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KU and Kansas City: Partnership for Excellence

**A Report to the Higher Education Task Force
Of the Civic Council of Greater Kansas City**

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Introduction: The Challenge

Ten years ago, Kansas City civic leaders authorized the Battelle Report, which tied Kansas City's future success to the emergence of a strong research university with a full array of graduate programs. It was clear to that group of leaders that substantial benefits flow from a strong partnership with a major research university, and that those benefits are vital to Kansas City's economic future.

The decade intervening has proven the point. The role of universities in economic development is fundamental, because the economic environment places a premium upon intellectual capital – the development of which is at the core of what animates major research universities. It is generally argued that fully half of the technological innovations driving the current robust American economy emerged from university research and development. For example, university research created the Internet. Faculty funded by the Defense Department and the National Science Foundation developed it for scholarly communication; once its economic potential was realized, the private sector used the technology to transform American commerce. This should be no surprise. Since World War II many of the engines that drive the American economy have originated in universities: plant breeding for agriculture's "green revolution," parallel processing of computers which makes the Internet possible, the innovative materials which lead to advances in aerospace technology—all are products of a society which links education and research.

The National Governors' Association recently reported "In the new economy, the fastest growing regions are those attracting firms that constantly innovate, bring new products to market, and maximize the use of technology in the workplace. The State University System is the most powerful tool states have to create such an environment." According to this report, 29 of the 30 fastest growing, high technology metropolitan areas are home to, or very near, a research university.

The University of Kansas and Greater Kansas City are fortunate to enjoy such proximity. With the Medical Center campus in Kansas City, Kansas, the Edwards Campus in Overland Park, and KU's main campus in Lawrence, Kansas City enjoys geographical access to a major, comprehensive state university of 28,000 students, 8,000 of them graduate students, who study in 325 degree programs. KU's 2,132 faculty and 9,993 staff not only serve and maintain a billion-dollar asset, they also secure \$168 million annually in research funding for investment in the greater Kansas City economy. The driving times between KU's campuses and most locations in the Kansas City metropolitan area are comparable to those in Silicon Valley, Boston's Route 128, Phoenix, and other high technology metropolitan areas that harness the expertise of their nearby research universities. Perhaps this proximity is one reason why 32% of KU's total enrollment, and 37% of its graduate students come from the Kansas City area. KU has 57,140 alumni living in Greater Kansas City.

This paper shares KU's comprehensive plan for building on these assets and placing the University among the nation's top institutions of higher education. It is not a "wish list." It is a strategic plan formulated over the past five years, and being executed today. It assumes that KU will manage its enrollment growth to no more than 2% per year, keep the same undergraduate-graduate mix, and maintain its non-resident enrollment at 30% to 40%. At the same time, KU will improve the quality of its student body, its faculty, and its facilities.

It is a plan premised upon all KU campuses acting as one university, and that one university serving as the research university for both Kansas and the Kansas City bi-state area. It assumes that KU will continue to fulfill a statewide mission for Kansas in selected areas, such as health care and law, and that the University will focus so clearly on quality that national recognition will feature the high standards of its undergraduate, graduate, and research programs.

Finally, it is a plan that recognizes that neither the Kansas City community nor the University of Kansas has fully benefited from, nor fully realized, the mutual benefits of a partnership between a dynamic city and a major research university. There are many reasons for these past failures, but the University of Kansas probably bears a major responsibility for failing to embrace Kansas City. With that said, the University's current behavior and strategic plan seek to remedy the errors of the past and realize the potential of such a partnership for the future.

In the short term (seven to ten years) KU expects to achieve eminence as one of the top 25 public universities in the United States. Within 20 years, KU expects a place of recognition among the top quartile of major American universities, both public and private. These goals can be attained if Kansas City civic leaders trust, invest in, and support KU, and KU makes the necessary commitments to enhance its quality.

This paper, specifically prepared for the Kansas City Civic Council, explains how the University's plan to achieve these goals will be particularly relevant for the new

economy developing in Greater Kansas City—especially in the areas of information technology and life sciences. The initiatives described here will create important opportunities for the University to support existing and emerging Kansas City economic development trends, expand the range of educational programs for Kansas City workforce development, and bring resources and focus to KU’s Edwards Campus in Johnson County, its Medical Center on the State line between Kansas and Missouri, and its Lawrence Campus, a short commute away from Bartle Hall and Crown Center.

Building An Enhanced National Profile – A Top 25 Public University

By virtually any meaningful measure, the University of Kansas is an outstanding public institution of higher education and a major asset to Greater Kansas City. The Carnegie Foundation ranks research universities according to the number of doctorates granted annually and the size of the university’s annual extramural funding. KU is ranked by Carnegie as a “Research I” university, the top rank, one of only 88 universities so honored, and the only university of this rank in the greater Kansas City area. In addition, KU is one of only 32 public universities granted membership in the 61-member American Association of Universities, the most prestigious consortium of research universities in America, which includes such institutions as Harvard, Yale, Stanford, Michigan, Berkeley, and North Carolina. KU has 17 programs ranked among the top 30 in the country in particular disciplines, including two programs ranked No. 1 in the country. The only university in the greater Kansas City area with any programs ranked in the top 30 by various ranking agencies, KU is identified as one of 21 “rising stars” by Graham and Diamond in their recent book, *The Rise of American Research Universities* (Johns Hopkins University Press).

