2. EXECUTIVE SUMMARY

INTRODUCTION

American higher education in the final years of the 20th century finds itself in the midst of dynamic forces that are forging dramatic change. Congressional committees question rising costs of higher education, state legislatures and the courts challenge affirmative action policies that have been in place for decades, a revolution in technology promises to alter the delivery of higher education in ways that could not be imagined only a few years ago, institutions are confronted by increasing societal expectations but declining resources, and an increasingly diverse student body needs to be prepared for lifelong learning and civic engagement. Rutgers, The State University of New Jersey, one of the oldest institutions of higher learning in America, prides itself on its ability to continually redefine and renew itself to meet the needs of the society it serves.

From its origin as a colonial college, through its transformation into a land-grant college, state university, and most recently a member of the Association of American Universities (AAU), Rutgers has adapted to meet challenges. This self-study report focuses upon several critical components of Rutgers' response to issues of major importance to the current debate on higher education in this country and at Rutgers specifically: the nature of undergraduate education, the future of graduate/professional education and research, the challenge of constantly evolving information systems/information technology, and improvement in organizational quality and communications. The first two themes directly address the mission of the modern research university; the latter two are essential complements to these, making teaching and research productive. In addition, each of the three regional campuses provides a comprehensive review of its current status as context to the university self-study.

Rutgers' self-study is the work of eight committees involving literally hundreds of faculty, students, and staff. While it is not possible to include all their conclusions and recommendations here, this summary strives to convey the essence of their reports and their findings. Together the self-study documents provide an in-depth look at a large and extremely complex institution as it plans to move toward a new level of excellence and accomplishment.

RUTGERS TODAY

Rutgers enrolls more than 48,000 students at three regional campuses: Camden, Newark, and New Brunswick. Of these 48,000, some 35,000 are undergraduates and 13,000 are graduate/professional students. The Camden campus is the smallest of the three regional campuses and enrolls about 4,600 students; Newark enrolls approximately 9,300 students, and New Brunswick about 34,000. Fifty-four percent of all students are women, 69% are full-time students, 87% are state residents, 13% are Asian, 10% are African-American, 8% are Latino, 5% are foreign, and 56% are white.

There are 29 degree-granting schools and colleges among the three regional campuses—five in Camden, eight in Newark, and 16 in New Brunswick—that together grant nearly 10,000 degrees each year. Each of the three campuses has a different Carnegie classification that reflects the mission of the

particular location. Camden is a Master's Comprehensive I campus, Newark a Doctoral II campus, and New Brunswick a Research I campus. Together, the three campuses offer over 150 undergraduate and 100 graduate/professional programs.

Across the three campuses, Rutgers employs over 8,000 individuals full-time, including over 2,400 full-time faculty. In addition to 35 members of national academies, Rutgers' distinguished faculty have continually demonstrated their excellence through ratings such as those of the National Research Council, through their ability to secure external funding, which more than doubled during the last decade, and through the invitation to the university to join the AAU in 1989.

Rutgers has an operating budget of over $1 billion. State support of the budget has fallen during the last 10 years from around 50% to about 36% of total revenues today. This decline in support has been exacerbated by the state's failure adequately to fund the institution's salary program, which has suffered a $92 million shortfall since 1989. To offset this diminution in state support, and in addition to faculty efforts in securing external support, Rutgers also has significantly increased its annual private giving, which reached $50 million for the first time this year. Still, there has been substantial pressure on tuition and fees, which have risen dramatically during the last 10 years, and at about the rate of 6% annually during the two most recent years.

HIGHER EDUCATION IN NEW JERSEY

The state of New Jersey radically altered the oversight of the higher education system, of which Rutgers is the flagship institution, when it enacted the Higher Education Restructuring Act of 1994. The former Board and Department of Higher Education, which had exercised strong coordinating and regulatory control over the 56 private and public institutions in the New Jersey system, were replaced with a more modest bicameral coordinating structure consisting of a Presidents' Council and the New Jersey Commission on Higher Education. The Presidents' Council comprises the presidents of all degree-granting institutions in the New Jersey system and is largely advisory to the Commission. The Commission includes gubernatorial and legislative appointees representing the public interest, and has a small professional staff. The Commission is responsible for state higher education planning, conducting research on higher education policy, and authorizing institutional licensure and program approval (e.g. considering whether new programs represent a change of institutional mission, unwarranted duplication, or excessive cost).

Since the legislation of 1994, there has been increasing mission "creep," as state colleges seek to enhance their prestige by being redesignated as "universities" and through offering doctoral programs. At the same time, many small liberal arts colleges within the system have moved rapidly into master's-level offerings, particularly in professional areas. The result has been heightened competition for limited state resources, a competition that threatens to erode the university's hard-won qualitative gains of the last 10 years.

RUTGERS TOMORROW

To position itself for the future, Rutgers has been actively engaged in strategic planning. The university strategic plan, *A New Vision for Excellence*, was adopted by the university's Board of Governors in 1995. The collective work of hundreds of faculty and administrators, the plan seeks to move Rutgers to a higher level of distinction—among the top quartile of AAU institutions by 2010—by

focusing attention on criteria of excellence, centrality to mission, diversity, and responsiveness to emerging needs. Thirteen areas of academic excellence have been targeted for growth, and the reallocation of $4 million in annual savings—achieved through administrative efficiencies identified in a university-wide strategic resource and opportunity analysis process—to fund academic priorities among these areas is providing leverage to secure additional external support. Further support for accomplishing objectives of *A New Vision for Excellence* will come from a major capital campaign, which is currently in a state of advanced planning.

The self-study examines the impact of all these factors—mission, budget and resources, state and national contexts, and strategic planning—as they affect or determine each of the four selected topics. Brief summaries of the selected topics reports follow.

SPECIAL TOPICS REPORTS
UNDERGRADUATE EDUCATION

In the 1990s the nature of undergraduate education has come under intense scrutiny, both nationally and at research institutions such as Rutgers. The quality of teaching, the content of the curriculum, the desired outcomes, and the cost of the process in relation to the results; all these are strongly debated issues, with significant implications far beyond American campuses. Particularly at prestigious public institutions, the question of the nature of undergraduate training as it affects the continued development of the best interests of the community—both internally and externally, at the local, national, and international levels—has become paramount. The social changes that have occurred in the past decade, particularly in the New Jersey/New York area, have had profound effects on the university community, necessitating a reexamination of the fundamental elements of undergraduate education. There have been major demographic changes, with far more groups than ever before making significant contributions to the political and social economies. These changes have been reflected in the enrollment of students in higher education programs; community now extends far beyond the European-American and the African-American groups identified as culture-centers only a generation ago. The concept of community has become truly international in nature, and it has been further expanded by the virtual explosion of information technology and distribution in the past 10 years. The ways in which people communicate, acquire information, and conduct business have been profoundly altered by new information technology. Education professionals have had to acquire knowledge of fields that even twenty years ago might have seemed far outside their areas of specialization, just to provide students with the tools for analysis and problem-solving that the new world community and the new technology mandate for effective participation.

In response to these issues, Rutgers began a reexamination of the undergraduate curriculum in 1992. University President Francis L. Lawrence charged a university committee with conducting a review of the university curriculum and recommending university-wide curriculum standards. The committee's far-reaching report, *Rutgers Dialogues: A Curriculum for Critical Awareness*, called for a program of teaching that would not merely prepare students for a career but would enrich their lives—and that of the communities in which they will settle—by developing in them an understanding of the historical and cultural contexts in which all actions have been and are made. The work of education will prepare them to participate fully in a democratic, multicultural society.

The vice president for undergraduate education subsequently worked with members of the entire university community in a discussion/decision-making process using the report as a guide. This discussion produced a set of university-wide learning goals, a common curricular foundation on which the disparate university communities are united. This foundation comprises the skills and knowledge that all Rutgers students need to acquire to support their development as responsible citizens and productive contributors to the polity in all its aspects, intellectual, social, and cultural.

Students at Rutgers have always had access to an extremely diverse array of courses, providing an opportunity for learning with both breadth and depth. Instruction by professors at the forefront of generating and disseminating new knowledge is marked by a syncretic approach, in which disciplines and ideas seemingly opposed are subjected to critical appraisal. The curriculum goals, intended to overlay the university's entire course structure, stress written and oral communication, mathematics and scientific literacy, research and creative activity, information technology and computer literacy, multicultural understanding, international perspectives, and citizenship education. The student is trained to see different approaches and to synthesize knowledge from a wide variety of disciplines.

In response to the delineation of these learning goals, individual units in the university have reconsidered their curricular work: they have revised existing lesson sequences, developed new courses, and altered graduation requirements. Significant financial support for these activities has come from the Office of the Vice President for Undergraduate Education through the Rutgers Dialogues Grants Program, the Undergraduate Curriculum Seed Grant Program, and the Teaching and Curriculum Evaluation Grant Program; from the President's Office through Strategic Resource Opportunity Analysis funds; and through the offices of the deans.

The developments and changes in curriculum resulting from the adoption of the university-wide learning goals are assessed in the following discussion of the major curriculum areas that address these goals. In addition, this self-study focuses on academic support and enrichment for all students, on university support of faculty instructional development, on cocurricular and student-life programs, and on assessment. Finally, we articulate priorities that need Rutgers' continuing commitment if its work in undergraduate education is to remain at the forefront of the university's instructional mission.

THE CURRICULUM: PRIORITIES AND CHALLENGES

Communications Skills

All campuses offer comprehensive writing programs ranging from honors sections in writing courses to remedial instruction and individual tutoring. The graduation requirements of many colleges and schools oblige students to complete upper-level writing sessions. These are often combined with cross-disciplinary, "writing across the curriculum" projects that have recently been initiated. Throughout the university, proficient oral communication is seen as a basic skill that must be related to writing techniques. Computer-based search proficiency—in all literatures—and the integration of report preparation into all courses remain priorities.

Mathematics and Scientific Literacy

All undergraduates must successfully complete courses in the sciences and mathematics. Introductory courses have undergone major reform to emphasize the development of scientific thought processes, rather than the rote learning of facts and formulas. Active learning methods are being developed and extended to ensure that students understand that science is a process of discovery rather than a static set

of facts. Specific courses in science and mathematics are being designed to relate to other disciplines outside their historic purview, including the social sciences, literature and the arts, economics and history. Even the basic calculus program, for example, has been reformed. The desire is to enable students to understand how thought has developed and continues to develop. Simultaneously, both introductory and advanced courses have been thoroughly revised to incorporate new technologies and procedures. The emphasis is on the changing nature of all fields and how the new technologies enable knowledge to be assimilated and processed. These new pedagogies require far more money than older teaching methods, and instructors as well as the students require training. Financial support for laboratory equipment and instructional technology is essential, if students are to gain an appropriate understanding of the procedures for scientific discovery, methods that are at the center of other disciplines as well.

