

Shaping Our Future: A Young University Faces a New Century

The Mission and Distinctiveness of Duke

Duke University is today one of the leading private research universities in the nation. It has operated continuously since its origin in 1838, when Methodist and Quaker communities in Randolph County formed Union Institute to provide permanent schooling for their children. Chartered by the state in 1851 as Normal College, it was granted authority to award degrees in 1853. Its mission was expanded to educate ministers and its name was changed to Trinity College in 1859. Trinity College was relocated to Durham in 1892 to give the college a more urban setting. Throughout this early period of frequent changes, the college benefited from the exceptional leadership of its faculty, administrators, trustees and friends. The most significant development occurred in 1924 when President William Preston Few persuaded James B. Duke to crown his family's interest in Trinity College by providing the vision and means to transform the college into a university as a permanent memorial to his father, Washington Duke.

In making possible the transformation of Trinity College into Duke University, James Buchanan Duke spoke of the University in the 1924 Indenture establishing The Duke Endowment:

"I have selected Duke University as one of the principal objects of this trust because I recognize that education, when conducted along sane and practical, as opposed to dogmatic and theoretical lines, is, next to religion, the greatest civilizing influence. I request that this institution secure for its officers, trustees and faculty men of such outstanding character, ability and vision as will insure its attaining and maintaining a place of real leadership in the educational world, and that great care and discrimination be exercised in admitting as students only those whose previous record shows a character, determination and application evincing a wholesome and real ambition for life. And I advise that the courses at this institution be arranged, first, with special reference to the training of preachers, teachers, lawyers and physicians, because these are most in the public eye, and by precept and example can do most to uplift mankind, and second, to instruction in chemistry, economics and history, especially the lives of the great of the earth, because I believe that such subjects will most help to develop our resources, increase our wisdom and promote human happiness."

In seeking to fulfill the promise of that Indenture, the University's faculty and administrators have been guided by the sentiments expressed by the Board of Trustees of Trinity College at the time of Mr. Duke's momentous gift: "This University in all its departments will be concerned about excellence rather than size; it will aim at quality rather than numbers -- quality of those who teach and quality of those who learn"

While the daily activities of a multifaceted research university and teaching hospital are complex, all of these activities and the talented people who conduct them are in fact united in the service of a very simple mission that remains true to the original Indenture.

The Mission of Duke University

The founding Indenture of Duke University directed the members of the University to "develop our resources, increase our wisdom, and promote human happiness."

To these ends, the mission of Duke University is to provide a superior liberal education to undergraduate students, attending not only to their intellectual growth but also to their development as adults committed to high ethical standards and full participation as leaders in their communities; to prepare future members of the learned professions for lives of skilled and ethical service by providing excellent graduate and professional education; to advance the frontiers of knowledge and contribute boldly to the international community of scholarship; to foster health and well-being through medical research and patient care; and to promote a sincere spirit of tolerance, a sense of the obligations and rewards of citizenship, and a commitment to learning, freedom and truth.

By pursuing these objectives with vision and integrity, Duke University seeks to engage the mind, elevate the spirit, and stimulate the best effort of all who are associated with the University; to contribute in diverse ways to the local community, the state, the nation and the world; and to attain and maintain a place of real leadership in all that we do.

These words have meaning only insofar as they commit us to accept James Buchanan Duke's challenge to the University to provide real leadership in the educational world. This is the ambition of Duke University and the legacy upon which we build.

The pursuit of excellence in teaching, research and service is the foundation of the modern American university, an institution that continues to provide a worldwide model. What sets Duke apart in pursuing these fundamental objectives? The interplay of history, design and circumstance makes Duke unique in several ways:

- Duke was founded on a close collaboration of the liberal arts education for undergraduates and training for careers in the learned professions. This is a vital and distinctive legacy at Duke today, where the major schools and programs of the University all operate in close physical proximity to one another and where joint degree programs and interdisciplinary research flourish.
- Duke has maintained its commitment to excellence in undergraduate education even as its faculty has grown in national and international prominence for scholarship and research. Duke's graduate faculty in Arts and Sciences and Engineering are active undergraduate teachers.

- Duke maintains and values its long association with the United Methodist church. This historic and living tie is a daily presence in the centrality of the Chapel and the devoted work of our Divinity School in training men and women for the ministry. Out of this association has come the ethos of a value-committed institution, educating undergraduate, graduate and professional students to the challenges of a life lived as a whole person in a dynamic society. This commitment has nourished an approach to education that supports the personal search for values and that tests those values within a community that encourages contemplation and effective action and respects privacy, autonomy and diversity. At the same time, the University itself continues to define systems of values and paths of action consistent with ethical leadership and active citizenship.
- Duke has long been committed to the education of women. Women first graduated from Duke in the Trinity Class of 1878, when degrees were awarded to the Giles sisters. When the College relocated to Durham in 1892, women were admitted as day students, thus beginning an unbroken history of educating women. Washington Duke provided a gift to the College in 1896 with the proviso that women be placed "on an equal footing with men," and women soon joined the residential community of the College. The University has sustained this early commitment and now strives to offer women a full range of opportunities, not only as students but also as faculty members, administrators and members of the staff which supports the work of the University and Medical Center.
- Duke is a youthful institution in a rapidly maturing Southeastern region. Because Duke is the youngest of the major private research universities, it is still inventing itself. Its relative youth and current size foster community and a bold spirit of entrepreneurship. As a partner of the other major Research Triangle universities -- the University of North Carolina at Chapel Hill, North Carolina State University, and North Carolina Central University -- Duke is engaged not only in mutually beneficial resource sharing but also in furthering the economic and social development of the entire region.
- Duke has developed a distinctive ambiance that neither imitates nor concedes pride of place to the dozen or so other most distinguished private research universities. Duke is small town but cosmopolitan; identifiably Southern but also increasingly international. The campus is built upon, and for, a residential experience for undergraduates that embraces intellectual challenges, meaningful participation in university affairs, abundant opportunities for involvement in the wider community and a broad spectrum of social, cultural and recreational activities.
- Duke is tightly focused. With but a single exception--the School of the Environment--the schools of the University today are precisely those anticipated by James B. Duke at the founding of the University. Because of its youthfulness, size and regional base, Duke has not accumulated an endowment to sustain its programs on the level of the other leading private research universities. The University has always had to manage its resources with extreme care, and today's levels of academic excellence are dependent on this continuing stewardship.

Planning for Academic Excellence and Fiscal Strength

The Mandate for Planning

The approach of a new century offers both challenges and opportunities for the nation's leading research universities. In a period which promises to be characterized by ongoing change, Duke must prepare tomorrow's leaders for a world already markedly different from that of their parents. This planning document takes the University to the threshold of the twenty-first century with full recognition that if Duke is to provide leadership to our nation and world, we must be able to anticipate change, to adapt to that change, and then to educate and train leaders for yet a different tomorrow.

Duke's aspiration is and must be excellence in all that we do. To accomplish this objective, we have two major tasks before us. First, we must sustain the momentum we have established in our academic programs. Quality lost is difficult to regain. Secondly, we must build on our past record of sound institutional management toward new levels of effectiveness in the stewardship of our resources.

The past several years at Duke have been marked by substantial achievement. The University has enjoyed growing recognition as the quality of our faculty, academic programs, and students has been strengthened. Our undergraduate liberal arts and engineering programs rank among the finest in the nation. Our professional schools are consistently ranked among the top ten, reflecting the strengths of their faculty and students as well as their strong curricula, including a number of joint degree programs. Our Graduate School has improved markedly and is well-placed to contribute significantly to research and scholarship, especially in areas of interdisciplinary study. Our Medical Center is world renowned as one of the major comprehensive health care centers and is actively enhancing its stature in basic science research. We take pride in these accomplishments and look now to a decade of even greater institutional achievement.

Future achievement will require a careful ordering of institutional priorities and serious consideration of tradeoffs. In the economic climate that will characterize higher education for the foreseeable future, no university, least of all a university of our size and relative youth, can hope to be excellent across the full spectrum of academic disciplines. We cannot hope to answer every academic opportunity by developing new programs, nor can we respond to every need by creating a new service. We must constantly ask what is fundamental, essential, and critical. We must decide what best fits our institutional mission and what best ensures Duke's distinctive contribution. In short, we must plan.

Past Planning Efforts

Planning is not new at Duke. Over our history, a number of major studies have examined institutional strengths, assessed needs, and recommended initiatives to enhance the University's stature. President Douglas M. Knight's seminal 1964 report, *The Fifth Decade*, resulted from an

intensive six-year self-study by a University Committee on Long-Range Planning. Its four commitments, recalled below, provided the foundation for Duke's recent achievements:

Our first commitment, in the future as in the past, is to liberal, general, preprofessional education as a major function of the University.

Our second commitment is to graduate and professional education in a variety of fields.

Our third commitment is to the moving frontiers of learning and to the international community of scholarship.

Our fourth commitment is to realistic participation in the affairs of our local, regional, national, and international communities.

These purposes were restated in 1980 in Directions for Progress, the outgrowth of a substantial memorandum by Chancellor A. Kenneth Pye entitled Planning for the Eighties. Together, these two documents called for making strategic choices designed to improve academic quality by concentrating resources. More recently, an academic plan was formulated in 1987 with the objective of securing Duke's position within the top echelon of research universities while enhancing the quality of undergraduate education. A primary goal was the development of Duke's faculty. The plan also called for renewed commitment to research efforts, especially through strengthening the graduate program, encouraging cross-disciplinary study, and improving academic facilities.

The issue of strengthening support for interdisciplinary activities was addressed in greater detail in a major self-study entitled Crossing Boundaries: Interdisciplinary Planning for the Nineties prepared for the University's re-accreditation by the Southern Association of Colleges and Schools. Fostering interdisciplinary teaching and research has subsequently been a major theme at Duke, with new administrative structures and funding mechanisms now in place. The Dean of the Graduate School also serves as Vice Provost for Interdisciplinary Activities; the Vice Provost administers the Provost's Common Fund, which provides seed money for interdisciplinary activity across the University.

The Current Planning Cycle

The current planning document continues the efforts that produced the 1992 report entitled A Duke Plan: Positioning Duke for the 21st Century and reflects the active involvement of Duke's new President, Nannerl O. Keohane, who was inaugurated in the fall of 1993. The 1992 report, presented to the Board of Trustees at its December, 1992 meeting, the same meeting at which President Keohane was elected, provided a valuable self-assessment and guide to the University's ambitions based on individual school plans and selected plans for major academic and administrative support areas. Among other things, it suggested an agenda for further studies, four of which, in the areas of computing, internationalization, science and engineering education, and development feasibility, have significantly influenced this report. In addition, although not directly

anticipated in the 1992 document, this plan draws insight from the work of several committees on campus life. Finally, each of the schools has updated its long-range plan in the light of the new information provided by these studies, revised financial constraints and their own internal needs and directions. The Medical Center has also provided a progress report on its long-range plan, and we are achieving fuller integration between the campus and the Medical Center in our University-wide planning discussions.

Like the 1992 report, Shaping Our Future reflects an ongoing dialogue between the several schools of the University and its senior leadership about the issues and opportunities Duke faces in fulfilling its mission and ambition to achieve excellence in teaching, research, patient care and community service. This dialogue is of critical importance and a source of distinctive strength at Duke, for it fosters both creative entrepreneurship and a genuine sense of belonging to a collective endeavor whose meaning and value is more than the sum of its parts.

Each planning phase has its own challenge and context. This second phase of our recent planning efforts is marked by an increasing sense of the financial constraints Duke faces and the need to match activities and programs to available resources. This was the challenge put to the University by the President. Consequently, there is a financial awareness throughout this plan and an effort, not to be encyclopedic, but to highlight those areas of greatest priority to the University's stature and mission that will require new resources to provide the margin of excellence Duke seeks. In many cases we will have to meet these needs through reallocation, or what is sometimes called "growth by substitution." Growth by substitution is a growth in stature and quality derived from redirecting current resources to activities of greater priority and promise. Growth by substitution must be our principal means of achieving quality gains in a world of constrained resources.

Duke can no longer expect large tuition increases to fund programmatic enhancements; indeed market pressures are likely to keep tuition increases at levels that will not keep pace with internal cost pressures and will not make up for the relatively slow growth in other significant revenue categories. Although we may have modest flexibility in student enrollments, we intend to maintain the current balance and approximate size of our community and its residential character for undergraduates. Enrollment will therefore not be a source of major new revenues for programmatic expansion. Federal and state government support for private higher education is contracting under the pressure of budget deficits and growing concerns about primary and secondary education. Academic medical centers are under intense financial pressure to compete in a changing health care market. Virtually every door we might think to open to increase revenue for our core activities appears closed.

One area does offer promise for significantly increased support: fund-raising from supporters of Duke's ideals and purposes. We must use this potential wisely and with thoughtful attention to our goals. The foundation of our fund-raising effort must be a willingness to set priorities that advance the University's mission and the active management of our current resources for maximum institutional effectiveness.

The Provost, the Chancellor for Health Affairs, the Executive Vice President and each of the Deans have contributed to this sense of realism throughout this second phase of our planning process. It is clear that in each case, these officers are actively managing the resources entrusted to them to achieve maximum productivity and quality for the University in the context of its overall mission. This requires choices and priorities large and small. It is a credit to Duke that we have many more excellent opportunities to consider than we can pursue.

The University's faculty has participated actively in the formulation of this strategic planning document. In addition to their work within their own schools, faculty leaders have been deeply involved in shaping this document. The chairs of the Provost's Academic Priorities Committee, the President's Advisory Committee on Resources and the Academic Council -- the University's most important faculty advisory bodies -- have all served on the Strategic Planning Committee appointed and chaired by the President together with the Provost, the Executive Vice President for Administration, the Chancellor for Health Affairs, a representative of the Deans Council and several members of the senior administrative staff. All of these groups have participated in the development of this plan and in shaping the aspirations and choices among competing priorities that it represents.

Core Commitments, Fundamental Operating Policies and Key Planning Assumptions

Several core commitments, fundamental operating policies and key planning assumptions have shaped, and will continue to shape, Duke's distinctive character. We state these here, not as unexamined, but having re-examined and affirmed them for the foreseeable future. Our core commitments are defining statements of institutional values; our fundamental operating policies shape the way we go about our business of teaching, learning and serving; and our key planning assumptions reflect choices we have concluded are right for this place and time and into the immediate future.

Core Commitments

Academic Freedom

Duke University has long recognized that an unswerving commitment to academic freedom is essential to the University's ability to fulfill its missions. We are fortunate that as early as 1903, a dozen years before the American Association of University Professors produced its first official definition of academic freedom, our faculty and Board of Trustees had already addressed this vital principle:

Any form of coercion of thought and private judgment is contrary to one of the constitutional aims of Trinity College, which is to cherish a sincere spirit of tolerance. . . . We are particularly unwilling to lend ourselves to any tendency to destroy or limit academic liberty. . . . Whatever encourages such a tendency endangers the growth of higher education by intimidating intellectual activity. . . . The search for truth should be unhampered and in an atmosphere that is free [F]reedom of opinion is to a college the very breath of life; and any official throttling of the private judgment of its teachers would destroy their influence, and place upon the college an enduring stigma. . . . While it is idle to deny that the free expression of wrong opinion sometimes works harm . . . the evils of intolerance and suppression are infinitely worse. . . .¹

Through the ensuing years, as Trinity College was transformed into Duke University, the strength of this commitment has nurtured the educational relationship between teachers and students, acknowledging the value to each of free expression in pursuit of their shared interest in learning; and has secured the good, in all its dimensions, that flows from the free pursuit of research. We therefore reaffirm not only this fundamental right of our faculty and students but also our mutual responsibility to encourage and protect free and open debate conducted with a respect for the rights of others to hold contrary views.

