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The Challenge for the 1990s:

Transforming the University
to Serve a Changing World

The Strategic Plan

Office of the President
The University of Michigan

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Preamble: The Case for Change

The University of Michigan, circa 1994

There is ample evidence to suggest that the University of Michigan today is better, stronger, more diverse, and more exciting than at any time in its long history. Recent surveys across all of its departments, schools, and colleges find that the national rankings of the University's academic programs are the highest since these evaluations began several decades ago. An analysis of hiring and attrition statistics involving senior faculty indicates that in recent years the University has not only held its own but has won most faculty recruiting competitions with peer institutions. The recent rise of the University to national leadership in important characteristics such as the volume of its research activity, the financial success of its medical center, the success of its intercollegiate athletics programs, and its financial strength (as measured by Wall Street), are further evidence of its remarkable progress. Indeed, one could well argue that the University of Michigan today is not only the leading public university in America, but that it is challenged by only a handful of distinguished private universities in the quality, breadth, capacity, and impact of its many programs and activities.

This progress has been all the more remarkable in light of the sharp deterioration in state support which has occurred in recent years. More specifically, over the past decade state support has declined in real terms by 23 percent. This continues a three-decade trend which has seen state appropriations drop from 70 percent of the University's operating budget in the 1960s to 11 percent in FY94-95. Yet the University has managed to not only maintain but enhance its quality and capacity to serve through a three-tiered strategy:

- i) effective cost containment,
- ii) wise management of resources, and
- iii) aggressive development of alternative revenue sources.

More specifically, the administrative costs of the University now rank among the lowest of our public and private peers. The implementation of sophisticated, effective programs for managing the assets of the University has resulted in three-fold growth in its endowment to over \$1 billion. Further, the loss in state support has been compensated, to some degree, by growth in revenue from tuition and fees, sponsored research grants, private gifts, income on endowment, and auxiliary activities such as hospitals, housing, and continuing education. Particularly important in this effort was the launch of the ongoing Campaign of Michigan, now at 65 percent of its \$1 billion goal.

There are many signs of the vitality and excitement of the University today. The Michigan Mandate has resulted in a far more diverse campus, increasing the number of students and faculty from underrepresented minorities

by more than 50 percent over the past five years. Indeed, representation of students of color will comprise over 25 percent of the University's enrollment this fall, with each underrepresented ethnic group now represented at all degree levels, in all academic programs, at the highest levels in the University's history. And despite rising tuition, we have implemented effective financial aid programs that have preserved access to the University by students from all economic backgrounds. This is demonstrated by the high admissions yields in lower income groups and rising student retention rates, now the highest among all public universities. Finally, after a slight flattening during the early 1990s due to the demographic decline in the number of high school graduates, the number of applications, yield rates, and student quality are on the rise again.

In recent years, we have made major progress toward rebuilding the physical infrastructure of the University, with almost \$1 billion of construction and renovation projects completed or underway, including completion of the North Campus, the Medical Campus, most of the Central Campus, and the South Campus area. The University has also acquired important new sites for further expansion such as the planned medical campus in northeast Ann Arbor.

This same excitement has been reflected in the auxiliary units of the University. The University of Michigan Medical Center is widely recognized as the most successful academic health center in the nation. Continuing education programs such as the School of Business Administration's Executive Management Education programs are generally ranked as world leaders. And Michigan Athletics continue to be regarded as a national leader in the success, integrity, and visibility of its programs.

This progress has not been serendipitous. Rather it has resulted from the efforts of a great many people following a carefully designed and executed strategy. To illustrate, it is instructive to consider the highest priorities of this effort over the past five years.

1. Financial and Organizational Restructuring: To respond to the precipitous decline in state support and the growing commitments of the University, a number of steps have been taken to better attract, deploy, and manage resources. For example, broad strategic planning activities such as PACE, ACUB, and the transformation process of the University Hospitals has led to the implementation of an effective University-wide total quality management program (M-Quality). The University has restructured and repositioned the management of both its endowment and operating capital. It has moved toward more realistic pricing of University services, through increased tuition and fees and the negotiation of indirect cost rates for sponsored research. As but one measure of the effectiveness of these efforts, this past spring the University became the first public institution in history to have its credit rating raised to Aa1 by Wall Street (with hopes for achieving the top Aaa rating within the next year or so).

There has been a major restructuring of the auxiliary enterprises of the University, ranging from auxiliary operations such as University Hospitals, University Housing, and Intercollegiate Athletics to University-owned corporations such as Veritas and M-Care.

Key in this first phase of financial restructuring has been the building of effective leadership and management teams, extending from the Executive Officers to the lowest management levels. The restructuring of the University's Personnel and Affirmative Action programs into a far more sophisticated Human Resources operation will be important to further progress.

2. **Strengthening the Bonds Between the University and its External Constituencies:** Much of the effort of the past several years has been directed at building far stronger relationships with the multitude of external constituencies served by and supporting the University. Efforts were made to strengthen bonds with both state and federal government, ranging from systemic initiatives such as opening and staffing new offices in Lansing and Washington to developing personal relationships with key public leaders (e.g., the Governor, the White House). A parallel effort has been made to develop more effective relationships with the media at the local, state, and national level. More recent efforts have been directed toward strengthening relationships with key communities including Ann Arbor, Detroit, and Flint.

3. **Achieving Leadership as a Research University:** The University of Michigan has long been recognized as one of the leading research universities in the world. The impact of this research on the state, the nation, and the world has been immense. For the past several years we have consciously set out to increase the quality, scope, and impact of this important intellectual activity. By putting into place strong mechanisms to encourage and support research, by playing a major leadership role in determining national research policy, and by attracting and developing scholars of world-class quality, the University has moved rapidly to a position of world leadership in its research activities. Beyond simply the ranking of the University as the nation's leader in the amount of research activity, one can point to the examples provided by specific research activities such as information technology, genetic medicine, ultra-fast optics, public policy reform, and humanistic studies as evidence of the excitement and impact of the research environment on campus.

4. **Educational Transformation:** The cornerstone of the University's academic programs has long been undergraduate education. In recent years, there have been major efforts on the part of its undergraduate colleges--most notably LS&A--in making the commitment and taking the steps to improve the quality of the undergraduate experience at Michigan. There are a broad range of initiatives including the Gateway Seminar series for first-year students, major

revisions of introductory courses in science and mathematics, and greater emphasis on teaching in the promotion and reward of faculty.

So, too, many of our professional schools have moved rapidly to restructure their educational programs. Of particular note have been the massive transformation of the medical curriculum, the innovative changes in the M.B.A. program, and the remarkable excitement surrounding the evolution of library science into a new profession of knowledge-resource management.

5. Campus Life: Much attention over the past several years has been focused on improving the quality of campus life for students, faculty, and staff. Key in this effort has been the leadership of the Office of Student Affairs. A series of actions were taken to improve campus safety, including the development of a campus police organization; major investments in campus lighting and landscaping; and special programs such as the Sexual Assault and Prevention Center, the Night Owl transportation service, and Safewalk. Student leadership joined with the administration in developing and implementing a new code of Student Rights and Responsibilities. Broad programs have been undertaken to address the concerns of substance abuse on campus, with particular attention focused on alcohol consumption and smoking.

Efforts have been made to enhance opportunities for learning in the student living environment and through extracurricular activities. Our intercollegiate athletics programs have been restructured to broaden the participation of women and to integrate student-athletics more effectively into the broader campus community.

6. The Diverse University: Throughout its long history, perhaps the most distinguishing characteristic of the University has been its commitment, as stated by President Angell, to provide "an uncommon education for the common man." It has aspired to provide an education of the highest quality to all who have the ability to succeed and the will to achieve, to serve all the people of our state.

Yet, despite the degree to which the University sought to broaden its commitment to encompass gender, race, religious belief, and nationality, it has faced serious obstacles to accomplishing this goal. Many of these groups suffered from social, cultural, and economic discrimination. Simply opening doors--providing access--was not enough to enable them to take advantage of the educational opportunities of the University. To address this challenge, the University of Michigan began to transform itself five years ago to bring all racial and ethnic groups more fully into the life of the University. This process of transformation was guided by a strategic plan known as The Michigan Mandate. The fundamental vision was that the University of Michigan would become a leader known for the racial and ethnic diversity of its faculty, students, and staff--a leader in creating a multicultural community that would be capable of serving as a model for higher education and a model for society-at-large. As we have

noted earlier, the impact of this effort has been remarkable. The University of Michigan today is far more diverse--and far better as a result.

Drawing on this experience, the University of Michigan has recently launched a second major initiative aimed at increasing diversity: The Michigan Agenda for Women. The vision is both simple yet compelling: By the year 2000, the University of Michigan will become the leader among American universities in promoting and achieving the success of women as faculty, students, and staff. As with the Michigan Mandate, profound and fundamental change will be necessary in the University. Yet the commitment to this new agenda is firm, and the University is determined to make substantial progress toward this vision in the years ahead.

7. Rebuilding the University: One of the great challenges faced by the University through the 1980s was the need to address an aging physical plant. Within recent years, a combination of low interest rates and construction costs, state capital outlay, private support, and support from auxiliary activities have enabled the University to launch a massive effort to rebuild the Ann Arbor campus. The Medical Campus has led the way with almost \$1 billion of new construction over the past decade. The last remaining facilities necessary to complete the North Campus are underway (the FXB Building, ITIC, and the Engineering Center). The South Campus has seen great activity, with the renovation or construction of most athletic facilities now complete. In addition major new facilities have been provided to support business operations (Wolverine Tower, the Campus Safety Office, and the M-Care complex).

Perhaps most encouraging has been the recent progress in addressing the needs of the Central Campus, with most of the major work now underway (the ULGI/Science Library; the Physics Laboratory; the Angell-Haven Connector; the Social Work Building; and major renovations of East Engineering, West Engineering, C. C. Little, and Angell Hall). Indeed, we estimate that the remaining projects necessary to complete the entire rebuilding of the Ann Arbor campus now amount to less than \$100 million--a quite realistic goal for the next several years.

8. The Age of Knowledge: Four important themes are converging in the final decade of the twentieth century: i) the importance of the university in an age in which knowledge itself has become a key factor in determining security, prosperity, and quality of life; ii) the global nature of our society; iii) the ease with which information technology--computers, telecommunications, multimedia--enables the rapid exchange of information; and iv) networking, the degree to which informal cooperation and collaboration among individuals and institutions is replacing more formal social structures such as governments and states.

Michigan continues to play a significant leadership role in all of these arenas. Our management of NSFnet has now evolved into the NREN, the National Research and Education Network, the backbone of the Internet and the precursor of the "information superhighway." Already this effort links together over three million computers, 25,000 networks, 1,000 universities, 1,000 high schools, and over twenty-five million people worldwide.

Moreover, the University has achieved a position of national leadership in the quality of the information technology it provides for students, faculty, and staff. Through close cooperation with industry (e.g., IBM, Apple, MCI, Sun, and Xerox), the University has frequently been among the first to develop and install major new technology. Its computing and networking environment is among the most sophisticated in the world.

The Challenge of Change

We can all take great pride in what the Michigan family--Regents, faculty, students, staff, alumni, and friends--has accomplished during the most stressful of times. They have indeed built a University which is today characterized by great quality, strength, diversity, and excitement. And yet this very success may be just as much of a challenge as it is an opportunity.

For example, one can imagine the CEO of IBM giving the same stirring message to his Board of Directors a decade ago: "Ladies and gentlemen, we have built the best, strongest, most profitable company in the world!" And, yet look at the challenges faced by IBM today, as the rapid pace of change in our world has overtaken the company, bringing them to the brink of financial collapse.