Research and Creative Activity

From the time they enter the university, undergraduates are taught about the role that research, both independent and collaborative, plays in the development of knowledge and the furtherance of individual and societal goals. A public research university is a guarantor of the state's prospective social, economic and political health. Undergraduates are the state's great hope, its real pledge for the future. They are here to learn to think, and to think independently—not to memorize, but to synthesize and make effective use of results. They will eventually lead the state and its financial, industrial, cultural, educational, and political institutions, among others. Undergraduate applicants choose to attend a major public research university because they know it encourages independent thought and that they will be among the best and the brightest the state has. The university strives continuously to strengthen the interaction between research-active faculty, with their vital work for the public good, and the learning process of undergraduates.

Many students participate in research through independent study and honors courses, often with some of the most famous scholars in their fields. The vice president for undergraduate education has conducted a series of Undergraduate Research Roundtables with senior faculty to develop and strengthen such interaction programs. From these conferences, new materials have been developed that orient students to the research university experience, and the Rutgers Undergraduate Research Fellow Program has been established. Nonetheless, opportunities for students to learn by working with senior researchers must always be expanded.

Information and Computer Literacy

Rutgers has recently invested enormous amounts of capital to produce a flexible electronic infrastructure; at the same time, courses have been generated that focus on the uses of electronic information sources and computer technology. Continuous improvement in the electronic infrastructure of the university is imperative. If the university is to maintain its status in relation to other great learning institutions in North America, it cannot allow itself to be locked into outdated systems, but must continually alter and upgrade as new generations of technology and applications become available. At the same time, it cannot abandon traditional instructional means—books, slides, chalkboards, live teachers—simply because they are no longer decked in the fashion of the moment. Faculty members must be prepared and supported to use critically the new instructional and information technologies in the classroom, and students must be made to see both the strengths and weaknesses of the array of materials and information at their disposal.

Multicultural Understanding

The demography of the student population indicates the university's success in promoting diversity and in recruiting the very best from all the distinct groups that make up the state—and the world. Each campus has defined and implemented a Multicultural Blueprint that has produced an assortment of programs, both academic and extracurricular, promoting an understanding of diverse cultures and groups. Furthermore, the university recognizes that it is now important to move from celebrating diversity to engaging it critically. Through the processes of investigative education, students are expected to assess the strengths—and the weaknesses—of cultures, groups, and thought-systems, including their own. Courses across the curriculum must provide students the tools to comprehend the dynamics of group cohesion and interaction, and to understand how these impact all aspects of the political and social economy as our ever-changing community evolves.

International Perspectives

Revolutionary changes in production and ownership, communications, and transportation have made the peoples of the world interdependent to a degree that was virtually inconceivable even two decades ago. The seemingly simplest action from the most obscure region of the earth may be viewed, disseminated, and discussed, for good or ill, around the globe virtually simultaneous with its occurrence; the tiniest microbe may be carried around the world in hours. Rutgers has a variety of international offerings, beyond the traditional disciplines, that prepare students to participate in this new world. In all disciplines faculty members, individually and through their units, must take responsibility for assuring that global perspectives are represented at every level of instruction. The international nature of all scholarly pursuits necessitates an adherence to open learning and unbiased examination. Students must be given the tools, including more opportunities for advanced language instruction and study abroad, that will enable them to operate successfully beyond their own communities.

Citizenship Education

Rutgers' mission at its foundation in 1766 was "learning for the benefit of the community." This remains its primary purpose; this is the function of a public research university. The university must prepare its students to be leaders in shaping the future. As educators who care for our students, for the university, for the state, and for the nation, we must be able to recognize and articulate America's rapidly changing needs. Throughout the university actions of faculty must impart to its students an understanding of the true role of the educated citizen in a democratic society; otherwise, it will have failed to serve the nation well as it enters the new millennium. One effort in this direction, the Citizenship and Service Education Program (CASE), is known internationally as a model of service learning. Maintaining and extending this program must be a primary goal of undergraduate education, as we continue in our mission of "benefitting the community."

ACADEMIC SUPPORT AND ENRICHMENT FOR A BROAD RANGE OF STUDENTS

The national discussion of the cost of higher education in relation to its outcomes has been a focus for Rutgers as it seeks to remain strongly accountable to the citizens of New Jersey, ensuring that all resources are used efficiently to support all work at the university. Thus the university provides an extensive network of academic enrichment and support opportunities designed specifically to strengthen the scholastic achievements of a diverse student body with a broad range of skills. For high-achieving students, the university supports honors programs at both college and departmental levels that offer

students opportunities to work with the research faculty in small classes, in independent study, in laboratory projects, and in the preparation of honors theses.

The university also offers precollege programs to help students prepare for the academic demands they will confront when they begin study at Rutgers. It sponsors first-year orientation courses, and supports remediation instruction. The university's Writing Centers (supervised by the English departments) and the Math and Science Learning Center are major resources for all students. In the past few years new seminar programs for first-year students have been developed to provide additional academic support for any student interested in improving achievement during the critical transition year. Intensive support programs also help students with special needs.

In 1992 President Lawrence established Learning Resource Centers (LRCs) at Camden, Newark, and at three New Brunswick sites. The LRCs are intended to complement and reinforce the network of already functioning student support resources by providing a variety of free programs, including peer tutoring, individual and group assistance in developing effective collegiate learning strategies, supplemental instruction supporting particular high-risk courses, and course support materials that faculty provide for their students. Over 36,000 students used one or more of the LRC services in the first four years. While program effectiveness in these startup years has been largely determined by measures of student satisfaction, a long-range program evaluation plan is currently under development with the assistance of the Office of Institutional Research.

The effectiveness of Rutgers' retention programs is demonstrated by the fact that the university is among the highest in student retention among AAU public universities, and does extremely well with minority-student retention. Future retention efforts need to emphasize improved coordination among programs, increased student outreach and faculty involvement efforts, and a greater commitment to program evaluation.

UNIVERSITY SUPPORT OF FACULTY INSTRUCTIONAL DEVELOPMENT

The quality of undergraduate instruction at research universities has been at the center of the national debate about the ways and costs of higher education in the United States. Three concerns dominate this discussion: (1) the university's commitment to the teaching role of faculty members; (2) the university's commitment to strengthening links between research and teaching in order to ensure efficient use of the resources of this research university in undergraduate education; and (3) the adequacy of teaching resources allocated for undergraduate instruction. Rutgers has been at the forefront of this national discussion because of its early discussion of these matters (e.g., the reports from each campus' *Provost's Committee on Undergraduate Education in the Context of a Research University*, 1990) and its constant reaffirmation of its expectation that undergraduates will receive the quality of instruction possible only at a distinguished research university.

To improve teaching for the diverse Rutgers student body, the university has developed a number of initiatives that support faculty efforts to enhance their skills. The Office of the Vice President for Undergraduate Education sponsors grant programs for faculty members in order to facilitate curriculum development, teaching evaluation, and curriculum appraisal. With funds from a variety of sources, there have been significant refinements in instructional technology, particularly in the upgraded communications network and in the availability of both hardware and software to all members of the university community. Rapid changes in the specialized information of individual disciplines as well as

in information technology indicate the vital need for comprehensive and continuing support for faculty development efforts with regard to the effective use of instructional technology, the strengthening of the links between research and teaching, and the assessment of student progress.

To focus its support of faculty development and of thorough assessment of teaching, the university has established Teaching Excellence Centers (TECs) on all campuses. These provide a support structure for improving teaching, including seminars, workshops, individual discussion sessions, departmental consultations, and small training grants. Equally central to this concern about teaching quality has been the work of the TECs to develop and support a comprehensive and meaningful assessment of teaching through student and faculty evaluation programs. (The university-wide student evaluation form was adopted for use in all courses in 1993.)

COCURRICULAR AND STUDENT-LIFE PROGRAMS

At Rutgers, student life outside of the classroom is integral to undergraduate education: it supports the goals of this education, its strength helps to ensure academic success, and at its best it prepares students to use their education in order to make powerful contributions to the campus community, the state, and ultimately the "global village."

Rutgers' system of multipurpose colleges and schools has long been one of its unique features, a way of organizing undergraduate student life into smaller units that recognize the diversity of individual needs and expectations and work to prevent the *anomie* that too often affects student work at large public universities. These relatively smaller undergraduate units allow students to confront and deal with the often challenging diversity in ethnic, racial, cultural, and religious backgrounds that they encounter at the university, many for the first time. First-year orientation programs work to create the idea of a learning community within the student body itself, not only in the classrooms, libraries, laboratories, and faculty offices. Cocurricular initiatives are just as important as curricular programs in addressing the differences that now characterize the university community. In the Rutgers collegiate structure, students trained as multicultural peer coordinators are able to lead frank discussions about divisive issues (e.g., race, sexual orientation, gender definitions) that allow students to find a common vocabulary for talking about difference and to begin the process of living together with others who are, in whatever ways, "different."

Fulfilling their mission of creating citizens able to use their education to address the issues of living in community, whether locally or globally, the campus student-life programs confront ever-increasing costs if they are to provide the number of personnel adequate to allow the small-group interactions so important to cocurricular education. Students need an array of leadership development opportunities. In addition, trends in student demography—an increasing number of adult, part-time, and working students—place new demands on the student-life programs, demands quite unlike those that focus on traditional, college-age students that characterized the university 10 years ago. Furthermore, the quality of all student-life programs is threatened to some degree by their dependence on a student-fee-based financial structure, a source of funding that is less than stable and prevents the long-range planning so essential to ensuring that student-life programs fully complement the academic programs of the university.

ASSESSMENT

Outcomes assessment of undergraduate education at Rutgers is eclectic, wide-ranging, and complex. It has been defined and promoted by the various faculty/staff/student committees that have examined undergraduate education at the university from various perspectives. In addition to *Rutgers Dialogues*, reports highlighting assessment efforts over the last decade include: *Reports of the Provosts' Committees on Undergraduate Education in the Context of a Research University; Undergraduate Education at Rutgers: An Agenda for the Nineties; A Proposal for Teaching Excellence Centers on Each Campus at Rutgers;* and *Liberal Arts and Sciences Strategic Planning Implementation Committee Report.*

The university has a long history of assessment activity in the area of testing and remediating students for basic proficiency in verbal and mathematical skills. Rutgers tests all entering students through a series of examinations, both to gauge the students' basic competency in these two basic skills areas and to place students in either remedial or introductory English and mathematics courses. Although the previous state mandate to administer the basic skills program has been abolished, Rutgers has continued the program and works to make it more effective and sensitive to the needs and expectations of faculty and students.