Notwithstanding that generally high quality, it is clear that KU must do more and be more if it is to remain vital in the new century, and if it is to fully occupy its place as Greater Kansas City’s research university. If the development of intellectual capital is the key to success in the knowledge economy, then KU must enhance its capacity to contribute to that development. Put bluntly, KU is a much better university than its public funding would suggest, but it must significantly improve if it is to reach its goals and serve Kansas City as well as it should.

It has always been difficult to measure how well universities develop intellectual capital. In recent years, however, various ranking mechanisms have emerged that seek to provide some sense of how universities measure up. Rankings matter in America, and it is now clear that rankings matter to American universities. However imprecise, rankings are a proxy for quality. If KU is to achieve its full potential and live up to its status as Greater Kansas City’s research university, it must embark on a strategy to enhance its quality in ways that will elevate its position in those various rankings.

Rankings of universities are done in many different ways. The most prominent of the overall university rankings is undertaken by *U.S. News and World Report (U.S. News)*. The overall *U.S. News* ranking takes a global look at many aspects of the entire university, but its priority is on undergraduate education. Rank is based on reputation,

undergraduate retention rates, undergraduate admission standards, and support to faculty, along with other factors. In the most recent version of this overall ranking, KU placed in the second of four tiers into which *U.S. News* divides 228 “national” universities. Only 50 universities are included in the first tier; of those, only 17 are public institutions. Of the top 25 universities in the *U.S. News* scheme, only four (UCLA, Berkeley, Michigan, and Virginia) are public institutions. Among national public universities, *U.S. News* ranked KU 38th in 2000; in 1999 KU ranked 30th. The difference was largely a function of a year of below-average state support for faculty salaries, resulting in KU dropping on the faculty support measure from 85th to 101st. This shift illustrates not only how rankings can change dramatically from year to year, but also how resource inputs can improve such rankings, especially if an institution’s academic reputation ranks high. KU’s academic reputation ranks 28th among public universities.

There are other important ranking efforts as well. Some key rankings, such as the annual National Science Foundation (NSF) indicator, focus on a single major aspect of the total university. The NSF ranking is based on annual science and engineering research expenditures from external grants and contracts, from gifts, and from internal sources such as state research budgets. All federal agencies, state agencies, and corporations are considered as external funding sources. Only expenditures for science (broadly interpreted) and technology are considered for these rankings. NSF does rankings for both total expenditures in these areas and for federal expenditures alone. In fiscal year 1998 (the most current figures available), KU ranked 54th among the 361 public universities in total research funding and 60th on the federal funding measure. On those same measures, when all 547 research universities (public and private) are considered, KU ranked 77th in total research funding and 93rd in federal research funding. All of these rankings are in the top quintile (20%) nationally.

Still other rankings focus on single programs. Both *U.S. News* and NSF do individual program rankings at the graduate level, as do the National Research Council and the National Institutes of Health (NIH). A number of KU programs have achieved national prominence as measured by these individual program rankings.

The KU School of Pharmacy, for example, ranks fourth in the nation in securing NIH research funds. This is a key indicator of biotechnology research strength. According to NSF, KU’s electrical engineering federal research expenditures, an important measure of information technology research prowess, ranked 23rd among all public universities. In its ratings of graduate programs, *U.S. News* ranked the KU School of Education as 23rd in the nation, while its Department of Special Education is rated as the best in the country – No. 1. The KU Education School ranked fourth in the country in research funding. The University’s master’s degree program in public administration is ranked sixth in the country, and its program in city management and urban planning is ranked No. 1.

U.S. News ranked KU’s paleontology program fifth in the country, its sedimentology program 10th, its School of Social Welfare 19th, its pharmacy program

21st, and its master's of music 26th. The National Research Council ranks KU's Spanish program 11th nationally for the scholarly quality of its faculty.

The most recent *U.S. News* rankings cited several Medical Center programs. The master's in public health program is ranked fifth in the nation, while speech pathology is ranked seventh, audiology is ninth, physical therapy is 28th. The School of Nursing is ranked 14th in nursing research, and its telemedicine program fourth in the country. The basic science programs of the School of Medicine are ranked 43rd of 128 medical schools in funded research; 47 of its physicians are included in the book, *Best Doctors in America*.