The same is true for our University. Our people have built the finest public university in America--perhaps the finest in the world. But we have built a university for the twentieth century, and that century is rapidly coming to an end. The university that we have built, the paradigms in which we have so excelled, may no longer be relevant to a rapidly changing world.

The America of the twentieth century that we have known throughout most of our lives was a nation characterized by a homogeneous, domestic, industrialized society. But that is an America of the past. Our students will inherit a far different nation--a highly pluralistic, knowledge-intensive, world-nation that will be America of the twenty-first century.

Indeed, many believe that we are going through a period of change in our civilization just as profound as that which occurred in earlier times such as the Renaissance and the Industrial Revolution--except that while these earlier transformations took centuries to occur, the transformations characterizing our times will occur in a decade or less! One frequently portrays the 1990s as the countdown toward a new millennium, as we find ourselves swept toward a new

century by these incredible forces of change. But the events of the past several years suggest that the twenty-first century is already upon us, a decade early. We live in a time of breathtaking change, at a pace that continues to accelerate.

But here we face a particular dilemma. Both the pace and nature of the changes occurring in our world today have become so rapid and so profound that our present social institutions--in government, education, the private sector--are having increasing difficulty in even sensing the changes (although they certainly feel the consequences), much less understanding them sufficiently to respond and adapt. It could well be that our present institutions, such as universities and government agencies, which have been the traditional structures for intellectual pursuits, may turn out to be as obsolete and irrelevant to our future as the American corporation in the 1950s. There is clearly a need to explore new social structures not only capable of sensing and understanding the change, but also capable of engaging in the strategic processes necessary to adapt or control change.

As one of civilization's most enduring institutions, the university has been quite extraordinary in its capacity to change and adapt to serve society. Far from being immutable, the university has changed quite considerably over time and continues to do so today. A simple glance at the remarkable diversity of institutions comprising higher education in America demonstrates this evolution of the species.

The profound nature of the challenges and changes facing higher education in the 1990s seems comparable in significance to two other periods of great change in the nature of the university in America: the period in the late nineteenth century when the comprehensive public university first appeared and the years following World War II when the research university evolved to serve the needs of postwar America.

A century ago, the industrial revolution was transforming our nation from an agrarian society into the industrial giant that would dominate the twentieth century. The original colonial colleges, based on the elitist educational principles of Oxbridge, were joined by the land-grant public universities, which were committed to broad educational access and service to society. In the decades following this period, higher education saw a massive growth in merit-based enrollments in degree programs at the undergraduate, graduate, and professional level as the comprehensive university evolved.

A similar period of rapid change in higher education occurred after World War II. The educational needs of the returning veterans, the role of the universities in national defense, and the booming postwar economy led to an explosion in both the size and number of major universities. So too, the direct involvement of the federal government in the support of campus-based research led to the evolution of the research university as we know it today.

We now face challenges and opportunities similar to those characterizing these two earlier periods of transformation. Many point to negative factors, such as the rapidly growing costs of quality education and research during a period of limited resources, the erosion of public trust and confidence in higher education, or the deterioration in the partnership characterizing the research university and the federal government. But our institutions will be affected even more profoundly by the powerful changes driving transformations in our society, such as the increasing ethnic and cultural diversity of our people; the growing interdependence of nations; and the degree to which knowledge itself has become the key driving force in determining economic prosperity, national security, and social well-being.

The Need to Re-invent the University

One frequently hears the primary missions of the university referred to in terms of teaching, research, and service. But these roles can also be regarded as simply the twentieth century manifestations of the more fundamental roles of *creating, preserving, integrating, transmitting, and applying* knowledge. From this more abstract viewpoint, it is clear that while these fundamental roles of the university do not change over time, the particular realization of these roles do change--and change quite dramatically, in fact. Consider, for example, the role of "teaching," that is, transmitting knowledge. While we generally think of this role in terms of a professor teaching a class of students, who, in turn, respond by reading assigned texts, writing papers, solving problems or performing experiments, and taking examinations, we should also recognize that classroom instruction is a relatively recent form of pedagogy. Throughout the last millennium, the more common form of learning was through apprenticeship. Both the neophyte scholar and craftsman learned by working as apprentices to a master. While this type of one-on-one learning still occurs today, in skilled professions such as medicine and in advanced education programs such as the Ph.D. dissertation, it is simply too labor-intensive for the mass educational needs of modern society.

The classroom itself may soon be replaced by more appropriate and efficient learning experiences. Indeed, such a paradigm shift may be forced upon the faculty by the students themselves. Today's students are members of the "digital" generation. They have spent their early lives surrounded by robust, visual, electronic media--Sesame Street, MTV, home computers, video games, cyberspace networks, and virtual reality. They approach learning as a "plug-and-play" experience, unaccustomed and unwilling to learn sequentially--to read the manual--and rather inclined to plunge in and learn through participation and experimentation. While this type of learning is far different from the sequential, pyramid approach of the traditional university curriculum, it may be far more effective for this generation, particularly when provided through a media-rich environment.

Hence, it could well be that faculty members of the twentieth-first century university will be asked to set aside their roles as teachers and instead be become designers of learning experiences, processes, and environments. Further, tomorrow's faculty may have to discard the present style of solitary learning experiences, in which students tend to learn primarily on their own through reading, writing, and problem solving. Instead they may be asked to develop collective learning experiences in which students work together and learn together with the faculty member becoming more of a consultant or a coach than a teacher.

One can easily identify other similarly profound changes occurring in the other roles of the university. The process of creating new knowledge--of research and scholarship--is also evolving rapidly away from the solitary scholar to teams of scholars, perhaps spread over a number of disciplines. Indeed, is the concept of the disciplinary specialist really necessary--or even relevant--in a future in which the most interesting and significant problems will require "big think" rather than "small think"? Who needs such specialists when intelligent software agents will soon be available to roam far and wide through robust networks containing the knowledge of the world, instantly and effortlessly extracting whatever a person wishes to know?

So, too, there is increasing pressure to draw research topics more directly from worldly experience rather than predominantly from the curiosity of scholars. Even the nature of knowledge creation is shifting somewhat away from the *analysis of what has been* to the *creation of what has never been*--drawing more on the experience of the artist than upon analytical skills of the scientist.

The preservation of knowledge is one of the most rapidly changing functions of the university. The computer--or more precisely, the "digital convergence" of various media from print to graphics to sound to sensory experiences through virtual reality--has already moved beyond the printing press in its impact on knowledge. Throughout the centuries the intellectual focal point of the university has been its library, its collection of written works preserving the knowledge of civilization. Yet today, such knowledge exists in many forms--as text, graphics, sound, algorithms, virtual reality simulations--and it exists almost literally in the ether, distributed in digital representations over worldwide networks, accessible by anyone, and certainly not the prerogative of the privileged few in academe.

Finally, it is also clear that societal needs will continue to dictate great changes in the applications of knowledge it expects from universities. Over the past several decades, universities have been asked to play the lead in applying knowledge across a wide array of activities, from providing health care, to protecting the environment, from rebuilding our cities to entertaining the public

at large (although it is sometimes hard to understand how intercollegiate athletics represents knowledge application).

This abstract definition of the roles of the university have existed throughout the long history of the university and will certainly continue to exist as long as these remarkable social institutions survive. But the particular realization of the fundamental roles of knowledge creation, preservation, integration, transmission, and application will continue to change in profound ways, as they have so often in the past. And hence, the challenge of change, of transformation, is, in part, a necessity simply to sustain our traditional roles in society.

The Transformation Process

For the type of institutional transformation necessary to move toward the major paradigm shifts that will likely characterize higher education in the years ahead, we will need a more strategic approach capable of staying the course until the desired changes have occurred. Indeed, many institutions have already embarked on major transformation agendas similar to those characterizing the private sector. Some even use similar language as they refer to their efforts to "transform," "restructure," or even "re-invent" their institutions. But, of course, herein lies one of the great challenges to universities, since our various missions and our diverse array of constituencies give us a complexity far beyond that encountered in business or government. As a result, the process of institutional transformation is necessarily more complex.

Experience demonstrates that the process of transforming an organization is not only possible but also understandable and even predictable, to a degree. The revolutionary process starts with an analysis of the external environment and the recognition that radical change is the organization's best response to the challenges it faces. The early stages are sometimes turbulent, marked by conflict, denial, and resistance. But gradually, leaders and members of the organization begin to develop a shared vision of what their institution should become and to turn their attention to the transformation process. In the final stages, grass-roots incentives and disincentives are put into place to create the market forces to drive institutional change; and methods are developed to measure the success of the transformation process. Ideally, this process never ends.

So how does an institution as large, complex, and tradition-bound as the modern research university go about transforming itself. Historically we have accomplished change using a variety of mechanisms: i) "buying" change with additional resources; ii) laboriously building the consensus necessary for grassroots support of change; iii) changing key people; iv) finesse; v) by stealth of night; vi) "Just do it!," that is, top-down decisions followed by rapid execution (following the old adage that "it is better to seek forgiveness than to ask permission").

Through earlier efforts to restructure the University of Michigan (e.g., the "smaller but better" effort of the early 1980s) and from the experience of other organizations in both the private and public sector, several features of transformation processes should be recognized at the outset:

- i) First, it is critical to define the real challenges of the transformation process properly. The challenge is usually not financial or organizational. Rather it is the degree of cultural change required. We must transform a set of rigid habits of thought and arrangements that are currently incapable of responding to change either rapidly or radically enough.
- ii) It is important to achieve true faculty participation in the design and implementation of the transformation process, in part since the transformation of the faculty culture is the biggest challenge of all.
- iii) It has been found that the use of an external group is not only very helpful but probably necessary to provide credibility to the process and assist in putting controversial issues on the table (e.g., tenure reform).
- iv) Unfortunately, no universities--and few organizations in the private sector--have been able to achieve major change through the motivation of opportunity and excitement alone. Rather it has taken a crisis to get folks to take the transformation effort seriously, and even sometimes this is not sufficient.
- v) The president must play a critical role both as a leader and as an educator in designing, implementing, and selling the transformation process, particularly with the faculty.

To summarize, the most important and difficult part of any transformation process involves changing the culture of the institution. And it is here that we must focus much of our attention in the years ahead. We seek both to affirm and intensify Michigan's commitment to academic excellence and leadership. We seek to build more of a sense of community, of pride in and commitment to the University. And, of course, we also seek to create more of a sense of excitement and adventure among students, faculty, and staff. But we wish to accomplish this in such a way as to align the University to better serve a rapidly changing society.

The necessary transformations will go far beyond simply restructuring finances to face the brave new world of limited resources. Rather, they will encompass every aspect of our institutions, including:

- the mission of the university
- financial restructuring

- organization and governance
- general characteristics of the university
- intellectual transformation
- relations with external constituencies
- cultural change

There is an increasing sense among leaders of American higher education and on the part of our various constituencies that the 1990s will become a period of significant change on the part of our universities if we are to respond to the challenges, opportunities, and responsibilities before us. A key element will be efforts to provide universities with the capacity to transform themselves into entirely new paradigms that are better able to serve a rapidly changing society and a profoundly changed world.

We must seek to remove the constraints that prevent our institutions from responding to the needs of a rapidly changing society, to remove unnecessary processes and administrative structures, to question existing premises and arrangements, and to challenge, excite, and embolden the members of our university communities to embark on this great adventure. Our challenge is to work together to provide an environment in which such change is regarded not as threatening but rather as an exhilarating opportunity to engage in the primary activity of a university, *learning*, in all its many forms, to better serve our world.

