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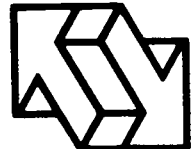
ABSTRACT

The Ohio Board of Regents' master plan for higher education is presented. After providing an overview of Ohio's higher education system, the following factors that should be considered in statewide planning are addressed: the economy of Ohio, the availability of student financial aid, changing enrollment patterns, changes in federal and state policies, the changing public perception of the value of college and university study, and the increasing competition for students. A social compact is proposed for collaboration between public and private colleges and universities, and business, industrial, and governmental leaders. Recommendations for enacting the social compact are offered for the areas of instruction, public service, and research. Access to college programs is discussed with reference to college preparation, undergraduate programs, graduate programs, and noncredit continuing education programs. Geographic access, access for physically impaired students, and financial access to higher education are also considered. In addition, attention is directed to: reform of subsidy support, capital improvements planning and budgeting, clarifying institutional objectives, program review, and service patterns of state universities and two-year colleges. (SW)

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OHIO
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MASTER PLAN FOR HIGHER EDUCATION

OPPORTUNITY IN A TIME OF CHANGE

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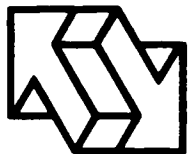
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SEPTEMBER 1982

OHIO
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To: The Governor, the General Assembly and
the People of Ohio

Central to the statutory responsibility of the Ohio Board of Regents is formulation of "a master plan for higher education of the state, considering the needs of the people, the needs of the state, and the role of individual public and private institutions within the state in fulfilling these needs." This, the fourth Master Plan for Higher Education, unlike its predecessors, is a strategic plan — an approach for planning for anticipated changes of this decade.

Although the higher education system in Ohio is likely to face continued financial constraints and enrollment uncertainties during the 1980's, exciting new opportunities are available for

strengthening program quality and for assuming a major role in revitalizing this state's economy. The success with which the changes and the challenges of the next decade are managed will be dependent on sound planning at the local, regional and state levels and on increased collaboration and cooperation among our institutions.

The Board of Regents is fully committed to this plan which it believes will sustain a strong system of autonomous public and private institutions offering a breadth and accessibility of programming to be found in few if any other states in the nation.

Richard L. Krabach
Chairman
Ohio Board of Regents
September 10, 1982

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OHIO'S HIGHER EDUCATION SYSTEM

Strength of Resources

In the years since 1804 when Ohio University was founded, the State of Ohio has built a strong system of higher education. The challenge of the 1980's will be to sustain and develop these educational resources to the greatest advantage of the state and its citizens.

Ohio's higher educational resources are comprehensive, diverse, and mature, including, on more than 60 public campuses, 12 state universities, 2 free-standing medical colleges, 8 community colleges, 17 technical colleges, and 23 university branches. An additional 44 private liberal arts colleges and universities and more than 70 specialized colleges (art academies, seminaries, nursing schools, technological institutes) provide Ohio with one of the largest concentrations of institutions of higher education in the nation.

In 1981, 384,000 students were enrolled in Ohio's public institutions, and 100,000 more were enrolled in private institutions in Ohio. Sixty-six thousand students earned degrees—53,000 from public institutions and 13,000 from private institutions. The physical plant of public institutions alone included about 1400 buildings totaling 60 million square feet of space, 80 percent of which was devoted directly to instructional and other academic activities.

Ohio's two-year institutions—including community and technical colleges and university branch campuses—provide programs in general education and such technical studies as business technologies, health technologies, agricultural and natural resources technologies, and public service technologies. Ohio is one of only a few states to have located two-year postsecondary educational opportunities within commuting distance of every citizen.

Ohio's four-year institutions are mature and highly diversified. Every college and university in Ohio offers baccalaureate studies in liberal arts as well as pre-professional training. Opportunities range from several dozen majors in

Ohio's smaller colleges to nearly 200 programs at the state's largest university. Four-year institutions are distributed well throughout the state and Ohio's urban centers are especially well served.

Post-baccalaureate opportunities include high demand graduate level professional and academic programs at a number of public and private institutions as well as a comprehensive range of master's and doctoral programs at the larger public and private universities. Especially strong in health education, Ohio has seven medical schools as well as programs in pharmacy, dentistry, veterinary medicine, optometry, and nursing. Advanced work in other professional fields—law, engineering, business, agriculture, education—is available at selected institutions throughout the system.

The diversity and comprehensiveness of Ohio's instructional programs, including a variety of noncredit courses that promote personal development and career improvement, are, the Regents believe, among the State of Ohio's most important resources. Further, the research capacity of Ohio's colleges and universities and the transfer of research results to the service of government, business, and industry hold great promise for the economic development of the state. Public service activities are also important components of higher education in the State of Ohio, notably the Agricultural Cooperative Extension Service, health services provided by university hospitals, faculty consultations with citizen groups, business and industry, government agencies, and social services, and a wide variety of cultural activities—lectures, film presentations, musical and dramatic performances, art exhibits, and athletic events.

An important quality of Ohio's educational resources is maturity, both of faculty and facilities. Faculty members in Ohio's colleges and universities are established scholars and teachers. Collectively they represent a precious resource developed over time and very difficult to replace. Likewise, Ohio's educational facilities

are generally very good both in their distribution and in their condition. The Board anticipates no need for major expansion of new facilities in the coming years but does expect a need to replace and renovate older facilities and to replace obsolete equipment to meet changing needs and to sustain academic quality.

Management of the System

Given the vast resources of Ohio's public and private colleges and universities, there has evolved an effective management system which encompasses both institutional autonomy and state-level coordination. The balance between public control and institutional independence in Ohio weighs heavily on the side of institutional independence when measured against the Carnegie Commission's recommended pattern for distribution of authority. No change in this relationship is sought or anticipated.

The primary authority for governance, fiscal and business operations, admissions, and academic policies of Ohio's colleges and universities rests with the individual boards of trustees. Individual institutions are able to respond to the needs of their respective student bodies and the communities they serve. They are able to develop personnel policies that assure academic freedom and quality in both scholarship and teaching. And each board of trustees has the responsibility to manage its resources effectively and to establish its own funding and program priorities. The advantages of this policy are reflected in the strength and diversity of Ohio's higher education system today.

Established in 1963, the Ohio Board of Regents has sought to define and reflect the state's interest in higher education and to suggest rules of the game for an otherwise highly autonomous and complex system of public and private colleges and universities. By statute, the Ohio Board of Regents is a planning and coordinating body. Among its functions are: maintenance of a com-

prehensive information system; recommendation of operating and capital budgets for public institutions; authorization of all new degrees and degree programs at state-assisted, independent, and out-of-state institutions offering programs in Ohio; administration of state student financial aid programs; the conduct of special studies for the General Assembly and institutions; and development of a Master Plan for higher education. The objective of the Board's coordinating role can be simply stated as making the best use of available resources in meeting the higher educational needs of Ohioans.

Influencing the course of higher education in Ohio, especially its funding and its ranking among the state's priorities, is the responsibility of many groups. Students and their parents are one voice; faculty and professional associations another. Certainly the presidents and the Chancellor have important roles in carrying both the needs and the capabilities of the state's colleges and universities to the general public and the General Assembly. But the boards of trustees and the Regents, representing several hundred persons of regional and statewide prominence and influence, collectively can and must over the next decade "make the case" for higher education.

In the 1980's, institutional leaders and the Regents together must forge a strong coalition to seek out new opportunities, to develop high quality services, and to make compatible the interests of individual institutions with each other and with the best interests of the State of Ohio and its students. If these objectives are achieved, Ohio can emerge from this decade with a stronger and more cohesive system of higher education, delivering an array of services well targeted toward Ohio's economic renewal and future growth as well as toward the educational and career development of its citizens—all without jeopardizing either institutional autonomy or academic freedom.

AN ENVIRONMENT OF OPPORTUNITY

The decade ahead offers uncertainty and change for higher education in Ohio. The growth and expansion of the last three decades, for both the state and its institutions of higher education, have slowed. The well-being of state-supported colleges and universities, closely tied to the economy of the state and nation, is now in a period of substantial transformation. Perhaps more crucial, the very nature of higher education—its mission, its programs, its achievements—faces challenges in response to such broad social goals as access to continued education, equal opportunity for individual growth, and other social priorities. With careful management and disciplined self-examination, the Regents believe that this environment of uncertainty and change can be transformed into an environment of new opportunity.

Many external factors greatly influence higher education planning. Among the most significant for the years ahead appear to be the economy of the state and nation, the availability of student financial aid, enrollments for the decade, the public's perception of a college degree, competition among post-high school institutions for students, and the changing nature and format of programs offered in response to evolving community needs.

The economy of the State of Ohio retains its strong base in industry and agriculture and continues to broaden this base with growing finance, and with service industries. More than 4 1/2 million persons are now employed in Ohio, and annual personal income exceeds \$110 billion. But at the present time, the national economy is faced with recession, and changing national spending patterns have a direct effect on the funding of higher education. Moreover, Ohio, because of its prominence in heavy manufacturing, has suffered a more severe decline and may be slower to recover in a rising business cycle than many other states. The state has had to cope with high unemployment, rapid escalation of basic welfare services, and severe losses in state tax revenues. Continuing conditions suggest a sluggishness in the state's

recovery, and funding for basic services, including higher education, may be expected to remain below need for a protracted period of time. Obviously, such conditions require caution in planning for higher education in the years immediately ahead.

A factor closely related to the state of the economy is the availability of student financial aid, especially in light of the rising portion of the cost of higher education that must be passed on to the students. Any changes in state and federal policies on student financial aid programs require careful analysis for their potential to influence student access, especially within younger age groups. In particular, cuts in aid could severely curtail student choice between private and public or between residential and commuter campuses, threatening major shifts in enrollment patterns and institutional stability.

Changing patterns of enrollment continue to raise fundamental questions for higher education planning. The Master Plan, 1976 suggested a decline in the number of high school graduates, the traditional source of full-time students for colleges and universities, and described and encouraged increasing numbers of older students, often women, enrolling at post-secondary institutions on a part-time basis. More recent data confirm these trends. The number of high school graduates in Ohio has been declining for four years and will continue to decline throughout the 1980's. Preliminary 1980 census data show that the decline in younger age groups is even greater than earlier expected and that the increase in the 20-35 age groups is somewhat less than expected.

But in spite of the declining school age population, college enrollments have risen. A larger percentage of Ohio's population is now going to college. In the past, Ohio has been below the national norms for percentage of the population attending colleges and universities, so this increase may represent some catching up. However, weakened economic conditions probably have had the effect of encouraging higher

enrollments than in normal economic times. Forecasters should be cautious, therefore, about interpreting the current rise of enrollments as evidence of a long-term trend.

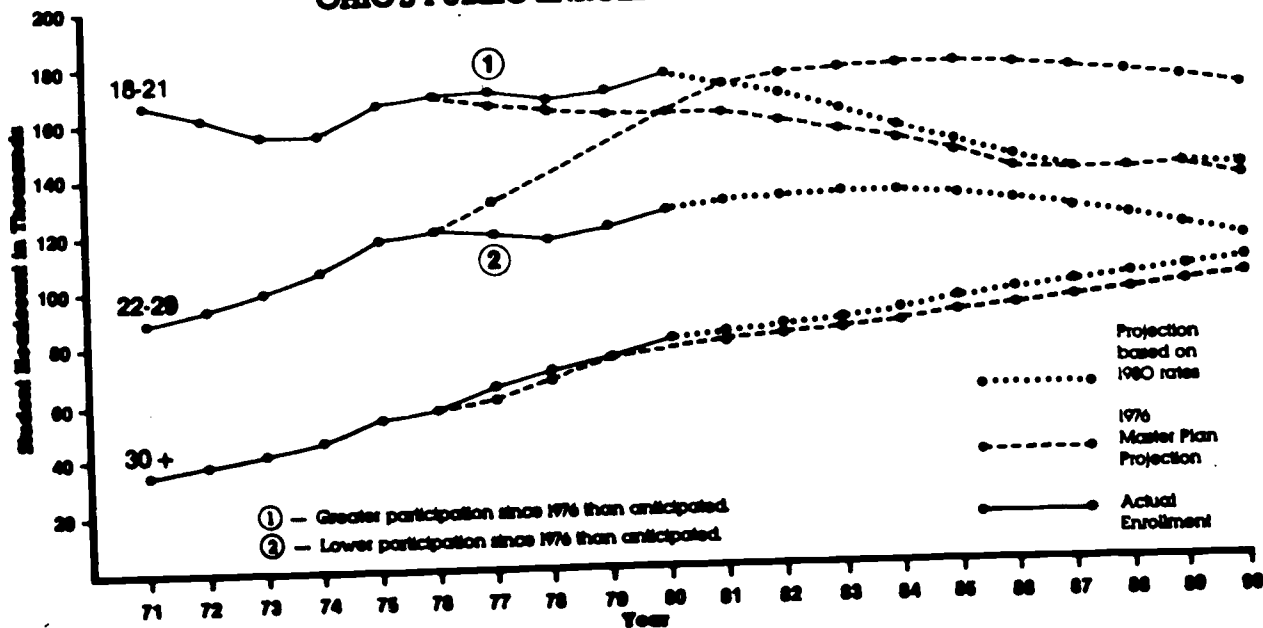
The Regents' Master Plan, 1976 projected differing growth rates for different types of public institutions, all of which have in fact fared better than expected. The technical colleges, which have been highly responsive to job market requirements by developing new programs, have shown the strongest enrollment growth. In spite of variations between projected and actual enrollments, the assumption that different kinds of institutions would grow at different rates has been confirmed and should continue to guide state planning. Enrollments in Ohio's private college and universities, which should be regarded for planning purposes as yet another kind of institution, have increased only slightly since 1975 as was anticipated.

What future enrollment levels can Ohio's institutions of higher education expect? Exhibit I divides students into three key age groups, shows enrollments of these groups in public colleges and universities since 1971 (including the enrollment projections of the 1976 Plan), and provides modified enrollment projections through 1990. Two significant changes from the 1976 pro-

jections should be noted. Enrollments in the 18-21 age groups have been greater than earlier anticipated, and enrollments in the 22-29 age groups have been lower than anticipated. Those who assumed that increased college enrollment by older students would compensate for the decline in the pool of traditional younger full-time students should take special note that enrollments in the 22-29 age group have been below expectations. Enrollments of students over 30, however, have generally borne out the 1976 projections. Actual enrollments of all three groups in 1980 suggest that in 1990 the system overall may enroll fewer students than the 1976 Master Plan projected.

