TEXAS TECH UNIVERSITY

AGENCY STRATEGIC PLAN

FISCAL YEARS 2001-2005

AGENCY STRATEGIC PLAN

For the Fiscal Years 2001-05 Period

by

TEXAS TECH UNIVERSITY

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Date of Submission

June 1, 2000

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Chancellor

Approved: _____
James E. Sowell
Chairman of the Board of Regents

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TEXAS TECH UNIVERSITY

The Statewide Vision

Together, we can make Texas a beacon state:

a state where our children receive an excellent education so they have the knowledge and skills for the 21st century;

a state where people feel safe in their communities, have access to equal justice, and all people know the consequences of committing a crime are swift and sure;

a state where our institutions encourage jobs and economic opportunity;

a state where each resident accepts responsibility for his or her behavior; and

a state where our people—our greatest resource—are free to achieve their highest potential.

As I have said before, I envision a state where it continues to be true that what Texans can dream, Texans can do.

The Mission of Texas State Government

The mission of Texas state government is to support and promote individual and community efforts to achieve and sustain social and economic prosperity for its citizens.

The Philosophy of Texas State Government

State government will be ethical, accountable, and dedicated to serving the citizens of Texas well. State government will operate efficiently and spend the public's money wisely.

State government will be based on four core principles that will guide decision-making processes.

Limited and Efficient Government	*Government cannot solve every problem or meet every need. State government should do a few things and do them well.*
Local Control	***The best form of government is one that is closest to the people. State government should respect the right and ability of local communities to resolve issues that affect them. The state must avoid imposing unfunded mandates.***
Personal Responsibility	*It is up to each individual, not government, to make responsible decisions about his or her life. Personal responsibility is the key to a more decent and just society. State employees, too, must be accountable for their actions.*
Support for Strong Families	*The family is the backbone of society and, accordingly, state government must pursue policies that nurture and strengthen Texas families.*

Texas state government should serve the needs of our state but also be mindful of those who pay the bills. By providing the best service at the lowest cost and working in concert with other partners, state government can effectively direct the public's resources to create a positive impact on the lives of individual Texans. The people of Texas expect the best, and state government must give it to them.

The Goals of Texas State Government

Education

Higher Education

Priority Goal: ***To provide an affordable, accessible, and quality system of higher education that prepares individuals for a changing economy and workforce and that furthers the development and application of knowledge through instruction and research.***

Benchmarks

- Percent of recent high school graduates enrolled in a Texas public college or university
- Percentage of baccalaureate graduates who are first-generation college students
- Percent of first-time, full-time freshmen returning after one academic year
- Percent of first-time, full-time freshmen who graduate within six years
- Percent of Texans with a bachelor's degree or higher
- Percent of adult population with a vocational/technical certificate or degree
- Texas public colleges' and universities' cost per student as a percent of the national average
- Percent of total federal research and development expenditures received by Texas institutions of higher education
- Percent of college graduates employed, enrolled in additional education, or enlisted in the military

TEXAS TECH UNIVERSITY

Institutional Mission

The mission of Texas Tech University is:

> "to provide the highest standard of excellence in higher education while pursuing continuous quality improvement, to foster the intellectual and personal development of students, to stimulate the greatest degree of meaningful research and to support faculty and staff in satisfying those whom we serve."

The purpose of Texas Tech University is as follows:

> "Texas Tech University is a public, comprehensive, research university committed to the creation, advancement, dissemination, and preservation of knowledge. This commitment encompasses achieving excellence in the interrelated areas of undergraduate, graduate, and professional education, basic and applied research, and public service programs. The University's educational role is to assist students to realize their potential in becoming scholars, professionals, citizens, artists, and scientists. The University's research role is to provide an environment for the expansion of knowledge and to contribute to local, regional, and national priorities through basic and applied research programs, centers, and institutes. The University's public service role is to meet the educational needs of the region and the nation."

Institutional Philosophy

Texas Tech University, in the historic tradition of institutions of higher learning, is dedicated to providing the highest quality of education and instruction, research, and service to all of their constituents, including students, faculty, staff, administration, alumni, parents, patients, and members of the greater community.

TEXAS TECH UNIVERSITY

THE EXTERNAL/INTERNAL ASSESSMENT

I. OVERVIEW

A university is defined ultimately by people, resources, and the teaching, research and other activities that derive from the interactions among these parts. Texas Tech has a great combination of these assets, including an outstanding student body, faculty, and staff; K-12, baccalaureate, master's, and Ph.D. programs; a Law School; a branch campus in Junction, Kimble County, Texas; membership in the Big 12 Athletic Conference; and a museum combined with a heritage center and historic site, all of which are located amidst a geographic region populated by people of talent, character and a strong work ethic. Texas Tech has a special window of opportunity to build off of this legacy and develop higher aspirations based on national standards of excellence and performance that will blend research, education, and technology transfer efforts to address areas of crucial importance to Texas such as:

- Linkages between higher education and public elementary and secondary schools
- Workforce needs
- Disparities in degrees between racial/ethnic groups
- Graduate and professional education opportunities
- Gaps in educational attainment
- Research excellence

Texas Tech University is the only one of the state's four major research universities located in the western half of Texas. Texas Tech University and Texas Tech University Health Sciences Center share a 1,839-acre main campus in Lubbock. This ground-sharing of the two institutions is the only such common-campus arrangement among universities in the state.

Students from 50 states and 105 foreign countries annually enroll in the university, which was founded in 1923. Students choose fields of study from 119 undergraduate, 107 master's and 50 doctoral programs. The university is comprised of eight colleges: Agricultural Sciences and Natural Resources, Architecture, Arts and Sciences, Business Administration, Education, Engineering, Honors, and Human Sciences as well as a Graduate School and School of Law. In addition to the main Lubbock campus, Texas Tech University operates an East Lubbock research site; a 400-acre South Texas center at Junction; a 15,822-acre agricultural research site in Amarillo; a 980-acre Lubbock County Field Laboratory; a 90-acre natural sciences and archaeological field laboratory in Val Verde County; and it occupies ten buildings and almost 21 acres at the site of the former Reese Air Force Base.

The 24,249 students enrolled at Texas Tech University in the fall semester of 1999 consisted of 20,227 undergraduates in the various colleges, 598 in the School of Law, and 3,424 in the Graduate School. There were 11,276 females and 12,939 males. Ethnic composition included 720 black, 2,357 Hispanic, and 19,657 white students, as well as 1,515 in all other ethnic categories. In addition, through its Division of Outreach and Extended Studies, Texas Tech operates a distance accredited Independent School District that includes an elementary school, middle school, and diploma-issuing high school with over 1,100 students from 50 states and 24 other countries. Enrollment numbers in the Division of Outreach and Extended Studies in 1999 totaled 19,991 K-12 enrollments; 43,849 K-12 credit by examination; 7,748 college credit enrollments; and 3,588 professional development enrollments.

In 1994, TTU was reclassified upward from a Doctoral I to a Research II institution. This was a major achievement recognizing the growing importance of research at the institution.

II. INSTITUTIONAL ORGANIZATION

Texas Tech University and the Texas Tech Health Sciences Center are administered by a nine member Board of Regents through a system chancellor serving both institutions. Each institution has a President and appropriate administration unique to that institution. The Chancellor's staff includes shared service areas such as General Counsel, Governmental Relations, Institutional Advancement, Cultural Diversity, Police and Security, and Facilities Planning and Construction.

Each of the seven colleges and two schools is directed by a Dean who reports to the Provost, who is the chief academic officer. In addition, there are a number of other support areas that report through other administrative officials to the Provost. These include Extended Learning, Information Technologies, International Affairs, Libraries, Museums, Publications, and the University Press.

In establishing the position of Vice President for Research, Graduate Studies, and Technology Transfer and combining that title with Dean of the Graduate School, the university recognized the dual role of graduate education, research and technology transfer/economic development, as many major universities have done over the past few years. This administrative change has greatly enhanced the visibility of graduate education, research, and technology transfer at Texas Tech.

Major nonacademic areas of administration include Fiscal Affairs, Operations, and Student Affairs, each headed by a Vice President. A new position of Vice President for Enrollment Management was established in 1997.

III. FISCAL ASPECTS

The appropriations of the last legislative session reflected the commitment of the Legislature to higher education in the State of Texas. This increase began a return to strategic funding for higher education which will need to be continued in future years. In summary, increased support will be required to sustain the present level of effort at the present quality.

Higher education is critical to the economic growth of the State of Texas. A recent report from the National Association of State Universities and Land Grant Colleges shows that state funding expended for research at Texas universities is highly leveraged, providing returns of as much as $10 for each $1 of state money invested. If Texas Tech is to become a better research institution, then we must add at least 200 new faculty positions, pay existing faculty better, build new research facilities, and strengthen our investment in technology.

Capital renewal and deferred maintenance costs for university facilities continue at the critical stage. The State of Texas has a major investment in the physical facilities of Texas Tech University; however, funds to provide adequate maintenance and updating of many older buildings are not available. Currently a backlog of new buildings for teaching and research, and minor and intermediate maintenance projects exists. Providing new facilities, maintenance and renovations of existing facilities is critical to recruitment and retention of excellent faculty and students.

IV. SERVICE POPULATION DEMOGRAPHICS

Service Area

The service area of Texas Tech University is truly state- and nation-wide, drawing large numbers of students from each of the major metropolitan areas of the state. This is illustrated by the fact that 72% of the undergraduate students come from an area of the state or nation farther than 100 miles from Lubbock. The second largest service area is the Dallas-Fort Worth metroplex, providing almost 18 percent of the approximately 20,000 Texas Tech University undergraduate students.

Approximately 66% of the Texas Tech graduate student enrollment is comprised of students from Texas, with about half of those from Texas Tech. Texas Tech is a major provider of graduate education for Texans and a majority of these students remain in Texas as taxpaying citizens and community leaders.

Population Growth and Changes

A recently published book, “The Texas Challenge: Population Change and the Future of Texas,” by Steve Murdock, Md. Nazrul Hoque, Martha Michael, Steve White, and Beverly Pecotte examined projections for the Texas population to the year 2030. These authors predict that overall Texas is a state with a population which will experience

substantial growth in the coming decades and one which will become increasingly diverse and mature.

For higher education, the study by Murdock *et al.*, predicts that the increase in college enrollment will be less than population growth, but there will be an additional 370,000 college students in Texas by 2030. This translates to about a 50% increase. Similarly, they estimate that costs for public colleges and universities (in 1994 dollars) will have increased from $5 billion in 1990 to $6 billion in 2005 and to $7.6 billion by 2030.

The Murdock study predicts that population growth will not be as evident in the State's rural areas as in its larger metropolitan areas and in regions along the Texas-Mexico border. For the South Plains Association of Governments region in Texas, which includes the High Plains and the area surrounding Texas Tech, the projected population increase is 5%. For the West Central Texas Council of Government region, which includes much of the remainder of West Texas, the population is projected to decline by 2.9%. However, the patterns of increasing diversity are predicted to occur in virtually all parts of the State.

Historical trends would certainly lend support to the Murdock *et al* projections. County-level population data from the U.S. Census Bureau, based on the 1990 Census, and estimated through 1998, suggest that the past ten years have witnessed significant changes in the population profile of Texas and the South Plains. For example, between 1990 and 1998, the population of the South Plains Council of Government region grew by about 1.4%. However, if Lubbock County is excluded, total population in the remaining counties actually *declined* by about 1.4%. This contrasts rather sharply with the State of Texas over the same period. Population growth in the State over the 1990-09 period exceeded 16 percent.

While most observers in the Lubbock-area believe that Lubbock County has experienced an intra-regional in-migration, estimated overall domestic migration was negative even for Lubbock County. Lubbock County had positive overall population growth only because its natural increase exceeded the loss in net migration. Indicative of the economic circumstances of the area, net domestic migration was negative for all of the counties of the South Plains.

It is not unreasonable to conjecture that population declines will characterize nearly all of the counties of West Texas in the years to come. Clearly, rates of population growth in the eastern portion of the State and in the region of the border with Mexico are above those of the State as a whole. Unbalanced growth will compound itself, ultimately draining political strength from the western half of Texas, even as it lags economically.

As an illustration of the trends that Murdock *et al.* considered, the table below shows growth in the different populations that comprise Texas. While the overall population may be declining across West Texas, minority populations still exhibit growth in the South Plains. Thus, while overall population has fallen slightly in the 1990-98 time-frame, it was the result of a decline in white non-Hispanic representation, which was

nearly offset by increases in minority populations, primarily Hispanic. For all of Texas, the coming century will witness more racial/ethnic balance in the population. In all likelihood, these changes will be even more pronounced in the West Texas region. These changes bear important implications to Texas Tech in terms of its approach to assuring that the institution serves effectively the West Texas region and is responsive to changing regional social needs.

Estimated Population Growth Rates 1990-98

	White non-Hispanic	Black	American Indian	Asian and Pacific Islands	Hispanic
South Plains	-8.13%	8.40%	14.75%	29.92%	16.62%
South Plains less Lubbock County	-13.03%	7.49%	16.05%	31.37%	12.18%
Texas	7.07%	18.65%	32.26%	67.87%	35.09%

Source: United States Bureau of the Census

There are good reasons for the State of Texas to attempt to intervene in these regional population growth patterns. Rapid population growth in the eastern half of Texas strains existing infrastructure and creates congestion, while population decline in West Texas results in underutilization of existing infrastructure and raises average costs of investment in infrastructure based on new technologies. Balanced growth promotes sustainable growth while smoothing fiscal strains that accompany concurrent growth and decline.

While rural-to-urban migration patterns will be extremely difficult to alter, balanced regional growth represents the presence of opportunities for displaced rural residents at least to remain in their native region, closer to family and friends. Institutions such as Texas Tech add important credibility and bring essential social and cultural amenities to West Texas. If West Texas is once again to demonstrate a degree of dynamism in population growth, it must strengthen its economic, social and cultural appeal, while assuring that increased diversity is harnessed for regional strength.

Texas Tech is central to the future of West Texas. Many residents in West Texas, whether alumni or not, look toward Texas Tech with pride, supporting its programs and athletics. The University is one of very few institutions that enjoys the trust of the residents of West Texas and the assets and capacity to motivate a wider regional turn-around. Texas Tech is, moreover, the principal link of a somewhat isolated region to the broader world. Increased research stature of Texas Tech will enhance regional reputation and deepen the economic, social and cultural integration across West Texas, and of West Texas with the rest of the world.

V. TECHNOLOGICAL DEVELOPMENTS

New technology will facilitate an increasing capacity to store, analyze, retrieve, and disseminate data and information in areas such as instruction, research, and administration at universities. In turn, this creates pressure to revise curricula, renovate facilities, and make capital investments in technology. With the delivery mechanism offered by the Internet, the World Wide Web represents an unparalleled development, not only in terms of technology, but also in opportunities for the general public to participate in pleasurable activities and in business. The growth of public use of the Internet is unprecedented, is placing stress upon all available communication resources, and shows no evidence of slowing down in the near term.

The information revolution is also creating new stresses on state government and institutions of higher education. Major investment must be made in data communication resources, including bandwidth, network equipment, and software, as well as related information technology resources. The latter includes high performance computers, high-speed information servers, high performance graphics workstations, and geographic information systems. Major resource commitments must continue to be made for high-speed, high capacity computers, which will support geographic information systems and image handling, as well as other computationally intensive applications.

All of the activities listed below have implications for the requirement of a larger, more highly trained staff of information technology professionals. The shortage of such personnel is extremely acute, not only at state agencies and institutions, but within the private sector as well. Lured by higher salaries, many of the information technology professionals employed by the State of Texas are leaving to take jobs in the private sector.

High-Performance Computing and Internet 2

Several Texas Tech University initiatives are ongoing that are worthy of note. First is the installation of the High-Performance Computer Center, which features a modern Origin 2000 supercomputer and an impressive facility for large-scale viewing of computer graphics. The Origin 2000 provides a first-class computational resource for use in research and instruction, with widespread application to environmental and human health, wind engineering, computational fluid dynamics, image processing, computational chemistry, visual architecture, and others to numerous to mention. The graphics presentation facility permits interpretation of results through the use of sophisticated presentation graphics techniques.

Secondly, the completion of an ambitious project to construct fiber optics from the university campus to downtown Lubbock and to the Reese Center, formerly Reese Air Force Base, located ten miles west of campus, will be a major step in providing high performance connectivity to the recently installed high-performance computer. This project is proceeding through grant funds received from the Economic Development Administration, and is expected to complete in the spring of 2001. Connectivity of the

Texas Tech facilities at Reese Center to high-performance data networks reachable through the university's network should be a major incentive for co-location of various entities at the center in order to partner with university research projects. In turn, all of this should contribute to the plans for overall economic development at the center.

Texas Tech University has been a member of the Internet 2 initiative, and the Abilene network as part of the Internet 2 project, one of the Next Generation Internet initiatives, since near the early formation of the consortium. This was followed by the formation of the University Corporation for Advanced Internet Development (UCAID) as the managing agent for the Internet 2 and subsequently by the implementation of the Abilene Network as another of UCAID's projects. With the forthcoming connection to the Abilene network in the summer of 2000, Texas Tech will be distinguished as one of the most remote institutions to achieve a direct connection to this resource. By virtue of this connection, university researchers will be able to participate in the development of high-performance applications that will define the worldwide telecommunications environment of the future.

Texas Tech has also agreed to participate, along with four other major Texas institutions of higher learning (University of Texas at Austin, Texas A&M University, University of Houston, and Rice University) in the formation of a statewide computing asset known as the Texas Distributed Computing Facility (TDCF). This consortium would provide a funding mechanism and an umbrella organization to address issues of networking, high-performance computing assets, personnel, sharing, and training. The TDCF would be a resource for faculty, graduate, and undergraduate students as well as a magnet for federal grant monies.