The assessment of student competency in a chosen academic field is a critical component of outcomes assessment programs. The university uses a number of mechanisms to ensure the attainment of competency. First, each academic program is reviewed periodically. In these reviews, which rely heavily on unit self-study and site visits by external peer reviewers, all aspects of an academic program's activities are examined and assessed. Another assessment mechanism of student performance is the annual accountability reports that each department and unit prepare. Compiling these reports allows academic administrators and faculty to review and assess program performance in undergraduate education in each academic year. Finally, the university's strategic planning process feature as one of its chief components self-studies and strategic plans for all units—departments, decanal units, provostial offices, and the central administration.

There is also a widespread effort to assess outcomes in the area of general undergraduate education through an ongoing series of student surveys administered by or in collaboration with the Office of Institutional Research. Included among these surveys are the *Graduate Student Surveys*, the *Former Student Survey*, the *Continuing Student Survey*, and the *Academic Services Needs Assessment Program Survey* series. Other significant assessment work involves the collection, analysis, and wide discussion of data regarding the retention and graduation rates of undergraduates.

UNIVERSITY-WIDE PRIORITIES

Issues that cross disciplinary and organizational areas must still be addressed if undergraduate education is to continue to improve at Rutgers.

- Throughout the curriculum, faculty should emphasize the process of discovery. As highly accomplished researchers, Rutgers faculty members must communicate their knowledge about the research process to their students.

- Faculty members and the university administration should work to support active learning in classes. The lecture-only mode of teaching contributes to student passivity and does not foster the skills they will need to identify and solve problems in a variety of settings.

- Administrators must develop plans to ensure that faculty members receive adequate support and comprehensive training to adopt new instructional, information, and computer technologies that improve learning and teaching.

- All levels of the university should continue to examine the institutional reward structure, including promotion, tenure, and merit pay, so that appropriate rewards are made for faculty efforts to refine undergraduate education.

- At all levels of administration, mechanisms should be developed to assess and integrate into the curriculum the changing demands of the world in which Rutgers students aim to succeed after graduation, and to develop more systematic means for measuring educational results and the achievements of our graduates.

- The administration and the faculty should develop formal mechanisms and procedures for communicating regularly with their counterparts at the community colleges and at elementary and secondary schools in order to gauge the knowledge and skills of incoming students more accurately and to share with teachers in the schools and colleges ideas and information about the instructional work at Rutgers. Such increased collaboration will help to smooth the transition of students to the university environment.

- Rutgers needs to maintain continuous dialogue with those employers and governmental leaders who have contact with our students after graduation so that the university is operating with adequate input about skills and knowledge concerning the demands of career and community life after graduation. This work is best done at the decanal level, with continuous input from the central administration.

- More formal, systematic means of assessing the success of our graduates should be developed and implemented.

GRADUATE/PROFESSIONAL EDUCATION AND RESEARCH

The Rutgers Committee on Graduate Education and Research was charged in the academic year 1996–97 with two responsibilities: (1) to provide recommendations on national standards and policies for institutional policy reform to improve graduate education for an AAU Graduate Education Task Force on Institutional Policies; and (2) to provide a self-study report for the Rutgers' Middle States Association 1998 accreditation review. The committee's recommendations in this self-study have been developed in the context of national conditions in higher education today, and are designed to expand areas of excellence at Rutgers and to provide a sound foundation for excellence in graduate education nationwide.

For many decades graduate/professional education in the U.S. has served as a world model for the advanced training of scientific and cultural leaders, and as the source of the intellectual vigor needed to address the challenges that we face as a nation. Research in our higher education institutions has provided the critical theoretical and applied foundations for social and economic development worldwide. In recent years, however, the relevance and efficiency of higher education have come under considerable public scrutiny. As a premier higher education institution, seeking to move into the ranks of the best institutions in the world, Rutgers regularly assesses its own development and seeks to formulate policies to enhance its research, instructional, and service programs. The self-study report on

graduate/professional education and research addresses critically important—but difficult and complex—issues in the areas of enrollment, the graduate curriculum, time to degree, diversity issues, postgraduate prospects, and funding for research and education.

The self-study committee organized itself into three subcommittees, each of which contributed a section of the final committee report. The largest section, focusing on graduate education and research in the arts and sciences, provides basic data on education and research at Rutgers and makes recommendations pertinent to all of the university's graduate and research programs. Subcommittees on professional education and on centers, bureaus, and institutes (CBIs) provide critical information and insight into policy issues of concern to the committee as a whole. The committee's report seeks to convey detailed and complex goals and recommendations, reflecting the differences in aspirations, needs, and objectives in the many diverse areas of graduate and professional education and research. To the extent possible, the committee identifies the means to achieve the identified goals and the locus of responsibility for their implementation.

RECOMMENDATIONS

For this executive summary, the committee identified what it considers its most important recommendations. While recognizing the uniqueness of individual programs and their specific needs for improvement, the committee nevertheless identified issues of sufficient generality to be addressed university-wide. In some cases the university's central administration must assume responsibility for addressing the issues identified; in other cases, faculty in programs and departments, working with deans, must take the necessary steps.

The first set of goals specified here focus on issues internal to the Rutgers community, and the second set focus on state and national issues.

Graduate Curricula

- As a comprehensive research university, Rutgers must educate students broadly, but with sufficient intellectual rigor to prepare them for long-term critical thinking in a discipline. To this end, it is important to enhance opportunities for students to explore a wide number of avenues for research, through industrial internships, multiple innovative research opportunities, and mentoring programs. It is also important to provide teaching experiences so that graduates can readily assume responsibilities as instructors upon graduation.

  Graduate faculties, with appropriate departmental, campus, and university support, have responsibility for modifications and enhancements of graduate curricula.

Graduate Enrollment

- The university should pursue the most qualified students and provide them with the financial support necessary to complete their course of study in a timely way and with minimum postgraduate debt. Increasing the pool of qualified candidates, seeking students from underrepresented groups in the U.S., and developing networks with foreign universities to recruit promising foreign students are critically important to ensuring excellence in graduate programs. Program faculty, working closely with deans of the graduate and professional schools, have responsibility for graduate enrollment.

Time to Degree

- By recruiting well-prepared students, providing adequate supervision and financial support, and by providing well-defined curricular objectives, the university helps students attain degrees in reasonable time. Rutgers should encourage enhancement of structured and informal links with peers, faculty, and professionals in a wide range of areas to support students' educational development and to encourage timely completion of graduate degree requirements. Deans of faculty units have responsibility for these programmatic reforms.

Career Paths

- Students should have a clear understanding of job prospects and career paths open to them when they complete their degrees. Information on recent Ph.D. graduates, diverse career options, joint industry/university initiatives and industrial internships, and well developed career placement services are critical to excellence in graduate education. Graduate programs need to ensure that this kind of information is readily available to current and prospective students.

  Since postdoctoral appointments provide a bridge between graduate work and faculty appointments in many fields today, the university should regularly assess the contributions of postdoctoral associates to ongoing education and research programs, and should review and update policies regarding continuing appointments, salary, and benefits.

External Peer Reviews

- The university's external peer review process is critical for the maintenance and improvement of graduate and professional programs. The leadership of each academic unit, in cooperation with the appropriate deans and campus leadership, should respond substantively to the reviews provided by external review teams and the Committee on Standards and Priorities in Academic Development. Once reviewed, academic units, with cooperation and oversight provided by appropriate campus officers, should develop substantive, realistic plans for future progress; monitoring must be ongoing.

Special Issues for Professional Education

- In promotion and tenure matters, care must be taken to understand the various ways in which scholarship of quality is manifested in the professions. External review is particularly important for professional schools because of the close connections to the practice of the profession that are inherent in professional education and scholarship. In addition to excellence in teaching and scholarship, excellence in public service should be highly valued in assessing professional programs because of their unique contribution to discharging the university's overall commitment to public service. Deans of professional schools, in close cooperation with their faculties and with university administrators, should ensure that these issues are given appropriate attention.

Centers, Bureaus, and Institutes

- CBIs have played critical roles in academic development at Rutgers. Mechanisms to promote good relationships with academic departments—including shared resources; joint committees; joint membership in graduate programs; involvement in undergraduate teaching, research programs, and curriculum development; and collaborative research—should be encouraged. Rutgers needs to be cautious in establishing new CBIs, but should proceed if

missions, objectives, and budgets are agreed upon and clear, and if the proposed units complement the university's strategic planning efforts.

Advisory Boards

- Research faculty advisory boards should be encouraged because they provide administrative officers with critical advice, strategies, and high-quality peer review focused on specific academic areas. Advisory boards consisting of industry leaders are also very important for advice and leadership, as well as financial support. In addition to advisory boards associated with individual programs, the campus provosts and the university vice president for academic affairs should encourage the development of these advisory bodies.

Retirement Issues

- With the elimination of age-related mandatory retirement, the university needs to promote thoughtful, individualized solutions regarding retirement. Decisions should be made in the context of individual needs and interests, and with the goal of maintaining productivity among senior faculty, and ensuring that junior faculty appointments are possible. Faculty, working with their colleagues, should be encouraged to devise individualized plans. Flexibility in the development of appropriate incentives should be encouraged. Strong support from central administration is important for the success of individualized retirement incentives.

Infrastructure Needs

- All of these recommendations require the development and maintenance of an appropriate infrastructure. Excellence in graduate/professional education and research requires adequate research collections, staff support, computing and communications technology, physical facilities, support services, and institutional data collection and analysis. New programs should be developed only if there are adequate resources to support them and if their development does not compromise the adequacy of existing resources for ongoing, successful programs. Campus and university officials should oversee resource commitments to ensure that ongoing resource commitments are met, and that new, innovative, educationally sound programs are supported.

The following goals focus on communication with the external community and on educational issues at the state and national level.

Communication with the Public

- The process of informing the public about the importance of higher education and the specific benefits provided by a comprehensive research university must be ongoing. Efforts to inform the larger community about Rutgers' exceptional programs, noteworthy research successes, and service to the state and the nation should be strengthened. Responsibility for this communication rests with faculty and university officials, supported by the Office of University Relations.

Proliferation of Graduate Programs

- The proliferation of graduate and professional programs within the state and nation threatens to divert the available resources away from those programs that are well equipped to provide excellence in graduate education and research. Program proliferation leads to overly specialized, narrowly focused graduate programs marketed to potential students as "quick

fixes" to employment concerns. Small institutions generally do not have the comprehensive services and the resources needed to provided high-quality advanced graduate education. Given the rapidly expanding field of higher education providers, many without the resources to provide high-quality programs, it is critical for those institutions of the highest quality to make the case that resources should follow excellence in graduate education, and to move ahead proactively in forging partnerships and alliances to support their programs. Higher education leaders should play a proactive role at state and national levels in ensuring that limited public resources support the very best graduate and professional programs.