¹Trinity College and Academic Liberty, " *The South Atlantic Quarterly*, III (Jan., 1904), 62 - 72, as reproduced in Earl W. Porter, *Trinity and Duke 1892-1924: Foundations of Duke University* (Durham, NC: Duke University Press, 1964), pp. 242-43.

Equal Opportunity and Community Diversity

Duke University is committed to providing equal employment and educational opportunities to its employees and students. The University adheres to and supports all federal, state, and local legislation and fundamentally supports the proposition that, whether in admissions, the assessment of classroom performance, hiring, or promotion, the University seeks to identify, recognize, and reward individual abilities without regard to age, race, ethnic background, religion, gender, physical disability or sexual orientation. At the same time, Duke University actively encourages diversity in its community, for such diversity not only enriches the education of us all and better equips us for effective citizenship, but also contributes to the University's effectiveness in the larger communities of which we are a part -- city, state, nation, and the world.

Mutual Obligations between Duke and its Faculty and Employees

Duke University seeks to attract, retain, and develop outstanding faculty and staff to carry out the University's mission. This requires a professional and productive working environment; mutual respect for the multifaceted roles required to achieve excellence in teaching, research, and patient care; and a sense of mutual commitment and obligation between the University and its faculty and staff. Duke's faculty is our most important resource; our processes for appointment, promotion and tenure and annual faculty reviews are designed to seek out and reward the very best. We are committed to supporting an academic community in which our faculty can thrive intellectually and succeed professionally. In return we expect our faculty to be dedicated to their calling and to our community in contributing their best talents to the successful pursuit of its mission.

For the many other employees whose roles are each essential to our success, we attempt to foster the same sense of mutual obligation and commitment. We encourage and expect outstanding performance, strive to provide fair and competitive compensation, and seek to encourage and reward the growth and development of each individual who sustains and is sustained by our community. In this period of increasingly constrained resources, we must face the reality that the University's fiduciary responsibility may require work force reductions. In these circumstances, the University will first seek reductions through normal attrition and reassignment of qualified individuals to vacant positions.

The Accessibility of a Duke Education

Duke's educational programs are not only among the best in the nation, they are also among the most expensive. Yet Duke remains committed to accessibility. This commitment operates at several levels: effectively managing our institutional costs; setting our tuition levels to be competitive with comparable institutions; and providing various forms of financial aid to assist students and their families in meeting the costs of a Duke education. Duke's financial aid commitment is fundamentally a matter of academic quality. Although financial aid policies vary by school, their primary aim is to allow the best possible students to matriculate at Duke and to facilitate the socio-economic and ethnic diversity we believe contributes to the most effective educational experience.

Fundamental Operating Policies

Financial Equilibrium and Preservation of University Assets

The University's plans are shaped by a dedication to financial equilibrium and the preservation of the University's financial and physical assets. The Duke University Board of Trustees approved a financial equilibrium policy in September, 1985. The policy calls not only for balanced annual operating budgets but also for financial and operational planning to ensure that revenue and expense trend lines will remain parallel in the foreseeable future. Ensuring this financial equilibrium has been central to the current planning process.

The Board of Trustees has also provided clear guidance concerning the preservation of University assets. It has established an endowment spending rate policy designed to reduce the rate of spending from endowment to the equivalent of 5.5 percent of market value at the beginning of each year. The mechanism by which to achieve this target was approved by the Board of Trustees in December, 1990, and the eight year process of moving to the new target is now underway.

Finally, the Board of Trustees has provided recent guidance on the need to increase spending to preserve the useful lives of the University's physical assets. While the subject of deferred maintenance will be addressed in greater detail below, it is important to note here that the preservation of the University's physical assets is a fundamental priority and that the preparation of academic and administrative plans have been shaped accordingly. Our understanding of institutional stewardship involves ongoing attention to physical maintenance.

Duke's Decentralized Management System

Based on recommendations of the President's Advisory Committee on Resources, the University implemented a management center budget system beginning in fiscal year 91/92. The management center budget system, also known as formula budgeting, provides for decentralized management at the school level in the context of the Provost's Master Incentive Agreement, which structures the fiscal relationship between academic programs under the Provost, the activities of the Duke University Medical Center, and general University administration and administrative support services. Formula budgeting couples accountability with incentives and seeks to balance the creativity and efficiency of decentralized decision making with appropriate mechanisms to safeguard the financial health of the University as a whole and to allow for the implementation of university-wide priorities. This approach is intended to provide incentives for effective fiscal management throughout the University, to regulate the growth of administrative costs, to ensure that common administrative and academic support costs are shared equitably among the schools, and to provide a stable framework for long-term planning.

Under formula budgeting, the schools of the University build their budgets around their expected direct revenue (tuition, indirect cost recoveries, unrestricted annual giving and other miscellaneous income sources). Out of this revenue, schools pay the direct expenses under the management control of each dean and provide income to cover the shared and attributed costs of activities that support their mission but that are outside the individual schools. These costs range from maintenance and operating costs for facilities to the Perkins Library system.

Effective management of a formula budget system requires careful financial coordination, management of academic outcomes, and a deliberate balance between centralized and decentralized resources. While the schools have considerable autonomy in this management system, they also have responsibility for supporting university-wide priorities. Their contributions are determined through consultations involving the administration, the Deans Council and, frequently, major advisory groups such as the Academic Priorities Committee and the President's Advisory Committee on Resources.

There are several sources of ongoing discretionary funding available to the University officers that help preserve the balance between central and decentralized management and are available for university-wide priorities. Some of these funds may also be used to backstop the responsibility of each "management center" to resolve annual operating budget issues internally. The funds include:

- The President's discretionary resources of approximately \$1.25 million per year.
- The President's Contingency Fund, included in the annual operating budget at \$500,000 per year.
- The Provost's Contingency Fund, included in the annual operating budget at \$250,000 per year.
- The Provost's Common Fund for interdisciplinary activities, included in the annual operating budget at \$300,000 per year.
- The Provost's Academic Priorities Pool for priority initiatives of the academic administration, included in the annual operating budget at \$1 million for 94/95 and planned to increase to \$2.5 million by 96/97.

Commitment to Continuous Improvement and Effective Resource Management

As an institution committed to teaching, research and service, Duke University recognizes its obligation to its objectives cost effectively. Our goal is to keep the costs of education, sponsored research and patient care as low as possible consistent with the demanding national and international standards of performance we have set for ourselves. We manage our human resources and educational processes in order to maximize the educational effectiveness of our curricular and research programs. In those administrative areas that support the University's academic mission, we actively pursue sound business practices to ensure cost effective delivery of support services to meet diverse customer needs.

The University is committed to the ongoing review of our administrative processes and organization. Our intention is to reduce rather than increase the size of the University's administrative support structure through attrition and appropriate reorganizations.

Key Planning Assumptions

Tuition Policy

Duke University seeks to offer academic programs of the highest quality. Sustaining the quality of these programs requires heavy commitments from the combination of available University revenue sources. Because these sources, particularly endowment income, are limited, the University must rely on tuition income as a major source of revenue. Tuition represents the difference between the full cost of a Duke education and the contribution from other sources of revenue such as endowment income and annual giving that subsidize the educational costs of all students.

To students and their families, tuition, offset by financial aid, is the price paid to attend the University, and the absolute level of tuition, irrespective of financial aid, may affect the decision of some students to come to Duke.

The University's schools have different academic missions, financial resources, competitive environments, and financial aid policies. The University therefore sets the tuition and fees for its various educational programs at levels that will both provide sufficient revenue to pursue its programmatic goals and remain competitive with similar programs at comparable institutions. This recognition of the differing circumstances of each of our schools allows both absolute tuition levels and annual percentage increases to vary by school.

In our planning forecasts, we have assumed a guideline tuition growth based on the national Consumer Price Index (CPI) plus 2.0%. This figure does not represent a rigid constraint, either as an upper limit or a floor. Instead, it is designed to organize the annual discussion about specific tuition levels in each of the University's academic programs. By providing an initial target figure, we hope to bring better focus to these discussions, requiring more clear-cut justification of any increases in tuition and fees in each budget cycle.

The assumption reflected in this choice of a target figure -- that tuition will grow over time at a faster rate than CPI -- reflects the unusual cost pressures faced by higher education in attracting excellent faculty and staff, keeping pace with advancing instructional and research technologies, providing attractive, functional and well maintained facilities, and securing the University's commitments to accessibility and diversity reflected in our financial aid policies. Based on our core commitment to making a Duke education accessible to a wide range of students, we will set our tuition as low as possible, consistent with our overall mandate to provide educational programs of the highest quality. We will review our tuition policy regularly and make adjustments as necessary to reflect changing circumstances.

Need-Blind Undergraduate Admissions

Consistent with its emphasis on equal opportunity and academic quality, the University continues to stress its commitment to need-blind undergraduate admissions and a financial aid program designed to ensure that students can make their matriculation decisions primarily on the basis of academic rather than financial criteria. This is a cornerstone of the character of the University. The spirit of this policy, that Duke University aspires to attract the very best students

regardless of financial circumstance, is also evident in the admissions and financial support policies of the graduate and professional schools, which seek to make the highest caliber graduate and professional education accessible to the very best students.

Institutional Size and Balance

At its current enrollment of approximately 10,000 students, the present size of Duke University offers advantages in achieving our institutional objective of preserving a cohesive campus community. The centrality of undergraduate education is fundamental to Duke's distinctive character, and the present balance between undergraduate and graduate and professional education will generally be maintained.

Proposed enrollment increases in any school should be driven by academic imperatives and carefully measured against the adequacy of institutional resources to maintain and improve, both inside the classroom and out, our high standards of quality for all additional students. For undergraduates, who are guaranteed on-campus housing, these resources include residential facilities. Decisions to initiate major academic programs or new schools in order to advance Duke's special contribution to higher education will be made in the context of our stated preference for remaining a medium-sized university.

Duke as a Residential Community for Undergraduates

The residential nature of our undergraduate program enriches the educational experience of students and contributes to the special character of the Duke campus. An important and ongoing educational objective is the fuller realization of the potential for residential education which must include a greater degree and quality of interaction between and among students and faculty. We intend to continue to educate the whole person and to strive to provide an environment which is conducive to enriched living and learning. As a reflection of this commitment, Duke offers a variety of on-campus housing options to undergraduate students and provides a broad range of support services to students in residence.

The Changing Environment for Higher Education and Medical Care: Challenges for Duke

As timeless as universities and our own institution may seem, we are part of the web of social and historical change. This is a period of exceptional change -- in the geopolitical environment, in the economic and technological underpinnings of our society, in the social contours of our communities -- globally, nationally, and locally. Though these changes are not likely to alter our fundamental mission, they require thoughtful anticipation and appropriate responses. In light of this continuous and rapid change, the ways we go about conducting our mission must surely evolve if universities in general, and Duke in particular, are to maintain the unparalleled social influence they have enjoyed over the last several decades.

Global Interdependence and Competition

Issues: The United States is increasingly interdependent with the rest of the world. The economy and other institutions of American society must, therefore, adapt themselves to a highly competitive environment in which there is an increasing demand for innovation, efficiency and productivity. The shifting balance of economic advantage also means that high technology and services will increasingly replace traditional industry as the dynamic sources of our economic wealth and of employment opportunities for our graduates.

Challenges: In such a world the students we teach will place new demands upon us. Facing greater uncertainty about their economic future, families will invest ever more carefully in their childrens' education, emphasizing the relationship between what is learned and what is required to succeed in the new economic environment. This will require that universities demonstrate not only that they are preparing their students well to enter the working world but also that they are providing them with an education that will allow them to adapt to the increasing pace of change in an interdependent, internationalized environment. We will be ever more closely scrutinized about how well we meet these demands and match our promises.

Public Skepticism about Higher Education

Issues: The public's increasing skepticism about the quality and value of higher education has become a vexing issue. Assessments of the value of a college education have become more stringent, and doubts about our success at fulfilling our teaching mission and preparing students well for the marketplace have grown. Parents and the public more generally perceive that even the elite institutions are failing sufficiently to challenge and prepare their students. There is, therefore, an unresolved tension between the need to provide the breadth of education necessary to prosper in a rapidly changing environment and the pressure to provide the training that will ensure high quality placement upon graduation. Universities have so far failed to resolve this tension for themselves, much less to the satisfaction of the publics on which they depend.

There is skepticism as well about the university's research enterprise. Support for basic research, traditionally the hallmark of the university, is declining just as the costs, especially for science, are growing. There are fewer resources available in the society to support higher education, whether they come from government, industry or foundations. There is a tension between the university's traditional basic research mission and demands to be "relevant" in contributing directly and immediately to the public good.

Challenges: In such an environment of skepticism about higher education and reduced public support, the more expensive research universities such as Duke will be especially vulnerable to the potential costs of failing to meet these challenges. As a result, undergraduate education will have to become a demonstrably central concern and will have to engage the attention, both conceptually and in the classroom, of all the faculty. Research universities will also have to demonstrate that they are able creatively to engage and overcome the tensions among their teaching, training and research missions and better harness the advantages they derive from activities in each area in the service of the others. Finally, the research university will have to demonstrate that in accomplishing its teaching and research missions it serves society. Complacency in any of these areas will be punished in the educational and financial marketplaces.

The Demographics of Higher Education

Issues: The size, quality and diversity of the pool of students likely to attend universities is undergoing substantial change. The U.S. population is becoming increasingly heterogeneous. Compared to a decade ago, college-bound eighteen-year-olds today are far more ethnically and culturally diverse. There are also new pools from which to draw quality students both among foreign students and among older adults who wish to pursue lifelong learning in a higher education setting. The number of eighteen-year-olds in the national population has been increasing since 1990, and the trend is expected to continue for much of the next decade. The quality of these prospective college students is not, however, markedly improving: the number with high test scores, for instance, remains flat. More generally, there is a widespread dissatisfaction with the quality of education in many United States high schools.

Challenges: Colleges and universities are experiencing increasing competition for outstanding students. New approaches to recruiting the best students from much more diverse populations will be required. Furthermore, constrained family incomes and the recruitment of a more diverse group of students, more of whom are likely to come from less wealthy backgrounds, will put a substantial strain on financial aid programs, which are themselves in increased competition with other uses for scarcer university resources. Finally, an increasingly ethnically and culturally diverse student body, coupled with more foreign and older students, will present a challenge to traditional curricula, methods of teaching and ways of providing student services.

The Transformation of Communications, Computing Technologies and the Power of Visual Knowledge

Issues: Communications and computing technologies are currently undergoing rapid advances. At the same time, the electronic age is creating a culture that is increasingly dependent on visual modes of knowledge and understanding. Current research suggests that the society of the future will learn increasingly through computer-based visual simulation. Although this transformation goes far beyond the arts and is also informing the sciences and social sciences, theoretical and practical training in the arts, which disciplines the mind to think synchronically and through multiple levels of perception, will offer unique models for the formation of knowledge and the development of the imagination in this emerging environment.

