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ABSTRACT

This publication presents a plan for the State University of New York's (SUNY) system that looks at the university's role, responsibilities, and resources as they evolve into the next century. The plan is presented by the Trustees and was developed by a board-based advisory committee. It addresses major issues facing society: equality, justice, prosperity, and equity as well as the practical challenges of changing a large institution to meet the demands of the next decade. Following an excerpt from the SUNY mission statement and letters from the Chairman of the Trustees and the Chancellor is a paper describing SUNY's current status structurally, financially, and educationally. Another essay reviews the history and context of the SUNY system. A section titled "Vision for the Future" outlines the SUNY mission in the coming century as the base of research and knowledge on which the state depends and as an institution offering every New Yorker access to the finest possible education. The section following outlines the goals and strategies for that vision in terms of access, undergraduate education, graduate education and research, state needs, and management. Projected enrollment demand for 2000 is considered next, and an analysis of resources and a proposal for planning for the turn of the millennium conclude the document. (JB)

STATE UNIVERSITY OF NEW YO

SUNY 20

A Report from the Board of Trustees and the Chancellor of the State University of New York

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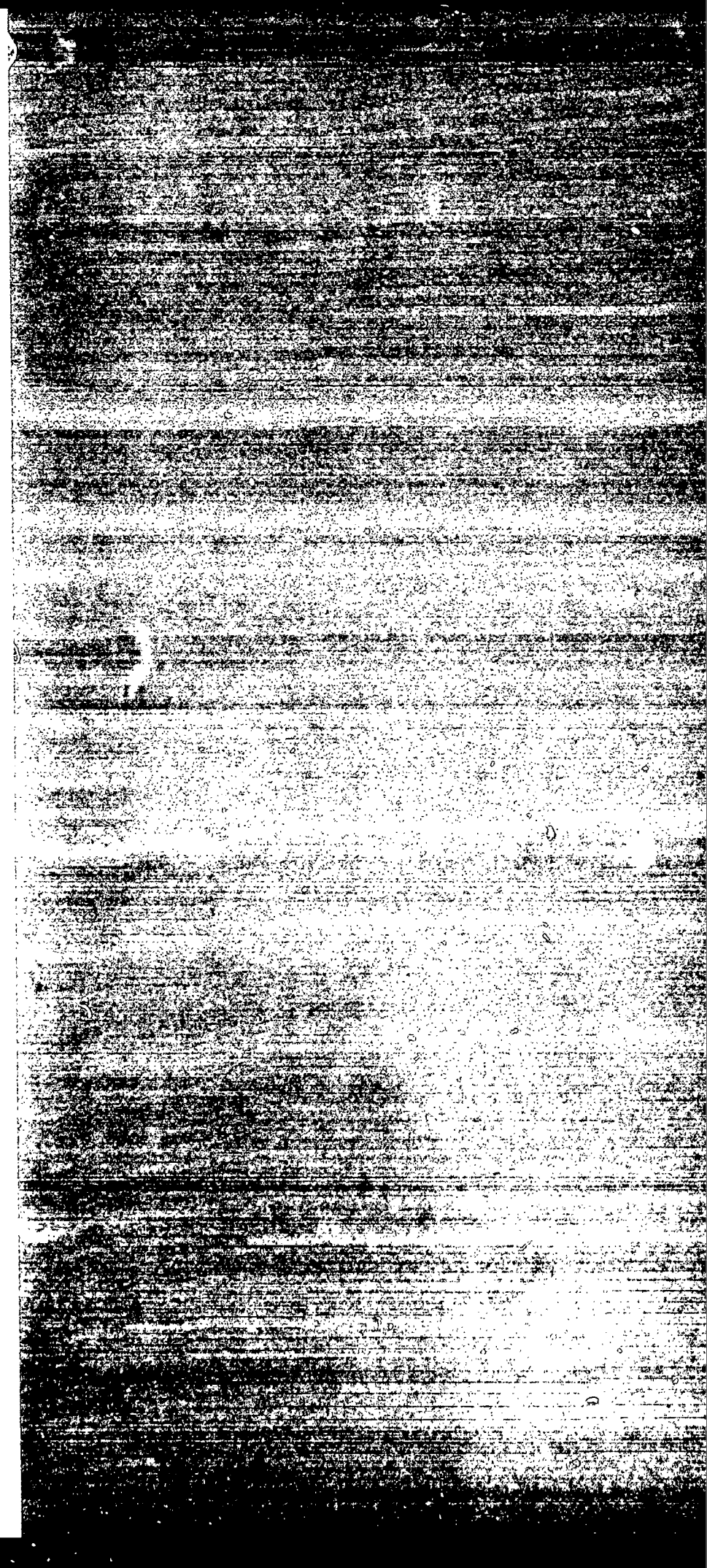
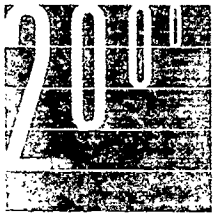


MISSION



The mission of the state university system shall be to provide to the people of New York educational services of the highest quality, with the broadest possible access, fully representative of all segments of the population in a complete range of academic, professional and vocational postsecondary programs including such additional activities in pursuit of these objectives as are necessary or customary. These services and activities shall be offered through a geographically distributed comprehensive system of diverse campuses which shall have differentiated and designated missions designed to provide a comprehensive program of higher education, to meet the needs of both traditional and non-traditional students and to address local, regional and state needs and goals. In fulfilling this mission, the state university shall exercise care to develop and maintain a balance of its human and physical resources that:

a. recognizes the fundamental role of its responsibilities in undergraduate education and provides a full range of graduate and professional education that reflects the opportunity for individual choice and the needs of society;

b. establishes tuition which most effectively promotes the university's access goals;

c. encourages and facilitates basic and applied research for the purpose of the creation and dissemination of knowledge vital for continued human, scientific, technological and economic advancement;

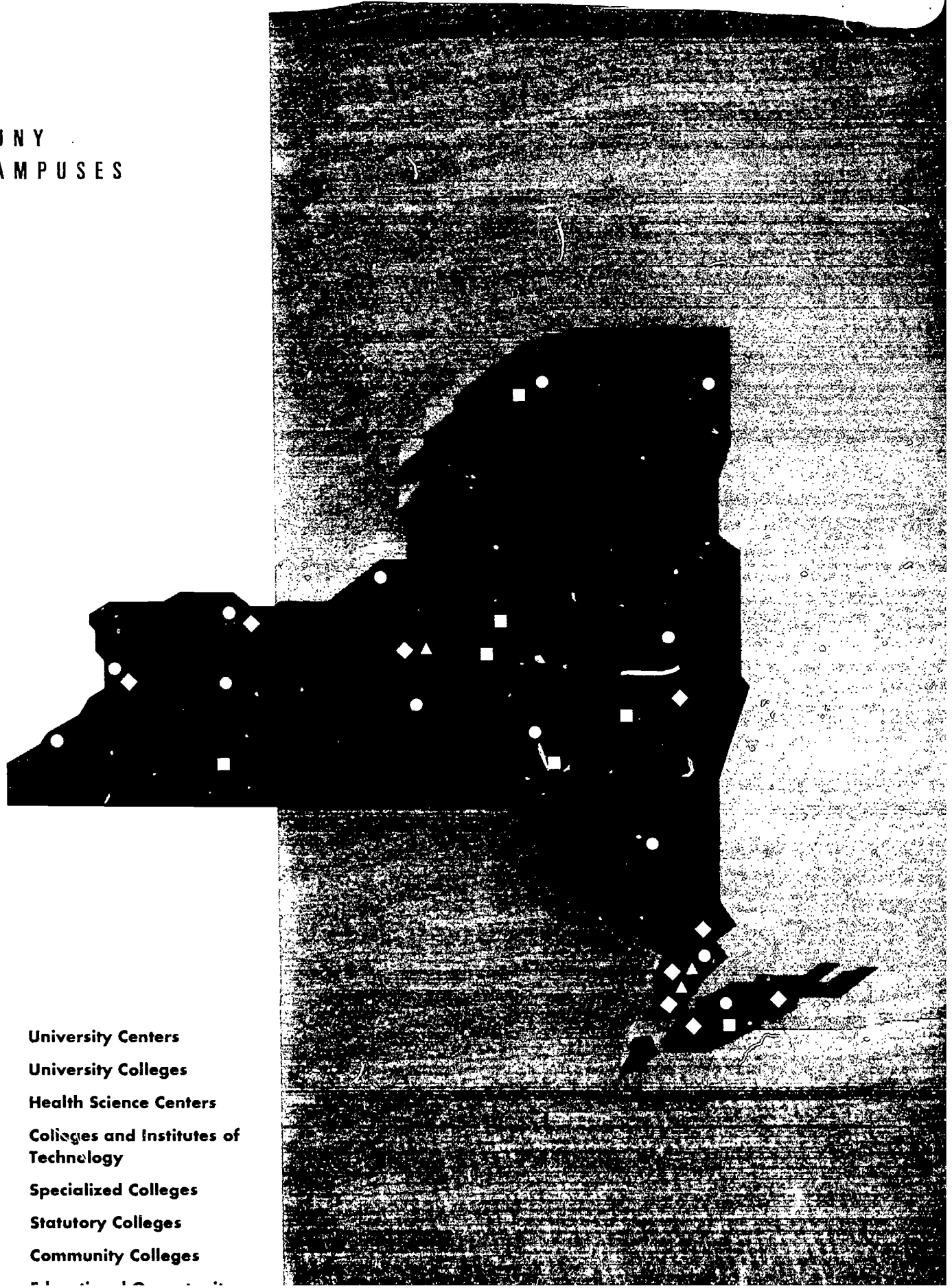
d. strengthens its educational and research programs in the health sciences through the provision of high quality health care at its hospitals, clinics and related programs;

e. shares the expertise of the state university with the business, agricultural, governmental, labor and nonprofit sectors of the state through a program of public service for the purpose of enhancing the well-being of the people of the state of New York and in protecting our environmental and marine resources;

f. promotes appropriate program articulation between its state-operated institutions and its community colleges as well as encourages regional networks and cooperative relationships with other educational and cultural institutions for the purpose of better fulfilling its mission of education, research and service.

Mission Statement (Chapter 552, Laws of 1985)

SUNY CAMPUSES



- ■ University Centers
- ○ University Colleges
- ▲ Health Science Centers
- □ Colleges and Institutes of Technology
- △ Specialized Colleges
- ◆ Statutory Colleges
- ● Community Colleges

CHAIRMAN'S LETTER

As chairman of the Board of Trustees, I am pleased to present to you SUNY 2000. I do so on behalf of all my fellow trustees, and with the confidence that this plan gives to the university and to the people of New York State a vision that is worthy of both our aspirations and our challenges.

Because time does not stand still—indeed, the pace of change has seldom been faster—SUNY 2000 not only begins with the university as it has evolved and grown over the past 40-plus years of its life, but goes on to assess the new needs and challenges and opportunities that will be here by the beginning of the 21st century. This fine system, which has provided millions of New Yorkers with the education needed for successful careers and lives, cannot stand still. To continue to do what it has done so well, it must look to and adapt for the future. SUNY 2000 does that.

This is a plan that looks seriously at the university's role in answering society's evolving needs and in managing the responsibilities and resources which society has entrusted to it. This plan is presented by the Trustees. It was developed by a broad-based advisory committee working with the Chancellor, the Provost, and the Trustees' Ad Hoc Committee on SUNY 2000. The plan looks ahead with vision and realism. We have grappled with the major issues facing society—equality, justice, prosperity, equity. We have also grappled with the practical challenges of changing a large institution in a decade that is likely to see increasing de nands for efficiency and productivity.

SUNY 2000 is based on five key principles.

First, a great public university is both accessible and academically excellent. A university that promotes access without excellence offers mere mediocrity and is unworthy of the public trust. One that aspires to excellence without concern for access denies to many people who support the university a fair and full measure of its benefits. Overall, the system must provide a comprehensive range of opportunities for all citizens of New York who seek entry to public higher education.

Access to a public university education is one of the most important investments a state can make in the future of its people. National projections suggest that by the year 2000 over 30 percent of jobs will require a baccalaureate degree. Entry and advancement in many fields will depend increasingly on graduate education. The State University of New York will make sure that New Yorkers are ready for the demands of the future.

Second, the plan stresses its commitment to undergraduate education with particular emphasis on the quality of teaching and with sensitivity to diversity in the curriculum.

During the latter part of the 1980s, undergraduate education began to receive the kind of critical public scrutiny that had previously been directed at the nation's elementary and secondary schools. International comparisons of students' skills and general knowledge showed that American undergraduates fared poorly when tested against peers from other countries. Performance and interest in mathematics, science, and technology have declined so substantially that the competitiveness of the nation's economy may be threatened.

We are committed to extending the frontiers of knowledge through basic and applied research and to enhancing the graduate education that is the lifeblood of a great research university.

Third, we are committed to extending the frontiers of knowledge through basic and applied research and to enhancing the graduate education that is the lifeblood of a great research university.

Throughout the second half of the 20th century, the emergence of the research university has played an increasingly important part in the mission and organization of American higher education. As research-based, high-technology industries became the focus of extraordinary economic growth—California's Silicon Valley and North Carolina's Research Triangle are two striking examples—the contributions of university research to regional economic development became clear.

New York State's economy is precisely the kind that most efficiently benefits from university graduate and research centers—an economy shifting towards services and away from manufacturing which, insofar as it remains, will tend to be lighter, smaller in scale, and higher in technology.

Social problems have also drawn public attention to the need for university research. Collaborative relationships among universities, government, and private industry have brought university research

contributions more immediately and directly off campus and into society.

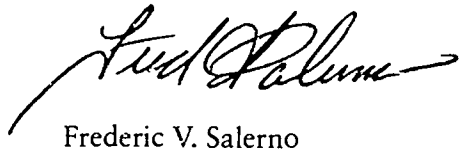
Fourth, the university must respond to the needs of the state, particularly in health care, economic development, social welfare, environmental conservation, and public education. This is the traditional role of the public university, a role that we endorse and accept.

The future will require a particularly sensitive stewardship of public resources and employment of good management practices.

Fifth, the future will require a particularly sensitive stewardship of public resources and employment of good management practices. SUNY will be taking on a larger and more important role in education, research, and service. Its financial needs may outpace New York State's revenue growth, requiring SUNY to supplement state tax funds with productivity enhancement and funds raised from multiple sources, such as foundations, corporations, and philanthropists.

These five principles—detailed and fully developed in the plan—represent SUNY's commitment to the future well-being of New York State and its citizens. It is our path to change. It is our mission statement for New York 2000. And it is our action plan.

It is not a prescription to solve the crises of today. Rather, it is a vision we offer to the people of New York as our contribution to their future, an invitation to chart a course worthy of New York at the dawn of the next millennium.



Frederic V. Salerno
Chairman

CHANCELLOR'S LETTER

This is a plan, or at least the first step of a plan, for the State University of New York for the remainder of the decade of the 1990s and into the next century.

A plan is not a prediction of the future. Nor, to be useful, is it a projection of what we wish the future to be. Rather, a plan is an action agenda for the present tempered by a realistic, though hopeful, assessment of the future. A worthwhile plan for the State University in the 1990s should be a source of goals and principles combined with actions that we can begin to take now in order to reach the vision we set for a decade hence.

In 1989, with this concept of planning in mind, we established an ongoing process, called SUNY 2000, whose goals are to:

1. articulate a vision for the State University of New York as it approaches the 21st century;

2. hold to this vision while developing concrete, systemwide plans cognizant of the state's demographic, fiscal, and political climate in the 1990s; and

3. stimulate campus plans that both respond to the SUNY 2000 goals for the system and transcend them, reflecting the unity of the university as well as its diversity and decentralization.

Overall, SUNY 2000 seeks a whole that is more than the sum of SUNY's 64 parts.

A plan for a large complex institution like a university will probably not, in the end, yield goals that will surprise or shock the reader any more than it will contain goals that will profoundly wrench or disrupt the institution. The past is both rewarding and constraining. What any institution can or will become is very much a function of what that institution is and has been. The degrees of true freedom in a university's plan are few even if it must be prepared to do battle for certain important changes. In short, the State University of New York is on a good course, from which it should not veer dramatically.

Board Chairman Frederic V. Salerno and Chancellor D. Bruce Johnstone.

At the same time, a plan can and ought to matter. That is, the existence of a sound plan, with a clear and immediate action agenda, ought to focus energies, inspire new and creative behavior, and in the end alter the trajectory of where the institution had been going prior to the plan.

SUNY 2000 has two major phases, one relatively centralized, the other decentralized. SUNY is not a university in the sense of a single institution, but a university system—of substantially autonomous campuses with their own histories, strengths and weaknesses, aspirations and plans. The first phase, the task of this document, sets forth a vision of the future of the State University of New York and outlines certain broad overarching goals that are truly system goals.

Phase I's principal goals will be familiar. What will lend them power and excitement will be the capacity of these system goals, carrying the perspective and the authority of the Trustees and the Chancellor, to stimulate in Phase II a rich array of campus plans, with identified resources, objectives, and timetables, and thus to cause good things to happen on the campuses that might not have happened in the absence of the system plan.

The real culmination of SUNY 2000 should be a set of campus plans reflecting the Trustees' vision of SUNY, but in the context of the special identities and missions of individual campuses.

In the second—really the more important—phase, we will ask the campuses to tell us how they see this next decade and to respond to Phase I's overarching goals with their own proposals. The purpose of this, the real culmination of SUNY 2000, should be a set of campus plans reflecting the Trustees' vision of SUNY, but in the context of the special identities and missions of individual campuses, where SUNY's teaching, research, and service actually take place.

Much of SUNY's brief history as a system has been preoccupied with assembling the elements of a mature university. SUNY has recruited a first-class faculty, developed undergraduate and graduate programs of outstanding breadth and innovation, and built and equipped a vast array of facilities.

We now look to the future, cognizant of the pressures of conflicts and problems, some traditional to universities, some new to our age. Much is demanded of us. As Jacques Barzun wrote some years ago: "The universities are expected, among other things, to turn out scientists and engineers, foster international understanding, provide a home

for the arts, satisfy divergent tastes in architecture and sexual morals, cure cancer, recast the penal code, and train equally for the professions and for a life of cultured contentment in the coming Era of Leisure."

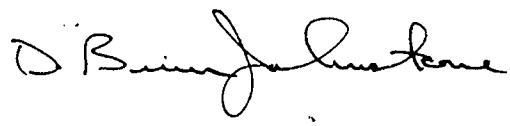
Today, we might add that universities are expected to play the major transitional role for young people into adulthood; to teach what high schools have failed to teach; to advance the status of minorities; to uphold technological supremacy for the advantage of American industry, agriculture, defense, and medicine; to upgrade the skills of the American worker; and to entertain the nation through the spectacle of intercollegiate athletic competition.