Increased Support for Research

- Consistent long-term support of basic research is critical to sustaining the sources of the major breakthroughs in health care and technology that have improved and expanded human capacity and the quality of life. The challenge for major research universities is to persuade the government and the private sector that increased investments in basic research are in their interests, and to encourage innovative partnerships among universities, government, and industry. Over the last two decades Rutgers has made significant progress in expanding opportunities in graduate and professional education and in diverse fields of research. The self-study committee fully acknowledges these successes and recommends proactive policies to protect established programs and provide mechanisms for generating resources for the university's ever-changing academic needs. university officers and staff from the Offices of University Relations and Government Relations should play proactive roles in lobbying for increased state and national budgets for these goals.

INFORMATION SYSTEMS (LIBRARIES)/INFORMATION TECHNOLOGY

During the past decade, information systems and the underlying technology upon which they are based have changed substantially. These changes have had and will continue to have a profound impact on the university and the larger society of which it is a part. Rutgers has experienced the same shift from centralized computing/information systems to decentralized computing and information access that has occurred throughout the country. This shift in emphasis, access to an information-rich environment, and the ubiquity of distributed computing have brought with it tremendous opportunities and profound changes that are beginning to transform the institution and challenge the manner in which we provide and support our instructional, research, and public service programs. Extending the backbone network both between and within campus buildings, equipping classrooms and laboratories, replacing rapidly-changing technology, updating and enhancing existing software programs, providing information content in digital formats, and deploying staff for new services—all require significant funding.

When the Libraries updated their long-range plan in October 1993 to address specifically the information technology component, their strategies included pursuing an aggressive policy in the acquisition and provision of electronic information, planning for a next generation online catalog, acquiring a library server and software for mounting and serving databases locally, completing the conversion of the card catalog to machine-readable form, completing the networking of all libraries and workstations within buildings, increasing the number of public and staff workstations, and escalating

instruction programs for staff and patrons in the use of electronic information resources. Significant progress in all these areas has positioned the Libraries as a system with a strong technical infrastructure and a staff focused on service.

Major library building expansions and renovations completed on all campuses during the last five years have added 125,000 net assignable square feet, an increase of about 25% since fiscal 1990–91, along with 1,300 additional user seats. The resulting space incorporates an enhanced technology infrastructure and facilities for hands-on instruction in using digital information. The notable expansions include the creation of the Scholarly Communication Center in Alexander Library, expansion and renovation of the Library and Library of Science and Medicine, a new, highly electronic science library, the Stephen and Lucy Chang Science Library, a new Art Library, expansions and renovations in the Robeson Library and the Dana Library. A third floor shell in the Dana Library, the Center for Instructional and Information Technologies, remains to be completed.

Overall, the Libraries' network infrastructure is relatively well deployed, compared to other university units, colleges and departments. All libraries, with the exception of the School of Management and Labor Relations, are now connected directly to the university network. The Libraries also support 11 Novell networks and more than 550 networked computers. The number of computer workstations for users has increased dramatically in the last four years. Staff equipment has not increased so significantly, primarily because most equipment funds have come from sources that were limited to public services. Over the next several years the Libraries must place a priority on the upgrade and replacement of staff equipment, and the expansion and upgrade of wiring in some buildings.

In the last two years the Libraries have focused particular attention on improving their information system infrastructure with the goal of providing seamless access to information in all formats. As a result a Sun 3000 server was purchased to provide network access to locally mounted electronic databases, and OVID software was acquired as the common search interface. Currently 17 databases are mounted locally, in addition to nine others (including full-text databases first offered in 1996) accessed remotely. The acquisition of a new integrated information system was the top priority for fiscal 1996–97 to replace the aging GEAC and to integrate other separate systems. At the end of fiscal 1995–96, through a year-long planning process, the Libraries acquired SIRSI and are implementing all modules of the system during fiscal 1997–98. While a series of "recon" projects over the years have increased the comprehensiveness of the online catalog, 30% of the library's collection remains to be entered into the new system, so that users will be able to locate and request those volumes through the online REQuest system.

The expansion of library space and the growth of network, equipment, and services have placed tremendous burdens on the Libraries' central systems staff. Formed through the internal reallocation of positions, they are chiefly responsible for equipment and software standards, configuration, installation, and systems support for both public and staff infrastructures. Staff in each library are increasingly involved in providing support for public and staff workstations and are rapidly developing microcomputer related skills. The Libraries are exploring various models for systems support because the maintenance of information systems is critical to effective library use.

While the Libraries' technical infrastructure is becoming increasingly robust, providing the information content remains a challenge. Like other major university libraries in North America, Rutgers' Libraries are confronting the mass of new publications, escalating prices, the proliferation of materials in new formats and media, and the implementation of many new graduate programs on the three campuses requiring access to robust collections.

The base budget for library collections has decreased by nearly $0.5 million during the last eight years, due primarily to severe losses in state funding to the university, while the total budget for the Libraries over the same time period has increased. This is due, however, to negotiated salary increases to unionized library faculty and staff. With funding from the Instructional Computing Fee Initiative and a reallocation from print to electronic resources, the Libraries are now spending approximately 6.6% of collections funds on digital resources. This coming year the Libraries expect to spend approximately 10%. From time to time, the university administration has provided additional funding to prevent the erosion of the collections.

While collection decisions are made in close consultation with faculty, the Libraries have not been uniformly effective in bringing the discussion of the broader national issues related to the changing nature of library collections to the faculty and administration. The cost of information, its relation to the scholarly communication process, and the changing nature of research communication will have an impact on the kind of collections Rutgers wishes to provide. A Summit Conference on the Libraries in May 1996 highlighted the need to work collaboratively with the university community to develop new understandings and strategies, and recommended that the Libraries update their long-range plan in collaboration with teaching faculty so that these new understandings could be developed.

Technology, escalating service demands, and new services have required the Libraries to scrutinize organizational structures and staffing for effective service delivery. While service measures remain high in all areas (exit surveys of seniors rank library satisfaction at the highest levels), and the Libraries continue to provide outreach services in the state, nonetheless growing and changing needs require flexible structures. Through strategic planning and a reorganization process, the Libraries have concentrated on ways in which service can be improved and existing resources maximized. A new organizational structure for New Brunswick libraries is now in process of implementation. Collaboration with other units of the university, such as Computing Services, Teaching Excellence Centers, Continuous Education, and the Office of Television and Radio are important because information literacy, faculty support for instructional media, and distance education require enhanced support.

The 1992 report of the Committee on Computing and Information Planning (CCIP) served as an initial blueprint for the transformation of computing and information technology at Rutgers. This vision is based on the notion of a partnership which "all groups within the university—faculty, students, and staff—and the state of New Jersey share in and actively support." The goals of the transformation are to create a university in which (1) all students, faculty and administrators have access to the computing and electronic information resources they need; (2) communications will be facilitated by a high-speed data network extending to all appropriate offices, dormitories, and libraries; and (3) statewide databases—accessed electronically in libraries, schools, and colleges across the state—will facilitate economic and intellectual development in New Jersey.

Over the last five years, there have been a number of achievements and accomplishments that have served to implement the vision of the CCIP committee report at Rutgers. During this period, there has been steady and dramatic growth of the network infrastructure at Rutgers, which is already one of the largest higher education networks in the U.S., including over 20,000 active host devices. Yet, while there has been steady growth of the network, it remains incomplete because of the size and the complex geography of Rutgers. Only 50% of Rutgers faculty and staff and 31% of dormitory students have dedicated network access. Recognizing the need to upgrade and expand the network infrastructure, the university has embarked on a major initiative, RUNet 2000, to provide a comprehensive and advanced communications infrastructure designed to meet the institution's needs for voice, data and video technologies. The university is currently in the process of evaluating bid proposals from five major telecommunications vendors, and expects to provide recommendations for an award in February 1998.

There have been three major initiatives in the area of instructional computing that have had a significant and dramatic impact on teaching and learning at Rutgers: (1) the implementation and use of student computing fees; (2) technology acquisitions supported by the state-funded Equipment Leasing Funds (ELF); and (3) the development of "smart classrooms" with funds from the Higher Education Facilities Trust (HEFT). Collectively these initiatives have provided email accounts for all students, faculty and staff; improved the ratio of computers to students from 1:200 to 1:33; created 35 high technology "smart classrooms" and lecture halls; greatly expanded dial-up capabilities; provided university-wide software site-licensing and information databases; and significantly increased the integration of computing into the curriculum through funding discipline-specific departmental course initiatives.

The rapid infusion of technology enhancements and distributed computing facilities placed great demands and stresses on outdated organizational structures and support models. The search for organizational alternatives led to an evaluation of support models at peer institutions also experiencing the shift from centralized to distributed modes of computing. Rutgers is currently piloting the implementation of a support model that features an effective working partnership between the central computing organization and departmentally-based support providers.

RECOMMENDATIONS

Significant challenges remain for the university in the area of the library and information technology.

- The Libraries should update their long-range plan for the next three to five years to incorporate the changing information environment. While the plan is being developed, additional funds should be allocated to maintain current purchasing power for collection resources.

- The Libraries and university administration should jointly explore longer-term strategies to fund collections resources in all formats. Possible strategies include: participating in or organizing consortia for pricing discounts; dedicating a percentage of the instructional computing fees for electronic information resources; developing endowments for collections; and reallocating other university resources.

- The university vice president for academic affairs should establish a university-wide Advisory Committee on the Libraries so that policies and priorities are established with advice from the academic community.

- The Libraries should continue to review organizational effectiveness and make changes that maximize the use of resources and provide effective user services for faculty and students, such as the ongoing reorganization of the New Brunswick libraries. Also, as technology impacts space needs for collection resources and users, the Libraries should continue to assess the need for additional and/or renovated space.

- The completion of the RUNet 2000 communications infrastructure must continue to be a major institutional priority. The enormous costs associated with the initiative will pose significant funding challenges, given competing institutional needs, priorities and strategic objectives.

- Additional planning processes and task-force initiatives should be established to assess information systems and technology resource needs and provide institutional recommendations for acquisition. The committee also recommends that the vice president for

institutional research and planning establish a university-wide advisory structure to provide ongoing advice concerning institutional policy planning.

- Given the changing role of information technology resources in supporting the academic enterprise, there is a clear need for increased collaboration between technologists and librarians to provide effective support mechanisms. Increasing levels of cooperation and collaboration on joint initiatives need to be fostered and encouraged. The committee recommends that the following opportunities for collaboration be explored between the Libraries and Computing Services: internships; development of joint user service information center and educational programs; joint support of scholarly communications centers, as well as support of digital library applications sponsored under the Internet II initiative.

