning instructions, would leave the University Libraries behind those of peer institutions with respect to both collection and services.

University Press

Unit position: The *Strategy for Focus* plan of the University Press projects that, if no changes are made in its operation, it will accumulate deficits that could total \$1.2 million over the planning period to FY 1992. This is not a sudden change; the Press has run deficits in each recent year, but has covered them from its reserves which it now expects will be exhausted in 1988 - 89. The plan proposes a sharp increase in the University subsidy from its current level of less than \$100,000 (low compared to peer institutions), to a new level of approximately \$500,000; this would permit growth of the Press in areas of University strength, with a goal of publishing approximately 75 books per year by 1993 compared to 48 in 1987. If the subsidy is not increased, the current level of activity will have to be cut sharply.

Administration position: The Press is currently under review by an internal faculty committee. On the basis of the findings of the review, the Provost, in consultation with a new director of the Press, will determine an appropriate budget and University subsidy. A recommendation on the Press will await the report of the present review.

RESOURCES

EXTERNAL RESOURCES

Administration position: The funding recommendations provided below are based on a level of recurring external funds which the Twin Cities campus will need, over the next five years, in order to accomplish its goals for quality. Some of these funds are already available; others will require new support from the state. The funds include:

- \$3.8 million per year provided by the 1987 Legislature (\$2.8 million for funding rank adjustment, and \$1 million of additional indirect cost recovery from external grants and contracts);
- a continuation of the *present* level of state funding for instruction, in the face of projected declines in undergraduate enrollment;
- \$8.8 million of annual income from a successful Minnesota Campaign, subject to the spending restrictions agreed to in accepting the gifts; and
- \$25.3 million of additional funds requested of the legislature. The amount of these funds, as yet unknown, will determine the degree to which the University will be able to meet its most important goals.

Rationale: The State of Minnesota has provided generously over the years for education. The Governor and the Legislature have accepted the proposal offered by *Commitment to Focus*, to sever University funding from a numerical formula based on enrollment during the next several years. That agreement will allow the University to keep, and reallocate, several million dollars as enrollment declines. The opportunity to reallocate these funds provides an important part of the University's flexibility in its internal fund allocations.

The Governor and the Legislature have also shown acceptance of the arguments advanced by the University that its funding should approach that of the stronger institutions in the Big Ten. There is reason to hope that over the next several years, in response to convincing evidence that the funds will be well spent for the benefit of the state, more state support

will be forthcoming. The total of \$25.3 million is calculated as \$35.2 million needed in new public funds, in the funding summary of Table 5, below, *minus* \$4.1 million to be reallocated among academic units, *minus* \$3.8 million identified above, awarded by the 1987 Legislature but not yet permanently allocated, *minus* an additional \$2 million identified below under internal resources as new indirect cost recoveries from increased Federal contracts and grants.

The University of course acknowledges with gratitude and pride the magnificent private support that has come through the Minnesota Campaign. The annual income generated from the endowment created by the Campaign, and the associated investment of the Permanent University Fund, is incorporated into the University's plans (see Table 5, page 87).

INTERNAL RESOURCES

Three kinds of internal change are included in *Commitment to Focus* and its present extensions. There will be detailed programmatic changes within each college, leading to increased emphasis in some parts, decreases elsewhere, and elimination of some entire degree programs. There will be enrollment reductions. And there will be shifts of financial resources, both within colleges and from colleges to the Office of the Provost for reallocation. This section summarizes the financial resources that the University expects to generate from internal sources, the reduction in number of programs that is planned, and the reduction in enrollments. A more detailed discussion of the shifts in financial resources by academic unit is combined with a summary of the needs for new funding in the following section.

FUNDS TO BE GENERATED FROM INTERNAL RESOURCES

Administration position: Over the next five years, the colleges will reallocate a total of \$13.7 million per year; support units will reallocate an additional \$2.5 million per year, for a total of \$16.2 million. Of this total, \$12.1 million will remain in the academic units from which the funds are taken, in order to be reallocated to higher priority programs. \$4.1 million will be retrenched from the units, and reallocated by the Office of the Provost to higher priorities in other units. The transfers are to be accomplished by an immediate (July, 1988) reduction of Operations and Maintenance funds; the funds will then be returned on a temporary basis, with annual review of the unit's budget to determine, year by year, the amount needed to meet continuing financial obligations in the programs subject to reduc-

tion. Funds returned on that temporary basis will diminish to zero over at most a five year period.

In addition to the funds from reallocation, the administration expects that increased Federal research funds will provide a modest increase in indirect cost recovery. The financial plan incorporates a \$2 million increase in funds to be allocated by the central administration from that source.

Rationale: In order to provide funds for its most urgent priorities, the University will have to exercise a rigorous discipline. No program now in place is without merit; none is without external support; none is now funded too generously. But some priorities are more urgent than others, because needs are more desperate, or because programs are more central. An evaluation of the most urgent needs of academic programs on the Twin Cities campus has led to these recommendations that \$4.1 million be transferred from academic units to be reallocated to campus-wide programs and the highest priority academic programs, in addition to approximately \$12.1 million to be reallocated within units.

In addition, \$2 million per year is expected from additional indirect cost recovery earned from increased external grants and contracts (based on present legislation which allows the University to retain funds generated from any increase in contracts and grants, *not* based on new support from the Legislature).

REDUCTION IN NUMBER OF DEGREE PROGRAMS

Graduate Programs

Administration position: The Graduate School will closely monitor graduate programs with small enrollments and will recommend to the graduate faculty the direct elimination or elimination combined with reconfiguration of 15 or more degree programs, from the list identified in Table 1.

Rationale: As part of the on-going process by which 33 graduate programs have been eliminated over the past decade, the Graduate School is continuing to review the status of small and possibly weak programs.

There are currently 88 graduate programs on the Twin Cities campus with 15 or fewer students enrolled. Seventeen of these have already been closed to new enrollment, and remain open only for continuing students. Twelve are small programs of long standing with a

high quality faculty and graduate students; control sciences, fisheries, and germanic philology are examples. Another twelve programs have been created within the past five years; most are increasing in stature and finding a secure place in the curricula and the research spectrum; examples include neuroscience and technical communication. Another twenty programs are parts of groupings within a single department. An example is the set of five programs related to vocational-technical education: Agricultural education, business education, home economics education, industrial education, and marketing education; for certification and job-related reasons these require distinct degree identities, but they are all in the same department and draw on common courses.