Distance Education Technology

Consistent with the nationwide trend, Texas Tech University is engaged in extensive planning activities to adapt to the need for delivery of more and more services at a distance. Every academic department aspires to provide courses through distance education technologies. In turn this is creating additional pressures on the limited funding available for technology enhancement. Although the need for funding is partly offset by success in obtaining grant funds for development of interactive video classrooms, the need for classroom technology to support distance education as well as resident instruction, together with the need to enhance general support of desktop computers, will continue to be severely underfunded.

Educational Technology

Perhaps the main deterrent to successful integration of technology in the classroom and the development of successful distance education courses and programs is the need to provide opportunities for faculty development. This has been addressed through the creation of a new facility and operating department, the Teaching, Learning, and Technology Center (TLTC). This facility provides model classrooms and laboratories together with training and instruction in the use of technology, both hardware and

software, and in pedagogical methods that are suitably supported by technology. This modern facility has recently opened within the university library and provides a badly needed supplement to the services offered by the Advanced Technology Learning Center that was similarly deployed in 1985. To date the services of the TLTC have been well received by the faculty. Accordingly, several courses have already been "web-enabled", with many more due to be introduced soon.

4. VI. ECONOMIC TRENDS

General and Regional

Forecasts by the Texas Comptroller of Public Accounts project relatively strong growth rates for the Texas economy, well above anticipated growth rates in the national economy. With forecasted economic growth rates above population growth rates, real per capita income is expected to increase on the order of 2 percent per year. If these forecasts prove correct, Texas will continue to outperform the U.S. economy, although it will be down slightly from its own performance during the latter half of the 1990s.

Projections for the State of Texas mask significant regional differences in economic health. While the region of Texas along Interstate 35 has been enjoying extraordinary rates of economic growth, much of West Texas has been either flat or in decline. The long-term trend toward rural population decline that has accompanied agricultural mechanization has accelerated with the emergence of attractive employment opportunities in the urban areas from North Central to Southeast Texas. Thus, in West Texas, relatively poor performance in non-farm employment creation has resulted in rising unemployment rates. Unfortunately, unless major efforts are made, there is little to suggest this trend will not continue, further narrowing the economic prospects of this vast area.

The highest rate of sectoral employment growth in Texas in the 1990s has been in the high-technology industries. In fact, Texas is now second in the U.S. to California in high-technology employment and production. According to the American Electronics Association, employment in high-technology is now the largest single employment category in our state, representing more than 400,000 jobs, or 56 out of every 1000 private sector workers. Moreover, these are high paying jobs, with average salaries nearly 90 percent above the average elsewhere in the state's private sector. Considering that high technology firms currently employ more Texans than do oil and gas drilling, petroleum refining, food products, and agriculture combined, one can begin to appreciate the economic revolution that is taking place in Texas.

This economic revolution is, however, concentrated predominantly along the I-35 axis. For example, in the South Plains of Texas, high-tech employment actually declined between 1993 and 1999 while the state's high-tech employment demonstrated such dramatic growth. Given that the high-tech industries will continue to be the high growth, high income industries over the coming decades, the economic and social gap between

these regions will likely widen. If experiences between two-tier regional socio-economic structures in other countries are applicable in this context, then Texas may ultimately face intractable inter-regional social and economic frictions.

Lubbock Area

Since economic output data are not available at the sub-state level, comparisons of the economic performance of the Lubbock MSA to Texas are limited to comparisons based on employment. Nevertheless, employment data reveal disturbing trends. From 1993 to 1998, Lubbock MSA non-farm employment increased by a total of 6.5%, or an average of 1.3% per year. By contrast, State of Texas non-farm employment increased at 2.4% per year, or a total of 12.9% --nearly twice that of the Lubbock MSA.

In the critical category of high-technology employment, 24 jobs out of 1000 were in high-tech industries in Lubbock in 1998, virtually unchanged from 1993. During the period 1993-98, as Texas high-tech employment increased by 132,000 jobs, or more than 47%, Lubbock high-tech employment increased by 331 jobs, or only about 14%. The loss of approximately 700 high-tech jobs due to the closure of the Texas Instruments facility in Lubbock at the end of 1998 resulted in an overall net *loss* of high-tech jobs in the MSA for the period 1993-99.

As a reflection of the disappointing economic performance of the Lubbock MSA, population growth has also been significantly slower than population growth in Texas. Population growth estimates and forecasts for Texas indicate annual population growth rates on the order of 1.8% per year, from 1996 through 2005. In Lubbock, annual growth rates of population have been on the order of 0.5% per year, or considerably less than one-third of the state's rate.

The Lubbock economy remains highly dependent on health care services, education, and agriculture. Growth prospects in health care and agriculture are not bright. In the case of health care, slow population growth rates and lagging personal income across the region, coupled with structural changes in the health care market, will constrain this sector's ability to generate new employment over the longer-term. The health of the agricultural economy is poor, and its likelihood of recovery is low. Thus, in both direct and indirect terms, Texas Tech University is the single most important engine for regional economic growth, certainly in Lubbock, and probably across the High Plains of Texas region as well.

Rural Problems and Concerns in the South Plains of Texas

More than a fifth of all Americans live in rural areas. As rural America's development lags behind its urban counterpart's, an invaluable economic, social and cultural resource is put at risk.

Advances in farm production technologies have resulted in fewer farms and farmers. This has had an indirect impact on the service and retail economies of the rural

communities that earlier coalesced around agriculture. Significant economies of scale now available in retailing (and health care) have substantially increased the regional hegemony of the urban retail centers. The price and selection disadvantages faced by retailers in the rural communities have been too great to offset the costs and inconvenience to rural consumers of travel to the urban centers.

Local income multipliers for agriculture have declined as these small, local economies become more specialized and directly linked to the urban centers. New sectoral organizational patterns in agricultural production are emerging that will further threaten marginal farming and weaken local economic linkages. Contract production of bio-engineered farm products within closed, vertical supply chains will shut out many producers and regions. The implied changes in farm procurement and marketing methods from this new organization will further act to the detriment of local economic agents.

It is reasonable to predict that many rural communities will disappear over the next few decades. Some of these communities will be reduced to a gas station/convenience grocery and perhaps an ATM. Some of the rural communities will survive as regional sub-centers, providing products and services whose production exhibits relatively lower economies of scale, such as farm equipment service, or that cannot readily be transported or stored, such as restaurant meals.

Some rural communities will survive because they have developed a non-agricultural economic base. These are the communities that either already have or will have cultivated non-traditional economic activities that generate exports from the local economy. These communities enjoy shelter from the changes occurring in the mechanization and re-organization of agricultural production and the resultant economic decline in rural America.

Few of the rural communities in the South Plains have built or are building a non-agricultural economic base sufficient to enable their survival. Non-farm employment growth over the period 1988-1998 in the fourteen counties that comprise the South Plains, excluding Lubbock County, was approximately 0.8% per year. If both Hale and Lubbock Counties are excluded, the annual non-farm employment growth rate was a meager 0.2% over those ten years, or a total of 613 jobs in thirteen counties. Seven counties were able to grow their non-farm workforce while nine counties saw their non-farm workforces shrink. Within these two categories, there were significant differences in performance. For example, among the employment-losing counties, King County lost more than a *third* of its non-farm employment, Dickens and Cochran Counties shed about 20%, while Hockley and Crosby Counties contracted by a total of less than 3%.

Equally troubling is the nature of non-farm employment in the region. Excluding Lubbock County, which contains the majority of the economic mass of the region, very little manufacturing employment exists in the South Plains. The manufacturing employment that does exist is in non-durables such as crude petroleum and natural gas, and meat packing. The largest employment categories are service and government-

related jobs. The picture that emerges is of a region that is highly agriculture-dependent for economic base. When public sector employment is eliminated, the region's private, non-agriculture economic base dwindles close to nil. If existence of a non-agriculture economic base will be critical to rural community survival, then the South Plains communities are surely at risk.

Aggressive efforts are underway at Texas Tech to conduct applied research in distance education methodologies and to develop distance education programs in conjunction with regional school systems. These efforts will pay dividends as greater rural access to quality, specialized instruction will often mean the difference between keeping or losing a small community's school, a central point of community pride and identity. Moreover, as demographic changes taking place in rural West Texas result in increasing proportions of minority populations with traditionally lower levels of academic achievement, the task for rural education in West Texas will be even more complicated in the years ahead. Texas Tech recognizes the needs these demographic changes will precipitate, and is centrally located to bring high levels of expertise to bear on the problem.

A key charge by TTU administration for the TTU Rural Assistance Task Force (see Section VIII) is to deploy the resources of the University to deepen existing rural and distance education infrastructure to support primary, secondary and continuing education programs in rural West Texas. For these small communities, workforce quality and availability pose nearly insurmountable obstacles to economic development. Thus, rural access to high quality, locally provided primary/secondary education and continuing education across the West Texas region is absolutely essential to build regional pools of skilled labor from which rural Texas communities can draw to develop or attract non-traditional economic activities.

Work Force Development

National, regional and local economies are only as strong as their workforce. While the production and application of new knowledge has ignited an unparalleled explosion of innovation and broad-based prosperity in the United States, human capital has been the fuel.

The economic stakes in workforce development are high. An educated and available workforce is an imperative for cities and regions that seek to attract new industries and to retain growth industries. With workforce participation rates at historical highs, and unemployment rates at historical lows throughout the United States, nearly all cities and regions have begun to focus on the establishment and/or expansion of innovative workforce development programs as the primary vehicle by which to bring employees with appropriate skills into their labor markets. This is not just a cyclical phenomenon. While labor market conditions will undoubtedly change over the business cycle, workforce competencies will always separate states and sub-state regions. Thus, a superior system of education is the surest approach to superior economic outcomes.

Without doubt, the so-called "New Economy" favors those individuals with knowledge and technical skills. Thus it is critical that all Americans have the aspiration and a genuine opportunity to gain the requisite knowledge and skills. Just as importantly, however, will be development of a workforce that has learned how to learn, that can adapt to continuously changing workplace demands. As universities must ensure the flow into the workforce of trained individuals who are inspired and capable of lifelong learning, so must universities provide those opportunities for lifelong learning. With an adaptable and constantly updated workforce, the Texas economy can not fail to succeed and provide greater opportunity for all Texans.

Continued leadership in technology production bodes well for Texas. Few would argue that these industries will not be the centerpiece of the American and world economies in this new century. Beyond the technology producing-industries, however, the future also promises increasing dependence on technology in virtually all industries. That is, the spectrum of technology-dependent industries will continue to broaden. Thus, all workers regardless of occupation will need to be skilled in the utilization of technology.

Maintaining our leadership position will require not only that we produce the scientists and engineers that represent the backbone of high technology activities, but that workers at all levels have solid skills and technical competencies applicable to current employment needs. We must redouble our efforts to train effective primary and secondary teachers in mathematics and the sciences to capture the interest of our young people, and to prepare these young people for success in our universities. Universities need to project their knowledge into the workplace through distance education programs and customized courses. We have to commit at every educational level to the fundamental teaching and learning components of workforce development, while building the research capacities of our universities.

Three avenues for workforce development exist. First, new entrants into the labor force exit the nation's high schools, junior colleges and universities every year. Second, current or under-employed members of the labor force leave declining industries or lower-skill occupations by building their human capital through the acquisition of new skills and knowledge. Third, immigration provides individuals to meet specific, pressing needs within a short-term time horizon.

Texas Tech University is an important participant in each of the three means of workforce development. Texas Tech is of course directly involved in the production of educated young adults with state-of-the art skills. Texas Tech is also moving to address critical shortages in Texas for bilingual, special education, mathematics, and science teachers. As an example of our efforts, an initiative is underway to build a knowledge repository using the TTU super-computer. An important benefit to this repository will be the ability for TTU to accelerate its own adaptation to technological change and to transfer next generation technology to each generation of students.

Given the relatively narrow employment opportunities in West Texas, the majority of our graduates are exported from the region. Texas Tech is an important source for the I-35

corridor labor force. In partnership with independent school districts, junior colleges, economic development organizations, and private sector firms, the TTU Small Business Development Center is moving to organize and maintain a regional (High Plains) database to track labor force characteristics, regional needs, and entrance and exit flows. The objective is to improve the region's educational institutions' capabilities to match graduates' skills with broader labor market demands and to motivate applied research to promote workforce development and retention in the High Plains of Texas.

Texas Tech is working to build the competencies of our region's workforce to promote the economic future of West Texas. The University stands ready to partner with regional organizations wherever TTU resources can be usefully exploited.

5. VII. PERFORMANCE BENCHMARKING AND ACCOUNTABILITY

Benchmarking

Texas Tech University engages in internal assessment processes to provide performance benchmarks. These include (1) the state mandated performance measures, (2) a set of nineteen major departmental benchmarks used by the President and Provost for academic units, (3) salary, graduation rate, and faculty productivity benchmarking against Big 12 institutions, the Southern University Group, National Association of State Universities and Land Grant Colleges (NASULGC), or national peers, and (4) general financial and research financial benchmarking against various sets of peers. Several benchmarks are used for Texas Tech's agency goals. They are listed below:

GOAL	Performance Measure	Benchmark
Instruction/Operations	6-Year Graduation Rate	46%
	Undergraduate Degrees Awarded	3,386
	Undergraduate 1-Year Retention Rate	78%
	Faculty/Course Evaluations Average Score	4.07
	Minority Degrees Awarded	401
Infrastructure Support*	Space Utilization Rate – Classrooms Labs	 27.48 14.31
Special Item Support	External/Sponsored Research Funds	$21,505,300
	External/Sponsored Research Funds as a Percent of State Appropriations	14.37%
Library	Ranking among the Association of Research Libraries	61 of 111
HUB	Total dollar value of purchases and contracts to HUB vendors ($000)	$7,429

* Infrastructure support is an administrative goal and is therefore exempt.

6. Assessment and Accountability

Immediate and long range planning are the result of systematic and continuing evaluation and assessment of programs and outcomes. Since 1997, Texas Tech University has had an ongoing assessment system for all academic and support programs. We strive to form a campus wide awareness of this process and to create a body of information that is routinely compiled for formal examination. Annual reports contain an evaluation of a broad range of activities within each program. The analysis of these reports, in turn results in rational and accountable planning throughout the university. This holistic effort to be both responsive to our many constituencies and to continuously and effectively plan for improvement requires a substantial investment in human resources.

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9. VIII. OTHER SIGNIFICANT CONSIDERATIONS

Access and Diversity

Undergraduate Students

Between 2000 and 2012, the number of high school graduates in Texas is expected to increase almost 11%, from 209,803 to 232,765. Most of this increase will be made up of diverse students living outside West Texas. Hispanic graduates will lead all minority groups, growing rapidly from 61,223 graduates in 2000 to 90,448 in 2014—an increase of 48%. By contrast, the white high school graduation rate will decline 12% from 103,547 in 2000 to 90,728 in 2014. Consequently, by 2012, the number of Hispanic high school graduates will roughly equal that of white students and, overall, the majority of high school graduates in Texas will be composed of diverse students.[1]

In order to ensure that Texas has a work force that will meet the educational and technological requirements of the 21st century, it is imperative that the state's colleges and universities work to increase access and improve student retention. This will not be an easy task. As college costs have increased, many families are finding it increasingly difficult to finance their children's education. In addition, an increasing number of our high school graduates are first-generation college students who have a limited knowledge of or experience with higher education. Recent judicial rulings, such as *Hopwood v. Texas, 78 F.3d 932 (5th Cir. 1996)*, have also made it more difficult to attract and retain minority students. Consequently, if more students are to be brought into the educational mainstream, many additional efforts to recruit and retain students will be required.

In recent years, Texas Tech has focused significant time and resources in an effort to improve access, diversity and retention. Some of these include:

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[1] For a complete review of high school graduation rates by state and ethnicity, see *Knocking at the College Door*, co-authored by the Western Interstate Commission on Higher Education and the College Board, 1998.

- Enhancing the institution's visibility and recruitment efforts, by establishing four regional offices. Located in Austin, Dallas, Houston, and El Paso, these offices serve as regional admissions and information centers.
- Adding resources and staff to the admissions recruitment effort. This has allowed Texas Tech to enhance its admissions publications and marketing activities, add or enhance campus visitation programs and increase recruitment travel.
- Dramatically increasing the number and size of merit scholarships. Based upon high school performance and standardized test scores, these awards range in value from $500 to $10,000 per year. To encourage graduate work, many of these scholarships are available for a total of five years.
- Improving computer and web-based services in Financial Aid, the Office of the Registrar, and Student Business Services.
- Exploiting the need-based grant program (TPEG).
- Increasing the opportunity for students to participate in a variety of retention programs at the college and university level, i.e., Freshman Seminar, Supplemental Instruction, University Transition Advisement Program, Ag Recruitment and Career Center, and the Engineering Bridge Program.

Many of our on-going programs specifically target under-represented groups. The "Pipeline" programs have established a sound basis for recruiting future college students and will provide greater undergraduate diversity in the next few years. Some of our noteworthy efforts at increasing diversity include:

- TexPREP, a pre-freshman mathematics, science, and engineering program for area students in grades 7-11. The program, now in its 15th year lists 623 students who have successfully completed three summers of the TexPREP program. Of this total, 59% are from ethnic minority groups.
- Summer Educational Experience for the Disadvantage (SEED) is a program in the Department of Chemistry and Biochemistry and the College of Engineering at TTU. In this program, sponsored by the American Chemical Society, economically disadvantaged high school students are placed in TTU research laboratories for eight-to-ten weeks during the summer. The program was established in 1968 to help high school students expand their career outlook and provide opportunities for students who have historically lacked exposure to scientific careers.
- Dean's Future Scholars began in the summer of 1994 and is a cooperative effort between the College of Education and Lubbock County school districts. The program begins with students in the sixth grade and provides programs for them until they become a student at Texas Tech. A majority of the students who participate represent ethnic minority groups.
- Clear Scholars Computer Project is a collaborative effort between the College of Engineering and the Department of Upward Bound Programs. In its initial year, the program serves 15 limited income, first generation students who receive instruction in rebuilding discarded computers. The students are allowed to utilize their computers at home on academic loan as long as they maintain a grade of "B" or higher in all computer-related coursework. Southwestern Bell Foundation funds the program.