We must develop a curriculum that serves the needs of the student as well as the broader and longer-range needs of the people of the state. The university, in all its tasks, must both serve and lead.

The vision for SUNY 2000 must articulate a new model for which no convenient label yet exists. How SUNY 2000 translates its mandate of instruction, research, and public service into overall goals for the university system will define a unique model—one designed to capture the imagination and serve the needs of the state.

Institutionally we must recognize and reward teaching skill while enhancing the research opportunities of the faculty. We must strengthen the liberal arts as the core of undergraduate education while providing the technical skills, professional training, and advanced learning needed for the information age. We must develop a curriculum that serves the needs of the student as well as the broader and longer-range needs of the people of the state. The university, in all its tasks, must both serve and lead.

Many SUNY campuses and even more of their individual programs have reached the threshold of national distinction and recognition for quality. The challenge for SUNY and for New York is now to reach for greatness, to implement a vision of the best possible educational system in America or the world.



D. Bruce Johnstone
Chancellor

SUNY TODAY

SUNY is the youngest of the nation's state universities, and the most complex in makeup. Its constituent units include some of the oldest colleges of their type in America—and some of the newest. SUNY has shaped its evolution from a mixture of teachers colleges, private institutions, and technical schools into a complex public university.

As the nation's largest comprehensive university system, SUNY is composed of 29 state-operated campuses that consist of 4 university centers (2 with health science centers); 13 university colleges; 2 stand-alone health science centers; 3 specialized colleges; and 6 two-year colleges of technology (2 of these also focus on agriculture) and 1 upper-division institute of technology. SUNY also encompasses 30 community colleges and 5 statutory colleges, 4 at Cornell University and 1 at Alfred University.

Last year, SUNY had operating expenditures from all sources of nearly $4.5 billion and capital expenditures of $370 million. Its state-operated campuses and hospitals, statutory colleges, and community colleges employed 71,000 people, more than most corporations and in a far greater range of activities. SUNY operated in over 500 locations, including 64 campuses, 55 other locations offering complete programs, 30 extension centers, and 414 extension sites, experiment stations, and projects abroad involving more than 24 countries.

With over 4,000 undergraduate and graduate degree programs and major courses of study, SUNY in one way or another made some contact with nearly every household in the state. In 1990, one-third of New York's high school graduates enrolled in SUNY. SUNY's total enrollment of more than 400,000 is more than 40 percent of the state's higher education student population (figure 1).

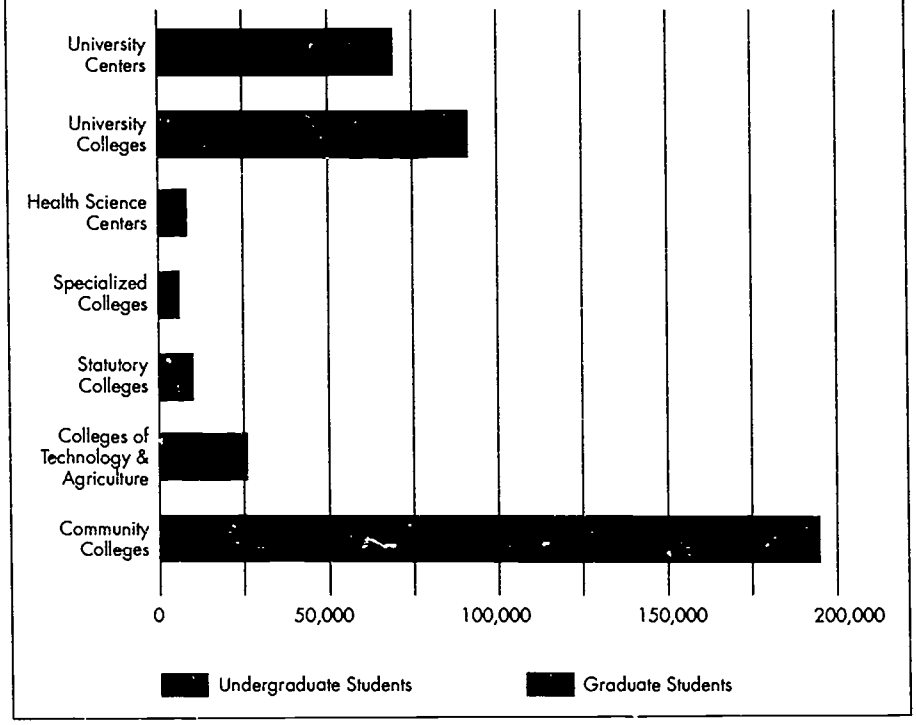
As the nation's largest comprehensive university system, SUNY enrolled 403,000 students in 1990.

But SUNY is not only large and diverse; it is also steadily making its way into the ranks of the country's top public university systems in research, education, and public service.

Two years ago, SUNY at Buffalo was elected to membership in the American Association of Universities, the first and only public

institution in New York and New England invited to join this prestigious organization.

FIGURE 1. **Credit Course Headcount Enrollment**
State University of New York, Fall 1990



In the fall 1990 *Money Guide*, three of SUNY's campuses were listed among the five best college buys in the country; a total of ten SUNY campuses were named in the magazine's top sixty schools. SUNY campuses have also been favorably cited in *U.S. News and World Report's* compilation of America's best colleges and in *Changing Times*, which assesses institutions based on cost, student performance, and other criteria.

Indeed, bolstering student performance is an important priority. In the 1980s, the graduation rate of SUNY's baccalaureate campuses increased by 10 percent, a rate that ranks SUNY favorably with other public university systems.

Another priority is to reach those students traditionally not well-served by education, both by aggressively reaching out to students in the inner-city areas and through SUNY's Educational Opportunity

Programs (EOPs) and Educational Opportunity Centers (EOCs). In the past two decades, SUNY's EOP and EOC programs have helped make education a viable option for more than 310,000 New Yorkers who might otherwise not have benefitted from higher education.

SUNY also reflects the diversity of the society it serves. Between 1976 and 1990, SUNY recorded a 106.7 percent increase in the enrollment of African-, Asian-, Latino-, and Native Americans, compared to a 40 percent increase nationwide. Special graduate minority fellowships are a high priority, and SUNY has successfully increased funding of fellowships each year since 1987.

In 1990, the value of SUNY's externally sponsored research rose to more than $300 million, a 50 percent increase since the Graduate Education and Research Initiative (GRI) was implemented in 1987.

The GRI established a priority for campuses to develop centers of excellence tied to the research needs of their regions. Such centers not only increase SUNY's relative research strengths and its subsequent ability to attract funding, but also better align research capabilities with the needs of the state.

The Business and Industry Centers make SUNY's technical expertise available to New York State business at 40 locations. The university hosts 19 Small Business Development Centers, which in 1990 served some 7,675 clients and helped to create or retain over 2,800 jobs in the state.

The Graduate Education and Research Initiative established a priority for campuses to develop centers of excellence tied to the research needs of their regions.

SUNY also contributes to economic development through technology transfer, including creation of incubator facilities to foster high-tech industries and efforts to maximize the rate at which university research and inventions can be transferred to industry for further development or commercialization. Today, SUNY ranks in the top twenty universities nationwide in technology transfer.

New York State is upstate and downstate, rural and suburban, big city and small town. From serving a full range of students at every level of higher education to serving businesses, public service agencies, and cultural organizations in innovative and creative ways, SUNY has in a short time demonstrated its determination to emerge as one of the country's top public university systems.

HISTORY AND CONTEXT

"The state universities were peculiarly individualistic, competitive, and attached to the idea of a free and mobile order. A majority of Americans . . . never forgot their theoretical faith in education as a national equalizer and still more as a preservative of an open society . . . they emphatically believed that opportunity should be general, that everyone should be able to train whatever talents he possessed, and that all should have a chance to rise as far as their capacities permitted. Higher education safeguarded the social mobility of the nation, and that was the heart of democracy."

Allan Nevins, The State Universities and Democracy, *1962*

Any plan for a large, complex, mature organization must recognize the historic conditions that shaped and continue to influence its development. While the effects of historic influences are not immutable, they should not be ignored. History should always be understood and reckoned with in contemplating the future.

So it is with SUNY.

SUNY was created late—in 1948, as the last American state university—in the face of substantial opposition from New York State's private higher education sector, particularly the private research universities, and even from the Board of Regents.

In 1862, the federal Morrill (land grant college) Act stimulated many states to create institutions that gradually grew into comprehensive public universities. But New York did not follow suit. The state had decided, in 1865, to designate a new private university, which was to be named after Ezra Cornell, as its land grant university.

Throughout the first half of the 20th century, when many states were building great public universities to serve undergraduates, graduates, advanced professional students, and their communities generally, New York State relied on private colleges within the state and public and private institutions in other states.

Although it had no state university, New York did support some public higher education. By World War II, eleven small state teachers colleges had developed from 19th century normal schools; four city

Henry Moore's monumental Large Two Forms *is a touchstone for students at the College at Purchase.*

colleges of New York (City, Hunter, Brooklyn, and Queens) had been founded (restricted to city residents); and eleven two-year technical or vocational institutes and seven specialized, primarily baccalaureate, colleges were located around the state: the College of Forestry at Syracuse, the Maritime College in the Bronx, the four statutory colleges at Cornell, and the statutory College of Ceramics at Alfred University.

After 18 months of study, the Young Commission concluded that New York State was critically short of low-cost, geographically accessible institutions of higher education.

But there were no public liberal arts programs outside New York City, no comprehensive public doctoral and research institutions, and no community colleges. Every year, tens of thousands of New York's young people left the state to attend universities elsewhere.

After World War II, the inability of public campuses to meet the pent-up demand for education from both a growing population of college-age students and the thousands of returning veterans became a serious issue—one made even more urgent by charges that private institutions, particularly medical schools, discriminated in admissions on religious and racial grounds.

In response, Governor Thomas E. Dewey and the Legislature created a blue-ribbon, bipartisan Temporary Commission on the Need for a State University, chaired by Owen D. Young, former chairman of the board of the General Electric Company. After 18 months of study, the Young Commission concluded that the state was critically short of low-cost, geographically accessible institutions of higher education: "Less than half of New York's high school graduates whose records place them among the highest fourth of their classes are going to college. Most others in this quartile, as well as many other students qualified to benefit by college education, do not have funds sufficient to enable them to attend college. . . . The conditions of the times require a broadening of the public provisions for higher education on all fronts."

The Young Commission recommended creating a state university, under a single board of trustees, to encompass all existing public institutions except the New York City colleges and to create or acquire new ones. While emphasizing the immediate creation, on local initiative, of community colleges to offer "two-year terminal general and technical education," the commission reiterated that greater opportunity was needed at all levels, including graduate and professional. Legislation establishing the State University was passed in 1948.

The new university began life in an ambiguous atmosphere. While the state saw the need to provide college opportunity for capable students from all economic and social backgrounds, New York's long reliance on private higher education had led to a narrow view of the role of public institutions—a view at odds with that in other economically advanced states. Public institutions were sometimes seen as a secondary alternative, suitable mainly for the would-be teacher or those seeking vocational training, or for students unable to afford private institutions. While the enormous demand for higher education, public and private, soon made this characterization irrelevant, the idea that a public institution's purposes should be more limited than those of its private counterparts persisted for many years and served to delay some aspects of SUNY's development.

The university that developed in the 1950s and 1960s was at first mainly a collection of existing state teachers colleges and two-year institutes of agriculture and technical studies, new locally sponsored and operated community colleges, and three once-private institutions: the University at Buffalo; Downstate Medical School (now the Health Science Center at Brooklyn), forged from the Long Island College of Medicine; and Upstate Medical School (now the Health Science Center at Syracuse), originally the Geneva College School of Physicians, later the Syracuse University School of Medicine.

The SUNY that emerged was the result of deliberate, considered planning and attention to the needs of the public—animated by the creative energies of faculties, administrations, and special advisory bodies and implemented through years of extraordinary support from New York's public and its elected representatives.

In addition to community colleges, new campuses were eventually created only at Binghamton, Stony Brook, Old Westbury, Purchase, Utica/Rome, and Manhattan (the College of Optometry) plus Empire State College, which has learning centers located around the state. A decision was made, re-examined and re-confirmed, to support centers for advanced professional, doctoral, and research missions at four campuses in addition to the two health science centers, rather than build a single dominant flagship campus as had been the pattern in the Midwest and West earlier in the century.

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In other states, great public universities evolved over a century. But New York's statewide university had to be built quickly yet deliberately to meet an exploding public demand. Thus, SUNY's history is characterized by three themes: planning; building the system in accordance with the plans; and striving for the institutional and academic autonomy necessary to achieve the quality of education New Yorkers deserve.

Planning. As the Young Commission recommended, the university's Trustees took planning as a major responsibility from the outset. Long before the current master planning law was enacted in 1961, the university was laying out major needs and future directions in plans submitted to the Regents and the Governor.

In 1950 the board formally adopted its first master plan, which recommended immediate establishment of two-year programs in the state's main economic centers, estimated enrollments out to 1966, and identified the need for new four-year programs. The next master plan was prepared in 1956. Since then, the Trustees have submitted a plan to the Regents and the Governor every four years. In accord with the 1961 master planning statute (revised in 1971), biennial revisions and progress reports are also prepared, and individual, trustee-approved amendments to the master plan are submitted to the Regents and Governor in interim periods.

New York's statewide university had to be built quickly yet deliberately to meet an exploding public demand.

While varying considerably in format, content, and style, the master plans have proved to be reliable guides to the university's development, with most of the major recommendations implemented in one form or another. The 1960 master plan, for example, set forth the outlines of the university as it developed in the early 1970s and is today, with four university centers, multipurpose university colleges, and a network of community colleges with transfer and career programs.

Early plans naturally concentrated on physical growth—new campuses or expanded programmatic missions for existing facilities. In the 1970s, the primary emphasis shifted from new campuses and programs toward responses to other needs, such as completing campuses and improving the quality of campus life and governance arrangements.

Master plans of the 1980s highlighted SUNY's role in graduate programs and research, emphasizing program quality and serving a

more diverse student body.

Building a state university. The 29 unrelated public institutions gathered together in 1948 as the State University of New York, plus three "emergency colleges" operated by a consortium of upstate private institutions and later closed, enrolled altogether about 30,000 students. During SUNY's earliest years, the Trustees turned their attention to expanding opportunities for undergraduate education, particularly through two-year colleges, and medical education, as recommended by the Temporary Commission. The 1950s also saw plans for a new upper-division college at Stony Brook and doctoral work in the Albany area.

The 1960s saw an explosion of growth in the public systems of most states, and New York was no exception.

Toward the end of SUNY's first decade, it became clear that New York's ability to catch up with student demand would be severely tested in the 1960s, when the post-World War II baby boom would produce huge high school classes. The fitful implementation of SUNY's plans up to this point and the prospect that New York's overall higher education system would be engulfed led Governor Nelson A. Rockefeller to take a step that would prove to be a turning point in the university's development. In 1959, he created the Committee on Higher Education, known as the Heald Committee, after its chair, Henry T. Heald, former chancellor of New York University. Charged with examining all sectors and recommending to the Governor and the Board of Regents steps to assure access while providing the state with needed training and research capacity, the Heald Committee said, in essence, that New York's public education was still pitifully underdeveloped. On the premise that the state would opt for bold leadership and abandon its previous patchwork attempts to meet demand, the Heald report recommended that SUNY convert the teachers colleges into liberal arts institutions, expand the community college system further, and provide graduate work at two locations. The Trustees basically agreed, although they proposed four graduate campuses, in line with the system's decentralization and their view of future state needs.

The 1960s saw an explosion of growth in the public systems of most states, and New York was no exception. The needed physical expansion got its start in 1957, when the state's voters overwhelmingly approved a $250 million bond issue for SUNY's capital needs. The

Dormitory Authority, to serve both the private and public sectors, and the State University Construction Fund were created to handle the increased demand for academic and residential facilities.

Governor Nelson Rockefeller, SUNY Board Chairmen Frank C. Moore and Clifton W. Phalen, and Chancellor Samuel B. Gould collaborated to authorize additional community colleges, both upstate and in New York City; expand baccalaureate and master's work at the former teachers colleges, and identify new four-year institutions for Westchester County and Long Island. They initiated university centers—from ground up at Stony Brook, by expanding existing colleges at Binghamton and Albany, and by merging the then-private University of Buffalo into SUNY. Plans were formed to expand health care education, particularly on Long Island, in response to the report of the Muir Committee, which had been appointed by the Governor and the Regents to assess the state's need for health care professionals. The Trustees also moved to create or extend activities and services that would make SUNY a full-fledged university—for example, creating the SUNY Research Foundation, strengthening libraries and computer systems, expanding the SUNY Press as an outlet for scholarship, extending the New York Network television operation, and encouraging international studies.

The Trustees moved to create or extend activities and services that would make SUNY a full-fledged university—creating the Research Foundation, strengthening libraries and computer systems, expanding the SUNY Press as an outlet for scholarship, extending the New York Network television operation, and encouraging international studies.

The 1970s continued the rounding out of the university's facilities, programs, and services under Board Chair Elisabeth L. Moore and Chancellor Ernest L. Boyer. The state's Full Opportunity Program was enacted for community colleges, and a statewide network of 38 such campuses was completed. With these, and the legislative creation of a College of Optometry, the university reached a total of 72 campuses. (This number was reduced to 64 campuses in 1975 when, for administrative reasons, legislation was enacted, with SUNY's concurrence, transferring total supervision over the 8 community colleges sponsored by the Board of Higher Education in New York City to the City University.)

Four state-operated campuses were directed to special needs: the College at Old Westbury, to serve those historically bypassed by higher education as well as traditional students; the College at Utica/Rome (now the Institute of Technology), to serve increasing numbers of two-

Major development of SUNY's Educational Opportunity Programs and Centers opened the doors to many educationally and economically disadvantaged adults and young people.

year transfer students in the technologies and sciences; the College at Purchase, with curricula centered on both performing arts and liberal arts; and Empire State College, to serve place-bound adults and students of all ages seeking independent study. Major development of SUNY's Educational Opportunity Programs and Centers opened the doors to many educationally and economically disadvantaged adults and young people.

The 1970s also saw the first of what was to become a series of state fiscal crises that were to delay some plans, eliminate certain programs, halt (if only temporarily) the growth of enrollments, and in 1975-76, force retrenchment of faculty and staff.