Consistent with these transformations, novel technological approaches to teaching and learning are maturing rapidly and will vastly expand what can be done in the classroom and beyond. Computer-assisted learning through such techniques as the instantaneous simulations of complex social systems and the visual modeling of fundamental natural processes will augment traditional teaching methodologies. Multi-media classrooms and information superhighways will permit students and faculty to attend classes, gather and disseminate information and pursue degrees from locations away from campus. The role and content of academic libraries are already undergoing basic transformation. Communications and computing technology can also facilitate greater efficiency and productivity in research and scholarship as well as in administrative support services.

Challenges: Making the best educational use of the new technologies requires substantial innovation in pedagogy and research. In seeking to innovate, the challenge will be to use the new technologies in ways that reinforce our basic educational values and support our core educational mission. To do so, however, will entail significant up-front costs. Universities that want to attain leading-edge computing capabilities will need to invest their limited resources accordingly. Preparing for the opportunities and challenges of distance-learning will be critically important to sustaining the role of universities as the primary providers of new and established knowledge to the most sophisticated segments of society.

Meeting the Needs of Health Care Reform

Issues: Changes in the practice of medicine and its financing as well as the federal government's pursuit of reform in the American health care system will have a profound effect on the nation's universities. Shifting social needs and expectations have focused attention on two critical issues -- providing access to health care for millions of uninsured Americans and controlling sharply escalating health care costs. As employers, universities face significant change in the ways in which they purchase health care for their employees. Universities that are also providers face changes in how their health centers teach and practice medicine.

Universities with academic medical centers will experience pressures to alter their methods of training health care professionals, conducting medical research and providing health care

delivery. In the future, academic medical centers will focus on training primary care providers and on meeting primary care needs throughout their communities. The education of medical students and residents will shift more to outpatient and community settings. This will almost certainly result in a reduced need for the currently high levels of hospital specialty services.

In addition, health care reform will foster the creation of regional alliances to purchase health care and the creation of large, regional networks of health care providers. This will cause academic medical centers to change how they are organized and how they provide medical care. Finally, health care reform will probably include modified reimbursement policies and procedures for Medicare and Medicaid.

Challenges: Medical centers affiliated with universities will face stiff competition in maintaining their external patient referral bases. Academic medical centers, with their increased expenses associated with their emphasis on training and research, will nonetheless face the need to reduce costs sharply in order to compete with non-academic providers. Under these circumstances, academic health centers will no longer be able to subsidize their educational and research missions with clinical revenues.

Local and Regional Citizenship

Issues: The Research Triangle is one of the most economically and intellectually vital areas in the United States. The University and the surrounding community are inextricably linked, and the health and vitality of Durham are important to Duke. As the largest employer in Durham, Duke University can enhance the welfare of the community in numerous ways and will be asked to mobilize faculty talents and other institutional resources to do so. In light of constrained resources, however, the university will need to examine carefully the ways in which it is able to collaborate with the city and the region in addressing urgent social issues.

Challenges: Durham faces a number of pressing social issues, including homelessness and affordable housing, crime, drug abuse, day care, K-12 reform and economic development. These issues affect the University not only because we draw so heavily from the local labor market but also because they directly impact our campus environment, including the critical issue of public safety. We must work constructively within our means and in cooperation with other leaders in our community to address these issues. We must also do our best to foster a sense of community among all our constituencies as the University restructures to meet the challenges of the next decade.

Positioning Duke for a Changing Environment

The changing environment for higher education and health care poses a range of significant challenges for private research universities in general and Duke in particular. Maintaining and improving our competitive position in attracting the best students and faculty and offering the best educational programs, medical care, and scholarship will not be easy. We compete for the best students and faculty with institutions with greater financial strength due to

more sizable endowments and larger and more wealthy alumni bases. Given these financial constraints, Duke must use its competitive advantages and focus its current resources in ways that will meet these challenges. At the same time, we must continue to develop our long-term financial strength in the form of increased endowment and successful relations with our growing alumni body and with other friends of the University.

Our ongoing planning efforts address these needs. In particular, we must capitalize on and deepen our commitment to undergraduate education; extend traditions of interdisciplinary and cross-school collaboration to maximize the effectiveness of our educational programs; build on the entrepreneurial spirit in program development and research funding that has long characterized Duke; expand cooperative arrangements with civic, industrial and educational organizations in the Research Triangle area; and provide leadership in the transformation of academic medical care. Duke is completing a major series of capital investments that help position us for leadership in education and research. The Levine Science Research Center is the most outstanding example, offering major opportunities for innovation in education and research that will draw on intellectual resources from across the campus.

Institutional Imperatives: Five Strategic Themes for Duke

The environment for higher education is changing rapidly, and Duke must respond. We are fortunate to have nationally recognized programs and deep applicant pools. But we must face and meet new and ongoing challenges, and planning is an essential part of this process. At an institution like Duke, planning is primarily a matter of setting priorities -- deciding, among all the things we might like to do, which are most important, so that we can allocate our resources first to these parts of our enterprise. This focus on priorities is mandated not only by the fact of scarce resources, but also by our desire to intensify those aspects of our work and character that are most distinctively Duke. These are the features that distinguish us as an institution and which attract strong faculty and students as well as respect and support from our various publics. The strategic themes discussed below -- Enhancing Academic Quality, Strengthening Community and Citizenship, Enhancing Academic Medicine, Increasing Academic and Administrative Effectiveness, and Securing Our Financial Future -- set our major priorities in the context of our distinctive character and limited resources.

I. Enhancing Academic Quality

Our overarching priority is enhancing academic quality across the University. Enhancing academic quality is a broad rubric, under which almost anything might be fitted; but it is important to state it as our first, explicit priority. Academic quality refers fundamentally to our success in the creation and dissemination of knowledge in every part of the University. This requires attention to high standards for recruitment and retention of faculty; it requires the encouragement of excellent teaching; support for innovative research; and attracting the best possible students in every school. It means focusing on our fundamental commitments and doing them well. In some cases this may require new resources; more often it will mean focusing and reallocating current resources and setting high standards of achievement. We have identified seven overarching goals we believe critical to sustaining and enhancing Duke's academic quality in the years ahead. The discussion of these goals that follows is ordered thematically rather than in specific priority sequence. We believe that progress on each of these goals is essential if Duke is to maintain its quality and balance. More specific goals and strategies can be found in the strategic plans of the Faculty of Arts and Sciences, the Divinity School, the School of Engineering, the Fuqua School of Business, the School of Law, the School of the Environment, the Graduate School and the Medical Center.

1. Nurture Each of the Schools and Faculties of the University with Special Emphasis on Securely Establishing the School of the Environment

Responsibility for delivering the University's academic programs rests with the President, the Provost, the Board of Trustees and the faculty. This responsibility is carried out most directly by the Deans, members of the faculty under whose leadership each of the schools has produced a strategic plan that includes specific goals and strategies for enhancing academic quality. These plans have been reviewed by appropriate advisory bodies within the schools and by the University's senior administration. A foremost responsibility of the administration is therefore to

help the schools succeed in delivering the many dimensions of academic quality that are critical to achieving the University's mission. We take great pride in the current achievements and future prospects of our well-established units, and we accept wholeheartedly the special challenge of developing the new School of the Environment into a unit of similar national and international prominence. The School of the Environment represents an opportunity for Duke to bring to bear resources to enhance multidisciplinary collaboration in teaching, research and problem solving that will make a lasting impact both educationally and socially.

Attract and Retain an Outstanding Faculty

The most important ingredient of academic quality is the quality of the faculty. Duke competes nationally and internationally for the most talented, productive and committed faculty. Each appointment, and more importantly, each recommendation to the Board of Trustees to grant tenure, should not only satisfy a significant programmatic need but also raise the overall quality of the department or school. As indicated in the Faculty Handbook, tenure at Duke "should be reserved for those who have clearly demonstrated through their performance as scholars and teachers that their work has been widely perceived among their peers as outstanding. . . . The expectation of continuous intellectual development and leadership as demonstrated by published scholarship that is recognized by leading scholars at Duke and elsewhere must be an indispensable qualification for tenure at Duke University."²

Attracting and retaining members of the faculty who meet these demanding standards and who are committed to Duke's educational objectives is an ongoing activity of the Deans and their faculties. The University's academic administration supports these efforts. Success depends on virtually everything else we do: on creating a challenging and supportive intellectual community; on attracting outstanding undergraduate, graduate and professional students; on providing the facilities, computing and library resources that support excellence in teaching and research; and on providing salaries, fringe benefits and research support that are nationally competitive. Virtually everything in this plan supports these ends.

Continue to Foster Joint Degree Programs and Interdisciplinary Teaching and Research

The quality, diversity and close proximity of Duke's major academic units have fostered a rich assortment of joint degree programs which not only provide distinctive educational opportunities for our students but also bring together the faculties of the various schools. These same characteristics provide an ideal environment for interdisciplinary teaching and research, which is an important strategy for leveraging Duke's faculty talent in responding to the challenges of contemporary research and scholarship and in seeking external support for the faculty's research efforts. The Provost's Common Fund was established beginning in the 1991/92 academic year to foster new initiatives in interdisciplinary teaching and research.

²Faculty Handbook, 12/87, p. 3/2.

Provide Sufficient Academic and Financial Support to Ensure the Success of the School of the Environment

The School of the Environment, created in July, 1991, incorporates the former School of Forestry and Environmental Studies and the Duke University Marine Laboratory, both originally founded in the 1930s. The School of the Environment is the embodiment of interdisciplinary research and cross-school collaboration at Duke; its success will depend on continuing and intensifying these intellectual and programmatic collaborations so that Duke can become an international leader in environment research and education, with connections to each of the other schools. The school's new home in the Levine Science Research Center symbolizes this interdisciplinary centrality. In addition to academic and intellectual reinforcement, the school will require significant financial support. Fund-raising for the School of the Environment is high on the University's list of priorities, in large part to finance the school's new home in the LSRC. While we are confident that the current quality and future promise of the school will ensure ultimate success, we recognize that these efforts may take some time to succeed. We will conduct a five year review of the school in the context of regular academic planning and review cycles to ensure that our academic and financial objectives for the school are being met.

Provide Efficient and Effective Administrative and Academic Support Services

Since academic quality is our primary objective, we strive continuously to assist the schools in meeting their needs in such areas as Development, Student Affairs, and Management Information Systems. We must frequently examine the mix and balance of administrative and academic support services to determine which can be most effectively provided centrally and which can best be provided by the schools themselves. Achieving the proper mix and balance in the light of changing needs and circumstances is vital in ensuring appropriate quality levels, effective management and efficient resource utilization.

2. Secure the Graduate School as a Vital Component of the Teaching and Research Mission of the University

Graduate education -- the preparation of future teachers, scholars and researchers culminating in the Ph.D. -- is an essential part of the University's mission; it is also an essential ingredient in enhancing the University's academic quality. Graduate students inhabit a middle realm that is vital to any research university; they enter the classroom as students but by turns also as teachers; they work with the faculty as apprentices but also as collaborators; their questions and commitment are self-nurturing but also nurture others. Graduate students seek the cutting edge -- and sharpen it. It is in recognition of the special advantages to the University -- to its undergraduates, to its faculty and to its overall ambiance -- that the cost of graduate education is underwritten by the University, not only through fellowships, stipends and teaching assistantships but also through substantial commitments of faculty time and other University resources. In a period of increasingly constrained resources, however, the University has made a clear choice in favor of quality over quantity.

Focus Resources to Strengthen the Graduate School

To sharpen our focus on quality in the context of limited resources, we will selectively reduce the size of Graduate School, particularly in certain Arts and Sciences departments, over the next several years while increasing the average support per student to enable Duke to compete more successfully for the very best students. Transitional funding will be provided in order to achieve competitive levels of stipend support as the size of the Graduate School is adjusted to a sustainable level.

Graduate support will be managed to provide increased support to areas of greatest strength. Programs must compete for current and future fellowship resources using the number and distinction of the faculty and the quality of the students they are able to attract and place in appropriate positions as the primary bases of allocation. We will no longer be able to recruit graduate students into weak programs based on instructional needs. We will also consider eliminating some graduate programs and limiting the number of supported subfields within particular programs.

Seek Substantially Increased Endowment for the Graduate School

In recent years many Duke graduate programs have reached a level of distinction that has made them attractive to the very best students in the nation. These students are being offered excellent fellowship opportunities at other distinguished institutions. To be able to compete at this level, Duke must be able to offer stipends of an amount and duration that exceeds what we are now able to offer, particularly in the Humanities and Social Sciences. Even with possible downsizing of some programs, this effort will require substantially increased permanent funding. Increased endowment is also required for Ph.D. programs in the sciences (including Medicine, Engineering and Environment) as a backstop for the heavy dependence of those programs on external research funding to achieve adequate student support.

Develop Graduate Program Alliances with Other Research Triangle Universities

We will actively seek to expand the number of formal collaborative graduate training programs with appropriate partners in the Research Triangle, especially in areas where Duke lacks a critical mass of relevant faculty or where complementarities involving already strong programs will provide mutual benefit. Duke has already developed a number of cooperative programs with the University of North Carolina at Chapel Hill and North Carolina State University that have leveraged resources and provided strong graduate training. Examples include Latin American and European Studies, Medieval and Renaissance Studies, the History of Science, the Triangle Universities Nuclear Laboratory, and the Center for World Environment and Sustainable Development.

3. Increase the Diversity of Our Faculty and Students

The fundamental reason for diversifying our faculty and student body is that it will improve the quality of education at Duke. Although some may feel a moral obligation to expand our recruitment of both faculty and students to overcome the effects of past prejudice and disadvantage and to reflect more fully the diversity of our society, the link between diversity and

academic quality is compelling in itself. Education depends on learning things you did not know before. This can be done through books of history or lab experiments or works of art or anthropological explorations. But it can also be done by talking to, working alongside, living with, people whose perspectives are quite different from our own. The most powerful learning experiences come when we *share* the experience of reading history or looking at art or talking about philosophy with people whose geographic or economic backgrounds are unlike our own, people of the opposite sex or a different race, who do not take the same things for granted. The multiplier effect of new ideas filtered through several lenses is a powerful way to learn. Duke is committed to enhancing this dimension of academic quality.

Implement the "Strategic Plan for Black Faculty Development"

In January, 1994, the Committee on Black Faculty of the Academic Council submitted a "Strategic Plan for Black Faculty Development," which was unanimously approved by the Council and subsequently endorsed in principle by the administration. The plan seeks to double the number of black faculty at Duke over the next decade and recommends specific strategies for achieving this goal. The Provost's Office is responsible for supporting the faculty and the Deans of the various schools in implementing this plan. The President and Provost have created a pool of funds totaling \$500,000 annually to support the faculty recruitment portion of the plan. This fund will provide partial support for new black faculty appointments and allow the schools up to three years to bring associated salaries onto their regular operating budgets.

Continue Efforts to Recruit and Retain Women Faculty

Duke has made significant gains in attracting outstanding women faculty whose contributions are evident throughout the University. We will continue efforts to ensure that women are well represented in faculty search pools and in recruiting for administrative positions. In accord with our core commitment to equal opportunity, we will also ensure that women receive compensation and other forms of support consistent with other members of our community.