- Community in Schools (CIS) is a partnership between the Office of Cultural Diversity and South Plains school districts. The program targets K-12 students in low-income schools and provides summer enrichment programs to promote educational attainment by improving academics, marketable skills, attendance and behavior.

Despite these and many other efforts, attracting and retaining students, especially diverse students, continues to be a challenge. Although Texas Tech annually ranks among the top institutions in the state in terms of retention and graduation rates, there is room for improvement. (In 1999, for example, Texas Tech's retention rate was 78% and its six-year graduation rate was 46%.) In the coming biennium, we will continue to enhance our efforts to promote Texas Tech in every part of our state in an effort to further diversify our student body. Most importantly, we look forward to expanding our present retention activities (programs, training and services) in order that our undergraduate students will enjoy an easier transition from high school and experience a campus climate and support system that will promote their retention and graduation. Some of the initiatives we intend to pursue include:

- Increasing the number of freshman and sophomore Supplemental Instruction (SI) courses.
- Increasing the number of faculty to reduce student/teacher ratios, especially in high-demand general education courses.
- Expanding the number of course offerings in high-demand areas, such as computer science, finance and engineering.
- Enhancing current need-based financial aid programs.
- Developing a more systematic and holistic advisement program across the campus.
- Evaluating the addition of another regional admissions office to improve service to students in South Texas.

<u>Graduate Students</u>

The changing demographics of the population of the State of Texas are reflected in changes in enrollment patterns in graduate programs at public universities in the state. In Texas public universities, graduate enrollment of whites decreased from over 83% in 1980 to 73% in 1998. During this same period, Hispanic enrollment increased from 8% to 15%, Asian American and Native American enrollment increased from about 2% to 5%, and African-American enrollment increased from 7% to 8%. However, TTU graduate minority enrollment lags significantly behind the demographic representation of the state as a whole, with African-American enrollment at 2.45%, Hispanic 8.17%, and white 84.43%. At Texas Tech University, as a result of increased recruitment efforts, minority graduate enrollment showed significant gains in 1999, with an increase of 46% in African-American enrollment and a 16% increase in Hispanic enrollment from Fall 1998 to Fall 1999. The present makeup of TTU graduate students is 20% international, 14% out-of-state, and 66% from Texas.

Recognizing the need to increase the population of underrepresented groups, several initiatives have been implemented by the Graduate School to increase access, diversity, and retention of minority in our graduate programs. They include:

- Increased networking by attending conferences with recruitment opportunities and participating in name exchanges to increase the application pool of minority students.
- Increased recruitment efforts in the southern United States, for example in Alabama and Georgia and the Rio Grande Valley of Texas. Additionally, the school is more active in the recruitment of students in the Ronald B. McNair Achievement program that targets first-generation college students and prepares them for graduate school.
- Diversifying the administrative leadership of the Graduate School and increased awareness of minority issues by leadership attendance at national workshops on cultural diversity.
- Establishment of a graduate student council with minority student involvement and leadership.
- Revision of the Graduate School Admissions policies. The new holistic policy for selecting the best graduate students requires that all applicants be evaluated according to three criteria: GPA, Test Scores, and Individual Profile. Weight to each area is variable. Generally, GPA and Test Scores should not individually account for more than one-third of the admission decision.
- Increasing graduate school fellowship and emergency loan endowments by $9 million since 1996. More than 125 graduate students receive fellowship support annually from funds administered by the Graduate School and more than 80 graduate students annually receive short-term interest-free loans. In addition, numerous graduate fellowships are available through departments and colleges.
- Establishment of a recruitment enhancement fund to partner with departments in the recruitment of quality graduate students.

Texas Tech has traditionally been handicapped in recruitment of minorities, given the historic lack of dedicated funds for scholarships, fellowships, and other enhancements, and currently suffers (with other Texas schools) from the constraints imposed by *Hopwood v. Texas*. Nevertheless, it is our mandate to educate all the citizens of Texas, and finding ways to increase graduate student and graduate faculty diversity must be a top priority. The increasing participation by minorities in graduate education, combined with the burgeoning minority population in Texas, both of which potentially increase the pool of minority applicants, seemingly promise positive results for innovative and aggressive strategies for augmenting diversity. Because the *Hopwood* ruling has not been applied to faculty recruitment, more aggressive recruiting of minorities and women for the graduate faculty constitutes one strategy that can be used to create a more attractive environment for students of diverse backgrounds. Inasmuch as the lack of role models and mentors from their own ethnic groups is among the reasons most frequently cited by minority students who leave without completing degrees, a more diverse graduate faculty can help with retention (as well as with recruitment).

Excellence

Public universities are viewed by most people as places to educate future generations of citizens, and they view the central duty of faculty members as construed to be classroom teaching. There is less appreciation for the role of university faculty members as teacher-scholars, whose teaching is informed, enhanced, and invigorated by their own intellectual discovery. Similarly, there is limited recognition of the benefits gained by undergraduate and graduate students who are exposed to or involved in research. Yet there is a very real need for this in our society.

As it enters a new century of development, the leadership of Texas Tech has charted a goal for Texas Tech University to become recognized as one of the top 100 research and graduate education institutions in the United States. Thus, for us excellence means becoming a (more) research-intensive institution where faculty discovery drives a student learning process that prepares undergraduate and graduate students to compete in a knowledge-based society and where institutional engagement improves state, regional, and local economic development and prosperity in both the public and private sectors. Texas Tech's plan to strengthen research education is focused on applied perspectives with the clear intention of transferring important discoveries into the marketplace for purposes of high tech commercialization and economic development in the western sector of the state. This focus will also enhance our ability to engage students in undergraduate research and to make personal interaction between faculty and undergraduates a higher priority.

The mission of a comprehensive research university is to integrate traditional classroom education, which embodies the learning of concepts and principles, with apprenticeship, training, and skill development. This mission uses both academic and research education in a manner that fosters the introduction of new strategies and tests creative new assumptions, while maintaining academic excellence. Undergraduate and graduate students participate in dual roles as researchers who contribute to the state and national enterprise, and as students who gain research experience as part of their training. This comprehensive training is important to prepare students to compete in a knowledge-based society and to manage high-technology enterprises across a broad range of disciplines and in multiple venues. These skills are key to advancing economic development and prosperity in both the public and private sectors.

Success is measured at research universities in terms of outside grant funding and by providing an educational experience that will enhance the intellectual capability of students. Funding creates opportunity for faculty to become more successful scholars, and it provides opportunity for students to access a research education in which they learn to identify problems, gather information, analyze date, develop and test solutions, and finally, communicate their findings.

<u>Undergraduate Education</u>

Texas Tech has built a strong reputation on the quality of its undergraduate programs. Increased admission standards were implemented in the Fall of 1989 and have continued to become increasingly more rigorous. The new admission standards have resulted in increased SAT scores of new freshman as well as the improved retention graduation rate. Most recently, new admission standards directed at transfer student preparation and requirements were implemented in March, 1998. Proposals for new degree programs are in the final stages of preparation for submission to Texas Higher Education Coordinating Board. These new degree programs will include Natural History and the Humanities, Honors Interdisciplinary Degree, and a General Studies Degree in which students craft the upper division curriculum to meet their specific career goals. The new degree programs will be administered by the Honors College and will be interdisciplinary and designed to integrate the natural sciences and the humanities. This strategy will enable undergraduates to experience a small liberal arts college atmosphere while enrolled in a large research university.

Texas Tech, through the Honors Program, the Clark Scholars Program and the Howard Hughes Medical Institute Undergraduate Research Fellows Program, has made major strides in emphasizing undergraduate research. These efforts have led to the awarding of 19 Goldwater Scholarships in the past seven years, the most of any institution in Texas and the 15th highest number of Goldwater Scholarships of any institution in the nation. As Texas Tech strives to become a major research institution, the quality of, and emphasis on, undergraduate programs will be enhanced. A major goal for the university is to enhance its capabilities to engage students in undergraduate research. This particular emphasis will allow Texas Tech to continue to make undergraduate programs a priority and to make personal interaction between faculty and undergraduates a priority.

Research and Graduate Education

In an era of increasing concern for economic competitiveness within a global economy driven by technological advances, research universities are sources of scientific advances, technical training and workforce development, and their innovation ignites the economic engine of the nation, the state, and the regions where they are located. Research universities have been built around the cause of discovering knowledge and promoting learning so that it can be applied to serve the needs of people economically and socially. It is new knowledge that enables our universities to teach effectively and to apply that knowledge through engagement with our society. University-level teaching is difficult without the new ideas and inspiration provided by research and scholarship. The research universities develop the full capability of students in an academic environment containing world-class teaching, cutting-edge scholarship, and research centers designed to integrate traditional classroom education, which embodies the learning of concepts and principles, with apprenticeship, training, and skill development

Growing as a research-intensive institution will require increasing faculty size which, in turn, will promote better faculty/student interactions by providing smaller class sizes and better student/teacher ratios. Class size is less of a factor for the better students because of their self-motivation, but for all other students it does seem to matter. Improved

faculty/student ratios will provide for even more individual attention to undergraduate students, thereby improving retention and graduation rates. Texas Tech has a long tradition of involving science and engineering undergraduates in faculty research projects. Through the Honors College, undergraduate research has been expanded to all academic disciplines; consequently, student demand for a one-on-one research experience has outstripped available faculty resources. Increasing the size of the faculty will address these demands as well as provide a sense of excitement of discovery and opportunity for intellectual growth, while at the same time lessening the chances for students to go unnoticed, flounder and leave the institution.

To achieve our goal of taking Texas Tech to another level as a research institution will require a major enhancement of state funding for faculty growth and development. Our faculty is currently too small and their teaching loads are too high to achieve leading research status. Also, our salaries at all ranks are far below the other leading research institutions in Texas. New faculty positions and programmatic support and infrastructure (e.g., facilities, equipment, and telecommunications) are needed over the course of several biennia to achieve Texas Tech's goal of becoming a nationally competitive research institution. The net addition of at least 200 new faculty positions will reduce student faculty ratios, reduce the number of large classes, and provide time for research education and technology transfer activities.

Scientific discovery is crucial to Texas' economic and high tech future. Texas needs more research universities to strengthen its R&D capability relative to the other populous states. Existing Texas companies will lead in national and world markets only if there is a research base through which Texans can capitalize on the latest innovations. Universities must comprise a major part of this base. Research universities are crucial to long-term prosperity, providing the intellectual raw material for emerging industries and employees for start-up companies. Without more of these institutions, regions of Texas could be hit hard if the economy takes a downturn. Other states (e.g., California) have high-powered research institutions and have spread them geographically. So consequently, they are in a much better position to benefit from federal research and avoid having a regionalized economy. Through university research, new technologies are developed and commercialized, and spin-off companies are formed. It is clearly to Texas' advantage for more universities to achieve top research status, and Texas Tech has the mission and desire to achieve this. Texas Tech's agency strategic plan outlines the rationale and strategy for achieving top research status.

The changing demographic profiles of counties in West Texas point to increased concentrations of economically and socially disadvantaged populations. There is little basis to suggest that a debilitating drift toward the depopulation of rural West Texas will not accelerate without careful, effective, and coordinated regional economic development efforts. No longer able to rely on agriculture, rural communities must identify opportunities to diversify beyond traditional activities, to offer local outlets for creative residents, and to incorporate new telecommunication technologies that mitigate spatial isolation. While it is unlikely that many communities will survive and demonstrate economic dynamism and vitality, some communities offer a base to rebuild. The success

of these communities would be enhanced by the presence of a comprehensive research institution in West Texas to provide them support and technical assistance in their efforts. Texas Tech's growth and development as a comprehensive research institution will greatly improve the potential for attaining higher levels of regional economic impact in West Texas and along the borderlands.

As we look to the future, Texas Tech must focus on programmatic strengths and the development and coordination of these strengths in order to address identifiable opportunities. Sometimes this development is possible within the standard disciplinary structure of the university. In an increasing number of cases, however, the opportunities require an interdisciplinary approach. When such an approach is needed, we must package our strengths in new ways in order to address problems and issues more effectively and efficiently. This is precisely the reason for the strategy of organizing centers and institutes apart from the normal departmental structure. Such centers strengthen focus on problem-oriented research that requires multidisciplinary and interdisciplinary collaboration.

Texas Tech has taken several steps to strengthen research and external research funding. These include (1) merging the functions of research and graduate education under the administrative control of a vice president, which has substantially increased the visibility of the two functions both within the University and with external constituents; (2) retaining the services of a firm to assist with federal funding initiatives; (3) successfully establishing numerous interdisciplinary centers and institutes; (4) encouraging and facilitating collaboration with the Texas Tech University Health Sciences Center; (5) reprogramming more institutional resources to support research and graduate education, including funds for interdisciplinary seed grants, faculty research enhancement, and graduate fellowships; and (6) recruiting nationally and internationally recognized "faculty stars" to the University in areas of crucial programmatic importance (environmental and human health and materials science).

Of our many initiatives to strengthen research, none has been more important than the immensely successful **Federal Initiative** program. Working with the full support and cooperation of the Texas Congressional delegation, we have secured more then $30M of federal earmark appropriations from 1996-1999. These funds were secured for projects selected to match major Texas Tech strengths with crucial federal needs (e.g. wind damage, chemicals in the environment, plant stress and water conservation, and biological and chemical threats) and economic development opportunities at the Reese Center. We intend to continue and aggressively expand this program and use the funds to leverage even larger amounts of competitively awarded funds. This is one of our major strategies for growing Texas Tech as a research institution and for stimulating economic development in West Texas.

Technology Transfer and Economic Development

Scientific and technological innovation derived directly from university-based research will be the bedrock of the economy of the Twenty-first Century. In the "knowledge economy", the success of universities as the primary generators and distributors of knowledge is already a dominant factor in national and regional economic achievement. Thus, investment in basic and applied research, in scientific discovery and the creation of knowledge, will be an essential input to economic competitiveness and sustained growth.

Success in scientific research ultimately depends on the relevance of the knowledge to the solution of human problems or to meet human wants. While universities are skilled at the creation of knowledge, private sector corporations and entrepreneurs are skilled at the application of that knowledge through timely innovation. Technology transfer from the university to the private sector is therefore a critical stage in the so-called value chain, the process of realization of the economic merit of knowledge.

Given the increasingly important role that technology plays in product development and manufacturing, it can hardly be surprising that clusters of knowledge-based industries have emerged in proximity to major research universities. Spatial proximity facilitates the cultivation of relationships and regular interaction between university researchers and industry specialists. While both the universities and the private sector partners benefit from this relationship, state and local economies also benefit from the economic growth and attraction of high paying, high quality jobs the industry cluster brings. In this sense, the university's role in economic development is amplified, well beyond its traditional perception as educator and ivory tower. The university can itself be an engine of economic growth.

Universities house an extraordinarily broad array of disciplines and areas of knowledge. In this sense, it would be unnecessarily limiting to narrow the university's direct contributions to economic development to science and technology through technology transfer. University researchers in the social sciences, human sciences, and education can also reach out from the university and contribute to regional and local development. Moreover, the concentration of technology on the campus, especially in areas of computing and telecommunications, can often be put at the service of the region at modest marginal cost.

As the only university in the State with a comprehensive graduate school together with a medical school and law school on the same campus, Texas Tech University is positioned to serve as a catalyst and major contributor to the economic development of the Lubbock-area and West Texas region. The University has begun a systematic analysis of its current and potential strengths to identify areas for effective contribution, and to develop a strategic plan for implementation. In 1998, with Economic Development Administration funding, the University engaged Hammer Siler George Associates, one of the premier economic development consulting firms in the United States with an impressive list of university clients, to provide assistance with the design of its economic development strategy.

Two general thrusts for the University's regional economic development effort have been identified: technology transfer and technical assistance. Through technology transfer, the intent is to leverage Texas Tech University's research capabilities to foster the growth of high technology, private sector employment in the Lubbock-area. For success in this endeavor, the University recognizes a critical need to build its research capacity and stature. Technical assistance will be provided through the deployment of University faculty and personnel from its centers and institutes. These individuals will undertake applied research and seek to develop partnerships with regional organizations and rural communities for needs assessment and problem solution.

In 1998, Texas Tech established the Office of Technology Transfer and Intellectual Property under the direction of the Vice President for Research and Graduate Studies. Through this office, the University seeks public/private partnerships, licensing agreements, and other forms of commercial venture. This office is working to increase faculty awareness of intellectual property rights issues and to assist faculty in finding corporate interest and support. In the first year of operation of the Office of Technology Transfer, 17 new patent applications were filed, four new patents were awarded, and five licensing agreements were executed. Patent income totaled $170,000, up 130 percent over the previous year.

The University, in partnership with other local economic development organizations, intends to actively market its research capabilities to private firms seeking to locate in proximity with a major research institution. Wherever feasible, technology transfer efforts will do everything possible to locate the resulting private sector start-ups and spin-offs within the regional economy.

A strategic partnership has formed between Texas Tech University and the Lubbock-Reese Redevelopment Authority to motivate development of a university-related research park at the former Reese AFB. Texas Tech is already the anchor tenant at the Reese Center, having located the Institute for Environmental and Human Health and the Wind Engineering Research Center at the site. Current plans for the redevelopment include multi-tenant buildings and a high-tech business incubator. The University has located a high performance computing system at the Reese Center. With the addition of a fiber network throughout the research park, linking the super computing facility to both the research park and researchers on the Texas Tech campus, the basics of research park infrastructure will be in place.