A major casualty of the fiscal problems of the 1970s and 1980s was the university's graduate education and research capabilities. Starting from a tiny base (6 doctoral degrees granted, 51 first professional, and 385 masters in SUNY's first full year), graduate work expanded and diversified from a few professional fields very slowly until the early 1960s. Over the next decade, however, the campuses steadily improved their external research funding and created new programs in both professional and nonprofessional fields. But around 1973, development was slowed by budget problems, an ensuing temporary moratorium on new doctoral programs, and a legal controversy surrounding the Regents' doctoral review project.

As a result, the university's graduate offerings, overall, did not achieve the variety, consistency, or quality of its undergraduate programs. The serious impact of this problem on the state's economic and educational development was identified in strong terms by the Independent Commission on the Future of the State University, established in 1984 through the initiative of Board Chairman Donald M. Blinken and Chancellor Clifton R. Wharton, Jr., and led by Ralph P. Davidson, chairman of the board of Time, Inc., and Harold L. Enarson, president emeritus of Ohio State University. The resulting SUNY Graduate Education and Research Initiative (GRI) and its endorsement by Governor Mario M. Cuomo and the Legislature, along with the investment in engineering education that preceded it, produced demonstrable gains in the quality of graduate programs and research.

During the 1980s, SUNY also reached new levels of service in

other areas, including public service, international research and service, health sciences education, and patient care at three university hospitals and several clinics. It also became more closely knit as a system. Despite recurring state fiscal problems and a substantial decline in the numbers of high school graduates, the university experienced continuing high enrollments. This high level of access was made possible partly by the decision to meet fiscal problems in ways that would preserve academic strengths. This required cutting programs, curtailing other services, and making repeated and often painful reallocations of existing resources.

As SUNY's first president, Alvin Eurich, noted in 1950, the university had to balance its "need for unification and expansion" with "a need for decentralization, with a diversity of programs integrated to the service of the community, and with a maximum of local control and responsibility."

Innovation has continued with the development of new degree programs at all levels—from associate through doctoral and advanced professional—so that a majority of SUNY students today are enrolled in programs that did not exist ten to fifteen years ago. Other innovations have included the establishment of multidisciplinary organized research centers stimulated by the GRI, additional programs to assist women and persons of color to pursue higher education, and in keeping with the university's public service function—a hallmark of the great land-grant universities across the country—guidance from business, labor, and government to improve SUNY's economic development services.

Striving for institutional autonomy. When the Temporary Commission recommended a structure for a new state university, it was bold enough to take a very different approach from that followed in other states. As SUNY's first president, Alvin Eurich, noted in 1950, the university had to balance its "need for unification and expansion" with "a need for decentralization, with a diversity of programs integrated to the service of the community, and with a maximum of local control and responsibility."

Neither the early Trustees nor university officials could claim clear authority to pursue this vision. Unlike other public universities, SUNY was neither constitutionally autonomous nor even technically a separate agency, for it was originally established within the State Education Department, at least partly because New York's government had already reached the constitutional limit on the number of state departments. The first Board of Trustees was designated "temporary" (and

remained so for five years), and for many years SUNY budgets were submitted to the Commissioner of Education for transmittal to the Governor. Policy questions regarding curricula, standards of instruction, admissions, and similar matters normally within the authority of a board of trustees were expected to be submitted to the Regents for approval.

Nevertheless, much of SUNY's present governance pattern emerged early: the Trustees' direct administration of the state-operated campuses; their (substantially delegated) "general supervision" of the statutory colleges at Cornell and Alfred; and shared responsibility for the community colleges, which were described as being "under the program of the State University."

Wrestling with the problems of control versus autonomy, the temporary Trustees decided that SUNY would grow and function well only under a single board with a statewide perspective and ultimate governance authority for the entire system. Recognizing the claims of local communities, however, the Trustees supported creating advisory bodies, with limited powers, for the state-operated campuses, subject to the Trustees' approval. This arrangement, along with the creation of a permanent SUNY Board, was incorporated in statute in 1953.

Since then, the Trustees have maintained a view of the system very much as envisaged by President Eurich. On the one hand, they have sought or supported internal governance or advisory structures that knit the system together—for example, establishing the University Faculty Senate in 1953 and the Student Assembly in 1973. On the other, they have supported campus academic development within statewide needs and broad institutional missions and have repeatedly rejected the notion of a "flagship" campus or a hierarchy of institutions.

The most persistent and severe governance problem faced by the State University was its lack of freedom to operate as an academic institution.

In fact, the most persistent and severe governance problem faced by the university was its lack of freedom to operate as an academic institution. In 1960 the Heald Committee concluded: "The State University as a whole appears to have less administrative and management freedom of operation than almost any other publicly supported institution or group of institutions in the United States."

The Heald Committee's report resulted in legislation strengthening the Trustees' master planning role (limiting the Regents' participation

to the review and approval of university master plans) and ending the submission of SUNY budgets to the Education Department. It also stimulated legislation in 1964 authorizing the chancellor to certify positions as professional or unclassified, thus allowing the campuses to hire faculty without the need for civil service approvals and review, and permitting national recruiting of faculty.

Many of these changes were supported by a legislatively appointed consultant, Herman B Wells, chancellor of Indiana University. In the chapter, "Helping the State University to Do Its Job," the Wells Report concluded that SUNY could not adequately serve the state's needs unless it was given "substantially increased powers of self-determination," administrative restrictions were eased further, and the Trustees and the central staff concentrated on policy-making, planning, and coordination of the system. The recommendations included authorizing the chancellor to act as the institution's chief executive officer in all matters, including the decentralization of administrative functions (with the authorization of the board).

Over the next 20 years, the need for further managerial flexibility and responsibility remained a pressing issue, made even more urgent by recurring state fiscal crises. In 1985, the Independent Commission on the Future of the State University, composed of leaders from business, government, and higher education, agreed with the Heald Committee: "SUNY is the most over-regulated university in the country. . . a fundamental and basic change in SUNY's structure is required to allow the university to carry out the functions for which it was created. . . . Over-regulation weakens SUNY and deprives New York of benefits that other states realize from their state universities."

Chairman Blinken, the Board, and Chancellor Wharton responded promptly. The Trustees proposed legislation giving the university broad authority over budget execution and reallocation of resources, significantly stronger personnel authority, and more control over purchasing and contracts. The so-called flexibility bill was rapidly enacted by the Legislature and signed by Governor Cuomo. In 1987 another crucial piece was put in place by legislation allowing the Trustees to set the salaries of their own executive officers.

A 1990 audit of "flexibility," conducted by the Legislative Com-

mission on Expenditure Review, judged the new managerial responsibility successful at both the system and campus levels (to which the Trustees and Chancellor devolved many administrative functions).

The Independent Commission said: "Other states have had more than 100 years to develop their state university systems. Certainly no state has accomplished as much in so short a time as has New York in building SUNY."

In 42 years, SUNY has become a diversified yet integrated system, offering a full range of academic programs, from certificate programs to post-doctoral work.

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But universities are dynamic institutions, changing as the public's expectations change, as new students enter, and as knowledge alters and expands. The university's commitment to planning remains strong, and must lead to a vision of the future and new goals to guide its programs and services. Although SUNY has not yet reached its 50th birthday, it is embarking on renewed plans so that it can continue to be the strong resource for New Yorkers that it has worked to become in its early history.

A VISION FOR THE NEW CENTURY

"The university is being called upon to educate previously unimagined numbers of students; to respond to the expanding claims of national service; to merge its activities with industry as never before; to adapt to and rechannel new intellectual currents. By the end of this [development], there will be a truly American university, an institution unique in world history, an institution not looking to other models but serving, itself, as a model for universities in other parts of the globe."

Clark Kerr, former President, University of California

The turn of a century, but especially the turn of a millennium, is a time to take stock of past performance, assess potential, and identify future prospects. In the tradition of the great universities in history, the State University of New York prepares for the future by preserving and renewing what has been learned in the past. And SUNY has a special mission to the people of New York to develop the base of research and knowledge on which the state economy depends and to offer every New Yorker access to the finest possible education.

The certainty of change. The 1990s seem at first to present a world of uncertainty, confounded by complex and far-reaching problems. Advances in science and technology—the spheres in which New York established itself as a dominant leader in the first part of this century—are being developed so rapidly that, in many fields, what is taught today will be obsolete in five years. Innovation and transformation in science and technology have become so rapid and commonplace that the normal course of evolution in many fields is that of revolution.

Advances in science and technology expand knowledge and strengthen the state's economy.

Expansion of information has gone from exponential to explosive, while deepening of human understanding and tolerance proceed at a much slower pace. In many fields, substantial changes are challenging the social and moral rules governing society. In physics, biology, and chemistry, in internal medicine and psychiatry, in information industries and the mass media, in sexual roles and behavior, and perhaps particularly in the social meaning of the family, enormous transformations are forcing a re-thinking of the ethical basis of society.

These changes mean a new role for the university. An adequate education will no longer be confined to a few years at the start of one's career, but rather a lifelong series of renewals. And because of its increasingly central role in analyzing and fostering change, the university has a more important role than ever as a recorder, observer, and critic of society and of its directions.

The meaning of state universities. In looking forward, SUNY must also look to its heritage and obligations as a public university. In a classic essay, Allan Nevins wrote that state universities historically had "to make themselves broadly useful to their states, not merely in traditional avenues but in many new ways, becoming, in the term invented by an English university leader, 'community service centers.'"

As part of its public heritage, SUNY faculty members and researchers pioneered nuclear magnetic resonance imaging, introduced time-lapse photography of forestry subjects, isolated the bacteria that causes Lyme disease, developed the first implantable heart pacemaker and lithium battery, and made hundreds more contributions, inventions, and innovations.

Service helped distinguish the public universities from some of their private counterparts. The School of Mining at the University of Minnesota, for example, mastered the means of extracting good iron ore from taconite rock on the Mesabi Iron Range, which had been thought depleted of iron. The University of Michigan's School of Natural Resources conducted the research in watershed management, forest fire control, and wildlife diseases that helped save Michigan's wilderness areas. The University of California financed agricultural research centers that developed new strains of oranges, such as the navel orange, to flourish in the heat of Southern California. The University of Wisconsin pioneered the "Wisconsin Idea" of academic and intellectual service directly to state and local government and to progressive social agendas.

As part of this public heritage, SUNY faculty members and researchers pioneered nuclear magnetic resonance imaging, introduced time-lapse photography of forestry subjects, isolated the bacteria that causes Lyme disease, devised economic uses for incineration waste, developed the first implantable heart pacemaker and lithium battery, invented the world's smallest thermometer to measure temperature changes in single cells, and made hundreds more contributions, inventions, and innovations.

Even more important, wrote Nevins, was the extremely difficult objective of gaining "some of the distinction that men had associated with universities ever since medieval Bologna and Paris flourished, and

in so doing to lift both the intellectual and spiritual level of democracy."

Traditionally, lifting the intellectual and spiritual level of democracy has been the responsibility of a superb and liberal undergraduate education accompanied by professional and graduate schools well-grounded in their fields. This has meant following the Jeffersonian imperative to the University of Virginia that its public education was to be based "on the illimitable freedom of the human mind. For here we are not afraid to follow truth wherever it may lead, nor to tolerate any error so long as reason is left free to combat it."

Higher education serves democracy by enhancing the American heritage that promotes equality alongside quality, accessibility alongside excellence, and liberality of thought alongside rigor.

Meeting these objectives—which are as valid today as they were in the late 19th century when so many state universities were founded—will require the full efforts of every member of the SUNY community.

Higher education serves democracy by enhancing the American heritage that promotes equality alongside quality, accessibility alongside excellence, and liberality of thought alongside rigor. SUNY embodies the pluralistic heritage of America. It fulfills the promise that diverse peoples, hailing from different countries and holding diverse beliefs, have equal and fair access to the educational and professional benefits of higher education. It is in this context that we look to the future.

The Year 2000

While forecasts of the future offer an almost infinite variety of possibilities, several themes underpin the most likely scenarios: the global village, the information economy, and the multicultural society.

The global village. The global village is generated in part by the extraordinary developments in technology, communications, and transportation, combined with worldwide expansion of markets for trade and commerce. Relatively recent technological developments have extended throughout society an awareness of global interdependence that universities have known for centuries.

With an economy exceeded in size by only a few countries in the world, New York State has long been an important global player. Its major city has dominated the world of finance and commerce for much of this century. Yet nothing is certain in the coming age. New York's dominance today is in large part the result of its again being at the confluence of a worldwide network of channels of information. But

technology is fast displacing this communications advantage. New York's competitive vitality will depend to an increasing extent on its ability to attract and retain the finest minds and talents.

SUNY is a microcosm of the global village. Among its faculty, students, and alumni, the university numbers visitors, immigrants, and descendants of immigrants from every part of the globe. In its overseas academic programs, SUNY is forging scientific, artistic, and economic connections in dozens of countries around the world.

The information economy. The global village has emerged as a function of the information economy. Traditional manufacturing—with its need for raw materials and cheap low-skilled labor—has been replaced by information as the primary source of competitive advantage in the world economy. As University of California President Kerr shrewdly noted in 1965 on the eve of the information revolution, "What the railroads did for the second half of the last century and the automobile for the first half of this century may be done for the second half of this century by the knowledge industry: that is, to serve as the focal point for national growth. And the university is at the center of the knowledge process."

The modern university is the knowledge factory of the information economy. It is the university that educates the people who will create, invent, or discover solutions to the problems of today and answers to the challenges of tomorrow.

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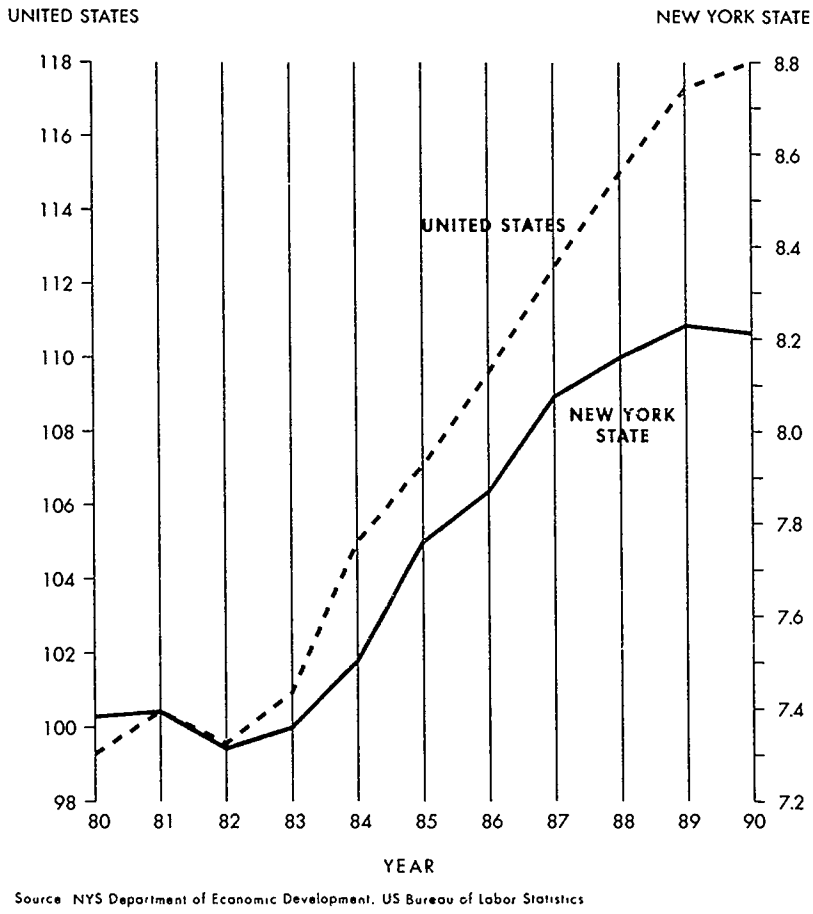
Generally, New York's economy will continue to shift towards services and away from manufacturing which, insofar as it remains, will tend to be lighter, smaller in scale, and higher in technology. Agriculture and natural resources will continue as mainstay industries.

Specifically, during the 1980s New York increased the number of jobs available to workers by nearly 1 million (figure 2). This growth occurred largely in services and in finance, insurance, and real estate, which masked the continuing decline in manufacturing. In 1989, however, the number of jobs declined by nearly 50,000 (figure 3). Finance, insurance and real estate, construction, and retail industries have been hardest hit.

Major economic and social issues are complex, and the quality of life in modern society is equally dependent on the knowledge and

creativity of the social sciences, arts, and humanities. Narrow, technical training for the workforce of a static economy does not require a complex, comprehensive university; an educated citizenry for a dynamic and progressive society does.

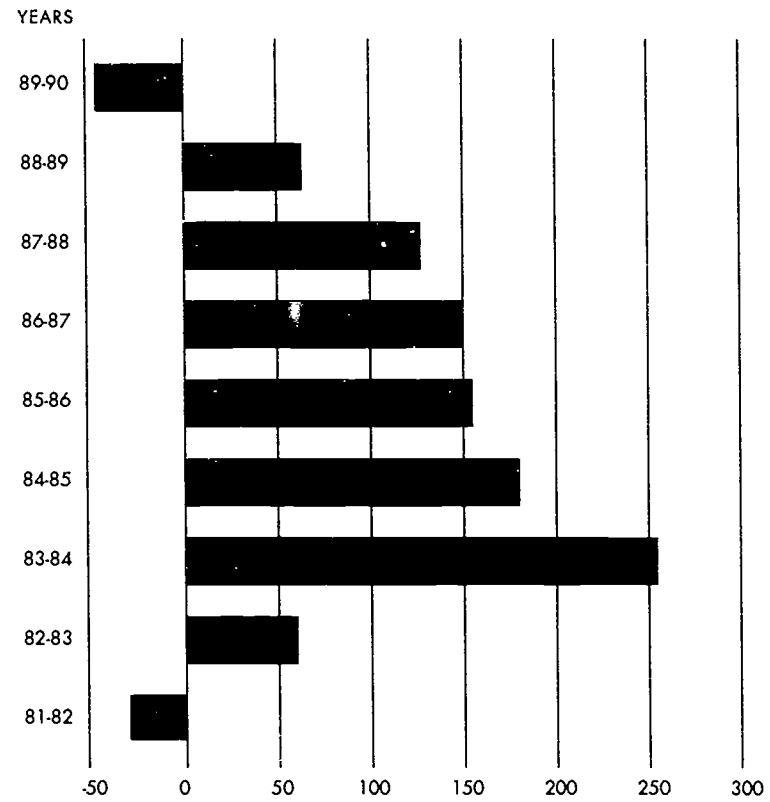
FIGURE 2. **Employment Trends (in millions), New York State and United States** 1980 - 1990



Source NYS Department of Economic Development, US Bureau of Labor Statistics

A multicultural society. The demographic characteristics of New York State are changing as rapidly and as fundamentally as in any time in history, although these changes are occurring within an overall steady population base. Unlike the growth that will characterize the United States as a whole over the next ten years, New York State's total population will remain relatively stable (figure 4). The state had 17,550,000 people in 1980. Final census figures show 17,990,000 in 1990, and project 18,400,000 in the year 2000.