Continue Efforts to Diversify the Student Body in Each of the Schools through Focused Recruiting and Appropriate Financial Aid Support

Student recruiting is primarily a school-level responsibility. Each of the Deans is committed to diversity in their student bodies and has developed appropriate recruiting strategies and financial aid policies. Success is often limited by the availability of scholarship and fellowship funds, however, and several of the schools have included endowment funds to support student diversity among their fund-raising goals.

Increase the International Diversity of Faculty and Students

In the past, the discussion of diversity has usually focused on gender, ethnicity, socio-economic background and domestic geography. Increasingly, we are aware of the importance of international diversity in our faculty and students. International diversity not only contributes to the educational multiplier effect discussed earlier, it also exposes citizens of other nations to Duke's educational programs and thus enhances our international reputation.

Achieving this international diversity is primarily a responsibility of the schools since the opportunities and challenges vary significantly by field of study. The internationalization efforts discussed below provide further context for this effort.

Securely Establish the African and Afro-American Studies Program

Although Afro-American Studies has been "on the books" at Duke for many years, the program had in fact become moribund. The 1991 report of a faculty committee stimulated efforts to revitalize the program. A new permanent director for the African and Afro-American Studies Program was appointed in the 1993/94 academic year. The program has been conceived as a multi-disciplinary effort, and the director will work closely with the schools to make joint faculty appointments and stimulate innovative curriculum developments. In addition, the Program will provide a focal point of programmatic activity -- visiting scholars, guest speakers, seminar series -- for students and faculty interested in African and Afro-American studies. Financially, the revitalization efforts have been supported to date through external support and internal discretionary funding. We must permanently finance this program as it establishes itself at Duke.

4. Internationalize the University

One of the chief features of the changing world in which we live is its accelerating interdependence. Through trade and exchange, communications and travel, we come into almost daily contact with people, ideas and products that reflect different cultures and ways of doing things from around the globe. In such a world, it is the responsibility of Duke University to ensure that students, teachers, and the University community have the fullest opportunities to benefit in their teaching, training, research, and personal growth from the broadest participation in the international system of culture and knowledge. We must, in short, internationalize Duke University and become a part of a global community, sharing with the world the very best that the University, its students, and its faculty have to offer in return. Ultimately, it means that Duke University will become a leading international university and be recognized as such.

Duke already has a large number of distinguished programs that project the University into the wider world and that bring international issues and expertise into the University community. We will build on these achievements, but the current challenges and opportunities require greater focus and coordination to address international forces that will increasingly shape our lives and set the agenda in higher education.

Coordinate and Support the Efforts of the Individual Schools to Develop International Programs and Internationalize the Experience They Offer Faculty and Students

Internationalization will be an intensive, yet diffuse and incremental process. Its details are described in "Duke University in an Interdependent World," the internationalization plan prepared by the Provost's Executive Committee for International Affairs in February, 1994. The ultimate success of internationalization will depend on the ability of the individual schools and their departments and programs to increase the international content of what they do and how they do it. It is essential, therefore, that each of the schools plan for internationalization and provide the resources necessary for success.

To maximize resources and to maintain a clear sense of what opportunities are available university-wide, it is also imperative that central guidance and oversight be provided to ensure open communications, cooperation, and coordination of internationalization initiatives among the various schools, disciplines, departments, programs, centers and administrative divisions. For this purpose, a Vice Provost has been charged with responsibility for International Affairs with resources to stimulate internationalization efforts across the University.

Provide Strong Administrative Support, Including Concerted Efforts on Behalf of Senior Administration to Increase the University's Reputation in Key Areas of the World

Critical to achieving the goals of internationalization will be the active involvement of the senior officers to complement the efforts of the schools and of the Vice Provost responsible for International Affairs. The senior officers, and above all the President, will support internationalization through fund raising activities and the establishment of development priorities. The President and other senior officers must also become visible bearers of the University's commitment to internationalize and build its international reputation. This will include both overseas travel to speak on behalf of the University in areas of the world in which our international activities are concentrated and active engagement to bring more prominent foreign public officials and eminent scholars to the campus and to involve them more deeply in University affairs. Finally, internationalization should proceed in many areas cooperatively with our neighboring institutions in the Research Triangle. The leadership of the central administrators will be important in fostering deeper cooperation at all levels.

Provide Expanding Access to Advanced Communications Technologies, Including Internet and International Video Conferencing

Central to internationalization is the ability to communicate with students, scholars and others throughout the world. We must, therefore, enhance the ability of those at Duke to communicate on a global scale. This will be partially achieved when everyone within the Duke community has easy access to computers and through them to the Internet. The need to strengthen computing and communications is discussed elsewhere in this plan. Such efforts are also critical to our internationalization objective.

In addition, there are exciting opportunities to increase the international content of research, classroom experience and cultural exchange through the use of new capabilities for international video conferencing and related technologies. Duke University must move as quickly as possible to exploit these capabilities. This will require considerable coordination to ensure that the capabilities are provided on a university-wide basis as efficiently as possible and that support and related services are available in order to expand awareness of what can be accomplished with these new technologies.

5. Enhance the Quality of Undergraduate Life

Undergraduate life has a special place at Duke University. As Duke has distinguished itself in recent decades as a nationally and internationally prominent research university, it has not lost sight of its commitment to undergraduate education. We are in the midst of reexamining how we can be more successful in meeting that commitment. There are special circumstances of undergraduate life that require levels of care and resources different from those made available to more advanced graduate and professional students. In recognition of these special circumstances, Duke remains dedicated to providing a residential educational experience to undergraduates. This is fundamentally an educational commitment, and it requires that undergraduate life be nurtured within the overall context of enhancing academic quality.

Task forces concerned with several areas of undergraduate life -- Greek Life, Intellectual Climate, Residential Life, and East Campus Enhancement -- were appointed during 1993 and have presented their reports to the community. Based on broad participation by students, faculty and administrators, these reports provide suggestions and guidelines for action and for future discussion of these issues at Duke.

Encourage the Development of an Educationally Purposeful Intellectual Community

In an educationally purposeful community³, members share common goals and work together to strengthen teaching and learning on campus in an atmosphere that values diversity and mutual respect. A commitment to learning and a sense of intellectual excitement permeate the wide variety of activities and settings. Thus, the quality of the undergraduate experience relates not only to the classroom, but to social, cultural and residential activities as well. Specific proposals to advance this goal will be developed on the basis of the reports of the several task forces recently completed. Progress will depend on the joint commitment of faculty, students, the Deans of the undergraduate programs and the Office of Student Affairs.

Deepen the Engagement between Faculty and Students

The interaction between members of the faculty and the University's students is central to sustaining the intellectual quality of undergraduate life. The faculty itself has assumed responsibility for reconsidering how its engagement with undergraduate students can be deepened to improve individual learning experiences and foster a greater sense of intellectual community on campus. The Task Force on Intellectual Life established by the Academic Council has considered such issues as the faculty's role in new student orientation, ongoing advising, small group learning experiences and independent projects. The task force also considered ways to bring the resources of the faculty together in programs to address issues of broad public interest from multiple professional and disciplinary perspectives.

Improve the Quality of the Residential Community Experience

In an educationally purposeful community, the residential experience should provide an enriching living environment to students that affords them a sense of intellectual community and

³The Carnegie Foundation for the Advancement of Teaching, *Campus Life: In Search of Community*, (Princeton, NJ: Carnegie Foundation for the Advancement of Teaching, 1990) p. 9.

belonging. With a four year undergraduate housing guarantee and most students living on campus, Duke has the unique opportunity to foster a residential community experience that will outlast the years students spend in their undergraduate residence halls. Students must be encouraged to extend their educational experience at Duke beyond the classroom in ways that allow them to define and develop personal and community values, take appropriate risks to discover their full potential, and strengthen their beliefs and values through critical examination. Accomplishing these goals in the years ahead will require imaginative use of our resources for residential life as well as closer involvement of both students and faculty in residential educational opportunities. New and renovated facilities for residential life may also be required to achieve our purposes.

Support Students in Taking Responsibility for Their Own Physical and Mental Well-being and Ensure Appropriate Support for Students in Crisis

An educationally purposeful community is concerned for the safety and well-being of all its members and educates its members to make responsible choices. Today's students face daily issues such as alcohol abuse, sexually transmitted diseases, and public safety concerns as well as such lifelong health issues as stress reduction, physical fitness, and nutrition. We are committed to addressing these issues through ongoing educational efforts and the work of Student Health and Counseling & Psychological Services (CAPS). Construction of new recreation facilities on both West and East Campuses will provide enhanced opportunities for physical fitness and relaxation.

Increase Opportunities for Experiential Learning and Building Relationships with Duke Alumni and the Durham Community

Undergraduate learning occurs in other places and under circumstances not directly associated with course work. Among these are apprenticeships, mentorships, community service initiatives, internships, and other student-initiated activities. Sometimes these experiences are linked to regular courses; frequently they are part of house courses in residence halls, but most commonly, they are developed as the result of student interest and curiosity. These opportunities are being expanded. House courses through the Community Service Center (CSC) bring student and community volunteers together to examine the volunteer experience. The CSC also supports faculty who wish to incorporate service-based learning into their undergraduate course offerings. In conjunction with student organizations, the Office of University Life will concentrate on providing more opportunities for co-curricular learning and leadership through practical experiences.

Maintain the Balance between Academic and Athletic Achievement while Continually Adapting Our Athletics Programs to the Changing Need of Duke Students

Duke's intercollegiate athletics teams have won national recognition over the last decade for their achievements both on the field and in the classroom. These achievements have been a source of great pride to the University community. We know that maintaining the appropriate balance between academic achievement and athletic endeavor requires the continuous efforts of admissions officers, coaches, athletics administrators and faculty members.

In planning for the future, we will adapt our athletic programs to accommodate the interests and abilities of all segments of the undergraduate student body. Gender equity is a nationwide challenge that we are addressing carefully at Duke. In this and other ways, we want to ensure that we meet the changing character of our students and their needs. We recognize that this involves responsiveness in patterns of intramural sports, club sports, physical education and recreational opportunities.

We give high priority to improvements in our recreational facilities that address the health and fitness needs of all students. Planning is now underway for new and renovated facilities at several sites across the University to achieve this goal.

6. Strengthen Duke's Capability to Deliver World-class Scientific Education and Research

Over the last decade, Duke has achieved significant recognition for the quality of its medical and professional programs as well as its undergraduate education. At the Graduate School level, a number of programs, particularly in the humanities and social sciences, have dramatically improved their quality and gained in national standing and influence. While the University faces significant challenges in maintaining our excellence and accelerating our momentum in these areas of distinction, our most serious challenges and perhaps greatest opportunities lie in developing the science and engineering programs at Duke to the level of quality we demand. This will require both focusing current resources within the science and engineering areas more sharply and developing substantial new resources for faculty, program and facilities. In this strategically critical area we face in microcosm the old adage that we can do anything but not everything. Therefore, careful priority setting and selective investment will be critical.

Continue Timely Improvements to Our Teaching and Research Facilities in the Sciences and Engineering

Like other universities whose major science facilities were built in the immediate post-Sputnik era, Duke faces major infrastructure challenges if our science and engineering programs are to remain competitive. We must adapt both teaching and research facilities to changes in the way science is conducted and taught. The Levine Science Research Center responds to these needs, but that facility alone will not address issues elsewhere on Science Drive. The School of Engineering has undertaken recent expansions and renovations (e.g. the Hudson Center for Engineering Education completed in the summer of 1992), and the Medical Center is completing the Medical Science Research Building (MSRB), leaving the most pressing needs in Arts and Sciences.

Continue Efforts to Expand Duke's External Research Funding

One of the chief features of the changing research environment is the emphasis on coalitions and collaborations both within the University and without. We must support our faculty's research efforts by actively assisting in building these coalitions so that we can compete successfully for highly specialized funding opportunities, such as the Technology Reinvestment Project and the Small Business Technology Transfer initiative. Duke already has several highly

successful models of collaboration, such as the Engineering Research Center in Emerging Cardiovascular Technologies supported by the National Science Foundation.

In addition, we will pursue innovative relationships with corporations, government laboratories, and research institutions. Our industrial Associate's Program is an example of how the University can foster productive interactions between academic and industrial researchers. The long-term goal is to increase external funding for both research projects and student support and to establish relationships that will strengthen employment opportunities for students. Our pursuit of external funding will be carefully planned so that opportunities will be pursued in concert with the overall academic priorities of the institution.

Leverage the Opportunity Represented by the LSRC to Recruit and Retain Internationally Prominent Scientists

The strength, vitality, and creativity of our teaching and research programs derive from the excellence of our faculty. Efforts at faculty recruitment in the 80's, while successful, were hampered by the limited availability of competitive start-up packages, matching funds and functional, modern research space. The establishment of the Executive Vice President's Instrumentation Fund in 1989 responded to the needs for sophisticated research laboratory space and access to specialized facilities. The space and resources of the LSRC, in particular, should facilitate the recruitment and retention of faculty. We should also seek ways to expand funds available for matching support and to provide seed money for new projects. While matching funds may be critical to leverage external moneys, seed grants are essential in developing a program to the point where it can compete successfully for external funds. These centralized efforts complement those of the interdisciplinary Common Fund and funding available through the individual schools.

Continue Further Planning for Selective Investments in Areas of Strategic Opportunity Based on the Work of the Science and Engineering Task Force

Recognizing that Duke's size precludes its excellence in all fields, we must increasingly target resources and funding opportunities to identified programmatic priorities. The recently completed report of the Task Force on Science and Engineering outlined several areas of strength and programmatic opportunity -- nonlinear and complex systems, computational science, cognitive science, materials science, environmental science and engineering, organismal and evolutionary biology (biodiversity), and developmental biology. The task force report will be the basis of further planning by the Deans and their faculties in consultation with the Provost's Office and the Executive Vice President.

Create Appropriate Infrastructure and Administrative Support for the Conduct of Research and Other Sponsored Activity

An effective administrative infrastructure is critical to our programs in science and engineering in order to ensure proper stewardship and conduct of sponsored projects. Effectiveness depends not only on well qualified and knowledgeable staff in the pre- and post-award offices and in the departments, but also on improved computing facilities and enhanced data sharing capabilities.

In addition, we will be expanding our efforts at training and outreach. We already offer a vigorous, on-going program of training for grant administrators and thematic workshops throughout the year. We will also develop additional training mechanisms for faculty, staff, postdocs and students in management, and the regulatory and ethical aspects of the conduct of research programs. Training will involve not only workshops and presentations, but the creation of printed and electronic resource documents, such as a Sponsored Projects Handbook. This long-term investment is likely to result in increased success and better post-award stewardship of awards.

Coordinate and Support the Research Programs of Individual Schools and the Medical Center

The close proximity of the campus programs and the Medical Center provides our University with an almost unique opportunity to develop joint research and teaching programs. While closer ties between the biological sciences and the basic medical sciences may be most obvious, the increasingly interdisciplinary nature of the campus supports ties across many programs and schools. Stronger ties will increase funding opportunities and make better use of existing facilities and instrumentation.

Provide Increased Access to Specialized Research Instrumentation

The conduct of cutting edge research is increasingly dependent upon access to specialized research instrumentation. To recruit and retain excellent scholars, we must provide the necessary resources. There can be no single approach to this issue. Whenever possible we will seek collaborative solutions with other institutions through shared instrumentation programs at Duke. We must develop strategies to leverage external funding, expand the instrumentation fund, and create and manage shared facilities.