The Mission, Vision, and Strategic Intent

The Mission

The mission of the University of Michigan is complex, varied, and continually evolving. At the most abstract level, the mission of the University involves the creation, preservation, integration, transmission, and application of knowledge to serve society. In this sense, the University produces not only educated people but knowledge and knowledge-intensive services such as R&D, professional consultation, health care, and economic development. Yet all of these activities of the University are based upon the core activity of learning.

While the University serves a vast array of constituents--students at the undergraduate, graduate, professional, and continuing education levels; patients; local, state, and federal government; business and labor; communities, states, and nations--it also serves society at large. This latter fact is quite important. The University of Michigan is one of the few universities in the world that could claim society-at-large as its primary client. Throughout its history, the University's enduring impact has been through its full array of activities rather than through a particular subcomponent of its mission such as undergraduate teaching or scientific research or public service. Indicative of this unusually broad role is the array of shareholders in the University, including state and

federal government, students and parents, patients, business, foundations, and, of course, the vast number of alumni and friends of the University.

The Vision

In any strategic activity, it is important to develop both a vision of the future of the institution and a definition of its mission. Although a great many groups were involved in various stages of the planning process, there were two common themes characterizing all discussions of vision and mission: leadership and excellence.

More specifically, there was a general sense among those who participated in the development of this plan that the quality of the University and its leadership--both as an institution and in the achievements of its people--would determine its impact on society, the state, the nation, and the world. Perhaps this is understandable, since both leadership and excellence have characterized the University throughout its history, it is leadership. The University was the first major public university in America. Perhaps as much as any institution, the University of Michigan defined the nature of higher education in the 20th Century. Michigan's special distinctiveness and strength has involved the power of focused quality, which it shares with the most selective private institutions, and the diversity, openness, and breadth which it shares with the best large public universities.

We have attempted to capture this aspiration in a simple vision statement:

Vision 2000: "The leaders and best..."

The University of Michigan should position itself to become the leading university of the 21st Century, through the quality of its programs, and through the leadership achieved by its students, faculty, and staff.

Such a leadership vision will require a comprehensive strategy, since all of the key characteristics of the University are involved: quality, capacity (size), breadth (comprehensiveness), excellence, and innovation. In fact, the achievement of this vision will require an optimization of all of these factors.

The Strategic Intent: Vision 2017: The Third Century

Beyond a vision for the University, we propose a strategic intent. Recall that a strategic intent for an organization provides a "stretch vision", that cannot be achieved with current capabilities and resources. Such a strategic intent forces an organization to be inventive, to make the best use of limited resources. Whereas the traditional view of strategy focuses on the degree of fit between existing resources and current opportunities, strategic intent creates an extreme

misfit between resources and ambitions. Through this, we are able to challenge the institution to close the gap by building new capabilities.

To develop a more refined vision for the University in the years ahead, it is appropriate to begin with descriptors which convey both our most cherished values and our hopes for the future. We suggest the following as the shared values that have played such an important role in the tradition of our University:

- Excellence
- Leadership
- Critical and rational inquiry
- Liberal learning
- Diversity
- Caring and concern
- Community
- Excitement

Beyond this, we might also choose from among the many past descriptors of the characteristics of the University, those which seem most important to preserve for the future:

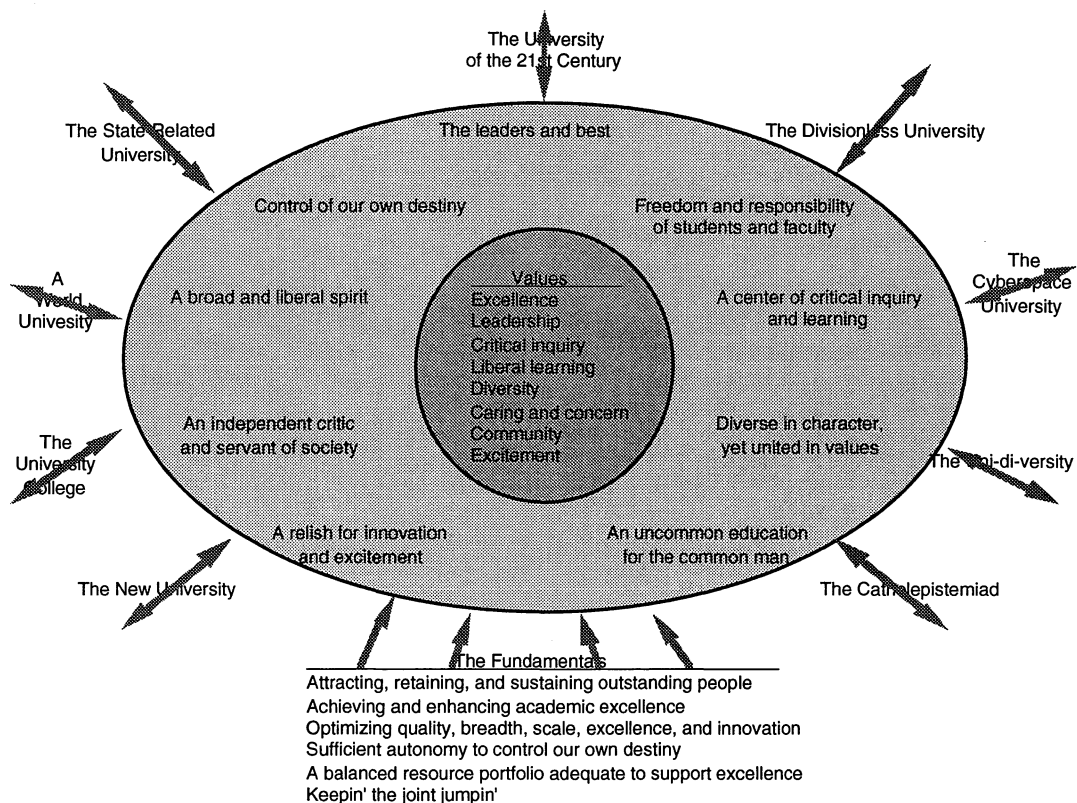
- "The leaders and best . . . "
- "An uncommon education for the common man (person) . . . "
- "A broad and liberal spirit . . . "
- "Diverse, yet united in a commitment to academic excellence and public service . . . "
- "A center of critical inquiry and learning . . . "
- "An independent critic and servant of society . . . "
- "A relish for innovation and excitement . . . "
- "Freedom with responsibility for students and faculty . . . "
- "Control of our own destiny comparable to private universities..."

Undergirding these values and characteristics would be aspirations that characterize "the fundamentals," those actions and goals we must continue to give high priority to achieve our vision:

- Attracting, retaining, and sustaining the most outstanding people (students, faculty, staff)
- Achieving, enhancing, and sustaining academic excellence in teaching and scholarship
- Optimizing the balance among quality, breadth, scale, excellence, and innovation
- Sufficient autonomy to control our own destiny
- A diversified resource portfolio, providing a stable flow of resources necessary for leadership and excellence regardless of the ebb and blow in particular areas

- (state, federal, private giving,...)
- Keepin' the joint jumpin'!

In this spirit, then, let us suggest one possible model of what the University of Michigan that is built on a foundation of our traditional values and a recognition of the challenges and opportunities that we will be likely to face in the decades ahead. We have identified this model as Vision 2017, the year when the University of Michigan will begin its third century of serving the state, the nation, and the world:



Notice that we have arranged around this core of values and characteristics a number of the quite paradigms of the university. While none of these would be appropriate alone to describe the University as it enters its third century, all are likely components of our institution, as seen by various constituents. For example, we are already well down the road to becoming a **state-related university** with state support declining to less than 12 percent of our resource base. It is highly unlikely that it will ever recover to its previous levels in light of the limited capacity and priorities of our state.

So too, we are already well along in our efforts to transform Michigan into a **diverse university**, a university committed to building and sustaining a diverse learning community. Through major strategic efforts such as the Michigan Mandate and the Michigan Women's Agenda, we are becoming an institution

more reflective of the rich diversity of our society. Further, we are learning how to weave together the dual objectives of diversity and unity in a way that strengthens our fundamental goal of academic excellence to better serve our state, our nation, and the world.

While some research universities may well decide to focus on advanced education and scholarship and leave general education to others, the University of Michigan should not only retain but greatly intensify its commitment to undergraduate education. The **university college** concept, whether as a formal self-standing entity or a virtual structure, seems the most appropriate paradigm for the general education of lower-division students in a vast research university with an unusually broad array of disciplinary and professional majors. So too, several conditions point in the direction of a University College: the increasing need to broaden undergraduate education, to make it the responsibility of the entire University, and to dramatically change our pedagogical approaches so that we respond both to the changing learning styles of our students and to the rapidly expanding knowledge base. Our plan to construct a new Gateway Campus for undergraduate education will be key to this effort. This complex of new facilities, to be funded both through the Campaign for Michigan and through student fees (or state appropriation), will not only contain the key learning spaces for undergraduate education, but it will be linked as well to our key museums (Art, Kelsey, Anthropology, Natural History) and performing arts centers (Power, Hill, Mendelssohn), thereby providing our undergraduates with a gateway to the knowledge of mankind.

Somewhat more controversial is the concept of the University of Michigan as a **world university**. Yet what could be more natural? Both our heritage as the flagship of public higher education and our location in the heartland of the nation provide us with an unusual claim on being the most "American" of universities. And over the past century, we have led the way both in opening up doors of opportunity to students from abroad and in developing outstanding programs in international studies. Further, we have strong relationships with most of the leading universities around the world. But there is another important reason for seriously considering shifting our focus to the world level: our leadership role in the development and implementation of the technology with the potential to make worldwide access possible.

Michigan is already well down the road toward becoming a **cyberspace university** through its management of NSFnet, the United States component of the Internet and the backbone of the National Research and Education Network. The University of Michigan's Ann Arbor campus has probably the most robust computing environment of any university in the world, and this environment--our students, faculty, and staff--are already linked to the world through our computer networks. Like many others, I believe that computer-communications technology will have a profound impact on the nature of teaching, scholarship, and service; and I believe Michigan is already in the vanguard of those

knowledge-based institutions rapidly evolving to take advantage of this extraordinary resource.

This technology will likely make possible yet another vision of the University, the **Catholospistemiad**, in which we assume more direct responsibility for lifetime education. While I do not believe that the University should get into the business of managing K-12 systems, I do believe that we have both a public responsibility and a vested interest to be far more involved with primary and secondary education. We can certainly focus the vast resources of the University in a way that will better enable our public schools to meet their many challenges, particularly in the State of Michigan. But beyond that, I believe we must build a new relationship with our students and our graduates that will amount to a commitment to provide them with education through their lives. Using an array of devices ranging from short courses to distributed educational sites to computer networks, we should develop programs capable of delivering educational services to our graduates whenever they need it. In a sense, our alumni should always remain part of our organization chart, just as they are always part of the Michigan family.

One of the most difficult tasks will be to move toward the paradigm of a **divisionless university**, an institution in which students and faculty are not constrained by disciplinary boundaries. Yet this change in the intellectual character of the University is one of most important goals before us, since it is increasingly clear that knowledge, education, and scholarship simply cannot be organized or constrained along disciplinary lines. Of course, the University has long been known for strong interdisciplinary programs including the Institute for Social Research, the Howard Hughes Medical Research Institute, the Institute for Humanities, the Rackham School of Graduate Studies itself, and literally hundreds of other institutes, centers, programs, seminars, and other informal groups. But far more must be done if we are to break the deification of the disciplines and allow our students and faculty the necessary freedom to keep pace with intellectual change. We must resist over-specialization in our degree programs, at the undergraduate, professional, and graduate levels. We should allow our best faculty to become professors-at-large in the University, with the freedom to teach and conduct scholarship wherever they wish. We should allow interdisciplinary groups to form easily--but also insist that when they have outlived their usefulness, they may be easily abandoned. And we should develop a pool of resources, "venture capital" if you will, that we can use to stimulate new interdisciplinary efforts.