- As the information technology infrastructure of the university continues to improve, there is a critical need to support faculty and graduate students as they incorporate technology into the curriculum. Training of faculty and graduate students in the use of information/instructional technology should be increased. The roles of various units with expertise and service missions in this area should be clarified. The university should support the service units in this collaboration so that an effective infrastructure for support can be achieved.

- Attention to appropriate staffing levels in both the Libraries and Computing Services is critical to maintain necessary infrastructure support services.

ORGANIZATIONAL QUALITY AND COMMUNICATION IMPROVEMENT

The Rutgers Program for Organizational Quality and Communication Improvement—Rutgers QCI—was created in 1993 to address a number of challenges facing higher education nationally, in New Jersey, and on our own campuses. As with other research universities, the fundamental goal at Rutgers is the advancement of excellence in teaching, research, and public service. A closely related and equally important goal to the well-being of the institution is the advancement of Rutgers' standing as a leading choice in higher education among our key constituencies.

Achieving these goals requires excellence in academics—a distinguished faculty, high-level research activities, innovative and engaging teaching/learning processes, advanced technology, and quality facilities. It also increasingly requires excellence in communication and a service-oriented culture, enhanced visibility and prominence within the state and beyond; a welcoming physical environment; a friendly, supportive, and respectful social environment; expectations of success; responsive, integrated, accessible and effective systems and services; and a sense of community. Success in effectively addressing these needs has a number of important implications for the groups that are important to the university. Examples of key constituencies and positive outcomes include:

Prospective Students: Applying to Rutgers as their first choice
Current Students: Pleased to be attending their university of choice; feeling they are valued
    members of the university community with the potential and support to succeed
Families: Proud to have a family member attending Rutgers; recommending RU to friends and
    acquaintances
Alumni: Actively supporting the university and its initiatives

Employers: Seeking out Rutgers graduates as employees; promoting the university among their employees for continuing education

Colleagues at Other Institutions: Viewing Rutgers as a source of intellectual leadership

The Public: Valuing the university as an essential state resource; supporting our efforts to further advance excellence

Faculty: Pleased to serve on the faculty of a leading, well-supported institution enjoying respect locally, in New Jersey, nationally and internationally

Staff: Regarding Rutgers as a preferred workplace, where innovation, continuing improvement and teamwork are valued; recommending Rutgers to others.

The Rutgers QCI program addresses these needs by providing information and assistance to units in the conduct of self-assessment and in support of efforts to improve programs, systems, and services, and to create a more collaborative, service-oriented environment.

The program provides a university-wide center for the development, study, application, and evaluation of organizational quality and communication frameworks, principles, and practices.

Specifically, QCI has developed and offers core programs in five areas:

Assessment: Organizational self-assessment, identification of strengths and areas for improvement, and action planning

Leadership: Sharing information on contemporary leadership issues and strategies

Work Processes: Effectiveness and efficiency of services, systems and procedures

Faculty, Staff, Workplace Climate: Assessing and enhancing workplace climate

Service Excellence: Heightening service-orientation and satisfaction.

As of spring 1997 a total of 4,397 people on all three campuses had participated in QCI programs in the five program areas. QCI programs have included a range of activities designed to benefit students, faculty, staff and other constituencies. Examples include: collaborating with Campus Information Services in New Brunswick to enhance student information services; promoting a more service-oriented approach and greater efficiency and convenience within University Facilities; coordinating information and services for retiring faculty; initiating a welcome and orientation program for new staff; assisting the Office of Scheduling and Graduate Admissions to assess and improve services to applicants and departments; linking University Relations and campus bookstores in outreach efforts to promote the visibility of the university; and providing training for front-line staff in admissions, financial aid, and housing to assure that the excellence of the university is appropriately reflected in contacts with external constituencies.

University-wide units that have participated in QCI programs, in addition to those mentioned above, include: Administration, University Relations (formerly University Communications), Personnel, Auxiliary Services, University Computing Services, Learning Resource Centers, University Libraries, and the Rutgers Foundation.

On the New Brunswick campus, QCI programs have been provided for both academic and service units, including Cook College, University College, Livingston College, the Center for Advanced Biotechnology and Medicine (CABM), College of Pharmacy and Graduate School of Social Work, Career Services, Scheduling, Environmental Health and Safety, and Campus Information Services. In Newark, a campus-wide QCI plan specifically tailored for Newark was initiated involving all administrative and academic units. Assessment and service excellence programs were implemented for the Office of the Provost, Law School, Faculty of Management, FAS, Nursing, Admissions, Alumni Relations, Campus Communications, Campus Safety, Dana Library, Physical Plant, and others. Camden

campus initiatives to date have centered in Facilities and the Office of Student Life, which includes the departments of Student Development, Bookstore, Dining Services, Student Center, Residential Life, Career Placement and Planning, and Student Activities. An expanded campus program began in fall 1997.

Rutgers QCI has also achieved visibility at the national and state levels. It is particularly recognized for its leadership in organizational self-assessment, the adaptation of organizational quality and communication concepts and practices for colleges and universities, and more generally for publications, outreach, and program design on organizational quality and communication improvement in higher education.

While the QCI accomplishments to date have been acknowledged as significant and the evaluations are positive, the program is still young, and much remains to be done to address fully the purposes for which Rutgers QCI was established.

Several recommendations need implementing to reach these goals:

- Integrate QCI's core principles—blending academics and a service orientation, process improvement and collaboration, attention to communication, leadership at all levels, continuous improvement, and service orientation—as central themes of Rutgers' vision for the future and as elements in the university's strategic plan, *A New Vision for Excellence;*

- Stimulate university, campus, and unit leaders to play a more active role in encouraging the introduction of QCI approaches and programs;

- Undertake additional targeted communication and outreach activities for faculty and students;

- Continue to look for low-resource/high-impact projects;

- Provide additional information about QCI programs and accomplishments through print and electronic media.

Specific recommendations for increasing the involvement of administrative units, students, and faculty include:

- Administrative—workshop/conference for QCI "alumni" and "best practices" sharing;

- Students—formation of a university-wide council composed of representatives from the various student government quality of life committees, and regular review and assessment of campus email question-and-answer services;

- Faculty—creating a QCI faculty support/advisory group, increasing faculty involvement in existing and newly forming QCI programs and activities throughout the university, creating a faculty/administration process committee, developing in-depth case studies of QCI in practice, and focusing on improvements in areas such as library services that have a direct impact on faculty members and students.

CAMPUS REPORTS
NEWARK CAMPUS REPORT

INTRODUCTION

Since joining Rutgers University in 1946, the Newark campus has evolved from a collection of small, loosely connected colleges located in abandoned factories and homes into a dynamic university center with modern buildings, laboratories, and library facilities. The State University center at Newark, through its undergraduate, graduate, and professional programs, has ties throughout the state, the nation, and internationally.

The Rutgers–Newark campus has passed through three major developmental stages: the 1940s and 1950s, during which the Newark campus became an integral part of the statewide Rutgers University system; the 1960s and 1970s, during which core campus facilities were constructed and attention drawn to the need to provide access to all communities in New Jersey; the 1980s and 1990s, during which rapid growth of graduate and professional programs enhanced the reputation of the campus for research and scholarship, as well as for provision of a broad range of strong undergraduate programs.

The roles of the Newark campus as an urban center of Rutgers, as a campus committed to providing access to high-quality academic programs to a richly diverse population, and as an important center of research and scholarship, have been woven together over a period of 50 years, and are summed up in the campus' statement of its dual mission of excellence and access.

In the national context, Rutgers–Newark has three important features of a major urban research university center.

- Rutgers–Newark is committed to excellence in the quality of faculty, programs and outcomes. It shares fully in the dedication to quality implied in Rutgers' membership in the AAU.

- The campus strives to remain a diverse learning community. Indeed, Rutgers–Newark is ranked first among national universities with respect to diversity of student population. The campus acknowledges and welcomes its role as a transforming agent in the urban scene in which it is located, and has organized its priorities accordingly. It has placed emphasis on those areas of education, inquiry, and service that are already particular strengths of the campus and that can assist in revitalizing our metropolitan region: management and a constellation of related professional programs; the sciences; and outreach programs to K–12 public schools, and to the business and arts communities of Newark and northern New Jersey.

- The campus recognizes the resource constraints faced by higher education. For this reason, it has been highly active in allying its research and teaching programs with academic, scientific, business, and cultural institutions of the state's largest international gateway city. For example, the Rutgers–Newark/New Jersey Institute of Technology (NJIT) consortium has enhanced academic programs and services in a cost-effective manner; cooperation among Rutgers–Newark, NJIT, the University of Medicine and Dentistry of New Jersey (UMDNJ), and Essex County College has led to numerous academic program enhancements, and to development of University Heights Science Park, a key element in economic revitalization of the city of Newark.

An understanding of its role as a campus community in the context of Newark context and of the nation informed the Newark Campus Strategic Plan of 1994. Much of that ambitious plan has already been realized. The self-study builds upon the foundations established in the 1994 campus plan. The self-study process helped the campus to reconfirm and sharpen its mission, to reflect on what has been accomplished and what still remains to be done, and to focus energies on bringing the campus to the next developmental step: emergence of the State University center at Newark as a premier urban center of education and research.

REALIZING THE NEWARK CAMPUS STRATEGIC PLAN

The strategic plan's first goal is continued development of the Rutgers–Newark campus as a major center of professional and graduate programs. In working to achieve this goal, the following objectives have been realized.

- Rutgers–Newark, currently classified as Carnegie Doctorate-Granting University II, has significantly increased the numbers of Ph.D. degrees awarded annually since the last Middle States review in 1988.

- Rutgers–Newark faculty have increased federal research awards at the campus from a level of $4.7 million in fiscal 1989 to a level of $9.5 million in fiscal 1996.

- The Faculty of Management in Newark was formed from the Graduate School of Management and the undergraduate business faculty. It has lately merged with the School of Business in New Brunswick to form a unified Faculty of Management, with its dean reporting to the Newark campus provost.

- Five new doctoral programs, five new master's programs, three new centers, and an interdisciplinary research and training program were established. The campus also received seed funding in 1996–97 to establish four new centers and institutes.

The second goal is to continue to provide undergraduates with a university-quality liberal arts and sciences education and to increase opportunities for professional education. The following objectives were set and realized in the past 10 years:

- Six new undergraduate majors were established

- The number of available internships for undergraduates increased dramatically

- Computer-enhanced instruction and information literacy initiatives were advanced across the spectrum of undergraduate majors

- Programs were reorganized for greater efficiency and greater academic effectiveness in management majors, in the major in criminal justice, in all arts programs, and in psychology. B.A./graduate programs were developed with the School of Law and UMDNJ.