Finally, the University rates highly on two measures that could be significant as it seeks to elevate its profile generally. According to the National Merit Scholarship Corporation, the University of Kansas is ranked ninth among public institutions in the number of National Merit Scholars who enrolled in the 1999 freshman class. In addition, the KU Endowment Association has the 16th largest endowment (\$1 billion) among all national public universities. These high rankings illustrate the University's ability to attract high quality students, and its capacity to attract substantial private support. Both of these are important indicators upon which to build as KU seeks to elevate its overall ranking and prominence. In sum, the current KU rankings paint a picture of a generally strong university that contains several pockets of nationally recognized excellence.

An analysis of what lies behind these numbers, particularly the *U.S. News* ranking, sheds light upon what will be required to move KU from general strength to overall excellence and a place among the nation's top 25 public universities. To reach that level of excellence, the University must

- (1) strategically plan to improve the quality of its traditional strengths as an undergraduate and graduate teaching institution,
- (2) increase federally funded research, particularly in the sciences and engineering, with focus on the life sciences and information technology, and
- (3) increase the level of support generally for the University and its programs.

Maintaining and Building on Strength: KU's Strategic Planning

In 1998, KU engaged in an extensive strategic planning effort that identified four strategic goals that would maintain the University's current strengths and position it to capture future opportunities. Those four goals are:

- Act as One University
- Be Kansas City's Research University
- Serve Kansas
- Build Premier Learning Communities

Each of these goals is designed to enhance the quality of the University and identify sources of funding for improvements.

- Acting as one university enables KU to maximize existing resources, cut costs, eliminate duplication, develop efficiencies and economies of scale, create synergies, and reallocate funds to programs capable of achieving national recognition.
- By focusing on KU's responsibilities as Kansas City's research university, the institution will develop new federal funding sources in science and engineering research, especially in the life sciences and information technology, and contribute to developing the intellectual capital for the region's new economy workforce.
- Serving Kansas as the state's flagship university means that KU will continue to pursue its mission in such areas as law, medicine, pharmacy, law enforcement, and health care, but even more importantly, KU will serve Kansas by offering the most sophisticated and challenging graduate and undergraduate education in the state. The key to state support for KU lies in the fulfillment of this mission at a very high level of quality. KU currently produces 32% of baccalaureate degrees, 39% of master's degrees, and 71% of doctorates awarded annually in the state of Kansas.
- Finally, building premier learning communities of national and international reputation is the means by which KU builds on its current strengths and encourages its private support of \$50 million annually, which is one of its most significant funding sources. Only 37% of KU's revenues come from state appropriation; 39% comes from tuition and fees even though KU tuition is 20% below the national average for public universities. Twenty-four percent of the revenues are from gifts, grants, and contracts. Increased state appropriation, increased tuition, and increased private giving depend upon KU being recognized as a top tier national university.

Increase Federally Funded Research

U.S. News ranks KU 38th among public national universities. As noted above, a number of factors are evaluated to produce that overall ranking number – reputation, institutional financial resources (including faculty salaries), and student admission criteria, among others. Interestingly, on the reputational component of the *U.S. News* ranking, KU ranks 28th among public universities, a relatively high placement. Thus, a key part of the strategy to elevate the University's national prominence seeks to build on that important strength. If reputation is at 28 (among publics), and faculty resources at 101 overall, the University's strategy becomes clear. KU must increase its level of resources, and the most direct way to do so is to increase federally funded science and engineering research.

Even though research productivity does not play a direct role in the *U.S. News* overall ranking, our analysis indicates that the level of federal science and engineering research expenditures (as measured by NSF) does correlate strongly with the *U.S. News* academic reputation parameter for public universities. This data suggests that increases in the University's level of federal research expenditures should enhance KU's overall

rank. Furthermore, because a combination of high reputational score and strong faculty support is crucial for obtaining a high overall *U.S. News* ranking, increases in federal research expenditures could, by increasing the faculty resource level, help lift the University into the top 25 public university category. According to NSF, KU currently ranks 60th among public institutions in federal research expenditures. Significant movement from that position is required for the University to meet its goals.

The NSF rankings of federally funded expenditures on science and engineering research are a nationally accepted benchmark for rating universities. Among the public universities rated in the top 50 by that metric are 43 that have not fallen out of that group over the last eight years. The longevity of this core group is dramatic testimony to the challenge any university faces in supplanting one of these consistent members of the list.

Moving into the group of schools consistently ranked in the top 50 of all public universities on this measure is a significant aspiration for KU. The increase in funding, combined with KU's already high academic reputation, should significantly enhance the University's overall ranking. The funded research initiative requires that KU move from its current position at 60 to at least 43—a jump of 17 places. To achieve this goal, KU's federal expenditures on science and engineering will have to increase a minimum of \$15 million annually (in current dollars) and its overall sponsored research will have to increase to \$300 million. Because this science and engineering increase would be *in addition to* our “normal” expected year-to-year increases, it is possible to estimate the after-effects of such a move. Attaining a 17-step rise in federal research funding is both formidable and significant, and should lead to an attendant increase in *U.S. News* rankings, to the top 25 among public universities.