The private sector is starting to locate at Reese and forming partnerships with Texas Tech. Three high-tech companies have agreed to put R&D operations at the Reese Center. These include: T-Bone Express, a meat technology company; Supachill, a food processing company; and Proenvirotech, a minority-owned environmental cleanup and monitoring company.

The University has accepted a major leadership role in the AgriTech Corridor Project -- a program funded by a grant to the Texas Department of Economic Development. The project, which involves a variety of private, public, and non-profit partners, with Texas

Tech in the lead role for West Texas, will identify a number of value-added agri-technology and agricultural sector initiatives located along a 100-mile wide corridor in rural Texas between Lubbock and San Antonio.

In terms of technical assistance, in October 1998 the Office of the Vice President for Research and Graduate Studies at Texas Tech University proposed the creation of a Rural Assistance Initiative and appointed a task force to research the proposal. The mission of the task force was to research issues shaping the future of rural West Texas and to identify ways in which faculty and graduate students can assist communities in dealing with those issues. The initiative is moving forward. A complete description of this initiative is available at its website located at www.ttu.edu/rural. Final planning for a rural forum to be held at Texas Tech in September 2000 is underway. The forum, to include key individuals from Texas Tech and rural leaders from communities within 90 miles from Lubbock, is intended to open a two-way dialogue, demonstrate TTU commitment to rural development, and to identify opportunities for strategic partnerships.

In 1997, the Texas Tech Board of Regents approved the establishment of the Center for the Study of Regional Economic and Industrial Development. The primary objective of the Center is to conduct applied research in the area of West Texas economic development and to support regional development efforts by other entities with technical and impact analysis and economic forecasting.

Initial steps have been taken to have Texas Tech designated as a host for an Economic Development Administration-funded University Economic Development Center. EDA funding in the 1999-00 academic year to Texas Tech to provide economic development assistance has been used to begin the activities of an economic development center, in anticipation of formal designation and continued university center funding. Pilot projects are underway in innovative programs to boost rural community economic development marketing potential. Two such projects are for development of a web-based descriptive building inventory dataset, and adaptive reuse designs by architecture students for rural community buildings through the TTU College of Architecture design studios.

Additional initiatives in technical assistance for economic development include the reorganization of the lines of reporting for the Texas Tech Small Business Development Center, the Northwest Texas International Trade Center (ITC), and the Texas Manufacturing Assistance Center. These centers now report to the Vice President for Research and Graduate Studies, enabling that office to better coordinate technology transfer activities with small business development and other Texas Tech economic development efforts. Close coordination of technology transfer, small business development assistance, and an EDA-funded regional economic development center will, for example, enable the establishment of a rural business incubator (remote incubation) to promote economic diversification in participating rural communities.

The ITC was recognized by the U.S. Department of Commerce as the number one International Trade Center in America, for which it recently received the *Presidential*

"E" Award. In FY1999, the Center completed 157 client transactions valued in excess of $37 million.

Failure to achieve higher levels of economic development in West Texas represents a substantial opportunity cost for the State of Texas. This opportunity cost arises not only because West Texas has potential in the new economy and can make significant contributions to the economic strength of Texas and the United States, but also because state cohesion rests on the social and economic integration of all its regions. Lagging regions represent fiscal liabilities for leading regions.

If one considers a geographical mapping of the centers of high-tech employment in the Southwest of the United States, a nearly complete crescent emerges. The crescent begins with San Diego, extends through Phoenix/Tucson, and continues on to Albuquerque. There is then a wide discontinuity in the crescent between Albuquerque and Dallas/Fort Worth. From the Metroplex, the crescent continues down I-35, ending in Houston. The region around Lubbock sits at the center of the discontinuity.

The new economy is knowledge-driven. Universities are the basis for the appearance and growth of clusters of knowledge-based industries. By building its research capabilities and stature in key areas, the presence of Texas Tech University can trigger the development of high-tech clustering in Lubbock, and the crescent would be complete. The benefits of such an outcome to the region and the State of Texas would be enormous.

The Humanities and the Arts

The focus of a major university cannot be solely on research funding and economic development. The humanities are an essential foundation for learning and life, and they are a vital part of the scholarship at research universities. The humanities are essential to universities engaged in the work of education people, so that we prepare students who not only can do things, but also so that our students can think creatively and imaginatively about life and the world in their fullest dimensions. The humanities and the arts help us to understand our history, the works of art and literature we create, the societies in which we live, the music we enjoy and understand, the structures of the languages we speak, and the ethical norms (judgment, experience, and values) that we live by.

The arts and humanities departments at Texas Tech, in concert with the campus libraries, museums, research programs and study groups, and special programs, constitute a milieu that promotes the "voicing" of important questions and the ongoing search for answers commensurate with the needs of our changing society. In the humanities at Texas Tech, research projects are devoted to the study and interpretation of texts and other cultural products, while the arts focus on the creation of new works. Texas Tech's history, size, diversity, and location all contribute to a unique spirit of intellectual and social engagement.

Dr. E.O. Wilson, world-renown author and member of the National Academy of Sciences, has said, the greatest enterprise of the mind has always been and always will be the attempted linkage of the sciences and the humanities. In his recent Pulitzer Prize winning book, *Consilience*, he calls for a unification of the sciences and the humanities and he issues this challenge to educators: "Every college student should be able to answer the following question: What is the relation between science and the humanities, and how is it important to human welfare?"

In 1999, Texas Tech established the Center for the Interaction of the Arts and Sciences and has since enhanced this investment to promote seminars, learning discussions, and other intellectual activities to promote a better understanding of the arts and sciences.

We have a great opportunity to strengthen programs in the humanities at Texas Tech. The Board of Regents has authorized the establishment of a College of Fine Arts as soon as budget resources permit. A faculty committee is working on the establishment of a liberal arts curriculum as part of the Honors College. Finally, we have received a sizeable commitment from an anonymous donor to purchase the personal papers of four leading American writers. This material, called the *Collection of Literature, Morality, and Place,* will bring national attention to the University Library and strengthen Texas Tech's research capabilities in the humanities.

Teacher Education and K-12 Initiatives

The shortage of teachers in the State of Texas is an issue of paramount importance. Currently there are between 40,000-50,000 vacancies and universities are graduating only about 15,000 new teachers each year. The most pressing demands are for bilingual, special education, mathematics, science and foreign language teachers.

Texas Tech has made increasing the number of teachers certified per year by the state a major priority. To accomplish this goal the university has:

- Hired a new dean for the College of Education (COE) who has a proven record of innovative approach to teacher preparation.
- Begun construction of a new education building (approximately 20 million dollars) which will house high technology classrooms.
- Authorized the College of Education to begin hiring additional faculty.
- Added $200,000 to the COE annual maintenance and operations budget to expand delivery of programs in clinical settings to accommodate more students.
- Begun planning with South Plains College to collaborate on the development of alternate teacher certification programs, especially in technology.
- Reinstated the College of Education's program in special education, which will certify 30 individuals this year.
- Expanded the Teacher Assistant Program (TAP) which enables individuals employed as teaching assistants in area public schools to achieve both teacher certification and a bachelor's degree. TAP addresses the increasing need for

culturally diverse quality teachers. Sixty percent of Texas Tech's TAP program are African American or Hispanic.

- Increased distance technology capabilities will allow COE to increase the number of graduates. Currently over two dozen two-way/interactive video or web-based courses have been taught. The College of Education is working collaboratively with Region 17 Education Service Center and the associated 59 school districts to develop more distance delivered courses and programs.
- Compiled a document on Texas Tech University's public school collaborative efforts. The document is 160 pages in length and summarizes our 200 current K-12 partnerships and initiatives.
- Received a major grant from the United States Department of Health and Human Services, Head Start Bureau. These funds provide resources for the College of Human Sciences to direct training and instructional programs to 136 Head Start programs throughout Texas and New Mexico.

Partnerships and Collaborations

Doing things with others, even your so-called "competitors," makes sense if it gives you a competitive advantage. Partnerships and collaborations provide another way of leveraging resources. Texas Tech (TTU) has many opportunities to partner with its sister agency, the Texas Tech University Health Sciences Center (TTUHSC), in ways that will benefit faculty and students as well as the region and the state. A good example of such an arrangement has been The Institute of Environmental and Human Health (TIEHH), which was jointly established by TTU and TTUHSC, to conduct research, graduate education, and technology transfer on environmental and human health concerns. Established in 1997, TIEHH has quickly grown to more than 100 employees and 30 graduate students, and in 1998 it received almost $5.6 million in external funding.

In the instruction arena, TTU and the TTUHSC have collaborated in a highly successful MD/MBA Program and will soon form the Institute for Innovation in Healthcare Management. This program will combine the resources of the two system components to address major issues in the healthcare industry.

Other examples of major partnerships and collaborations, in which TTU plays a leading role, include the following:

- TIEHH has a signed Memorandum of Agreement with the Institute of Environment, Safety and Occupational Health Risk Analysis (IERA) at Brooks Air Force Base that serves as a foundation for a partnership between TIEHH and the United States Department of Defense (DoD). The partnership has resulted in the development of an interdisciplinary team of scientists addressing DoD site-specific remediation and evaluation of toxic chemicals in order to make remedies less costly and more efficient. In addition, continuance of the research initiative will improve the understandings of chemical mixtures, toxicology, and risk assessment. These understandings are fundamentally important to the DoD

because the Department has deployed troops in domestic and international settings who experience multiple chemical exposures.

- The Admiral Elmo R. Zumwalt, Jr. National Program for Countermeasures to Biological and Chemical Threats is a partnership between Texas Tech (TIEHH), the University of Texas System, the University of South Florida, and the U.S. Army Soldier Biological Chemical Command (SBCCOM). The interdisciplinary collaboration resulting from this collaboration will be used to address major research and technology needs of the Department of Defense to counter chemical/biological terrorism.
- Texas Tech's College of Agricultural Sciences and Natural Resources, the Texas Agricultural Experiment Station (TAES), and the U.S. Department of Agriculture/Agricultural Research Service (USDA/ARS) are collaborating on a plant stress and water conservation research program. The focal point of the partnership is the new Plant Stress Research Lab, a $15 million facility built on Texas Tech property and opened in 1999. The overall goal of this partnership, which has elements of research, research education, and technology transfer, is to make the Plant Stress Research Lab the world leader in plant stress and water conservation research, providing solutions to the unique problems of water and temperature stress in crop production.
- Texas Tech University would provide research and academic programs in Amarillo under a partnership with the National Defense Alliance, a group of four major defense corporations (Lockheed Martin Corp., Westinghouse Government Services Co., Alliant Techsytems, Inc., and Wackenhut Services) bidding on a five-year contract to run the Pantex nuclear weapons plant in Amarillo. If the NDA is awarded the contract, Texas Tech will establish a Center for Energetic Materials Research (CEMR) to conduct explosives research and engineering graduate education programs in Amarillo. The NDA has committed $1.5 million/year for five years to establish this program with resident faculty in Amarillo. If successful, this partnership would become Texas Tech's first direct involvement with a major national government research laboratory.
- Texas Tech is discussing with Sul Ross State University and Angelo State University about establishing a rural multi-institution instruction and teaching center (MITCI) at the site of our Junction Campus in Kimble County, Texas. Texas Tech and these partners are formulating plans for the implementation of a collaborative general education core curriculum. Situated almost exactly in the center of the state and in a 12 county rural area that is actually experiencing population growth, this partnership could serve as a model for meeting the educational needs of rural Texas in the 21st century.
- An Alliance for Graduate Education and the Professoriate joint proposal has been submitted by Texas Tech University and The University of North Texas to the National Science Foundation program. This goal of the proposed program is to identify and rectify problems encountered by underrepresented minority students, ultimately increasing the number of minorities who complete doctorates in science, mathematics and engineering. Partner institutions in this project include Jarvis Christian College, Texas A & M University – Kingsville, Sul Ross State

University, the University of Texas – Pan American, and the University of Houston System.

- The College of Education has received approval from the Texas Higher Education Coordinating Board to offer a distance education doctorate in Higher Education Leadership for the Allen Independent School District.
- Texas A & M University has received approval for the Texas Higher Education Coordinating Board to offer its EdD in Agricultural Education statewide as a joint degree with Texas Tech University beginning in the Fall 2000 semester. It is anticipated that Texas Tech University will soon receive Coordinating Board approval to also offer the degree.
- Texas Tech also has agreed to accept the transfer of the Lubbock Lake Landmark State Historic Park pending approval from the Texas Parks and Wildlife Department. The Lubbock Lake Landmark consists of approximately 336 acres of land, and it includes the Robert A. Nash Interpretive Center and the Quaternary Research Center building. Transfer of the park to TTU will form the basis for a graduate degree program in Cultural Heritage offered through the Museum.
- The International Trade Center of the Northwest Texas Small Business Development Center recently signed a partnership agreement with the U.S. Agency for International Development (USAID). This agreement will make available to Northwest Texas firms the Global Technology Network. The Global Technology Network assists U.S. small and medium size firms seeking access to emerging overseas markets, while supporting USAID's development agenda abroad.
- In order to facilitate time to graduation, Texas Tech has entered into an agreement with South Plains College (SPC). Students can dual enroll at both institutions and count total hours enrolled toward full-time student status at Texas Tech, thus allowing the students to live in dormitory housing on the Tech campus and qualify for all student privileges. Beginning with the Fall 1998 semester, SPC has taught courses in Texas Tech classrooms. Students enrolled in such classes will pay only SPC tuition and fees. In addition, Tech students can continue to enroll for required courses offered by SPC at Reese Air Force Base.
- Texas Tech University is conducting a project with the Texas Parks and Wildlife (TPW) Department entitled, "Texas Parks and Wildlife for the 21st Century." This project is in response to the Sunset Commission review of TPW and will include a statewide public opinion survey as well as a needs assessment for the management and protection of Texas' natural, cultural, and historic resources in the 21st century.
- The TTU College of Human Sciences is planning to collaborate with the Texas Agricultural Extension Service and the Texas A&M University System on a line item to support joint projects in rural economic development, health issues, family issues, and extension education.

These represent just a few of the strategic partnerships and collaborations that position Texas Tech to leverage additional resources to address critical needs of the nation and the state.

Quality Service

Texas Tech University continues to work to improve the overall quality of its public service. A program is in place that provides training to all employees in order that they might be more service oriented and cognizant of the importance of the students of our institution and, more generally, the citizens of the State of Texas. Also, we are in the midst of an effort to improve our information resources to a state-of-the-art level. A major theme of the current administration is to make Texas Tech a "user friendly" institution with a "can-do" reputation and attitude. Finally, we are working to streamline administrative functions so that they are lean and effective, avoid duplication of services, and provide efficiency savings so that the focus of operational funds are on academic programs.

A report on customer service, *Compact with Texans*, and customer-related performance measures is included in Appendix E of this document.

Institutional Advancement

Horizon Campaign

Texas Tech University has taken a significant step towards its goal of becoming a top-rated research institution with the realization of its first major capital campaign, named the Horizon Campaign.

Thanks to cash, in-kind and planned gifts from thousands of alumni, employees, corporations, foundations, and friends of the university, Texas Tech's endowment for student and faculty support, program enhancement and campus facility expansion is at an all-time high.

With a campaign total of more than $331.5 million, 56 percent of which is in the form of cash gifts and pledges, Texas Tech reached the mark more than a year ahead of its August 2001 deadline.

Building a strong endowment for the university's financial stability and setting the highest standards for teaching, research, facilities, and service to the public are vital for Texas Tech's standing among the nation's premier universities. As a result of the successful campaign, the student and faculty endowment increased to a new high of more than $295 million, and a continuation of private gifts is moving toward a new goal of $500 million.

Faculty development is a vital component to Texas Tech's advancement efforts. Thanks to the generous contributions of campaign supporters, Texas Tech will continue to recruit accomplished research and teaching professionals for endowed chairs, professorships and lectureships. Student recruitment also benefits from these donations as they fund graduate and presidential fellowships, honors, and university-wide scholarships.

The Horizon Campaign continues to move past the original goal and toward higher benchmarks.

Campus Master Plan

Texas Tech University continues to work toward an ambitious Campus Master Plan. A research center has been successfully started at the Reese Center (former Reese Air Force Base). The Institute of Environmental and Human Health (TIEHH) will bring national and world attention to the Reese Center. In addition, other disciplines such as Wind Engineering, Mechanical Engineering, and Animal Science are beginning to occupy facilities at the Reese Center. We are in the design and planning phase for the construction of a BSL4 laboratory that will make the research capabilities of this center truly world class. The new English-Philosophy and Education Complex is under construction. A new Experimental Science Building has been approved and funding for Phase 1 (and planning for Phase 2) has been identified. A new Animal Science Building is being planned, as is a major renovation of the College of Business Administration facilities. Funds have been identified to renovate a portion of the Art Building, and the College of Engineering is working on a plan to upgrade facilities in that college. Discussion is underway about building a College of Fine Arts Performing Center. Fire suppression equipment is planned for high rise buildings on the campus.

In addition we are looking at the campus infrastructure to insure that adequate support facilities are in place to support the Campus Master Plan. An expansion of our Central Heating and Cooling Plant has recently been completed. This increased the cooling capability of the plant by 50% and gave the campus firm chill water backup capability. This installed capacity will service the additional needs of the new buildings that are being planned. We are also looking at the utility distribution system to ensure adequate systems are in place for new facilities. A parking plan has also been completed and parking structures are planned.

Several projects are under construction or design that will improve the quality of life for students. The new Visitor's Center is well under way and should be completed soon. An expansion of the Recreation Center is under construction and a major expansion of the University Center has been approved, funding identified and the project under design. Federal funding was received for a new entrance road to the University, to be called Texas Tech Boulevard, and construction should be completed over the course of the biennium.