Looking even further ahead, the U.S. Bureau of the Census anticipates that the number of young persons will begin to rise again toward the end of the century, following a low point in 1993. By the year 2000 the number of the nation's 18-year-olds will return to the 1980 level. Although no forecast of detailed enrollments is reliable for so extended a period, the message for long-term state planning is clear. The period of declining enrollments is likely to be a trough from which the state will rebound after a fifteen-year period, and the present system of colleges and universities so carefully put into place over many years will continue to be needed by the State of Ohio.

EXHIBIT I
OHIO'S PUBLIC ENROLLMENT BY AGE GROUP



While some changes in the configuration of campuses (through selective mergers or other consolidation) may be justified in the 1980's, a basic strategy for sustaining the capability of the existing system is essential. The policy proposals that follow seek to fashion such a strategy.

Another possible influence on colleges and universities in the decade ahead hinges on the outcome of discussions on reinstating the national draft for military service. If Congress decides to reinstate the draft and does not include an educational deferment, the enrollment patterns of 18- and 19-year-old students will be radically changed. On the other hand, if those who serve in the military receive strong educational benefits, enrollments could rise far beyond present expectations but with a lag of two to three years for the affected age groups.

Other changes in federal and state policies may also radically affect institutions of higher education. For example, historically, apart from grants for research and creative activity, about 96% of all federal aid to higher education has gone directly to students, while about 96% of all state aid has gone directly to institutions. Any significant change in these patterns could have a very considerable impact on individual institutions as well as on higher education viewed statewide and nationally.

The changing public perception of the value of college and university study also affects higher education planning. As a rule, the job prospects of college graduates have historically been better than the prospects of persons without higher education exposure. Recent studies show this still to be true, that the high correlation between higher levels of education and higher lifetime earnings continues, and that college graduates generally suffer lower unemployment during difficult economic times. Moreover, recent trends suggest that a college degree is a valuable asset to older persons reentering the job market and that continuing college education helps persons upgrade their employment skills in a rapidly changing technological society. All of these factors reaffirm the value of higher education, but each generation interprets that value in its own terms, from its own perspective. A continuing challenge to Ohio's educators is to find the most effective ways of informing citizens about available educational

services and to modify programs as appropriate in response to community needs.

A final factor to be considered in any planning for the future of higher education in Ohio is the increasingly keen competition for students, a competition that will probably continue to sharpen as the available enrollment pool decreases. Many kinds of educational institutions are entering this competition. The Regents have recently noted a growing number of out-of-state institutions seeking approval to offer courses and degree programs in Ohio. While Ohio law, by requiring Regents' approval for such courses and programs, assures that they will meet established levels of quality, there is no provision for comparable evaluation of existing programs offered by Ohio institutions.

Competition for students is also increasing from proprietary schools, the business sector, professional associations, and many other organizations. Several recent laws require continuing education for many professionals and paraprofessionals to qualify for and maintain their credentials or licensure. These various educational units are seeking to be involved in such new requirements. Programs in new technologies, such as the many emerging telecommunications technologies (television, videotape, videodisc, computer-assisted learning), have flourished, especially in the non-collegiate educational sector. Ohio law now makes students in degree-granting proprietary colleges eligible for Ohio Instructional Grants and Ohio Academic Scholarships, a factor that has encouraged the development of these programs, particularly at the associate degree level.

Educational planners must keep a watchful eye on these and other factors, while maintaining a positive attitude toward the opportunities inherent in the challenges ahead for higher education. With positive measures toward cooperative solutions, with strong and creative leadership, with collaborative rather than competitive ventures, the system and the State of Ohio can emerge stronger than ever. The development of new and supportive relationships with business and industry, improvement of participation on the part of potential student groups, and enhancement of program quality are the goals at hand.

OPPORTUNITY FOR A NEW SOCIAL COMPACT

Institutions of higher education and particularly state universities are commonly guided by a threefold mission of instruction, research, and public service. In working toward achievements in each of these areas, Ohio's colleges and universities have given the lie to the image of ivory tower institutions isolated from the society around them, for they have contributed importantly to the enrichment and economy of the state. Through instruction, higher education has provided a highly skilled work force and leaders for the nation—individuals who have discovered and developed resources, managed and expanded corporations, provided health care, and worked in local, state, and national positions of leadership and trust.

Through research, a direct connection has been forged between higher education and the successful solution of contemporary problems—in agricultural development, national defense, health sciences, industrial technologies, and the sophisticated technologies associated with the nation's space program, to name only a few. Research within Ohio institutions has provided many noteworthy contributions to the state. For example, for many years the research conducted by the Ohio Agricultural Research and Development Center has greatly improved farm productivity. Higher education researchers have also responded to Ohio's energy needs through funds made available by the Ohio General Assembly, the Ohio Board of Regents and the state universities established the Ohio Inter-University Energy Research Council to coordinate energy research activities of the major public and private universities in the state. Similarly, the Ohio Coal Research Laboratories Association (OCRLA) was created to address Ohio's problem in the use of high-sulphur coal. Extensive investigations into both basic mechanisms of human function and disease along with sophisticated clinical studies in patients characterize the past and present research outputs from Ohio's health-related schools. These projects provide employment for technically skilled individuals and cutting-edge care for Ohio citizens. These examples are cooperative attempts by Ohio's institutions to

marshall their resources to help strengthen the state's economic viability. And having graduate and professional students assist in these efforts produces professionals who will themselves be thereby better prepared to serve business and industry as future researchers and leaders.

Higher education's work in instruction and research is widely understood and appreciated. The efforts of Ohio's colleges and universities to carry out their mission of public service are also widely evident, but the Regents believe these efforts can and should be dramatically expanded and intensified. Through public service, higher education reaches out to the society at large, extending its instructional and research resources to individuals and groups not normally viewed as within the academic community. The faculty members of Ohio's colleges and universities have served as consultants and have offered noncredit workshops, seminars, and training programs. They have also supported programs to share information and technologies widely—through the Ohio Technology Transfer Organization, the Area Health Education Centers, the Labor Education and Research Service, the Cooperative Extension Service, and the Urban University Grants program.

Additionally, the health education programs of the state have provided massive patient care services to Ohio. Each medical school—through its programs in family medicine and primary care, internal medicine, and pediatrics—reaches out within its community to provide health service. Sophisticated tertiary care referral programs exist at several medical schools to help patients with complex medical problems. And the statewide Area Health Education Centers programs provide training to nursing, allied health, dental, medical and pharmacy students as well as extensive continuing educational programs for practitioners in those same disciplines.

The fortunes of higher education in Ohio—its vitality, its quality, and the strength of its rich faculty resources—are inextricably linked to the

fortunes of the state as a whole. Ohio's colleges and universities should therefore be willing and determined to help the state meet its current challenges. Higher education's fidelity to this trust is essential to both its own interests and those of Ohio. Financial support for higher education in the years ahead will depend both upon public perceptions of its usefulness and upon the state's ability to solve the economic problems it now faces. Ohio's economic problems are not solely of its own making; the solutions, however, in large part will have to be. On Ohio's college and university campuses, both public and private, is knowledge which can contribute importantly to the solution of these problems. Higher education must organize itself so as to be a part of the solution to Ohio's economic problems rather than simply to allow its needs to be a part of those problems.

A New Social Compact

The Board of Regents urges that an unprecedented cooperative effort be made to identify areas in which the needs of the state and the strengths of higher education intersect. The higher education community and the State of Ohio should join in making possible a new era of collaboration between public and private colleges and universities, and business, industrial, and governmental leaders, pursuing the areas of greatest opportunity. To this end, the Board proposes a new social compact between higher education and the society at large, a compact equally important and rewarding for both parties, to promote advancement of the quality of life in Ohio.

Subsequent study and discussion by all parties to this compact will be necessary to forge details of this program. However, the Board proposes that greatly expanded efforts be undertaken within the general categories of instruction, research, and service, and that three general principles govern these efforts.

- 1) All parties to the compact—leaders from education, business, industry, health care professions, labor, government, and the community—should be involved from the outset.
- 2) All efforts of educational institutions to join in planning must be collaborative, with due regard in subsequent operational phases

for appropriate competition among institutions able to render services.

- 3) Already existing strengths within Ohio's colleges and universities, not duplication of strengths and resources, should form the base for efforts to focus educational resources upon new opportunities.

In making this recommendation, the Board of Regents fully recognizes the financial constraints on available resources in the present economy. Each institution will have to determine the extent of its commitment to the new social compact, sharing the cost of public service and research with society, business, and industry. This approach is not unlike the long-accepted concept of student and state sharing the cost of instruction in which both benefit. The Board believes society likewise will fund college and university service activities (as it presently is in many instances) when the payoff becomes clearer. This recommendation for a new social compact simply urges institutions and their faculties to make the "front-end" investment necessary to expand the public's appreciation of higher education in instruction, research, and public service. Sustained funding during the coming period may well depend on how effectively institutions respond to this new opportunity.

Instruction

The instructional linkages with business, industry, health care, social services, and government seem most clearly to be areas for local or regional development. Direct, targeted collaboration is needed between Ohio employers and all types of educational institutions. Both employers and educational institutions are extremely widespread and diverse, yet nearly all educational institutions in Ohio have the interest and capacity to serve these entities in various ways. Moreover, many local linkages already exist—some relatively new, others of long-standing. For example:

- Individual businesses and industries have provided training for their employees or contracted for such training with others. Associations for this purpose, like the American Society for Training and Development, already exist.
- Various Chambers of Commerce have established local councils that address

training needs as part of a strategy for developing local businesses and industries. There are also local committees implementing the federal Comprehensive Employment Training Act.

- Many labor groups have identified their members' training needs and have sought ways to satisfy them.
- Health delivery systems, which are frequently major employers in the state's metropolitan centers, have provided extensive training and clinical experience for health care professionals.
- Working alone and in concert, colleges and universities have organized advisory committees linking themselves to business, industrial, and governmental groups that need in-service education. Some regional consortia exist to coordinate their efforts.
- The Division of Vocational Education of the Ohio Department of Education has done substantial work to establish consortia of vocational schools, community and technical colleges to provide job training for businesses and industries.

In most communities, several or all of these efforts have suggested to the Regents that no effective purpose would be served by trying to devise a uniform approach to this issue. Ohio communities quite naturally differ widely in their business and industrial resources and in their ways of dealing with local interests. However, a series of conferences recently sponsored by the Board of Regents uncovered a number of common regional concerns throughout the state—namely:

- Many community organizations, agencies, and institutions have overlapping purposes and objectives.
- Redundant surveys have been made to evaluate local needs.
- Some group efforts have unintentionally crossed purposes.
- Without a single forum considering the legitimate interests of all area parties, gaps in service and communication have occurred.

These conferences concluded that a collaborative forum would help leaders working to strengthen existing linkages to understand better and evaluate the total linkage effort.

After limited testing, the Board of Regents has found that forming regional **work and learning councils** may enhance linkage efforts (many of which are relatively new) by providing a forum for discussing mutual interests and sharing information. Generally, no new structure is needed, only coordination of efforts. These councils would not themselves deliver any services and so would not compete with their component organizations.

The Board of Regents proposes and seeks to encourage the creation of work and learning councils at the local and regional level on an **ad hoc** basis. Members will be representatives of major linkage organizations already in place as well as key community representatives of educational, employer, employee, and governmental groups. Council purposes will be determined locally but will in all cases include consideration of educational opportunities appropriate to adults and the manpower needs of the area. Since the health care system is a viable service and employment sector, the Board of Regents encourages greater involvement by the health care delivery system and the health educational programs of the state in jointly seeking innovations as well as cost containment. The Regents recommend using such computerized information aids as the Ohio Career Information System when appropriate, and further recommend that Educational Information Centers, where they have already been established, be represented in these collaborative efforts.

Research

The research interests of Ohio institutions and of individual faculty members often reflect a greater concern for extending knowledge than for producing new technologies or products useful to business and industry. Yet these interests, where harmonies of purpose exist, likely can and must be linked with the needs, both immediate and long-term, of industrial development. The central challenge will be to seek linkages which distort neither the legitimate academic interests of university research nor the legitimate interests in commercial development—develop-

ment on which the economic strength of the state and nation is based.

Clearly, resources for research are not evenly distributed among Ohio universities, and equally clearly, efforts to redistribute those resources would be neither cost effective nor useful. Strategies to develop research linkages must deal sensitively with the diverse and legitimate interests of all parties to this new social compact. They will have to reflect an understanding of how basic research flows over time toward technological and product development. Such strategies will have to identify, evaluate, and support research that has potential value for Ohio's business and industrial development.

The Board of Regents proposes the establishment of an appropriate structure to develop and implement a collaborative use of the state's research resources. Representatives should be drawn from Ohio's major public and private research universities, from university health centers, from universities pursuing research on complex urban problems, from research areas of private research institutions as well as business and industry, and from government leaders concerned with industrial development, including the Ohio Board of Regents. The principal objectives of this structure should be: (1) to identify strategies for expanding university research focused on promoting increased business and industrial activity in Ohio; (2) to support increased productivity and renewal within existing businesses and industries, and (3) to support governmental policies of long-range business and industrial development. Very simply, the Board of Regents seeks to make knowledge widely accessible for solving the problems of the economy and is uniquely placed to serve as a marriage broker between research resources and users in business, industry, and government, providing important coordination and administrative support.

Several steps need to be taken at an early date.

- A review must be made of how new knowledge moves from the research laboratory to the marketplace of goods and services. The proper roles of business, government, and universities in stimulating and

supporting various stages of that flow of knowledge must be understood.

- The areas of research that promise the greatest pertinence to economic development must be identified and strategies of support must be devised for them. (The extensive health and agricultural research efforts in Ohio would be included here.)
- A highly sophisticated inventory must be made of where such research is now going on or should be encouraged.
- Means must be sought for evaluating research which has potential for new linkages with the users of research.
- Researchers and users must be brought together to plan ventures of mutual interest.
- Ohio's overall strategy for economic development must be studied in light of the needs to develop new and to strengthen existing products through research linkages.
- Colleges and universities must make provisions for accepting and encouraging referrals and local inquiries for research assistance (recognizing, on the one hand, the need simply to provide advice and, on the other, the need for help in developing products and research).

Throughout this process, thought should be given to how innovation and creativity can be enhanced. The intellectual resources on Ohio's college and university campuses are great and should be directed toward these important applications. However, the emphasis on applications cannot be at the expense of basic research or balanced education.

Public Service

Through public service activities, public and private colleges and universities share outside the academic community the information and special resources developed through their research and instructional programs. In addition to the specific instructional and research resources dealt with in previous sections, three types of service activities require careful

development in the new social compact proposed in this chapter: direct services, consultative services, and technology transfer services.