The University is also well-positioned to develop the vision of the **creative university**. Interestingly enough, the four schools whose intellectual nature place most stress on creativity--Music, Art, Architecture, and Engineering--are located together on the University's North Campus. Over the past several years the deans and faculties of these schools have been engaged in an exciting dialogue to better integrate their teaching and research efforts, to learn from one

another how to better understand and teach the process of creation. One of the most important resources for this effort will be a new North Campus facility, now under construction, that will bring together these schools in a "Media Union," that will contain libraries, classrooms, computer clusters, design spaces, and performance studios. The faculties of these schools even suggest that we should rename the North Campus as the "Renaissance Campus" to reflect this new focus on the process of creativity!

It is important to consider the more abstract concept of the university suggested by the **knowledge server** paradigm. The different manifestations of the basic functions of creating, preserving, transmitting, and applying knowledge through the social institution of the university over the centuries is ample evidence that such evolution can be expected to continue.

Clearly, these visions of the University, these paradigm shifts, raise many questions which can only be answered through experience. For that reason, among the various visions proposed in the Vision 2017 document, the "university within a university" or the **new university** is among the most important, since it can provide a laboratory for developing the other visions. In the earlier discussion of the "new university" in the Vision 2017 document, we noted how it might be organized along highly nondisciplinary lines, perhaps even integrating together various degree programs. It might also be used to test various schemes to better link alumni to the University or to develop international experiences for our students. In such an academic unit, we would hope to build a risk-tolerant culture in which students and faculty are strongly encouraged to "go for it," in which failure is accepted as part of the learning process associated with ambitious goals rather than poor performance. And, the new university should be characterized by a level of excitement and adventure that will propagate to the University at large.

Preparing for the Third Century

Each of these visions of the University of Michigan, circa 2017, will require significant change. But, just as it has so many times in the past, it is clear that the University must continue to change and evolve if to serve society and achieve leadership in the century ahead. The status quo is simply not an acceptable option.

It is important to understand the real goals of the transformation process we are developing for the next several years. First, we believe it important to move beyond the positioning strategy of Vision 2000. To be sure, the vision of positioning the University of Michigan as a leader of higher education for next century and the various goals proposed to achieve this vision are important and challenging. But, in reality, they involve achieving leadership and excellence within the present paradigm of the university in America, of polishing the status

quo, of becoming the very best "university of the 20th Century" that we can become.

The transformation process is designed to move beyond this, to provide the University with the capacity to transform itself into new paradigms more capable of serving a rapidly changing society and a profoundly changed world. Do we expect that the transformation effort would actually allow us to achieve the Vision 2017 during the tenure of the present University leadership? Of course not. Rather, our real objective in this transformation effort is to build the capacity, the energy, the excitement, and the commitment necessary for the University to move toward such bold visions. We seek to remove the constraints that prevent the University from responding to the needs of a rapidly changing society, to remove unnecessary processes and administrative structures, to question existing premises and arrangements, and to challenge, excite, and embolden the members of the University community to embark on this great adventure.

In summary, our objective for the next several years is to provide the University with the capacity to transform itself into an institution better capable of serving our state, our nation, and the world.

The Goals

With this articulation of the mission of the University and proposed vision and strategic intent, we can now develop a strategy. As we develop such a strategy, we should recognize that one of our greatest challenges will be the very success of the University of Michigan.

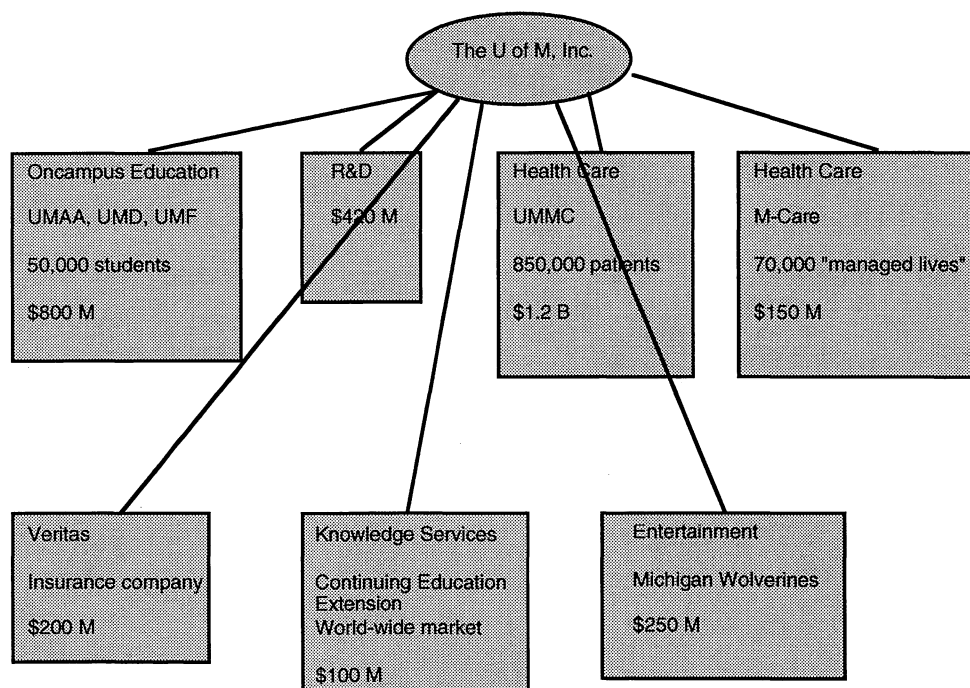
There is ample evidence to suggest that the University of Michigan today is better, stronger, more diverse, and more exciting than at any time in its long history. Recent surveys across all of its departments, schools, and colleges find that the national rankings of the University's academic programs are the highest since these evaluations began several decades ago. The recent rise of the University to national leadership in important characteristics such as the volume of its research activity, the financial success of its medical center, the success of its affirmative action programs, and its financial strength (as measured by Wall Street), are further evidence of its remarkable progress. Indeed, one could well argue that the University of Michigan today is not only the leading public university in America, but that it is challenged by only a handful of distinguished private universities in the quality, breadth, capacity, and impact of its many programs and activities.

We can all take great pride in what the Michigan family--Regents, faculty, students, staff, alumni, and friends--has accomplished during the most stressful of times. We have indeed built the finest public university in America--perhaps

the finest in the world. But we have built a university for the twentieth century, and that century is rapidly coming to and end. The university that we have built, the paradigms in which we have so excelled, may no longer be relevant to a rapidly changing world.

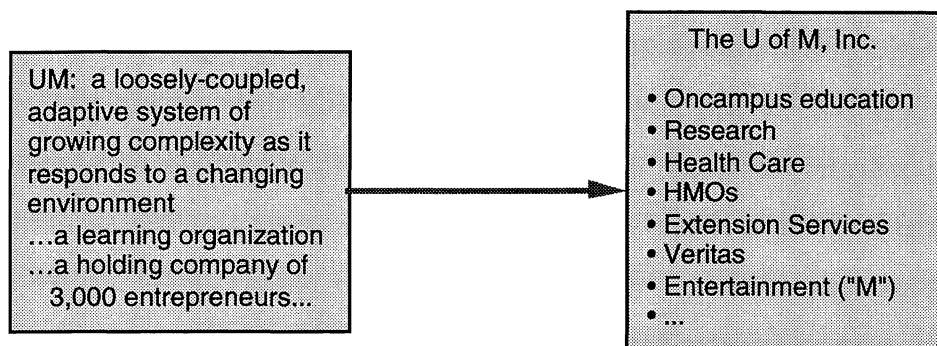
So too, part of our challenge lies in the very complex of the modern university. The public still thinks of us in very traditional ways, with images of students sitting in a large classroom listening to a faculty member lecture on subjects such as literature or history. Our faculty have more of an Oxbridge image, with themselves as dons and their students as serious scholars. The federal government thinks of us as just another R&D contractor or health provider, a supplicant for the public purse.

Yet, in reality, we are something quite different: a complex, international conglomerate of highly diverse businesses. For example, today we find the University of Michigan conducting academic programs for over 50,000 students on three campuses. But we also are one of the largest federal R&D contractors in the nation. We operate a massive medical center treating over 800,000 patients per year, and we are in the process of developing a comprehensive, integrated health care system that will eventually serve millions of Michigan citizens. We run our own capitive insurance company, provide educational services worldwide, operate the backbone of the Internet, and entertain millions of people every week through Michigan athletics.



Today, one finds the University of Michigan as a prime example of what organizational scientists would call a "loosely coupled, adaptive system", growing and evolving in complexity as each of our various components respond

to changes in its environment in such a way as to pursue its particular goals. We are a learning organization, but beyond that, we are a vast holding company of thousands of faculty entrepreneurs. This character as an "entrepreneurial university" has given us a very resilient capacity to respond to change. We have evolved over the years, driven by the creativity, energy, efforts and aspirations of individual faculty and unit, facilitated by a transactional culture in which everything is up for negotiation.



Natural evolution characterized by
 ...a transactional culture
 ...decentralization with optimization at level of individual units
 ...little attention to core mission or fundamental values

Concerns with U of M, Inc.
 ...dilution of "core businesses"
 ...so complex that few understand UM
 ...unable to eliminate outmoded and obsolete activities
 ...our best people are hindered by outdated policies, procedures, practices

Yet with this very success has come some serious challenges. First, it seems increasingly clear that the University has become involved so many activities that we have diluted our core activities of learning--of teaching and scholarship. Second, we have become so complex very few, whether members of the University or constituencies served by it, understand what the institution really is. Third, we have demonstrated a remarkable inability to eliminate outmoded or obsolete activities. Even though we continue to grow, there is a great deal of underbrush that clogs our enterprise. Increasingly outdated and bureaucratic policies, procedures, and practices all too frequently stifle our best and most creative people.

Our challenge is to tap this great source of creativity and energy associated with entrepreneurial activity, but in a way that preserves our fundamental mission our fundamental values. In a sense we need to continue to

encourage our tradition of natural evolution so successful in responding to a changing world, but to do so with greater strategic intent. That is, rather than continuing to evolve as an unconstrained transactional entrepreneurial culture, we need to guide this process in such a way as to preserve our core missions, characteristics, and values.

To this end, we suggest the following general goals

Goal 1: People

To attract, retain, support, and empower exceptional students, faculty, and staff.

Goal 2: Resources

To provide these people with the resources and environment necessary to push to the limits of their abilities and their dreams.

Goal 3: Culture

To build a University culture and spirit which values:

- adventure, excitement, and risk-taking
- leadership
- excellence
- diversity
- caring, concern, and community

Goal 4: The Capacity for Change

To develop the flexibility, the ability to focus resources necessary to serve a changing society and a changing world.

Figure...