Turning then to programs being reviewed and monitored for small enrollments that do not fit the categories stated, we find a dozen programs that will receive close attention and are candidates for possible elimination. Included here are museology, where a faculty recommendation to delete the programs is being made, anatomy, where the Dean of the Graduate School has suspended further admissions, and geo-technology, a specialized outreach degree for the Army Corps of Engineers, which is no longer needed by that clientele. Additionally, the whole question of the desirability and utility of graduate degrees in clinical departments of the Medical School is under scrutiny by a faculty committee. While the Graduate School administration awaits receipt of the committee report before recommending a course of action, it should be noted that 12 of the 17 programs in this category have no enrollment and the three others have enrollments of two or less. It is likely, therefore, that a high proportion of programs in this category will be recommended for deletion. There is a final category to consider, that of several small programs which could best be served by continued existence in an effectively combined program such as was done when Veterinary Anatomy and Veterinary Pharmacology and Physiology were united as a single program, Veterinary Biology. Such combining could lead to the elimination of 3 or 4 programs.

Table 1. Small Graduate Programs

Anatomy	Ophthalmology
Anesthesiology	Oral Biology
Arabic	Orthopedic Surgery
Biophysical Sciences	Pediatrics
Dermatology	Physical Medicine and Rehabilitation
Experimental Surgery	Psychiatry
Family Practice and Community Health	Public Health
French and Italian	Sociology
Geotechnology	South Asian Languages
History of Medicine and Biological Sciences	Therapeutic Radiology
Hospital Pharmacy	Urology
Mineral Engineering	Veterinary Parasitology
Museology	Veterinary Pathology
Neurology	Veterinary Surgery, Radiology and Anesthesiology
Neurosurgery	Zoology
Obstetrics and Gynecology	

Undergraduate Programs

Administration position: The administration will recommend to the undergraduate colleges the elimination of degree programs, with the overall target to be reduction by at least 10% of the more than 200 programs currently offered.

Rationale: Most colleges have not, as part of their planning effort, addressed the question of the number of degree programs offered by the college. Overall, the Twin Cities campus offers 204 different baccalaureate degree programs, excluding those that have been

closed to new enrollment, open only to continuing students. Eighty-two of those programs have 15 or fewer majors, and 45 have 5 or fewer majors.

There is an advantage to designing undergraduate programs to provide broad educational background, rather than narrow specialization, except where absolutely necessary. The colleges should assess the necessity for the breadth and scope of degree programs now offered. The Office of the Provost, in cooperation with the colleges, will begin a regular evaluation of enrollment patterns and student demand, and of the rationale for the diverse opportunities available at the University. A preliminary review suggests that the number of programs could be reduced by 10% or more. (The Colleges of Agriculture and Home Economics have set targets for reduction of 33% and 25%, respectively.)

REDUCTION IN ENROLLMENT

Undergraduate enrollment reduction

Administration position: The administration's target is to reduce Twin Cities campus undergraduate enrollment by 7,600 students by Fall, 1992 from the Fall, 1986 enrollment. This number will be subject to adjustment based on undergraduate enrollment on the other campuses of the system, so as to preserve the overall target of reduction by 8,400. The reductions by college are not yet completely decided; those that have been decided are listed in Table 2.

Rationale: The enrollment reductions are based on the proposal advanced in *Commitment to Focus*, adopted by the Regents and accepted by the Legislature. Table 2 shows the administration expectation for the extent to which certain programs will share in the reduction. These enrollment declines are targeted, based on deliberate reductions. Enrollments for some other colleges are projected, but not targeted; this means that if student interest in those programs were to increase over the next five years beyond the levels projected, enrollment would not be limited to the levels projected; instead, the University would have to either reduce enrollment elsewhere (including those listed in Table 2) by more than had originally been planned, or miss the overall target level of enrollment. The colleges not targeted for reduction include the College of Biological Sciences, the College of Agriculture, and the College of Forestry -- because they are each important to the future of the state and of the country, because the faculty and the facilities would be utilized more efficiently with somewhat higher enrollments, and because, in the case of Agriculture and Forestry, there are no alternative programs within the state.

Table 2. Partial Undergraduate Enrollment Targets

College	1980 Actual	1986 Actual	1987 Actual	1992 Target	1986 to 1992 Difference
Education	1,763	1,995	1,683	1,090	- 905
Dental Hygiene	216	49	48	72	+ 23
Medical Technology	111	53	52	50	- 3
Occupational Therapy	77	69	76	60	- 9
Physical Therapy	61	63	59	60	- 3
Mortuary Science	77	64	50	65	+ 1
Liberal Arts	17,879	16,829	17,082	13,072	- 3,757
Management	1,534	1,536	1,384	750	- 786
Technology	5,652	5,668	5,379	5,200	- 468
Twin Cities Total	35,285	32,694	31,692	25,049	- 7,645

Professional Program Enrollment Reductions

Administration position: The administration's target is to reduce enrollment in selected post-baccalaureate professional programs as shown in Table 3.

Table 3. Post-baccalaureate Professional Program Enrollment Targets

Program	1980 Actual	1986 Actual	1987 Actual	1992 Target	1986 to 1992 Difference
Dentistry	586	403	387	296	- 107
Medical School					
M. D.	1,073	985	959	833	- 152
Residents	1,047	1,036	1,053	1,000	- 36

Rationale: Reductions in some post-baccalaureate professional programs in the health sciences were agreed to in *Commitment to Focus*. Further reductions have been agreed to as part of the present planning process, in order to provide higher resources per student in order to improve program quality. The reduction in the Medical School programs will eventually exceed those shown here. The reductions are not scheduled to start immediately; it will then take several years for the effect of reduced enrollments of incoming students to lead to stable total enrollments.

PRINCIPLES TO BE FOLLOWED IN EFFECTING REDUCTIONS

Change in academic programs is inevitably disruptive. The tradition at Minnesota has been to minimize the impact of change on individual students, faculty and staff members. To the extent that the present recommendations affect individual students and staff members, the administration is pledged to honor the tradition of protecting the individual as much as possible. Because changes are being planned over a five-year period, we will be able to give ample advance notice to affected individuals.

Students now enrolled in programs proposed for elimination will be given ample opportunity to complete their programs. Students enrolled in programs proposed for restructuring will be given the choice of degree requirements -- old or new -- under which they will graduate. Tenure contracts in programs proposed for elimination will be honored, and staff members employed in those programs who do not have tenure will be given as much advance notification as possible of positions to be eliminated, plus assistance in locating alternative employment. The University will be sensitive to implications for affirmative action of the programmatic changes it undertakes.