FIGURE 3. **Annual Net Change in [illegible] (in thousands), New York State**
Revised Data*



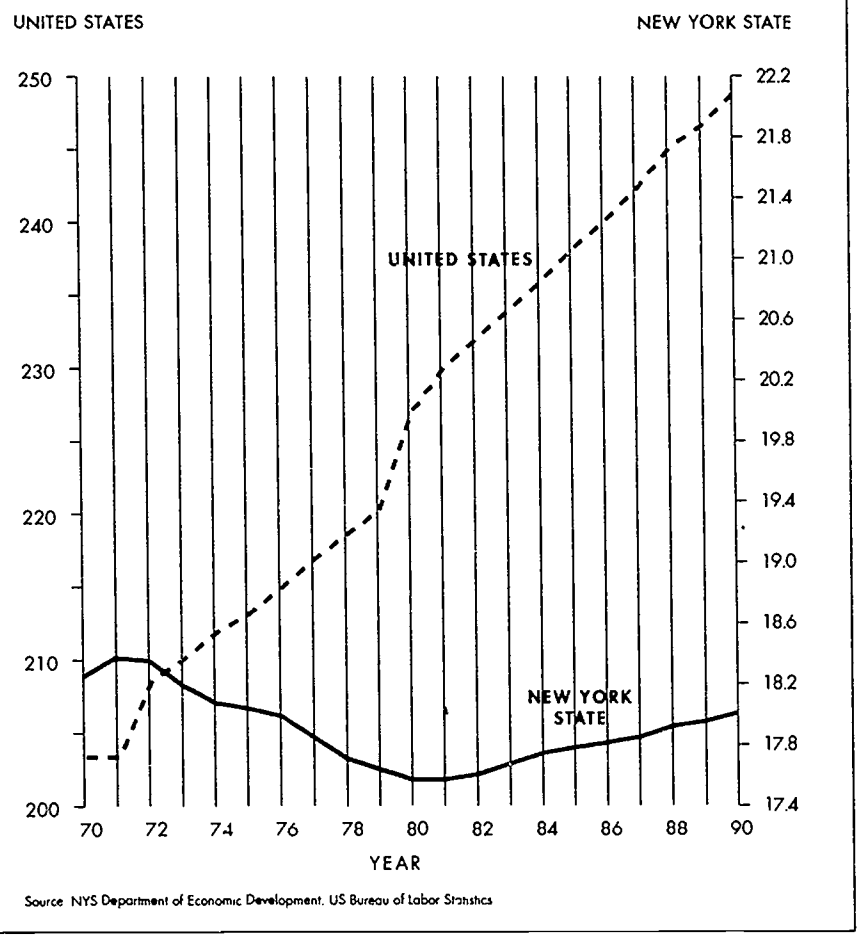
*Workers involved in 1989 communication industry strike have been worked back into totals
Source NYS Department of Labor

New York will continue as one of the most ethnically and racially diverse states in the nation, because of both immigration—particularly from Asia, Eastern Europe, Latin America and the Caribbean basin—and increased births in minority households. In 1980, New York's population was 13 percent African-American, 9.5 percent Latino, 1.8 percent Asian, and 0.2 percent Native American. By the year 2000, an estimated one-third of New Yorkers will be Latino-American or non-white; 4 of every 10 children born in the state will come from minority groups.

The national decline in births during the 1960s and 1970s, which in turn caused such a precipitous decline in the traditional college-going age cohort, is ending. The number of 18-year olds finishing high school will soon begin a gradual increase. At the same time, the state's

overall population is aging: the state will have 2.7 million persons over the age of 65 in 2000, up from 2.2 million in 1980. The rate of increase of those over 65 will become even more pronounced in the next century as the baby boomers who swelled first the schools and then the workforce begin to retire (figure 4).

FIGURE 4. **Population (in millions), New York State and United States** 1970 - 1990



Source NYS Department of Economic Development, US Bureau of Labor Statistics

Thus, while the state's 75 percent white population is aging, its ethnically diverse young population will change the composition of the entire state. The demographic message to SUNY is clear: Public higher education must assume an increasingly important role in an increasingly multicultural society. Throughout the history of New York, public education has been the primary vehicle for social and economic advancement of new immigrants, and a college education has become the established pathway to professional careers and upward mobility.

GOALS AND STRATEGIES

From SUNY's history and present configuration, from the needs of New York State, and from the vision just articulated of the year 2000 come five overarching goals for the State University of New York as it approaches the third millenium.

These goals, appropriate for SUNY as a comprehensive university system, deal with access, undergraduate education, graduate education and research, state needs, and management.

Within the SUNY system, each campus can evolve its own vision that blends access and excellence. This plan, Phase I, sets the goals for the system; Phase II, which will be developed by each campus, will outline the steps towards implementation.

Access

Once society sets up education as a major path to advancement, then it must indeed make sure that education is truly available to all. President Truman's Commission on Higher Education for Democracy (1947), which essentially proposed federal financing for any veteran wanting higher education, gave as powerful a statement as any about the importance of equal access to society: "If the ladder of educational opportunity rises high at the doors of some youth and scarcely rises at all at the doors of others, while at the same time formal education is made a prerequisite to occupational and social advance, then education may become the means, not of eliminating race and class distinctions, but of deepening and solidifying them."

SUNY must strive to be the first choice for those students who have many options by virtue of their special academic, artistic, athletic, or other talents.

Access includes a sophisticated array of entry points, open to both traditional and non-traditional students, residential and commuter, full-time and part-time. Access is not restricted in time or place, but provides opportunities for lifelong learning and off-campus service. Campuses have many choices for providing access. Perhaps the most innovative model is the Empire State College, a campus-without-walls, which is a national leader in non-traditional education and has pioneered methods that have been adopted in many states and countries.

Access to excellence must be measured more by outcomes than by inputs. The degree to which SUNY campuses meet this goal will be seen in graduation rather than acceptance rates. Retention is as critical to access as admission. All accepted students must be assured an opportunity for academic success, particularly those from educationally or economically disadvantaged backgrounds. The university must provide not only excellent instruction but also advising, tutoring, and counseling programs of the highest quality. The limits of the underprepared student must be stretched as creatively and effectively as those of the honors program graduate.

Achievement of the university's agenda for access and social equity will require changes as demanding as any the university has faced—changes in tolerance and mutual respect that society has not yet been able to accomplish. But the results will be worth the effort. Fundamental to the American concept of education are the words of Horace Mann: "Education beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance wheel of the social machinery."

A great state university mirrors, serves, and inspires its community. The social, cultural, and ethnic composition and image of a state university should reflect the population of its region, further enriched by representatives of other parts of the country and of other countries. A great state university serves the academic needs of all its constituents and is respectful of and responsive to variations found among members from different cultural and ethnic backgrounds. It should inspire members of traditionally underrepresented groups to expand and realize their ambitions through the opportunities of a university education.

ACCESS GOALS

SUNY must continue to be accessible to all New Yorkers regardless of family income or personal financial circumstances, race, ethnicity, religion, age, gender, or special needs. SUNY must be able to challenge the best prepared students, to assist the less well-prepared, and to serve those constrained by personal obligations or by disabling conditions. In particular, SUNY will:

- define access to embrace enhanced efforts at retention, completion of degree work, and progress toward successful completion of graduate and

advanced professional study as well as initial matriculation. To this end, SUNY will provide appropriate remediation, academic advising, counseling, financial assistance, and supportive campus climates.

- maintain a diversity of campuses, geographically dispersed throughout the state (with deference to CUNY's primary responsibility for public higher education within New York City), encompassing different missions, combinations of programs, and campus sizes, representing a range of selection standards and learning environments, and offering a comprehensive array of post-secondary academic offerings.
- facilitate transfer of students among campuses, particularly from SUNY and CUNY two-year colleges to SUNY's senior institutions, with guaranteed transfer for those students who have attained A A. and A.S. degrees and enhanced opportunities for graduates with appropriate A.A.S. degrees.
- keep tuitions and fees affordable so that, with federal, state, and privately funded financial assistance along with self-help, no otherwise capable and motivated student is denied the opportunity of a SUNY education because of family or personal financial circumstances.
- reach out to those who might lack information about or be reluctant to pursue postsecondary educational opportunities, including those in middle or secondary school who are at risk of dropping out, as well as those who have left education without pursuing or completing a postsecondary degree program.
- expand opportunities for students who choose to pursue college learning through alternate approaches, utilizing innovative technologies for distance learning and self-paced instruction and recognizing prior learning through professional life experience; special efforts will be made to serve mature students, working adults, and those place-bound students for whom regular attendance at a SUNY campus is restricted or not feasible.
- ensure that all campuses make special efforts to recruit, enroll, retain, and graduate students from traditionally underrepresented groups and from new immigrant groups to the end that by the year 2000 such populations will be enrolled in the system at least in proportion to their representation in the pool of potential students in New York State.
- strive to become an attractive choice for those students who have many choices by virtue of their special academic, artistic, athletic, or other talents, attracting the best and brightest and challenging the most well-prepared with

accelerated degrees, honors programs, and opportunities to engage in research, scholarship, or performance with faculty mentors.

- acquire the resources necessary to reverse the cuts and constraints of the 1980s, to grow in faculty and staff, and to expand selectively to ensure that every qualified student attains the quality education that meets her or his needs, anticipating increased student applications to SUNY through the 1990s, whether as a consequence of the demographic upturn in traditional-age cohorts or in response to greater societal demands for college education.

Undergraduate Education

Commitment to excellence in teaching and provision of unique learning experiences are the hallmarks of excellent undergraduate institutions. Each SUNY campus must identify and match the accomplishments in undergraduate teaching and learning of the leading national institutions of its type. The teaching and learning environment of a research university campus differs from that of a community college; that of a specialized college differs from that of a university college. In each case the only standard of performance must be the quality achieved in the finest institutions in the country.

The mold of traditional, lock-step progress through the stages of education, particularly at the collegiate level, should be broken. It is a curious phenomenon of institutions built around freedom of enquiry and flexibility of approach that students advance towards graduation in such rigid uniformity. Fewer than two percent of SUNY undergraduates complete their baccalaureate degrees within three years despite the many advanced placement and honors programs on virtually every campus. SUNY's major competitors in the international arena move a much higher proportion of their best and brightest students more rapidly through to graduate education than does SUNY.

SUNY must assume a larger role in non-traditional education for non-traditional students. Lifelong learning will become a prerequisite for personal and professional success in the information economy. More people will have multiple careers, requiring retraining and refreshing several times during their working lives.

The demographics of New York State point to a growing student population drawn from older people. Retirement is not the graduation

point for lifelong learning, and senior citizens are already playing an increasingly important role on campuses as students, faculty, and volunteer staff. SUNY's community colleges have begun to take the lead in developing Institutes for Senior Education.

UNDERGRADUATE EDUCATION GOALS

SUNY must provide its undergraduates with a diversity and quality of curricula and a strengthened commitment to teaching and learning that are equal both to the challenges of the beginning of the next century and to the quality of undergraduate education anywhere in the nation. In particular, SUNY will:

- have its campuses set standards and provide programs so that students can be required to demonstrate mastery of skills and content appropriate to the degree in oral and written communications, quantitative analysis, and critical reasoning. Each campus will take responsibility for developing in its students the computer literacy appropriate to information retrieval and management in the 21st century.
- develop undergraduate curricula to encourage an awareness of global interdependencies, study of foreign languages and cultures, and participation in student exchanges and collaborative programs with foreign countries.
- develop undergraduate curricula that assist students in acquiring an understanding of and developing responsible attitudes and behaviors pertaining to individual and social ethics, values, and democratic responsibilities, especially those called for in a society that will continue to treasure individual liberty even as it endeavors to assure greater equality of opportunity and tolerance of, and respect for, diverse cultures. The undergraduate curricula will reflect an appropriate appreciation for the contributions to society and to academe by members of all groups in a multicultural society.
- create and strengthen programs to attract and graduate students in mathematics, the sciences, engineering and the technologies sufficient to meet the needs of New York State business and industry in the 1990s and the beginning of the 21st century.
- have all campuses stress the importance of teaching through programs of faculty development and teaching effectiveness, faculty evaluation and incentive systems that reward effective teaching, and application of new

instructional technologies and approaches; campuses with graduate programs will ensure that graduate students who teach receive appropriate training and support.

- remain dedicated to the education of the whole person, enriching the lives and experiences of students through academic, intellectual, cultural, artistic, and athletic pursuits, health and wellness education, and opportunities for development of leadership and engagement in public service.
- provide a comprehensive array of curricula and programs within the system, responding to the expansion of knowledge as well as the new interdisciplinary and multidisciplinary fields that will emerge in the 1990s and beyond.
- maintain national leadership in the assessment of undergraduate student learning outcomes in basic skills of computation and communication, in general education, in specialized education in the majors, and in students personal and social growth; where appropriate, programs will be modified, created, or discontinued to adapt and remain vital and responsive to and consistent with changing knowledge, technologies, skills, and needs of society.

Graduate Education and Research

While applied research contributions have undoubtedly led the way in building public support for the university research enterprise, the dramatic unfolding of new fields of enquiry, especially in the life and health sciences, has helped to underscore the vital mission of universities in the conduct of basic research and scholarship. Growing public concern for the quality of life in a post-industrial, and now perhaps post-Cold War, society has put new emphasis on scholarship and creative contributions in the arts and humanities.

New York State has yet to achieve its appropriate place in the national research infrastructure. With great independent research universities long established, New York was slow to raise its public research university to the stature of those in other states. Beginning in 1987, a major effort was launched through the State University Graduate Education and Research Initiative (GRI). The early results of this multi-year program have been outstanding.

Many breakthroughs in modern research are taking place in entirely new fields that reach across traditional disciplinary boundaries. SUNY must be alert to these rapidly developing targets of opportunity. The multidisciplinary centers of excellence established through the GRI offer New York a way to move directly to research frontiers.

At the same time, SUNY must help build the quality of the research establishment in the state. Research and development are carried out by a community of practitioners where the best attract the best and investments in quality yield compounded returns. To attract and retain the finest faculty and students, SUNY's research and graduate programs must be recognized as among the best in the country. A top priority must be the recruitment of women and minorities, who have traditionally been underrepresented in graduate and professional education.

Increased demand for graduate education is likely to develop as strongly over the next quarter of a century as demand for undergraduate education did in the last. Graduate and advanced professional training are becoming more widely required both at the point of entry to many sectors of the workforce and at critical points of advancement in a growing number of careers. In addition, need for updating and retraining in the dynamic economy of the 21st century will lead many professionals back to the university for further graduate education beyond their baccalaureate and even beyond their first master's degrees in the years ahead.

Further, the demographics of college and university faculty across the nation and the competitive position of academic career opportunities in recent years have brought American higher education to the brink of crisis in its own staffing. Replenishment of the professoriate will be a priority for universities in the next two decades, and SUNY must ensure that New York produces, recruits, and retains the faculty talent needed to lead its doctoral programs and research enterprise into the 21st century.

GRADUATE EDUCATION AND RESEARCH GOALS

SUNY must seek to extend the frontiers of knowledge and the applications of research; SUNY must also advance its graduate and professional programs to the ranks of the very finest public research universities in the country. In particular, SUNY will:

- support and reward basic and applied research and creative activities; scholarship appropriate to each campus mission and to the nature of each discipline or field will be expected of all faculty at all campuses.
- recruit and retain faculty of outstanding stature and accomplishment or demonstrated promise in their respective fields, in order to increase the proportion of its graduate and professional programs that rank among the very best in the nation in the quality of both their research and instruction.
- establish centers of excellence in new areas of enquiry where SUNY campuses, alone or in regional or national consortia, can attain world prominence in research in the 21st century.
- strive to increase the volume of externally sponsored research grants and contracts awarded to its faculty.
- seek to enroll and graduate minorities, women, and other groups traditionally underrepresented in graduate and advanced professional programs in numbers that at least match their distribution in the pool of baccalaureate program graduates and ultimately reflect the demographics of the general population of New York State.
- provide undergraduate and graduate students with opportunities to engage in research or creative scholarship with faculty members.
- expand external collaborative research especially with industry.
- enhance the transfer and application, and thus the societal benefits, of new knowledge and technology resulting from research endeavors.
- develop new approaches and programs to help replenish and renew its professoriate, by cultivating and recruiting outstanding undergraduates to graduate work, by attracting other professionals to university teaching, by building new collaborative training relationships with private industry and other public service agencies, and by supporting programs to strengthen the quality of teaching by existing faculty and by graduate students aspiring to the professoriate.

State Needs

The mission of a public university is traditionally defined in terms of instruction and teaching, research and creative activity, and service to the university and its community. Each of these is shaped and focused by SUNY's overall responsibility to address the needs and aspirations of the people of the state. Identifying needs and strategies goes to the heart of the planning which must include close cooperation with the state agencies charged to deliver the work of government. The university cannot solve the major problems facing society but it can provide critical elements of a solution.

SUNY graduates will be a significant part of the workforce that will determine the state's competitive edge. The quality and academic rigor of programs and an uncompromising commitment to standards of excellence in student achievement will be the university's most important contributions to the quality of the workforce.

Health care delivery and social services are two of the most expensive and urgent areas of responsibility for state government. The quality of the billions of dollars worth of services will be an important factor in maintaining the state's economy. Critical shortages of newly trained professionals persist and can be eased by SUNY programs.

SUNY's research capabilities can respond to state needs in such areas as homelessness, crime, poverty, AIDS, hazardous waste, and environmental conservation. Each area is a complex of many problems with human, cultural, and economic dimensions. Solutions will involve scientific, technological, and policy components and new faculty, facilities, and research structures will be needed.

Health. With four health science centers, a college of optometry, and nursing and allied health programs at many of its state-operated and virtually all of its community colleges, SUNY is a major educator of health professionals. Indeed, it offers the majority of the state's registered degree programs in many health occupations and has assumed responsibility for leadership in health care education while the costs of training specialized health care professionals have risen steeply and other institutions have been closing programs or curtailing enrollments.

The state's health needs will be directly affected by its changing population. Already one of the oldest in the nation, New York's

population will grow even older during the 1990s. By the year 2000, the number of New Yorkers over the age of 65 will have increased by 25 percent from 1980—and more than half will be over 75. The number of older New Yorkers will peak in the first decade of the century, when most of the baby boomers will reach retirement age.