Strategic Initiatives

1. Preparation for Change

Our first objective must be to develop a shared vision for the future of the University. This should include the development of a compelling mission statement, along with an assessment of the challenges, opportunities, and responsibilities facing the University in the years ahead. As the first step in this process, extensive discussions and planning exercises were launched involving

faculty, staff, and Regents of the University. Discussions were also held with leaders of higher education and society more broadly. Drawing upon this background, a series of presidential statements have been developed concerning the vision, mission, challenges, and opportunities facing the University (e.g., *Vision 2000: The Leaders and Best*; *Vision 2017: The Third Century*; *The Challenge for the 1990s: Transforming the University*). This dialog is now broadening to include other segments of the University community, including additional faculty, staff, students, and alumni, as well as an array of our external constituents.

Universities, like most large, complex, and hierarchically organized organizations, tend to become bureaucratic, conservative, and resistant to change. Over time we have become encrusted with policies, procedures, committees, and organizational layers that tend to discourage change, creativity, and risk-taking. We must take decisive action to streamline processes, procedures, and organizational structures to enable the university to better adapt to a rapidly changing world. To this end we will soon launch an effort to perform a "process inventory" of the University in an effort to first identify and then remove barriers to change. Included in this effort will be an analysis of policies concerning personnel (both faculty and staff), resource allocation, and program review and modification.

We will continue efforts to develop the capacity for change, by re-engineering processes, policies, procedures, and practices to achieve greater flexibility and more responsiveness. Of particular concern here will be the difficult task of modernizing our personnel policies and tackling the difficult issue of faculty tenure and appointment practices. So too, we must develop more capacity to make programmatic changes consistent with institutional priorities (e.g., a re-design of the program discontinuance policies).

As the University continues to grow, as it must to serve the needs of a knowledge-driven society, we must evolve more sophisticated and responsive organizational, management, and governance structures. For example, it is clear that the present organization of our schools and colleges makes little sense from intellectual, human, or financial resource management perspectives. Further, there is a serious need to restructure our administrative organizations so they may better support the multiple missions of the University. With the appearance of more University-owned subsidiaries to provide services, we may need to experiment with alternative corporate structures such as holding company models. Faculty governance has long been out of touch with the nature and responsibilities of the modern university and stands in major need of overhaul.

We have only scratched the surface in our application of information technology to the activities of the University. In particular, the rapid evolution of networking and communications technology will increasingly decouple the University from the constraints of space and time, permitting students, faculty, staff, and external constituents to interact with our programs from any place at

any time. So too, this technology will permit us to re-engineer the work of the University to achieve far higher quality and efficiency. It should provide far better information for the support of strategy development and decisions.

2. Educational Transformation

There is no more compelling--nor difficult--challenge facing the University than reaffirming its commitment to undergraduate education. We must develop an undergraduate experience that draws on the unique resources of the entire institution to prepare our students for the twenty-first century. While some important steps have been taken by individual colleges, these have been largely efforts to improve upon the *current* paradigms of undergraduate instruction. Far more important--and far more challenging--will be those efforts to create *new* paradigms for undergraduate education that weave together the multiple activities of the University--teaching, research, and service--with student academic programs and residential life. So, too, the involvement of the entire faculty of the University in undergraduate education will be important to this effort. Major restructuring of the student living/learning environment will be necessary to create a comprehensive learning experience for our undergraduates. Key in this effort will be the successful planning, funding, and construction of the Gateway Campus which will become the focal point for the general educational experience of the first two years.

There are many who believe that we will be unsuccessful in achieving the quality and character of undergraduate education appropriate for a great institution such as Michigan without very significant restructuring. Of particular interest has been the concept of a *university college* enrolling all entering students who would then benefit from a general education experience involving the entire faculty of the University, drawing on the full resources of the institution, spanning its teaching, research, and service roles. The success of such a major effort would not only face formidable challenges posed by our existing school and college structure, but it would probably require new facilities such as those proposed for the Gateway Campus and ITIC, as well as significant resource investments.

Michigan must give serious attention to developing a more coherent academic program for all undergraduates, reducing considerably the amount of specialization offered in degree programs, and striving to provide instead a more general liberal learning experience. Further, we should rapidly expand experiments in pedagogical alternatives to classroom learning, including collective learning experiences, the use of research and/or creative projects, and tighter linkages between undergraduate education and our professional schools.

The goal of a more comprehensive undergraduate experience will undoubtedly require a major restructuring of the student living environment as well as those programs and facilities supporting extracurricular activities. So

too, the rapid expansion of distance learning will have significant implications for the evolution of the Ann Arbor campus.

We should make a concerted effort to re-examine the nature and implementation of our various graduate and professional programs. Of particular concern has been the increasing specialization and time required for the Ph.D. degree. Although our professional degree programs have been generally more responsive to the changing nature of our society, there does appear to be a need to develop a closer linkage between these programs and undergraduate education that recognizes the paradigm of lifetime learning that will characterize our graduates. In this regard, more thought needs to be given to continuing education activities, e.g., "just-in-time" learning experiences that provide professionals with the knowledge they need as their careers evolve.

3. Intellectual Transformation

It is important to launch a series of initiatives aimed at overcoming the intellectual barriers posed by disciplinary structures and over-specialization in the scholarship and teaching of our faculty and students. Some of this will be facilitated by new "integrative" facilities, whether *physical* such as ITIC or the Gateway Campus, or *virtual* such as UMNET or UMTV. However it is also important to explore alternative patterns for faculty appointments, assignments, and reward structures. Alternative frameworks for both teaching and scholarship should also be explored--e.g., moving toward a Cornell model of graduate education in which all Ph.D. students are enrolled in the Graduate School and supervised by university-wide faculty committees rather by disciplinary programs.

It is clear that the University must take steps to allow its students and faculty to better respond to the extraordinary pace of intellectual change. Key in this will be breaking down the constraints posed by disciplinary organizations--e.g., academic units such as departments, schools, and colleges, and academic degree programs at the undergraduate, graduate, and professional level. To allow faculty and students to teach, study, and learn where the need and interest is highest, we need far greater flexibility. In this regard, we should develop more flexible structures (e.g., centers and institutes) which span disciplinary boundaries. More faculty appointments should span multiple disciplines--perhaps even spanning the entire University. More effort should be made to coordinate faculty appointments, academic programs, research activities, and resource allocation among academic units.

Of particular importance in this regard will be the development of facilities which integrate the activities of schools and colleges. For example, ITIC is designed to be a "media union," uniting the teaching and scholarship of the schools of the North Campus, Engineering, Music, Art, and Architecture and Urban Planning, using an infrastructure based on a sophisticated information

technology environment. So too, the Gateway Campus is intended to be a facility uniting all of the faculty of the University along with its principal performance centers and exhibit museums in undergraduate education.

Among the greatest challenges faced by the University is the future of its College of Literature, Science, and Arts--the so-called "LS&A challenge." The great size, diversity, and management style of this College seem increasingly incapable of allowing the degree or pace of change necessary to keep pace with the rest of the University, much less the rapidly changing nature of the society it serves. It has become increasingly clear that until LS&A develops more capacity for change--or until it is restructured to facilitate rapid change, such as by breaking it up into academic units of a size more comparable to other units in the University--the ability of the rest of the University to transform itself to serve a changing society will be constrained.

One of the most exciting projects that will receive attention throughout the remainder of this decade is "the New University." The concept is to create an experimental "university within the University," a prototype or test bed for possible features of a twenty-first century university. The "New U" would be an academic unit, consisting of students, faculty, and programs, with a mission of providing the intellectual and programmatic framework for continual experiment. This could be a highly interdisciplinary unit with programs organized around such overarching themes as global change, social infrastructures, and economic transformation. It would span undergraduate, graduate, professional, and continuing education, bringing together students, faculty, and alumni to pool knowledge, work in teams, and address real problems. It would be a crucible for evolving new disciplines through interdisciplinary collaboration. Its programs would promote the transfer of knowledge to society through collaboration, internships, and exchanges of students, faculty, staff, and professionals. The "New U" would also be a place to develop new structural models for the university, to experiment with lifelong education, new concepts of service, faculty tenure, leadership development, and community building.

4. The Diverse University

We must sustain and broaden our commitment to creating a university characterized by great diversity. While we have made great progress in achieving racial and ethnic diversity through the Michigan Mandate, it is important that this remain among the highest priorities of the University to sustain progress. So too, the newly launched Michigan Agenda for Women will be of great importance to the University and to broader society, and we must be steadfast in our commitment to its success. As we move ahead with these important programs, we must also engage the campus community in a broader dialogue concerning the importance of diversity to the future of the institution.

There are compelling arguments suggesting that, just as with biological organisms or ecosystems, the diversity of the University may well be the key characteristic that will enable it to flourish in a rapidly changing environment. Here, diversity goes far beyond racial and ethnic representation to include almost every aspect of the human condition: race, gender, nationality, background, and beliefs. And our challenge will be to build an institution in which people of quite different backgrounds and cultural characteristics come together in a spirit of respect and tolerance for these differences, while working together to learn and to service society.

While sustaining our commitment to diversity based upon race, ethnicity, and gender through a continuation of the Michigan Mandate and the Michigan Agenda for Women, we expect to broaden these efforts to build the character of the institution as a true "world university," attracting students and faculty from around the world, and educating our students to become true citizens of the world.

5. The Faculty of the Future

The changing nature of the university--and the society it serves--compels us to think carefully and expansively about the nature of the faculty of the University in the years ahead. For example, there is a need to launch a discussion concerning the definition and role of the faculty, particularly in the face of the great and growing diversity in missions and activities of our various academic units (e.g., the contrast between clinical departments in Medicine and performance departments in Music). So too, as the character of the faculty and its activities evolves, it is necessary to rethink the privileges and responsibilities of faculty members, including the nature of appointments, tenure, rewards, and retirement. These will be difficult but important discussions that should occur both within and among major research universities.

We will continue our efforts to work with the faculty to understand its future role, opportunities, and responsibilities. For example, with the disappearance of mandatory retirement and the increasing pace of intellectual change, it is clear that the concept of the faculty "contract" with the institution needs to be reconsidered. Is the current faculty career model still viable (i.e., a three-rank promotion structure accompanied by academic tenure in the advanced stages)? Should there be more thorough mechanisms for performance evaluation throughout one's career?

Other issues that should be addressed in the near future include: i) the nature of a faculty member's responsibility to the University as a whole rather than simply to a department or a school, ii) the appropriate balance between long-term faculty appointments and flexible staffing such as lecturers or research scientists, iii) the nature of faculty responsibilities associated with extra-academic student activities such as student life or organizations, iv) the degree to which we

make use of "distant faculty appointments," e.g., faculty who rarely set foot on the campus but rather telecommute to teach, conduct research, or supervise student activities.

6. Serving a Changing Society

There are several ongoing initiatives related to the University's service role. The further evolution of the University of Michigan Medical Center into a statewide health system will require great attention. Of particular importance will be the determination of the appropriate form of leadership/governance for the Medical Center and its associated academic units.

The University intends to launch a series of institution-wide research/service projects aimed at addressing issues of major national concern (the "Research Applied to National Needs" initiative) including global change, human capital, health care, and the digital society. We are also moving ahead with a series of actions aimed at regional economic development as part of the "university enterprise zone" effort. On a broader scale, the role of the University (and Ann Arbor) as an economic engine of the Midwest will become increasingly important.

Finally, it is essential that the University develop and implement a broader strategy concerning K-12 education. Beyond the question of charter schools, it is clear that the University has an unmet responsibility in this area. Although hundreds of faculty and staff are already deeply involved with public schools, these efforts are highly uncoordinated and rarely recognized. We need to establish a University-wide strategy.