Our analysis suggests that the University can achieve its goals in this area through a strategy that focuses on hiring 120 new faculty in areas of particular strength, areas of opportunity, and in the areas of information technology and life sciences. This hiring should occur over the next five years.

Focusing this strategy on information technology and life sciences research makes sense for a number of reasons. First, these areas are fundamentally important in the new economy, and, more particularly, they are also key areas of growth and development in Greater Kansas City. Enhanced University research in information technology should present powerful opportunities for synergy between KU and private and public partners in Kansas City. Second, medical breakthroughs, such as the human genome project, require increasingly sophisticated computing and information storage technology. Third, life science research and information and telecommunications technology are the two strategic research initiatives that KU leads for the entire state of Kansas through the planning of the Kansas Technology Enterprise Corporation. Of the 25 departments at KU that had the highest per capita federal research expenditures in 1999, 21 are from the areas of information technology and life sciences (see Table One). Thus, strategic investment will provide opportunities to build on KU's current research strengths.

Table One
University of Kansas
Expenditures from Federally Funded Projects, FY99

<u>Department / Center</u>	<u>\$ Amount</u>
Schiefelbush Inst. For Life Span Studies	9,909,199
Human Development & Family Life	5,746,828
Special Education	5,604,177
Biological Sciences	4,288,274
Molecular & Integrative Physiology	4,088,615
Center for Research on Learning	3,646,351
Electrical Engineering & Computer Science	3,589,893
Microbiology, Molecular Genetics & Immunology	3,219,091
Information & Telecommunication Tech Center	3,195,716
Higuchi Biosciences Center	2,684,174
Chemistry	2,345,730
Pharmaceutical Chemistry	2,278,164
Biodiversity Research Center	2,077,722
Biochemistry & Molecular Biology	1,959,910
School of Nursing	1,952,038
Internal Medicine	1,917,127
Kansas Cancer Institute	1,646,981
Education Administration	1,607,474
Physics & Astronomy	1,581,129
Child Development Unit	1,581,122
Geology	1,534,654
Center on Aging	1,533,881
Medicinal Chemistry	1,515,474
Teaching & Leadership	1,356,125
Kansas Biological Survey	1,332,820

The 120 new faculty members will be both additions to the current faculty and replacements of faculty who leave or retire. On the Lawrence campus, we estimate that 30 new positions will arise over the next five years due to vacancies that occur in key departments when faculty members leave the University. A comparable number will arise at the Medical Center. Faculty who are proficient at winning external funding will be hired for these spots. The remaining 60 should be generated by the addition of new faculty and researcher positions in these departments and the affiliated research centers and institutes.

Adding new faculty members and researchers requires a significant investment. The current average salary in the Lawrence campus departments listed earlier is about \$69,000, and \$84,000 at KUMC. To attract the type of productive people who will secure high levels of funding, we estimate that average salary levels will need to be raised

to the \$85,000 range in Lawrence, and in the \$100,000 range at KUMC. The grand total needed for funding salaries and benefits for these 120 faculty is approximately \$6,780,000, and support and start-up needs add \$5 million in non-recurring costs to the total.

Thirty of the 60 positions on the Lawrence campus and 30 of the 60 at the Medical Center will be new to the University and will require research space. The cost of this space is \$12 million in Lawrence and \$20 million in Kansas City, because medical research space generally costs more. One of the axioms of research growth is that meaningful basic science won't occur in outdated laboratories. Modern life sciences research is equipment driven, as demonstrated by the Stowers Institute's significant investment in space and equipment as a necessary prerequisite to its hiring of scientists. (KU is coordinating its hiring in these areas with Stowers.)

In addition to elevating the profile for the University of Kansas, this investment in research will have significant economic impact on the region. Research funding in and of itself provides an economic boost. Using U.S. Department of Commerce indicators, the Association of American Universities has calculated that in our region, 41 jobs are created for every \$1 million of university research funding. Salary figures for Kansas indicate that persons employed in high tech fields earn 80% higher salaries than the state's average wage earner. Because these R&D-created jobs are likely to fall into the "high tech" category, they will be among the higher paying positions in the region.

Finally, research findings can also produce substantial resources for the University. A decade ago the University of Rochester embarked on a research initiative in medical research very similar to that proposed here. Last month it received a broad patent covering the use of a newly developed painkiller. Rochester had sponsored the research that led to the development of the drug, the market for which, analysts predict, could grow to \$12 billion per year by 2008. University research has thus led to a patent that is expected to produce billions of dollars in royalties, much of which will be reinvested in university research.

But KU must do more than enhance its science and technology research portfolio. The achievement of overall excellence requires that the University also move to increase funding for the University as a whole.

Increased KU Funding

According to the most recent *U.S. News* ranking, KU ranked 101st among American universities in the level of financial resources it receives. For years, its state support has lagged at 77% of its peers, and has not significantly improved over the past two decades. For KU to achieve increased national prominence and build upon its reputation for quality, the level of institutional support must be significantly enhanced. Put succinctly, KU is an undercapitalized university. On the other hand, we know where resources must be added.