A second shift will be an increase in the state's ethnic diversity. African- and Latino-Americans will constitute an increasing proportion of the population, reaching 31 percent by 2000. Because minority group members are disproportionately poor and disproportionately victims of serious illnesses, these demographic shifts hold implications for the health sector.

Trends in disease as well as demographics are beginning to overwhelm the state. The New York State Department of Health estimates that by 1993 there will be more than 4,000 AIDS patients hospitalized each day in New York State. In addition, the epidemic of drug and alcohol abuse imposes immense burdens on the health care system.

Already too many New Yorkers are not receiving the health care they need because hospitals are overcrowded, health professionals are unavailable, and services are not organized to reach all who need them. Demographic trends threaten to convert these problems into crisis.

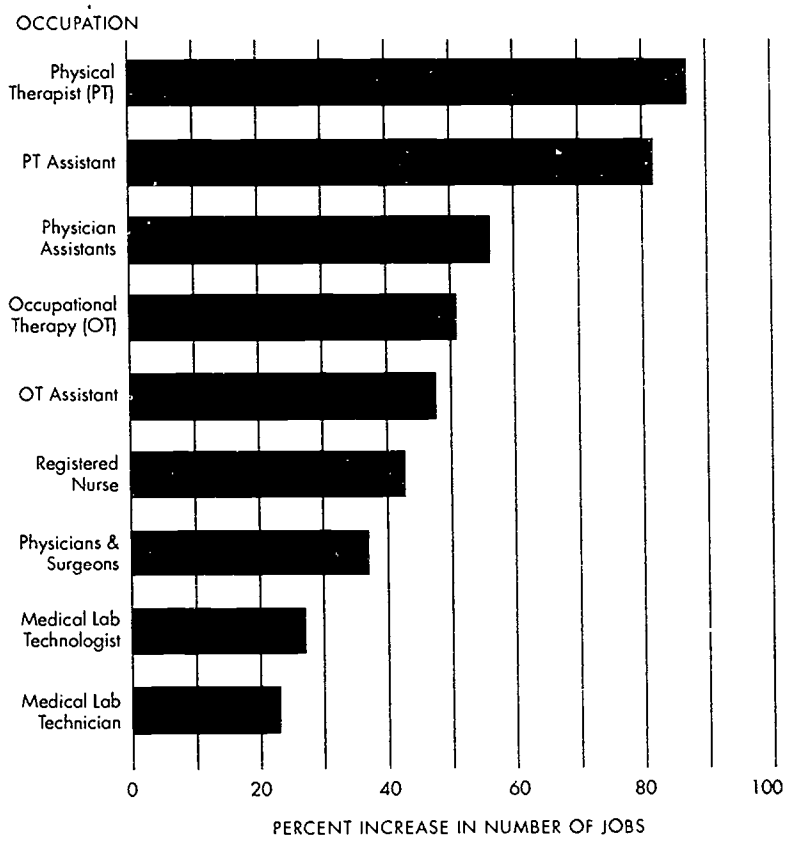
Labor costs constitute 69 percent of hospital costs, 75 percent of nursing home costs, and 88 percent of home health care costs. With 500,000 health care workers, the health care sector is the state's second largest employer. It will need 200,000, or 40 percent, more workers by the year 2000, and increases as high as 85 percent in some health care specialties (figure 5).

The health care system relies increasingly on sophisticated technology. While the most dramatic uses occur in hospitals, new technologies, such as lasers and computerized monitoring and regulating, are now found also in clinics or homes. As services expand, so will public expectation. The public assumes that the health care system should accept responsibility for many social problems—the homeless, the mentally ill, the developmentally disabled—that once belonged to, or were shared with, other social agencies or institutions.

While the demand for health care services grows, the health care system is undergoing dramatic changes. A major shift is occurring

away from the hospital to ambulatory or home care, with the hospital increasingly restricted to treatment of the acutely ill.

FIGURE 5 **Medium Range Employment Projections**
New York State, 1986 - 2000



Source NYS Department of Labor

Education is the key to New York's health in the future. Not only will the state require increasing numbers of health professionals over the next decade, the professionals themselves must be educated to use the latest technology and to offer service to a diverse population within a range of new settings.

The strategies needed to increase enrollments will vary by fields. In programs in which student demand exceeds capacity, such as physical and occupational therapy, program expansion will be necessary. In programs in which enrollments have fallen substantially in the last five years, such as medical laboratory technology programs, greater recruitment efforts will be needed to regenerate student interest.

Public education. SUNY has long been the major provider of teacher education in the state. Its graduate schools of education rank among the finest in the nation in research and academic reputation; at the undergraduate level, SUNY's university colleges are descended from the former state teachers colleges that offered teacher preparation for hundreds of thousands of certified public school teachers and administrators.

The teachers of tomorrow must be given the tools to do their job, meaning the mastery of subject matter along with abilities to connect disparate fields of knowledge and enquiry. They must have exposure to and guidance in a wide variety of teaching techniques to respond to students with different abilities, potentials, and needs. They are the vanguard for education in meeting the challenges of cultural pluralism and diversity. Beyond the demands of subject matter and cognitive skills, they must have the personal skills and sensitivity to teach diverse student populations and disadvantaged students in both urban and rural settings. They must be skilled in computer literacy and proficient in the use of information technology so that their students receive the foundation for their own futures in the information economy.

New York's most pressing needs for teachers are not in total numbers but in specialties, ethnicity, and location of service. Teacher preparation programs must focus their efforts on increasing the numbers of teachers of secondary science and mathematics, special education, bilingual education, and foreign languages, especially Spanish. It is particularly urgent that campuses recruit and retain more Native, African- and Latino-American candidates. SUNY must join with CUNY in meeting New York City's teacher crisis, which cannot be solved without substantial numbers of graduates from the State University.

Universities can help reform and improve public elementary and secondary education in other ways, including working closely with local school districts. Many new kinds of relationships have recently emerged nationally. Academic alliances, professional development schools, and partnership programs to reduce dropout rates already exist between individual SUNY campuses and local schools; they must be refined and expanded throughout the system.

Now that the student outcomes assessment movement is reaching

the public schools, SUNY must lend its expertise in helping determine what a high school graduate should know and be able to do and how to assess the graduate's level of mastery. This means becoming part of the incentive for students to stay in school and fulfill their academic potential rather than simply satisfy minimal standards. We need to articulate high school curricula and graduation requirements with a range of admissions guarantees so that students, parents, and schools know what is necessary to assure provisional acceptance through a pre-college preparatory program, guaranteed admission to particular institutions and programs, and accelerated degree programs that lead to early admission to graduate or professional schools.

New educational technologies are emerging in the information economy, and higher education is lagging somewhat behind private industry in the application of teleconferencing, electronic mail, computer networks, library automation, and electronic information. Every SUNY campus has a satellite down-link which, combined with computer networks within and between campuses and extension sites, provides New York with a public education information network of almost limitless potential—but potential that must be actively and strategically fulfilled.

Economic development. SUNY must confront the double challenges of the state's demographic changes and the world's global economic competitiveness. With knowledge and information as the driving forces, successful enterprises demand more sophisticated and skilled workers. This demand comes at a time when the number of young New Yorkers available for work will decline drastically and include an increasing proportion of African- and Latino-Americans, who have benefitted the least from education. New York State's economic success will depend more than ever before on the performance and graduates of colleges and universities. The state university must be able to develop young minds, forge the linkages between laboratory and marketplace, and serve as the focus of the generation of new knowledge and the organization of existing knowledge.

SUNY is changing to meet the needs of the students of the future. Opportunities to understand the nature of information and its delivery systems through programs in communications, telecommunications,

information management, systems management, and data processing are increasing. Internship opportunities in both the private and public sectors are increasing and becoming a more integral part of the total student experience. Recognizing that SUNY enrollments now include a larger number of African-American, Latino-, Asian- and Native Americans, the university has begun to include additional multicultural dimensions in its curriculum.

SUNY must continue to be a leader in providing opportunities for adult learning, through workforce education specific to the needs of New York companies, new educational programs for persons denied traditional educational advantages, executive level seminars on advanced topics, and individualized educational programs for working adults.

The climate of discovery and exploration that permeates the university must more directly affect the economic life of New York. SUNY will more than double the volume of its externally funded research by the year 2000. Some of these investigations will result in the technological products and processes vital to the economy of tomorrow. SUNY will increase its patenting and licensing activities which produced 28 U.S. patents and 122 new licensing agreements in 1990 alone.

SUNY will increase its collaborative research activity with industry, both through bilateral agreements and through its technology advancement centers in key areas such as biotechnology, advanced materials, superconductivity, and waste management.

The university will provide technical assistance to business and industry in the form of management assistance, assistance in export and participation in global economic structures, econometric assessments, and technology-based innovation. Economic growth must take place within the context of increasingly fragile environmental and human limits. While aiding economic development, SUNY will also concern itself with air and water quality, land use planning, sewage and waste disposal, infrastructure repair, crime, public transportation, school quality, and parks and recreational opportunities. While environmental and economic interests have tended to view each other adversarially, the university will seek to serve as the intellectual forum for an economic and environmental nexus.

Environment. Concern about threats to the environment has emerged as a major national and, indeed, international movement during the last decade. Global warming, nuclear catastrophe at Chernobyl, the Alaskan oil spill from the Exxon Valdez, and the raging oil field fires in Kuwait, are just a few of the events that have raised environmental consciousness among the general public. In New York State, many lives have been touched by the Love Canal disaster, the rising tide of hazardous and toxic waste, a garbage barge from Long Island with no place to go, and the damage wrought by acid rain to the Adirondacks.

However, while environmental problems have gathered increasing political significance, the complexity of global and regional ecosystems have thwarted simple technological remedies, and the issues of who benefits from and who should pay for protection, management, or cleanup have frustrated attempts to find ready solutions. For New Yorkers in the next century to enjoy the quality of life owed them, SUNY must accept the responsibility for focusing research and training on the primary environmental challenges facing the state.

SUNY has already established a wide array of activities in environmental education and research. Academic programs in environmental studies and pollution abatement range from associate degrees through doctorates in the biological, physical, and social sciences, engineering, and technologies. Research centers at SUNY health science campuses, the multi-campus Great Lakes Research Consortium, the Atmospheric Sciences Research Center at Albany, the New York State Center for Hazardous Waste Management at Buffalo, the New York Sea Grant Institute based at Stony Brook, and the College of Environmental Science and Forestry are just a few examples of SUNY's research capabilities in areas ranging from acid rain to zebra mussels.

As environmental problems grow in number and scope, so do the demands for trained professionals in government, industry, and nonprofit environmental organizations. Meeting these needs will require more scientists and professionals with a solid background in science and mathematics. SUNY programs will be involved in attracting elementary and secondary school students to careers in science, improving the training of undergraduates in mathematics and the sciences, and providing retraining opportunities to engineers, scientists, physicians,

lawyers, and other professionals who need to upgrade their education as their agencies and firms confront new environmental challenges.

Recruitment of minority and women scientists and professionals is particularly important in environmental conservation and resource management fields, where they are notably underrepresented. The burdens of inadequate resources and unhealthy environments fall disproportionately upon the poor and most needy, and environmental problems threaten all of society. The talents and energies of all groups of citizens will be needed to arrest and reverse the trends in air and water pollution, waste accumulation, urban blight, and degradation of soils, forests, wetlands, and coastal environments.

Although some of the research related to environmental conservation bears sufficient promise of immediate proprietary value to engage the attention of the private sector, much of the work to be done will remain the responsibility of government. Some state agencies support modest research capabilities, but most do not. SUNY should serve as the primary research arm of state government in environmental conservation and natural resource management.

The environmental research needs of New York reach into every region of the state and every kind of community. SUNY's research agenda will undoubtedly continue its focus on the Great Lakes and the quality of the state's rivers, lakes, coastal waters, and groundwater resources. In forest resource management, the 1989 report of the Governor's Task Force on the New York State Forest Industry called for a major cooperative research and development effort in which SUNY would play a prominent role. Because of its population and industrial base, New York will be one of the nation's largest generators of toxic and solid waste. Through SUNY Buffalo's Center for Hazardous Waste Management, as well as many other campus research initiatives, SUNY is taking the lead in meeting this challenge.

SUNY research efforts also reach out to tackle environmental problems and hazards that threaten other parts of the country and other nations. The National Center for Earthquake Engineering Research at the University at Buffalo and the Marine Sciences Research Center at the University at Stony Brook are two examples of research

centers that have attained national distinction.

Social services. Compared to most other states, New York has been known for a relatively enlightened and humane system of social services, including welfare and other forms of public assistance, programs for dependent children, and services designed to curb and ameliorate the physically and mentally debilitating scourges such as drug and alcohol abuse that are associated with poverty, urban blight, and large concentrations of unemployed or underemployed people.

As extensive as social services programs have been, the state's needs are rising faster than the state's financial or programmatic capacities to meet them. Poverty, homelessness, street crime, AIDS and other diseases associated with poverty and the drug culture, adolescent pregnancies, and family violence are on the increase, fueled by a deteriorating economy, the withdrawal of federal and state program funds, failing schools, and mounting racial tensions.

The State University of New York has long worked with the state Department of Social Services to help combat these ills. While there is always a danger of seeming to promise too much or otherwise becoming mired in problems far too intractable for any university, SUNY has an obligation to continue to bring its resources of education and training programs, facilities, and faculty expertise to bear on the enormous agenda of state needs in social services.

STATE NEEDS GOALS

SUNY must take the lead within higher education in New York State in addressing the public aspirations and needs of the citizens of the state and improving the quality of life for all New Yorkers through its contributions to workforce development, strengthening public education, health care, economic development, social welfare, environmental conservation, culture and the arts. In particular, SUNY will:

- seek to strengthen its connections to the state agencies engaged in collaborative public service delivery in areas where the university has technical or scientific expertise.
- support focused scientific and policy research initiatives on the most pressing concerns of state and local government in such areas as public education, health care, economic development, social services, environmental conservation, and the operation of government itself.

- design and offer programs to recruit and graduate students in areas of critical need, as identified by state agencies, professional associations, organized labor, and the business and industrial sectors of the state; SUNY's community and technical colleges will respond to industry-specific needs for technical and vocational training.
- develop and expand programs to assist public agencies and private organizations in meeting their responsibilities for diversity by race and ethnicity and for appropriate representation by gender in the professional workforce.
- enhance the quality of life by bringing the public onto campus; by taking the university out into the community through local artistic and cultural performances, exhibitions, and programs and through electronic media access to the vast academic, artistic, and professional resources of a world university; and by encouraging faculty, staff, students, and alumni to establish linkages to local communities through increased personal participation in public service.
- expand the opportunities for all New Yorkers to train and retrain for new career challenges and to advance and grow intellectually, culturally, professionally, and personally through lifelong learning programs.

HEALTH CARE

- increase the training, including the provision of residencies, in primary care and psychiatric fields.
- train more allied health professionals, non-physician primary care practitioners, and nurses.
- encourage SUNY health professional graduates to practice in state facilities and under-served areas.
- increase the quality of and external support for biomedical and health-related research.
- conduct instruction and research on major state health issues such as AIDS, alcohol and drug abuse, the health problems of the very young and the old, and public policy issues such as the cost of and access to health care.
- prepare graduates for faculty positions in nursing and allied health fields.
- provide the highest quality medical, optometric, nursing, and allied health care to patients in clinical settings, serving both SUNY's training and research needs and the public's health care needs.

Clinics at SUNY's health science centers provide essential community health services.

PUBLIC EDUCATION

- expand collaborative relationships with public elementary and secondary schools in programs to improve retention through high school graduation and pursuit of postsecondary education.
- provide incentives for academic performance in high schools by developing guaranteed admissions and accelerated college programs based on demonstrated student learning outcomes.
- improve the quality of teacher preparation through professional development partnerships and alliances with public schools and through teacher preparation programs whose standards of academic rigor and professional experience exceed the most demanding of any other state in the nation.
- develop nationally recognized centers of excellence in research on teaching and learning throughout the spectrum of education from pre-K and K-12 through college and graduate school to adult and continuing education.
- improve teacher recruitment, especially in mathematics and the sciences, by developing alternative approaches to teacher certification.

ECONOMIC DEVELOPMENT

- expand special training opportunities for adult workers, executives, scientists and engineers, independent professionals, and technicians who need to upgrade or change their skills.
- encourage collaborative research between faculty and industrial enterprises, including joint ventures and co-sponsored research institutes.
- expand assistance for technology transfer through incubators, productivity centers, and licensing opportunities.
- provide expert technical assistance for expansion of international trade, particularly in export support and market development.

ENVIRONMENTAL CONSERVATION

- provide educational opportunities for training and retraining the professionals needed to staff both public and private sector agencies that deal with environmental concerns.
- serve as a primary research arm of state government in areas of environmental conservation such as hazardous waste disposal, the Great Lakes and coastal waters of New York State, air quality, surface and groundwater resources, and forestry.

- develop geographic information systems for environmental data bases.
- develop environmental assessment and technical services to assist industrial compliance with Department of Environmental Conservation regulations.
- promote environmental education and public awareness of environmental conservation through primary, secondary, postsecondary, and continuing education programs.

SOCIAL SERVICES

- focus research on the societal conditions and experiences of poverty, inequality, discrimination, substance abuse, health problems, etc., particularly as these conditions affect young African-American males, single heads of households, the elderly, and other groups.
- develop the academic and interpersonal skills of social workers and other professionals to address the problems of culturally diverse client populations.
- improve the provision, especially through community colleges and Educational Opportunity Centers , of needs assessment, basic skills training, GED (General Education Diploma) preparation, vocational education, and opportunities for associate degrees to welfare recipients and clients of other state agencies involved in social welfare.
- expand training and professional development opportunities for personnel in the Department of Social Services and other social welfare agencies.
- provide research and consulting expertise in the development of state policy directions for social welfare, with particular attention to the needs of cities, rural areas, and special populations such as Native Americans and migrants.

Management

Nowhere will commitment to excellence be held to greater account than in SUNY's own management practices, which must not only be cost-effective, creative, and responsible in fact, but which must also be so perceived by the public.

The financial prospects for public higher education in the 1990s, at least through the traditional main revenue stream of tax dollars, are by no means as bright as they have been in recent decades. State universities across the country are offering their communities more services and are playing larger roles in meeting the social and economic needs of citizens. Here in New York, public higher education is but one of many societal

claims upon the public purse. The heritage of New York is built on compassion for those people in need of assistance and the realization that the people are the most important investment capital for future prosperity. New York either leads the nation or ranks among the top two or three states in public expenditures in many categories of social services. However, the state ranks only 45th among states in its per capita expenditure on public higher education.