FUNDING NEEDS

UNIVERSITY PRIORITIES

Administration position: The priorities of the University are classified under four heads: the general health of the institution, core programs, land grant related programs, and specific opportunities for building quality. These are listed below, and summarized in Table 4.

General Health of the Institution

Computing Services: The need is for \$2.1 million, primarily for networking; this will permit communication by personal computer from the University, and from the entire region by going through the University, to central data resources and experts in universities and research centers throughout the country, via communications channels being established by the National Science Foundation (NSF NET) and the Committee on Institutional Cooperation (CIC NET). Annual cost for operation of these services will grow to \$2.2 million over a 5-year period. In addition, as part of the strengthened undergraduate advising effort, the administration has funded the development of computer programs that will provide improved information to college offices regarding student status (the degree audit program). Ongoing operating costs are estimated to be \$400 thousand per year; this cost is included with computing services. Of the \$2.6 million required for these two items, the Office of Information Systems will be able to fund an estimated \$500 thousand by internal reallocation, leaving \$2.1 million for new funding.

Instructional equipment and support: The need is for \$5 million, primarily for annual replacement and maintenance of scientific equipment in instructional laboratories, but also for audio and audio-visual equipment, and for technicians to assist in setting up laboratory demonstrations, etc. Five years ago, the annual expenditure for instructional equipment on the Twin Cities campus was under \$12 per student, the lowest in the Big Ten; the next lowest level of expenditure was over \$30 per student. Approximately \$3 million would go to the Institute of Technology, \$1 million would go to the biological sciences, and \$1 million would go to the successor colleges to the College of Liberal Arts.

International education: The need is for \$400,000. The University is committed to internationalizing undergraduate education. It seeks to develop competence among the undergraduate student body in foreign languages, an understanding of and ability to work in foreign cultures and an interdependent world, and comparative perspectives and insight within academic disciplines and the professions. It expects to graduate a cadre of undergraduates with skills that enhance their capacity to be competitive in the world community and an increasingly internationalized economy.

To attain these goals, the administration proposes the formation of an efficient and accessible study abroad program. An estimated 800 undergraduates now study abroad each year. We expect at least to double the figure in three to four years and quadruple participation in the program in ten years. Special attention will be paid to establishing opportunities in the

developing world and in world areas which are academic priorities at the University. The amount of \$400,000 is to be made available to cover the administrative costs of a reorganized program as well as for fellowships which can broaden the base of participation. Academic oversight of the program shall be provided by the Institute for International Studies; the initial organization and administration of the program will be carried out by the Office of International Education.

Libraries: The need is for \$5 million. Demands on the libraries have increased substantially in the last decade without a commensurate expansion of resources. Need analyses indicate a staff shortfall of approximately 100 and an acquisition budget which is 15% below that of peer institutions. The Libraries' emerging role, via Minitex and other interlibrary loan systems, as the central information resource for the entire state and region, new and innovative teaching and research programs, the need for automation, deterioration of the physical condition of existing collections, as well as staggering increases in the cost of acquiring materials due to a weakened dollar, all demand a substantial increase in funding for the Libraries.

Minority Programs: The need is for an annual appropriation building to \$1 million over the next five years, as follows: \$350,000 for minority faculty recruitment, retention and associated programs; \$150,000 to expand recruitment efforts for minority students; \$400,000 for increased financial aid and other student support; and \$100,000 for maintenance of a tracking system to monitor the performance of minority students and associated research to improve minority retention using that data base. The expenditures are all in response to initiatives recommended by the Special Committee on Minority Programs in Support of Commitment to Focus (the Taborn Committee).

Undergraduate advising: The need is for \$1 million, for funds that would be allocated by the Vice Provost for Arts and Sciences to reorganize and improve the undergraduate advising system. The ability to explore the wide variety of intellectual and artistic disciplines in the University, to make informed decisions about courses and programs, and to move efficiently and with distinction through the undergraduate curriculum requires a sophisticated and high-quality advising system. We recognize the need to bring student adviser/advisee ratios and services into conformity with national standards, and to adjust the organization of the advising system to improve coordination and leadership. Particular attention must be given to the advising system for lower division students; this system will include an improved communication network between the lower division student and the upper division professional schools.

Core Programs

Biological Sciences: The need is for \$2.25 million for the biological programs for the institution. \$1.5 million would be dedicated for laboratory equipment and support for the College of Biological Sciences, and \$750,000 would be made available to the Policy Council of Biological Sciences; funds used for positions from this source would be matched by sequestered positions in the College of Agriculture, the College of Biological Sciences and the Medical School for agreed-upon future program development in such areas as cell and molecular biology and biochemistry.

Engineering, mathematics and physical sciences: Within engineering, among the most pressing needs are for instructional equipment and support staff, and for the seriously understaffed electrical engineering program, each discussed separately. Apart from those urgent needs, however, the engineering programs are of high priority, with exceedingly high student demand, high national distinction and inadequate resources. Funds will go to Aerospace Engineering and Mechanics, Chemical Engineering and Materials Science, Civil and Mineral Engineering, and Mechanical Engineering. Mathematics and the physical sciences are central to research and instructional programs throughout the University; particularly urgent needs here are for permanent funds to replace temporary instructional support that has been provided year by year, and funds for research equipment matching grants, responding to the National Science Foundation's increasing insistence on a University contribution to match their own funds for laboratory equipment; funds will go to Mathematics, Physics and Astronomy, and to a lesser extent Chemistry and Earth Sciences. The total combined need is for \$2.7 million that will help ease resource constraints in order to protect present high quality and correct weaknesses across the engineering, mathematical and physical sciences.

Humanities: \$1.5 million is needed, to be provided after a dean for the new College of Humanities and Fine Arts has been appointed and the college's programmatic plans approved, primarily for the college's support budget (supplies, equipment and expenses, and teaching assistants). In addition, the administration will be prepared to provide substantial short-term funding for new faculty hires, with the funding to be phased out as resignations and retirements permit.

Lower Division Education: The need is for \$750,000, to be provided after a Vice Provost for Arts, Sciences and Engineering has been appointed and plans for use of the money have been approved. Many aspects of lower division education at the University are now unsat-

isfactory due to crowding and inadequate resources. These funds would be directed to those aspects of the program where, in the judgment of the Vice Provost, they would have the largest impact to improve the lower division education experience.

Social Sciences: The request is for \$1.5 million, to be provided after a dean for the new College of Social and Behavioral Sciences has been appointed and programmatic plans approved, primarily for the college's support budget (supplies, equipment and expenses, and teaching assistants), although part of the funding might be awarded to other colleges, particularly for an intercollegiate program in the cognitive sciences. The need for further support in the social sciences is particularly urgent because this group of departments includes areas of the University's greatest academic strengths, and retrenchments of the College of Liberal Arts over the past several years have threatened the continued existence of that center of excellence.