Athletics

Although not our primary mission, athletics are important to the university and community. They represent an area of immense importance to the national image and public relations of the University as well as a source of considerable pride and bonding for current and ex-students and the local community. Athletics and academics should be

mutually reinforcing. Most public universities that are strong academically also have outstanding athletic programs.

Two of the great defining moments in the history of Texas Tech have involved athletics – joining the Southwest Conference and then the Big 12. In both cases, the academic horizons of the University were improved because of our association with stronger flagship and land-grant institutions.

It is important for Texas Tech, both in its athletic and academic programs, to remain in the Big 12 and to be nationally competitive. We must remain in full compliance with NCAA rules and regulations, including the institutional principles of the Knight Commission. Also, we must continue to stress the importance of good academic performance by our student athletes. Finally, it is crucial that the athletic department budget does not develop an operating deficit.

Obviously, improving our facilities will be important to our continued success, and we are making major strides in this area. The United Spirit Arena has been constructed and has been the venue for many cultural events for the Lubbock community. Construction of the new Women's Softball Field and Tennis Complex has started, which should satisfy some Title IX issues with women's sports. Renovation of Jones Stadium has begun and will continue in phases for the next few years.

Campus Beautification

Our campus beautification program continues to progress. A Carnegie Foundation for the Advancement of Teaching survey resulted in the foundation reporting, "The appearance of the campus is, by far, the most influential characteristic during campus visits, and we gained the distinct impression that when it comes to recruiting students, the director of buildings and grounds may be more important than the academic dean." The university has completed several landscaping projects and is presently working on others. Completed landscape projects include the United Spirit Arena, the Law School and Wiggins Dining Hall areas, Holden Hall, Chemistry Building and the Administration Building. Projects under construction or that will begin construction soon include landscaping the Carpenter Wells Residence Halls, the Science Quadrangle, and Main Street from Flint to Indiana. The University has also had two very successful Arbor Day programs whereby 200 to 300 trees have been planted on campus and thousands of annual color plants and other plant materials have been planted. The University plans for Arbor Day to be an annual event. Two irrigation wells have been drilled and will be connected to a third well to allow the University to irrigate the center part of the campus with the virtually unlimited water supply under the campus. These wells should amortize quickly because of the cost avoidance of purchased water for irrigation.

Libraries

Significant progress has been made in the growth of our libraries. This sustained effort resulted in the institutional accomplishment of admission into the Association of Research Libraries (ARL). This long-standing goal was achieved after years of attention and effort. Texas Tech University was invited into the ARL in 1996/97 and entered at the rank of 80 out of 111 university libraries. By the end of 1998/99 Texas Tech had achieved the rank of 63. This ranking has placed Texas Tech near the top of the third quartile.

It is critical that Texas Tech libraries continue to grow as we proceed toward the attainment of the goal of national recognition as a top 100 research institution. Our goals are to 1) move into the second quartile of ARL rankings by achieving a 56 or higher and 2) advance our ARL rankings when compared with Big-Twelve institutions.

10. IX. TWO CRUCIAL NEEDS

The Line Items

To achieve our goal of taking Texas Tech to another level as a research institution will require a major enhancement of state and federal funding. State funded line items are especially crucial to Texas Tech's development as a research institution. Lacking access to excellence funding like the Available University Fund as well as the formula pass-through land-grant funds, the line items have provided Texas Tech the means to expand and enhance its research and outreach programs in areas crucial to economic development in West Texas and especially on the High Plains. The line items have also provided much of the excellence money necessary to recruit and retain nationally competitive faculty as well as matching funds to leverage federal and private dollars for research.

Nowhere is the crucial importance of the line items more evident than in our agricultural programs. Texas Tech and Lubbock are located in the heart of the largest farming region in Texas and the United States. Texas Tech's mission includes service to the agricultural sector through research and outreach programs. Texas Tech was established many years after the designation of the land-grant institutions, and consequently it does not get the federal formula funds allocated to such institutions. Nevertheless, in terms of enrollment and research, Texas Tech's agriculture programs rank 27th in the nation -- the largest among all the non-land-grants and larger than almost half of the land-grant institutions. The funding from the line items, in addition to addressing specific research needs, provides the necessary resources to recruit and retain faculty and graduate students capable of teaching, conducting research, and performing technology transfer programs to serve the agriculture industry on the High Plains.

With the encouragement and approval of the Legislative Budget Board and the Texas Higher Education Coordinating Board, the University categorized each of the special line items as educational support, research support or public service support during the last

biennium. Subsequently, the 14 research support line items were consolidated into four broad, overarching areas for the purpose of providing needed flexibility while retaining topical definition. In this manner, it was believed that these line items, which represent the only sustained source of base level, programmatic research funding available to the University, could be broadened to encompass new and emerging technologies and allow faculty to incorporate new and novel concepts and methodologies into their research programs. Additionally, by securing enhanced funding for the programmatic areas embodied in the line items, Texas Tech has substantially leveraged the funding base for its technology and research.

Additional Faculty

Nothing is more crucial to Texas Tech's future and its ability to meet the needs of the state than to have more faculty. This is necessary to our ability to reduce student faculty ratios and reducing the number of large classes, thereby improving our retention and graduate rates, but it is also crucial to our efforts to provide time for significant research by reducing heavy teaching loads.

Surveys have shown Texas Tech with the second highest credit hour work load per faculty member among major Ph.D. granting institutions in the southern United States and the highest among the Research I and II institutions in Texas. The Office of the Provost has completed the revision of the Faculty Workload Policy. The new policy will give faculty greater workload credit for undergraduate teaching, as well as load credit for developing distance learning courses. The new workload policy is also more reflective of an emerging research university.

Based on semester credit hours (SCH) taught per tenured/tenure track faculty member, Texas Tech is far behind the other research institutions in the state as demonstrated in the following table:

	SCH/T&TT Faculty		**Equiv. Faculty Needed**	
	97	***98***	***97***	***98***
UT Austin	663.72	675.69	225	225
Texas A&M	712.56	698.64	150	215
University of Houston	803.57	819.91	40	45
Texas Tech	848.24	864.66	---	---

As the table shows we would need to add about 200 faculty to reach equivalent status with UT and A&M. We have made a reasonable start by adding a total of 27 new positions during the current biennium. The positions included recruits at both the full professor and entry level. The hires were made to focus on our strengths so that we could maximize the leverage of state dollars and to provide for critical teaching needs.

11. X. SUMMARY OF STRATEGIC THEMES AND INITIATIVES

Our aspiration is to become a more prominent, cost-effective, student-focused public university, recognized among the top three in Texas, and among the top 100 in America. The people of Texas, especially West Texas, deserve nothing less than excellence in instruction, research and scholarship, and public service.

Supporting that challenging aspiration is a solid core of themes that reflect the strategic choices we have made. They comprise a realistic strategy for the next five years that is designed to enhance our national standing and performance. We are fully capable of implementing these initiatives with the resource base we project, and that we are striving to secure.

Following is a discussion of ten of these themes, with a summary of what actions are involved. These are ambitious goals, and to achieve them, we must focus on our strengths and build first on those programs and functions currently closest to excellence.

We intend to provide the best possible instruction to all students at the undergraduate, graduate, and professional levels.

We will seek to improve undergraduate education by adding faculty to reduce class size, especially in departments where student demand is high, by increasing the proportion of these courses taught by senior faculty, and by providing more graduate assistants who can give students more one-on-one tutorial opportunities. We will also seek to offer more laboratory instruction, improve our instructional technology, and offer more honors sections to our finest students. We will continue growing our Honors College, with a major effort to integrate undergraduate research and graduate programs.

We will enhance graduate and professional education by strengthening existing programs and adding new ones, including graduate programs such as a Ph.D. in Music, a Ph.D. in Petroleum Engineering, a Ph.D. in Higher Education, an Ed.D. in Agricultural Education joint with Texas A&M University, a M.S. in Biotechnology, and a M.S. in Biological Informatics. We will use the funding given from the last legislature to develop a compelling proposal to the legislature for implementation of the M.S. in Social Work (MSW) in order to develop a program with emphasis on meeting the needs of a rural, underserved population. Several of these programs (e.g., MSW) would contribute strongly to the university's initiatives for the economic development of West Texas. We will expand research and teaching opportunities for graduate students and will also compete more effectively for the best students with more graduate fellowship awards and with increased stipends for graduate research and teaching assistants.

We intend to attract from Texas and elsewhere students who are unmatched for their talent and diversity.

We will seek to expand student financial assistance by making more competitive the level of academic scholarship awards, increasing our need-based grants funds, and enhancing the professional services offered in Student Financial Aid and Student Business Services.

We envision improving general student support services by developing a wide array of Web-based systems for advisement, student records, registration, degree audit, financial aid, and student billing.

We will continue to promote access and academic excellence by expanding our recruitment efforts all across our state, especially among high achievers and culturally diverse student populations. For example, we will invest additional resources in order that participation in our Honors College and Study Abroad programs may increase. In addition, we will improve and expand opportunities for students to visit our campus, meet our students and faculty, and explore career opportunities. (We are presently renovating our Office of Admissions, a portion of Registrar's Office, and constructing a $3,000,000 Visitor Center, which will serve as the centerpiece for our campus recruitment and visitation programs.)

We will sustain and enhance the quality of our faculty and substantially diversify its composition.

Texas Tech will continue to strive to hire and support the very best faculty. A number of special initiatives will be implemented to diversify the faculty by hiring more minorities and women. These efforts will focus on administrative accountability, as well as rewards and incentives for those departments who are successful in attaining faculty diversity. Efforts also will be made to increase the pipeline of minority Ph.D.s so that the applicant pool for positions will be greater.

We will strive to raise faculty salaries to at least the average of the leading public research universities in the state by providing special promotion raises, a competitive fund for salary increases for selected faculty, and a special allocation to correct severe salary parity problems.

To compete for highly regarded faculty, we will expand funds for recruitment packages of equipment and facilities needed for their research.

We will seek to improve faculty support in such areas as attending conferences and symposia, editing esteemed journals, and carrying out official duties in professional organizations. And we will broaden faculty diversity through retention and recruitment of minorities.

In order to achieve a higher level of federal and private support, Texas Tech desperately needs a significant increase in the number of existing faculty. Faculty members at Texas

Tech University carry very heavy teaching loads with supporting research and outreach responsibilities, thus leaving very little time available for increased research activities. The University will aggressively seek ways to expand its faculty size.

We intend to become one of the nation's top 100 centers of research.

Texas Tech is classified as a Research II university because of the breadth of its research and the comprehensive scope of its academic offerings. In terms of R&D expenditures we ranked 125th in 1998. Our goal is to move into the top 100 in this category within the next five years. To accomplish this, the university must find new ways and means to assist faculty members and students in maintaining their competitive edge as they search for new research opportunities.

While noting our substantial increase in research funding, a recent report by the State Auditor's Office recommended that we add specific benchmarks and timelines to our strategic plan for research. We are currently updating that plan and are incorporating these suggestions. Assisting us in this effort is the Research Competitiveness Service of the American Association for the Advancement of Science, the world's largest interdisciplinary federation of scientists and engineers and publisher of *Science* magazine.

In order to reach our goal, we must identify areas of research and scholarship that will build on existing expertise and that are congruent with areas of emphasis at the national and international levels. Areas targeted for potential to expand graduate instruction and research include agriculture (cotton, plant stress, precision agriculture, animal industries), genomics and biotechnology, engineering (computing, materials science, wind, hazardous materials management), environmental sciences, space science, bioinformatics, human sciences, and natural resources and conservation.

While we will continue to seek a steady increase in sponsored research, including federal and state resources as well as private industry, we recognize that funding is an incomplete measure of research and research productivity. During the next five years, we will also strengthen areas in which little funding for research is available. No university can be pre-eminent without strength in the humanities. As the Hispanic population of the state grows, we must expand our offerings in Spanish language and culture, and bring greater visibility to the areas of English, philosophy, and history. Other languages will be increasingly vital with continuing economic globalization. We will continue to stress our nationally recognized interdisciplinary fine arts program, and if resources become available we will establish a College of Fine Arts.

Supporting this ambitious drive to improve research and instruction will be efforts to increase funding for research libraries, equipment, and other services.

We will expand the university libraries to strengthen collections (emphasizing our research priorities), expand or make more efficient our use of space, protect deteriorating books and journals, and enhance automated catalogue systems.

We will expand allocations for specialized research equipment by maintaining a continuing resource fund from growth in our indirect costs. We will develop a high performance computing network to provide a sophisticated computing, visualization, and information environment for faculty, staff, and students.

We will increase funds for small internal interdisciplinary seed grants to help researchers undertake new lines of inquiry, support major grant applications, or carry out research where outside support is limited. Moreover, we will expand special program enhancements that include more assistance for faculty research start-up funding, start-up funds for new interdepartmental programs, and support for technology transfer from the University to the private sector.

We will seek to internationalize the university experience at Texas Tech.

Today, more than ever, it is imperative that Texas Tech integrate global perspectives and promote international experience as part of its core missions. The university must invest more human and financial resources in the task of comprehensively internationalizing our programs in order to fulfill our responsibilities in a global society and economy.

We intend to broaden the scope of international studies throughout the university in undergraduate and graduate education, professional programs, research and service. We have aggressively increased scholarship support for undergraduates who seek a semester abroad. As one example, during summer, 2000 over 100 students will enhance their education with scholarships offered by the Office of International Affairs. In this one program, students will travel to ten foreign countries.

The university will continue to aggressively recruit and retain international students, both undergraduate and graduate and infuse international issues, different cultures and priorities into its curricular and co-curricular activities and programs. Texas Tech must also increase the international activity of faculty and professional staff and encourage faculty to seek prestigious international fellowships and grants. This activity will allow faculty to bring fresh, current ideas, concepts and issues to their undergraduate and graduate classrooms and to become more active in forming new research and policy paradigms.

We intend to enhance the quality of support staff.

We will strive to increase salaries and benefits to be competitive with state and local governments and regional businesses with an emphasis on reducing salary compression and inversion. We will also enhance staff development programs, make conferences and workshops more available, and increase the staff's diversity by retaining and recruiting minorities.

We intend to improve outreach, economic development, and partnership programs.

Public institutions must reconnect to their public constituencies and be more accountable. As Texas Tech articulates its agenda and initiatives, it is imperative that serious attention be given to how university activities can better position faculty and staff to meet the challenge of developing stronger outreach services and economic development programs.

To strengthen its ability to respond, the University has established a single point of contact for external audiences -- agencies, businesses, local governments, individuals -- that want to locate expertise to respond to opportunities.

The University is acting aggressively to protect the intellectual property from its research discoveries and to seek new and novel approaches, consistent with state and institutional policy, to move those discoveries into the marketplace in such a way as to provide win-win arrangements for all parties involved and to contribute to local and regional economic development.

Program-based partnerships will be sought as two-way relationships between the university and state/federal agencies, the local community, businesses, and corporations. The focus here will be on building new knowledge which can result in the transfer of technology into the market place through commercialization as well as technology-transfer.

We intend to build sorely needed new facilities and renovate existing ones.

Besides completing our new Education, English, and Philosophy Complex now under construction, during the next five years we intend to build Phase I of our new Experimental Science complex to support the expected growth in our "high-tech" interdisciplinary science programs, and to secure the funding and complete the planning for Phase II as well.

Other facilities planned for construction and/or major renovation over the next five year period include an Animal Science and Food Safety Research Building, major renovation of facilities for the Colleges of Business Administration and Engineering, a BSL-4 Biological Containment Laboratory, and a Performing Center for the College of Fine Arts.

We will use HEAF funds for such necessary projects as remodeling laboratories and libraries, upgrading classrooms, purchasing instructional and research equipment, and refurbishing administrative spaces.

Finally, we intend to invest in this aggressive Strategic Plan with increased funds we will seek from public and private sources.

The University has initiated a major capital campaign for development of private resources from alumni, corporations, foundations, and friends of the University, especially for needs not usually met from public sources. We will expand the role of

corporate partnerships in technological development of instruction and in technology transfer.

We will increase the level of federal and foundation support and seek increased appropriations from the Texas Legislature for scholarly research and instructional and research equipment. We also will make more effective use of existing resources by reallocating funds as demand and program interests change.

Underlying this Strategic Plan is an aggressive, entrepreneurial attitude that Texas Tech University is capable of becoming one of the select group of the finest public universities in Texas and America.

12. XI. DISCUSSION OF CURRENT-YEAR ACTIVITIES

The following represent strategic initiatives to be accomplished by the end of the year 2000 or as soon thereafter as possible:

Faculty

- Develop a comprehensive plan to hire 100 new faculty members by 2005, with the addition of a total of 200 by 2010.
- Upgrade the quality of faculty and rewards for excellence. Implement a set of incentives to reward excellence in teaching and research. Faculty promotions and tenure will be adjusted to reflect performance criteria.

Research and Outreach

- Continue building Texas Tech's research portfolio by (1) expanding the federal initiative program in niche-specific areas and by (2) improving institutional competitiveness for peer reviewed federal awards through NIH, NSF, DOE, DOD, DOED, and other federal agency grant programs.
- Establish plans in conjunction with the Lubbock community to develop Lubbock as a technology "go to" area.

Development

- Refocus the development operations with a final Horizon Campaign target of $500 million, focusing on undergraduate scholarships, graduate fellowships, faculty endowments and departmental/unit needs.

Leadership

- Select a new University President and implement an appropriate operating paradigm for the University that will strengthen planning, organizational cohesion, and emphasize accountability at all levels.

- Diversify the leadership team at Texas Tech and establish a vision for greater success and enhanced institutional horizons.

Budgets

- Reduce non-academic expenditures by streamlining and reengineering administrative processes and by carefully controlling all expenditures so that resources are dedicated to institutional priorities.