A. People

Because universities are labor-intensive enterprises, the first area of major investment must be in people. For KU this means

- (1) the investment in new faculty to increase research funding described above;
- (2) increased number of endowed professorships from 60 to 120 in areas of strength;
- (3) higher salaries in the form of incentive pay for the most productive scholars and teachers currently at KU;
- (4) increased scholarship opportunities for the best and brightest undergraduates, patterned after KU's successful National Merit Scholar program, which will make KU more competitive in the quality of its entering freshmen;
- (5) increased fellowship opportunities for the best and brightest graduate students, patterned after the highly successful Self Graduate Fellowship program, a privately endowed \$25 million program that provides leadership training and intellectual enrichment to nationally competitive graduate degree candidates.

B. Facilities and Programs

The second area of major investment will meet the physical infrastructure needs of KU's campuses, and the programs developed there.

KUMC:

Through the support of the Hall Family Foundation and the William T. Kemper Foundation, the KU Medical Center has created a capital plan which will guide a \$350 million facilities investment over the next two decades in the area at 39th and Rainbow to upgrade the Medical Center research and clinical space.

This physical plan identifies the space needed for the University's research efforts in the medical sciences. KUMC's research plan is premised upon maintaining its current strengths in such areas as nephrology, cancer, aging, basic bioscience, and neurology, and building new strength in genetic medicine. The Lasker Trust in a recent article, "Exceptional Returns: The Economic Value of America's Investment in Medical Research," estimates that "improvements in health account for almost one half of the actual gain in American living standards in the past 50 years." With the advent of the mapping of the human genome, even larger human and economic returns are possible. Much of KUMC's research program for the future will center on KU's Institute for Genetic Medicine, the KU Institute for Neurosciences, and the KU Center for Brain Imaging. The mission is to integrate the multi-dimensional study of genes, chromosomes, proteins and biological systems to understand, treat and prevent human diseases. The outcomes emerging from this research, funded through increases in federal funding, will be the development of specialized therapeutics in the detection, treatment and prevention of disease, state and regional economic development, transfer of medical technologies to commercial development, and an expanded medical workforce in the

Kansas City area. Currently, the School of Medicine has 73 NIH grants totaling \$19.6 million. The University's goal is to double that figure in five years and to triple it in 10 years.

Kansas University Edwards Campus (KUEC)

The Edwards Campus has created a \$71.2 million campus plan to add four buildings to the campus at 126th and Quivira to respond to its burgeoning enrollment and its growing reputation in the Kansas City market. This expansion will enable the Edwards Campus to house resident faculty for the first time, create laboratory space for engineering programs, create space for a new School of Information Science and Technology now being planned, and create an electronic library for full utilization of Internet information access. The Edwards physical plan will also create the space to enhance workforce development efforts for the Kansas City area, the central mission of the Edwards campus.

In the past three years alone, KU has brought seven additional graduate programs to the Kansas City workforce, bringing the total available at the Edwards Campus to 17 degree programs, enrolling 2,300 students. Student credit hours there have risen from 27,369 in 1996 to 32,473 today. Programs such as electrical engineering and computer science, business information systems, and construction management have been added in direct response to the expressed needs of regional employers. Indeed, most of the graduate business program now resides at the Edwards Campus. New programs unique to the campus are being developed to further that response, including a systems analysis and design undergraduate and master's program and a certificate program in systems analysis that begins in fall 2000. Several other programs will be offered over the next few years, including degree completion programs in partnership with Johnson County Community College, and a graduate program in international studies. The Center for Metropolitan Studies, intended to support county, city and local government with research and consulting, began its operations on the Edwards campus in January 2000. The center takes advantage of the pool of ideas and talents residing in KU's No. 1 ranked program in city management.

As a result of this substantial growth, KU will change the administrative structure of the campus so that KUEC is led by a vice chancellor rather than a dean. This change will occur at the beginning of the fall 2000 semester.

Lawrence Campus (KULC)

The Lawrence Campus has created a \$150 million, 20-year, facilities master plan which will add a \$15 million engineering facility and a \$60 million science building to campus, and convert former undergraduate labs to research labs. The resources in Lawrence will support the initiatives in Kansas City, through "One University Planning." For example, 12 faculty positions in biology in Lawrence have been held open to strengthen molecular biology research in areas complementary to those of the Stowers Institute. Similarly, a new Ph.D. program in neurosciences, which will be a joint

program between Lawrence and Kansas City, is currently going through the approval process of the Kansas Board of Regents. In the information technology area, Lawrence's research strengths in the Information and Telecommunications Technology Center will be part of bioinformatics initiatives in KUMC's Genetic Medicine Institute and KUEC's focus on a School of Information Science and Technology.