The campus' third goal is to maintain or increase the diversity of its students, faculty and staff. The Newark campus has had a tradition of diversity for more than two decades. In 1997 it was recognized by *US News and World Report* as the most diversified campus among all nationally ranked universities. Our new prominence is both an honor and a challenge. The challenge is to show that diversity is enriching and thrives in an environment that values excellence, and where both faculty and students prize research and scholarship.

As its fourth goal, the campus proposes to significantly expand its outreach and community activities. In fact, the campus has become a significant presence in its community. Faculty and administrators serve on more than 20 community programs and task forces. The campus assists more than 400 neighboring- and high-school students to prepare for college every year. It provides development assistance locally and statewide, and its law clinics provide assistance with citizen rights, civil rights, and civil liberties. The campus works with communities on practical solutions to crime. It operates the National Center for Public Productivity and the award-winning television program "Caucus New Jersey"; finally, it is a partner in the Family Health Nursing Center of Elizabeth Port.

The campus' fifth goal is to strengthen the Rutgers–Newark/NJIT consortium. Rutgers, like many other public institutions, has undergone a long period of reduced funding. Rutgers–Newark has made the best use of its limited resources by building bridges to sister institutions in Newark. The close cooperation and joint activities of Rutgers and NJIT have led to the realization of the following objectives:

- Cross registration has been facilitated by establishment of a common academic calendar and common class-hour schedule
- A dual major option was made available to all undergraduate students at both institutions
- Joint honors programming and cultural programming are a regular feature of student life
- Joint degree programs have been established in applied physics (Ph.D., M.S., B.S.), mathematical sciences (Ph.D.), and history (M.A.)
- History operates as a fully federated department (one chairperson, one budget)
- Support services are being increasingly coordinated (e.g., security, physical plant).

To accommodate the above programmatic enhancements, the following campus improvements have been completed:

- A new student dining hall and a new undergraduate residence
- The Aidekman Research Center, which houses the Center for Molecular and Behavioral Neuroscience
- John Cotton Dana Library additions
- The Management Education Center
- Athletic and recreation center additions, including a swimming pool, racquetball courts, tennis courts and the Alumni Field for baseball, softball, soccer and track
- Paul Robeson Campus Center
- Parking deck
- Additional land for building and parking.

The campus has also started a $7 million renovation of Bradley Hall and is in the initial stages of construction for the $49 million Center for Law and Justice.

GOALS AND OBJECTIVES YET TO BE REALIZED

Increased Enrollment

The campus believed at the time the 1994 Strategic Plan was completed and believes today that enrollment growth is essential. While we have not slipped in the number of students enrolled, we have not grown either. We plan to improve our enrollment in the following ways:

- More effective recruiting
- Continued development of an honors college
- Increased numbers of campus-designated merit scholarships in three targeted areas: business, criminal justice, and the sciences
- Further development of articulation and joint enrollment programs with county colleges to enhance transfer-student preparation and recruitment
- Increased support for graduate students
- Construction of a new residence hall for undergraduates and new housing for graduate/married students.

Improving University College

In the previous self-study for Middle States, we committed ourselves to improve significantly the quality of instruction and the quality of life at University College. We have made modest gains in that more university facilities are available to University College students during the evening hours and more full-time faculty members are teaching evening courses. We are still working to provide a more stimulating environment for University College students who usually face the daunting task of putting themselves through college by working full-time during the day.

Building the Future

Achieving the three goals articulated below will help guarantee the continued development of Rutgers–Newark in the next decade.

Accelerate Movement of Rutgers–Newark towards Research University II Status

A long-term goal is to move Rutgers–Newark to Research University II status. We can facilitate movement toward Research University II status by strengthening the 10 existing Ph.D. programs at Rutgers–Newark; by developing a small number of new Ph.D. programs that build on current strengths (e.g., International Studies and Environmental Studies); and by focusing increased attention and staff support on units/programs where grant funding opportunities may not have yet been fully exploited. Ensuring that the Newark campus' professional and doctoral programs are vibrant and growing will enhance the university's AAU status, and affirm the state-wide nature of the university.

Developing Strength through Partnerships

The campus understands the current competitive environment among New Jersey academic institutions, and recognizes that new resources from the state of New Jersey to higher education are unlikely. In order to meet our goals—which means, in part, remaining attractive to students, their parents and future faculty members—we must continue to develop new strengths. We look to our partnerships with NJIT, UMDNJ, Essex County College, and the other county colleges with which we have developed articulation agreements; with the Newark arts community; and, last but certainly not least, with New Jersey's business and industry.

Making Strategic Use of the Capital Campaign to Enhance Visibility of the Campus

The most visible strengths of the Rutgers–Newark campus are its professional programs, its science programs, and its outreach programs—and it is precisely these strengths which are most needed to help drive economic development in Newark and northern New Jersey. Campus plans for future enhancement of facilities focus on three important projects for which we hope to garner university and sponsor support:

- Make the Faculty of Management at Rutgers–Newark a world-class center for business education, research, and outreach activities through addition of a major conference/meeting center and further development of faculty and classroom spaces

- Develop a state-of-the-art science teaching complex at Rutgers–Newark to underscore the connection between teaching and preparation for research careers in the sciences; the teaching complex will be the beacon for northern New Jersey students attracted by that connection

- Develop campus facilities to support the outreach activities of: the Center for Instructional Information Technology; the Rutgers Institute for Ethnicity, Culture and the Modern Experience; the Center for Change in Urban Education; the Newark Center for Families and Communities; the Law School clinics; the Center for Crime Prevention; and the National Center for Public Productivity, among others.

NEW BRUNSWICK CAMPUS REPORT

OVERVIEW AND MISSION

The New Brunswick Campus Overview Committee, comprising faculty, students, and administrators, worked on the self-study report from November 1996 through September 1997. This executive summary highlights the committee's major findings for each topic, and includes a selection of its highest-priority recommendations. The self-study report includes supporting data and references that are omitted here.

Since the last Middle States accreditation visit in 1988, the New Brunswick campus has flourished. In 1989 the university was admitted to the AAU, in recognition of the exceptional scholarly contributions of our faculty. Additionally, a capital program of $750 million, financed by state and federal appropriations, gifts, and grants, has served to strengthen significantly not only the campus' infrastructure but also the academic opportunities for faculty and students in New Brunswick.

The inclusion of nine New Brunswick graduate programs in the top quartile of the 1993 National Research Council rankings indicates that the national and international stature of graduate education in New Brunswick has been recognized. The growth of Rutgers' CBIs has expanded the opportunities for research in specialized areas as well as interdisciplinary research for faculty and students.

Major gains have also been made through continuous re-examination of undergraduate education. The New Brunswick campus has directed significant attention toward revamping the honors programs, and there has been significant growth in opportunities for undergraduate participation in research. The programs offered through the Multicultural Blueprint have provided students with broadened curricular and cocurricular opportunities, while the growth in student diversity continues to strengthen the campus. The focus on undergraduates and on the importance of quality teaching at all levels has been supported by the development of the Teaching Excellence Center, the Learning Resource Centers, and the Teaching

Assistant Project. Providing a college environment in a large university setting, the undergraduate collegiate system continues to be one of the most salient aspects of New Brunswick undergraduate education. The New Brunswick Citizenship and Service Education (CASE) Program, a program widely supported by students and faculty, is an international model of success for service/learning.

In 1996 the New Brunswick administrative structure was reorganized with the elimination of the Office of the Provost. Douglass, Livingston, Rutgers, and University Colleges and the Graduate School–New Brunswick now report to the dean of the FAS, who is also the dean of the Graduate School. The remaining academic units, including Cook College, report to the university vice president for academic affairs. Degree requirements, student support services, and oversight of graduate education remain the principal responsibility of the dean of the Graduate School–New Brunswick, while the unit deans have received increased authority for the allocation of fellowships and the appointment of graduate program directors.

FINANCIAL OVERVIEW OF THE CAMPUS

The New Brunswick campus operates within an overall university budget structure whose operating funds exceeded $1 billion for the fiscal year ending June 1996. Faculty and administrators in New Brunswick participate on a regular basis in financial planning sessions that are designed to ensure that our resources are directed to programs that will meet the academic mission of the New Brunswick campus.

The most significant change in the past 10 years has been the drop in state appropriations as a percentage of total university revenues. In 1985, state appropriations for all three campuses represented 50.9% of the university's budget; by 1995, that figure had declined to 35.5%. Adding to this burden, the salary program of the university has been seriously underfunded by the state, and as of 1996–97 remained totally unfunded. Both the buildup of debt equal to $460 million (with an annual debt service of $39 million) and the limitations of the capacity of the university to borrow severely constrain funding of new capital programs.

According to a 1995 provost's report, declines in state funds have negatively affected the number of full-time faculty, increased the number of part-time lecturers, increased class size, decreased non-salary budgets, and reduced the state resources for academic and support services budgets. The shortage of teaching assistant lines continues to affect the size of class and recitation sections, and the list of deferred maintenance projects has grown longer. In the critical area of the library, while the costs for acquisitions have escalated, the overall funding for scholarly resources in the libraries has remained constant for the past six years. Similarly, to complete the wiring of the campus and expand its technological infrastructure under the auspices of the RUNet 2000 project, the university will need to extend its indebtedness to ensure the acquisition of dedicated funds for this effort.

Despite these major challenges, collaborative and purposeful decision-making have enabled New Brunswick to make enormous strides. Resources have been dedicated to strengthen the faculty, the undergraduate and graduate student populations, and the campus infrastructure. Several new buildings have been built, including Civic Square, which was part of a $42 million economic development effort for downtown New Brunswick. The University Center at Easton Avenue, a project shared by the city of New Brunswick and Robert Wood Johnson University Hospital, has provided an additional 168 apartments for undergraduates as well as parking and retail space. The Higher Education Trust Fund Act, signed into law in 1994, provided extensive funds for the renovations of existing academic buildings and the construction of new classroom space. Additionally, with the 1993 passage of legislation providing for

the creation of the Equipment Leasing Fund (ELF), the New Brunswick campus was able to buy new laboratory and computer equipment.

With a stabilization of state support in the mid-1990s, the New Brunswick campus has worked to focus on budget planning that will review goals and establish priorities in keeping with our mission. Through the work of the Committee for the Future and the Committee on Standards and Priorities in Academic Development, and in concert with the recommendations in the university strategic plan planning processes have been implemented. Additional financial planning is needed to ensure an effective link between academic decision-making and budgeting processes. Similarly, comprehensive budget planning will be imperative to address issues related to deferred maintenance, expansion of endowment funds, student-life funding, and equipment purchases, so that the New Brunswick campus will remain at the forefront of instruction, research, and service.