7. Enhance the Effectiveness of Teaching, Learning and Research

The effectiveness of teaching, learning and research depends principally on the talents and dedication of our faculty and students. In today's world, however, their success depends increasingly on sophisticated academic support structures and deliberate attention to the skills of effective teaching and scholarship. The University must continuously foster creative thinking about the most effective paths of teaching and learning and the most productive research strategies. At the same time, we must ensure that the infrastructure for teaching, learning and research -- classrooms, laboratories, libraries and computing facilities -- adequately supports the efforts of our faculty and students.

Extend the Services of the Center for Teaching and Learning

The Center for Teaching and Learning opened in the fall of 1993 after several years of planning within Trinity College and provides a number of services ranging from group orientations for new teaching assistants to individualized consultations on teaching effectiveness for senior faculty. The Center is staffed and equipped to demonstrate cutting edge instructional technologies and to stimulate practical and fundamental thinking about teaching and learning. As

the Center becomes more fully established, it will provide a natural focal point for exchanging information, stimulating discussion, and providing consultation and training for the entire University community.

Regularly Review the Curricula in Each of the Academic Programs

Curriculum review is an ongoing responsibility of the Deans in conjunction with their faculties. Curricula are regularly reviewed to ensure the appropriate balance between breadth and depth; between time-tested knowledge and exposure to cutting edge research and scholarship; and between domestic and cross-national and international perspectives. The Provost oversees these efforts for non-medical programs. The Fuqua School of Business introduced a major curriculum reform in the fall of 1992 that allows greater depth of study, provides greater integration of business disciplines in course materials, and places greater emphasis on leadership and team participation training. The Arts and Sciences curriculum was reviewed in the fall of 1993; its basic structure was affirmed, but the first year curriculum is still under study. The School of the Environment is creating a new curriculum to pursue its mission and has collaborated with Trinity College in the creation of an undergraduate Environmental Sciences and Policy major. The Divinity School assessed its curriculum as part of its reaccreditation review during the 1993/94 academic year. The Law School has completed a review of its first year curriculum and has proceeded to a review of the upper class curriculum. The Medical Center is revising its medical training programs to take into account the changing health care environment and its biomedical research training to integrate better the Medical Center and other parts of the University.

Strengthen the Computing Infrastructure for Teaching, Learning and Research

As promised in the 1992 planning report, computing has received sustained attention from the University community over the last year. A committee composed of faculty and administrators prepared a report entitled A Clarion Call for Computing at Duke which urged greater coordination of computing decisions at Duke; new investments in staff and advanced technologies; a fundamental cultural shift to more fully integrate the power of modern computing and communications technologies into the teaching, learning, research and administrative practices of the University; and greater reliance on faculty experts in formulating computing policy for the University. President Keohane subsequently appointed an external visiting committee to review computing at Duke and to make recommendations about how to organize computing most effectively. One outcome of these discussions has been the recent appointment of a Vice Provost for Information Technology, who will work closely with the Center for Teaching and Learning, the Perkins Library, the deans and their faculties, and interested student groups to exploit technology-based opportunities more fully.

Efforts to complete the basic infrastructure to support an enhanced computing environment are underway. The DukeNet fiber optic backbone will be completed campus-wide by the summer of 1995; all dormitory rooms will be wired for access to DukeNet by the spring of 1995; Project Hermes, which will ensure the full interoperability of a number of carefully selected e-mail packages, will be completed in the spring of 1995; and recently approved funding for the

Arts and Sciences capital plan will help ensure that both faculty and students in all the schools have access to appropriate equipment and software.

Improve Classroom and Laboratory Facilities

The physical environment for teaching, learning and research plays a major role in enhancing academic quality. The University has made substantial investments in its academic facilities in recent years, and many of the University's academic programs offer outstanding facilities with state of the art classrooms. Despite modest ongoing investments and the opening of the Terry Sanford Institute and the Levine Science Research Center, the area of greatest current need is probably in Arts and Sciences. The Arts and Sciences capital plan devotes approximately \$5.2 million over the next five years to facilities renovations. These renovations for programmatic renewal and adaptation are coordinated with deferred maintenance management to maximize available funding and ensure efficient resource utilization. Project planning also addresses communications and technology issues so that this is one means of economically improving building wiring for electronic communications. Whenever possible, we seek external funds to supplement our own resources. For example, a recent gift of the Paul B. Williams Company is supporting renovation and equipment costs for at least six fully equipped audio-visual classrooms.

Ensure World-Wide Access to Scholarly Resources through Duke University's Libraries

Teaching, learning and research depend heavily on timely access to information, scholarship and research results. The needs of a scholarly community as robust as Duke are extremely diverse -- from ancient manuscripts to the most recent legal opinions and scientific research findings. While advances in information and communications technology are transforming how these needs are met, the pace of change and the needs of students and faculty vary significantly both by field of study and by the country of origin of the resources they require. This is a time that requires careful balance between continuing to build traditional collections and shifting resources to new modes of information access. We intend in 1994 to take up the recommendation of the 1992 planning report to establish a high level task force on scholarly resources under joint faculty and administrative leadership to ensure that we are investing adequately to support our academic priorities, coordinating library resources and responsibilities as effectively as possible across the University, and developing understanding and consensus about the tradeoffs required to manage library budgets. We will continue to expand cooperative efforts with the Triangle Research Libraries Network and other partners nationally and internationally.

Support the International System of Scholarly Communication through Duke University Press

Duke University Press supports the academic mission of the University by advancing the frontiers of knowledge and contributing to the international community of scholarship. Consistent with that mission is the commitment to the highest standards of critical scholarly review and professional publishing judgment. As an intellectual "gatekeeper," the Press contributes to the process of peer review by which academic quality is assessed. The Press's editorial process helps ensure that books and journals actually published are more cogent, readable and accurate than the

initial manuscripts from which they are produced. Duke University Press reflects our aspirations as a University to be bold, innovative, interdisciplinary, international, and to engage in the discussion of important public issues and fundamental human values. The Press carries this message to a wider world. By serving authors and readers far beyond the confines of this University, the Press contributes to the international system of scholarly communication, which depends heavily on non-profit university presses to ensure the dissemination of research findings and scholarship primarily on the basis of academic quality.

The University recently renewed its commitment to the Press and reorganized its management to ensure better planning and greater financial control in the pursuit of the University's objectives for the Press. We expect to receive a major planning report this fall which will chart the editorial and financial directions for the Press for the next several years. The Press's planning will take full account of emerging technologies and changing markets for scholarly communication. We expect to see increasingly strong collaboration between the Press and Duke's libraries in this process.

II. Strengthening Community and Citizenship

Universities, especially private universities, constitute a special kind of community by their nature and history, with long traditions of accomplishment and service, independent governance structures and special rights and duties associated with membership. But the lived sense of community, the feeling of wholeheartedly belonging to and contributing to a collective endeavor, is constantly under stress in the modern research university, and Duke is no exception. These tensions arise because of the scale and complexity of our endeavors, because we value and encourage individual faculty and student achievement as much as we do community, and because we believe deeply in the values of diversity and freedom of expression. In the face of these tensions, preserving and enriching the sense of community that is part of the privilege and appeal of academic life must be a constant concern. We believe that cultivating this sense of community provides an essential framework for the rigors of academic life, a life in which ideas and positions are daily tested and in which honest and direct response and evaluation is a *sine qua non* of the pursuit of excellence.

To the extent that we define and achieve community, we also describe the rights and obligations of citizenship, for the two concepts are inseparable. Citizenship in a community is the constructive participation in its affairs, the willing acceptance of its duties and obligations as well as its benefits and privileges. As faculty, students, administrators, and the providers of essential support services, we play different roles in achieving the University's mission, but we are all part of this larger community.

There is a second and equally important context for the term community, for Duke itself is a citizen of a nested set of larger communities: Durham, the Research Triangle, North Carolina, the United States, and the world at large. Particularly in its most local surroundings, the University must strive constantly to play a constructive role as a good citizen of the Durham community.

1. Strengthen the University's Sense of Community and Ensure the Primacy of Academic and Intellectual Values

It is easier to write about than to create a genuine sense of community, but making community a common theme in our discussions about the University is essential to maintaining and deepening its reality. We must develop and communicate a consensus about the rights and obligations of membership in our community and constantly reinforce through our actions and examples the kind of community we want and expect: a community that values the pursuit of excellence and excellence in others, that tolerates differences but respects constructive criticism; a community that insists on high ethical standards and demands civility in the exercise of the tradition of academic freedom; a community that censures abuse of the privileges of academic life and abhors any violation of the rights of each of us to free expression and physical security. Community is not created from above, but the University's leadership can help shape the conditions for achieving a stronger sense of community at Duke.

Continue to Develop Consensus about the Rights and Obligations of Community Membership

The work of the task forces on intellectual life, residential life and Greek life, as well as the recent contributions by Reverend William Willimon and Professor Reynolds Price include reflections on the rights and obligations of membership in our community. Through these discussions, we must constantly sustain a sense of the cardinal importance of mutual tolerance, respect for persons and property, and attentiveness to the needs and contributions of others. These values are critical to the success of our community.

Promote the Safety and Security of the Campus Community

An academic community is a busy, energetic, spontaneous community, a mobile and often late-at-night community. Nothing undermines this kind of community faster than fear. Duke is committed to providing the public safety presence that will keep the campus as safe as possible. At the same time, we must recognize that policing alone can never provide a full guarantee of safety. We must also provide transportation and building security systems that contribute to a safe campus. Finally, we must educate students, faculty and staff to accept responsibly for promoting their own safety and that of others.

Support Artistic, Cultural, Recreational, Athletic and Other Extracurricular Activities Consistent with an Academic Community

An academic community is a human community, and human beings have interests and needs that transcend their day-to-day vocations. For students, faculty and other members of the University community, it is important to provide opportunities outside the classroom and work place to share in the arts, to participate in athletics and other forms of recreation, and to join together in the pursuit of common interests, whether religious, political or social. The University will continue to support a rich array of opportunities in these areas. The planned construction of new recreation facilities on East and West campuses is the University's most recent commitment to providing significant support for the kinds of activities that enliven our academic community. Longer term, we hope to identify funding to make comparable improvements to our facilities for the arts. These investments will not only support our instructional needs but also enrich the artistic and cultural offerings available at Duke and accessible to the larger Durham and Research Triangle communities.

Foster a Commitment to Lifelong Learning

Duke is a community of learners. The commitment to lifelong learning is evident in the dedication and intellectual curiosity of our faculty throughout long and varied careers and in the skills and attitudes of our students who leave Duke for lives of productive activity along many career paths. But as a learning institution, Duke has the opportunity and obligation to foster this commitment to lifelong learning in other constituencies of the University. Opportunities for lifelong learning start early at Duke, with special programs for exceptionally talented young people such as the nationally recognized Talent Identification Program. For our employees, we must provide educational and training opportunities that help them keep pace with a changing environment and that provide the intrinsic satisfactions of mastering new skills and exploring new

ideas. For our alumni, we want to sustain the commitment to lifelong learning through challenging experiences on campus and abroad and by addressing issues of intellectual substance in our publications. For members of the learned professions outside our alumni body, we will offer programs in appropriate disciplines that address the challenges of their callings while bringing their seasoned perspectives into our halls of learning. Finally, for the community surrounding Duke, provide substantial opportunities for intellectual challenge, artistic exploration and the development of practical skills through degree programs such as the Master of Arts in Liberal Studies for working adults, ongoing programs like the Duke Institute for Learning in Retirement and a variety of short courses and special events.

2. Continue to Develop Constructive Relationships with Durham and the Research Triangle

Durham is Duke's home. Duke has long been a major contributor to the quality of life in Durham and the Triangle region. The changed environment in which the University finds itself has led the University in recent years to expand its concept of its role as a responsible citizen in the life of Durham. Given the real stress on the University's finances and the demands on those resources, Duke alone cannot solve the problems of Durham, nor is it realistic for Durham to expect Duke to do so. But Duke is and will continue to be a responsible citizen and an integral part of the solution to many of the major challenges facing our community. The Medical Center and Duke Hospital are the leading providers of medical care to the indigent in our community. Our students, faculty, and staff are actively involved in community activities that, especially in the case of students, benefit both the recipients of those services and the students themselves who learn the value of service to others. Duke's commitment to encouraging philanthropic endeavors is reflected in the establishment of a volunteer center on the campus. The Community Service Center estimates that fully half of our undergraduates participate in some form of sustained community service. Graduate and professional students are active as well in projects ranging from the pro bono legal service programs of the Law students to Duke Divinity student field work in rural churches.

Organize Duke's Expertise and Energy to Help Meet the Needs of Durham and the Region

As the city has experienced problems common to urban environments, many areas in Durham, including those adjacent to East Campus, have begun to deteriorate. Unless these problems are addressed in a cooperative effort involving local government, community and neighborhood associations and the private sector, the present situation will worsen. The academic resources of Duke, when combined with those of sister universities and especially North Carolina Central University, provide opportunities to address these issues and should be expanded. Duke's recent commitment to invest in an expanded affordable housing loan fund gives special priority to helping stabilize local neighborhoods, in partnership with the city, nonprofit housing groups, financial institutions and Habitat for Humanity and can be a model for similar efforts in other areas of community need.

Intensify Efforts to Communicate Opportunities for Service to and with Durham

Our employees need to know of opportunities to participate in and contribute to the quality of life in our community and region and that Duke places genuine value on such involvement. While the Community Service Center helps perform this role for students, we need to identify ways to inform faculty and staff. Reports about Duke people actively involved in the community are now regularly featured in the Duke Dialogue. In addition, the Duke Community Report, emphasizing Duke-Durham interactions, is now distributed as a supplement to local and on-campus newspapers.

Improve Internal Coordination to Match Duke Resources to Local Needs

To improve information exchange and coordination of Duke's relations with Durham and the Research Triangle area, President Keohane has recently clarified administrative responsibilities and created the Community Relations Council consisting of senior officers from across the University. To emphasize the importance Duke gives to community relations, the Office of Government Relations has been renamed the Office of Government Relations and Community Affairs.

Education, of course, is fundamental to the University. Duke can pursue its mission in ways that will strengthen the community. The expertise of its faculty and the energy of its students bear on the educational challenges facing Durham. Improved public schools will help provide a trained work force to meet the University's future employment needs. Improved schools will help make Durham a more attractive place for faculty and staff at all levels to live and work. And improved schools will lead to increased college attendance, improved employment prospects for Durham's young people, reduced dropout rates, and reduced public expenditures for social services. Duke will continue to work with the Durham Public Schools administration and organizations such as the Durham Public Education Network to support and enhance the quality of our public schools.

Beyond the schools, where Duke already is deeply involved, there are many areas in which University expertise can be brought to bear. Duke will, in conjunction with the community, inventory areas of major community need and assess the potential of each of its schools to contribute relevant experience and expertise. Together with key community constituencies, we should identify where Duke's involvement can help address critical needs, especially in those areas geographically proximate to the campus. While we must be concerned about the quality of life in all of Durham, we must be particularly concerned about the quality of life of our employees and of the neighborhoods immediately adjacent to our campus.

Build Mutual Trust as the Foundation for Cooperative Efforts

To accomplish these objectives, Duke will continue to work with the community and with local government officials to establish a relationship based on openness and trust, with full recognition that entering such a relationship does not mean that there will be agreement on all issues. By working together we have demonstrated that coalitions can be built to help address many of the most critical issues facing both Duke and Durham.