Just as it has throughout its history, the University must acknowledge its public nature and be attentive to the needs of the society it serves. While it is important that these efforts align naturally with the University's academic programs and objectives, it is also clear that we will be asked in the year ahead to consider a very broad array of activities in support of our public mission. Clearly, developing the capacity to assess such opportunities--and responsibilities--and then make rational decisions about which to accept will be of great importance. So, too, we will develop the capacity to say "no" when a societal request either does not align well with our academic mission or could better be performed by other societal institutions.

7. Financial Restructuring

Financial restructuring will be an ongoing challenge for several reasons. First, there is little hope that the current trend of deteriorating state support will reverse itself. In this regard, it is important that we keep in mind the assessment of public and business leaders throughout our state: Because of the limited will and capacity to support higher education and in the face of a weakened economy

and other social needs, the state will at best be able to support higher education at the level of a comprehensive four-year college. Further, political pressures will make it increasingly difficult to put a priority on state support for flagship institutions like UM and MSU and instead will drive a leveling process in which the state appropriation per student equalizes across the state. The only prudent course is to assume that state support will continue to decline for the foreseeable future, from its present level of 11 percent of our total budget (and 35 percent of the General Fund) to perhaps 7 percent (and 20 percent) by the end of this decade.

However, balancing this fact will be the extraordinary opportunities afforded by a society which is becoming increasingly knowledge-dependent. Indeed, one might well characterize higher education as the ultimate "growth industry" of the twenty-first century. With vision, skill, and commitment, the University should have little difficulty in generating adequate resources to sustain its quality, breadth, and capacity. Indeed, it should be able to do so while protecting its fundamental character as a public institution--although, of course, the nature of the "public" it serves will broaden far beyond the state to include the nation and the world.

Key in this effort to accommodate declining state support will be the University's ability to determine its own destiny, to take the steps necessary to move in new directions in new ways. In this sense, protecting the constitutional autonomy of the University may prove far more important--and perhaps far more challenging--than sustaining an already mediocre level of state support.

There will be a series of important steps taken to further restructure the University financially to enable us to respond better to the challenges and opportunities of the 1990s. We have already moved beyond the constraints of fund accounting to adopt all-funds budgeting and management. Further, we have informed units of our intent to implement the Responsibility Center Management system in FY95-96. In this system, academic, administrative, and auxiliary units of the University will retain all unit-generated revenues (e.g., tuition, research support, private gifts, and auxiliary income) with the associated responsibility of covering all unit-driven costs. The University will then impose a tax on unit expenditures (probably at a 10 percent level) to cover centrally provided services and provide a pool of funds to use for conscious net subsidy of those academic units unable to fully cover their costs. In a parallel step, the University must make far more use of competitive pricing and outsourcing of internal services, thereby providing units with far better capacity for controlling costs and streamlining internal operations.

To move the University forward, it will be necessary to gain far more flexibility to support new initiatives and change. While the Responsibility Center Management system should provide some of this capacity, it will be important to

attract or reallocate sufficient "venture capital" to support the array of initiatives associated with University transformation throughout the next several years.

As a third class of initiatives, it will be important to continue our exploration of alternative corporate structures for the extraordinarily diverse range of University activities. For example, there will be further effort to create University-owned subsidiary corporations such as M-Care in our health system development. So, too, we are exploring the possibility of further partnerships with independent foundations such as the Davidson Institute and the Howard Hughes Medical Research Institute. The involvement of the Board of Regents will be critical in all of these activities.

Of course, key to these efforts and of highest priority will be the successful completion of the ongoing Campaign for Michigan and the further strengthening of our development enterprise.

8. Preparing for the Future

Key in preparing for the future will be the selection and appointment of leaders throughout the University characterized by great vision, energy, and a sense of adventure. Simply selecting leadership to maintain the status quo will not be adequate. We must build a leadership team that is not only committed to the necessary transformations in the University, but that relishes the role of leading during a time of challenge and change.

High priority must be given to finishing the effort to "rebuild" the Ann Arbor campus of the University. Ongoing projects must be managed to completion, and new projects must be launched to complete the last stages of renovation on the Central Campus. While we do not anticipate the need for a great deal of new construction in the latter half of the decade, there will be a few projects of great importance such as the Gateway Campus. Further, we must continue our efforts to build adequate capacity to eliminate the deferred maintenance backlog and sustain our rapidly improving physical plant.

There will be continued actions to facilitate campus evolution in a way that serves our various units and our surrounding community. For example, the development of the outpatient care center in northeast Ann Arbor will be a high priority. We will also need to acquire or develop additional facilities in south Ann Arbor to accommodate the business and administrative operations of the University. And the University will continue to expand its off-campus activities, both through extension and computer networking.

We must undertake a thorough examination of the changing educational needs of our society to better understand the changing marketplace for higher education. It will be particularly important to understand the appropriate role for the University in distance learning and lifetime education.

It will be important to explore and develop new paradigms of teaching, research, and service, if we are to serve a rapidly changing society. It is clear that in a knowledge-driven society, we need to both increase and broaden the educational services we provide. For example, in a future in which lifetime education becomes a necessary for high quality of life, the University must become involved to some degree with the full continuum of education, from K-12 education through our traditional degree programs at the undergraduate, graduate, and professional levels to continuing education and intellectual enrichment. In this regard, it will also be necessary to explore more significant educational product differentiation, e.g., contrasting between residential (campus-based) educational programs and distance learning.

Of particular importance here will be the exploration of paradigms for offering educational services based upon sophisticated information technology networks. Because of its leadership role in building and establishing the Internet, the University is well-positioned to become a leader in developing the paradigm of a "cyberspace" university, in which students, faculty, and alumni are linked together worldwide.

Over this longer time frame, it is clear that there will be a very significant restructuring in higher education. To anticipate this, we are exploring and establishing strategic alliances with regional institutions (e.g., the Big Ten universities), national institutions (e.g., the Tanner Group), and international institutions (e.g., Europe and Asia). It will also be important to explore alliances with other knowledge-based institutions in both the public and private sector (e.g., software and entertainment companies or national laboratories and institutes).

9. Cultural Change

Among the more difficult challenges will be those changes in the "institutional culture" necessary to respond to a changing world. For example, it is clear that during a period of rapid change, the capacity of the University to try new things, to be adventurous and experimental, will become increasingly important. Indeed, the unusual size, comprehensiveness, and quality of the institution should provide it with an unusual capacity for such risk-taking. Yet, ironically enough, the Michigan culture today is quite conservative and adverse to risk. We must create a fault-tolerant community, in which risk-taking is encouraged, failure is anticipated and tolerated, and creativity and innovation are prized.

Second, we must take steps to better align responsibility with authority and privilege. All too often, those with the responsibility for various decisions or goals are not provided with the authority or trust necessary to accomplish these objectives. Then, too, there are those, including many members of the faculty,

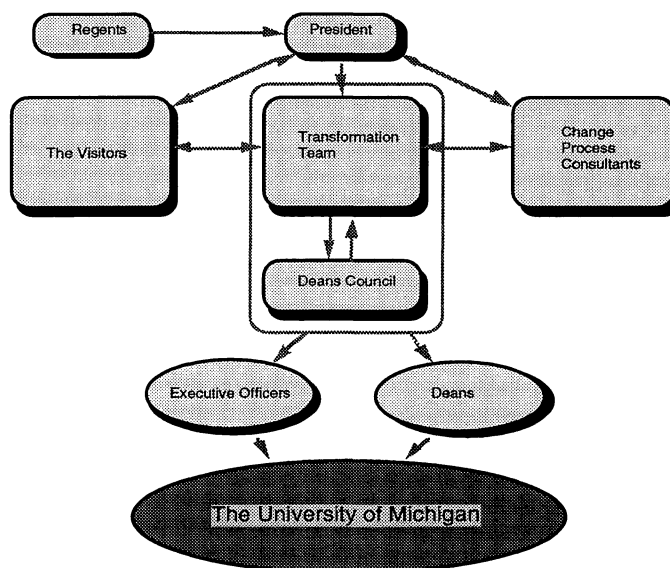
who are in positions of great privilege, and yet are reluctant to acknowledge their responsibility and accountability to the University or the society it serves.

Finally, the increasing specialization of faculty and the long tradition of decentralization has eroded the sense of a learning community and the commitment to general institutional goals. Indeed, all too frequently faculty, students, and staff focus primarily on professional goals rather than the welfare of the University. We need to re-establish a sense of pride in, respect for, excitement about, and loyalty to the University of Michigan

Tactical Implementation

Structure and Organization

The leadership for the transformation effort should be provided by a team of executive officers, deans, and directors, augmented by an advisory group of faculty experts on organizational change and a board of visitors. A proposed leadership structure is diagrammed below:



Here the EO-Dean transformation team will consist of those executive officers with responsibilities for the operations of the UM-Ann Arbor campus (e.g., the President, Provost, EVPCFO, VP-Research, VP-Student Affairs, and VP-University Relations). It is also important to note that this group of executives is quite unusual in higher education, since all have doctorates and experience as faculty. Furthermore, all have extensive experience outside the University spanning higher education, state and federal government, and the private sector.

Selecting a subset of the deans is a bit more difficult, since it is important to choose individuals with university-wide interests and commitments. Normally this would be the SOUP group (the Seminar on University Priorities).

However this group is currently in a state of flux with many of the key deanships turning over soon. Hence it may be better to select a group separate from SOUP which could eventually evolve into a "SOUP-II" at a later date. We probably should also begin with a small group of deans capable of setting aside school and college agendas and dealing with institution-wide issues.

The Change Group II would consist of faculty and staff members with broad experience on institutional change.

The group of visitors has been recruited and will have its first meeting in spring of 1994. At the present time, this group consists of: Bob Teeter, Al Taubman, Harold Shapiro, Frank Rhodes, Frank Popoff, Tony Novello, Bob Nederlander, Jim McDivitt, Russ Mawby, David Hermalin, Alan Gilmour, Bill Jentes, and Geraldine Ford. This group will meet quarterly with selected members of the transition team and, on occasion, jointly with members of the Board of Regents.

Clearly there is a need for strong faculty participation. At the present time it seems unlikely that either SACUA or the Senate Assembly are sufficiently representative of our most distinguished faculty to play this role. Other possibilities include some grouping of the school and college executive committees or the "Network of 100" most influential faculty members identified last year with the assistance of the deans.