SUNY cannot depend on huge new infusions of tax revenues to fuel its drive for greatness by the year 2000. SUNY has no choice but to become part of the solution by substantially intensifying its efforts to acquire non-state resources and assuring that every dollar earned is put to the maximum possible utility.

As a young public university system, SUNY still has a long way to go in capturing the hearts, minds, and more tangible forms of support of alumni and friends and much to learn about friend-raising and fund-raising from sister institutions in the independent sector. As alumni advance in their careers, SUNY must develop a tradition of support that matches that enjoyed by the preeminent state universities of the Midwest and West.

The Graduate Education and Research Initiative was predicated on the promise of increased sponsored program activity through grants, contracts, and joint ventures with business enterprises, private foundations, and federal agencies. That promise has been realized in the extraordinary growth of external funding secured by SUNY faculty during the last four years. The efforts must be maintained so that scarce state funds can continue to be leveraged from non-state matching contributions.

A critical revenue stream is, of course, tuition. Public concern about rising tuition costs is becoming a major national issue. SUNY must lead in informing the public debate about a fair and equitable tuition policy for New York State. SUNY is unequivocally committed to the principle of low tuition and the primacy of access. But SUNY does students no justice if that access is purchased at a price that excludes them from the quality of education they deserve. SUNY must work with state and local government to identify the appropriate shares of revenue support from general tax funds, local sponsors,

and the students and parents who are able to contribute.

Gathering resources is only one part of the picture; SUNY must also seek ways to put those resources to maximum effect. Productivity is a concept with which higher education has traditionally been slow to identify. The increasing public clamor for accountability and the not unrelated outcomes assessment movement in undergraduate education are signals we would ignore at our peril. SUNY must take the lead in developing performance indicators that capture the complexity of the academic enterprise and that assist in allocating resources in ways best suited to achievement of our academic goals.

Like other universities, SUNY recognizes the vital importance of human resource management and the compelling need to acquire a workforce that reflects the population it serves. SUNY has begun to take the extraordinary measures necessary to acquire a more diverse faculty. The Underrepresented Faculty Initiative, implemented in 1989, brings between 30 and 35 new African-, Latino-, and Native-American tenure-track faculty appointments to state-operated campuses each year, over and above those that would normally have been recruited through aggressive affirmative action hiring to fill existing vacancies. SUNY is also working to increase the number of minority faculty members by offering nationally competitive Minority Graduate Fellowships. These recruitment efforts must be augmented and extended to reach talented minority students earlier in their undergraduate and pre-collegiate programs.

Attainment of excellence in the management and administration of a university is equivalent to the challenges of undergraduate education, graduate education and research, access and equity, and meeting state needs. It calls for the same application of creativity and enquiry, questioning old assumptions, exploring new techniques and methodologies, and grasping new opportunities.

MANAGEMENT GOALS

SUNY must be at the forefront of American university systems in the efficiency and effectiveness of its stewardship of public resources. In order to meet the needs of the state and to sustain a university of the quality that the Empire State deserves, SUNY must build a partnership between state and non-state sources of revenue. SUNY must also maximize the value of its resource base through ongoing productivity enhancement and bold, opportunistic leadership that sets priorities and is willing to make hard choices. In particular, SUNY will:

- apply its best research and analytical capabilities to continuous examination of its operations as a system, consistent with an underlying commitment to total quality management.
- maximize decentralization of resource allocation decisions to the campus level, consistent with overarching university-wide goals and a system of diverse and distinctive campuses.
- encourage, where appropriate, systemwide, regional, or other collective provisions of services and divisions of labor to reduce administrative and support costs and to eliminate wasteful duplication of programs.
- seek substantial infusions of resources during the 1990s from state, federal, and other sources for financing campus infrastructure and facilities development, repair and renovation, as well as equipment replacement and modernization, to ensure the continuing physical integrity of the system and maintenance of educational quality commensurate with current and future standards, expectations, and practices of industry and society.
- work closely with state agencies and private enterprise to become a national leader in the use of educational technologies to enhance student access, educational quality, and cost effectiveness.
- implement goals for human resource management that include: (a) continued and vigorous commitment to affirmative action in recruitment of faculty and staff, such that, by the year 2000, the distribution of women and racial minorities in positions where they have traditionally been underrepresented compares favorably with that at any major public university system in the country; (b) retention and advancement of the most talented, energetic, and experienced faculty, professional and support staff through enhanced professional development programs designed to increase effectiveness, efficiency, and career mobility of personnel; and (c) greater alumni participation in all

appropriate endeavors and development of alumni as advocates and supporters of both campus and system efforts and initiatives.

- expand its fund-raising from alumni, friends, foundations, and business as well as its revenues from grants, contracts, and other non-state sources, in order to enhance the quality of its educational, research, and service capabilities.
- encourage the implementation of a tuition policy that preserves the primacy of access, while assuring a predictable and stable flow of tuition revenues from those parents and students who are able to pay.
- seek a system of financing its community colleges that preserves the shared responsibility among state, sponsor, and student/family, while enhancing the goals of total revenue sufficiency, stability, and equity.
- strengthen its internal oversight systems and extend audits and follow-ups to assure the best possible stewardship of the revenues and assets at its disposal.
- develop campus-based systems of performance indicators to evaluate and assess efforts and accomplishments in comparison with those of national peers and to assist in the allocation of resources in ways best suited to achievement of the university's academic goals.
- develop a comprehensive planning process to identify and coordinate priorities at the campus and system levels so that responses to the fiscal crises of the moment as well as the opportunities of the rest of the1990s can be evaluated in the context of the long-range vision for New York's State University. SUNY 2000 is the first stage in constructing and implementing that planning process.


PROPERTY
OF

Despite the difficulties and risks of estimating enrollments for the years ahead, SUNY must develop projections of demand if it is to meet the future needs of its students and its state. These projections must incorporate the major components of enrollment and the many variables that shape demand, and they must rely on a careful analysis of enrollment experiences and emerging trends of the last decade. The future in enrollment can best be foreseen with one eye on past experiences and the other open to new developments.

Factors Shaping Enrollment

The decade of the 1980s marked a paradigm shift in the assumptions that had dominated enrollment forecasts for a quarter century. This section, describing ten major factors that shaped SUNY's enrollment in the 1980s, examines SUNY's influence on these factors and considers the impact each factor may have on demand in the 1990s.

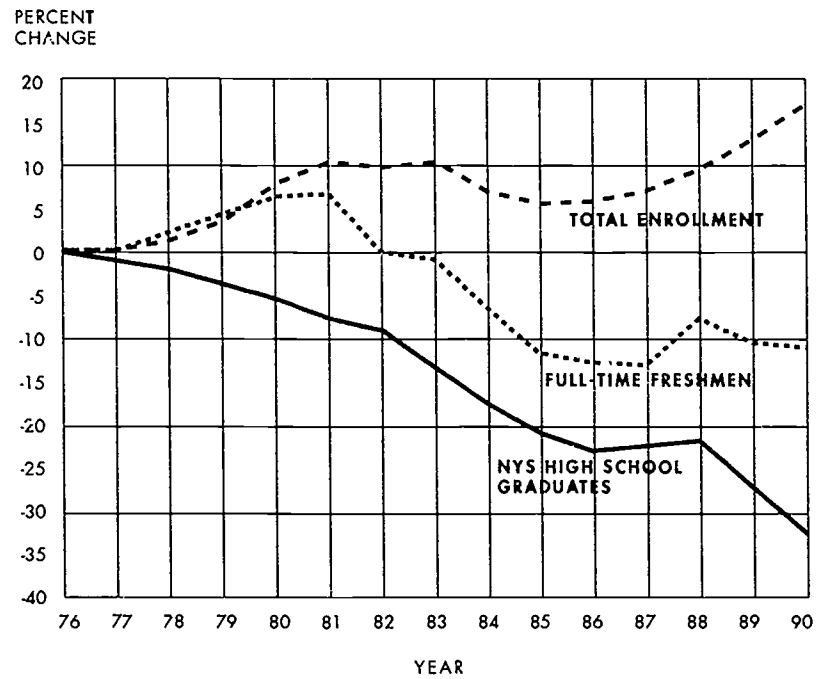
1. Demographics of Traditional College-Age Population. Forecasters had long assumed that the demographics of the traditional college-age population and the number of high school graduates largely determined college enrollments. Because the post-World War II baby boom had produced burgeoning enrollments, forecasters naturally predicted that the baby bust of the 1970s and 1980s would cause enrollments to plunge and campuses to close. Since the number of high school graduates and the size of college enrollment had correlated closely in the past, experts assumed that this would continue in the future.

In 1990, one-third of New York's high school graduates enrolled in SUNY, which must be prepared for increasing enrollment demand in the future.

The 1980 Regents' Master Plan reflected this assumption when it projected that by 1988 SUNY's enrollment would fall by 12 percent. This decline of 43,000 students would have been equivalent to closing seven of SUNY's medium-size campuses. Even SUNY's own projections, though much closer to the mark, had predicted a slight decline of 2 percent in student numbers.

In the 1980s, SUNY enrollments, as well as those of all other sectors of higher education in New York, astonished the experts and shattered their assumptions. Instead of declining by 12 percent, SUNY's enrollment increased by 2 percent to 379,000 by 1988. In 1990, SUNY enrolled 403,000 students—the highest ever and an 8.5 percent increase for the decade. The direct relationship between total college enrollment and the number of high school graduates was no longer valid (figure 6).

FIGURE 6. **State University Enrollments and New York State High School Graduates**



The experts had used reasonable assumptions based on past trends. In the 1970s, 62 percent of the changes in SUNY's total enrollment could be explained by the change in high school graduates; in the 1980s this fell to only 15 percent. For example, if the same relationship of the 1970s between high school graduates and SUNY's total enrollment had persisted throughout the 1980s, SUNY would have enrolled 225,000 students rather than 403,000. Few forecasters would have predicted in 1980 that the number of high school graduates in

New York State could fall by 29 percent in the 1980s while SUNY's enrollment rose by 8.5 percent. The State Education Department (SED) forecasts a growth of 4 percent in high school graduates during the 1990s. This growth should certainly increase enrollment demand, although the experience of the 1980s suggests caution about extrapolating from high school data alone.

2. *High School Retention and Graduation.* The state's high school drop-out rate of 25-30 percent does not appear to have changed in the past decade. Yet it can and must be lowered in the 1990s. New York cannot afford to waste such a large portion of its youth.

Alliances of leaders in business, government, and educators at the national and state level have been formed to attack what has been called America's most persistent problem. A range of initiatives has been launched to improve the quality of schools and raise the number of high school graduates. New York's Governor Mario M. Cuomo has declared a goal of greatly reducing dropouts; the Liberty Scholarship and Liberty Partnership programs have provided enhanced guidance and the promise of improved financial aid to all 7th graders who complete high school. The Regents and Commissioner of Education have begun programs intended to increase the number of high school graduates; SUNY and CUNY campuses have joined with local high schools in partnerships to encourage students to stay in school. These and other efforts might yield as much as a 20 percent increase in the high school graduation rate.

Given the complexity and the persistence of the problem, a more conservative but plausible assumption, for the purpose of this report, is that New York State's high school graduation rate will improve by an overall 10 percent in the next decade.

3. *College-Going Rate.* The 1980s, a time of declining high school graduates, saw a dramatic rise in the college-going rate, which soared from a former high of 65 percent to an astonishing 75 percent by 1990 in New York State. Potential students, and especially their parents, began to view a two- or four-year degree as an economic benefit, often even a necessity. The popular media supported education efforts by producing articles and programs which concluded that in an economy

fueled increasingly by knowledge and information, the best way to a good job and a better life lay in higher education.

SUNY campuses responded to changing student demands for professional and technical education by adding a broad range of professional programs and by expanding popular academic majors. Despite large losses of faculty and staff, SUNY campuses engineered a programmatic revolution that made them more responsive to student and societal needs. Today, many campuses can claim that half or more of their undergraduates major in academic programs that did not exist in the early 1970s.

These programmatic and recruitment initiatives reduced substantially the impact of the decline in high school graduates on first-time undergraduate enrollments. While the state's high school graduates dropped 29 percent in the 1980s, SUNY's full-time freshman class fell by only 16 percent.

Given the changing needs of the economy and the job market, and the track record of SUNY (indeed, of nearly all colleges and universities, public and private) in meeting these needs, it is reasonable to assume that at least as great and probably an even greater percentage of New York's high school graduates will seek a two-or four-year degree by the year 2000.

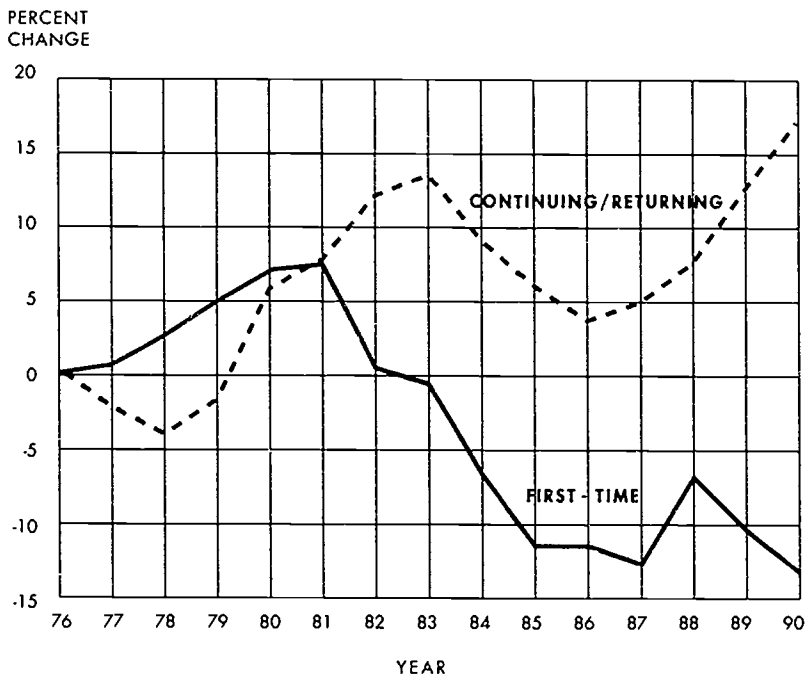
4. SUNY's Yield Rate. SUNY's yield rate—the proportion of first-time New York State students who choose a SUNY campus—grew substantially at the state-operated campuses and the community colleges in the 1980s. The total number of first-time, full-time SUNY enrollees climbed from 31 to 35 per 100 New York State high school graduates—an increase of 13 percent for the decade.

SUNY is clearly a popular choice for New Yorkers and the single most important source of higher education for students in New York State. Almost 50 percent of students from the state who entered post-secondary education enrolled at a SUNY campus. In 1981, 16.8 percent of New York's high school graduates left the state to seek higher education elsewhere. This percentage declined in the 1980s and further anticipated decline will continue to bolster SUNY's application and yield rates.

National recognition by publications such as *Money Magazine*,

which in 1991 listed no fewer than 10 SUNY campuses in the top 60 of its best collegiate buys, will attract more New Yorkers to SUNY. Because of this trajectory of increasing popularity, but also because the proportion of New York State students electing to go to the state university is still lower than in most other states (that is, New York students still attend private or out-of-state public institutions in great numbers), it is reasonable to expect at least another 10 percent increase in the yield rate in the 1990s—the equivalent to increasing the number of first-time, full-time enrollees per 100 New York State high school graduates from 35 to 39.

FIGURE 7. **SUNY Undergraduate Full-time Students**



5. College Retention and Graduation. Campus responsiveness to the needs of current students improved retention and graduation rates. The graduation rate of SUNY's baccalaureate campuses improved 10 percent in the last five years. Probably more than any other factor, better retention allowed enrollment to increase despite the drop in high school graduates. The number of continuing and returning undergraduate students has increased since 1976 (figure 7), and grew from 60 percent of

SUNY's undergraduate enrollment in the 1980s to 66 percent in 1990.

As open admission institutions, the community colleges naturally have lower retention and graduation rates. Graduation rates actually fell from 42 percent to 36 percent in the 1980s—a rate that is still within national norms for the two-year colleges. The falling rates may be due in part to increasing numbers of enrolling students who may have the native ability but lack good academic preparation for success in college. It may also be due to admitting more students who enroll originally for purposes other than earning an associate degree. In addition, many students transfer to baccalaureate institutions before community college graduation.

Improved retention and graduation rates must continue as a top priority. SUNY should aim to improve graduation by at least another 10 percent over the next decade.

6. *Associate Degree Holders Seeking Baccalaureate Study.* The number of students with associate degrees transferring to state-operated campuses rose by nearly 4 percent in the 1980s, a rate that has increased further in recent years. This trend was spurred by policies of the Trustees encouraging transfer between SUNY two- and four-year campuses and expanding the guarantees granted to SUNY and CUNY graduates with Associate in Arts and Associate in Science degrees.

An 11 percent increase in community college enrollments in the 1980s shows the growing demand for associate degrees. Many of these two-year graduates are likely to continue their studies and seek baccalaureate degrees to obtain better jobs and promotional opportunities.

7. *Adult Learners.* The number of adults who enrolled in SUNY grew substantially in the 1980s; the total number of adult students (25 and over) rose by 25 percent, constituting over one-third of SUNY's student population. By 1990, the average age of students had reached 28 in SUNY's community colleges and 25 in its state-operated campuses.

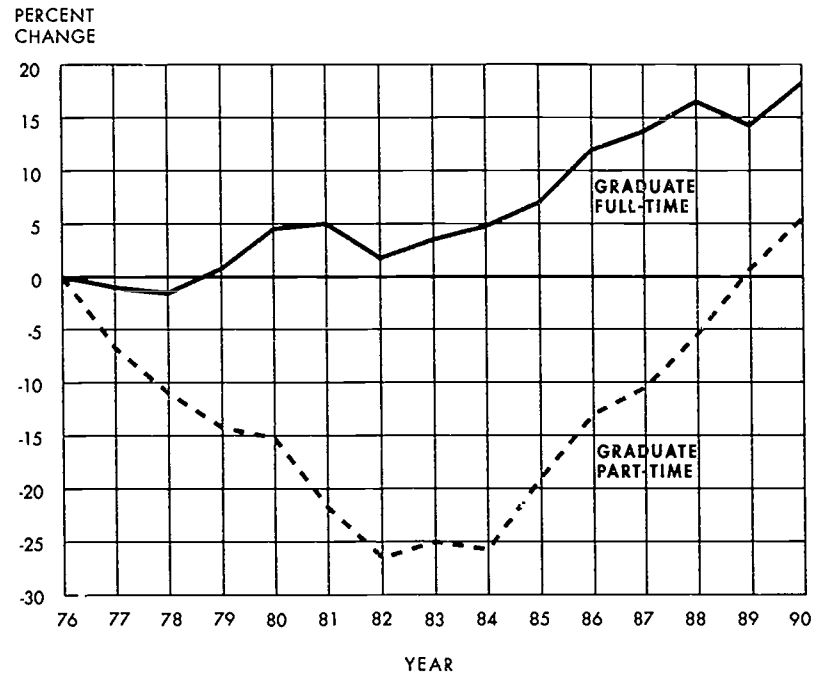
Stony Brook's USSA-2000 high-pressure press, used here by geoscientists, is one of the many research installations helping to position New York State as a leader in science.