FACULTY

The quality of the Rutgers–New Brunswick faculty is outstanding. In 1995, Rutgers–New Brunswick ranked 12th among public AAU institutions in the number of faculty members in the National Academy of Sciences, 10th in the National Academy of Engineering, 5th in the Institute of Medicine, and 11th in the American Academy of Arts and Sciences. Nine disciplines are in the top quartile of the National Research Council ranking of programs, and faculty across the disciplines are selected annually for prestigious awards that recognize their contributions to scholarship, teaching, and service (e.g., Fulbright, Guggenheim, Rockefeller, and NEH grants). External funding has almost doubled since 1988 to $134.5 million in fiscal 1997 due to the outstanding efforts of the faculty. Faculty involvement in public service has also been extraordinary, and has brought acclaim to the New Brunswick campus.

The momentum begun in the 1980s to enhance faculty quality has continued, although the hiring of both senior and junior faculty declined considerably with state budget cuts and shortfalls in the early 1990s. Given the quality of junior faculty that units attract, appropriate plans to maintain this pace in the hiring of assistant professors need to be developed, as well as plans to hire a select number of senior faculty to enhance disciplines that are poised to move to the next level of distinction. Committed to diversity, in 1995 the university as a whole ranked 8th among AAU public research universities with respect to the percentage of full-time minority faculty and 3rd for full-time women. In comparable data for African-American, Latino, and Asian faculty members, Rutgers ranked 3rd, 10th, and 13th, respectively.

With the reduction of resources, faculty workload has been reviewed as a part of the accreditation study. The 1994 Faculty Workload Committee indicated that the average faculty member in New Brunswick spent 31.3 hours per week on teaching, 12.1 hour per week on service, outreach and administration, and 18 hours per week on research, scholarly and/or creative work, for a total work week of 61.4 hours. Related to issues of faculty workload is the reliance on part-time lecturers (PTLs) who teach 20% of undergraduate course sections. While PTLs are qualified instructors, they are not responsible for advising or working with student groups. This issue is further compounded by the fact that, although 26% of undergraduate course sections are taught by teaching assistants, we lag far behind other institutions in the number of TA appointments. The New Brunswick allocation of 757.5 state-funded TA lines puts the campus in the bottom half of public AAU institutions with respect to the number of TA and GAs supported from state funds. Finally, while the CBIs have strengthened the university in many research areas, their growth has been accompanied by questions on such matters as the distribution of teaching and service responsibilities, and CBI impact on the availability of resources to core departments.

Since the last Middle States visit, faculty participation in governance has been strengthened through the formation of the New Brunswick Faculty Council. Using a committee structure and monthly meetings that include the deans and the university vice president for academic affairs, the council develops recommendations on a broad range of academic and administrative issues and strives for meaningful faculty/administration dialogue. Recently increasing to 78 members elected by faculty from their academic units, the council has addressed critically important issues such as devising a set of procedures for discontinuing programs; library planning and funding; faculty personnel issues, and faculty/administration relations. In addition to the Faculty Council, many faculty participate as fellows at Douglass, Livingston, Rutgers and University Colleges, and serve as members of the Cook College Council. The nature of faculty governance will continue to be an agenda item in the campus' future planning.

CURRICULUM AND ASSESSMENT

The undergraduate and graduate curricula in New Brunswick are informed by the faculty's cutting-edge research. Curricular development and revisions are administered by the faculty through the departments and schools. In the past decade there have been significant changes to departmental curricula in response to changing definitions of the disciplines. For example, the broadening of the literary canon and the consequent need to expose students to a wider range of writers and cultures have informed curricular changes in history and English. In the life sciences, the growth of subfields led to the development of a Division of Life Sciences, which oversees curriculum development and instruction of undergraduates. The FAS is developing a new interdisciplinary approach to global studies, and efforts to expand the international components of our curriculum are continuing at both the undergraduate and graduate levels.

The undergraduate colleges continue to play an important role in providing innovative interdisciplinary and honors courses. The students have indicated high satisfaction with collegiate-based instruction, such as Douglass' "Shaping a Life" course. Because the colleges have not had the faculty resources associated with an academic unit since the major reorganization of the campus in 1981, collegiate curricular development has been less than coherent. With the 1996 reorganization, the dean of the FAS gained oversight over all of the colleges except Cook. It is anticipated that once transitional issues are complete the reorganization will result in a more coherent curricular and financial plan to support honors courses and innovative collegiate offerings. Additional opportunities for faculty review of broad curricular issues must be established to ensure the integrity of the curriculum. Especially important will be the development of increased opportunities for interdisciplinary study and the creation of internships.

EDUCATING AND SERVING STUDENTS: FROM RECRUITMENT TO GRADUATION

Student services and student-life functions are provided for undergraduate and graduate students through a combination of administrative operations that report to the central administration, the colleges, and the deans' offices. Since 1988, several changes have been made to streamline the manner and to improve the efficiency of student services. The creation of the position of associate vice president for enrollment management signaled a renewed commitment to enrollment planning and the development of contemporary admissions systems. Graduate Admissions has revamped its procedures to incorporate the latest technologies in the processing of applications. The Office of the Registrar has developed an online computer registration system that has been operating very successfully for several years. Plans for the creation of new technological approaches to data acquisition in the Financial Aid Office will greatly

enhance students' access to timely data regarding their financial aid awards. Increased cooperation between Undergraduate Admissions and Financial Aid should also help to facilitate the effective implementation of financial aid packaging policies.

Prospective students and their families are already beginning to see the benefits of the changes in the Undergraduate Admissions Office. The Office has "outsourced" its telephone operations to the Campus Information Services Office so that prospective students inquiring about Rutgers have the opportunity to speak with current students, the university's best recruiters. The process of notifying first-year applicants has been greatly accelerated, with a commitment to notify candidates within three weeks. Numerous challenges still exist, however. For example, more work needs to be directed toward identifying resources for recruitment by the undergraduate colleges. Additional scholarship resources must be identified to attract qualified students, especially the state's best students who often "migrate" to other states. It is also imperative that enrollment planning be conducted in concert with academic planning to ensure that an adequate number of course sections and opportunities for selection of majors are available for new student cohorts.

Student-life programs in New Brunswick are offered through the undergraduate colleges and by the offices of the academic deans at the graduate level. The goals of the diverse student-life operations are to provide students with the services to succeed academically, and to develop and implement programs that provide students with opportunities to practice the skills necessary for success as responsible, ethical, and informed members of the global community. In recent years major expansions and enhancements of student-life facilities have improved the quality of life for the entire New Brunswick campus. The programs provided by the colleges, including recreation and student centers, have been rated among the best services available on the New Brunswick campus. To sustain the quality of these programs, planning processes must be developed to address issues related to facilities, staffing, programming, and financing.

While significant capital improvements have been achieved, student support services have suffered from budget reductions and reduced staff. In the area of student life the majority of programs and staff are supported directly by student fees, and student-life programs have also had to generate their own income. The colleges need more resources for such critically important functions as psychological services, orientation, commencement, and the provision of support services by staff.

ACADEMIC SUPPORT SERVICES: LIBRARIES AND COMPUTING

The New Brunswick libraries are located at 19 separate service areas. Alexander Library (social sciences and humanities) on the College Avenue campus and the Library of Science and Medicine on the Busch campus are our largest facilities. In fiscal 1996–97, the New Brunswick libraries served approximately 2,370,00 users, almost 10% of whom were not affiliated with the university. Through a combination of university support and fundraising, the libraries have made significant improvements to their facilities since the late 1980s, providing additional and more functional user space and enhancing capabilities for accessing electronic information and services (e.g., a new Art Library in 1992, the Alexander Library renovation in 1994, and the Chang Science Library in 1995). The successful addition of a high tech facility for information services at the Scholarly Communication Center (Alexander Library) concludes a series of significant facilities improvement projects in New Brunswick.

These new facilities, along with the upgrade of other libraries, enabled librarians to conduct more than 1,000 instructional programs in 1996 on issues related to information resources and access tools. Media Services, which reports to the libraries, also conducted orientation sessions for approximately 200 faculty members who asked to use "smart classrooms." Increased demand for training programs coupled

with loss of staff have led to major organizational restructuring. To enhance responsiveness, an internal task force developed a new team-based staffing plan that resulted in a single campus library instead of the previous four separate administrative structures. The response to these changes, still in the implementation phase, has thus far been positive.

Despite these significant accomplishments, the lack of funding for the libraries has compromised Rutgers' national standing as a research institution. Among the 108 member libraries of the Association of Research Libraries, Rutgers' ranking dropped from 16th to 25th between 1989 and 1997 (81st for New Brunswick alone). This problem is further complicated by the fact that electronic scholarly publishing is generally more expensive than its printed equivalent and requires significant expenditures for infrastructure support.

Rutgers University Computing Services (RUCS) oversees computing and telecommunications in New Brunswick. RUCS provides diverse services, ranging from computing accounts with email for all faculty, students, and staff, to the High Performance Computing Project (HPCP) at the College of Engineering, Physics, Chemistry, and RUCS. Through joining other universities in planning Internet II, Rutgers continues to demonstrate its commitment to a high-performance network that supports research and instruction at the highest levels. In New Brunswick, the implementation of a student fee to support computing has been an extremely effective approach for transforming the campus' technological environment. The number of student email accounts has dramatically increased, from 2,500 in 1993 to 45,000 (university-wide) at present. The computer fee also funded a set of public-access computer hubs, and provided some funds to academic units to set up their own computer labs.

The hardwiring of all the buildings has been complicated by the geographical dispersion of the campus and the enormous costs involved with the project. The goal of RUNet 2000 is to link all members of the Rutgers community to contemporary modalities for state-of-the-art electronic communications. Beyond bringing the network to all buildings, an additional university goal must be to complete the internal building wiring of classrooms and offices. Securing the funds for this project is a campus imperative. To support computing efforts, a further goal must be the provision of adequate technical support for the growing number of campus computers.

PUBLICATIONS AND COMMUNICATIONS

Rutgers' publication and communication programs are designed to promote the awareness of the mission, programs, and initiatives of Rutgers as one of the leading research universities in the country. The university has maintained a consistent commitment to high-quality communications that provide accurate information to diverse constituencies. Through the Office of University Publications, print materials are developed to provide people with general information about the university, research opportunities, fundraising, and recruitment at the undergraduate and graduate levels. Catalogs are published for each of the units, and specific projects are also implemented to meet the needs of our diverse academic community.

In recent years the efforts of University Publications have been augmented by the development of the Rutgers Web page. An effective resource that can be accessed by internal and external audiences, the page provides comprehensive links to most operations within the university and has proven to be an effective means of providing accurate information to the public.