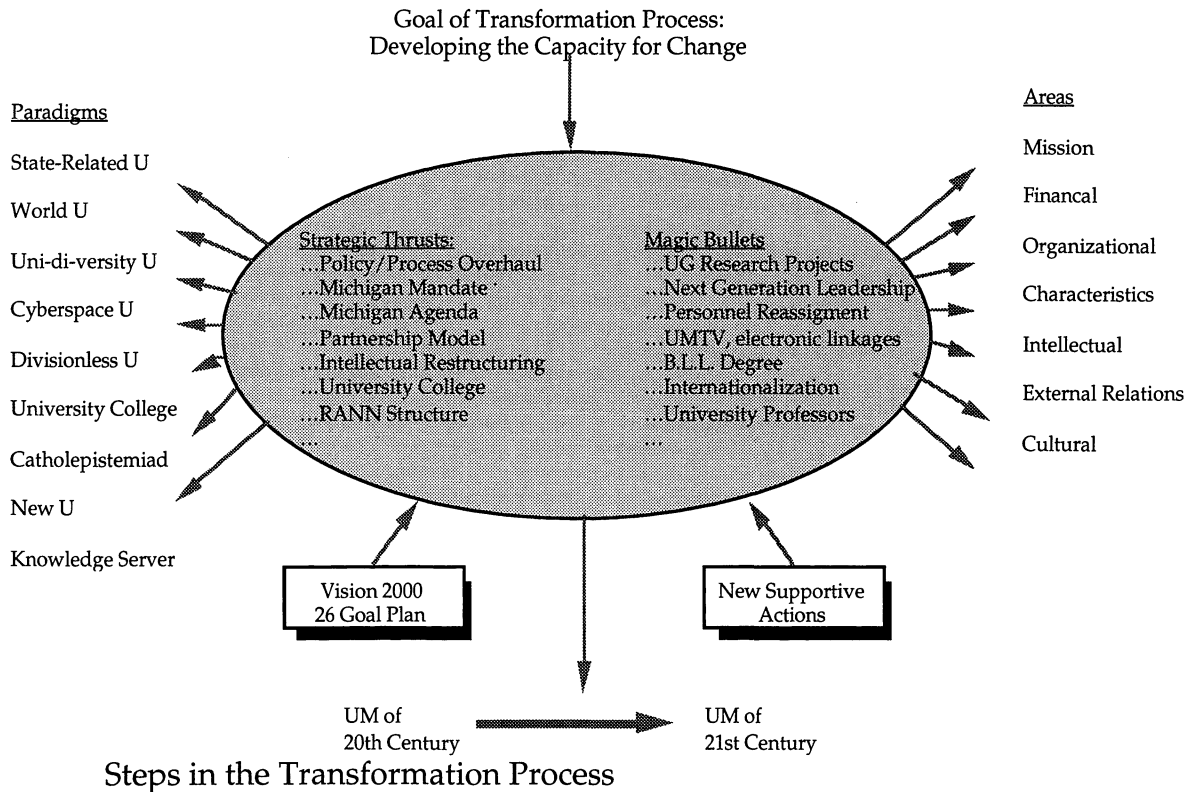
The key approach to achieving transformations across these areas that move the University toward Vision 2017 will be to organize the effort through a series of strategic thrusts or initiatives. Each such strategic thrust will be designed as self-contained effort, with a clearly-defined rationale and specific objectives. However all such initiatives will be chosen to move the University toward the more general (and abstract) goals of Vision 2017. Further, care will be taken to monitor and coordinate carefully the strategic thrusts, since they will interact quite strongly with one another.

Examples of possible strategic thrusts include:

- The Michigan Mandate
- The Michigan Women's Agenda
- Financial Restructuring
- Asset Management
- M-Quality
- Campus Evolution
- Intellectual Restructuring
- Research Environment
- Superstar Project
- The University College
- Student Living/Learning Environment

- Leadership Development
- Human Resource Development
- Community Building
- The Electronic University
- The World University
- University Enterprise Zones
- Community Relations
- State Relations
- Federal Relations
- Alumni Relations
- Strategic Marketing/Communications
- Networking the University (ITD, UMTV, ...)

The diagram below provides a sense of how these strategic thrusts relate both to the areas of transformation and the Vision 2017:



Experience demonstrates that the process of transforming an organization is not only possible but also understandable and even predictable, to a degree. The revolutionary process starts with an analysis of the external environment and the recognition that radical change is the organization's best response to the challenges it faces. The early stages are sometimes turbulent, marked by conflict, denial, and resistance. But gradually, leaders and members of the organization begin to develop a shared vision of what their institution should become and turn their attention to the transformation process. In the final stages, grass-roots

incentives and disincentives are put into place to create the market forces to drive institutional change, and methods are developed to measure the success of the transformation process. Ideally, this process never ends.

Of course, much of the preparation for this transformation has already occurred, including launching several of the major strategic thrusts. The speeches and writings of the President have focused on institutional change. A series of planning groups, both formal and ad hoc, have met to discuss the future of the University (including the Strategic Planning Teams of the late 1980s, the Futures Group in various guises, ad hoc meetings of faculty across the University, the Prahalad discussions, and several joint retreats of EOs, Deans, and faculty leaders). A Presidential Advisory Committee has been formed and met regularly on strategic issues for several years. A series of joint luncheon discussions involving the Deans and EOs has been held and focused on the change process. And extended strategic discussions with the Board of Regents has been initiated and will continue through the transformation effort.

Hence we are now ready for a more systematic approach to the transformation process:

Step 1: Build a Shared Vision Among the Executive Officers

It is critical that all members of the EO-Dean Transformation Team buy in to the transformation process and fully support it. To this end, the following steps are proposed for the Winter Term:

- i) Take the EOs (the "mini-EO group") through a detailed discussion of the rationale behind and elements of the proposed transformation process.
- ii) Focus, in particular, on the various planning documents along with the documents prepared at peer universities.
- iii) By the end of the Winter Term, gain a firm commitment by all members of the EO team both to the Vision 2017 and to the transformation process.

Step 2: Augment the EO Team with Selected Deans and Directors

It is important to build a similar understanding and commitment on the part of key deans and then to merge them and the EO group into the Transformation Team:

- i) First invite a very small group of deans to participate in discussions concerning the transformation process.

- ii) Then, after these have had a chance to buy-in, invite several of the more powerful deans and directors to joining the group.
- iii) After this group has been formed and bought up to speed, seek to merge it with the EO group.

Step 3: Involve the Regents in the Transformation Effort

It is essential that the Regents play an active role in the design and execution of the transformation process. Key elements will include:

- i) Informal discussions of long range strategic issues held during the course of each monthly Regents' meeting.
- ii) Joint retreats with the Executive Officers on key strategic issues
- iii) Joint meetings with various University visiting groups such as the President's Advisory Council.
- iv) The preparation of position papers to provide the necessary background for key decisions the Regents must make as the transformation effort moves forward.

Step 4: Creation of Advisory Bodies

In parallel with the leadership team building effort, form and begin to use the advisory groups including the visiting group, the President's Advisory Council, and the Change Group II. We should also construct internal advisory groups:

- i) A group of leading deans
- ii) A group representing the executive committees of the schools and colleges

Step 5: Implementation of Strategic Communications Efforts

Effective communication throughout the campus community will be absolutely essential for the success of this effort. Since there is extensive experience in the design and implementation of such communications programs in the private sector, we might well wish to engage private consultants in helping us design and execute this effort.

Step 6: Launching Presidential Commissions

After the Transformation Team has identified the key strategic thrusts, we would next form a series of Presidential Commissions to study the issues associated with these initiatives and develop specific recommendations. These commissions should be chaired by our most distinguished and influential faculty and heavily populated with change agents.

Examples of such commissions include:

- Tenure and Promotion
- The University College
- University Venture Capital ("IR&D Funds")
- Faculty Accountability and Responsibility
- Student Living and Learning (already underway)

Step 7: Igniting the Sparks of Transformation

There are two general approaches to changing organizations: In "command and control" approaches, one attempts to initiate and sustain the process through top-down directives and regulation. However, since power declines rapidly with the distance from the leadership, this approach has limited utility in large organizations.

The alternative approach, more appropriate for large, complex organizations such as the University, is to create self-sustaining market dynamics, e.g., incentives and disincentives, that will drive the transformation process. A good example here is provided by the Target of Opportunity Program for minority faculty hiring. Despite the University's commitment to increasing minority representation on the faculty, we were simply not effective using affirmative actions programs and edicts from the top, since these were largely ignored by the search committees several levels down the organization hierarchy. When we put into place the Target of Opportunity program, we created market forces at the levels of the search, since successful minority searches drew resources from less successful units (both a carrot and a stick). Only then did we begin to see real results.

Hence, for each of our major strategic thrusts, we need to identify highly targeted actions, "magic bullets", which create the incentives and disincentives, and ignite the sparks necessary for grass-roots change. This is where the real creativity in the design of the transformation is needed.

Step 8: Streamlining Processes and Procedures

Universities, like most large, complex, and hierarchically-organized organizations, tend to become bureaucratic, conservative, and resistant to change. Over time we have become encrusted with policies, procedures, committees, and organizational layers that tend to discourage risk-taking and

creativity. We must take decisive action to streamline processes, procedures, and organizational structures to enable the University to better adapt to a rapidly changing world.

Step 9: The Identification and Activation of Change Agents

It is important to identify individuals at all levels and in various units of the University who will buy into the transformation process and become active agents on its behalf. In some cases these will be among our most influential faculty or staff (e.g., the Network of 100). In others, it will be a group of junior faculty, young Turks. In still other situations, it may be key administrators. We must design a process to identify and then recruit these individuals.

Note that there is an important distinction between the role of the Network of 100 group and the change agents. We need to work closely with the group of most influential faculty and staff, since their understanding and support of the effort will validate the transformation process. In a sense, they will be the target audience for many of our communication efforts.

In contrast, the change agents will play an active role by actually moving the process ahead. They will also be key in our efforts to communicate with the broader University community.

Step 10: Selecting Leadership for a Time of Change

Finally, and most significant of all, we must use every opportunity to select leaders at every level of the University--deans and directors, chairs and managers--who not only understand the profound nature of the transformations that must occur in higher education in the years ahead, but who are effective in leading such transformation efforts.

Resources (Budgets, Investments)

Assignments, Responsibility, and Accountability

Supporting Activities

Key in any such transformation is an articulation of the need to change and a vision of where the change process is to lead. While the debate over specific elements of the transformation process should involve broad elements of the University community and its constituents, the vision itself should come--indeed, must come--from the President.

The case for transformation and both short-range visions (*Vision 2000*) and long-range visions (*Vision 2017*) have been articulated in a series of documents intended to serve as the foundation for the effort. Further, these documents

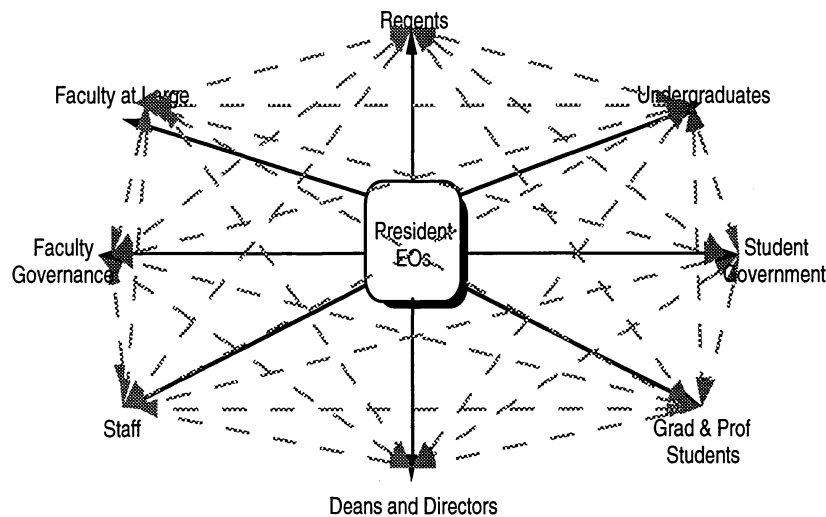
summarize the ongoing planning effort, develop a scheme to measure progress toward goals, and sketch a plan for transforming the University.

Beyond this task, the President must serve not only as the leader of the transformation effort, but also as its principal spokesman. In an academic institution, the President will serve in many ways as a teacher, explaining to various campus and external constituencies the need for transformation and setting out an exciting and compelling vision of where the transformation process will lead.