Two- and four-year colleges are now within reach of every adult who wants a degree for a promotion, career change, or personal interests. The aging of the baby boom generation will cause the American population to become much older, with the median age reaching 36 by the year 2000. These factors suggest that there is every reason to

believe that the numbers of adults students will increase in the future at both the undergraduate and the graduate level.

8. Non-degree and Certificate Study. SUNY colleges and universities granted more than 2,000 certificates in 1990; over 80,000 students enrolled in non-credit courses. The accessibility of SUNY campuses should encourage more New Yorkers to pursue certificate programs or to take courses for personal or professional reasons.

FIGURE 8. **SUNY Graduate Enrollments**



9. Graduate Study. The number of SUNY full-time graduate students increased impressively in the 1980s (figure 8). The inauguration and the success of the Graduate Education and Research Initiative (GRI), which worked to make SUNY's doctoral programs nationally competitive, undoubtedly attracted more doctoral and advanced professional students to SUNY campuses.

SUNY campuses will have to replace over 50 percent of their faculty by the year 2000. The need for faculty will extend to the humanities as well as the sciences and professional fields. This growing

demand for faculty, the requirement for masters degrees in fields such as teacher education, allied health, and technical and professional fields, and SUNY's strong reputation for research and graduate work should attract more of the best graduates and professional students.

10. SUNY Initiatives to Increase the Number of Underrepresented Students. At SUNY the numbers of underrepresented minority students, women, and students with disabilities have all increased significantly in the last decade. The percent of minority students has grown, often against national and state trends, to 13 percent of SUNY's total enrollment. By 1990, they constituted 16 percent of SUNY's first-time students. SUNY enrolls more students with disabilities than the other postsecondary sectors in the state, with an increase of 182 percent in the 1980s. Women at SUNY now make up more than half of the enrolled students.

SUNY has a creditable record in enrolling underrepresented students, but it can and must do better by the year 2000. SUNY campuses and the system have ambitious plans and a wide range of initiatives for recruiting underrepresented students and faculty. The prospects for continuing this positive trend throughout the 1990s are good.

Enrollment Demand: This Decade

Any projection of enrollment demand in the 1990s must incorporate the lessons of the 1980s. Figure 9 reflects the positive direction for the 1990s of all the important enrollment factors, though SUNY's future enrollment will again depend as much on its continued responsiveness as on demographic or external trends.

In its 1990 Report on the Regents' Statewide Plan, SED projected an enrollment of 370,000 students for SUNY in the year 2000—some 33,000 students below SUNY's current enrollment. Enrollment history has demonstrated that SED projections for SUNY have been consistently low, mainly because of the persistent belief that the demographic decline will dominate enrollment demand. Past trends and future prospects suggest that this projection of enrollment demand for SUNY is much too low.

Enrollment Demand Model. All signs suggest a growing demand

for SUNY by the year 2000. The remaining task is to estimate the extent of that growth, taking future expectations into account. The Office of Policy and Planning has developed a model that explores a range of possible enrollment demands by examining the potential impact of three of the most critical factors: high school graduation rates, SUNY yield rates, and campus retention rates.

FIGURE 9. **Ten Factors Shaping Enrollment**

Enrollment Factor	SUNY Influence	Direction in the 1990s
Demographics of traditional college age population	None	Down then Up
High school retention and graduation	Minimal	Up
SUNY yield rate	Considerable	Up
College-going rate	Some	Up
College retention and graduation	Considerable	Up
Associate Degree holders seeking baccalaureate study	Considerable	Up
Adult learners	Considerable	Up
Non-degree study	Some	Up
Graduate study	Considerable	Up
SUNY initiatives to increase underrepresented populations	Considerable	Up

Even if current New York State high school dropout and SUNY attrition rates were to persist throughout the decade, SUNY's enrollments would remain essentially constant. Such assumptions, however, seem unduly pessimistic and accept a continuation of the state's present deplorable high school dropout rate as well as SUNY's present attrition rate. More realistic assumptions of high school graduation rates and SUNY yield and retention rates, based on recent trends and future program goals, still conservatively estimated, would provide 10 percent increases in each over the decade. These assumptions suggest an enrollment demand for SUNY of 437,000 students by the year 2000. This represents 34,000 more students—an 8 percent increase for the decade

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RESOURCES

This report has presented a vision of SUNY in the year 2000: a state university that is even more responsive to the needs of the people of New York and even more highly regarded by those who know and care about quality in higher education. It is fair to ask, and only responsible to attempt to project, what this vision might cost and where the resources might be found.

Current Costs

During the fiscal year ending March 31, 1990, the State University as a whole spent about $3.9 billion for current operations, including debt service and sponsored research; revenue came from state and local taxes, tuition, fees for services, third-party payments (for hospital operations and medical faculty), grants, contracts, and gifts. The 29 state-operated campuses and five statutory colleges spent $3.16 billion allocated as follows:

- $2.086 billion (66 percent) for core academic operations, including faculty, instructional support, administration, operations and maintenance of facilities, departmental research, Education Opportunity Centers and Programs
- $500 million (15.8 percent) for three teaching hospitals, supported mainly from fees and third-party payments
- $276 million for business operations such as food services, bookstores, and residence halls—paid for by their users
- $163 million for debt service on the $7.5 billion physical plant, including 2,360 buildings covering 70 million square feet of space
- $139 million for financial aid, including Pell, TAP, and other grant and loan programs

With four health science centers and nursing and allied health programs at many of its campuses, SUNY is a major educator of health professionals. Here student nurses view open heart surgery at the Health Science Center at Brooklyn.

The $3.16 billion spent in the state-operated and state-funded campuses was derived as follows:

- $1.578 million (49.9 percent) from state revenues
- $320 million (10.1 percent) from tuition and fees

- $691 million (21.8 percent) from users of residence halls, auxiliary services and hospitals, including hospital insurers
- $294 million (9.3 percent) from federal and other government sources
- $230 million (7.3 percent) from private gifts, grants and contracts, endowment income, and other sources
- $50 million (1.6 percent) from fund balances

The 30 community colleges spent about $720 million in 1989-90, with some $246 million (34 percent) from state tax dollars; $221 million (31 percent) from local sponsor area tax dollars; and $195 million (27 percent) from student tuition revenue. (Another $58 million, or 8 percent, came from federal sources and gifts and grants.)

Assessing the proper level of resources for SUNY requires understanding the context in which SUNY operates—its history, comparisons with other systems in other states, and the total taxpayer burden of public higher education in New York State relative to other sectors.

Future Resource Needs

A society must answer three questions in connection with the resources devoted to higher education. First, how well supported in faculty, staff, facilities, equipment, and the like should the university be? What, in short, is the appropriate cost per student, per graduate, or per faculty member?

Second, how large should the entire enterprise be, whether measured by total enrollments, by the proportion of high school graduates going on to college, by public service projects, or by programmatic coverage?

Third, where will the resources come from to answer the preceding two questions? Specifically, how should the costs be shared among taxpayer, parent, student, or donor, and should this division of shares change over time? If the most significant public policy issue is the use of tax dollars, what is the appropriateness and/or likelihood of real increases in state tax support in order for public higher education to increase access and services?

The Cost of SUNY in Context

Assessing the proper level of resources for SUNY requires understanding the context in which SUNY operates—its history, comparisons with other systems in other states, and the total taxpayer burden

of public higher education in New York State relative to other sectors.

SUNY's costs per student (the best single measure of the appropriateness of resources) are lower than the unit costs for comparable public colleges and universities in peer states. Moreover, SUNY's costs are substantially below those in New York State's private higher education sector, and this gap has widened as SUNY has lost resources and staff in recent budget cuts.

Real resources in SUNY (measured best by numbers of faculty and staff) declined by more than 10 percent (over 3,000 positions) between 1975-76 and 1990-91. The principal decline took place in the late 1970s and early 1980s; since 1984-85, the university centers and a few of the colleges with substantial programs in science and technology have recovered slightly, but net reductions still range from nearly 17 percent in the university colleges to just over 7 percent in the university centers.

The 1991-92 state-operated budget is $54.8 million less than the preceding year's budget and some $85 million less in inflation-adjusted dollars, with nearly 4 percent of the workforce (930 positions) lost. In the meantime, enrollment is at its highest ever since the university became a 64-campus system.

New York State's total public higher education sector (SUNY and CUNY combined) educates a smaller proportion of the state's students than the public sectors in all but five other states. Per capita spending on public higher education is less than in all but seven states. The percentage of state and local tax revenues devoted to public higher education in New York State is smaller than in all but five other states.

SUNY's costs per student are lower than the unit costs for comparable public colleges and universities in peer states.

These facts do not in themselves prove that SUNY should become either larger or richer. What they do show are the following:

First, since SUNY includes all public higher education (two-year, four-year, research, and advanced professional) outside New York City plus four campuses inside the city, SUNY is actually comparatively modest, for the size of the state, in total enrollment and spending.

Second, while some parts of SUNY have seen slight yet real growth over the past five years, most campuses have experienced significant cuts. SUNY is as lean and efficient as its peers, and far leaner and more efficient than it used to be.

The Fiscal Climate of New York State in the 1990s

New York State in the early 1990s is in a recession, along with the rest of the nation and especially the Northeast. Tax revenue growth has slowed dramatically, while the needs for such services as welfare and Medicaid have increased. Forecasts for the next decade are generally pessimistic and assume continued slow growth, minimal increases in tax revenues, and continued pressures for increased state spending on housing, health care, elementary and secondary education, job training, public infrastructure, and environmental conservation and restoration. Such a climate is not encouraging to the prospect of increases in state dollars for SUNY.

Yet other factors suggest that there may well be sufficient state tax dollars for high-priority purposes. For example, New York State now spends considerably less than its peer states—and less in real terms than it spent a decade ago—on public higher education. While not itself a conclusive argument for more spending on higher education, this suggests that more resources could be made available to SUNY if New York's expenditure patterns were to move in the direction of most other states.

The resource needs of SUNY 2000 should be partially met by sources other than state tax revenues. SUNY is poised to tap significant new resources, both in private gifts and in sponsored programs.

Furthermore, in its 1991-92 budget the state is both reducing its work force and greatly slowing down the annual rate of wage, salary, and benefits increases. This restructuring, combined with the almost inevitable nationwide economic recovery that will occur by the mid-1990s, will allow the state to fund some high-priority needs for real increases. The question for SUNY will be whether its needs are sufficiently compelling and its underlying management and productivity sufficiently well-demonstrated.

Finally, the resource needs of SUNY 2000 should be partially met by sources other than state tax revenues. While tuition increases should not continue to replace or substitute for tax dollars, SUNY tuition now covers a proportion of costs close to the national average and will probably cover its share of cost increases. Thus, tuition in the 1990s is likely to be either a positive or at least a neutral factor in resource growth.

Similarly, SUNY is poised to tap significant new resources, both in private gifts and in sponsored programs. For example, sponsored

research between 1987 and 1990 grew by $102 million, or 56 percent, and is projected to be $300 million in 1990-91. While the federal government, the major source of sponsored research, will have its own fiscal problems and shifts in priorities throughout the decade, SUNY should be able to continue to increase its sponsored research volume and thus enhance SUNY's scholarly position by the year 2000.

Private support provides the critical difference in the ability of SUNY's institutions to achieve excellence through such programs as merit scholarships, undergraduate research programs, visiting lectureships, library and cultural enhancements, faculty development, and seed money for innovative programming.

SUNY has also been making major strides in attracting private gifts from alumni, friends, and business. Gifts rose from less than $15 million in 1980-81 to nearly $51 million in 1989-90. This rate of increase should be sustainable. Private support provides the critical difference in the ability of SUNY's institutions to achieve excellence through such programs as merit scholarships, undergraduate research programs, visiting lectureships, library and cultural enhancements, faculty development, and seed money for innovative programming.

Resource Needs by the Year 2000

It is impossible to predict accurately the resource needs of a decade hence, much less the actual dollar amounts. Even more difficult is predicting the capacity of the state or of any other revenue sources to fund their appropriate shares. It is possible, though, to portray the kinds of resources needed if the SUNY 2000 vision is to be realized, and to assign to each a rough current dollar order of magnitude.

1. Preserving access and accommodating projected growth in enrollment demand. An increase in demand for SUNY services by the year 2000, which is almost inevitable, is based on several factors, including: success in at least some of the many current efforts to improve the state's high school graduation rates; an increase in the proportion of the state's college-goers seeking admission to SUNY; and SUNY's progress in retaining students.

The projected increase in enrollment demand of up to 34,000 students by the year 2000 would require approximately $143 million in new resources. This is based on two assumptions: (1) that roughly 65 percent of new students would enroll in the community colleges; and (2) that continuing efforts in good management and productivity will enable the university to meet this projected increased demand with only

the low estimated marginal cost of educating additional students.

The cost of the community college share of the enrollment increase (22,000 students) would be approximately $88 million, assuming a marginal cost of $4,000 per student. At current patterns of marginal revenues, the state's share of these additional costs could be about $40 million. The state-operated campuses' share of the projected enrollment increase (12,000 students) would require another $55million, of which $25.8 million could be funded via retained tuition revenues and the remainder from the state.

SUNY's responsibility to serve students coming from many educational backgrounds and life experiences calls for measures to restore instructional support, counseling, and academic advising to the previous levels funded by the state.

2. Restoring classes and programs cut or eliminated in the state-operated sector during New York State's recent budget crises. SUNY campuses have shifted thousands of positions and eliminated hundreds of programs through attrition and reallocation of resources from low demand to high need/high demand programs. While this reallocation is appropriate, though often painful, the university has also experienced a net loss of thousands of positions resulting in heavier teaching loads, courses and sections unavailable to students, unmet counseling needs, and deferred maintenance. As a result, SUNY faces a lessened capacity to meet the demands of access, retention, and learning.

The State University uses a benchmark budget system that projects the number of positions and dollars needed by a campus based mainly on enrollments by level and field of study and considering special facilities and needs. In 1987-88, the 29 state-operated campuses were funded at approximately 91 percent of their benchmarks or resource targets. During the budget crises of the early 1990s, the overall average benchmark position fell to under 85 percent.

SUNY's responsibility to serve students coming from many educational backgrounds and life experiences calls for measures to restore instructional support, counseling, and academic advising to the previous levels funded by the state. Students, including many with inadequate high school educations, can succeed in college and enter the work force as productive adults if given sufficient attention, support, and instruction.

We seek to restore staffing and other resources for core courses, particularly in communications and computational skills; liberal

learning in arts and sciences; academic and personal counseling; and faculty development.

A reasonable goal would be to restore the state-operated campuses to 90 percent of their benchmarks by the year 2000, representing a recovery costing $75 million. A portion of this recovery would occur if the Graduate Education and Research Initiative (GRI) and the academic equipment replacement funding goals were attained, leaving a net funding requirement for recovery of about $40 million. Since tuitions have already increased dramatically to fill part of the gap left by declining tax dollar support, it would be appropriate for this recovery to come from the state General Fund and local sponsors' tax resources.

3. Increasing community college funding (as reflected in the state operating aid formula) to strengthen the academic program at the least well-funded campuses while retaining the sponsor, student, and state partnership. The principle of local sponsor funding for approximately one-third of net operating costs results in a wide range of net operating costs per student. Although some variation is appropriate, the spread between the best and least adequately funded community colleges has become too great, reflecting, at the low end of the range, either the inability or unwillingness of some local sponsors, mainly counties, to support their community colleges adequately.

The community college state aid formula should be improved to recognize minimum levels of core support to every campus, enhanced incentives to reward local sponsor support for community colleges relative to the county's ability to contribute, and better recognition of the higher costs of technical education.

The community college state aid formula should be improved to recognize minimum levels of core support to every campus, enhanced incentives to reward local sponsor support for community colleges relative to the county's ability to contribute, and better recognition of the higher costs of technical education, particularly in facilities and equipment. Further, any adjustment to the aid formula should recognize the need to maintain a balance among the funding partner—state, student, and local government. While the cost of these improvements could total $20 million, the result would narrow the spread between the best and least adequately funded community colleges while strengthening that sector. Community colleges are in the front line of access, non-traditional student education, and service to local businesses and other community needs.

Because New York's community college tuitions are already among the highest in the nation and carry a share of costs greater than that borne by tuitions in the state-operated sector, the cost is one that would be appropriately carried by some combination of state and sponsor area taxes.

4. Continued development of graduate education and research. Begun in 1987 to bring the level of SUNY's graduate programs and departmental research up to the level of other major public research universities, the GRI was based on the belief that excellence in public graduate education and research would benefit the state's economic, social, and cultural health. It was also based on the belief that the only general weakness of SUNY compared to other public systems was the youth, and thus unevenness, of SUNY's research and doctoral programs.

In an economy increasingly driven by knowledge and information, libraries on campuses throughout the state are critical resources for business and industry as well as for university students and faculty researchers.

Setting a goal of $84.5 million in additional GRI funding, the Trustees also aimed to double the volume of SUNY's sponsored research and to increase the number of preeminent graduate programs. Although much less than had been initially requested, investments of $15 million, $10 million, and $5 million in GRI's first three years brought spectacular returns—some a direct result of the added dollars, others probably attributable to the symbolic effect of the new dollars stimulating faculty and administrative creativity and determination. Sponsored research volume increased by 61 percent, from $184 million in 1987 to $300 million in 1991. Mega-grants exceeding $1 million reached $47 million in 1991.

But new state dollars for GRI's operating expenses ended in 1990-91, when the only new funds were $5 million for bonded capital improvements; 1991-92 saw no GRI funds at all. A stretch-out of the remaining GRI funding is necessary given the fiscal crises of the early 1990s. However, the need for additional investment in graduate and research capabilities remains, and a goal of the remaining $54.5 million initially targeted funds is a reasonable aspiration.