By **direct services** is meant a broad range of services offered usually by highly specialized units of a college or university. Examples include, a highly sophisticated veterinary clinic capable of treating unusual animal diseases or injuries; a specialized materials-testing laboratory which opens access to its more esoteric equipment to nonacademic researchers; a specialized research library which opens its holdings to all working in the field; or a computer graphics laboratory developed for university instruction and research but available to a wide range of groups. **Consultative services** should be available through individual faculty members whose experiences an external group may tap to help solve its problems. Consultative services would also be available in a university-associated center or institute.

Technology transfer services systematically provide access for interested parties to information growing out of a university's past research efforts. Technology transfer services, which may be provided by universities and colleges individually or in concert, require regular contacts with the groups to be served, detailed knowledge as to where to find pertinent expertise, and procedures for arranging access to that expertise by nonacademic individuals or organizations. In sum, a technology transfer service places a well-devised information system and a well-informed professional person between the sources of information and their potential users. It may also involve the dissemination of information and research results through such instructional routes as workshops, noncredit courses, and consulting. Several existing examples of technology transfer services are:

- The Ohio Cooperative Extension Service, which through its system of county and regional agents and supportive activities, has been the outstanding successful model of technology transfer. In collaboration with the Ohio Agricultural Research and Development Center, it has made a comprehensive contribution to Ohio's farm industries and agricultural businesses.

- The Ohio Technology Transfer Organization (OTTO), a pilot network project linking resources of the state's universities with the needs of Ohio businesses and industries. OTTO uses a number of two-year college field agents working with the universities, to focus on problems of small and medium-sized firms.

- The Urban Universities Program, which is tied through a statewide consortium to the major state-supported urban-based universities. This program employs services from eight state universities to study the complex needs of large urban centers.

Although the businesses, industries, and governmental and social service agencies that could benefit from these kinds of public service activities are spread throughout the state, the basic university resources associated with such activities are not evenly distributed. Specialized resources rendering direct services tend to be concentrated within the comprehensive graduate universities, although each of the universities in the state makes contributions in particular fields. Taking careful account of where resources for direct services are located is imperative to expanding the availability of such services. Faculty consultative resources are similarly configured, but faculty resources are available on every university campus in Ohio. A comprehensive inventory of these resources is essential for efficient, effective accessing of these resources. Resources for technology transfer services are not evenly distributed across the state's colleges and universities. Such services draw most heavily upon existing research activities which, in Ohio, are found on all university campuses to some extent but are concentrated at the comprehensive institutions.

In all three kinds of potential services, new linkage systems must draw directly upon existing resources rather than attempt to duplicate them. The research centers developed over scores of years at great expense to the state need now to be shared with Ohio's larger society. At the same time, the groups needing assistance will be widely scattered throughout the state. Outreach mechanisms therefore must be developed to provide users with access to the best source of information.

The 114th Ohio General Assembly has mandated that the Board of Regents study and make recommendations regarding an Ohio business and industry extension service, including social services. Although the study is in its initial stages, discussions with leaders of government, higher education, and business suggest the following possible objectives for such an organization.

- To disperse throughout Ohio information and technical knowledge based upon university research to the benefit of business, industry, and government in order to enhance their productivity and effectiveness and to assist in forming new businesses and industries.
- To provide a referral network through which businesses, industries and governments in Ohio may receive consultative services, to expand and strengthen the business and industrial base of Ohio's economy.
- To provide a referral network which will increase access to specialized libraries, laboratories, and other resources for leaders of Ohio businesses, industries, and governments.
- To coordinate instruction required for dissemination throughout Ohio of information centered at colleges, universities and medical centers regarding technologies of value to Ohio's businesses, industries, and governments, and
- To provide a referral service for state businesses, industries, and governments seeking assistance and information about the research capabilities of Ohio's colleges, universities and medical centers as they relate to problems those leaders confront.

The structure or organization of this proposed extension service will need to be defined and

will be the subject of considerable deliberation. However, several components of such organization appear likely.

- Those represented should include the state universities, two-year colleges, private higher educational institutions which choose to participate and other agencies on whose resources the service draws, the potential business and industrial users of the services, and state and local governments.
- The Board of Regents should have an active role, consistent with its legislated authority, in coordinating these services.
- Clear roles should be designated for regional colleges and universities as a local first line of technology transfer and consultative service, with resources of all universities serving as a statewide back-up and linkage to state research capabilities.
- Clear roles should be designated for the two-year college campuses as geographically dispersed points of contact with local businesses, industries, and governmental agencies.
- An evaluative study should be made of the Ohio Technology Transfer Organization, as well as a feasibility study to determine necessary modifications to make it an effective base for a statewide outreach network.

The Ohio Board of Regents urges the higher education community, the leaders of Ohio's businesses, industries, and health care systems, and the governmental offices concerned with Ohio's economic and social development to join in the new social compact described here. The potential for a mutually beneficial endeavor is great, and the Regents seek support of the several newly proposed ventures.

OPPORTUNITY FOR IMPROVED ACCESS AND QUALITY

Every Ohio citizen who is qualified for and desires a college-level education should find it possible to secure that education in Ohio. This principle is important to the State of Ohio for several reasons, including the personal development of its residents and the social values, direct and indirect, that arise out of an educated citizenry and a well-educated work force.

Higher education benefits both the individual and the society in which individuals live and work. In considering access to higher education, previous Master Plans have sought to assure open access by citizens to the personal benefits of enrolling in postsecondary studies, realizing that the effort to strengthen citizen access also benefits society. The issue of society's access to Ohio's institutions of higher education and the great promise such access holds for the social and economic development of Ohio have been discussed earlier under "Opportunities For A New Social Compact." The focus of this chapter is the issue of individual accessibility.

Students turn to institutions of higher education for many reasons, including personal intellectual development, career advancement, and economic and social mobility. Indeed, the same student may turn to advanced study for different reasons at different times. Judgments of the accessibility and quality of any experience in higher education are individual and hinge on each student's motives and needs in seeking education after high school. Given the wide variety of legitimate reasons why any student may seek the services of higher education and the wide range of individual student perceptions of the effectiveness and quality of such services, it is reasonable to ask, what do Ohio's citizens expect when they gain access to higher education? Two answers immediately come forward. Ohioans seek access to a comprehensive and responsive educational system, and they seek access to a high quality of service.

A Comprehensive, Responsive Educational System

Broadly speaking, contemporary higher education provides for at least the following

categories of students: students of "traditional" age, older adults (those beyond the traditional college age), and groups of students who may need special consideration.

- Educating "traditional" aged undergraduate students requires the early communication of academic expectations to college-bound high school students, a broad undergraduate curriculum that offers both general education and career education components, and adequate preparation for later graduate or professional study.

These students should also have access, if they earn it, to graduate education opportunities by which they can become teachers, scholars, researchers in either the academic or nonacademic worlds, or professionals in the growing number of careers that require advanced education.

- Educating the older adults also requires undergraduate programs that foster personal development and that provide preparation for careers and graduate study. But older students require programs that can accommodate their later entrance into higher education, or their returning to finish degrees after a period away from formal studies, or their desires for in-service education for career change or advancement. For these students, graduate education may best include general education or in-service professional education. And noncredit continuing education offers such students personal development, career enhancement, or pleasure.
- Assisting in the social and economic mobility of special categories of students will require special services to enhance participation and academic success of such students. These students may include racial or ethnic minorities who have suffered cultural disadvantages or handicapped students who have physical or emotional limitations. Women, too, may need some special consideration to help overcome

historical educational and career stereotypes. Supportive services especially are needed to help those students who have academic deficiencies as they work to succeed in individual educational programs.

A High Quality of Service

In higher education, defining "quality of service" and measuring progress toward it are highly important but vexing tasks. As Ohio's system phases down a long period of expansion and begins a period of possible enrollment instability, how quality is defined and measured will decide many necessary choices during the next several years. Institutional managers and state officers should keep in mind criteria of excellence as they make their decisions. To be sure, other factors such as a widespread student need for a program, the social value of a service, the geographical ease of access to education, and the productivity of a program relative to its cost are also essential to sound decisions. But with the pressure of constant growth largely relieved and a highly diverse system of services already in place, the years just ahead offer a challenge to increase quality through a process of deliberate choice.

The Regents call for a concerted effort to define excellence of educational performance as a basis for sound choices among programs within an institution, and among institutions whose services overlap, and for a parallel effort to seek means by which to encourage and reward excellence in higher education. The Regents also recognize that no single definition or standard of excellence will be appropriate to the diverse purposes and audiences of higher education in Ohio. The following sections review the current status of individual access to higher education in Ohio and incorporate recommendations of collaborative steps to clarify the meaning of excellence in various contexts. The Regents make these recommendations as goals for institutions and state planning in the years ahead.

Access to Programs

College Preparation

Success in higher education requires adequate preparation. Increasingly in recent decades, students have been entering college unprepared to do college level work in

mathematics and English and consequently with diminished chances for success in college. Traditionally, individual colleges and universities throughout Ohio have worked to meet the needs of inadequately prepared new students by addressing the deficiencies, not the causes of those deficiencies.

More recently, the Board of Regents has joined in an unprecedented liaison with the Ohio Board of Education to provide leadership in addressing this statewide educational concern and in helping students move from high school to college with a greater chance for success. In 1980, in an effort to find a workable approach to this need, the two Boards appointed the Advisory Commission on Articulation between Secondary Education and Ohio Colleges. Charged with developing a college preparatory curriculum that, if mastered, would prepare students for college-level work, the Commission made recommendations regarding curriculum, teacher education, and communications.

The recommendations formed a base for the continuing work of an Advisory Council on College Preparatory Programs. Extensive efforts are now underway to advise students, teachers, administrators, college faculty, parents, and the general public about college preparatory programs in Ohio and to implement the Articulation Commission's recommendations. And the results of these efforts are already being experienced in course enrollments within Ohio's high schools.

Promoting adequate college preparation is a complex task that no single agency or institution can accomplish alone. Cooperation between the State Board of Education and the Board of Regents should serve as a prototype for addressing statewide problems in education. Colleges and high schools should also work together closely, since each has much to learn from the other. Together they can best advise college-bound students as to how best to prepare for higher education. Beginning with discussions between high school and college administrators, then between high school and college faculty, the collaborative process must eventually involve parents, students, and community representatives. One outstanding example of this cooperative approach is the Early Mathematics Placement Test Program developed by one

university to assess the math competency of high school juniors in relation to its own expectations. This allows time for corrective action during high school. This program should be considered by all Ohio high schools, and a similar program measuring high school juniors' English composition skills should be planned and implemented. Both programs merit legislative funding.

Undergraduate Programs

Ohio's colleges and universities collectively offer a comprehensive range of undergraduate programs, including virtually every recognized basic field of knowledge, and two-year programs of a general or technical character are also available in many disciplines. Because there is little consensus as to the diverse purposes and expectations of these programs, however, it is difficult to encourage or reward outstanding performance. Although in most programs the major concentration is coherent and well-defined, general education course requirements seldom reflect clear objectives or purposes. Typically, requirements seek to assure that students will be exposed to elements (physical, social, cultural, ethical) of the complex environment in which they will live, and to encourage mastery of skills in language and mathematics. They seek to provide exposure to the broad scope of knowledge and of relationships between disciplines—fostering the abilities to understand our world, to reason soundly, to act ethically and wisely, and to communicate effectively. But a problem found all too often among general education requirements is lack of coherence in support of these themes, due to too broad an elective choice for individual students. For the technician or paraprofessional who is acquiring education to support a professional person, general education has been more specifically described as an introduction to the broad context of the workplace. Unfortunately, the requirements defined to meet these goals many times bear little relationship to stated goals.

The Regents therefore encourage colleges and universities to study the purposes and expectations of general education requirements and to work to assure that those purposes and expectations are achieved. Such study is essential to assuring the high quality of programs, and, in a time of limited resources, can lead to cost savings through tighter curricula. Additionally, the

Regents recommend that the Chancellor examine this issue with the leadership of Ohio's colleges and universities. Such examination should include a study of the current role of general education—within diverse programs and institutions—and recommendations for more effective programs of general education in Ohio.

Another critical issue relating to excellence of undergraduate education is the developmental support of students who come to college deficient in important educational skills. Developmental education and its companion remedial education are designed to bridge the educational gap many students find between high school and college. These programs promote access to another kind of higher education just as the physical construction of a statewide network of institutions has promoted access for the physically handicapped. Developmental and remedial programs have focused on mathematics and English—skills fundamental to college success. Since 1978, in response to a legislative mandate, the Ohio Board of Regents has reported for each Ohio high school system the percentage of students requiring remedial mathematics and English at Ohio's state colleges and universities. In the first year of the study, 1978-79, 22 percent of all entering freshmen required remediation in mathematics and 15 percent in English. In 1979-80, 19 percent took remedial mathematics and 14 percent remedial English. In 1980-81, 20 percent enrolled in remedial mathematics and 16 percent in remedial English. The recent slight increases may be generally attributed to redefinition of programs, not to any changes in actual need for remediation. This information will become more valuable as follow-up studies permit evaluation of these students' success in different kinds and levels of programs.

Recent changes in the subsidy formula have sought to regularize the funding of basic skills courses and to channel the support of learning laboratories and tutoring through categorical funding of Developmental Education. The continued support of developmental and remedial coursework will be vital as long as students remain academically underprepared. Eventually, if the articulation programs described earlier are implemented, the demand for basic skills courses at the college level should be reduced. Meanwhile, many students entering

college directly from high school and many older students who need to reclaim earlier skills will need remedial college work. In the future, adult learners enrolling after several years away from the classroom will probably show the greatest continuing need for these services.

Graduate Programs

Ohio has a wide array of graduate programs. In the Master Plan of 1976, the Regents judged that the state's master's and doctoral level research-oriented programs were wide ranging and fully developed, and concluded that few new programs could be justified. Except for improved procedures for program evaluation and review, no substantial change has occurred since 1976, and the Regents remain committed to approving new research-oriented graduate programs only in very unusual circumstances. On the other hand, the 1976 Master Plan called for establishing practice-oriented graduate programs where clear need could be shown, and new programs—both interdisciplinary and in fields where practice-oriented programs did not previously exist—have been actively developed. The 1976 Plan advised that such new practice-oriented programs must be clearly needed and of high quality, and the Regents reaffirm this policy.

However, clearer definition of objectives and expectations for graduate programs is needed. Leaders of graduate education have found it difficult to reach a working consensus about what distinguishes a graduate program from an undergraduate one. The question has proved especially difficult to answer in the case of master's programs designed for the in-service education of working professionals. Practice-oriented curricula frequently lack coherence around central themes and purposes. The diversity of objectives for graduate programs (as for undergraduate programs) implies diversity in the measures of excellence, and consequently no single criterion or set of criteria of quality seems universally applicable. But a consensus concerning the possible varieties of excellence of graduate programs is needed for making crucial program and curricular choices.