Land Grant-Related Programs

Agricultural Experiment Station Multidisciplinary Research: The need is for \$1.5 million. The Minnesota Agricultural Experiment Station (AES) has built and sustained strong disciplinary science in the traditional disciplines and departments. Some of the departments and programs, and the AES as a whole, are ranked among the top 5 or 10 in the country. However, many of today's problems in agriculture, forestry and related natural resource economies and in rural families and communities can be addressed only by a team of faculty from several disciplines, each contributing their unique expertise towards the solution of the problem. In accelerating such multidisciplinary efforts, the AES also needs to tap additional scientific expertise in units outside of the Institute of Agriculture, Forestry and Home Economics. Additional state resources are needed to fund research in some non-traditional units and to facilitate faculty interaction and collaboration across disciplinary lines on addressing major issues and problems of society. Centers will be used as a mechanism to allocate new internal funding, attract additional external resources and improve the University's responsiveness to the public by increasing the interconnectedness of AES-funded research.

Center for Biomedical Engineering: The need is for \$500,000 to provide core support for a new interdisciplinary program involving the Medical School and the Institute of Technology. Start-up funding for the center and an endowed chair for the director or a senior faculty member have been obtained from private sources. The center would eventually be housed in the proposed Basic Sciences/Biomedical Engineering building. This program is

of particular importance to the state because of the large concentration of medically-related industry in the Twin Cities.

Center for Biomedical Ethics: The need is for \$300,000 to provide core support for the center which is currently funded by a grant from the Northwest Area Foundation. The center, of the first of its kind in the nation, will develop teaching, research and service programs to assist society in resolving the numerous ethical dilemmas created by new technology in health care.

Computer Science and Electrical Engineering: The need is for \$1 million, to include new faculty positions and substantial increases in expenditures for teaching assistants, technical assistance, supplies, equipment and expenses for the Computer Science and Electrical Engineering departments. The fields are important to the economy of the state; the departments has very strong student demand, and inadequate resources: the ratio of undergraduate and graduate majors to faculty is approximately 50:1 in Computer Science, and 36:1 in Electrical Engineering. This increase in resources, coupled with a slight planned reduction in the number of undergraduate majors, will permit a significant improvement in the quality of the education offered, which will better serve the needs of industry than do the present programs.

Office of Research and Technology Transfer Administration: The need is for \$350,000 to provide greater administrative support to the acquiring and implementation of sponsored research, to obtain a clearer profile of trends in sponsored research at the University, and to staff the Executive Research Policy Council.

Outreach: The need is for \$2 million. As a land grant university, the University of Minnesota has a responsibility to help the people of Minnesota live and make a living through research and education. Traditional program emphases and resource constraints have limited the Minnesota Extension Service (MES) from fulfilling a broader role as the major outreach arm of the University. The University will support a broadened mission and capability of the MES as it seeks through nonformal education to enable people to foster full development of youth, adults, families and communities; to improve our economy; and to provide effective natural resource management. Greater flexibility will be achieved with current funding, to secure the involvement of more faculty and staff outside of the traditional departments and colleges in MES programs. New resources will be sought to enhance this broader role and expand the University's outreach with MES educational programs.

With regard to formal education at the undergraduate and graduate levels, accessibility to the University's programs is sometimes limited because potential students cannot attend classes in the Twin Cities; many are older students who must remain employed while furthering their education. In curricula unique to the University, such as agriculture, and where demand warrants, additional course offerings will be scheduled at off-campus locations to allow students to progress towards degrees without relocation.

Pharmacy: The need is for \$750,000. See programmatic discussion (p. 42) for the rationale.

Public Health: The need is for \$1,250,000. See programmatic discussion (p. 49) for the rationale.

Veterinary Diagnostic Laboratories: The need is for \$300,000 to provide additional core support. The laboratory delivers essential animal health services to the state's livestock and poultry industries and serves as the official laboratory of the Minnesota Board of Animal Health. Although its primary function is service, the laboratory makes a major contribution to the teaching and research program of the College of Veterinary Medicine. The laboratory is currently underfunded and a request for additional support is part of the University's 1988 state legislative request.

Specific Opportunities for Building Quality

Architecture and Landscape Architecture: The need is for an additional \$250,000 which, together with new chairs provided through the Minnesota Campaign, will support the development of a school of national excellence under the leadership of the current director.

Humphrey Institute: The request is for \$350,000, primarily for the development of interdisciplinary programs linked to colleges throughout the University where research and instruction relevant to important issues of public policy arise; examples include policy with regard to agriculture, health, and the uses and consequences of new technologies in industry.

Institute for Mathematics:and Its Applications: The need is for approximately \$400,000 to maintain current efforts that help develop the linkages between mathematics and the fields in which it can lead to new understanding, from ecological systems to economics and from molecular biology to astrophysics.

Management of Information Systems: \$300,000 is needed for the program in management of information systems, to replace temporary funding that will help maintain Minnesota's program at the forefront of this field nationally; the underlying program in Management Information Systems is not only of central importance to the Carlson School of Management, but it is one of the anchors of the computer and information science thrust at the University.

New Interdisciplinary Programs: The need is for \$350,000, to be used under the direction of the Research Executive Council, to support entrepreneurial initiatives for new program development. *Plan for Focus* pointed out that the University of Minnesota has not been at the forefront in development of new areas of research, and that we have no ready mechanism for starting new initiatives and stopping old ones which have been less than completely successful. (The most recent example of a new interdisciplinary program that appears to be succeeding, with the help of the initiatives of several deans, has been the neuroscience program; biomedical engineering offers another successful example.) This fund, administered through the Graduate School, would be used to offer start-up help to new programs, with funding from this source for up to five years; after that, the initiatives would have to obtain regular funding from other sources, or be terminated.

Theoretical Physics Institute: The need is for \$400,000, to be combined with internally re-allocated funds that will provide total University funds of \$650,000 to match external private funds for a new initiative in an area in which Minnesota has an opportunity to build a center of national excellence, and at the same time add to the scientific infrastructure of the University.