In an economy increasingly driven by knowledge and information, libraries on campuses throughout the state are critical resources for business and industry as well as for university students and faculty

researchers. SUNY's acquisition budget in recent years has failed to keep pace with inflation and the costs of new journals in special fields of research. Even with new technology and enhanced opportunities for sharing scholarly materials, SUNY's acquisition budget of $27 million should be increased by about 10 percent a year with an additional annual growth of 2 percent for new periodicals in developing fields. Keeping SUNY libraries up-to-date and competitive will require an acquisition budget by the year 2000 of over $80 million.

SUNY 2000 calls on campuses to be as responsive as they can be in discerning and meeting state needs that can be met by teaching and research—and upon state agencies, the Governor, and the Legislature to think of the State University when confronted with a problem that education or research should have a significant role in solving.

The source of these incremental resources would be tax dollars which would, in turn, stimulate additional grants and contracts from the Federal Government and private sources.

5. Meeting state needs in areas such as health care, economic development, public education, social services, and environmental conservation. A major emphasis of SUNY 2000 is the simultaneous call on campuses to be as responsive as they can be in discerning and meeting those state needs that can be met by teaching and research capabilities—and upon state agencies, the Governor, and the Legislature to think of the State University when confronted with a need or a problem which education or research should have a significant role in solving. A few examples have been suggested in this plan:

- ambulatory care centers for community health care needs and for the training of more community-oriented general practitioners;
- expanded training, through community colleges and Educational Opportunity Centers, to welfare recipients in accord with new federal and state requirements designed to reduce welfare dependency;
- demonstration schools, drawing together local businesses, schools, and SUNY campuses in partnership to improve elementary and secondary education;
- policy-oriented research aimed at such issues as housing, transportation, corrections, and substance abuse.

While the resources needed to meet this broad range of state needs are considerable, not all of these have to be new state dollars. Like any investment, some of these resources would be partially, perhaps fully, self-amortizing. For example, large amounts of state resources are already committed to health, public education, social services, environ-

mental conservation, and economic development; considerable federal dollars also flow through these agencies to various delivery agents. More of these resources can be targeted to the State University and combined with university resources already on hand to bring a level of state service greater than is currently being delivered.

6. *Investing in SUNY's physical and technological infrastructure.* From 1962 to 1988, the State University Construction Fund built some $2.65 billion of new facilities, essentially creating the physical university as it is today, with a total plant worth more than $8.5 billion. In 1988, another $1 billion in bonding authorization was made available, of which slightly more than half is expected to have been bonded by the end of 1991. All of the current $1 billion has been planned and allocated, with some $600-700 million targeted for new space and the remainder for major repair and rehabilitation of buildings and infrastructure including: steam, water, and sewer lines; roads and surfaced parking lots; and electrical and telecommunication conduits. Annual debt service for academic facilities, which is about $225 million in 1991, will increase to about $275 million in 1998 and continue at roughly that level until the year 2017.

SUNY must continue to invest in its technological infrastructure: mainframe computers, desktop computers and peripheral equipment, fiber-optic connections, and massive software development and adaptation.

By the year 2000, SUNY will be built, with only occasional needs for new facilities. By that time, however, the need for major repairs, capital renovations, and necessary maintenance will probably rise to about $150-$200 million annually, to be met either through new bonding or annual state appropriations. The annual state share of community college capital funding (one half borne by the state, the other half by the sponsor) should settle in the year 2000 at roughly $20 million—not significantly higher than in the early 1990s. In addition, by the year 2000 SUNY should be spending $60 million on academic equipment replacement and new investments.

Finally, SUNY must continue to invest in its technological infrastructure: mainframe computers, desktop computers and peripheral equipment, fiber-optic connections, and massive software development and adaptation. In the early 1990s, these investments are reflected in annual operating funds for the university-wide Comprehensive Computing Upgrade, the Student Computing Access Program, library

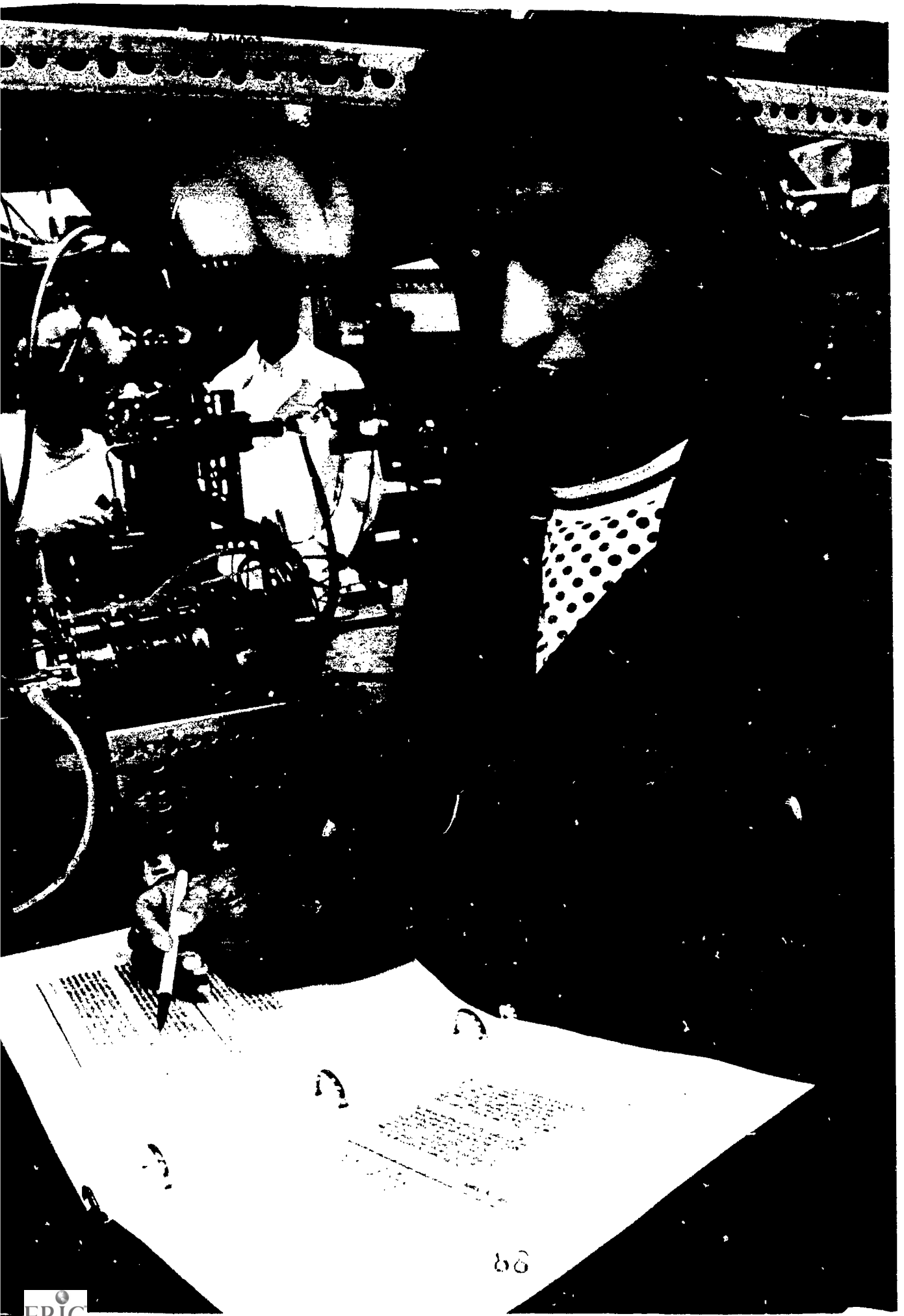
automation, and other technology development costs together totaling some $15-20 million. Given the demands in advanced telecommunications, plus the need to increase investment to reflect higher enrollments, the resources required to promote advanced telecommunications in all SUNY classrooms, as well as in fiscal oversight, personnel-payroll management, and outcomes assessments will require $5-10 million more by the year 2000 than is being spent today.

Whatever the resources, SUNY must strive to assure access to higher education regardless of a student's age or ethnicity or family financial circumstances.

Conclusion

While SUNY's ability to realize the full potential of this vision will depend on the available resources, this plan's vision transcends dollars. Whatever the resources, SUNY must strive to assure access to higher education regardless of a student's age or ethnicity or family financial circumstances; to provide excellent undergraduate education responsive to the needs of students and to the society and the economy in which they will live and work; to elevate the level of research and graduate education; and to enlist the resources of the university in the state's agenda of public needs, from health care to economic development to environmental conservation. The goals toward which SUNY must strive are of paramount importance and should guide the system regardless of the financial circumstances of the state or the priority that is ultimately assigned to public higher education among the many needs that call on state resources.

However, in the end, while we have not placed any single price tag on SUNY 2000, we cannot shrink from the conclusion that this vision, regardless of the managerial skill or faculty effort that may underlie its implementation, will require resources beyond those available now. The Board of Trustees, central administration, campus administrators and faculty are prepared to do all in their power to reach this vision with minimal additional demands on tax dollars. Yet parts of the vision—vital to the economic and social future of the state—will require more tax revenues from the state. We hope that we have begun to present in this document the case for SUNY and its vision, for the resources needed, and thus for a priority for public higher education as we approach the year 2000.



CONCLUSION: PLANNING FOR 2000

The need for high-quality, accessible higher education responsive to the economic, social, and intellectual needs of the state and the nation will continue to grow into the next century. The State University of New York must respond to the challenges of an increasingly competitive international economy, a diverse and racially pluralistic population, and a complex and technologically sophisticated world. SUNY 2000 is the first phase in a planning process to meet these challenges and to assure the people of New York State a public university worthy of their highest educational aspirations.

The Starting Point: Building on Strengths

The State University looks to the year 2000 from the vantage of five special strengths. First, the SUNY system reflects more than forty years of planning and of deliberate, sometimes difficult, decisions by trustees, governors, legislators, faculty, administrators, regents, citizens, and more than one million students, whose needs and choices have shaped the mission, size, and institutional configuration of the university. SUNY will continue to change—perhaps at times dramatically—but it begins from a starting point that is purposeful and by most measures enormously successful.

Second, the university has an enviable national reputation for providing an excellent undergraduate education. Its network of educational opportunity centers, two-year colleges, comprehensive colleges, and university centers have well-deserved reputations for fine teaching and responsiveness to the needs of undergraduates.

University at Buffalo researchers simulate a star using a carbon arc. Though SUNY is a latecomer to the arena of highly competitive research, it is well on its way to becoming a major participant.

Third, SUNY is well on its way into the top ranks of major doctoral and research universities, even though SUNY is a latecomer to this highly competitive arena. In 1985, the Independent Commission on the Future of the State University found that, "SUNY has the potential to become a great public university, one that is at least the equal of the best public universities in other states." The only obstacles were those presented by over-regulation and underdeveloped research and

graduate education. Graduate education and research have been given high priority in SUNY for the past five years and are on a clear trajectory of growth, both in fact and in reputation.

Fourth, SUNY is a complete system, with two-year colleges, comprehensive colleges, research universities, specialized campuses, and the statutory colleges of Cornell and Alfred Universities. While all the components enjoy substantial autonomy, they are nevertheless unified by a single Board of Trustees, a single chief executive officer, and an overarching vision of public higher education for New York State.

Fifth, SUNY has demonstrated strength in management and stewardship. Its major systems—of budgeting, accounting, personnel, facilities management, student records—are models throughout state government and for public universities elsewhere. It has achieved far more autonomy and flexibility in recent years, and has combined enhanced decentralization with increased accountability and system equity. Most recently, it has shown itself able to absorb major cuts in state tax support, not without considerable pain and significant losses, but holding to its essential mission and priorities.

The university must be accessible in all dimensions: to the disadvantaged as well as the academically well-prepared, to the adult as well as the recent high school graduate, to those limited by location or by disabilities, to the poor as well as the middle class.

Goals for the Year 2000

The key system goals for SUNY for the year 2000 also number five, and build on the strengths cited above. The university must be accessible in all dimensions: to the disadvantaged as well as the academically well-prepared, to the adult as well as the recent high school graduate, to those limited by location or by disabilities, to the poor as well as the middle class. The university must preserve and strengthen its high-quality undergraduate education as well as continue to build its graduate education and research. It must become more able to respond to state needs of all kinds, from health and social services to environmental conservation to economic development to public education. And SUNY must become even better managed, including increased self-help as public tax dollars remain scarce.

Themes of Change

Some goals and strategies are enduring and obvious and would probably be featured in the plans of most universities in most decades.

Others may be potentially more far-reaching and peculiar to SUNY as it approaches the next century and may reflect more the particular choices and judgments of the Trustees, central system administrators, and members of the SUNY 2000 Advisory Committee who contributed to the vision contained in this report. Three such themes—each portending a change that could profoundly change the university—are suggested in SUNY 2000.

SUNY must reverse its long slow decline in capacity and planned enrollment and must plan, instead, to grow, in response to a coming demographic turnaround and to a likely continuation of enhanced student interest.

The first theme is growth: SUNY must reverse its long slow decline in capacity and planned enrollment and must plan, instead, to grow, in response to a coming demographic turnaround and to a likely continuation of enhanced student interest. SUNY will also continue to grow as it matures as a public research university, with campuses engaged in extensive public service as well as research.

A second major theme is the need of the state for the university to be a more active participant in meeting a broad range of state needs. In the tradition of the great public universities in the United States, SUNY should be a central player, along with other agencies and with the state's civic and political leadership, in addressing these and other economic and social needs.

The third major theme is the need to enhance the productivity of learning. The imperatives are both economic and social. Higher education is costly. Yet nearly all sectors of society insist that we need more of it. Students have enormous access. But too few complete their desired degrees in the amount of time normally required by successful full-time students. Highly motivated and well-prepared students seem often to be insufficiently challenged. Others are simply not yet ready for college-level work. Secondary education all too often seems so undemanding that it leaves far too many young people bored, lost, or discouraged from further education.

This is not a discrete problem or need. There is no single answer. But SUNY 2000 stresses a number of strategies that could constitute a major, coherent program to enhance the productivity of learning. Clear learning outcomes, assessment instruments, and linkages to the high schools, aided by self-paced learning technologies, could enable students to learn far more while they have time and incentives, and to continue learning, albeit at a different pace and in a different way,

while engaged in employment, child rearing, and life's other responsibilities and obligations.

Campus Response and SUNY 2000 Phase II

The success of SUNY 2000 will lie in its ability to stimulate and shape campus plans to take account of the goals and strategies expressed herein.

To be useful and powerful, a plan must be a living document, generating new answers to problems and challenges, both new and old. In the case of SUNY 2000, the answers must now come from the campuses, which have their own plans and goals and strategies, quite apart from the systemwide plan represented by this document. The success of SUNY 2000 will lie in its ability to stimulate and shape campus plans to take account of the goals and strategies expressed herein.

SUNY 2000 Phase I articulates a vision and goals to make the system responsive to the changing needs of its state and its students on the eve of the 21st century. Phase II will provide a cooperative planning process that implements the system's vision by building on the aspirations and achievements of the state-operated campuses and community colleges. This process recognizes that campuses supply the creativity in instruction, research, and service while the system provides the coordination to guarantee effectiveness and efficiency. The system plan must represent more than the sum of its individual parts, but that plan can be no better than the campus contributions.

Phase II anticipates comprehensive reviews of the plans and performance of every community college and state-operated campus in relation to the vision and goals of SUNY 2000. This phase will involve the full participation of campus leaders, the Chancellor and senior staff, and the Board of Trustees. The reviews will incorporate the extensive self-studies by campus groups and evaluations by external experts required for accreditation by the Middle States Association. The process will focus on critical issues, such as enrollment trends and admissions profiles, retention and graduation rates, student and staff diversity, graduate studies and research, and—most important of all—assessment of the quality of student learning.

SUNY 2000 Phase I presents a vision for the future. Phase II will provide the process to make that vision a reality. Both phases aim to ensure New York State the talented graduates, innovative research, and excellent public services required for success in the 21st century.

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SUNY CAMPUSES

University Centers

State University of New York at Albany

State University of New York at Binghamton

State University of New York at Buffalo*

State University of New York at Stony Brook*

University Colleges

State University College at Brockport

State University College at Buffalo

State University College at Cortland

Empire State College

State University College at Fredonia

State University College at Geneseo

State University College at New Paltz

State University College at Old Westbury

State University College at Oneonta

State University College at Oswego

State University College at Plattsburgh

State University College at Potsdam

State University College at Purchase

Health Science Centers*

State University Health Science Center at Brooklyn

State University Health Science Center at Syracuse

Colleges and Institutes of Technology

State University College of Technology at Alfred

State University College of Technology at Canton

State University College of Agriculture and Technology at Cobleskill

State University College of Technology at Delhi

State University College of Technology at Farmingdale

State University College of Agriculture and Technology at Morrisville

State University Institute of Technology at Utica/Rome**

Specialized Colleges

State University College of Environmental Science and Forestry

State University Maritime College

State University College of Optometry

Statutory Colleges†

New York State College of Ceramics at Alfred University

New York State College of Agriculture and Life Sciences at Cornell University

New York State College of Human Ecology at Cornell University

New York State School of Industrial and Labor Relations at Cornell University

New York State College of Veterinary Medicine at Cornell University

Community Colleges

Adirondack Community College

Broome Community College

Cayuga County Community College

Clinton Community College

Columbia-Greene Community College

Community College of the Finger Lakes

Corning Community College

Dutchess Community College

Erie Community College

Fashion Institute of Technology‡

Fulton-Montgomery Community College

Genesee Community College

Herkimer County Community College

Hudson Valley Community College

Jamestown Community College

Jefferson Community College

Mohawk Valley Community College

Monroe Community College

Nassau Community College

Niagara County Community College

North Country Community College
Onondaga Community College
Orange County Community College
Rockland Community College
Schenectady County Community College
Suffolk County Community College
Sullivan County Community College
Tompkins Cortland Community College
Ulster County Community College
Westchester Community College

Educational Opportunity Centers

Brooklyn Educational Opportunity Center
Bronx Educational Opportunity Center
Buffalo Educational Opportunity Center
Capital District Educational Opportunity Center
Long Island Educational Opportunity Center
Manhattan Educational Opportunity Center
Rochester Educational Opportunity Center
Syracuse Educational Oppportunity Center
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*The Health Science Centers at Buffalo and Stony Brook are operated under the administration of their respective University Centers.

**This is an upper-division institution authorized to offer baccalaureate and master's degree programs.

†These operate as "contract colleges" on the campuses of independent universities.

‡While authorized to offer such baccalaureate and master's degree programs as may be approved pursuant to the provisions of the Master Plan, in addition to the associate degree, the Fashion Institute of Technology is financed and administered in the manner provided for community colleges.

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