The Regents therefore recommend that colleges and universities, individually and collaboratively, undertake studies designed to lay

a base for consensus regarding judgments of quality in graduate programming. Such studies should define the purposes and expectations of the state's various kinds and levels of graduate programs and should develop statements of acceptable quality appropriate to those various kinds and levels. Individual institutions will likely find these studies valuable in reviewing programs with a concern for quality, and such studies will also inform statewide policies regarding institutional missions, program changes, and financial support.

Noncredit Continuing Education Programs

A recent study conducted by the Board of Regents found that Ohio's colleges and universities serve approximately a quarter of a million people annually with noncredit seminars, conferences, courses, workshops, and the like. About 80 percent of these offerings focus on improving basic skills, upgrading professional competence, and increasing personal/intellectual development, while about 20 percent help individuals make better use of leisure time. The Regents urge eliminating leisure/recreational coursework, which tends to harm the image and the funding of continuing education. However, the Regents strongly support noncredit offerings that assist in the economic and community development of the state—including courses and workshops designed for groups within business and industry, government, and social service agencies, and offerings that provide for training, retraining, and upgrading of professional competencies. Ohio's colleges and universities should work even more closely with area businesses to discover which needs are compatible with the mission of, and can therefore be met by, higher education.

The Regents also urge the elimination of unnecessary duplication in noncredit continuing education programs. Further, an institution's noncredit programs should equal its credit offerings in quality and should be taught by its regular faculty. An institution should consider ways in which its full-time faculty can be used in noncredit instruction, especially in courses that will strengthen the economic and community development of the state. Increased efforts to forge links between the academic community and the business community should be recognized and encouraged.

Access to the Physical System

Geographic Access

Ohio's institutions of higher education are located conveniently for most Ohioans. Virtually all residents of the state—99 percent—live within commuting distance of a public or private college or university that provides baccalaureate instruction. And 96 percent of all Ohioans live within commuting distance of a two-year campus offering either technical education or general college courses accredited for transfer. A center of graduate education is within commuting distance of 81 percent of all Ohioans. Additionally, Ohio institutions annually offer approximately 4500 undergraduate course sections and 1900 graduate-level course sections away from their permanent campuses. Of course, all Ohioans have access to residential programs of both the private colleges and the state colleges and universities.

The Regents believe that because of financial constraints, further geographical expansion will in most cases jeopardize the quality of existing institutions and that every effort must be made to avoid new permanent locations. The Regents urge that wherever possible existing campuses be used for additional program development, through collaboration among colleges and universities whenever appropriate.

Teacher education, business administration, and nursing are fields of study prominent in off-campus offerings. Elementary, middle, and secondary school teachers and administrators continue to request that colleges of education offer off-campus graduate courses in their districts. Middle-level management personnel regularly call upon schools of business administration to adjust course offerings, locations and times to their needs and schedules. Many diploma and associate degree nurses, for example, are seeking opportunities convenient to their workplaces and schedules so that they can complete baccalaureate degrees. Each of these categories requires thorough and continuing reassessment by Ohio's colleges and universities and by the Board of Regents.

Because of numerous immediate problems and policy issues that have long-term significance, the Board of Regents and the higher education community in general need

continually to study off-campus and nontraditional instruction. The later topic, "The Maturing System," includes more extensive discussion of this issue.

Access for Physically Impaired Students

The federal Rehabilitation Act of 1973 guarantees specific rights in federally funded programs and activities to persons who qualify as handicapped. Section 504 of the Act states that "No otherwise qualified handicapped individual in the United States...shall solely by reason of his handicap be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." This flexible principle allows institutions to comply based on their existing conditions and the needs of their handicapped participants. Often programs and activities may be made accessible by changes in procedures, practice, and policies that ensure programmatic access. In other instances, building modifications or construction may be required to eliminate physical barriers, but structural changes are required only in instances where program accessibility cannot be effectively achieved through other means.

Ohio's colleges and universities have a proud record in this regard. Many institutions have developed plans and implemented structural changes to promote accessibility, and the Ohio General Assembly has appropriated \$5,500,000 to finance these modifications on state-supported campuses. Many institutions have financed with internal funds the removal of physical barriers to the handicapped, and extensive construction has reflected this concern for physical access. The Board of Regents will continue to seek funds for modifications needed to increase even further physical accessibility and to encourage attitudes and policies that open doors to programs as well as buildings.

Financial Access

By easing the burden of heavy educational costs, student financial aid programs provide for many students access to a choice of colleges and careers. Many financial assistance programs—federal, state, institutional, private—aim toward this objective. Current federal programs include the Pell Grant (formerly known as the Basic Educational Opportunity Grant) Program, which provides need-based grants to undergraduates,

the Guaranteed Student Loan Program, which makes available low-interest, deferred payment loans to undergraduate, graduate, and professional students; the Supplemental Educational Opportunity Grants Program, which assists students with exceptional need; the College Work-Study Program; and the National Direct Student Loan Program. State programs include Ohio Instructional Grants based on family income, the War Orphans Scholarships and Police and Fire Fighter Fee Waivers based on special family circumstances, the Central State University limited Tuition Waivers, the Ohio Academic Scholarships based on outstanding academic achievement and ability, and the Ohio National Guard Scholarships which link educational benefits to enlistment.

College financial aid officers attempt to develop a "financial aid package" for each student with demonstrated need. Need is the difference between a student's educational costs and the amount the family can contribute as determined by a needs analysis process. The Ohio Instructional Grant, Pell Grant, and Guaranteed Student Loan are first totaled in the financial aid package, and if there is remaining need, the college financial office may draw on campus-based programs or institutional resources to complete the student's package.

Currently several factors are straining financial aid resources and threatening access for needy

students. At Ohio's public colleges and universities, tuition costs have risen nearly 50 percent over the last two years and are likely to rise further, and similar increases have occurred in the state's private schools. Federal financial aid programs already have been reduced, and many still face more substantial reductions, with the result that fewer students will qualify and fewer dollars will be available per student. The result of such reductions is likely to be the redistribution of student populations from independent colleges and universities to the less costly public institutions, and from the four-year residential campuses to urban universities and two-year campuses which offer the more economical live-at-home option. In some cases, students may find it difficult to attend college at all. Long-established programs to provide student choice are clearly in jeopardy.

Many of the factors that will determine the adequacy of student financial assistance available to Ohioans are uncertain at this writing and, thus, a thorough analysis of state policies relating to continued financial access to education is not possible. The Board of Regents will continue to review and study the impact of rising costs, rising fee levels, and diminishing aid resources as it relates to student populations. Assuring financial access for Ohio students to both state-supported and private colleges and universities in Ohio will remain an urgent priority in the planning period ahead.

STABILIZING THE BASE

The opening years of this decade have amply demonstrated the susceptibility of colleges and universities to economic cycles. In Ohio as elsewhere, the shortage of jobs has placed unexpected enrollment demands on higher education at the same time that an economic downturn has forced reductions in support from the state and other sources. Historically, the amount of state tax support for Ohio's public institutions has been substantially lower than in comparable states. However, recently the state's economic condition has started to erode even that support, and the future of state finances is troubling. Inflation and shrinking federal support compound the threat to quality higher education for Ohio citizens.

Adjusting to recent financial conditions has required a host of temporary budget constraints. But a prolonged financial crisis resulting from enrollment instability will require long-term strategic planning by institutional managers. Such planning versus traditional budget balancing was the topic of a series of management studies that the Regents undertook in 1979. The Regents believe that for institutions to remain vital—indeed, in some cases, to survive—will require planning that includes a reallocation of resources and that retains and strengthens strong academic programs as lower priority programs are phased out. One result may well be the emergence of stronger, more efficient institutions offering narrower curricular choices to somewhat smaller student bodies.

Reform of Subsidy Support

For a number of years, state levels of tax support have been based on an enrollment driven formula in which the number of full-time-equivalent enrollments by level of instruction and the average costs of such instruction were the sole determinants of institutional support. Some modifications were needed as early as 1972 when enrollments unexpectedly fluctuated, but these were handled as exceptions to the budgetary system. These ad hoc modifications and the prospect of prolonged enrollment decline for the system raised questions about the

suitability of that enrollment-driven system for budgeting in the 1980's. With the Regents' leadership in 1980, three committees representing various management perspectives, institutional presidents, academic officers, budget and finance officers and planners, and state budget officers, began a year-long study of alternative formulas.

The result has been a fundamental reform in state budgeting procedures, by which the State of Ohio continues to earn prominence in the development and use of higher education budget formulas. At the heart of the formula review, each function and activity typical of a college or university was studied for its responsiveness to enrollment change. Examiners pursued such questions as what activities should be reduced as the volume of service declines and how rapidly such adjustments could be made without harming program quality.

By applying fixed and variable cost concepts and marginal cost expectations, a new formula system was designed and incorporated into the state's 1981-83 operating budget. Components included:

- **Direct instructional costs**, which includes faculty salaries and comprises over 50 percent of all Instructional and General Expenditures, is divided into fixed and variable components based on the incidence of single section courses. To fulfill its obligations to students majoring in approved programs, an institution must offer all courses in its required curriculum. Wherever courses are offered in multiple sections, an institution may be able to reduce the number of sections as enrollments decline, but the first section is basic to the curriculum and represents a fixed cost.

In the new formula, the costs of the multiple sections are expected to vary according to the number of students registered for the course. The number of students enrolling in evening sections is also taken into account.

since this service is basic and adds costs beyond daytime operations. The system of basic programmatic protection further recognizes that small campuses (those below 1,000 full-time-equivalent enrollment) have less flexibility in adjusting to enrollment decline, since a large portion of their instruction is offered in single section courses.

Where multiple section costs should decline according to declining enrollment, a one-year period of adjustment is provided. To allow for orderly change, including the termination of contractual employees, the Regents and institutions had recommended an adjustment period of two years and continue to pursue this formula revision.

- **Library acquisitions and related costs** represent only 2.5 percent of Instructional and General Expenditures but are critical to the quality of academic programs. Indexed to the number and type of academic programs, these expenditures are considered as fixed costs and have been removed entirely from the enrollment base. A new index based on the number and range of programs at various institutions is weighted in favor of graduate programs, recognizing the special demands such programs make on library expenditures.
- **Plant operation and maintenance costs**, nearly 13 percent of Instructional and General spending, are now based on the amount and character of space operated by each institution. A new plant index recognizes standard space categories and standard support allowances for utilities, custodial services, and building maintenance. The formula recognizes special space usage patterns, including extended hours of some classrooms and laboratories, and also provides an allowance for maintaining roads and grounds. Plant costs are classified as fixed.
- **Selected student services**, representing 4 percent of total spending, include student admissions, registration and record keeping, financial aid administration, counseling, and career guidance. This category, classified as half-fixed and half-variable,

allows a one-year adjustment period for the variable portion when enrollments decline. Headcount enrollments rather than full-time-equivalent enrollments determine the variable portion of this budget component.

- **Administration and support**, 30 percent of total spending, include general administrative and support activities—fiscal operations, logistical services, public relations and development, course and curriculum development, and administrative computing support. One-half of this category is considered fixed and one-half variable, with a one-year adjustment period for reduction of the variable portion where enrollments may decline. Full-time-equivalent student counts are used to reflect student enrollments.

This revised formula provides protection essential to the financial stability of institutions with declining enrollments. Retaining and perfecting this formula are critical to the extended planning ahead. And since some of the institutions within the system are anticipated to continue their program development and to experience continued enrollment increases, the revised formulas continue past commitments to provide support essential for growth in the enrollment related functions of instruction, student services, and administration.

Process for Follow-Up

Future enrollment patterns and their timetables remain unclear. It is certain, however, that institutions under pressure need flexibility, not constraints, as they manage internal trade-offs of available funds in response to enrollment or income decline. By anticipating variable cost change while protecting the core of vital educational services, the new funding strategy is intended to accommodate change without disruption.

But change must come about, and state policy must assure that it does, or the promised stability during changing circumstances will not be achieved. Among the targets for longer range change are:

- **Program Review.** A process for the review and evaluation of all instructional programs is essential, with eventual reordering

of priorities and costs associated with those priorities. Program review must be centered within each institution and must emphasize internal processes in evaluating instructional programs. The Board of Regents' role should be to encourage that process, but also to lead in coordinating a state-level review which supplements on an interinstitutional basis the internal evaluation done by each institution. This state-level process is discussed further in "The Maturing System" section.

- **Space Utilization Studies.** Where enrollments decline, the need arises for overt management of facilities through longer-term space consolidation, reduction or alternative uses of excess space, and normalizing of operating costs. Future consultations on formula budgeting should fully explore this issue and seek ways to reward efficient operations.
- **Library Collaboration.** The higher education system in the State of Ohio has become the national leader in development of collaborative university library projects such as centralized cataloging, processing of library acquisitions, and inter-library reference and exchange. Opportunities are available to extend these concepts into additional activities such as shared use and acquisition of specialized and research collections.

Perfecting the Reform

The restudy of budgeting techniques reaffirmed several elements of past practice. First, creation of a generalized funding formula for the system as a whole was preferred to development of unique budgets for each institution, since this permits final allocation of appropriations by institutional officers and boards of trustees. Second, the existing sixteen program expenditure models which recognize different expenditure demands of various instructional programs will continue in use, to assure equity of support among institutions for similar programs. Third, the restudy confirmed the need for periodic adjustment of formulas. The basis for these adjustments should be continuing cost research into changing spending patterns. This will assure that the formula reflects over time the reality of actual expenditure patterns.

During the year-long process of formula revision, a broad consensus developed concerning the concepts used to maintain a stable system of high quality. The basic elements of this consensus form part of the 1981-83 operating budget. The Regents are pledged to a careful, collaborative follow-up process to improve these elements of decision-making and to improve the data base and the analysis upon which the reform rests. Further revisions are needed to provide ways to reward high quality programs and efficient operations. This is a complex task, however, and may require several years of experience and consultation to achieve.

Capital Improvements Planning

For the 1980's, capital improvements in higher education will be unlike those of the past twenty years, which were decades of expansion and construction. The need for carefully selected new construction will continue, but with enrollments stable or declining, new emphasis must be placed upon utilities and renovations, equipment replacement, energy conservation, selected building replacement, and a general catch-up on needs that have accumulated in recent years.