Research Centers: The need is for \$2 million, to provide required matching funds for new research centers. By mid-January, 1988, 16 proposals for center funding were pending before Federal agencies, 7 were under preparation for submission in the near future, and several others were being developed. Clearly, the University submits many more applications for such centers than it receives funding for, so the exact initiatives to be pursued are not known with certainty. Those identified are of high priority to the University, with a reasonably high probability of success for external support. They include:

- The Interfacial Engineering Center; Federal funds have been requested to focus on processes to manufacture products where properties are dominated by interfacial behavior. Typical applications are the fabrication of microchips, composite materials, coatings for optical and magnetic recording.

- The Center for the Development of Technological Leadership; a center established with help of a gift from Honeywell, Inc. which brings together the Institute of Technology, the College of Liberal Arts, and the Carlson School of Management to offer an interdisciplinary approach to technical leadership.
- Geographical Information Center; the University is one of approximately three institutions competing to be the site for a national center for geographical information and analysis.
- Center of Excellence in Visual Image Understanding; federal funding will be requested for a center of excellence for the study of visual image understanding that would incorporate psycho-physical, perceptual, computational, cognitive, and developmental approaches. The focus would be on the development of a comprehensive model and data base on how humans process degraded images.
- Minnesota Center for Research in Developmental Disabilities; federal funding has been requested to do research on the prevention and treatment of neurological disabilities throughout the lifespan.
- Center for Population Analysis and Policy; funding will be requested to support multidisciplinary research that applies mathematics to analyze the structure and dynamics of populations (of humans, animals, machines, etc.) to gain insights for policy.
- Center for Bayesian analysis; federal funding will be requested to develop methods that will help scientists, technologists and others to improve the quality of the conclusions that they draw from evidence.

TABLE 4. PRIORITIES FOR FUNDING	
	New Public
	Funds
	Thousands of \$s
GENERAL HEALTH OF THE INSTITUTION	
Computing services	\$2,100
Instructional equipment and support	5,000
International education	400
Library	5,000
Minority programs	1,000
Undergraduate advising	1,000
Subtotal	\$14,500
CORE PROGRAMS	
Biological Sciences	\$2,250
Engineering, Mathematics and Physical Sciences	2,700
Humanities	1,500
Lower division education	750
Social Sciences	1,500
Subtotal	\$8,700
LAND GRANT-RELATED PROGRAMS	
Agricultural Experiment Station Multidisciplinary Research	\$1,500
Biomedical engineering	500
Biomedical ethics	300
Computer Science and Electrical Engineering	1,000
Outreach	2,000
Office of Research and Technology Transfer Administration	350
Pharmacy	750
Public Health	1,250
Veterinary Diagnostic Laboratory	300
Subtotal	\$7,950
SPECIFIC OPPORTUNITIES FOR BUILDING QUALITY	
Architecture & Landscape Arch.	\$250
Humphrey Institute	350
Institute for Mathematics and its Applications	400
Management Information Systems	300
New interdisciplinary programs	350
Theoretical Physics Institute	400
Other research centers	2,000
Subtotal	\$4,050
TOTAL	\$35,200

SUMMARY OF FUNDING RECOMMENDATIONS BY ACADEMIC UNIT

Administration position: A report of internal reallocations and new funding needs is provided by college, summarized in Table 5. The summary by college includes only the new funding needs identified above in the discussion of University priorities; however, not all can be allocated to colleges, because some funds are for intercollegiate programs.

Institute of Agriculture, Forestry and Home Economics

Agricultural Experiment Station: Fund reallocations are treated within the plans of the colleges that contribute to the Agricultural Experiment Station program. The recommendation for new funds is for multidisciplinary research; see above under Land Grant Related Programs. Funds will be requested through a Legislative Special appropriation.

College of Agriculture: The college plan identifies \$650,000 to be reallocated from lower priority programs of the college, and proposes new uses within the college. Table 5 shows that all of the funds will be reallocated to the college, but that is misleading. If enrollment continues as forecast, all or most of the \$700,000 to be reallocated from instructional programs of the Institute will come from the College of Agriculture. See discussion below.

College of Forestry: The college plan identifies \$125,000 to be reallocated from lower priority programs of the college, and proposes new uses within the college. If enrollment continues as forecast, this will be carried out. See discussion below.

College of Home Economics: The original college plan identifies \$350,000 to be reallocated from lower priority programs of the college, and proposes new uses within the college. If enrollment continues as forecast, this will be carried out, although the plan for internal reallocation could change as a result of the review now being undertaken by the new dean. See discussion below.

Instructional Programs: Recent enrollment declines in the College of Agriculture mean that the college's instructional program is overfunded for its present needs, by \$700,000. Unless the enrollment declines are reversed, those resources will be reallocated to the Office of the Provost, to be transferred to higher priority uses. However, the same faculty members who carry out the instructional mission of the college also carry out its research mission, and in order not to disrupt that program, to the extent possible the transfer of resources will be accomplished by transfer of effort. Depending on relative enrollment in the

colleges of the Institute, part of the reduction in instructional funding might instead come from other Institute programs.

Minnesota Extension Service: The Extension Service has just completed a reorganization, before the present planning effort started, together with major internal reallocation of resources. That reallocation is not recorded here. The recommendation for new funds is to expand outreach; see above under Land Grant Related Programs. Funds will be requested through a Legislative Special appropriation.

Arts, Sciences and Engineering

School of Architecture and Landscape Architecture: The recommendation for new funds is described above under Specific Opportunities for Building Quality.

College of Biological Sciences: The original college plan identifies \$600,000 to be reallocated from lower priority programs of the college, and proposes new uses within the college. The plan for internal reallocation will probably change as a result of the review now being undertaken by the new dean, but reallocation should equal or exceed this sum. \$1.5 million of new public funds are part of the allocation for the Biological Sciences, described above under core programs. In addition to this sum, the college will participate in the use of funds to be allocated by the Policy Council of Biological Sciences, described in the same section, and in the Instructional Equipment fund, described under General Health of the Institution.

College of Liberal Arts: The original college plan identifies approximately \$1 million to be reallocated from lower to higher priority programs within the college. At the request of central administration, the college has subsequently identified \$2 million of internal reallocation, based on a projected undergraduate enrollment decrease of 3,750 over the next five years, with marginal costs savings of approximately \$1 million anticipated from fewer teaching assistants and lower instructional cost needs. Also anticipated is the reallocation of over 20 faculty positions from areas of low priority to those of high priority, based on assessments of all departments, an effort which was one of the most comprehensive in the University in response to central administration's request for assessment. The internal reallocation is understood to be a prerequisite to provision of new funds to the proposed two new colleges; the \$1.5 million of new public funds to each of the proposed new colleges is described above under core programs.