KUMC, KUEC, KULC

Finally, a strategic analysis of the role of information in society has led KU to an important conclusion. KU intends to be a national leader in enabling both working adults and traditional students to be successful in careers in information technology. KU has begun planning and feasibility studies for a **School of Information Science and Technology**, which will utilize faculty from all three campuses, but will be based on the Edwards Campus.

In a recent strategic analysis of information technology education conducted by Pennsylvania State University (1998), executives of several Northeast Fortune 500 companies echoed the comments of their Kansas City colleagues in describing their needs and concerns:

- The IS workforce crisis is real and will get worse.
- Graduates need better technology skills and analytical capabilities.
- The need is for graduates who understand project management, who have good communication skills, who can function effectively in teams, and who are adaptable to changing corporate needs.
- The answer to the workforce problem is not to change the size of computer science or master's in information systems programs; it is to create a different kind of graduate with a richer set of skills.
- A bold break must be made with current programs, which demonstrates fundamental, not incremental, change.

A School of Information Science and Technology (IST) would address these needs and concerns directly. Such a school would:

- Develop IST majors in response to workforce needs, such as systems analysis and design, software development, information systems applications, electronic documentation and publication, technical writing, and instructional technology.
- Work collaboratively across KU to strengthen IT program offerings at the Edwards Campus from the Schools of Engineering (electrical engineering, computer science), Business (business information systems, eCommerce), Education (instructional technology), Liberal Arts and Sciences (communication studies, information and society), and Journalism (media communications).
- Partner with Johnson County Community College to offer IT degree completion programs and certificates.

- Offer an undergraduate core that focuses on developing analytical and problem solving skills, and building strong communication, teamwork and project management skills.
- Establish a vigorous program of internship and cooperative work programs with Greater Kansas City businesses.
- Establish an Information Science Institute intended to create technological innovation and solve organizational IS problems through sponsored research, and offer executive development and training in such areas as eCommerce, systems analysis, project management, and data management.
- Establish a corporate advisory board to assure curricular relevance and renewal.

The impact of the School of Information Science and Technology, through its presence at the Edwards Campus, would:

- Respond to the regional IT workforce shortage by offering a range of undergraduate and graduate programs for working adults.
- Provide skills development through IT certificate programs for employees looking to change their career path toward IT related professions.
- Appeal to companies looking to move to a geographic area that offers a distinct opportunity for their employees to upgrade their skills, and associate with faculty and students involved in high technology.
- Support the IT processes and business development needs of local corporations, organizations and governments through the IS institute.
- Place corporate Kansas City in greater proximity to the University's technology research and the faculty who conduct it.

Where Does the Investment Go?

KU's rise to the top 25 of public universities obviously depends upon maintaining and improving its competitive position in areas of strength. KU's School of Business, for example, ranked 27th for its undergraduate program, has adopted a seven-year, multi-million dollar strategy to make it a top 10 business school among public universities. The humanities and social sciences, traditional strengths at KU, must continue to improve so that the quality of liberal arts education—one of KU's greatest reputational strengths at the undergraduate level—is maintained. But the thrust of KU's plan is to make new and significant investments in information technology and the life sciences. When the University's total effort is summed up, the additional resources necessary to establish KU's position as one of the top 25 public universities, are easily identified:

Action	Cost	Type of Expenditure
1) 120 new & replacement faculty in areas of strength & research in science & engineering (5-7 years)	6,780,000	base budget
Faculty support	5,000,000	start-up
Research Facilities	32,000,000	capital construction
2) Doubling number of endowed professorships (5 years)	60,000,000	Endowment
3) Improved salaries for most productive faculty (5 years)	6,000,000	base budget
4) Improved scholarship opportunities, undergraduate & graduate (5 years)	100,000,000	Endowment
5) KUMC Capital Plan (25 years)	350,000,000	Public & private financing
6) KUEC Master Facilities Plan (10 years)	71,200,000	Public & private financing
7) KULC Master Plan (15 years)	150,000,000	Public & private financing

From Where Do the Resources Come?

The plan described above is ambitious, aspirational, and achievable. But to be realized a number of sources will have to become committed to the vision of excellence offered here.

A. Cost Containment and Reallocation

We anticipate that by acting as one university, streamlining administrative procedures, and containing costs, we can reallocate \$5 million of the base budget to this plan over the next five years. (KU currently receives less than 60% of the average of its peer institutions for operating expenditures, so this is obviously a major effort.)

B. Increased Federal Research Funds

Much of the research growth can be funded by federal research grants secured by KU scientists. This is a proven method of financing, made especially possible by the doubling of the NIH budget currently underway. KU research expenditures from all sources have increased from \$75 million in FY1990 to \$168 million last year.

C. Increased Public Financing

We believe that the State of Kansas can and will take action to enhance support of faculty salaries and operating funds in the Regents System. The Kansas Board of Regents will be submitting a plan this year to the Governor and the legislature to increase investment in university programs generally. The legislature and Governor have already

committed to faculty salary enhancement identified in SB 345, which is the law that authorized the new Regents structure.