III. Enhancing Academic Medicine

Duke University Medical Center has three core missions: (1) to educate our future medical practitioners and biomedical researchers; (2) to perform biomedical research, and (3) to translate to practice and make available to the public the benefits of our unique clinical and technological resources. The planning for each of these missions is continually evolving because of the rapidly changing environment for health care delivery and medical education.

1. Transforming Medical Education

Traditionally, Duke medical students have focused heavily on careers in specialties and subspecialties, and training has concentrated on quality medical care and biomedical research. The changing scene in health care delivery mandates modification of our basic curriculum and philosophy. The national need will be for more generalists and fewer specialists and subspecialists. This will require more extensive training in primary care and ambulatory settings. In addition, cost savings in the practice of medicine must occur. Attention to the costs of medical care has traditionally not been taught to medical students but now will become a standard part of the curriculum. In addition, biomedical research has expanded its scope to provide training in the study of clinical outcomes and economic strategies in health care. These critical areas of inquiry will be incorporated into the core curriculum, and we will make relevant joint degree programs more accessible to Duke medical students.

With the anticipated reduced need for specialists and subspecialists, the nature of our graduate medical education programs will also change, with an increased emphasis on the primary care disciplines of family medicine, general internal medicine, general pediatrics, and general obstetrics/gynecology. Continuing Medical Education will be strengthened because of rapidly changing medical treatments resulting from new developments in biomedical research and the evaluation of current therapies through more sophisticated outcomes studies. The need for allied health care professionals will grow, and increased emphasis will be placed on our Physician Assistant Program and School of Nursing.

2. Strengthening Biomedical Research

Future advances in medical therapy require a broad range of research. Successful basic and applied research ultimately lead to improvements in medical treatment. The Federal government currently invests over \$13 billion annually in biomedical research. However, these funds will not increase significantly and are already considered inadequate to support the nation's infrastructure for biomedical research. Alternate sources of funding must be identified. A vigorous program in technology transfer is underway at Duke that is designed to enhance research funding, to bring the results of research directly to the market place, and thus to improve the diagnosis and treatment of human disease.

Although research in traditional areas of the biological sciences and medicine have provided major advances in understanding human biology and improving medical treatment, it is unlikely this simple model will suffice in the future. The basic sciences will continue to probe

biological questions at the molecular and cellular levels. However, success will require strong interdisciplinary programs among the basic medical sciences and University science/engineering departments to develop global approaches to research problems. In addition, basic research must be closely coupled to applied research in clinical departments so that fundamental discoveries can be converted rapidly to the practice of clinical medicine. In order to provide a framework for this integrated approach to biomedical research, the training of researchers, and medical practice, five interdisciplinary themes are being developed to organize our efforts in these areas:

- The explosion of knowledge in human genetics over the past decade is breathtaking. The basic research carried out in the Department of Genetics will be coupled with a Program in Human Genetics spanning several clinical departments including Medicine, Pediatrics, Surgery, and Obstetrics/Gynecology. This, in turn, will be directly coupled to genetic therapy, already underway at DUMC.
- The response and perception of cells to environmental signals is being studied and understood at the molecular level throughout all areas of biology. This signal transduction is crucial, for example, in the regulation of cardiovascular function, neuroprocesses, and cell growth (cancer). The immediate importance of this research for human disease is apparent. This area is strongly represented at Duke and will continue to expand. Current departments involved in this work include Medicine, Biochemistry, Cell Biology, Pharmacology, Molecular Cancer Biology, and Surgery.
- Neurosciences begins with the theme of signal transduction but involves very complex intercellular networks. The basic science foundation resides in the Department of Neurobiology but extends into several clinical departments, including Medicine, Psychiatry, and Radiology. Among the special fields being developed are imaging of neural networks and the brain, neural pathway abnormalities associated with mental illness, and Alzheimer's disease.
- Immunology is a pervasive theme throughout the clinical and basic sciences. The development of research in cells specific to the immune system will be directly related to medicine through clinical programs in autoimmune diseases, AIDS, and organ transplantation.
- An understanding of molecular structure is critical for the understanding of biological processes. A structural biology program is being developed that ranges from the molecular level to cells to organs and to whole animals. This involves multiple imaging techniques such as X-ray, electron microscopy, nuclear magnetic spectroscopy, positron emission tomography (PET), and magnetic imaging resonance (MRI).

3. Improving Health Care Delivery

Teaching hospitals associated with academic medical centers have long been centers of innovation. This success has been based on financial foundations that allowed academic medical centers to be high cost providers, supporting expensive specialties and diagnostic equipment, with

the tacit understanding that they would also provide a safety net for the very ill and for the poor. Third party payers bore these costs, but increasingly insurers and other payers are demanding a fundamental reorientation in health care pricing and payment systems. These demands are unleashing competitive forces that will require a significant change in health care delivery in academic medical centers. Efforts are now underway to meet these challenges by reducing costs, preparing for managed care, expanding ambulatory and primary care services, and establishing regional networks of referring physicians. These efforts must succeed in order to maintain Duke University Hospital and clinics as a major academic asset and source of medical innovation. Because our educational and research programs receive direct financial support from the net income of the Medical Center's clinical programs, the continuing viability of our clinical activities is a fundamental requirement. There are several fundamental strategies for successfully meeting these challenges:

Provide Accessible, Cost Effective Health Care of Continuing High Quality

Like other health care providers, academic medical centers will be under considerable pressure to restrain health care costs. Despite the added costs of conducting education and research in conjunction with patient care, academic medical centers will have to become cost-competitive with other providers. Public, private, individual and corporate purchasers of health care service will demand comparable prices and quality of all providers. We are addressing these issues through cost saving strategies, systematic evaluation of patient outcomes to understand the efficacy of particular courses of treatment, and setting practice standards to ensure that the most cost effective treatment approaches are consistently pursued.

Create an Integrated Duke Health Network

Developing appropriate models to provide excellent, cost-effective managed care, including a network of community-based primary care physicians, will be the responsibility of the evolving Duke Health Network. This Duke Health Network will expand primary care capacity through an affiliated physician practice group and external clinical affiliations and will be responsible for the Medical Center's managed care initiatives. The Duke Health Network will include other new activities, such as home health care, rehabilitation and other health needs to serve entire communities with the best available value-oriented health care.

Enhance Clinical Services for Patients and Referring Physicians

Providing outstanding service depends on a knowledgeable work force committed to customer service. Hundreds of hospital employees are receiving customer service training. This service orientation is being developed with respect to both patients and physicians. Total quality management initiatives bring together employees from various areas to solve specific problems.

To service the growing Duke Health Network, the Medical Center must provide state-of-the-art information systems for centralized appointments, clinical data management, patient billing, and clinical treatment. In addition, information systems are being developed to measure utilization according to patient and physician and to support longitudinal evaluation of the health status of every patient.

Provide Clinical Facilities that Meet Changing Needs

Appropriately designed clinical facilities are essential to retaining outstanding clinicians and to meeting patient needs. Selective investment in new space and renovations is an ongoing process. The Medical Center will continue programmatic and financial planning for the Ambulatory Care Center and Children's Health Center. In addition, the primary care clinics required to support our managed care initiatives will be expanded. The Duke Health Network will use Duke's central medical facilities as the tertiary hub for a significantly expanded primary care physician network. The initial step in building the primary care network is to reorganize existing Medical Center satellite clinics to provide a broad range of primary care services in family practice, general internal medicine, pediatrics and women's health. To meet the demand that will accompany managed care contracts, however, additional primary care capacity will be needed. This capacity will be added through strategic acquisitions and affiliations under the auspices of Duke University Affiliated Physicians, Inc., a not-for-profit subsidiary of Duke University operated by the Medical Center. The creation of Duke University Affiliated Physicians was the initial step in building a health care network that will provide the capacity necessary to sustain the Medical Center's academic programs.

IV. Increasing Academic and Administrative Effectiveness

The improvement of academic and administrative effectiveness is part of our core commitment to keeping a Duke education as affordable as possible. This commitment encompasses not only careful management of the human and financial resources invested in the broad array of support services we require at Duke but also those measures that will allow our faculty to be as productive as possible in meeting the teaching, research and service missions of the University. Duke has an admirable track record of management effectiveness: more than two decades of balanced budgets, AA1 bond ratings⁴, a virtually impeccable federal audit record, and administrative costs relative to our total operating budget that compare favorably to peer institutions. In this period of increasingly constrained resources in higher education, managing even more efficiently and effectively can provide a significant competitive advantage.

1. Foster the Strategic Management of Key Academic Resources

Much has already been said about enhancing academic quality as a key strategic theme. We carry that theme into our discussion of management effectiveness because achieving academic quality requires more than sound finances and talented faculty and students. The pursuit of academic quality also requires deliberate, effective planning and management. While we must certainly foster the individual creativity of faculty and students, we must also carefully plan our course and manage our academic resources.

Strengthen the Coordination of Faculty Appointments across the Schools

We have made great progress in our school by school academic and financial planning and in coordinating central academic priorities with the activities of the schools. A dimension of academic planning that is still underdeveloped is coordinated faculty development across the schools. Particularly as we seek to increase diversity, promote internationalization and capitalize on the potential for interdisciplinary cooperation, it is essential that the annual faculty search process involve coordinated discussions among the Deans under the leadership of the Provost.

Continue to Build Ties to Other Triangle Area Universities

Resource sharing can often be an effective means to meet common needs at reduced cost. Just as greater coordination within Duke can serve this end, so too can cooperation with the other major universities in the Research Triangle. We already have many models of such collaboration -- from the Triangle Universities Nuclear Laboratory to the Duke-UNC Joint Program in Latin American Studies, which has been named a national resource center by the Department of Education and won major support from the Mellon Foundation. The Triangle Research Libraries Network (TRLN) recently expanded its membership when North Carolina Central University joined Duke, University of North Carolina Chapel Hill and North Carolina State University in an organization that provides for mutual borrowing privileges, shared collecting responsibilities, and common library information technologies. Duke will take a leadership role in seeking to build

⁴This is the University Moody's rating. Only a few universities have higher ratings, largely on the basis of more sizeable endowments.

upon these already impressive accomplishments to bring the several campuses more closely together.

Continue Department Level Reviews of Academic Programs

Independent peer review is a primary means of judging academic quality. Duke established a system of periodic department peer reviews in 1987 under the auspices of the Dean of the Graduate School. Results are reviewed in detail by the Provost's Academic Priorities Committee and in summary form by the Academic Affairs Committee of the Board of Trustees. Altogether some 36 departments and programs have been reviewed. We are committed to continuing this program as a means of enhancing academic quality and insuring the effective utilization of our academic resources.

Establish School Level Reviews in Conjunction with a Five Year Rolling Schedule for Revising the Strategic Plans of the Schools

Although several programs and schools within the University undergo periodic accreditation reviews, the University itself does not conduct independent peer reviews at the school level. Our best current assessment mechanisms are national rankings and the strategic plans of the schools. We plan to move to a planning calendar in which school plans are prepared and reviewed on a rolling basis so that they can receive more specific discussion and assessment. Whenever possible, these planning periods will be coordinated with accreditation reviews. In cases where there are no accreditation reviews, we will arrange for appropriate outside reviews.

Periodically Review Resource Allocation Mechanisms across the University and within the Academic Sector

Universities vary little in their fundamental accounting practices, but the variation is significant in the principles and practices of internal resource allocations. Since resource allocation principles and practices are only means to larger ends such as enhancing academic quality or strengthening community and citizenship, such systems should be periodically reviewed to ensure they are meeting the goals they were meant to achieve. During the 1992/93 academic year, the President's Advisory Committee on Resources (PACOR) undertook a first review of the management center budget system inaugurated during fiscal year 1991/92. Subsequent reviews are scheduled every three years. The focus of these reviews is the intersection between the budget of the Provost (the Provost's Area Management Center) and the budget of the Central Administration Management Center. With the appointment of a new Provost, it will be appropriate also to review the current principles and practices of financial administration within the Provost's Area Management Center. Like the PACOR reviews, this process should also be scheduled for regular intervals.

2. Improve the Effectiveness of Academic and Administrative Support Services

The University depends on a wide array of administrative and academic support services, from basic accounting and public safety services to library support and career counseling. On any of a number of measures, the University has grown in both size and stature over the last decade, putting new demands on these services. Services tend to grow by replicating themselves to meet

these new demands. In a period of increasingly constrained resources and with abundant examples from other industries and service providers, our belief now is that we need to rethink what we are doing and how we are doing it. Productivity results from a combination of efficiency and effectiveness. While the two concepts are related, efficiency measures the use of inputs; effectiveness, the value of outcomes. We aim to increase the productivity of our academic and administrative support services. Our intention is to reduce the size and relative cost of these operations whenever possible in order to direct more of our resources to the core missions of teaching, research and service. Examples of cost reduction initiatives already underway include a new energy conservation program and overhead reduction efforts in Facilities Planning and Management that will produce savings of approximately \$3 million by the fifth year of our planning horizon, the reorganization of Student Financial Services, and the consolidation of university planning functions into the staff work of appropriate senior officers.

Regularly Review Academic and Administrative Service Providers to Achieve Greater Productivity

Good management practice dictates regular and independent analyses of each service we provide to rethink its premises, to benchmark its performance, to calibrate its level of service, and to consider possibilities for redesigning its basic processes. This ethos is already well ingrained in the regular reviews of our academic programs, and we have now begun a parallel program of reviews of academic and administrative service providers with the aim of increasing their productivity. The approach is cross-functional, involving general management expertise from Internal Audit, human resources expertise from Organizational Training and Development, and financial and planning expertise from appropriate sources. The Duke evaluation team works with external reviewers and the Duke service providers to conduct a self-assessment and review and to develop plans of action that will rely on appropriate management techniques such as total quality management and process reengineering. Current cost reduction initiatives in Facilities Planning and Management are the result of this kind of review.

Strengthen Duke's Human Resource Management

Duke's employees are the linchpin of its success. As we seek even more effective resource management, the motivation and development of our work force has become an institutional priority. This requires effective management training, ongoing performance evaluation, investing in skills and technologies that will increase productivity and facilitate career advancement, a supportive work environment that fosters mutual respect and teamwork, and compensation arrangements that allow us to compete effectively for the best employees. The Center for Management and Professional Development was recently opened to provide a focal point for management and skills training, with both standardized and customized training programs. The University has also begun a comprehensive review of its performance management practices and expects to make significant changes in its performance appraisal system over the course of the next several months. Our salaries and benefits remain competitive, and we are committed to maintaining a compensation program that recognizes individual achievement and the competitive environment within the constraints of University resources.

Continue Administrative Review of All Vacant Staff Positions

In December, 1993, the University inaugurated a more formal review process, at the senior officer level, for creating new positions and hiring into vacant positions. The objective of the new review process is to stimulate creative thinking about staffing priorities and encourage the reduction in the size of the University's administrative and support staff through attrition. This very visible and immediate measure is intended to complement the longer term management strategies discussed above.