- **Maintenance of the System Now in Place**
The buildings and equipment on Ohio's 65 campuses have an estimated replacement value of more than \$4 billion, and the first priority of campus administrators should be to maintain those facilities both on a day-to-day basis and with timely renovation to meet the needs of safety, efficiency, and changing instructional demands. Expenditures for plant operation and maintenance represent a large share of the nonpersonnel portion of campus budgets, and every opportunity for reducing costs and improving efficiency must be used—including increased attention to energy conservation.
- **New or Replacement Facilities**
Selected new facilities will probably be needed to meet the demands of new and changing programs. However, before constructing new facilities, each institution must weigh all options—including the use of rededicated space, community facilities, and neighboring campuses. Moreover, the long-term availability of operating funds for

such facilities must be assured. When a facility has outlived its usefulness or is no longer in sound operating condition, administrators should consider razing, renovation, or replacement. Particularly in those circumstances where the facility is not needed for the long term, the opportunity to reduce square footage through razing should be a prime consideration for campus planners. But if alternate space is unavailable and programs served by an obsolete facility must be maintained, renovation or replacement should be evaluated and a decision made based upon cost effectiveness.

• Replacement Equipment

The major expansion of campus facilities during the 1960's and 1970's also brought a substantial increase in the amount of instructional equipment used to support academic programs housed in new facilities. State policy generally allowed new equipment, though not replacement equipment, to be funded as part of new construction, and indeed clearly required the construction of facilities fully equipped and ready for occupancy. From 1965 to 1980, more than \$120 million in state capital improvement funds was spent for movable equipment. Assuming an average useful life of 15 years for movable equipment, the 1980's will see a greatly increased demand for replacement equipment. And new up-to-date equipment will be needed to keep pace with technological change and to maintain academic quality.

The enormous expenditures for equipment purchased through capital improvement funds since the early 1960's has never been reflected in the operating budgets of colleges and universities, and replacing the equipment by means of operating budgets is not possible because of the magnitude of the problem. The Regents urge funding of a

systematic program of equipment replacement, within the state's capital improvements appropriations, perhaps through borrowing on a shorter term than commonly used for state capital improvements.

Capital Improvements Budgeting

Rather than planning for capital improvements by reacting to building-by-building requests of individual institutions (as has been the practice of recent years), the Regents seek the participation and cooperation of Ohio's higher education institutions in developing a systematic method or formula for determining capital appropriation needs for utilities and renovations. Such a budgeting approach should address the following components: building renovations, programmatic renovation, building replacements, movable equipment replacement, utility distribution renewal/replacement, and street and bridge renewal/replacement. The responsibility for detailing campus utilities and renovation programs should remain with administrators of the individual campuses, operating within state guidelines of need determination.

The state's investment in higher education capital improvements has been made possible principally through the issuance of revenue bonds authorized by constitutional amendment in 1968. This funding mechanism has worked well during a period when immediacy of need was clear and decisions had to be made quickly. Today, the debt service requirements of these bonds have become a competitive item of increasing prominence within the higher education operating budget. In projected requirements for the 1981-83 biennium, debt service will make up more than ten percent of the entire higher education budget. For subsequent biennia, projects already authorized promise to raise this proportion of operating funds well toward the twenty percent level. The Board of Regents continues to express serious concern over further encroachment of debt service on the higher education operating budget.

A CONSOLIDATION OF INSTITUTIONAL STRENGTH

Responding to Change

The 1980's, a decade of enrollment instability, will very probably also be a time of limited financial resources. The growth margin in funding which has provided for educational innovations may well disappear, and state funding will not likely increase at nearly the pace experienced in previous years. "Growthmanship" as an institutional and administrative style will be highly counterproductive in such an environment since institutions will be challenged simply to maintain the services and programs they presently provide. Different types of institutions in different regions of the state will experience differing enrollment changes, but all institutions will require expert management and flexibility in making difficult choices among their programs and services in such circumstances.

Consequently, the 1980's suggest a time of continuing need for program review and revision. Existing programs will need to be updated continually in response to new knowledge and changing societal needs. And making such program revisions will require consolidating program and service strengths and freeing funds now tied to activities of lower priority and urgency.

Many institutions throughout the nation have initially responded to enrollment instability by seeking new enrollment markets through aggressive recruiting, developing new "relevant" programs, and, in general, increasing inter-institutional competition. The Board of Regents supports recruitment that enhances access and breadth of service for Ohioans but believes that simply increasing or defending current enrollment levels by whatever measures is neither a responsible nor meaningful reaction to the realities of the 1980's. The Regents hope that participation rates of some groups can be significantly increased in the coming years. But the pools of prospective "nontraditional" students are not a panacea for the projected declines of young students. With a relatively finite number of potential students, younger or older, more aggressive recruiting may benefit

one institution but directly harm others. Similarly, to proliferate programs and services simply to attract students may in some cases greatly harm an institution by eroding its standards and the quality of its graduates, which in turn may weaken its ability to hold its traditional attraction for students.

Ohio institutions need to plan strategies as members of a state educational community. They must further learn to seek high quality within available resources, knowing that fewer but better programs and services may form the best strategy for coping with a steady-state or declining enrollment. In a later section, a discussion is presented as to how institutions must work toward productive, creative collaboration with their neighbors, in place of unrestrained, wasteful competition.

Clarifying Institutional Objectives

The task of clarifying institutional objectives and missions should, however difficult, be chief among the priorities for higher educational institutions in the 1980's. In some cases, these missions are less complex than in others.

- A technical college provides to its students near-term "relevant skills" in applied technologies. It has almost entirely a local clientele, is dedicated to open admission for students, and has a broadly utilitarian basic rationale. To reexamine this mission will, in general, result in a reaffirmation of existing commitments.
- A university's mission may be relatively complex, with diverse competing elements within it. And change in a university's mission is likely to have an impact on many other institutions. A university's undergraduate admissions policy may be nonselective while its graduate and professional programs are selective to varying degrees. A university may provide widely diverse programs, with students drawn locally for some, and regionally, statewide, or nationally for others. The nature and breadth of its research programs may affect

a university's mission. How these important components relate is an important subject for study in any reexamination of a university's complex mission.

The Regents firmly believe that each institution must examine its own mission with sensitivity to its impact on other institutions, and in so doing exercise restraint when defining its institutional objectives within the context of the state's system of colleges and universities. The next section deals in greater detail with the larger context in which the Board hopes that institutional mission decisions will be made during the planning period ahead.

Pursuing Excellence

Once a college or university has reviewed its objectives in light of the needs of the 1980's, the Regents urge it to define and pursue high quality in its programs and services. The Board joins in the common hope that enrollment instability will not be permitted to undermine institutional dedication to high academic performance, and especially the Board hopes that standards of graduate education and the coherence and effectiveness of general education requirements will receive careful study in the planning period ahead.

After objectives and standards have been defined, many institutions, because of financial constraints, may well need to choose their best programs and services from among the good. These choices should be based on relative excellence of performance, on the centrality of programs to institutional mission, on enrollments, on geographic accessibility, and on the importance of programs to the larger public which institutions collectively serve. Supporting non-academic services must also be evaluated, and an assignment of resources will need to be made on the basis of priorities—academic and nonacademic—established through these evaluations.

Highly skillful management becomes even more essential to sustain quality in this circumstance. The Board specifically encourages institutions to study the recommendations relating to cost containment made earlier by the Regents' Management Studies Task Force. These recommendations include approaches for implementing cost containment programs suited

to an institution's own circumstances as well as recommended ways to motivate individuals and organizations to take advantage of opportunities for saving costs. Finally, the Regents again urge interinstitutional cooperation and collaboration, which clearly offer significant hope for maintaining and enhancing quality in the coming decade. Growing interest in and commitment to such collaboration is evident across the state in the activities of several regional consortia of colleges and universities, both public and private. The Board commends and encourages the efforts of these consortia to achieve greater economies for their members, increased accessibility for residents of their areas, and reduced conflict in the planning of services by member institutions. Refinements in statewide coordination of institutional activities will be suggested later in this Plan.

Program Review

Perhaps the most important long-range strengthening of institutional planning for the coming decade promises to flow from institutional program review. In the 1976 Master Plan the Board of Regents urged state-supported institutions to undertake a systematic, periodic, internal review of all academic programs. Work undertaken as a part of the Regents' Management Studies Task Force dealt at some length with the objectives and processes which might productively be used by colleges and universities to review academic programs. The 1981-83 state appropriations act instructs state college and university boards of trustees to "initiate ongoing processes for review and evaluation of all programs of instruction presently conducted by institutions for which they are responsible." Purpose of the review is:

"among other things determined by such boards of trustees the strengthening of programs of special urgency to the institution's purposes, the modification of programs better to serve the changing needs of students, the reduction of costs within programs of continuing value to the institutions, and the elimination of programs which are too costly for the benefits derived from such programs, which are underproductive because of changes in enrollment patterns or otherwise, or which are unnecessarily duplicative of programs elsewhere available within the universities and colleges of Ohio."

Regents commend those institutions which have developed processes for internal program review and which have established systematic ways to evaluate their institutional commitments. If conducted objectively and conscientiously, periodic internal program review will result in increased flexibility for efficiently managing institutions, as well as a sharpening of the definition of an institution's mission.

In mandating institutional program review, the appropriation act recognizes a state-level interest in the program review process.

"Processes for the review and evaluation of instructional programs shall be developed in conjunction with the Ohio Board of Regents and include use of peer reviewers selected, at the discretion of the Board of Regents, from within or from outside the State of Ohio, and individual institutions shall look to the Ohio Board of Regents for assistance in identifying programs which appear to be unduly costly, underproductive as regards changing enrollment patterns, or which appear unduly duplicative of programs elsewhere available to students, and for the scheduling of review processes as among institutions conducting similar programs."

The Board believes that such state-level program review, while essentially separate from internal review processes, will provide a context within which internal review will take on greater meaning.

State-level program reassessment provides for coordination of institutional responses to chang-

ing societal needs. For example, there may be a need statewide for the training of fewer medical doctors but more engineers. Also, state-level monitoring may help to avoid simultaneous reductions of programs at several campuses, reductions necessitated by continuing financial constraints. Without this coordination, production of needed trained personnel and regional access to certain academic offerings could be jeopardized. And finally, periodic revisiting of programs provides assurance that acceptable standards of program quality are sustained across the state for all its citizens.

Linkages to the Society

Among other institutional strategies which the Board of Regents recommends for the 1980's is renewed attention to services rendered to the larger society. In particular, the Board urges that each institution conduct a broad review of its own instructional, research, and public service activities with a view to enhancing relationships with the developmental interests of the state. The Board also encourages institutions to review personnel policies relating to faculty activities in the area of public service, and to modify such policies where warranted, in order to make public service more attractive and more rewarding to faculty members. The Board also urges institutions to participate fully in the creation and operation of new external linkages, including the work and learning councils, an extension service, and a statewide research and development structure. Finally, the Board of Regents urges institutional leaders to join together and with the Regents in pooling their creative leadership capabilities to address and resolve complex issues of competing missions and of service delivery, in order best to serve the critical interests of Ohio's citizens during this decade.

THE MATURING SYSTEM

The uncertainty of enrollments throughout the next fifteen years and the long-term financial problems facing the state pose urgent demands for state-level policy change. Without jeopardizing the autonomy and diversity of individual colleges and universities, such state-level policy must aim toward closer coordination between institutional performance and Ohio's interests and needs.

To be successful in the decade ahead, higher education's managers must deal effectively with problems whose solutions have system-wide implications.

- Any substantial alteration of an institution's mission may bring on direct conflict with neighboring institutions.
- Questions of program need, duplication, quality, and cost effectiveness will increasingly require a regional or statewide perspective and sometimes even a national perspective.
- Besides internal institutional options for program change, such interinstitutional options as collaboration, merger, or transfer of programs should be examined.
- Off-campus and nontraditional education will require coordination and shared responsibility for developing new services to meet Ohio's needs.
- Where educational and social objectives intertwine, as they do in health-related education, collaboration will be required to serve the interests of both the state and individual institutions.
- Efforts to link higher education to the needs of business, industry, and government will require interinstitutional collaboration—to avoid wasteful, destructive competition, to build upon existing institutional strengths, and to make best use of limited resources for support.

In sum, the price of continued institutional independence in difficult times will be the acceptance of joint responsibility by institutions and the Regents for addressing the state's problems and meeting its needs. For only by joint efforts can the values of institutional independence in educational matters be sorted out from urgent state needs within limited resources, and both be best served without alteration of governance. Higher education has an opportunity to define the values of its educational services to the state and to enhance the willingness of the state government and the public to sustain colleges and universities in a period of change. Clarification of what the state will faithfully support within the mission of each of its colleges and universities is a goal to be aggressively sought for its importance to individual institutions.

The Board of Regents calls upon all of the colleges and universities of Ohio to fashion with the Board's support a new era of shared responsibility for the maturation of Ohio's system of higher education. This undertaking will require the faith and good will of all who are concerned with assuring the strength of higher education in years ahead and will call for compromise and restraint on the part of all institutions in their scope of mission and program aspiration.

Institutional Missions

The first step in fashioning an effective system which acknowledges the individual missions of institutions is to develop a simplified description of the currently demonstrable service which constitutes each institution's mission to date. The second step is to examine the effectiveness of existing programs of service within those identified institutional missions, looking toward desirable avenues of change. The third step is to accept a concept of planning which places all future decisions about program change, mission change, and financial support within this framework for testing each action's impact on the state's interests and needs.

Simple geographical service patterns appear to offer a good beginning point for the mission.

descriptions needed for strategic planning. Because so much of higher education's value to the society takes the form of personal services (to students, to beneficiaries of direct services other than instruction, to the users of consultative assistance, or to the consumers of research knowledge possessed by individual faculty persons), much of higher education's service can be categorized and compared in geographical terms. The instructional missions of the colleges and universities especially appear sharply different in their geographical patterns of service. If this is so, and since all future planning must realistically move from the existing base, these patterns will provide the framework for reviewing current programs in light of the state's needs. These patterns also will suggest the need for planners to take into account the interests and concerns of institutions which share a particular geographic area and/or academic field of service.

These relationships among institutions and the data for describing them are not new; nor does a recitation of them necessarily represent a constraint on any institution's mission. It simply states the facts. But repeating these facts can help to separate into manageable parts such complex issues as mission overlap and conflict, and can build a framework for program review and evaluation and for the identification of available strengths on which to build collaborative ventures. No good purpose may be served, for example, in debating the need for six existing academic programs in a given field of study if four of those programs have only part-time enrollments of employed persons, constrained to their local service areas, while only two programs serve a statewide market. The reality of need for geographic access may dictate that purely local programs be judged within their local area, quite apart from the statewide service needs of full-time residential students. Similarly, the realities of geographic service areas will raise the question of why the state should not look to the local institution best able to meet a particular need rather than to the institution which may historically or politically have claimed the service area in question.