Academics and Teaching

- Conduct annual evaluations of all programs and where appropriate reallocate resources to those that are most functional.
- Continue implementations of plans to improve Texas Tech's academic reputation and rankings.
- Conduct feasibility plans and establish priorities for new academic units at TTU (e.g., College of Fine Arts, College of Mass Communications, Master of Social Work Program, etc.).
- Identify a viable plan for establishing a Phi Beta Kappa chapter at Texas Tech.
- Assess re-accreditation status of critical programs (e.g., TTU Art Department, College of Business Administration).

Facilities

- Be well underway on the following facilities projects:
  - Broadway Entrance
  - Marquee
  - Jones Stadium
  - English, Philosophy and Education Complex
  - Experimental Sciences Building
  - Tennis/Softball Complex
  - Student Recreation Center Expansion
  - University Center Expansion and Renovation
  - Bonfire Circle
  - Pfluger Fountain
  - Texas Tech Boulevard
- Conduct feasibility studies for new research equipment and facilities (e.g., BSL-4 Lab at Reese Center).

Community Engagement

- Finalize plans for the visit of the Vatican Exhibit to the Texas Tech Museum in 2002.

TEXAS TECH UNIVERSITY

Strategic Planning

Goals/Objectives/Strategies

A. Goal: INSTRUCTION/OPERATIONS
Provide Instructional and Operations Support

A.1. Objective: Conduct Instructional Operations
Outcomes:
State licensure pass rate of law graduates
State licensure pass rate of engineering graduates
State pass rate of education EXCET exam
Percent of first-time, full-time, degree-seeking freshman who earn a baccalaureate degree within six academic years
Retention rate of first-time, full-time, degree-seeking freshman students after one academic year
Dollar Value of External or Sponsored Research Funds (in millions)
Percent of lower division courses taught by tenured faculty
Percent of Baccalaureate Graduates who are first generation college graduates
Administrative cost as a percent of total expenditures

A.1.1. Strategy: OPERATIONS SUPPORT
A.1.2. Strategy: TEACHING EXPERIENCE SUPPLEMENT
A.1.3. Strategy: GROWTH SUPPLEMENT
A.1.4. Strategy: STAFF GROUP INSURANCE PREMIUMS
A.1.5. Strategy: TEXAS PUBLIC EDUCATION GRANTS
A.1.6. Strategy: INDIRECT COST RECOVERY
Indirect Cost Recovery for Research Related Activities
A.1.7. Strategy: ORGANIZED ACTIVITIES
A.1.8. Strategy: CAPITAL EQUITY & EXCELLENCE FUNDING
Capital Equity and Excellence Funding

B. Goal: INFRASTRUCTURE SUPPORT
Provide Infrastructure Support

B.1.1. Strategy: E&G SPACE SUPPORT
Educational and General Space Support
B.1.2. Strategy: TUITION REVENUE BOND RETIREMENT
B.1.3. Strategy: SKILES ACT REVENUE BOND RETIREMENT

C. Goal: SPECIAL ITEM SUPPORT

Provide Special Item Support

C.1. Objective: Provide Special Item Educational Support

C.1.1. Strategy: LIBRARY ARCHIVAL SUPPORT
C.1.2. Strategy: MASTERS OF SOCIAL WORK
Masters of Social Work Program
C.1.3. Strategy: EDUCATIONAL INITIATIVES
Faculty Growth and Development
Teacher Training in Science and Mathematics
Distance Education Support Center
Academic Program Expansion
Upper Division of Program Development in San Antonio
Junction Center (Academic Programs)
Center for Research on Teaching Reading
C.1.4. Strategy: INSTITUTIONAL SUPPORT INITIATIVES
Research, Technology Transfer, and Economic Development Infrastructure at Reese Center

C.2. Objective: Conduct Special Item Directed Research

C.2.1. Strategy: AGRICULTURAL RESEARCH
Research to Enhance Agricultural Production and Add Value to Agricultural Products in Texas
C.2.2. Strategy: ENERGY RESEARCH
Research in Energy Production and Environmental Protection in Texas
C.2.3. Strategy: EMERGING TECHNOLOGIES
Research in Emerging Technologies and Economic Development in Texas
C.2.4. Strategy: RESEARCH INITIATIVES
High Performance Computing and Visualization Center, Research and Graduate Education in Biotechnology and Genomics, Research and Graduate Education in Bioinformatics, Center for Research in Precision Agriculture and Resource Management Systems, Cooperative Crop Genomics Research Initiative, Safe Food for Texas, The Center for the Study of Addiction

C.3. Objective: Provide Special Item Public Service Support

C.3.1. Strategy: JUNCTION ANNEX OPERATION
C.3.2. Strategy: SMALL BUSINESS DEVELOPMENT
Small Business Development Center
C.3.3. Strategy: MUSEUMS & CENTERS
Museums and Historical, Cultural and Educational Centers
C.3.4. Strategy: INTERNATIONAL TRADE CENTER

C.3.5. Strategy: FINANCIAL RESPONSIBILITY
Center for Financial Responsibility
C.3.6. Strategy: PUBLIC SERVICE INITIATIVES
Pathway to Public Service Program, Collaboration in Research and Outreach: A joint project with the Texas Agricultural Extension Service and the College of Human Sciences at Texas Tech University
C.4.1. Strategy: INSTITUTIONAL ENHANCEMENT

D. Goal: HUB GOAL
Establish and carry out policies governing purchasing and contracting that foster meaningful and substantive inclusion of historically underutilized businesses

D.1. Objective: Increase HUB Utilization
To increase 20% from fiscal year 2000 to fiscal year 2005 the total value of purchases and contracts, including subcontracts, awarded annually to historically underutilized businesses by the agency in purchasing and contracting
Outcomes:
Total Dollar Value of Purchases and Contacts, including Subcontracts, awarded to HUBs

D.1.1 Strategy:
Enhance action plan for increasing the use of historically underutilized businesses through purchasing and contracting, including subcontracting
Outputs:
Number of HUB vendors and contractors, including subcontractors, contacted for bid proposals
Number of awards made to HUB vendors and contractors, including subcontractors
Dollar value awarded to HUB vendors and contractors, including subcontractors

APPENDIX A

Agency Planning Process

To oversee the development of the strategic plan, a committee was appointed by the President. The membership was as follows:

Member Title

Vice President for Research, Graduate Studies, and
Technology Transfer (Committee Chair)
Provost
Vice President for Fiscal Affairs
Senior Associate Vice President for Research
Associate Vice President for Computing and Information Technologies
Acting Dean of the College of Education
Dean of Libraries
Senior Associate Dean of the Graduate School
Assistant Provost
Assistant Vice President and Director of Research Services
Professor of Economics
Director of Institutional Research
Senior Development Officer

After considerable deliberation, including a review of the 1998 Agency Strategic Plan, the committee produced a draft of the plan. This draft was discussed among university administrators and appropriate suggestions were incorporated. The plan was discussed, amended, and recommended for approval at a regular meeting of the President's Executive Staff.

Following review as described above, a final draft was written and submitted to the President and the Chancellor for their review and signature. The final plan was drafted and submitted for necessary approval by the Board of Regents.

APPENDIX B

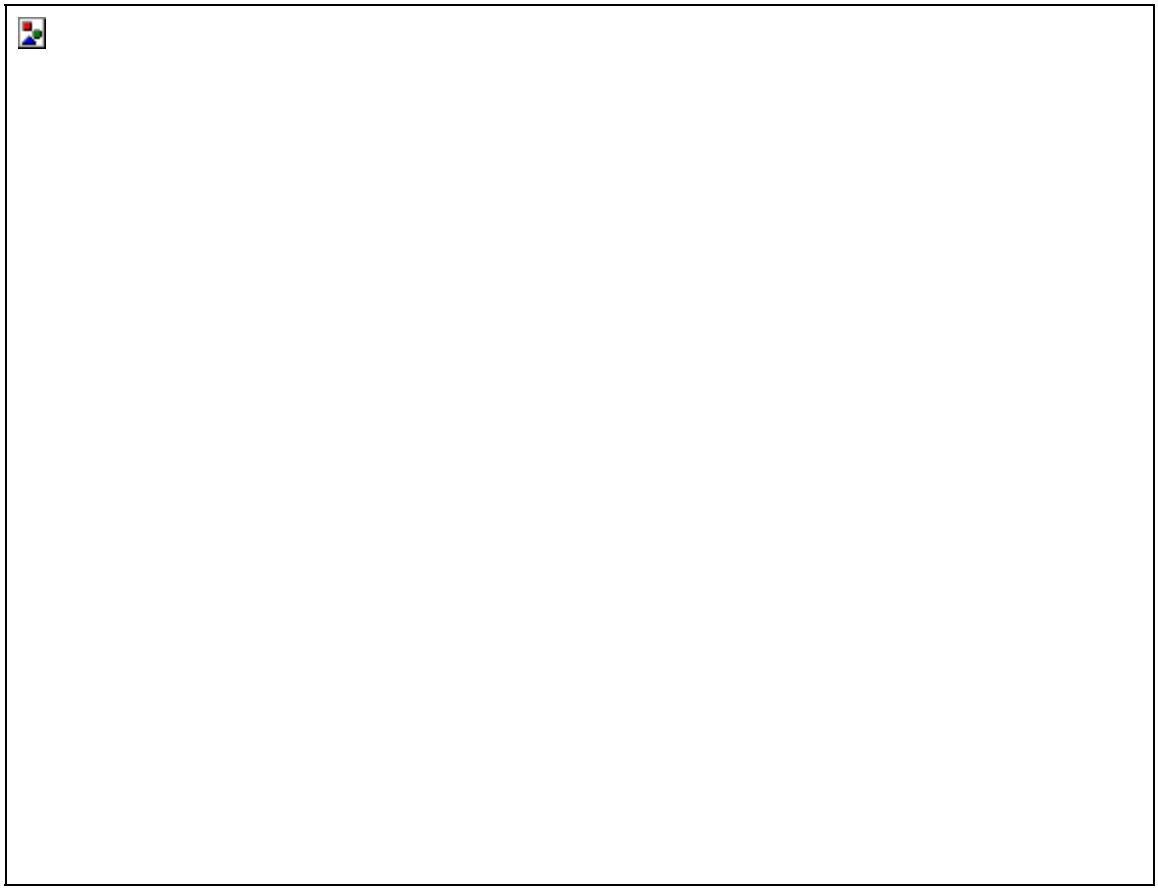
TEXAS TECH UNIVERSITY
Organizational Chart

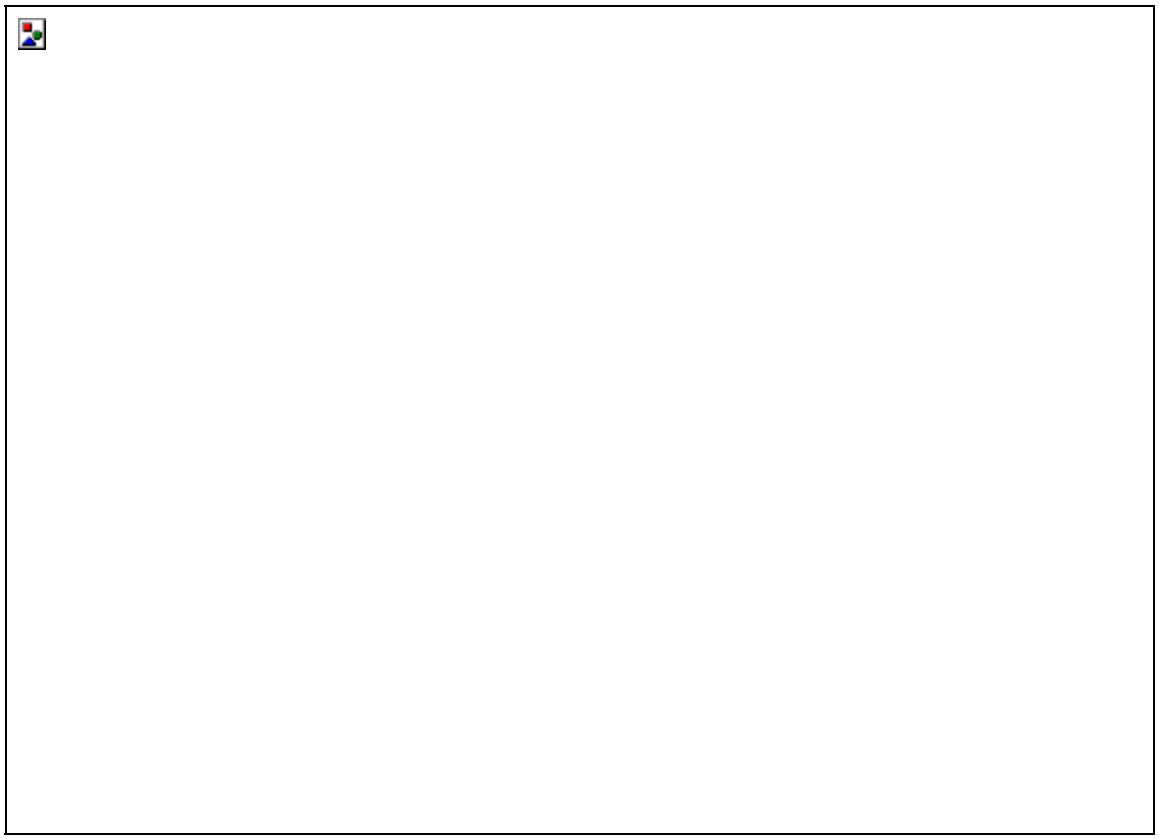
Texas Tech University and Health Sciences Center are governed by a single Board of Regents through a Chancellor serving both institutions. Each institution is operated by a President reporting to the Chancellor. A common Chancellor's staff provides a system of shared services.

The organizational structure may be readily understood in a hierarchical outline format:

System Officers
- Chancellor
  - Chief Financial Officer
  - Deputy Chancellor, System Administration
    - Vice Chancellor and General Counsel
    - Vice Chancellor for Facilities Planning and Construction
    - Vice Chancellor for Cultural Diversity
  - Deputy Chancellor, System Operations
    - Vice Chancellor for Governmental Relations
    - Vice Chancellor for Institutional Advancement
    - Vice Chancellor for Research and Development of Intellectual Property
    - Vice Chancellor for Special Projects
    - Associate Vice Chancellor for News and Information

University Officers
- President
  - Vice President for Enrollment Management
  - Vice President for Fiscal Affairs
    - Associate Vice President for Business Affairs
  - Vice President for Operations
  - Vice President for Research, Graduate Studies and Technology Transfer; Dean of the Graduate School
    - Senior Associate Vice President for Research
  - Vice President for Student Affairs
  - Provost
    - Associate Vice President for Computing & Information Technologies
    - Dean of the College of Agricultural Sciences and Natural Resources
    - Dean of the College of Architecture
    - Dean of the College of Arts and Sciences
    - Dean of the College of Business Administration
    - Dean of the College of Education
    - Dean of the College of Engineering
    - Dean of the College of Human Sciences
    - Dean of the Honors College
    - Dean of the Graduate School
      - Senior Associate Dean
    - Dean of the Law School
    - Dean of Libraries
    - Vice Provost for Academic Affairs
    - Vice Provost for Extended Learning
  - Director of Intercollegiate Athletics





APPENDIX C

TEXAS TECH UNIVERSITY

PROJECTED PERFORMANCE MEASURES

YEAR	2001	2002	2003	2004	2005
Number of undergraduate degrees	3,300	3,300	3,300	3,350	3,350
Number of minority graduates	420	420	425	425	430
Percent of lower division courses taught by tenured or tenure track faculty	34%	34%	34%	34%	34%
Number of minority students enrolled (Fall only)	3,200	3,200	3,300	3,300	3,300
Number of community college students enrolled	3,300	3,300	3,300	3,350	3,350
Headcount enrollment	26,000	26,000	26,000	26,000	26,000
Percent of courses completers	93%	93%	93%	93%	93%

YEAR	2001	2002	2003	2004	2005
Percent of freshmen who graduate within 6 years					
All Freshmen	46%	46%	47%	48%	49%
White Freshmen	49%	49%	50%	51%	52%
Hispanic Freshmen	31%	31%	32%	33%	34%
Black Freshmen	26%	26%	27%	28%	29%
Other Freshmen	44%	44%	44%	44%	44%
Percent of freshmen retained after one year					
All Freshmen	78%	79%	79%	80%	80%
White Freshmen	79%	79%	79%	79%	79%
Hispanic Freshmen	71%	72%	72%	73%	73%
Black Freshmen	78%	78%	78%	78%	78%
Other Freshmen	72%	72%	72%	72%	72%
Percent of TASP students retained after one academic year	61%	63%	63%	63%	63%
Dollar amount of externally funded research (Million $)*	21.5	22.0	23.0	24.0	25.0
External research as a percent of state appropriations	14%	15%	15%	16%	16%
Utilization of classrooms in hours per week	28	29	29	29	29
Utilization of laboratories in hours per week	15	16	17	18	19

YEAR	2001	2002	2003	2004	2005
State Licensure Examinations** Law Exam Engineering Exam Education EXCET Exam	 90% 80% 94%	 90% 80% 94%	 90% 80% 94%	 90% 80% 94%	 90% 80% 94%
Student/Faculty Ratio	17.0	17.0	16.5	16.0	16.0
Total dollar value of purchases and contracts, including subcontracts, awarded to HUBs ($000).	7,429	8,105	8,780	9,456	10,131

* By definition this figure does not include ATP/ARP funds. This figure does not include sponsored projects for instructional or public service purposes. The number does not include indirect cost amounts. This figure also does not include amounts received by Texas Tech University but pass-through to other universities for their expenditure.

** Pass rates on examinations are subject to external influence. For example, implementing changes mandated by SBEC for teacher certification and the resulting changes in the ExCET may cause students, whose time at the university overlaps two curricula with only one available version of the test, to pass at a lower rate. Changes to the State Licensure examination by the State Board of Law Examiners may influence the pass rate. Relative positions by various law schools, however, may or may not be affected by these changes.