Institute of Technology: The original college plan argues that its programs are underfunded to the extent that internal reallocation is not appropriate. Central administration has since asked the college to identify \$0.5 million of internal reallocation, as a prerequisite to provision of new funds to the college; the \$4.5 million of new public funds includes \$1 million for computer science and electrical engineering, described under land grant related programs, and \$3.5 million for other engineering, mathematics and physical sciences, identified above under core programs, but also including the Institute for Mathematics and Its Applications and the Theoretical Physics Institute, described under Specific Opportunities for Building Quality). In addition to this sum, the college will participate in the use of funds for instructional equipment.

General College: \$500,000 of funds reallocated and not retained by the college represent primarily a transfer of effort, as faculty in the college either move to other colleges or begin to participate in teaching in other colleges.¹

Arts, Sciences and Engineering Central Office: Funds included here include \$1 million for undergraduate advising and \$750 thousand for lower division education, described above in the discussion of priorities. Funds for the new Vice Provost and staff are to be covered through internal reallocation within the Office of Academic Affairs.

Health Sciences

Dentistry: The School of Dentistry is asked to substitute research funding for operations and maintenance support to the level of \$500 thousand per year; this represents approximately one month per year for each faculty member.

Medical School: The Medical School will participate in the use of funds to be allocated by the Policy Council of Biological Sciences, described above.

Nursing The School of Nursing is asked to substitute research funding for operations and maintenance support to the level of \$200 thousand per year; this represents approximately one month per year for each faculty member.

Pharmacy: The recommendation for new funds is described above under the programmatic discussion (p. 42).

¹See the discussion starting on p. 37.

Public Health: The recommendation for new funds is described above under the programmatic discussion (p. 49).

Veterinary Medicine: The recommendation for new funds for the Veterinary Diagnostic Laboratory is described above under Land Grant Related Programs.

Other: Programs include Biomedical Engineering, joint with the Institute of Technology, and Biomedical Ethics, joint with the College of Liberal Arts. The recommendations for new funds are described above under Land Grant Related Programs.

Other Professional Schools

Carlson School of Management: The original college plan argues that its programs are so interconnected that internal reallocation is not appropriate. Central administration has since asked the college to identify \$0.5 million of internal reallocation. The recommendation for new funds is described above under Specific Opportunities for Building Quality.

College of Education: See the programmatic discussion¹ for an explanation of the re-trenchment which may come in part through transfer of instructional effort. Short-term funding will be provided for three years to support the college's research priorities.

Humphrey Institute: The original college plan argues that its programs are underfunded to the extent that internal reallocation is not appropriate. Central administration has since asked the college to identify \$40 thousand of internal reallocation, 5% of the state-funded (operations and maintenance) budget. The recommendation for new funds is described above under Specific Opportunities for Building Quality.

Law School: The original college plan argues that its programs are so interconnected that internal reallocation is not appropriate. Central administration has since asked the college to identify \$0.3 million of internal reallocation, 5% of the state-funded (operations and maintenance) budget.

Rationale: The rationale for these funding decisions is provided in the above discussion. As background regarding the internal reallocation, *Strategy for Focus* asked that each college identify 10% of its budget for internal reallocation over a five-year period. Most

¹p. 55.

complied, some explained persuasively why it would not be wise to do so, and the rest have been asked, again, to evaluate their programs so as to identify low priorities from which funds should be transferred. The *Strategy for Focus* instructions also explained that if a college were to lose funds as a result of this planning process, those programs identified as being of low priority would be the source of retrenchment: Retrenchments are to be programmatic, not across-the-board. Central academic administration is to be subjected to the same discipline.¹

¹Service units also submitted plans, but the Advisory Task Force on Planning was not able to complete its review and recommendations for those units; plans for those units have been referred to the Twin Cities Campus Assembly for review and recommendation later in the 1987 - 88 academic year.

TABLE 5. FUNDING ALLOCATIONS					
RECURRING ANNUAL FUNDS (Thousands of Dollars)					
UNIT	Funds Real-	Reallocated	New Univ.	MN	Net=[2]+[3]
	located	funds retained	funds	Campaign	+ [4] - [1]
	[1]	[2]	[3]	[4]	[5]
IAFHE				110	110
Ag. Exper. Station			1,500		1,500
Agriculture	650	650		170	170
Forestry	125	125		35	35
Home Economics	350	350		55	55
Instructional programs	700				-700
MN Extension			2,000		2,000
ARTS, SCIENCES AND ENGINEERING					
Arch., Landscape			250	250	500
Biological Sciences	600	600	1,500	110	1,610
Liberal Arts	2,000	2,000		720	720
Humanities & Arts			1,500		1,500
Social, Behav. Sci.			1,500		1,500
Technology	500	500	4,500	1,155	5,655
General College	1,600	1,100			-500
University College	15	15			0
AS&E Central Office			1,750		1,750
HEALTH SCIENCES					
Dentistry	600	100		75	-425
Medical School	1,000	1,000		1,075	1,075
Nursing	240	40		10	-190
Pharmacy	600	600	750	55	805
Public Health	1,300	1,300	1,250		1,250
Veterinary Medicine	1,000	1,000	300	70	370
Other			800		800
OTHER PROFESSIONAL SCHOOLS					
Education	1,600	1,100		5	-495
HHH Institute	40	40	350	175	525
Law	300	300		560	560
Management	500	500	300	930	1,230
SUM FOR COLLEGES	13,720	11,320	18,250	5,715	21,565
OTHER					
Academic Affairs	280	280			0
Bio Sciences Deans			750		750
Computer Services	500	500	2,100		2,100
Concerts & Lectures	30				-30
EDP	280				-280
Graduate School				770	770
Instruct Equip, Supp.			5,000		5,000
International Ed.			400		400
KUOM	380				-380
MacPhail	550				-550
Minority Programs			1,000	55	1,055
Ofc of Student Dev.	500				-500
Research			2,700		2,700
U Art Museum				5	5
U Libraries			5,000		5,000
SUM FOR OTHER	2,520	780	16,950	830	16,040
TOTAL	16,240	12,100	35,200	6,545	37,605

APPENDIX

PROPOSED ORGANIZATION OF UNDERGRADUATE EDUCATION

The following material consists of Sections 1 (Entry and Exploration), 2 (Curriculum) and 3 (Advising) from *The organization of undergraduate education: Twin Cities Campus, University of Minnesota*.¹ Section 4 (Administrative Organization) is not included here, because the administration does not agree with the recommendations of that section (calling for the appointment of a vice provost for undergraduate education, to whom no deans would report); the full report is available from the Office of Academic Affairs.