Modernize Administrative Computing Systems

Duke has made relatively few investments in major administrative systems over the last decade. As a result, our systems are expensive to maintain, do not communicate with each other and fail to meet the information needs of internal customers in an increasingly decentralized management system. The result has been a proliferation of "shadow systems" created by individual departments to meet local information needs, and this has only reinforced the pattern of balkanized information and inefficient resource utilization. With the progress of distributed computing, client-server technology and sophisticated relational databases, it is possible to renew our administrative systems in ways that will be more effective in meeting the local information needs of diverse segments of the University while at the same time knitting us together through the ready access to standardized information sources. This process of strategic investment in information resources must go hand in hand with our other management initiatives, particularly the review of administrative processes and efforts to "reengineer" the way we meet our administrative objectives. The Vice Provost for Information Technology will take a leadership role in these efforts in conjunction with the Chief Financial Officer and other senior administrators. Planning has already begun for several major systems, including a distributed purchasing and accounts payable system that will allow document preparation at local work stations; an integrated budget, planning and financial analysis system that will eliminate paper and duplicate data entry from the budget process while eliminating financial shadow systems; and a comprehensive student information system that will tie together admissions, registration, student billing, financial aid and student loan functions.

3. Strengthen Land Use and Facilities Planning

Duke enjoys a substantial natural endowment in the form of its Durham campus and the surrounding Duke Forest. The importance of Duke Forest as a University asset was recognized by the Land Resources Committee, whose policy recommendations were adopted by the Board of Trustees in May, 1989. For the campus proper, the 1987 report of Dober Associates galvanized internal discussion about the future direction of the various major segments of the campus but did not result in firm policy guidelines or the formal adoption of specific recommendations. In the absence of clear guidelines for future development, the University community has had to work through major facility decisions on a case by case basis, a process that is not only time consuming but also potentially costly in foreclosing opportunities for more coordinated future development. With the support of the Board of Trustees, therefore, the University has begun a campus master planning effort through the University Architect.

V. Securing our Financial Future

The bottom line in higher education is not profit and loss but the quality of outputs -- the creativity and dedication of faculty members transformed into significant new discoveries and scholarship, the curiosity and ambition of students transformed into competence, self-assurance and understanding. The depth and impact of these transformations depend very much on the qualities of the people involved, and that is why Duke seeks the very best faculty and students. But we have also emphasized the importance of active planning and management in achieving these transformations, which are at the heart of the University's mission. Secure financial foundations are a necessary but no means sufficient condition for achieving our ambitions. The Financial Equilibrium Policy adopted by the Board of Trustees in 1985 requires not only balanced annual operating budgets but appropriate stewardship of University assets so that they will continue to provide the foundation for Duke's success for generations to come. This section will address the stewardship of University assets; we will return to the annual operating budget in the financial discussion that follows.

Endowment Management

Currently, the University's endowment totals about \$700 million and generates income of approximately \$36.6 million annually for financial aid, academic and medical programs, libraries, and other campus activities. Duke's endowment is relatively small compared to the assets of other major private universities, and this requires prudent and effective stewardship. In 1989 the Board of Trustees approved the creation of the Duke University Management Company (DUMAC) as a separate affiliated corporation. This new corporation was given the mission of managing all of Duke's invested assets -- including the University's endowment, certain pension funds, cash management pools, and direct real estate. DUMAC has assembled broadly diversified expertise to manage the University's financial assets. The DUMAC Board, approved by the University Board of Trustees, determines investment policies that seek to preserve the real value of our financial assets while meeting our current spending objectives. The most important of these objectives is to achieve a real rate of return consistent with the Board of Trustee approved endowment spending rate of 5.5% of each year's beginning market value for permanent endowment funds. In 1991/92, the University began a systematic process to reduce the University's endowment spending rate to this more prudent level from approximately 7.3%. The eight year transition will be completed in 1998/99. The University is committed to completing this transition, which has meant that the annual income available from individual endowment funds has not kept pace with increasing costs, shifting increasing burdens onto the operating budget. The University's long-term investment pool has realized annualized total returns which have ranged from 7.7% to 17.5% per annum in the period 1989 to 1994. The Board of Trustees monitors DUMAC's performance in meeting the University's investment objective, which is critical to the overall financial health of the institution.

Facilities Maintenance/Deferred Maintenance

Prudent stewardship of the University's resources also includes maintenance of its facilities and physical plant infrastructure. The University's facilities require not only ongoing routine maintenance but also significant expenditures on deferred maintenance needs that have accrued during past decades. Duke's routine maintenance activities are performed by the University's Facilities Management Department and are funded through building budgets included in the University's unrestricted general fund budget.

Recognizing the importance of preserving its physical assets, Duke launched its deferred maintenance program in 1978 to address its backlog of maintenance deficiencies through selected audits of facilities and targeted maintenance interventions. In 1989, Duke implemented a more systematic computerized facility audit program to better estimate the totality of its deferred maintenance needs. Deferred maintenance activities are also performed by Facilities Management, and are funded primarily through two sources: 1) planned and orderly increases in annual building budgets, and 2) a portion of the indirect cost recoveries from grants and contracts.

Capital Budgeting

Capital budgeting is typically not very sophisticated at colleges and universities, in large part because facility construction and renewal often depends on external gifts, grants and other funding sources. Increasingly, however, colleges and universities are aware of the potential pitfalls of neglecting capital budgeting and of failing to recognize the economic consumption of their facilities in understanding their financial conditions. To further advance prudent stewardship in this area, the President's Advisory Committee on Resources recently conducted a study of Duke's capital planning and capital initiative approval processes. As a result of the study, the University is developing a comprehensive annual capital budgeting process to consolidate planned capital initiatives within the rubric of a capital budget. We expect that the creation of a capital budgeting process will further strengthen the University's planning and management of its capital expenditures.

The Fiscal Outlook: Priorities and Constraints

The financial underpinnings of this planning effort have been provided by the University's second exercise in school-based financial planning. The philosophy of school-based financial planning is that academic planning is inseparable from its financial dimensions and that primary responsibility for the planning should rest with the Deans who carry out academic programs. School-based financial planning mirrors the formula budget system and reinforces the opportunities and accountability inherent in decentralized financial management. The planning exercise is conducted through a series of school-by-school financial planning models, which allow each Dean to model and reflect choices about ongoing operations and new initiatives. The models and accompanying academic plans are carefully coordinated to ensure that university-wide planning assumptions are incorporated and reviewed by the senior officers.

Under our current formula arrangements, the schools are assigned the majority of the University's non-medical revenue for budgetary purposes. From their assigned revenue, the schools cover their direct expense and provide a contribution for administrative and academic support services outside their direct control. These expenses range from the Perkins Library system to the Accounting and Disbursements departments. In the aggregate, these important support functions are funded in three fundamental ways: first, by the use of the University's unassigned income; second, by contributions from the schools reporting to the Provost; and third, by cost allocations to the Medical School, hospital, auxiliaries, and service components. Because these flows are inter-linked into a single financial system, setting the parameters for school-based financial planning simultaneously determines the resource constraints for administrative and academic support services. In this planning cycle, we have not conducted detailed financial reviews of these activities. Our fundamental assumption is that we will manage their costs in conformity to the parameters for school-based financial planning. These parameters should not be viewed as immutable, but as indicating the general direction and magnitude of financial issues and dynamics. If for no other reason than that our allocation of shared expenses to schools is dependent on a three year rolling average of revenue, figures will vary slightly from year to year. Nevertheless, we have intended our financial plans to be built on fundamental realities and to reflect basic management commitments.

School-based planning has been an iterative process, driven by a dialogue between the need to address university-wide priorities that transcend the schools and the programmatic ambitions of the schools themselves. Although these assumptions have undergone revision in the course of this dialogue, our current planning parameters assume:

- Approximately 3.5% growth in the ongoing cost of administrative and academic support services with the additional assumption of a reallocation of \$1 million in base adjustments to support University science initiatives, in particular the LSRC, beginning in 95/96.
- A set of central University funding priorities financed through a combination of discretionary resources from the President and Provost, internal reallocations, and contributions from the schools. These central funding priorities include: the Provost's

Academic Priorities Pool, which increases each year to a total of \$2.5 million annually and in turn helps fund other central priorities; \$2.0 million per year in support for science and engineering education, including initial costs for the LSRC; \$300,000 annually in supplementary stipend support for the Graduate School; a Black faculty recruiting fund of \$500,000 per year and base budget support for the program in African and Afro-American Studies; seed money for university-wide internationalization initiatives that builds to \$500,000 per year; \$2.0 million in front-loaded support for improving our computing environment and the addition of \$1 million of new funding to the annual operating budget; approximately \$1.5 million in one time support for library technology investments; transitional operating support for Duke University Press declining from \$300,000 to \$200,000 per year; and incremental funding added to the operating budget at a rate of \$550,000 per year for deferred maintenance and compliance with the Americans with Disabilities Act.

The schools are asked to contribute between \$1.1 and \$1.7 million per year in new funding to support these initiatives. We recognize that designating University resources for these central priorities constrains the financial and programmatic options of the individual schools. We nevertheless believe these are essential investments in the University's future that will benefit the entire institution in the long run. If we assume 5.0% aggregate revenue growth in the academic sector (excluding restricted funds) and our current financial aid commitments, the direct expenditures of the schools would only increase at an estimated rate of 4.0% per year, a rate significantly lower than in the recent past. Although some schools may have revenue opportunities in special market niches that will allow more rapid growth, all schools face new constraints. These constraints result not only from the funding required for university-wide priorities and for the ongoing costs of academic and administrative support functions but also from the revenue limitations we face in virtually every program. Within these constraints, there is little room for programmatic growth except through substitution. Indeed some units may have to curtail some activities to maintain balanced budgets.

The reality of constraint applies as well to the Medical Center with its complex interdependence among educational, research and clinical service programs. Funding subsidies from clinical service net income play a role in the Medical Center's academic endeavors similar to that which tuition revenues play in the other schools of the University. Our clinical programs operate in an external environment characterized by rapid and fundamental change that is sure to result in diminished net income in the best of circumstances. The Medical Center expects operating revenues to grow at a sharply curtailed 2 to 2.5% per year. Expense growth will be contained within the limits of revenue. These limited resources must be channeled to activities, whether educational, research or clinical service, that are of demonstrable quality and necessity.

The key to brightening this picture of constraint is effective fund-raising, which holds the promise of increasing the University's ability to ensure the success of our initiatives and the achievement of the academic distinction to which we are committed.

The Cost of Leadership: Fund-raising for the 21st Century

Duke University faces significant financial challenges in meeting its academic aspirations. Despite the current climate of resource constraint, competition among the leaders in private higher education remains intense. The major national institutions with which we compete for students, faculty, research funding and corporate and foundation support are not standing still; several are engaged in capital campaigns designed to raise a billion dollars or more.

Duke is now at a crossroads. We must choose between two different paths: to stand on our achievements within our currently available resources, or to reach boldly towards new levels of excellence. All those in the campus community involved in our planning deliberations are unanimous that the first path is a recipe for mediocrity which will have only deleterious consequences in the long run, significantly undermining Duke's current position in higher education and permanently foreclosing opportunities for national and international leadership. The second is the path that Duke has always taken at comparable crossroads in the past. It is as a direct consequence of those visionary choices that our University has reached its current levels of excellence in such a short span of decades. We must be bold enough to take again the path which the Indenture and our mission point out to us.

Competitive advantage in private higher education comes from several sources -- from leadership and execution, from entrepreneurship and teamwork, from careful planning and prudent risk taking. When these qualities coalesce in an academic community of the best faculty and students, as at Duke, a university of great distinction can result, a place where the creation and dissemination of knowledge create the fabric of everyday life, a fabric of many strands and threads, of lectures and seminars, of language labs and chemistry labs, of conversations in the dormitory commons and in Faculty Commons. The fabric becomes a tapestry, bordered by self-government and community service, concerts and athletic events, worship in the Chapel and walks in the Garden, a whole much greater than the sum of its parts.

If we move from aesthetic metaphors to the realities of resources, the issue is how the University can *financially* be more than the sum of its parts, how it secures resources for the margin of excellence that differentiates the ordinary from the extraordinary. The answer lies in attracting the financial support of alumni, foundations, corporations and other friends of the University. Thus, the financial corollary of leadership, entrepreneurship and careful planning in achieving competitive advantage and distinctiveness is effective fund-raising.

Funds for endowment are especially critical. Endowments are the lifeblood of private higher education in America, making the crucial difference between struggling institutions attempting each year to make ends meet by piecing together a bare-bones budget, and strong and resilient institutions ready to seize new opportunities as they arise, appropriately shielded against temporary misfortune and prepared to flourish in the longer term.

A significantly larger endowment is essential to sustain Duke University's twin commitments to achieving "a place of real leadership in the educational world," in the words of the Indenture, and to ensuring the accessibility of a Duke education through our tuition and financial aid policies. The two commitments are in tension, and without a rapidly growing endowment, they cannot both be sustained.

The data are dramatic. Despite the conclusion of a successful capital campaign in 1991 that virtually doubled our endowment over a period of eight years, Duke's relatively small endowment presents the most serious long-term challenge facing the University. Duke has approximately 1/9 the endowment resources of Harvard, 1/5 those of Princeton, 1/4 those of Stanford and from 1/3 to 1/2 of those of Chicago, Columbia, Cornell, MIT, Northwestern and Rice. On a dollars-per-student basis, Princeton can call on about eight times the endowment resources available at Duke. Each Harvard, Yale or Rice student is backed by five times more endowment than students at Duke. Of the 18 prestigious private universities in the Consortium on Financing Higher Education, Duke ranks 15th in endowment per full-time student. This sobering reality stands in sharp contrast to the common perception that Duke is among the wealthiest private institutions.

Fortunately, Duke University has enjoyed the stalwart support of The Duke Endowment since its inception. James B. Duke's 1924 Indenture simultaneously created The Duke Endowment and provided financially for the transformation of Trinity College into Duke University. Through the years, The Duke Endowment has supported the University magnificently, not only through generous financial contributions but also through the wise counsel of its trustees and staff. As specified in the Indenture, Duke University receives 32% of The Duke Endowment's earnings, an allocation which totaled \$15.3 million in FY 93/94. This income sustains the entire University. In the early years of the University, this entitlement income supported more than 50% of the University's operating budget; today, only about 2% of our annual operating budget is supported from this source. In addition, The Duke Endowment has been able to make special annual appropriations for a variety of critical needs on campus and in the Medical Center. The Duke Endowment, however, also serves other institutions and activities. While we count on the support of the Endowment into the future, it is important to understand the necessary limits of that support.

Duke is now organizing itself for effective fund-raising to support the priorities required for Shaping Our Future. The focus, in addition to endowment, will be on completing the fund-raising for several ongoing capital projects and for unrestricted annual operating support. This overarching set of priorities will require the development of new fund-raising strategies at Duke. Foundations and corporations contributed more than 70% of Duke's private support over the last decade, but foundations and corporations generally prefer to support specific programs, and typically do not provide funds for endowment, facilities and unrestricted operating support. If Duke is to attain its fund-raising goals, individuals must dramatically increase their giving to the University. We currently generate only 30% of our private support from individuals, well under Princeton's 67%, Stanford's 59%, Yale's 57% and Harvard's 53%. But Duke is still young: 45% of our alumni graduated in the 1980s and 90s. During the next decade, more and more of our alumni will be able to make significant contributions to support the work of the University.