To find existing service and resource strengths may simplify the selection of leadership centers in areas of new statewide service development. Further, enrollment forecasts, which have earlier

been described as strikingly different in various areas of the state, will take on meaning for institutional and state-level policy decisions only as the probable enrollment impact on geographically separated institutions is portrayed.

State University Service Patterns

Nearly all the planning issues requiring attention in the period ahead are illuminated and relatively simplified when seen against the realities of already developed institutional missions. For this reason, the undergraduate, graduate, and graduate/professional service patterns of each of the state universities are identified in Tables 1 through 3 within a local, a regional, and a statewide geographical framework based upon origins of students served. For purposes of definition, the "local" service area is the home county of a university and those counties contiguous to it. The "regional" area expands to include all counties surrounding the local area. The "statewide" areas include all territory outside the institution's regional service area. Out-of-state service is noted as well. For those institutions which are located near the state's borders, large numbers of students identified for out-of-state service may actually represent local or regional service by the above definition.

Service differences are immediately apparent among the universities. Some institutions are shown to serve very largely a local area, others are predominantly statewide or national in their service patterns. No two are closely alike, belying earlier classification schemes which distinguished residential from urban institutions as though they could easily be classified into such general categories. Such classifications were useful in periods of general growth. However, a more detailed understanding of each institution's circumstances and future prospects will be essential to wise decision-making in the coming period of adjustment and change.

As is shown in Table 1 the instructional service orientations of Ohio's state universities are strikingly different. The undergraduate orientations of seven of the universities—Cleveland State, Akron, Wright State, Youngstown State, Toledo, Cincinnati, and Kent State—are overwhelmingly local and regional in character. Each draws nearly 80 percent or more of its undergraduate students from within its local or regional service area. Of this group, only Cincinnati and Toledo

TABLE 1
State Universities
Undergraduate Service Patterns (Fall 1980)*
Based Upon Origins of Students Served

Institution	Local and Regional			State and Out-of-State			Total
	Local	Regional	Subtotal	State	Out-of-State	Subtotal	
Cleveland State	98.0%	0.5%	98.5%	0.4%	1.1%	1.5%	100%
Akron	89.0	5.6	94.6	2.9	2.5	5.4	100
Wright State	89.4	4.4	93.8	3.7	2.5	6.2	100
Youngstown State	87.9	1.8	89.7	1.7	8.6	10.3	100
Toledo	73.4	5.0	78.4	12.0	9.6	21.6	100
Cincinnati	72.8	4.8	77.6	15.7	6.7	22.4	100
Kent State	71.7	13.3	85.0	7.7	7.3	15.0	100
Ohio State	37.4	6.4	43.8	49.1	7.1	56.2	100
Central State	34.4	15.4	49.8	14.6	35.6	50.2	100
Miami	33.1	4.8	37.9	43.3	18.8	62.1	100
Bowling Green State	28.3	10.0	38.3	56.0	5.7	61.7	100
Ohio	12.2	7.3	19.5	61.8	18.7	80.5	100

TABLE 2
State Universities
Graduate Service Patterns (Fall 1980)*
Based Upon Origins of Students Served

Institution	Local and Regional			State and Out-of-State			Total
	Local	Regional	Subtotal	State	Out-of-State	Subtotal	
Cleveland State	96.8%	0.8%	97.6%	0.8%	1.6%	2.4%	100%
Youngstown State	81.6	3.2	84.8	1.0	14.2	15.2	100
Wright State	80.3	6.9	87.2	6.0	6.8	12.8	100
Akron	79.5	6.5	86.0	1.8	12.2	14.0	100
Toledo	74.7	3.0	77.7	6.2	16.1	22.3	100
Kent State	74.4	10.9	85.3	5.7	9.0	14.7	100
Cincinnati	65.4	3.3	68.7	4.2	27.1	31.3	100
Bowling Green State	46.7	9.9	56.6	17.3	26.1	43.4	100
Ohio State	43.6	3.9	47.5	16.3	36.2	52.5	100
Miami	42.5	4.2	46.7	19.3	34.0	53.3	100
Ohio	19.0	7.3	26.3	18.5	55.2	73.7	100

* Compiled from Ohio Board of Regents' Uniform Information System.

TABLE 3
State Universities
Graduate/Professional Service Patterns (Fall 1980)*
Based Upon Origins of Students Served

Institution	Local and Regional			State and Out-of-State			Total
	Local	Regional	Subtotal	State	Out-of-State	Subtotal	
Cleveland State	85.3%	4.5%	89.8%	2.3%	7.9%	10.2%	100%
Akron	66.1	17.2	83.3	6.2	10.5	16.7	100
Wright State	59.9	9.6	69.5	27.0	3.5	30.5	100
Cincinnati	50.2	6.3	56.5	31.3	12.2	43.5	100
Toledo	39.3	4.0	43.3	25.7	31.0	56.7	100
Ohio State	23.2	4.9	28.1	60.2	11.7	71.9	100
Ohio	2.5	1.5	4.0	84.0	12.0	96.0	100

* Compiled from Ohio Board of Regents' Uniform Information System.

draw more than 10 percent of their undergraduate students from the statewide pool of Ohioans enrolling at a state university campus as well as substantial numbers of students from their neighboring states of Kentucky and Michigan.

Four senior institutions—Ohio State, Miami, Bowling Green State, and Ohio universities—while also drawing substantial proportions of their students from within their own regions, are oriented to serve the statewide student in proportions ranging from 43 to 62 percent. Central State is unique in finding only about half of its students within its region, only 15 percent from the balance of the state, and more than 35 percent from outside of Ohio. Ohio University likewise shows unique patterns in that only 19 percent come from the immediate region, 62 percent come from across the state, and nearly 19 percent are drawn from outside the State of Ohio.

The patterns of enrollment are not fixed. Institutions need to study trends in these patterns over time. However, given the length of time over which these patterns of service have developed, it seems likely that significant changes would be very difficult to achieve in the short term. It is also clear that the decision of any individual institution to attempt to change those patterns in substantial ways will have a direct impact upon other institutions with which it would increas-

ingly compete and which surely will be intent upon preserving existing patterns of their own service.

Patterns of graduate level instructional service (Table 2) are similar to those of undergraduate service. The same seven universities noted above draw heavily from their local and regional areas, and none of these draws more than six percent of its graduate students from statewide pools. Ohio State, Bowling Green, and Miami again display substantial but smaller proportions from their immediate regions but render substantially heavier service across the state. Five universities report proportions from out-of-state ranging from 26 to 55 percent, with three others ranging from 12 to 16 percent. Several of these universities drawing relatively higher numbers of out-of-state graduate students are located in counties contiguous to the borders of other states, suggesting that these patterns may be a continuation of the local character of their service. Ohio University once more displays a unique pattern of light regional enrollment and heavy statewide and out-of-state service.

The influence of demographic change on existing service patterns and existing participation rates of younger and older students suggests that no university will be exempt from the need to deal with changing markets of students. Exhibit 2 illustrates the potential demographic

changes by 1990 in those markets from which three illustrative universities currently draw their undergraduate and graduate students, taking into account both the area of draw and age mix of students. Widely differing institutions were selected as examples to show the diversity of impacts which might be anticipated. The commuter university draws a high percentage of its students from the local area. The residential university draws heavily from outside its own region. The third university attracts a strong mix of students from both the local and more distant populations.

These examples simply illustrate the limitation of markets among which institutions will compete over the next ten year period; they do not

predict enrollments. Interestingly, the largest current market in each case is the most threatened with decline. How enrollments actually develop will depend on a number of variables, among which are the success of recruiting programs in increasing participation rates, the reputation of institutions for strong programs, and the availability of student financial aid. Some universities and programs may well experience no decline in enrollments. However, their success in sustaining enrollments will likely affect adversely other institutions' markets for those same students.

If rates of participation remain at 1980 levels, by 1990 the university campuses will face the possibility of aggregate declines in their tradi-

EXHIBIT 2
Possible Demographic Impact On Undergraduate Markets
1980 — 1990

Institutional Example	Younger Students		Older Students	
	Current Market 1980*	Possible Demographic Change 1990**	Current Market 1980*	Possible Demographic Change 1990**
Urban University				
Local	67.0%	- 32.7%	31.0%	+ 10.9%
Regional	0.4%	- 26.2%	0.1%	+ 16.1%
Statewide	0.3%	- 23.9%	0.1%	+ 18.9%
Out-of-State	0.8%	- 20.0%	0.3%	+ 22.8%
TOTAL	68.5%		31.5%	
Residential University				
Local	9.4%	- 17.6%	2.8%	+ 25.7%
Regional	8.4%	- 16.6%	1.1%	+ 23.5%
Statewide	58.8%	- 27.2%	2.8%	+ 15.9%
Out-of-State	16.9%	- 20.0%	1.8%	+ 22.8%
TOTAL	91.5%		8.5%	
Residential/Commuter University				
Local	28.0%	- 20.0%	9.4%	+ 21.4%
Regional	5.7%	- 23.4%	0.7%	+ 19.9%
Statewide	48.2%	- 27.6%	2.9%	+ 15.4%
Out-of-State	6.1%	- 20.0%	1.0%	+ 22.8%
TOTAL	88.0%		14.0%	

* Based on Ohio Board of Regents' Uniform Information System.

** Based on projection of data from U.S. Bureau of Census (1980).

tional markets. This suggestion is based upon the differential demographic changes likely to occur in various Ohio counties from which students currently are drawn and upon the proximity of institutions to increasing numbers of somewhat older students. Several of the large urban areas—notably the Cleveland, Akron, and Cincinnati areas—face relatively severe declines of young student pools but have heavy concentrations of older prospective students. Institutions located in these areas may at least to some extent offset their young student losses by enrolling increasing numbers of older students. In no instance, however, except if participation rates substantially increase, does the size of the older pool appear large enough to offset fully the decline of young high school graduates.

Two of the major urban areas, Columbus and Toledo, will experience smaller declines in their pools of high school graduates. The institutions that draw heavily from these areas will probably experience less dramatic declines and will also benefit by locally heavy concentrations of somewhat older prospective students. The institutions that serve relatively small numbers of older students appear less likely to be able to develop such offsetting enrollments, especially since they are located outside major population concentrations.

Five of the state's residential universities have legislated constraints on their central campus enrollments. Thus, whatever steps these institutions may take to offset declines in younger student markets, there will be no opportunity to increase enrollments beyond their statutory ceilings.

State University Public Service and Research Patterns

The data presented so far in this chapter reflect only instructional services of institutions. No similar data for the research and public service activities of Ohio institutions are available on a uniform, statewide basis. Because these two kinds of activity are critical to the program of linkages with business and industry detailed earlier in "Opportunity for a New Social Compact" cataloging of these activities will be needed. Assessments of the local, regional, and statewide character of such services can serve as a basis for moving forward to form the linkages to government and business described herein, and

appropriate statewide and regional roles for individual institutions should rest on that assessment.

Available data suggest that different state institutions have very different research and public service strengths. Table 4, for example, displays expenditures for public service as reported by universities for 1979, 1980, and 1981. Table 5 reports expenditures for separately budgeted research in the same three years. These expenditure data are useful only for purposes of generalization, but they do provide an initial factual basis for understanding and planning activities in these two areas.

Two-Year College Service Patterns

To describe the service patterns of Ohio's two-year campuses (including community colleges, technical colleges, and university branches), the same analysis of service areas can be employed. The two-year campuses have defined their mission principally as providing instructional and public services to a locally defined constituency. The activities of each such campus are relatively more confined than the local and regional areas generally studied for four-year institutions; however, since no two-year campus must draw from only its local area, it is useful to record the actual patterns of geographical enrollment service which have developed.

Table 6 records the undergraduate service of the two-year campuses within local, regional, and statewide areas. University branches may also offer selected graduate courses as an outreach from the parent campus, and Table 7 displays the geographical patterns of service in this regard.

As these tables document, the enrollment of two-year campuses is overwhelmingly local or regional in character. Most institutions draw well over 90 percent of their students from counties immediately surrounding their campuses. Clear exceptions to this pattern are evident, however, at campuses near the borders of Ohio where substantial out-of-state enrollment has developed. Other exceptions are a few campuses with unique programs which draw from across the state. Increased understanding of these patterns of service will be important to future decisions regarding desirable local, regional, statewide, and out-of-state services.

TABLE 4
State Universities
Estimated Expenditures for Public Service Activities
Fiscal Years 1979-81
(In Thousands)

Institution	Medicine			Agriculture			All Other Areas			Total		
	FY 79	FY 80	FY 81	FY 79	FY 80	FY 81	FY 79	FY 80	FY 81	FY 79	FY 80	FY 81
Ohio State	\$ 2,320.2	\$ 2,258.8	\$ 1,149.9	\$21,633.0	\$23,812.7	\$24,953.1	\$15,189.1	\$16,107.4	\$17,259.0	\$39,142.3	\$41,978.9	\$43,362.0
Cincinnati	8,817.8	10,066.6	13,567.3	—	—	—	7,381.5	9,162.3	7,058.3	16,199.3	19,228.9	21,225.6
Wright State	116.0	97.7	1,020.4	—	—	—	965.3	1,295.2	1,766.7	1,081.3	1,392.9	2,787.1
Ohio University	—	—	—	—	—	—	2,672.1	3,446.8	3,173.4	2,672.1	3,446.8	3,173.4
Akron	—	—	—	—	—	—	2,380.3	2,489.4	2,792.6	2,380.3	2,489.4	2,792.6
Cleveland State	—	—	—	—	—	—	949.0	1,099.1	1,126.4	949.0	1,099.1	1,126.4
Kent State	—	—	—	—	—	—	3,738.8	4,575.5	3,830.7	3,738.8	4,575.5	3,830.7
Toledo	—	—	—	—	—	—	2,218.7	2,663.2	2,912.5	2,218.7	2,663.2	2,912.5
Miami	—	—	—	—	—	—	1,055.1	1,112.1	1,730.4	1,055.1	1,112.1	1,730.4
Bowling Green	—	—	—	—	—	—	3,341.1	4,210.0	4,779.4	3,341.1	4,210.0	4,779.4
Central State	—	—	—	—	—	—	591.7	514.3	599.8	591.7	514.3	599.8
Youngstown	—	—	—	—	—	—	967.7	1,235.1	1,180.8	967.7	1,235.1	1,180.8
Medical College at Toledo	434.2	344.6	913.6	—	—	—	—	—	—	434.2	344.6	913.6
Northeastern College of Medicine	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	\$11,898.2	\$12,787.7	\$18,851.2	\$21,633.0	\$23,812.7	\$24,953.1	\$41,460.4	\$47,910.4	\$48,810.0	\$74,771.8	\$84,290.8	\$90,414.3

* Compiled from Ohio Board of Regents' Uniform Information System.