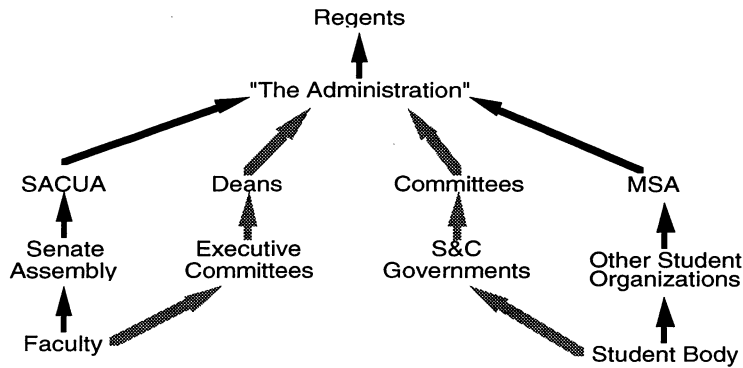
Critical to both the transformation process and the President's role is a sophisticated, effective, and strategic communications efforts.

Another critical supporting activity will be communications. Of most importance will be internal communication, since without some understanding of goals and process, the University community will react to any transformation with fear and resistance.

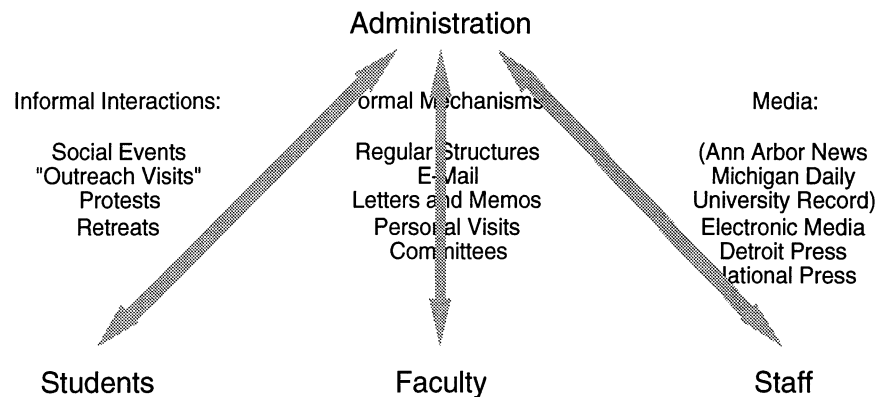
We must develop a strategic communications plan which not only strives to convey the key rationale and themes of the transformation process, but also is capable of sensing the key concerns and attitudes of various elements of the University community. In this sense, our communications efforts should be more akin to those of a political campaign--to establish the key themes and sense the mood of the electorate. Here we face the usual complexities of dealing with diverse constituencies



Here we must take full advantage of both formal communication channels



and informal mechanisms:



So too, we must develop an effective plan for communication with various external constituencies of the University. This will be particularly challenging as the University itself continues to change.

Benchmarking and Assessment

Beyond the development of appropriate metrics capable of measuring the impact of the transformation process and the progress toward goals, the University also needs to develop better capacity to benchmark itself against not only other peer universities, but as well other organizations in the public and private sector. Of particular importance will be comparisons of costs, productivity, quality.

So too must we develop the capacity to measure attitudes both on campus and beyond. We have made a good start at developing the capacity to do polling to understand public attitudes toward the University, but we now need to develop a program of sustained polling both within and external to the University.

Concluding Remarks

The task of transforming the University to better serve our society, to move toward the visions proposed for the century ahead, will be challenging. Indeed, perhaps the greatest challenge of all will be the University's very success. It will be difficult to convince our people who have worked so hard to build the leading public university of the twentieth century that they cannot rest on their laurels. The old paradigms simply will no longer suffice. The challenge of the 1990s, in a very real sense, is to re-invent the University to serve a new world in a new century.

The transformation of the University in the years ahead will require wisdom, commitment, perseverance, and considerable courage. It will require teamwork. And it will also require an energy level, a "go-for-it" spirit, and a sense of adventure. But all of these features have characterized the University during past eras of change, opportunity, and leadership. After all, this is what the Michigan spirit is all about. This is what it means to be "the leaders and best."

Appendix A

Mission, Values, and Vision

The Mission

Mission Statement: Creating, preserving, integrating, transmitting, and applying knowledge to serve society.

Products and services:

Knowledge and knowledge-intensive services
Educated people

Clients and constituents

Primary: Society at large
Others: Students, patients, sponsoring agencies...
Shareholders: State, feds, private sector, public

Market Niche: Leadership

Values

- Excellence
- Leadership
- Critical and rational inquiry
- Liberal learning
- Diversity
- Caring and concern
- Community
- Excitement

Descriptors

- "The leaders and best . . . "
- "An uncommon education for the common man (person) . . . "
- "A broad and liberal spirit . . . "
- "Diverse, yet united in a commitment to academic excellence and public service . . . "
- "A center of critical inquiry and learning . . . "
- "An independent critic and servant of society . . . "
- "A relish for innovation and excitement . . . "
- "Freedom with responsibility for students and faculty . . . "
- "Control of our own destiny comparable to private universities..."

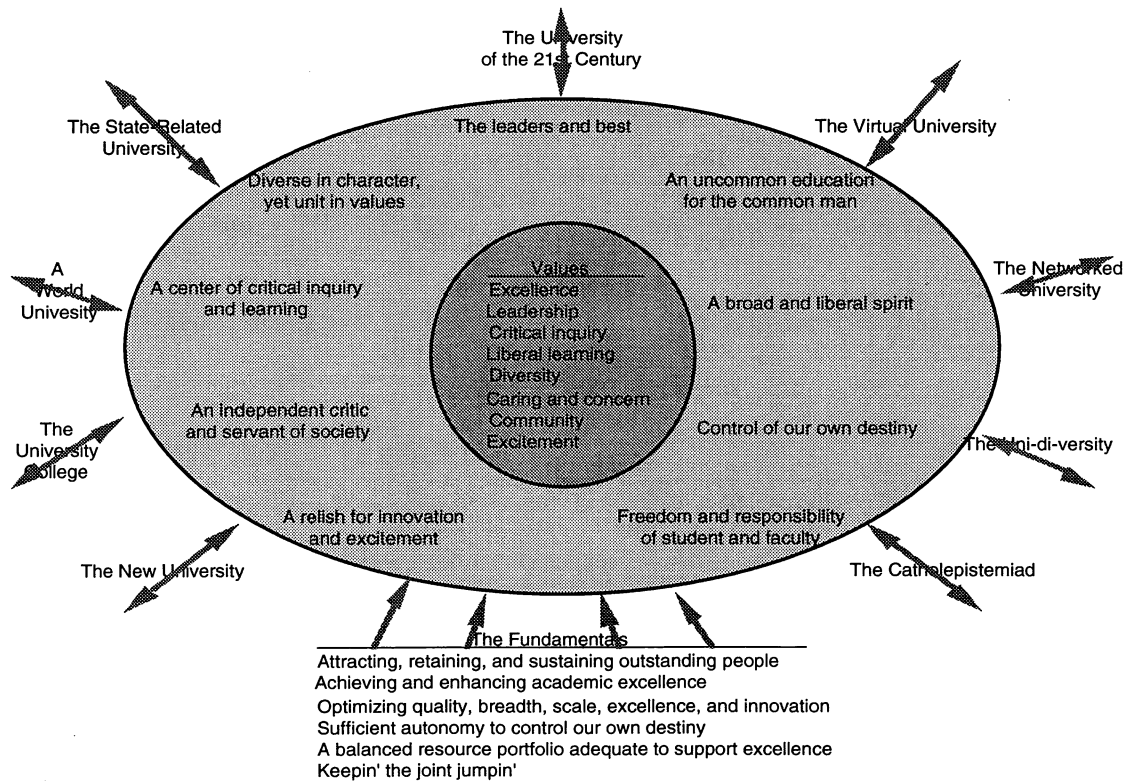
Fundamental Actions

- Attracting, retaining, and sustaining the most outstanding people (students, faculty, staff)
- Achieving, enhancing, and sustaining academic excellence in teaching and scholarship
- Optimizing the balance among quality, breadth, scale, excellence, and innovation
- Sufficient autonomy to control our own destiny
- A diversified resource portfolio, providing a stable flow of resources necessary for leadership and excellence regardless of the ebb and blow in particular areas (state, federal, private giving,...)
- Keepin' the joint jumpin'!

Vision 2000

To position the University of Michigan to become the leading university of the twenty-first century.

Vision 2017



Appendix B

The Goals

1. To provide the University with the capacity to transform itself into an institution better capable of serving our state, our nation, and the world.
2. To sustain the core values of the University--excellence, leadership, critical inquiry, liberal learning, diversity, caring, and community--in the face of the extraordinary changes occurring in our world.
3. To foster a new spirit of adventure and excitement within the University by encouraging students, faculty, and staff to push to the limits of their creativity and their ability.
4. To launch a series of experiments to explore various alternative paradigms of the "University of the 21st Century".

Appendix C

Strategic Initiatives

1. Preparation for change

Vision Statement, Transformation Plan
 Process Inventory
 Re-engineering processes, policies, and practices for flexibility
 Evolving to more sophisticated management structures
 Restructuring administrative organizations
 Restructuring faculty governance
 Re-engineering with information technology

2. Educational transformation

Undergraduate Education
 Gateway Campus
 Student living environment
 The "University College" for undergraduate education
 Completion of the Gateway Campus
 Shifting from specialized degree programs to "liberal learning"
 Linkages between professional schools and UG education
 Restructuring the Ph.D. (and Rackham)
 Continuing education and "just-in-time" learning

3. Intellectual transformation

Integrative structures (ITIC, Gateway Campus, virtual)
 Alternative faculty appointment and reward structures
 Alternative structures for teaching and scholarship
 Developing more flexible structures for teaching and research
 Broadening faculty appointments
 Integrative facilities (ITIC, Gateway Campus)
 "The LS&A Challenge"
 The New University

4. The diverse university

The Michigan Mandate (continued)
 The Michigan Agenda for Women (continued)
 A general strategy for diversity
 Broadening the diversity agenda beyond race and gender
 The world university

5. The faculty of the future

- Definition and role of faculty
- Promotion, tenure, and retirement
- The faculty contract
- The balance between long-term and flexible staff

6. Serving a changing society

- Evolution of UM Medical Center
- Research Applied to National Needs
- UM involvement in K-12 education
- Serving a knowledge-intensive society
- Developing the capacity to say "no"

7. Financial restructuring

- Accommodating the virtual disappearance of state support
- Protecting the public character of the University
- Protecting the autonomy of the University
- All-funds budgeting and management
- Responsibility Center Management
- Competition for internal services
- Development of investment capital
- Exploration of alternative corporate structures
- Successful completion of Campaign for Michigan

8. Preparing for the future

- Next generation leadership
- Completion of effort to rebuild Ann Arbor campus
- Campus evolution
- New market exploration
- Increasing and broadening educational services
- The cyberspace university
- Strategic alliances

9. Cultural change

- Risk-taking, fault tolerance, adventure and excitement
- Alignment of responsibility and authority
- Alignment of privilege and accountability
- Balancing decentralization with University goals
- Achieving a commitment to community, tolerance, and respect
- Establishing a sense of pride in, respect for, excitement about,
and loyalty to the University of Michigan!

Appendix D

The Magic Bullets

Those particular actions/themes that are candidates to become "magic bullets," i.e., create strong market forces at the grass-roots level to drive change, are listed below:

1. The University College (. . . "A Michigan Education")
2. The New University
3. The Diverse University
4. The Cyberspace University
5. Research Applied to National Needs
6. Faculty of the Future Agenda
7. Restructuring of UM "Corporate" Structure
8. Responsibility Center Management, Outsourcing
9. Next Generation Leadership