Second, we have proposed ways in which the state can deregulate its higher education system, moving to block grants and institutional responsibility for tuition revenue, which should enable the universities to cut bureaucracy and allocate resources more directly to academic priorities, and thereby improve quality. Holding Kansas Regents institutions individually accountable for tuition should help KU set tuition and fees within a market model rather than within a bureaucratic formula that ties KU's tuition to general fund appropriations to other Regents institutions.

Third, at least some of the revenue from the Kansas tobacco settlement should be available to KU, particularly for pediatric health sciences research.

Fourth, through tax enhancements and/or dedicated revenue streams, Regents proposals for increased public investment in higher education will come to the fore in Kansas over the next five years, and with careful planning, they can secure public support.

Finally, considerable evidence suggests that federal policy in support of education at all levels will have an impact on KU. Currently, each presidential candidate lists education as a priority, polls show that education is the top issue for voters, and the participation rate for post secondary education has reached 66% of high school graduates. These forces seem likely to provide additional responsibility, but also additional support for KU's mission.

D. Increased Private Giving

The Kansas University Endowment Association is currently in the quiet phase of a \$500 million capital campaign. The opportunity exists to meet this goal and perhaps exceed it. The campaign focuses on private giving to enhance endowed professorships and student scholarships, facilities construction projects, and endowments for enhancements of quality.

E. Partnerships

KU has partnerships with many Kansas City businesses and cultural institutions. These partnerships generate annual support for the mutual interests of both parties. Public-public and public-private partnerships are a major source of support for the future. Kansas City is not New York or Los Angeles. The city's ability to compete effectively for economic development and research investment depends upon Kansas City institutions collaborating so that the whole is greater than the parts. In this spirit, KU has entered into cooperative agreements for education, research, and service with Children's Mercy Hospital, Sprint, Farmland Industries, Stowers Institute, Midwest Research Institute, University of Missouri-Kansas City, Cerner, the Life Sciences Institute, and other Greater Kansas City businesses, governmental organizations, cultural institutions,

and foundations. In the past, KU has not been particularly aggressive in forming such relationships. It is now University policy to pursue such partnerships, and the Chancellor's office has set aside funds to encourage them. KU is currently working to form a major partnership with the Menninger Psychiatric Institute. Partnership with UMKC has produced collaborations in UMKC's newly developed x-ray crystallography facility and in KU's transgenic and gene targeting laboratories.

F. Developing Intellectual Property

Over the past five years, KU has embarked on a specific strategy of developing its intellectual property as a means of revenue support for education and research at the University. Through two 501(c)3 corporations--the Center for Research, Inc. on the Lawrence campus and the KU Research Institute, Inc. on the Medical Center campus (incorporated in both Kansas and Missouri)--KU has the ability to develop, transfer, license and assume equity positions in its faculty's intellectual property.

KU has more than 50 license agreements with local, national and international companies, successfully moving technology from the researcher's lab to the commercial sector. Of those licenses, 20 are with start-up companies that rely on KU technology for the backbone of their commercial success. The process is continual; KU received 67 new invention disclosures from its researchers this past fiscal year, resulting in 20 new U.S. patent applications. Moreover, KU received 10 new U. S. patents in FY99 and now owns more than 60 U.S. patents, in addition to many international patents. At KUMC alone, KU equity positions total one million shares in common stock. Pharmaceutical clinical trials have increased from 54 trials in 1995 (\$1,715,560) to 168 trials in 1999 (\$6,587,337).

What does KU Commit to Deliver?

KU has outlined a plan, identified its needs and described methods for funding the plan. How will both KC and KU know that the plan is a success? What is KU willing to be measured against? The following list answers that question.

- Ranking in the top 25 of public universities (5-10 yrs.)
- Ranking in top quartile of all universities (10-20 yrs.)
- A policy of partnerships/joint ventures/collaborations with UMKC, Stowers Institute, Life Science Institute, Midwest Research Institute, and other KC businesses, foundations and institutions
- \$500 million capital campaign
- Creation of position of Vice Chancellor of Edwards Campus
- An additional \$25 million annually in federal research funds, and \$300 million in total research support in 5-7 years
- Ranking of at least 43rd among public universities in external federal funding
- Creation of an Institute for Genetic Medicine, KUMC
- Joint Ph.D. Program in Neurosciences (KUMC, KULC)
- Creation of a School of Information Technology (KULC, KUMC, KUEC)

Support for Institute for Metropolitan Affairs (KUEC)
 KU strategic planning goals built around being Kansas City's research university
 120 newly hired faculty committed to securing research funding
 Targeted investment in the life sciences and information technology
 Consultation with KC business and industry on workforce and R&D development
 Doubling the number of endowed professors at KU to 120
 \$32 million of new research space
 Commercialization of intellectual property
 Higher salaries in the form of incentive pay for the most productive faculty
 Increased scholarship and fellowship opportunities for students
 \$350 million facilities plan for KUMC
 \$71.2 million facilities plan for KUEC
 \$150 million facilities plan for KU LC
 Business school in top 10 of public university business schools
 Continued growth in quality of humanities and social sciences at KU
 \$5 million reallocated to priorities from cost containment
 Deregulation and streamlining of Kansas higher education allocation process
 Tobacco revenue appropriated to pediatrics research at KUMC

What Does KU Ask of the Civic Council?