TABLE 5
State Universities
Estimated Expenditures for Separately Budgeted Research
Fiscal Years 1979-81
(In Thousands)

Institution	Medicine			Agriculture			All Other Areas			Total		
	FY 79	FY 80	FY 81	FY 79	FY 80	FY 81	FY 79	FY 80	FY 81	FY 79	FY 80	FY 81
Ohio State	\$ 7,391.5	\$ 9,391.2	\$ 9,780.2	\$14,808.5	\$16,817.5	\$16,889.7	\$29,977.5	\$30,768.7	\$35,500.8	\$52,175.5	\$56,977.4	\$ 62,150.7
Cincinnati	14,644.2	17,132.0	18,945.8	—	—	—	3,843.1	3,828.8	4,942.2	18,287.3	20,980.8	23,888.0
Wright State	1,250.7	2,319.9	2,477.5	—	—	—	2,454.8	1,461.6	2,276.4	3,705.5	3,781.5	4,753.9
Ohio University	—	—	—	—	—	—	1,736.8	2,100.2	3,027.2	1,736.8	2,100.2	3,027.2
Akron	—	—	—	—	—	—	1,320.9	1,538.3	2,036.5	1,320.9	1,538.3	2,036.5
Cleveland State	—	—	—	—	—	—	752.4	1,401.8	2,144.9	752.4	1,401.8	2,144.9
Kent State	—	—	—	—	—	—	1,220.4	1,777.0	2,306.5	1,220.4	1,777.0	2,306.5
Toledo	—	—	—	—	—	—	973.5	1,207.8	1,276.5	973.5	1,207.8	1,276.5
Miami	—	—	—	—	—	—	1,276.3	1,073.9	1,005.1	1,276.3	1,073.9	1,005.1
Bowling Green	—	—	—	—	—	—	935.2	1,062.6	991.9	935.2	1,062.6	991.9
Central State	—	—	—	—	—	—	81.6	232.0	101.0	81.6	232.0	101.0
Youngstown	—	—	—	—	—	—	31.7	46.1	106.9	31.7	46.1	106.9
Medical College at Toledo	2,574.2	2,952.7	3,268.9	—	—	—	—	—	—	2,574.2	2,952.7	3,268.9
Northeastern College of Medicine	675.8	686.8	625.5	—	—	—	—	—	—	675.8	686.8	625.5
TOTAL	\$28,538.4	\$32,482.8	\$35,077.9	\$14,808.5	\$16,817.5	\$16,889.7	\$44,404.2	\$46,488.8	\$55,715.9	\$86,747.1	\$96,788.7	\$107,883.5

* Compiled from Ohio Board of Regents' Uniform Information System.

TABLE 6
Two-Year Colleges
Undergraduate Service Patterns (Fall 1980)*
Based on Origin of Student Served

Institution	Local and Regional			Statewide and Out-of-State			Total
	Local	Regional	Subtotal	Statewide	Out-of-State	Subtotal	
COMMUNITY COLLEGES							
Cuyahoga	98.1%	0.2%	98.3%	0.2%	1.5%	1.7%	100%
Edison	98.4	3.3	98.7	0.2	0.1	0.3	100
Lakeland	98.9	0.8	98.5	0.1	0.5	0.6	100
Lorain	99.1	0.1	99.2	0.2	0.6	0.8	100
Rio Grande	78.2	4.0	82.2	17.8	-	17.8	100
Shawnee	88.7	2.5	91.2	2.2	6.6	8.8	100
Sinclair	98.4	0.7	99.1	0.4	0.5	0.9	100
Southern-North	95.4	2.1	97.5	1.1	1.4	2.5	100
Southern-South	99.5	0.2	99.7	-	0.2	0.2	100
TECHNICAL COLLEGES							
Agric. Tech.	21.4	29.5	50.9	44.4	4.7	49.1	100
Belmont	82.9	0.6	83.5	2.2	14.3	16.5	100
Central Ohio	98.8	0.2	99.0	0.3	0.9	1.2	100
Clark	91.8	5.5	97.1	1.4	1.4	2.8	100
Columbus	82.3	1.9	84.2	3.3	2.5	5.8	100
Cincinnati	80.1	0.7	80.8	0.8	6.5	7.3	100
Hocking	54.0	12.3	66.3	29.5	4.2	33.7	100
Jefferson	79.7	0.5	80.2	0.2	19.7	19.9	100
Marion	98.4	1.8	98.2	0.8	1.1	1.9	100
Muskingum	82.5	3.9	86.4	3.0	0.5	3.5	100
Lima	82.2	6.9	89.1	0.8	0.1	0.9	100
North Central	88.4	3.4	91.8	0.2	-	0.2	100
Northwest	88.1	2.6	90.7	-	1.2	1.2	100
Owens	81.0	4.8	85.8	0.8	3.4	4.2	100
Stark	98.8	0.6	99.4	0.3	0.2	0.5	100
Terra	83.3	5.3	88.6	0.8	0.5	1.3	100
Washington	80.7	1.5	82.2	0.2	7.8	8.0	100
UNIVERSITY CAMPUSES							
Ashland	98.0	0.8	98.8	0.5	1.0	1.5	100
Belmont	81.5	1.5	83.0	0.8	6.2	7.0	100
Chillicothe	90.8	5.7	96.5	3.1	0.4	3.5	100
Clermont	99.1	0.2	99.3	0.4	0.2	0.6	100
East Liverpool	98.5	0.3	98.8	0.5	2.7	3.2	100
Firelands	88.7	7.1	95.8	2.4	0.8	3.2	100
Geauga	98.8	-	98.8	0.4	-	0.4	100
Hamilton	98.8	0.5	99.0	0.5	0.4	0.9	100
Ironton	87.5	2.9	90.4	0.3	9.3	9.6	100
Lancaster	98.4	2.2	98.6	1.3	0.1	1.4	100
Lima	80.8	6.0	86.8	3.1	0.3	3.4	100
Mansfield	82.4	2.9	85.3	4.3	0.5	4.8	100
Marion	92.2	3.9	96.1	3.4	0.5	3.9	100
Middletown	98.0	0.8	98.8	0.4	-	0.4	100
Newark	98.7	0.8	99.5	2.8	0.8	3.6	100
Salem	98.5	3.0	99.5	-	0.8	0.8	100
Stark	98.8	0.7	99.3	0.3	0.3	0.6	100
Trumbull	98.8	0.3	99.1	0.2	0.7	0.9	100
Tuscarawas	98.7	0.8	99.2	0.8	-	0.8	100
Walton	88.0	0.8	88.8	0.7	0.7	1.4	100
Wayne	88.1	0.8	88.7	0.3	-	0.3	100
Western Ohio	84.8	4.8	89.3	-	0.7	0.7	100
Zanesville	80.7	8.8	89.3	2.9	0.7	3.6	100

* Compiled from Ohio Board of Regents' Uniform Information System.

TABLE 7
Two-Year Colleges
Graduate Service Patterns (Fall 1980)*
Based on Origin of Student Served

Institution	Local and Regional			Statewide and Out-of-State			Total
	Local	Regional	Subtotal	Statewide	Out-of-State	Subtotal	
BRANCH CAMPUSES							
Belmont	87.5%	12.5%	100.0%	. %	. %	. %	100%
Chillicothe	91.2	8.8	100.0	.	.	.	100
Firelands	76.5	21.2	97.7	1.8	0.6	2.4	100
Geauga	100.0	.	100.0	.	.	.	100
Hamilton	90.5	4.8	95.3	4.8	.	4.8	100
Ironton	95.2	.	95.2	.	4.8	4.8	100
Lancaster	75.6	8.8	84.4	14.4	1.3	15.7	100
Lima	67.3	18.4	85.7	14.3	.	14.3	100
Mansfield	81.8	11.4	93.2	6.8	.	6.8	100
Marion	94.7	5.3	100.0	.	.	.	100
Middletown	96.6	1.1	97.7	2.3	.	2.3	100
Newark	99.0	1.0	100.0	.	.	.	100
Salem	100.0	.	100.0	.	.	.	100
Stark	95.7	4.3	100.0	.	.	.	100
Trumbull	87.5	12.5	100.0	.	.	.	100
Tuscarawas	.	.	.	100.0	.	100.0	100
Wayne	100.0	.	100.0	.	.	.	100
Western Ohio	85.2	14.8	100.0	.	.	.	100
Zanesville	73.6	13.2	86.8	11.3	1.9	13.2	100

* Compiled from Ohio Board of Regents' Uniform Information System.

As was shown earlier for university campuses, individual two-year campuses likewise will experience the impact of demographic change differently, depending upon the geographical areas from which they draw students. The majority, however, will probably be less likely to decline than the university sector, principally because of the historic attraction of older student groups to the two-year campus.

Private College Service Patterns

The Board of Regents does not have definitive data concerning the enrollment service patterns of private colleges in Ohio. However, the Regents recommend that private colleges and universities join in this attempt to understand the existing service patterns of Ohio institutions and how those patterns mesh across the state. This kind of analysis will clarify the impact of service decisions of both state-supported and privately-

organized campuses on each other and will illuminate the value of the private colleges to the state's higher educational system. The private colleges have expressed a desire to join the Board of Regents' information gathering system and to be included in these enrollment analyses. As funds become available, these institutions will be incorporated into the data base. The approach to planning which has been outlined makes it urgent to find the resources to include these institutions within statewide data collection.

Statewide Implications of Mission Differences

Because long-established service patterns can change only slowly, and because all such changes will encounter problems of conflict among competing institutions, each university must develop strategies for coping with its special circumstances of prospective change. If, for example, a commuter institution expanded

its market statewide by adding residence halls, other residential campuses traditionally drawing from the same statewide market would stand to lose both enrollments and residence hall occupancy. Or if in coming years a strong institution which has two applicants for every available space maintains its 1980-level enrollments, institutions which historically have been second choice favorites stand to lose those enrollments in a smaller market pool. Therefore, it seems in the best interests of the State of Ohio that enrollment strategies be coordinated so as to minimize wasteful and avoidable conflict among the current missions of all institutions. Sharing the adjustment to decline may be judged preferable to unrestrained competition, which could result in some institutions protecting existing enrollment levels in a market of general shrinkage to the considerable expense of other institutions. Such sharing may be the best general policy, because demographic changes beginning in about 1993 will result in young student pools returning to approximately the same level as in 1980, requiring essentially the same enrollment capacity as now exists.

The Board of Regents proposes the formation of an appropriate group (1) to refine the process of missions identification and (2) to develop reasonable guidelines within which individual institutions should pursue their own planning. The work of this group will be critical to success of Ohio's colleges and universities in the fifteen years of demographic change to come.

By retaining a clear focus on local service needs, Ohio's two-year campuses should face less interinstitutional conflict in the period to come, though the issue of minimum size will require advance planning on some campuses. For the most part, two-year campuses will be successful in future years if they remain accessible to older students and if they can increase participation of younger students in their service areas. As this plan has already recommended for private institutions, appropriate attention at the state level should be given to the service patterns of two-year campuses.

The diversity in service areas of different institutions has implications for state-level review of all existing instructional programs. Accordingly, and following the legislative mandate given by

the 114th Ohio General Assembly, the Board of Regents proposes that collaborative efforts be undertaken to review the effectiveness of all instructional programs within the patterns of local, regional, statewide, and out-of-state service described in this chapter.

Most of the concerns of state-level program review will differ from those of individual institutions evaluating the internal effectiveness and importance of their programs. Continuing internal program review is urged as a necessary preparation for changing circumstances within each institution. Such review should deal with issues of centrality of programs to institutional purposes, relative quality of performance, relative costs of program commitments, student need as perceived for the most part by the institution itself, institutional perceptions of changing external circumstances, and the availability of resources to sustain instructional programs. These activities should go on within individual institutions with limited outside involvement.

It is unlikely, however, that individual institutions will be able to bring effective focus to such statewide concerns as the relationships of their own programs to those of other institutions, the relative importance of statewide versus local geographical access to programs, the number of programs of similar purpose reasonably required by the state as a whole, the overall implications of existing programs on the inter-related missions of individual institutions, the overall cost implications of duplicative programs within the state, or the relative effectiveness and quality of similar programs offered by several state institutions. Nor are individual institutions likely to form a balanced perspective on merger or interinstitutional collaboration, which are options that from the state perspective may appear to be viable alternatives to program discontinuance where too many programs or too few enrollments may be shown to exist.

Finally, the Regents strongly support new collaborative ventures with business, industry, and government built upon strengths where they now exist within our system of universities and colleges. Institutional roles and leadership responsibilities within the emerging service network, and collaborative university research on the problems of Ohio businesses, industries, and

government should rest securely on the demonstrated geographical service patterns and on the existing strengths of public service and research structures and accomplishments.

Local and Regional Implications

Institutional missions and service patterns also have implications for statewide policy consideration at the local and regional levels of planning. More needs to be known about the relationships among institutional services wherever institutions operate in close proximity to each other. Greater knowledge will lead to better assessments of the impact of program and mission changes on neighboring institutions and will help distinguish minor conflicts from issues of fundamental importance to individual institutions. The type of service area analysis set out above for the state as a whole needs to be done within each of the major concentrations of population where institutional service areas overlap significantly. Such analysis will be especially useful for the northeastern area including Cleveland, Akron-Canton, and Youngstown, the Toledo area, and the Cincinnati-Dayton area. As private colleges and universities enter the planning system, similar analysis in the central region surrounding Columbus will also be useful.

This approach cannot be complete without consideration of the private college impact, but some general observations about the public institutions in the northeastern region can illustrate the value of such factual analysis to future planning. In that region, four state universities are located in the contiguous, populous counties of Cuyahoga, Summit, Portage, and Mahoning. Exhibits 3 and 4 show for undergraduate and for graduate enrollments the extent to which the 13 counties in that region are especially important to each of the four universities: Cleveland State, Akron, Kent State, and Youngstown State. Exhibit 3 presents undergraduate enrollments in each county, keyed to each university and noting only those instances where 200 or more students are drawn to a given university. Exhibit 4 similarly presents for graduate enrollments those counties where 100 or more students are drawn to a given institution.

A simple analysis of these enrollment patterns helps separate important competition from less important overlap and also reveals the sharply

different competitive position of each university. Each of these universities draws at least 85 percent of its enrollment from the region in question and thus is critically influenced by local and regional circumstances.