The proposals are included as an appendix to the administration's recommendations to provide a more complete description of the objectives and responsibilities of the Vice Provost and faculty of arts, sciences and engineering with respect to undergraduate education.

1. Entry and Exploration

The University's policies for entry have two goals: to show prospective students how they must prepare to enter fields that interest them and to give new students a sense of the opportunities and limits of intellectual exploration. We wanted to devise policies that provide the entering student a simple admission procedure and freedom to explore various curricular and career possibilities.

Under our current system, seven colleges admit freshmen to the Twin Cities campus. We propose that all students apply for entry not to a college but to the University. Students will normally be admitted if they have a PAR of 150 or above and have taken the prerequisite courses. They will be considered for admission if they have a PAR of 120 or above and have taken the prerequisites. Beginning in 1991 the prerequisite courses will be:

Four years of English with emphasis on writing, including instruction in reading and speaking skills and in literary understanding and appreciation;

Two years of social studies, including American history;

Three years of mathematics, including geometry and intermediate algebra;

¹Final Report of the Academy Planning Committee, University of Minnesota, December, 1987, John Wallace, Chair

Three years of science, including one biological and one physical science;

Two years of a single second language;

The applications of students who do not meet the requirements will automatically receive special review. The applications of underprepared and disadvantaged students will continue to be reviewed individually, with admission decisions based on an assessment of applicants' potential for successfully completing college work at the baccalaureate level.

At the time of application, students who qualify may also apply to be admitted to designated curricular paths within one of the colleges with a lower division. If admitted to the path, a student would then be enrolled as a student in that college.

Curricular paths serve two purposes. They help provide students with a sense of community, and they recognize the diversity of curricular interests while still assuring a broad liberal education. Examples of curricular paths are fine arts, foreign languages, physical sciences and engineering, and life sciences. Special paths will also be provided for students who have not completed the preparation requirements.

Curricular paths may in some cases serve a third purpose: enrollment control. For example, the engineering and physical sciences path can be used for enrollment management in the Institute of Technology. Students who complete this path would be given preferential admission to majors in the Institute of Technology. We believe that this preferential policy would encourage students to explore offerings elsewhere in the University, since they would be less concerned about admission to the Institute of Technology. Students in other paths might have to demonstrate higher performance for junior year admission to majors in the Institute of Technology.

Students need not, however, apply for a curricular path. Students who wish to explore the wide variety of intellectual and artistic disciplines in the University would enroll in Regents' College. No faculty would reside in Regents' College and no courses would carry that designation. Rather, students would take courses offered by the other colleges on the Twin Cities campus and taught by the comprehensive Faculty of Arts and Sciences (described in the curriculum section below). It is essential that new funds for advising be allocated to this college so that it will be extraordinarily attractive to students as an advising resource.

2. Curriculum

The vitality of a research university derives from the dynamism of creating new knowledge, of challenging it, and of sharing it with our students. In recent years, knowledge has expanded rapidly, overlapping disciplines while establishing others. Incorporating this vitality into basic arts and science education for undergraduates is the particular challenge of baccalaureate education at our University and one to which we need to turn our attention.

Although a single entry point, a uniform admissions policy, and curricular paths will go some distance in addressing significant problems for current and prospective students, those changes can be interpreted at worst as cosmetic and at best as minor. We believe that far more fundamental change is needed in undergraduate education at the University and we call for a campuswide reexamination of baccalaureate programs and requirements.

In thinking about the curriculum we have had in mind responding to fundamental changes in knowledge, increasing the participation of professional school faculty in teaching undergraduate courses, and increasing the coherence of students' programs.

Policies that define baccalaureate degrees, including liberal education requirements, create the framework for curricula. In considering a reorganization to improve undergraduate education, there are several basic policy questions: where does liberal education fit in the University and who sets the liberal education requirements? Who sets the requirements for the Bachelor of Arts degree? For the Bachelor of Science degree? There are also questions of implementation. Assuming that we want to undertake a fundamental review and reshaping of liberal education, who does it? In this section we make proposals and identify alternatives for addressing these questions.

Liberal Education: At present there are as many liberal education policies as there are colleges, for though every college uses the same group distribution categories, they require different numbers of credits in the categories and, most importantly, recognize different courses as meeting requirements. There should be one Twin Cities policy for liberal education which sets a minimum standard for the liberal education component for all bachelors degrees. In principle, this policy should be the responsibility of all faculty who participate in undergraduate education, a group we call the Faculty of Arts and Sciences. This group will include faculty from the professional schools; it will be the functional arts and sciences faculty, broader than the group traditionally called by that name. This group should also be responsible for admission policies for freshmen to the Twin Cities campus. In reaching this recommendation, we considered the alternative that the policy group should be the fac-

ulties of a subset of colleges: the College of Liberal Arts (or its successor colleges), the Institute of Technology (or its successor colleges), the College of Biological Sciences, and the General College. We rejected this alternative, because a main goal of reorganization is to involve faculty of all colleges in providing liberal education. The best and fairest way to achieve this goal is to include all participating faculty in the policy group.

A committee appointed by the Provost for up to a two-year term should undertake a review and reshaping of liberal education. The committee should recommend to the Provost and to the Senate Committee on Educational Policy the reshaping of the curriculum and the proper organization and operation of the curriculum policy group we call the Faculty of Arts and Sciences. In this review, the group distribution categories in the present policy should not be regarded as sacred, but up for change, possibly radical change that reflects the changing structure of knowledge. We rejected the alternative that the Assembly Committee on Undergraduate Education should be asked to undertake this task because that committee is too small to include the needed range of representation and because Assembly Committees do not have the continuity over two years that is needed in this case.

Bachelors Degrees: Standards for the Bachelor of Arts degree presently are set in two places: the College of Liberal Arts (which for purposes of this policy includes some departments in the Institute of Technology and the College of Biological Sciences) and University College. Unless the College of Liberal Arts divides into two or more colleges, this arrangement should continue. If the College of Liberal Arts divides, an appropriate sub-faculty of the Faculty of Arts and Sciences should take responsibility for the successor of the present College of Liberal Arts Bachelor of Arts degree. Standards for Bachelor of Science degrees presently are set by the faculties of the various colleges which offer the degrees; this arrangement should continue.

As a first stage in reforming the curriculum, we propose a three-year period (1988-91) of experimentation in which faculty prepare, develop, and teach courses that constitute major changes in course content or delivery. We recommended above that the Provost appoint a committee to review and reshape liberal education. We think this committee is important. But we do not want to wait to begin experimentation until a committee with a two-year charge reports and has its recommendations debated by the faculty. We believe that the faculty are ready now to strengthen undergraduate education, and require only support to do so. One area in which we encourage immediate experimentation is "mini-core" curricula.