While the communications program has been extremely effective, its reduced budget has severely constrained operation. Printed information about graduate opportunities at Rutgers is inadequate, both overall and at the disciplinary level. The lack of staff also results in a lengthy turnaround time for many

projects. While the increased reliance on the WWW and CIS may help to offset some of these problems, financial planning is essential to enable us to maintain our comprehensive high-quality communications program.

PRIORITY RECOMMENDATIONS

The full set of recommendations is included in the main report. Those provided here are particularly noteworthy. Recommendation numbers are keyed to sections in the report.

Recruiting New Faculty

Ensuring our institutional quality and advancing to the next level of excellence depend in large measure on the strength of our faculty. Conscious steps to recruit and retain faculty of the highest quality must be taken.

- Mechanisms for ensuring the continuous infusion of high-quality junior faculty need to be identified and implemented. These efforts should be supplemented with selected outstanding senior faculty hires in specific program areas as needed to maintain or enhance program quality. Attention should be given to efforts that foster faculty development and creativity, and to measures that nurture and retain our best faculty.

- To sustain the university's commitment to a diverse faculty, New Brunswick needs to sponsor procedures to ensure appropriate planning regarding all aspects of faculty hiring, promotion, and retention.

- Orderly planning for reinvigorating the faculty with new junior hires depends on predictable rates of retirements. Flexible faculty retirement options to meet individual and institutional need immediate exploration.

- Expanded monitoring of the use of part-time lecturers to ensure an optimum balance between the use of full- and part-time faculty is a crucial priority. In particular, attention should be paid to the impact of part-time lecturers on departments' ability to carry out their responsibilities for teaching, advising, curriculum development, and governance. (Recommendation III.1)

Centers, Bureaus, and Institutes

CBIs have significantly strengthened the university in many research areas. However, their multiplication has been accompanied by questions on such matters as the distribution of teaching and service responsibilities, and CBI impact on the availability of resources to core departments. Accordingly New Brunswick should establish a joint faculty/administration task force to review and analyze the current impact of the CBI system on the traditional academic structures of the university and to make suggestions for enhancing the relationships between centers and departments. (Recommendation III.2)

Faculty Governance

Though the establishment of the New Brunswick Faculty Council has improved faculty participation in governance, many faculty remain uncertain about their role in shared governance. Recommendations to enhance the effectiveness of New Brunswick governance and to strengthen faculty/administrator relations include the following.

- Through ongoing review, faculty and administrators should explore ways for the Faculty Council to play a more central role in governance in New Brunswick. Administrative procedures should be developed to facilitate timely responses to reports and

recommendations of the Faculty Council and other faculty task forces and appointed committees.

- A university-wide committee should review the mission, goals, and membership of the University Senate and make recommendations to improve university-wide shared governance. (Recommendation III.4)

- Given the important role of the undergraduate liberal arts colleges in New Brunswick, there should be further examination of the relationship of FAS to the colleges and their faculty fellows regarding curriculum and other issues. (Recommendation IV.4)

Libraries

Because scholarly resources in print and electronic format are becoming increasingly costly, New Brunswick libraries must have adequate funding for scholarly resources. Accordingly:

- The university should establish a major endowment fund for scholarly resources to ensure adequate support for research and instructional activities;

- At the same time, the university should provide adequate and ongoing support for information technologies and infrastructure to make certain that library users have access to the most up-to-date information and services. (Recommendation VI. Libraries.1)

Computing

To meet the voice, video and data communications needs of faculty, staff, and students, the university needs to continue its strong support for the RUNet 2000 planning and implementation process. A wide variety of funding efforts is required to ensure the full implementation of RUNet 2000's ambitious vision. In addition, because the project focuses on improving technology only "up to and including the building router," additional planning efforts and funds will be necessary to bring computing to each Rutgers desktop. (Recommendation VI. Computing.1)

Livingston Project

To realize fully the goals of the Livingston Campus Pilot Project, additional efforts are needed.

- Personnel funds must be targeted, at the decanal and vice presidential levels, to provide secure funding for unit computer specialists at Livingston, and to expand the program throughout the entire New Brunswick campus.

- The efforts of RUCS and the RUNet 2000 Project Advisory Committee to develop an appropriate faculty, staff, and student advisory group to help RUCS establish priorities should be continued and strengthened. (Recommendation VI. Computing.2)

Core Academic Areas

The stature of Rutgers–New Brunswick depends crucially on support for core academic areas. The university must articulate plans to support these areas, including scholarly resources in the New Brunswick library system and basic support (including faculty development) to core academic departments. While availability of outside financial support (e.g., the capital campaign) should be important in setting priorities, it should not be allowed to intrude upon these basic academic needs. (Recommendation VIII.1)

Resources

In allocating scarce resources, the university must be committed to the principle that planning and resource decisions should be effectively linked. Increased responsibility must be accompanied by

increased resources. Reallocations of existing resources must be made in accordance with campus and university priorities, and the role of faculty in identifying and developing those priorities through their decanal units should be reinforced. At the department level, teaching committees, executive and personnel committees, and posttenure review procedures are among the strategies faculty currently use to exercise responsibility in monitoring faculty teaching and its relations to changing curricular needs. (Recommendation VIII.2)

Maintaining Excellence

Maintaining New Brunswick's excellence as a premier AAU research university requires continuous building of our faculty strength. We need at least to maintain the pace of junior hires and, in addition, to hire a select number of senior faculty to move more programs to their next level of distinction. (Recommendation VIII.3)

Graduate Student Support

To increase the number of TAships, fellowships, and tuition reimbursements available for graduate recruitment and support, there must be expanded and continuous funding for the recent Graduate School–New Brunswick proposal to the Committee for the Future for leveraging existing departmental funds with central monies. (Recommendation VIII.4)

CAMDEN CAMPUS REPORT

This overview of the Rutgers campus at Camden discusses a wide range of mandated topics; admissions, budgeting, the faculty, and physical plant, among others. Through these discussions, the current state of the campus is examined, outstanding issues are identified, and the plans of Rutgers–Camden for the future are defined and explained.

1988–98

The period 1988–98 has been one of extraordinary challenge and change for the Camden campus and, overall, the campus is the better for them. New programs and buildings have been developed to enhance the campus and its offerings, the campus is better outfitted with research and teaching equipment, and grants have increased substantially. Student quality of life has improved with a host of programmatic enhancements.

Programs that have been added over the last 10 years include: new master's level programs in chemistry, mathematics, liberal studies, nursing (with the College of Nursing at Rutgers–Newark) and physical therapy (with UMDNJ). New undergraduate programs in liberal studies as a community college transfer option, in criminal justice, and in computer science, were also added.

Substantial construction, at a cost of almost $50 million, was undertaken on the campus in the last decade. Housing was added, and the student center, gymnasium, and library were increased in size. The School of Business and many campus science departments received a new building. The Law School was substantially renovated. A new outdoor recreation complex is in design.

CHALLENGES

Issues currently facing the campus include: enrollment management concerns, an increasingly competitive regional higher education market, the need to mitigate the effects of past funding shortfalls, and the ongoing challenge of evolving to serve better an increasingly demanding constituency—with few, if any, new resources.

The campus faces these issues fortified with a notably strong faculty, a dedicated and proactive management team, good morale, good physical infrastructure, a highly developed sense of collegiality, and a commitment to bring the extraordinary opportunities of Rutgers–Camden to an ever larger public.

PRIORITIES

Rutgers–Camden will address the issues of enrollment and competition, and the challenge of meeting constituent needs, by adopting two specific, high-priority goals for the next three to five years:

- Increasing enrollment by 1000 students, while increasing quality
- Increasing the regional and statewide visibility and effectiveness of the campus.

While the current administration of the campus has only been in place for a few months, it is moving immediately to take the following major steps toward achieving these goals.

- The campus is well along on an administrative reorganization process designed to make various support functions more efficient; e.g., freeing four to five administrative positions for immediate reallocation to academic program development priorities,

- A similar high-priority effort is underway to further buttress the campus' ability to fulfill its primary scholarly mission, by channeling nonsalary fiscal and other resources to faculty development, new faculty start-up costs, and other faculty academic quality-of-life items, such as seminars.

- The largest academic unit on campus, the College of Arts and Sciences, is in the advanced stages of discussing a major reorganization of several academic departments for more effective program delivery and cost-effective operation. Under discussion is the consolidation of the Departments of Art, Music and Theater; of Philosophy and Religion; and the Academic Foundations and English. A longer-term analysis of the feasibility and desirability of consolidating the Departments of French, German, Spanish, and Russian will shortly get underway,

- The campus has begun the development of a much more cohesive, mutually beneficial, and reinforcing relationship with the community colleges in the eight southern counties of the state—critical sources of students for an undergraduate program with an increasingly important transfer element. Two of the community colleges in Camden and Atlantic counties will be selected for strategic partnerships and enhanced relationships that will bring Rutgers–Camden, and Rutgers as a whole, to regions of the state where the presence of the state's flagship university system will meet many needs.

- The campus has identified academic initiatives that can be developed to better serve its primary market area, and begun channeling resources to those initiatives. These programs include: a new liberal studies transfer program targeted at the holders of A.A.S. degrees, a major in criminal justice, enhanced opportunities for teacher training, efforts to build on existing strengths in psychology and computer science, and the development of various joint degree programs.

- The campus will develop closer relationships with existing Rutgers activities in southern New Jersey through programs such as our new program to place undergraduates in summer research internships at Rutgers' various agricultural, marine, and environmental research units that already operate in this area; research collaborations are also targeted.

- The campus will diversify geographically by co-locating programs at a new facility currently funded and in design for Camden County College in Cherry Hill, supplementing the capital costs of the facility to add eight to ten classrooms for joint programming, and working to assure technical compatibility of distance learning and computer facilities.

- Similarly, the campus will move to enhance its presence in Atlantic and Cape May counties by increasing program offerings with and at Atlantic County College beyond the M.B.A. currently offered at the Atlantic City campus.

- The campus will develop a much closer relationship with Rowan University and Camden County College programs in the city of Camden itself. Joint use of infrastructure and support systems such as libraries, computing support, food service, classrooms, and laboratories is contemplated, along with cross registration, to achieve the maximum possible synergy among the three physically almost adjacent institutions.

- The campus will revitalize its performing-arts presence, better utilizing the largest and best theater in the Rutgers system, the 660 seat Walter Gordon Theater Center, to attract visibility and better serve area cultural needs.

- The campus will also augment and strengthen its athletic and recreation programs to enhance student quality of life, campus visibility, recruitment, and retention.

Rutgers–Camden has already made major strides in many of these areas, and expects to achieve many of these objectives, and their related goals, well within the next three to five years.