Our fundamental priorities for future fund-raising will be to increase unrestricted endowment support for the University as a whole as well as for the individual schools, to raise restricted endowment that supports current core needs such as endowed professorships, scholarships and library support, and to maintain current rates of growth in annual giving, a vital source of unrestricted income to each of the schools and to the University as a whole. While we must seek to maintain this annual support, we recognize the critical importance to the long-term future of the University of substantially increasing the University's endowment. So important is this goal that our fund-raising objective can perhaps best be articulated as the need, over the next five to ten years of our history, to double through new gifts our institutional endowment, which currently stands at approximately \$700 million. We believe this is a reasonable expectation based on the review conducted by Carol O'Brien Associates subsequent to the 1992 planning report, which discussed a preliminary fund-raising goal of \$900 million.

At this stage in our planning, it is premature to present dollar goals for specific priorities. Within our fund-raising capacity, however, we know that we will seek funds for the following major needs:

- *Unrestricted Endowment*: Both for the University's senior leadership and for the Deans of the individual schools, unrestricted endowment is precious because of its permanence and flexibility. For the President and Provost, such funds permit the support of emerging opportunities and university-wide priorities as well as the most pressing needs of individual academic programs. The Deans require similar flexibility in responding to school-based opportunities and priorities and meeting the needs of their faculties.
- *The Levine Science Research Center*: Occupancy of the University's major new investment in interdisciplinary scientific education and research is now complete. The LSRC houses the entire School of the Environment; several other departments and programs from Arts and Sciences, Engineering and the Medical Center; and facilities for shared instrumentation and research support. A portion of the building has deliberately been left unassigned to allow for further interdisciplinary combinations. This bold project to join programs from across the campus in a state of the art facility, the first new science facility for non-medical programs constructed in several decades, was predicated on successful fund-raising. To date approximately \$40.5 million has been committed towards our fund-raising goal of \$70.5 million, including the \$10 million naming gift from Mr. Leon Levine. Now that the building is in operation, placing significant new pressures on the budgets of each of the participating schools with debt service and operating costs, completing our fund-raising goals for this facility is our most immediate priority.
- *Financial Aid and Fellowship Support*: Each of our schools supports major financial aid programs that help ensure the accessibility of a Duke education for the most academically talented students we seek to educate. This support is essential to our quest for academic quality, but our financial aid commitments are becoming increasingly expensive. Federal and state support has not kept pace with rising costs, and the increased socioeconomic and ethnic diversity we have sought in our educational programs has simultaneously increased

the demands on our resources. While the policies and fundamental dynamics of financial aid and fellowship support vary across the academic programs, increased endowment is essential in each case.

- *Faculty Enhancement:* This broad category includes both support for prestigious endowed chairs that attract and recognize distinguished faculty and support for the infrastructure of academic quality that is so essential in attracting and retaining outstanding faculty members. This support includes research funds, computing and library resources, and specialized laboratory equipment and research materials.
- *Internationalization:* A major theme of our planning efforts is the internationalization of our academic programs and our campus community. The recently completed report of the Provost's Executive Committee for International Affairs, "Duke University in an Interdependent World," puts life into this concept and identifies the specific measures necessary to realize the vision of academic leadership in a global context. The issues range from supporting visiting students and scholars to exploiting the power of global communications.
- *Student Life:* Campus discussions about the quality of student life are still underway based on the efforts of the task forces discussed earlier in this report, but there is already a strong consensus about the need to provide enhanced recreational opportunities for students and other members of the campus community. Although we expect the recent period of major construction on campus to come to an end, with a greater emphasis on renovating current facilities for changing programmatic needs, recreational facilities are a major priority, and the University has planned investments of approximately \$25 million for construction of new facilities and renovations of existing facilities on both East and West Campus. These much-needed steps will not be taken until significant proportions of the costs of the facilities have been covered through generous gifts from alumni and friends of the University. Additional needs in the area of student life may include support for enhancements to residential life and other programmatic needs.

These goals are ambitious but so is the University. The mission and ambition of Duke runs throughout this document and the life of the University. We know that to sustain our commitments to excellence and accessibility will require the identification of new resources, not to expand the whole enterprise, but rather to invest selectively in those activities that support the highest priorities identified in our planning. We understand full well that reaching for these new heights requires a partnership based on the University's willingness to devote its own resources selectively to its highest priorities and the conviction among alumni, foundations, government agencies and businesses that a dollar entrusted to Duke will yield abundant academic and social returns.

On the basis of this shared conviction, Duke will proceed with confidence from this crossroads down the path toward even greater eminence.

Ensuring Planning Success

In a rapidly changing environment, planning is prelude not only to effective action but also to further planning. The purpose of this concluding section of our report is to discuss preliminary benchmarks for monitoring our success in achieving the aspirations articulated in this plan and to identify areas for further study. We found at the conclusion of the 1992 planning process that identifying significant issues for further intensive study was extraordinarily fruitful. This report reflects several such studies relating to science and engineering, internationalization, computing, and development.

The Importance of Assessment and Accountability

This document advocates a process of ongoing improvement in the University's academic programs and academic and administrative support services. We must pursue these improvements in the face of increasing resource constraints. Given these constraints, it is essential to focus on priorities, to allocate effort and financial resources accordingly, and to assess outcomes carefully. In an academic environment, quantitative measures are necessary but not in themselves sufficient in guiding these assessments, which must also be sensitive to qualitative factors that affect academic quality and distinction and that define particular intellectual and programmatic niches that may be difficult to capture quantitatively. This is the reason that academic quality control typically relies on peer review at virtually every level, from the individual faculty research proposal or publication to the evaluation of departments and schools. The section of this report that addresses academic and administrative effectiveness extends this principle of peer review also to administrative areas.

Whatever the precise weighting of quantitative and qualitative assessment, deliberately tracking progress towards both our academic and financial goals is the linchpin of our improvement efforts: It guides management decisions and documents achievements that result from making hard choices. Without such assessments, the impetus for change and improvement can quickly dissipate, and the continuous improvement cycle is broken.

Our planning process assigns significant responsibility to individual academic and administrative units in defining appropriate quantitative and qualitative measures of achievement and in assessing performance in achieving the goals of each enterprise. This responsibility is shared by the senior officers through their active participation and review. There are several reasons for vesting much of this responsibility with the schools and academic and administrative support departments:

- It is consistent with the notion of distributed responsibility inherent in our decentralized management system.
- It is essential that Deans and the directors of administrative units "own" the process of evaluation and believe in the measures of success used to evaluate progress toward their goals. Such ownership is motivating and empowering; its absence can produce the opposite effects.

- While the fundamental mission of all units, academic or administrative, is to advance the causes of teaching, research, and patient care, there is a tremendous diversity in the way particular units are called upon to support that mission. Deans and directors are in the best position to balance qualitative and quantitative measures of progress toward goals so that their self-assessment is nuanced and appropriate.

At the institutional level, of course, there are other forms of assessment that speak to corporate concerns such as financial strength and investment performance. Even qualitatively, we must have a means of ensuring that the institution as a whole is indeed greater than the sum of its parts and that the right elements are in place and functioning effectively to produce this result.

Key Indicators of Success

Five strategic areas have been identified as of critical importance to the University at this stage in its history: Enhancing Academic Quality, Strengthening Community and Citizenship, Enhancing Academic Medicine, Increasing Academic and Administrative Effectiveness, and Securing Our Financial Future. In each case, a number of priorities have been articulated to guide our management actions. Assessing our success cannot be reduced to a simple formula, or even a complex one, but clearly there are benchmarks we need to watch in the context of our ongoing planning and external reviews. These indicators are meant to provide representative examples rather than definitive benchmarks. During the coming year, we will identify appropriate measures, compiling baseline data for Duke and using relevant comparative information from other institutions.

Academic Quality

- *Competitiveness of Academic Programs Compared to Peer Institutions:* Student application, admission and yield rates; the number of students also admitted to peer institutions who chose Duke; entrance test scores and grade point averages of matriculants; number of national scholarship and fellowship winners. Faculty salary rankings; recruiting success rates; quality of external offers to current faculty; faculty honors and research awards. External reviews and accreditation reports; graduate and professional program rankings.
- *Student Quality and Achievement:* Entrance test scores and grade point averages; selectivity and yield rates; grade point averages and honors while at Duke; in-school surveys of student satisfaction; placement results; acceptance rates for post-baccalaureate training; post-graduation surveys of alumni satisfaction; professional and public service accomplishments of Duke graduates.
- *Faculty Distinction:* Peer reviewed research awards and publications; patents and licenses of intellectual property; membership in national and international honorary

societies; prizes for teaching and research accomplishments; student reviews of teaching effectiveness; tenure review success rates of departments and schools.

- *Diversity and Internationalization:* Gender, race and nationality of students and faculty; participation rates in foreign programs and number of foreign programs and visitors at Duke; number of applications and students admitted from abroad to each academic program; number of courses and extracurricular events with substantial international content or focus on multicultural perspectives; number of encounters between senior Duke administrators and education, government and business leaders from abroad.
- *Academic Infrastructure:* Level of investment in computing infrastructure; availability of computing resources; access to information and materials through Duke University's libraries; number, configuration and quality classrooms, laboratories and other specialized facilities.
- *Financial Support:* Comparative tuition rankings; comparative endowment per student; development targets and success; university subsidy per student by program.

Strengthening Community and Citizenship

- *Community at Duke:* Proportion of undergraduates choosing to live on campus; number of faculty and resident assistants in residence halls; number and variety of extracurricular activities, major speakers, cultural and athletic events; number of Judicial Board incidents; campus safety statistics.
- *Duke's Participation in the Durham Community and the State of North Carolina:* Number of high level meetings and discussions with local and state leaders; rates of participation in volunteer activities; frequency and tenor of press coverage of Duke's activities; participation rates in United Fund campaign; number of programs of benefit to the citizens of North Carolina.

Enhancing Academic Medicine

- *Medical Education:* Student application, admission and yield rates; overlap performance compared to peer institutions; entrance test scores and grade point averages of matriculants; number of national scholarship and fellowship winners. Distribution of residencies at Duke and for Duke M.D.s at other teaching hospitals; growth of Continuing Medical Education and Continuing Professional Education programs; growth of distance learning capabilities (teleconferencing and telemedicine); production of professionals in critical areas (e.g., primary care practitioners).
- *Biomedical Research:* Sponsored research support; number and quality of research publications; faculty honors and awards; number of patents and licenses.

- *Health Care Delivery*: Number of innovations in clinical procedures and management; number of affiliations with managed health care plans; number of participants in the Duke Health Network; participation rates of Duke employees in the Duke Health Plan; outcomes assessments of treatment effectiveness; surveys of patient satisfaction; financial performance of Duke University Hospital and affiliated organizations; national recognition for patient care and clinical programs in lay publications.

Increasing Academic and Administrative Effectiveness

- *Management of Academic Resources*: Number of joint faculty appointments; number and rates of participation in joint degree programs; number and rates of participation in cooperative programs with other area universities.
- *Administrative Management*: "Best practice" benchmarks of specific administrative processes; number of paper-based and computer-based administrative systems; rates of growth in administrative costs; gender and ethnic diversity of the work force by employment category; FTE trend by unit.

Securing Our Financial Future

- *Endowments and Investments*: Value of assets under management by asset class; real rates of return by asset class; management fees; achievement of target spending rates.
- *Facilities Maintenance and Deferred Maintenance*: Aggregate routine maintenance expenditure; expenditure per square foot by building class in comparison to national norms. Deferred maintenance deficiency backlog; projects accomplished by location and cost; future expenditure requirements in relation to projected budget.
- *Capital Budgeting*: Historic and current value of fixed and movable assets; relationship between consumption of assets by type and funding for renewal by source; planned and actual costs of prioritized capital projects.

Next Steps in Planning at Duke

It is appropriate to bring this report to a close much in the way it began: with the recognition that effective planning is a continuous process. Saying that planning is continuous is different from saying that it is endless, a time consuming distraction from real issues rather than a means of anticipating and addressing them. The difference lies in focusing the next steps in planning on areas of greatest need and impact while allowing units with sound plans within the overall institutional mission to proceed with executing them. Since we believe that this document and the underlying school and Medical Center plans provides a framework for ongoing institutional improvement, the next steps in planning should be focused on particular planning issues rather than on wholesale revision of what we have now achieved.

Several additional planning efforts are explicitly called for in this report and several others will build on and extend our work to date, thus setting the agenda for our ongoing planning efforts. Under the overall planning leadership of the President and Provost, we will:

- Integrate the work of the task forces on intellectual life, residential life and Greek life into planning for Student Affairs and academic programs and engage the faculty in a dialogue about their professional roles as teachers, research scholars, and mentors in advancing the mission of the University and in meeting changing public expectations.
- Continue broad-based, systematic evaluations of future intellectual directions for Duke in the arts, humanities, social sciences and professional education modeled on the Task Force on Science and Engineering. Priority will be given in these continuing efforts to programmatic and facilities planning for the arts.
- Continue further planning for information technology and management information systems to support academic programs and administrative services under the leadership of the new Vice Provost for Information Technology.
- Establish a Task Force on Scholarly Resources to examine library and information resources across the University and to undertake joint planning with Duke University Press.
- Develop an overview of the situation of women at Duke, including students, employees, faculty members and research associates, to obtain more systematic information about salary and promotion equity, the distribution of employment opportunities and participation in decision making, workplace policies that support flexible choices about combining family and career, and the level of encouragement and support for undergraduate, graduate and professional students in various disciplines and schools.
- Continue further planning to ensure that administrative services and human resources policies and practices will help us meet our priorities within a framework of constrained resources and a commitment to attract, support and reward outstanding employees who can contribute to the achievement of our goals.
- Conduct a review of formula budget management within the academic sector under the auspices of the Provost and the Chief Financial Officer to ensure that our resource management system is meeting academic and fiscal objectives.
- Further integrate financial planning and capital budgeting across the broad range of the institution's activities and assets under the leadership of the new Chief Financial Officer and continue facility and land use master planning through the Office of the University Architect.

- Formulate a strategic plan for University development that will advance the priorities indicated in this report .
- Develop strategies to communicate the priorities established in this plan throughout the University, to alumni and other friends, and to appropriate groups in Durham and the larger community.

We also propose in this report to move forward from the current planning efforts in the individual schools on a staggered, multi-year cycle, so that each of the plans can receive more sustained attention and debate within the University community. With the rapid pace of change in the national health care environment, the Medical Center will undoubtedly require further updating of its plans. Outside the Medical Center, our first priority under this staggered approach will be further planning for the Arts and Sciences and Engineering. There are a number of considerations that tie these areas together and push them to the head of the queue for further planning attention. First, these are the schools most actively involved in undergraduate education and further consideration of their plans and programs in light of the several recent reports on intellectual life and residential life will be timely. Secondly, these schools are the focus of much of the work of the Science and Engineering Task Force, whose report suggests options that Duke might use to focus its resources to create distinctive and distinguished programs of scientific education and research. Finally, these are units in which the current period of constrained resources are most acutely felt. These constraints will require significant further planning attention to issues such as faculty size and teaching levels, enrollment management, and commitments to non-need based financial aid programs.

Good strategic planning shifts attention from the day to day task of doing things right to the more fundamental issue of doing the right things. While we can never neglect the former, the day to day tasks have value only in so far as we clearly identify what it is we want to do. This plan represents a process intended to identify the right things -- the most important "mission critical" things -- for Duke to be doing in an atmosphere of increasingly constrained resources. While we have identified a number of additional planning studies to refine that understanding, it is also time to renew our focus on doing things right -- on aligning our resource allocations, staffing and work processes throughout the University to provide the leadership in focused areas of academic endeavor required by James B. Duke's Indenture and the University's mission that flows from it.