Mini-core curricula: Students will benefit from packages of courses that (i) involve students actively in the shaping of knowledge, (ii) are integrated by a theme that challenges the student to make connections, (iii) develop skills, and (iv) support academic and career exploration. We call such packages of courses mini-core curricula. Mini-cores will address the widely recognized problems that many students lack a sense of intellectual community and that under our present curriculum, many students' programs lack coherence, especially in the first two years. Mini-core curricula will foster communities ancillary to those in the admissions tracks. For example, there might be a mini-core liberal education curriculum which treated the impact of science and technology on nutrition and health, explored the history of institutions and professions related to health and agriculture, and dealt with ethical issues in these areas.

The University should aggressively pursue the development of mini-core curricula.

We also recommend the expansion of honors curricula in the lower division and in all colleges. Our picture of honors curricula is not of more content poured into quicker students, but deeper exploration of the making of knowledge and the application of knowledge to problems by students whose preparation and motivation ready them for greater challenge. Such education provides the ideal fit between the University's undergraduate, research, and land grant missions. Development of honors curricula leads to ideas and approaches that can be applied more widely in regular curricula.

There is wide agreement that reform of liberal education, development of mini-core curricula, and expansion of honors programs are urgently needed, but there has been little discussion of how to bring about real curricular change. We make the following recommendations:

Faculty will need summer and academic year released time to design new curricula. All funds in the current Educational Development Grants Program and Small Grants Program should be redirected to this purpose. Dedicating the Bush Sabbatical Program to this purpose for several years should also be considered. Outside support should be sought as part of the Minnesota Campaign.

For a mini-core curricula and improvements in liberal education to happen on a significant scale, departments will have to redirect teaching resources to new courses that become part of the departments' regular programs. Working singly and in consort, departments should create packages and sequences of courses

which achieve multiple educational goals. A fundamental policy issue is the allocation of teaching resources between the lower and upper divisions. The University must be sensitive to the educational argument that personalized instruction and active learning strategies invested in beginning students can equip them to learn effectively on their own and in large groups later on. Every department should periodically review and provide careful rationale for its distribution of effort among 1000, 3000, 5000, and 8000 level courses. Attention should be given also to the reward system. The University should recognize that faculty in different stages of their careers may want to devote more or less of their effort to undergraduate education. Departments should periodically review and provide careful rationale for its evaluation of faculty contributions to undergraduate education and its balance of rewards for these contributions and research.

The Provost should institute a comprehensive and ongoing system of planning to improve curricula. The Provost should work with deans, and deans with department chairs and heads, in an annual planning cycle beginning with agreement on goals and on resources to be committed to reaching the goals and ending with an evaluation of progress. High performance departments should be rewarded with resources. This planning should probably be on a three year rolling cycle.

We considered recommending that a significant budget be placed in the control of an officer in the Provost's Office with responsibility for lower division curriculum. This officer would negotiate with departments for contributions to the curriculum; high performing departments would be rewarded with increased resources. We believe that this approach could improve curricula, at least in the short run, but at the cost of creating uncertainty for departments that might damage their quality in the longer run. The approach might also create a group of faculty who teach only in the lower division. We conclude that continuous planning and review should be given a chance to work before the University tries fiscal strong-arm methods to improve curricula in the lower division.

3. Advising

Preceding sections have provided a vision of undergraduate education on the Twin Cities campus, a model of student flow into and through the lower division, and exciting recommendations for curricular innovation. Academic advising is the means by which these improvements to undergraduate education are delivered to University students. If funda-

mental problems in the advising system are not addressed, all of the above improvements will be at risk.

The committee has identified three major themes that need to be addressed: (1) reducing the advisee/adviser ratio; (2) changing administrative organization to improve coordination and leadership; and (3) moving to proactive advising for lower division students.

High-quality academic advising is essential for a diverse student population to make informed decisions about their education, especially in the rich context of the Twin Cities campus. To improve advising, the University must address policy resource, leadership, and organizational issues. Advising is an area that cries out for campus-wide leadership and coordination.

A key policy issue is who is responsible for advising lower division students. Advising systems need to be articulated that respond to student and collegiate needs and incorporate all of our resources--i.e., faculty, professional advisers, graduate teaching assistant advisers, and peer advisers.

Present resources for advising create an advisee/adviser ratio of about 460 to 1 in the College of Liberal Arts. This ratio should be seen in comparison with the following national standards recommended by the National Association of Academic Advisers:

- fragile, high-risk, special populations--1 adviser to 100 students.
- exploring options, uncommitted, undecided--1 adviser to 200 entering students.
- committed, declared majors--1 adviser to 300 students.

This shortfall in advising resources is so severe as to rise to the level of policy. Funds should be provided to make good advising possible, with advisee/adviser ratio goals being the starting point.

We recommend the creation of a University Advising Office, administered by a Director of Advising for the Twin Cities campus, which will be charged to provide leadership for advising on the campus for such issues as the following: roles and responsibilities of advisers, advising loads, advisee/adviser ratio, annual goals, a Twin Cities campus advising philosophy and mission statement, evaluation scheme for advising officers and advisers, coordinating existing advising resources, providing training and professional development

for advisers, being responsible for disseminating information critical to the advising process.

We recommend, as a model for improved advising, the concept of "advising clusters" that cut across collegiate lines. In this model each freshman will be assigned to a professional adviser who coordinates teams, teaching assistants, and peer advisers. The student will benefit from the special skills and perspectives of the various members of the cluster; the members of the cluster will benefit from being able to concentrate on contributing their particular strengths to a cooperative advising effort. Advising clusters are also a way of creating a community for students who are getting started at the University, for the office of a student's professional adviser will be a home base for both the student and the advising cluster.

We further recommend the immediate development of a computerized system for degree clearance, academic advising, and tracking. This is the first step toward providing students with the accurate and personalized information needed to take advantage of the rich resources this University has available for undergraduate education. It will free student and adviser time for more meaningful dialogue. The implementation of a common entry port and the academy structure supportive of academic exploration make the computer-assisted advising program critical to the necessary educational planning. To be most effective, this system should include courses taken through Continuing Education and Extension. Therefore, the conversion of Continuing Education and Extension records onto the University of Minnesota data base should proceed.

As a rule, where possible, the new advising structure should use the expertise of current advising staff and the current advising strategies and schemes that have proven effective.