The exhibits show that Cleveland State draws significant numbers of undergraduate students only from its home county of Cuyahoga and from the neighboring counties of Lake and Lorain. Its graduate enrollments come almost entirely from the two counties of Cuyahoga and Lake. While some enrollments indeed move from Cuyahoga to both Akron and Kent, Cleveland State clearly dominates its immediate drawing area, enrolls 12,400 of its 13,400 regional undergraduates and 2,860 of 3,060 graduate students from its home county, and draws no substantial enrollment from any county in which another university dominates. By the same token, Cleveland State constitutes no immediate competitive force in any but the three counties noted.

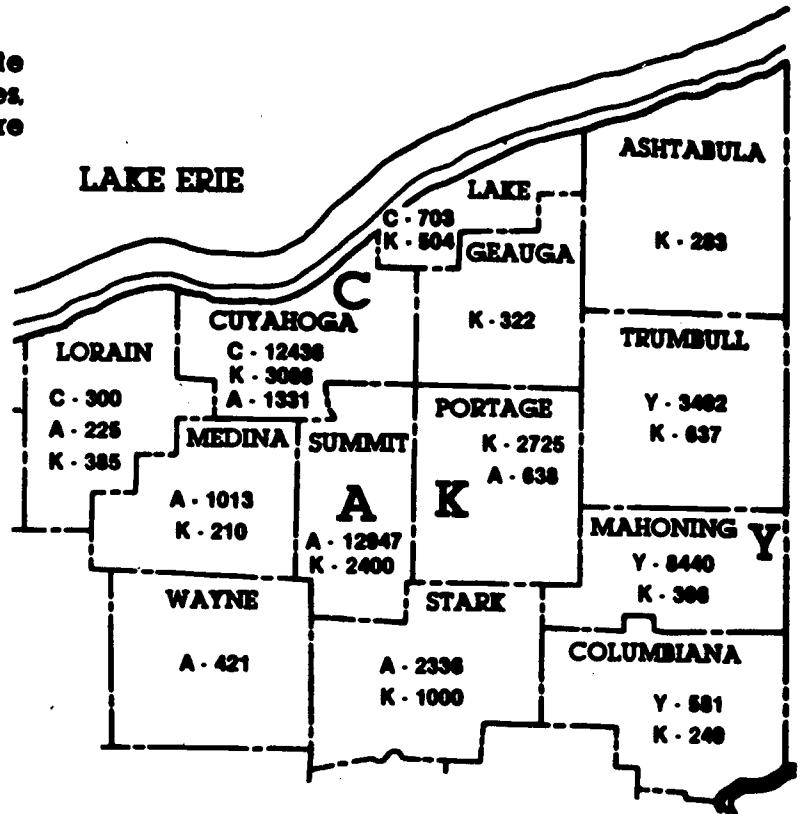
Similarly, Youngstown State is relatively separate from the other three universities, and it dominates its limited service area. Only three counties—Mahoning, Trumbull, and Columbiana—are vital sources of current enrollments for Youngstown State, and virtually none of its enrollment comes from counties dominated by another university.

The University of Akron, by comparison, draws importantly from six counties in addition to its home county of Summit, with 18,900 of its total undergraduate count of 20,500 coming from these seven counties. The pattern is similar for graduate enrollments. However, nearly 13,000 of its undergraduate students come from Akron's home county and only ten percent of its enrollments come from counties (Cuyahoga and Portage) which are dominated by another university. Only two of its key counties overlap important interests of Cleveland State, and none overlaps counties important to Youngstown State.

The circumstances of Kent State, however, contrast sharply with those of the other three northeastern universities. Nearly every county in the region is an important source of undergraduates for Kent State, and seven counties are important sources of its graduate students. In nearly every

EXHIBIT 3

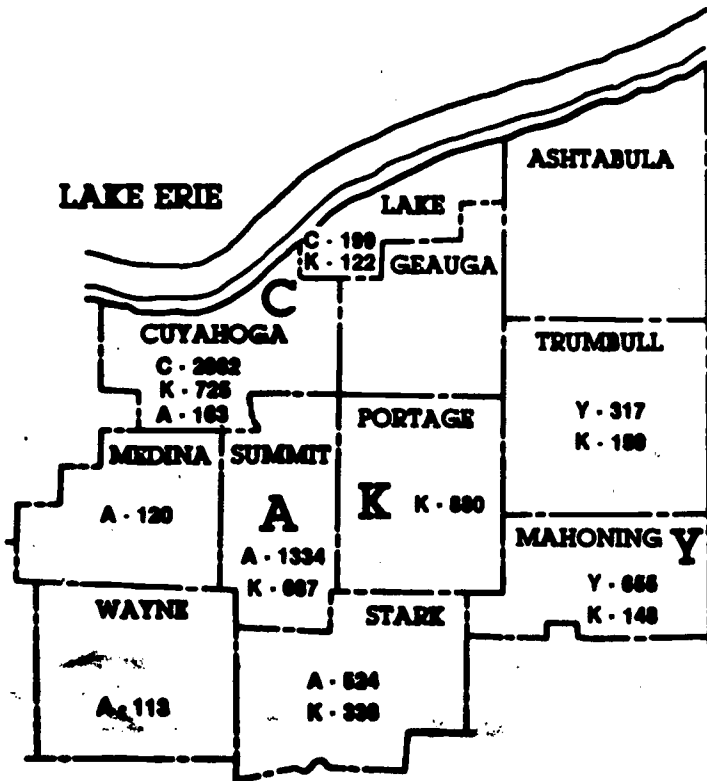
Northeastern Region Undergraduate Enrollments of Four State Universities, Showing Counties from which 200 or More Students Are Drawn (Fall 1980)



Key.
 A - University of Akron
 C - Cleveland State University
 K - Kent State University
 Y - Youngstown State University

EXHIBIT 4

Northeastern Region Graduate Enrollments of Four State Universities, Showing Counties from which 100 or More Students Are Drawn (Fall 1980)



Source: Ohio Board of Regents' Uniform Information System.

county which is a primary source of its students. Kent State confronts another university which is in the dominant position. Fully two-thirds of its undergraduate students and an equal proportion of its graduate students within the region come from counties which are the homes of other universities (Cuyahoga, Summit, Mahoning) or in which other universities clearly dominate in drawing enrollments (Stark, Medina, Trumbull, and Mahoning). These circumstances appear to threaten Kent State very seriously as in years ahead the other three universities seek to offset student losses by intensifying efforts to enroll their home county students. Careful regional thought and collaborative planning will be required to serve the State of Ohio's interests in these regards.

These comments about northeastern Ohio are simply illustrations of the understanding which should come from careful study of the facts of competing service patterns throughout Ohio. Similar—indeed, more intensive—analysis should be undertaken wherever institutions share common service areas. The Regents recommend that already developed institutional missions be used as the basis for such analysis and examination of policy issues.

Program Review

As stated earlier, collaborative approaches for state-level review of instructional programs must be developed. The Regents propose these guiding principles.

First, that state-level review proceed separately from the internal processes of individual institutions. In this regard the following issues should be the principal concerns.

- Interrelationships of programs having similar purposes.
- Need for geographic access to programs throughout Ohio.
- Programs of similar purpose reasonably required by the state as a whole.
- Overall implications of existing programs on the interrelated missions of individual institutions.
- Overall cost implications of duplicative programs within the state.
- Relative effectiveness and efficiency of existing programs.

- Relative quality of similar programs.
- Available options for program elimination, merger or relocation where oversupply or underdevelopment of enrollments may exist.

Second, that state-level program review be based upon local, regional, statewide, and out-of-state patterns of developed service. Attention should be given to separating such reviews according to differentials in geographical service wherever possible and appropriate.

Third, that state-level review be undertaken collaboratively, involving all institutions affected by such review. However, external assistance should be sought wherever group judgments are unlikely to be appropriate or productive.

After consulting institutional leaders the Board of Regents will empanel an ad hoc task force to develop procedures, timetables, and appropriate standing and special-purpose committees for carrying out program review. The review of graduate programming is proposed as a first order of business, followed by selected components of undergraduate programming and of graduate-professional programming.

Subject to deliberations of the ad hoc task force on program review, the Board suggests that the following steps be developed and implemented.

- Identify and schedule fields of programming appropriate for simultaneous statewide review.
- Characterize in a general way each field scheduled for review, perhaps with consultative assistance, to identify issues of particular pertinence to the field in question, including among other items.
 - fields of specialization and subspecialization peculiar to the field,
 - key determinants of need as far as related fields are concerned within an institution,
 - manpower needs of the field,
 - nature of professional practice of graduates.

- critical size criteria appropriate to the field, and
- criteria for judging relative excellence of performance within the field.

- Gather data which establish the service patterns of existing programs as related to local, regional, statewide and out-of-state service.
- Gather data which relate existing programs to the needs of the general characterization described above and pertinent to the eight principal concerns of state-level review outlined earlier.
- Conduct visits, as appropriate, by external reviewers and prepare a consolidated report of visitations and general conclusions regarding the eight principal concerns.
- Provide opportunity for institutional response to the report and conclusions of reviewers.
- Formalize recommendations to the Board of Regents regarding the results of the review process.

Extended Instructional Service

As the colleges and universities of Ohio enter into a new social compact with the citizens of the state, the system will face new demands for extended instructional service. The responsiveness, relevance, and effectiveness of the system's responses to social demands will be critical factors affecting the credibility of higher education. Colleges and universities need to continue to respond through selected off-campus courses to demonstrable regional needs for extended services.

In the past, institutions have responded individually to regional and state requests for extended service. Every region of the state offers physical and programmatic access to a full range of central campuses and off-campus instruction. Now an appropriate question for the state is how institutions collectively can be most effective in response to legitimate demands for extended service. Given the demands for service, enrollment uncertainty, and limited resources facing the institutions, it is apparent, especially in the areas of off-campus and non-

traditional instructional activity, that the system needs to share responsibility for joint action and responses to future service demands.

The Regents challenge Ohio's colleges and universities to seek cooperative solutions to common problems through voluntary association and compromise for the strength of the system. Such an approach is preferable to governmental mandate, intervention, or supervision. State and institutional priorities for the use of limited resources should be given careful consideration.

In the planning period ahead, three questions will be central to the success of off-campus and nontraditional programs:

- Are services adequately coordinated to respond to identified needs within a given region without costly duplication or destructive competition?
- Are services consistent with the mission and resources of the central campus?
- Is quality comparable to the programs on the central campus?

Currently, the most pronounced needs for off-campus service appear to be for continuing teacher, business, and health education, but such job-related needs require continual reassessment. Most of these needs can be met by offering selected courses as opposed to complete degree programs.

Every effort must be made to avoid costly duplication of service and harmful competition among existing institutions and programs. Existing campus facilities should be viewed as ideal sites for off-campus education within given service areas. In its coordinating role for higher education, the Board of Regents will continue to formulate and revise state guidelines and funding policies consistent with these extended service needs. But the Board also foresees an active role for regional consortia in helping to assure communication of program intentions among neighboring institutions, consolidation of disjointed efforts, pooling of resources, and the establishment of collaborative programs.

Primary service missions and areas should be determined for each college and university.

Only successful programs from the central campus should be approved for extended service and then only when under central campus support and control. Baccalaureate institutions should exercise caution in expanding their missions to include technical or graduate coursework. Only in circumstances where a special need has been identified should a public university enable a student to take more than a minor portion of upper division courses required for a baccalaureate degree or more than half the courses required for a graduate degree at a branch campus. And with the widespread availability of courses and programs throughout the state, most off-campus programs should be restricted to immediate service areas unless favorably reviewed by both the regional consortia affected and the Board of Regents.

Of critical importance is assurance that off-campus and nontraditional programs are comparable in quality to traditional service on the central campus. There is particular need for statewide criteria against which to judge credit for prior learning, television instruction, and computer-assisted learning. Full degree programs should be organized and offered by approved central campus faculty working off campus as part of their regular teaching assignments. Central campus library, academic, and student support resources should be made available to extended service students. Certain research-based graduate programs and certain professional programs requiring special support resources of the central campus should not be taken in significant portion off-campus or offered through a nontraditional format. And finally, all off-campus and nontraditional programs should

be offered exclusively on a site- and time-specific basis so the student is aware of the institution's limited commitment for service at that location. Local constituent groups must understand that these off-campus centers are not precursors to new central campus facilities.

The Board of Regents will direct the Chancellor to appoint two ad hoc advisory committees, one for traditional off-campus courses and programs and the other for nontraditional programs. Each advisory committee will be assigned the tasks of surveying and cataloging current programs and courses, assessing future demands for extended services, evaluating resources available within various regions, and suggesting standards and procedures for the evaluation of need, effectiveness of services, moderation of interinstitutional conflict, and initiation of collaboration in programming.

In addition, procedures and standards should be developed for initial and periodic review, involving participation and program evaluation at three levels. At the institutional level, each public and private institution should use existing criteria or, if not already in place, establish standards of acceptable quality with consideration of faculty, curriculum, supporting resources, and academic control. At the regional level, specific attention should be given to the need for proposed programs, availability of similar services on neighboring central campuses, and opportunities for service through joint action. At the state level, current standards and procedures for initial approval need to be further developed and new standards and procedures established for periodic reexamination.

CONCLUSION

The rest of the 1980's and the early part of the 1990's hold both risk and opportunity for Ohio's colleges and universities. Uncertain enrollments paired with the likelihood of chronic financial constraints will define the environment but need not prescribe higher education's agenda for action.

Large numbers of Ohioans will continue to need and deserve quality instructional service. The basic commitment of Ohio's residents and their leaders to sustain the state's colleges and universities is unlikely to diminish despite the economic circumstances of the state. Clarifying institutional missions, setting priorities of purpose, and sharpening management tools offer hope for continued institutional vitality and enhanced educational quality. The opportunity, through new forms of collaboration between colleges and universities, to address forthrightly and to resolve the problems posed by the period ahead, is clear and should be seized in the common interest of all institutions and the state.

Of special importance, the state's colleges and universities must join and seek to support the state's business and government leaders as they take up the challenge of strengthening Ohio's economic base. This new partnership in service to Ohio's future holds great value for the state and its people, and provides new opportunity for higher education to demonstrate the soundness of its claim to strong state support.

Working in consort, institutions of higher education have the opportunity to move forward an agenda of positive actions which can turn a decade and more of uncertainty into a period of opportunity for enhanced service. The Board of Regents calls upon institutional leaders and leaders of Ohio's businesses and governments to join in the common purposes set out in this Plan. Certainly, the Board of Regents pledges its full commitment to these goals and looks forward to being part of the cooperative efforts which will ensure their achievement, to the lasting benefit of the State of Ohio and its people.

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