APPENDIX D
List of Measure Definitions

Number of Undergraduate Degrees Awarded

DEFINITION: The number of baccalaureate degrees awarded.

Number of Minority Graduates

DEFINITION: The number of Hispanic, Black, and Native-American students who have earned a baccalaureate or higher degree during the reporting period.

Number of Community College Transfer Graduates

DEFINITION: The number of baccalaureate level graduates who attempted 30 or more semester credit hours in a Texas public community college during the past six years.

Number of Successfully Remediated Students

DEFINITION: The number of students who pass the third part of the Texas Academic Skills Program (TASP) examination during the reporting period, who had been placed into remediation as a result of previous TASP failure, regardless of when TASP failure occurred.

Percent of Lower Division Courses Taught by Tenured or Tenure-Track Faculty

DEFINITION: The percent of lower division class sections taught by tenured or tenure-track faculty.

Percent of Semester Credit Hour Courses Completed

DEFINITION: The percent of semester credit hours completed.

Percent of First-time, Full-time, Degree-seeking Freshmen Who Earn a Baccalaureate Degree Within Six Academic Years.

DEFINITION: The percent of those students classified as first-time, full-time, degree-seeking freshmen, who earn a baccalaureate degree within six years of their entrance as freshmen. First-time includes students who take courses as first-time freshmen during the summer session and continue as full-time freshmen during the following fall semester, whether those summer courses are taken at the reporting institution or transferred from another institution. Full-time is defined as taking 12 semester credit hours. Hours in remediation are to be counted in determining full-time status.

The base period to be used is the fall semester six years prior to the reporting period through graduation during summer of the preceding year.

Note: Federal reporting ethnic categories should be reported separately for the following:

Percent of First-time, Full-time, Degree-seeking (White; Black; Hispanic; Other) Freshmen Who Earn a Baccalaureate Degree Within Six Academic Years

Definition, calculation, source and reporting period are the same as above for each ethnic category.

Note: Federal reporting ethnic categories should be reported separately for the following:

Percent of Full-time, Degree-seeking (White; Black; Hispanic; Other) Transfer Students Who Earn a Baccalaureate Degree Within Four Academic Years

Definition, calculation, source and reporting period are the same as above for each ethnic category.

Retention Rate of First-time, Full-time, Degree-seeking Freshmen Students After One Academic Year

DEFINITION: Percent of first-time, full-time, degree-seeking freshmen who enter in the fall semester, who are still enrolled after one academic year. First-time includes students who take courses as first-time freshmen during the summer session and continue as full-time freshmen during the following fall semester, whether those courses are taken at the reporting institution or transferred from another institution. Full-time is defined as taking 12 semester credit hours. Hours in remediation are to be counted in determining full-time status.

Note: Federal reporting ethnic categories should be reported separately for the following:

Retention Rate of First-time, Full-time, Degree-seeking (White; Black; Hispanic; Other) Freshmen Students After One Academic Year

Definition, calculation, source and reporting period are the same as above for each ethnic category.

Retention Rate of TASP Students Requiring Remediation Education After One Academic Year

DEFINITION: Percent of first-time freshmen student who failed one or more portions of the official Texas Academic Skills Program (TASP) examination and were placed in remediation, who are still enrolled after one academic year.

State Licensure Exam Pass Rate of Law Graduates

DEFINITION: The percentage of the institution's law program graduates attempting the state licensure examination who pass all parts either before graduation from the program or within the twelve months immediately following graduation.

State Licensure Exam Pass Rate of Engineering Graduates

DEFINITION: The percentage of the institution's undergraduate engineering program graduates attempting the state licensing examination who pass all parts either before graduation from the program, or within the twelve months immediately following graduation or any required internship.

Pass Rate of State Education EXCET Exam

DEFINITION: The percentage of the institution's undergraduate teacher education program graduates attempting the state licensing examination who pass all parts either before graduation from the program, or within the twelve months immediately following graduation from the program.

Dollar Amount of External or Sponsored Research Funds (in millions)

DEFINITION: The dollar value of funds expended for the conduct of research and development from sources other than appropriated state and local funds.

External or Sponsored Research Funds as a Percent of State Appropriations

DEFINITION: Expenditures of external or sponsored research funds represented as a percent of expenditures of state appropriations.

Number of Semester Credit Hours Completed

DEFINITION: The number of semester credit hours for which students are registered on the final day of the semester.

Number of Minority Students Enrolled

DEFINITION: The number of Hispanic, African-American, and Native-American students enrolled.

Number of Community College Transfer Students Enrolled

DEFINITION: The number of students enrolled in the fall semester who attempted 30 or more semester credit hours in a Texas public community college during the past six years.

Number of Students Enrolled as of the Twelfth Class Day

DEFINITION: The number of students enrolled as of the twelfth class day of the fall semester.

Number of Semester Credit Hours

DEFINITION: The number of semester credit hours generated as of the twelfth class day of the fall semester.

Faculty/Student Ratio

DEFINITION: The number of full-time student equivalents per filled/actual full-time equivalent instructional faculty positions. Full-time faculty is defined as all faculty ranks, but do not include teaching assistants (TAs).

Space Utilization Rate of Classrooms

DEFINITION: The average weekly hours of use of classrooms.

Space Utilization Rate of Labs

DEFINITION: The average weekly hours of use of labs.

Percent of Baccalaureate Graduates Who Are First Generation College Graduates

DEFINITION: Percentage of graduating baccalaureate students whose parents did not attend college. Parents are defined only as birth parents, adoptive parents, or legal guardians.

Percent of Incoming Full-time Undergraduate Transfer Students Who Graduate Within Four Years

DEFINITION: Percentage of full-time undergraduate students who transfer into the institution for the first time in the fall semester with at least 60 accepted semester credit hours and graduate within four academic years.

Amount of External Research Funds Expended as a Percentage of Funds Appropriated for Research

DEFINITION: The percentage of funds expended for the conduct of research and development from sources other than state and local funds. State Advanced Research and Advanced Technology Program funds are not included.

APPENDIX E
Report on Customer Service, *Compact with Texans*,
and customer-related performance measures

Appendix E: Report on Customer Service

I. Inventory of Customers by Strategy

II. Information Gathering Summary

III. Customer Satisfaction

IV. Analysis of Findings and Improvement Plans

V. Customer Service Representative Information

VI. *Compact with Texans* for Texas Tech University

VII. Customer Related Performance Measures

I. Inventory of Customers by Strategy

Goal/Strategy	Customer
A. Goal: Instruction/Operations	
Provide Instruction Operations	students
A.1 Objective: Conduct Instructional Operations	students
A1.1 Strategy: Operations Support	students
A1.2 Strategy: Teaching Experience Supplement	students
A1.3 Strategy: Growth supplement	students
A1.4 Strategy: Staff Group Insurance Premiums	staff/faculty
A1.5 Strategy: Texas Public Education Grants	students
A1.6 Strategy: Indirect Cost Recovery	n/a
A1.7 Strategy: Organized Activities	students
A1.8 Strategy: Capital Equity & Excellence Funding	students
B. Goal: Infrastructure Support	
B1.1 Strategy: E&G Space Support	students
B1.2 Strategy: Tuition Revenue Bond Retirement	n/a
B1.3 Strategy: Skiles Act Revenue Bond Retirement	n/a
C. Goal: Special Item Support	
C1.1 Strategy: Library Archival Support	students
C1.2 Strategy: Master of Social Work	n/a-program not established.
C2.1 Strategy: Agricultural Research	agribusiness
C2.2 Strategy: Energy Research in energy and environmental protection in Texas	citizens of Texas
C2.3 Strategy: Research in emerging technologies and economic development in Texas	agribusiness; communities; businesses; citizens of Texas
C3.1 Strategy: Junction Annex Operation	students; state organizations, agencies, and societies; the local community
C3.2 Strategy: Small Business Development	small businesses in a 95 county area
C3.3 Strategy: Museums and historic, cultural and educational centers	public; students
C3.4 Strategy: International Trade Center	small businesses in a 95 county area
C3.5 Strategy: Financial Responsibility: Institute for Financial Responsibility	students and employers
C4.1 Strategy: Institutional Enhancement	students, faculty, staff

Note: Goal B: Hub Support was excluded from this inventory because of the number of suppliers involved on a statewide basis. The focus of this report is on the priority customer of the institution—students.

II. Information Gathering Summary

Texas Tech strives to provide excellent quality education, research and service in an environment that is caring and friendly to all its constituents including students, faculty, staff, administration, alumni, parents and members of the greater community. Therefore, the focus of the survey used for this report is on students and the services provided around their educational experience. The survey addresses the target customer base for the university and will be the focus of the information presented in this Report on Customer Service.

The Graduating Senior Survey is distributed to all graduating seniors late in the spring semester in which they gradate. In Spring 1999, 1,544 surveys were distributed with a 27% response rate. The Graduating Senior survey asks the students to rate their level of satisfaction with the university in many different areas. It covers the level of satisfaction with students' academic department and academic advising. There are also sections that cover several student services departments including Housing and Dining, Libraries, Computer Services, the Registrar's office and the Bursar's office. The survey also asks students for comments they might have on any area of the university.

The confidence level for this survey is very high and, because it is scanned electronically, the processing error rate is negligible. There are no known data limitations. While the response rate for this survey is acceptable, the university is currently taking steps to try to improve this rate.

III. Customer Satisfaction

Analysis of the survey information demonstrates the relationship to the customer service components expressed in the *Compact with Texans*. The results are divided into four key functional areas that demonstrate customer satisfaction ratings with the required components of SB 1563.

<u>Four Key Functional Areas</u>

a) Students' Academic Experience: Faculty and Staff Support
b) Information Availability/Usefulness
c) Student Services Areas
d) University Administration

<u>Components of the *Compact with Texans*</u>

a) *Accessibility* is addressed under satisfaction with facilities in the library, departmental labs, and computer labs.
b) Satisfaction with *Faculty and Staff* C*ustomer Service* and helpfulness is measured in each of the components in the four functional areas.
c) *Communications* are addressed again in the satisfaction indicators for each functional area.
d) Computer services satisfaction is measured under the *Information*

Availability/Usefulness. Each Internet site has an E-mail contact for immediate feedback about the site. Response is handled by the webmaster of each site.

e) *Timeliness* of service is also measured under a Student's Academic Experience: Faculty and Staff Support.

f) The *Complaint Handling Process* satisfaction is measured under an University Administration, Dean of Students index.

IV. Analysis of Findings and Improvement Plans

A. Analysis of Findings

The data indicate that students are generally satisfied with the services that they receive from the university. The rating scale of 1- 5 was used with 1 = Poor and 5=Excellent. Of the 15,727 ratings responses, 78.9% of the students rated the services 3(Average) or better. The Good (4) or Excellent (5) ratings were 54.8 %. Less than 10% (9.4%) were rated Poor (1). A rating of 3.00 or higher was given by 78.4% of the respondents on 47 numeric measures. Useful comments were made by 94.1% of the respondents.

Faculty are complimented for being knowledgeable and helpful outside the classroom. Ratings for computer labs are consistently good. The ratings for academic advisor availability show room for improvement. The ratings for the Academic Deans and the Dean of Students are fairly high. The rating for Financial Aid and the rating for the Bursar fell below the 3.0 rating. Both scores probably reflect system problems that were encountered in Fall 98 that caused delays in the disbursal of funds for students.

B. Improvement Plans

1. **The Survey of Graduating Students** yields useful information; however, it does not relate to current student issues and is distributed to a subset of the student population. We are developing a Current Student Customer Satisfaction Survey for annual distribution. This survey has been designed to specifically address the required elements of SB 1563 and will provide timely information to unit heads to improve service to students. This survey will be distributed to a sample of all students on campus beginning Fall 2000.

2. **Financial Aid and Bursar:** The Financial Aid and Bursar Offices have both made substantial improvements in their customer relations. This involved active, participative efforts with the students and student government. The approach taken was to completely reengineer the past practices. It is anticipated that future surveys will reflect these improvements.

3. **Academic Advising: Expanded and Improved use of TechSIS--**On a university-wide scale, the student information system has provided students with greater input into their academic decisions. Advisors can give students the capability to do their own registration or can handle registration for them.

4. **Ombudsperson:** The Office of the Vice President for Student Affairs has created a new Ombuds Office effective June 2000 to address student grievances and conflicts. The **Ombuds Office** will be located in the University Center and staffed to provide confidential, impartial complaint handling and conflict resolution services for students. The Ombudsperson will assist with complaints involving interpersonal misunderstandings as well as complaints about academic or administrative issues and will attempt to help students resolve their concerns fairly and, if possible, informally. Measuring student satisfaction with this service will be part of the Current Student Customer Satisfaction Survey in the Fall 2000. Significant impact and visibility may not be realized until the program has been in place for at least a year.

V. Customer Relations Representative

Kerry Billingsley
Customer Service Representative
Office of Quality Service
Texas Tech University System
Box 42015
Lubbock, TX 79409-2015
Phone: 806/742-0530 Fax: 806/742-0255
E-mail: customer.service@ttu.edu

VI. Compact with Texans

Texas Tech University is a public, comprehensive research university committed to the creation, advancement, dissemination and preservation of knowledge. This commitment encompasses achieving excellence in the interrelated areas of undergraduate, graduate, and professional education; basic and applied research; and public service programs. The university's educational role is to assist students to realize their potential in becoming scholars, professionals, citizens, artists, and scientists. The university's research role is to provide an environment for the expansion of knowledge and to contribute to local, regional, and national priorities through basic and applied research programs, centers and institutes. The university's public service role is to meet the educational needs of the region and the nation.

Texas Tech strives to provide excellent quality education, research and service in an environment that is caring and friendly to all its constituents including students, faculty, staff, administration, alumni, parents and members of the greater community.

Customer Service Standards

Accessibility: TTU facilities will be easy to navigate with clear signage and be accessible for all people including those with disabilities. Clearly identified contact

numbers and available hours for faculty and staff members will be communicated to customers. The phone systems will be customer-friendly with access to a "live person."

Faculty, Staff, Administration:
Employees of the university will be educated in the service standards of the university; will exhibit customer friendly service skills; and be knowledgeable, professional and demonstrate optimal effort to meet needs and solve problems.

Communications: Employees will respond to customer requests in a clear, concise, and timely manner. Customers will be consulted regularly about the service provided and the results will be reported regularly to agency management. Employees will protect and uphold all aspects of confidentiality.

Internet Site: The Internet site will be user-friendly, easy to navigate and contain up-to-date information that is useful to the customer. The site will offer key contact names, e-mail addresses and phone numbers for customers seeking further information. The site will clearly identify the date that the information is updated. The web site address is: www.texastech.edu.

Timely service: University faculty and staff will respond to customer requests for information as close to the time of the request as possible. Faculty and staff will update the customers about unavoidable wait times and offer other options to meet customer needs.

Printed Information: Information will be available to the customers of Texas Tech using multiple media. Published information will be up to date and accurate and will be noted with the revision/review date.

Complaint Filing Process: Texas Tech University seeks fair, just, and prompt solutions when possible to the complaints and grievances. Staff and student employees with a concern regarding their employment should contact their supervisor and should proceed in accordance with the operating policy listed below. Students wishing to discuss issues regarding university life, student rights and student obligations should do so at the Dean of Students Office. Faculty should address concerns in accordance with the Faculty Grievance Procedures published in the *Faculty Handbook* and in the university *Operating Policies and Procedures Manual*.

Individuals who have complaints about a customer service issue should address the concern to the department head in the area involved. If the issue is unresolved, complaints should be directed to the division vice president or the college dean. Phone numbers and contact personnel are found in the Texas Tech University Phone directory or by calling the main switchboard at 806/742-2011. The Customer Service Representative may be contacted for issues unresolved at the division/college level or if the customer needs assistance in directing the complaint. Responses should be expected within 10 working days.

Kerry Billingsley
Customer Service Representative
Office of Quality Service
Texas Tech University System
Box 42015
Lubbock, TX 79409-2015
Phone: 806/742-0530 Fax: 806/742-0255
E-mail: customer.service@ttu.edu

Student Complaint Procedure

In general, students wanting to question the action of an individual or department should direct their questions to the persons responsible for the individual or department. Specific information regarding student grade appeals is located in the *Operating Policies and Procedures 34.03* or in the *Student Affairs Handbook* Part II, Section B. Academic Integrity. Information regarding sexual harassment concerns may be found in the *Operating Policies and Procedures 10.09* and in Part IX, Section B5d of the *Student Affairs Handbook.*

General Grievance Policies and Procedures for students are located on pages 10-11 of the *Student Affairs Handbook*, which is distributed to on-campus residents and to the individual colleges. Copies are also available in the Dean of Students Office or may be viewed at http://www.ttu.edu/studentaffairs//. In fall 2000, the Handbook will be available in a CD-ROM format from the Dean of Students Office.

Staff Complaint Procedure

In instances in which a problem is of such a nature that a resolution cannot be obtained through informal discussion with the immediate supervisor, the employee may present a complaint or grievance in accordance with the established *Operating Policies and Procedures 70.10.* Employees may present complaints or grievances without retribution. Employees having a complaint arising from a work-related incident should first discuss the complaint with the immediate supervisor within five working days of the incident causing the complaint. *Operating Policies and Procedures 70.10* explains the detailed steps and response times for staff and administration. This policy is located on the Texas Tech University web site http://www.ttu.edu/~ttuopman/OP70.10.html and in the *Operating Policies and Procedures Manual* located in each department.

Faculty Complaint Procedure

Texas Tech University has established procedures to address grievances of faculty members and provides a mechanism for resolving them. These procedures are explained in the *Operating Policies and Procedures 32.05* and are available in printed copies of the *Operating Policies and Procedures Manual* and in the *Faculty Handbook*. The policies are available on-line at http://www.ttu.edu/~ttuopman/OP32.05.html. The procedure

begins at the level of the complaint. Mediation is an option and failing a positive outcome, timed specific steps are explained in the operating policy.