KU's request of the Civic Council is both short and long term. It is premised upon a belief that investment in KU will create a partnership that will pay huge dividends for the city. In a 1999 *Atlantic Monthly* article, "Building Wealth: Knowledge as the Foundation of Wealth," MIT's Lester Thurow argues that the "public rate of return"—i.e., the benefits that accrue to the whole society—from public investment in education, research, and development is 66%. As he states it, "Put simply, the payoff from social investment in basic research is as clear as anything is ever going to be in economics."

KU also frankly asks for the Civic Council's advice on where and how KU investments in Kansas City should be made. This paper describes plans and commitments. But the Civic Council and its higher education task force is probably the civic entity best informed to advise KU on how its plans and resources can be applied to the needs of the city. KU would welcome an ongoing, extended relationship of advice and counsel with the task force.

A. Short Term

In the short term, we ask for help in securing financing for the \$350 million capital plan for the KU Medical Center at 39th and Rainbow and the \$70 million capital plan for the Edwards Campus. (In the long term, KU has a special interest in the idea of a medical corridor extending from Stowers Institute to KUMC, and we would like to explore that idea further.)

Our preliminary analysis suggests that a combination of both public and private financing can be obtained for KUMC and KUEC, provided that cooperation and support can be obtained from local governments. Collaborations between private foundations, public governmental entities and private developers seem possible, but the University lacks both the expertise and the funds to fully explore the possibilities.

Consequently, we propose that the \$75,000 offered to KU by the Civic Council for planning be used for consulting on a method of capital financing for these two campuses and their master plans.

Second, we ask that the Civic Council members collectively and individually support the KUEA capital campaign. Many Civic Council members have long been major contributors to KU, but many others have not—either individually or institutionally. For KU to fulfill its goals to be Kansas City’s research university and a top 25 public university, investment by Kansas City civic leaders in the KU plans becomes crucial.

Third, KU needs the continued help of the Civic Council for legislative lobbying efforts in the Kansas legislature—both for securing tobacco money to be committed to medical research, and for investments in faculty salaries, university operating funds, and information technology education and research. This partnership secured \$1 million for life sciences research equipment for KU in the past session, and can be even more effective in the future with joint planning and cooperative effort.

Similarly, Civic Council and KU collaboration has the potential to secure federal earmarks for the KU-Kansas City area. Four senators are more effective than two, and an expanded House presence supporting a regional strategy can be very effective in securing federal program funding. Only with Civic Council backing can such federal and regional strategies be successful.

Finally, Civic Council endorsement of KU’s goals and its encouragement of KU-Kansas City partnerships would have a very salutary effect, both for educational programs and research programs. KU partnerships with Kansas City private industry and public institutions have proven mutually beneficial, but the potential has only begun to be realized. Because of KU’s failure in the past to extend its horizon to Kansas City, many opportunities were lost, and the University is only now beginning to demonstrate that its commitment to Kansas City is real. The Civic Council can help KU remedy those past failures by announcing and endorsing KU’s new partnership with Kansas City—in effect saying, we believe in KU and we trust the University to achieve its goals.

B. Long Term

In the long term, KU invites the Civic Council to join forces to accomplish two goals:

- (1) Establish a viable, bi-state regional planning process that over the next 15 years basically eliminates the “state-line problem” and makes Kansas City the country’s leader in regional planning across state lines. KU can be a powerful

partner in these efforts. Concern about Johnson County and Wyandotte County reluctance to support bi-state initiatives may be alleviated if KU's support for, and benefit from, such initiatives are clearly demonstrated.

- (2) Join with KU to explore the cultural and educational mergers which could build one of the largest and most effective complexes of state universities in America in the Kansas City area. For example, what would happen if the research university serving Kansas City were a combination of KU, community colleges on both sides of the state line, and UMKC? What if there were only one Medical School rather than two? What if Children's Mercy Hospital had the full weight of KU's research, educational and clinical expertise in support of pediatric health care and research? What if Sprint's "University of Excellence" and KU's School of Information Science and Technology were jointly planning to improve the skills and increase the number of "knowledge workers" in Kansas City? Put simply, the KU connection has the potential to raise partnerships in Kansas City to new levels of national creativity and excellence, while generating national models for regional cooperation. At the same time, a regional strategy of this dimension will ensure that KU's place among the elite universities of America is firmly established, but even more importantly, Kansas City will benefit from all of the implications of that fact.