Performance Measurement

Annual surveys are conducted to measure student satisfaction with the services of the institution. In addition, individual departments conduct surveys, use focus groups and advisory boards to monitor customer satisfaction. The institution provides customer service training for the employees of Texas Tech and recognizes and rewards excellence in customer relations. Annual training participation reports are prepared for each division. The university participated in the Survey of Organizational Excellence in 1999 to survey faculty and staff satisfaction with the institution.

I. Customer-related Performance Measures

Outcome Measures	1999-2000	2001
Percentage of Surveyed Respondents Expressing Overall Satisfaction with Services Received (Rating of 3.00 or higher)	78.4%	78.6%
Percentage of Surveyed Respondents Rating Satisfaction as Good to Excellent (rating of 4.00 or higher)	54.8%	54.9%
Percentage of Respondents Satisfied with: (Rating 4.00 or higher) (Good-Excellent)		
1. Faculty availability & helpfulness	66.9%	66.9%
2. Staff helpfulness	60.7%	60.8%
3. Advisor availability	56.2%	56.4%
4. Usefulness & accuracy of information provided by advisors	49.2%	49.4%
5. Availability of study facilities	57.9%	58.0%
6. Library user assistance	49.4%	49.6%
7. Library hours of operation	71.8%	71.8%
8. Availability of computer labs	53.1%	53.2%
9. Assistance in computer labs	47.8%	47.8%
10. Disabled student services	66.7%	66.7%
11. International student services	52.2%	52.2%
Percentage of Surveyed Respondents Identifying Ways to Improve Service Delivery	94.1%	94.1%
Output Measures		
Number of Customers Surveyed		
Graduating undergraduate students	1561	
Current Student Survey(new Fall 2000)		3000
Number of Students Served		
Graduating Seniors	1561	
Total Spring 1999 Undergraduates	17,971	
Total Student Population (est. for 2000)		25,000

APPENDIX F

Survey of Organizational Excellence

Report of Results

Texas Tech University participated in the Survey of Organizational Excellence in Fall 1999. There were 3,861 surveys distributed to the faculty and staff of the university. Of that group, 1,388 (36%) of the surveys were returned.

The report identified areas of strength and areas that need improvement. These construct scores are compared with the statewide benchmark scores for agencies with a similar mission and of a similar size. In the Areas of Concern listed on the chart below, Texas Tech scored above the Higher Education benchmark on two of five areas. When compared to similar size agencies, Texas Tech scored above these agencies in five of five areas.

Areas of Concern: Lowest Scoring Constructs Benchmark Comparison

Construct	TTU	Higher Education (Similar Mission)	Similar Size Agencies
Fairness	282	287	268
Supervisor Effectiveness	293	287	268
Empowerment	303	301	279
Internal Communication	310	314	289
Availability of Information	312	314	295

The chart below shows a comparison with statewide benchmarks for the Areas of Strength for Texas Tech and other state agencies. Texas Tech scored higher on five of five items when compared to similar size state agencies. When compared to other institutions of higher education, Texas Tech scored below the benchmark all five categories. These strengths of the organization are areas to celebrate. However, there is still room for improvement to meet or exceed the state benchmarks.

Areas of Strength: Highest Scoring Constructs Benchmark Comparison

Construct	TTU	Higher Education (Similar Mission)	Similar Size Agencies
Strategic Orientation	381	399	374
Benefits	373	382	360
Quality	357	363	342
Physical Environment	356	362	319
External Communication	356	359	339

This is the first time that Texas Tech has participated in the Survey of Organizational Excellence. The response rate of 36% indicates that the employees of the agency are interested in providing the feedback to the administration.

The survey results emphasize the need for additional development for mid and upper level management personnel at the institution. Development efforts need to address mid-level supervisors' skills in areas that impact not only effectiveness, but also internal communication and empowerment. We believe that increasing the interpersonal and managerial effectiveness of supervisors and managers will have a ripple effect on at least four of the five areas of concern identified in this survey.

Non-budgetary Goal

A. Goal:
Develop a comprehensive supervisory/management program to address management and communication skills development for mid and upper level supervisors and managers. This program will be provided in addition to the state mandated training for supervisors and will support the intent of that training. The initiative will need the combined efforts of the Office of Quality Service, the Training Department and the Human Resources Division.

A1.1	Objective:	To complete the pilot portion of the program by December 2001.
	Outcome Measure:	Program pilot is completed by the end of December 2001.
A.1.1	Strategy:	By June 2000, assemble an Advisory Board with membership from mid and upper management at the university and the health sciences center to develop and implement the plan for the program.
	Outcome Measure:	Program plans are developed within the timeline specified.
A1.2	Objective:	To achieve at least a 90% satisfaction rating from the participants of the program and their immediate supervisors.
	Strategy:	Identify a target group of supervisors and managers to enroll in and complete the initial program.
	Output Measure:	Number of mid and upper management personnel who have completed the program.
	Outcome Measure:	Percentage of program participants and participant's immediate supervisors who express satisfaction with the skills transferred to the job.
A1.3	Objective:	To expand the program to the university and health sciences center employees and graduate increasing numbers of participants each year for the period FY 02-05.
	Strategy:	Identify the additional staffing resources needed to accommodate the program expansion to meet the enrollment needs.
	Output Measure:	Number of participants enrolled and number of classes offered.

APPENDIX G

Strategic Plan for Information Resources Management

13. Table 1: Goals, Objectives, and Strategies

Item	Description
Goal 1	Effectively and efficiently incorporate the use of computing and information resources into the instructional process. This goal has a direct relationship to the institutional goal to conduct teaching. It also relates directly to the statewide goal to deliver seamless, integrated services to citizens. For example, through the improvement of student learning through modern teaching technology and through the delivery of courses and programs at a distance.
Objective 1.1	Evaluate new technologies for applicability to instruction. Deploy as indicated.
Strategy 1.1.1	Continue to develop working groups to identify and test promising instructional technology.
Strategy 1.1.2	Further develop facilities to enhance teaching and learning through training of faculty in the use of instructional technology.
Objective 1.2	Provide ample and appropriate computational facilities for use by students.
Strategy 1.2.1	Develop a large open-access microcomputer laboratory to be made available to all students on an expanded schedule.
Strategy 1.2.2	Upgrade the computer classrooms to higher performance PC laboratories.
Strategy 1.2.3	Continue to upgrade the academic mainframe computer (Compaq Alphas Cluster and systems).
Strategy 1.2.4	Upgrade and support the Library Automation System and public access catalog facility.
Strategy 1.2.6	Modernize and enhance graphics facilities within the ATLC (to include document scanning, color printing, multi-media, etc.).
Strategy 1.2.7	Continue plans and efforts to develop a new computing and communications infrastructure for use in instruction and learning (including methodology and new facilities).
Strategy 1.2.8	Construct a new "technology" building with labs for general computing, advanced computing, instructional and special research areas. Also, provide presentation facilities with current technology teleconferencing and videoconferencing, network, and

Item	Description
	other communication facilities.
Objective 1.3	Provide pervasive and ready access to campus and world-wide information servers in support of instruction and ancillary activities.
Strategy 1.3.1	Continue to improve campus use of WWW and other type campus servers (including E-mail, list processing and UseNet News.)
Strategy 1.3.2	Provide client access to WWW and other information servers, E-Mail, and UseNet News via networked systems.
Strategy 1.3.3	Implement a CWIS (Campus-Wide Information System)
Goal 2	Effectively and efficiently incorporate the use of computing and information resources into research. Again, this goal relates directly to the institutional goal to conduct research.
Objective 2.1	Evaluate new technologies for applicability to research. Deploy as indicated.
Strategy 2.1.1	Continue the planned implementation of networked faculty workstations.
Strategy 2.1.2	Monitor internal and external network traffic and overall performance. Upgrade network technology and communication bandwidth as needed.
Objective 2.2	Provide ample and appropriate computational facilities for use by researchers.
Strategy 2.2.1	Upgrade the academic mainframe computer (Compaq Alphas Cluster and systems).
Strategy 2.2.2	Continue to support the Library Automation System and public access catalog facility.
Strategy 2.2.3	Continue to develop the high-performance computing center.
Objective 2.3	Provide pervasive and ready access to capable campus and worldwide information servers in support of instruction, research and ancillary activities
Strategy 2.3.1	Continue to improve campus use of WWW and other type campus servers (including E-mail, list processing and UseNet News.)
Strategy 2.3.2	Provide suitable client access to WWW and other information servers, E-Mail, and UseNet News via networked systems.
Strategy 2.3.3	Implement a CWIS (Campus-Wide Information System).
Strategy 2.3.4	Continue with plans and efforts to develop a new computing and communications infrastructure for use in research (including methodology and new facilities).

Item	Description
Goal 3.	Effectively and efficiently incorporate the use of computing and other information resources into the conduct of operational and administrative activities of the University. This goal relates directly to the statewide goal 1 to provide seamless, integrated government services and to goal 3 to address archival, security, and privacy issues related to online government. To a lesser, but significant extent, it addresses goal 2 by concentrating on the services to be delivered through information systems.
Objective 3.1	Evaluate new hardware, software and network technologies for applicability to institutional administration and operation. Deploy as indicated.
Strategy 3.1.1	Continually review existing administrative applications to ensure they are still meeting the critical needs of the user community. Identify, plan, coordinate, and implement new systems to replace those that are obsolete.
Strategy 3.1.2	Investigate the feasibility of using imaging technology to reduce manual forms handling and electronically process student admission for both undergraduate and graduate students.
Strategy 3.1.3	Investigate the use of web-enabled forms as a means of on-line use of information systems consistent with the recent initiative to enable electronic government in the Texas.
Objective 3.2	Provide ample and appropriate computational facilities for use by administrative users.
Strategy 3.2.1	Maintain adequate response time for efficient use of mainframe resources by interactive users.
Strategy 3.2.2	Conduct advance capacity planning to assure the mainframe and resources such as disk, tape and printer capacities are adequate and provided in advance of crisis situations.
Strategy 3.2.3	Provide increased access to all mainframe and server applications to users on all Texas Tech networks while maintaining a high level of security for all sensitive data files and programs.
Strategy 3.2.4	Evaluate and install an Optical Disk storage system for permanent archival of electronic documents, images, and other institutional data.
Objective 3.3	Support the statewide Human Resource Information System.
Strategy 3.3.1	Continue to develop our personnel and payroll systems to support all Texas Tech locations.
Objective 3.4	Support the Uniform Statewide Accounting System.
Strategy 3.4.1	Maintain the USAS interface to the Texas Tech information systems.
Goal 4.	Meet the institutional needs for communication facilities and capabilities.

Item	Description
	To the extent that communication systems, particularly high-performance data networks, are key support elements in teaching, research, and public service (the principal university products) this is supportive of all of the institutions goals. For the same reasons, it directly supports statewide goal 2 to enhance the institutions mandates, missions, and core competencies through appropriate application of information resources.
Strategy 4.0.1	Continue to provide competitive rates for long-distance service to students in the residence halls.
Objective 4.1	Monitor the rapidly changing technologies for voice communications. Deploy as indicated.
Strategy 4.1.1	Develop alternative solutions for future implementation.
Objective 4.2	Continue to develop the campus data communication network with emphasis on integration of all existing campus networks.
Strategy 4.2.1	Continue to implement an enhanced data network utilizing fast Ethernet technology. Continue the development of a parallel network utilizing ATM technology. Investigate the desirability/feasibility of "gigabit" Ethernet.
Objective 4.3	Develop institutional policies and standards for data networking that build on the unified Texas Tech networks.
Strategy 4.3.1	Continue to develop a campus organization to effectively and efficiently provide network design and implementation services. Develop personnel and services to meet demand.
Strategy 4.3.2	Refine policies regarding network access to institutional information.
Objective 4.4	Provide high level data communications network reliability and performance.
Strategy 4.4.1	Maintain data communication facilities to state and industry standards level.
Strategy 4.4.2	Enhance network monitoring equipment and personnel to state and industry standards level.
Strategy 4.4.3	Participate in state and national initiatives directed toward the development of high-performance network services (e. g., vBNS and Internet 2)
Strategy 4.4.4	Enhance the administrative component network by making the backbone and attached LANs more closely adhere to the design of the TTUNET campus network. The existing Token Ring backbone will be replaced by ATM technology. Token Ring LANs will be migrated to Switched Ethernet.

Item	Description
Goal 5.	Move in the direction of a distributed and less proprietary environment for information resources. Maintain a balance between centralized and decentralized resources. This supports the same institutional and statewide goals as Goal 4 above, and for much the same reasons. Moreover it supports statewide Goal 4 by positioning the institution to select appropriate information resources technology to meet the needs of our students and others with whom we interact.
Strategy 5.0.1	Deploy data networks to distribute centralized computing resources.
Objective 5.1	Utilize state and national standards where appropriate.
Objective 5.2	Develop central services to better support the desktop computer user. As the number of microcomputers has increased in recent years, staff support has fallen behind.
Strategy 5.2.1	Implement networked resource servers. Examples include file servers, print servers, and data warehouses.
Strategy 5.2.2	Investigate software development tools that produce applications that are portable across a variety of hardware platforms.
Strategy 5.2.3	Investigate software development tools that produce applications that are portable across a variety of hardware platforms.
Objective 5.3	Train and retain qualified IT staff to keep up with current technology.
Strategy 5.3.2	Review and adjust compensation plans for IT professionals in order to compete with industry and others.
Goal 6.	Chancellor's Priority Goal: Improve the quality and scope of services available to the customers of Texas Tech through strategic collaboration and integration of information technology among the entities of the Texas Tech University System. This directly addresses statewide Goal 4.
Objective 6.1	Information technology policies, practices and services will meet the needs of our customers.
Strategy 6.1.1	Customers will be actively involved in defining and evaluating the services, which are provided through information technologies.
Strategy 6.1.2	Texas Tech will recruit, develop, and retain highly skilled professionals to support its information service environment.
Strategy 6.1.3	Technological trends and successful policies and practices at other institutions will be reviewed on an ongoing basis.
Objective 6.2	Integrated information technology services will provide students, faculty, staff, patients, and the public with a comprehensive and seamless array of electronic services regardless of their point of

Item	Description
	entry to the Texas Tech University System.
Strategy 6.2.1	Business practices and information will be readily accessible at Texas Tech through common web browsers on the Internet and on an Intranet.
Strategy 6.2.2	A common and comprehensive email system and directory will be created.
Strategy 6.2.3	Integrated and cost-effective telecommunications networks will be developed throughout Texas Tech.
Strategy 6.2.4	Data security and authentication practices will be in place for information and services, which are available throughout Texas Tech.
Objective 6.3	Collaboration among the entities of the Texas Tech University System will increase the efficiency, cost-effectiveness, quality, and scope of services available through information technology.
Strategy 6.3.1	Areas with common needs or functions will collaborate to create strategic solutions and services.
Strategy 6.3.2	Information technology will be leveraged through the sharing and pooling of resources.

Table 2: Information Resources Policies and Practices

Category	**Brief Summary/Overview**
IR Priorities	Texas Tech University's Academic Computing Services publishes an extensive booklet Laws, Policies and Computer Use in which the university's policies are set forth. In addition, this booklet provides information on state and federal laws that impact the use of information resources. Standards and guidelines for use of the World Wide Web are given together with information concerning fair use of certain resources under the copyright laws. Information about this and other reference materials is available via the World Wide Web at the location: http://www.acs.ttu.edu/docs/ This document is continually updated. The following formal policies and operating procedures pertain to computing: OP 77.01 - Administrative Information Systems provides programming services to all administrative departments. Because

Category	Brief Summary/Overview
	of the high demand for services and limited personnel, standardized job requests are used to assure that critical work is done and that an equitable distribution of the programming resources is made. This procedure provides a means for users to set priorities on job requests and establishes a reporting procedure to confirm that jobs are processed as scheduled. OP 78.07 - Communication Services provides long-distance calling cards as outlined in this procedure. OP 79.01 - Computing services is a University-wide service operation. The purpose of the OP is to outline the organizational structure and operational policies, inform staff and faculty members of available computer services, and establish a procedure for obtaining computer services. OP 79.02 - This OP describes the process for developing and updating the University-wide Master Plan for Computing, and the format/content of the plan. The intent is to assure wide participation and advice by TTU computer users and management representatives in developing a plan that is synchronized with the budget process. OP 80.01 - Communication Services is charged to provide voice communications. In particular, this policy states that all voice services, including telephones and telephone systems, will be procured by communication services. Board Policy 04.24 - deals with computer security and privacy issues. The University takes the position that computer usage is a privilege, not a right. Students or faculty/staff found in violation of this policy are subject to revocation of computing privileges and disciplinary action. There are a number of committees that provide formal input into the information resources management. Administrative Information Services utilizes three priority committees to set priorities for the enhancement and development of various information systems (software) according to function. The ongoing development and operation of the academic data network, TTUnet, is with the advice of the Network Site Coordinators, with representation from every facet of the university. This large body meets approximately once each quarter. Much activity is presently focused upon the development of the university's distance education programs through the Distance Learning Executive Committee and three additional advisory committees for policy, technology, and operational issues.

Category	Brief Summary/Overview
IR Planning Methodology	The planning environment for information resources has been an extremely dynamic one for a number of years, with frequent changes in rules, reporting requirements, and the formats for required plans and reports as well as changes in organizational structure at the university. The development of this plan is treated as a staff assignment, coordinated by the Associate Vice President for Computing and Information Technologies. Planning input is solicited from Directors in the IR departments, from key individuals representing various user areas, and from senior university administrators. This input, together with the previous planning document is used to produce a draft of the plan, which is reviewed by a body of senior administrators and others, a group that is broadly representative of the entire university. Suggestions are received for incorporation into the final draft. Finally, the plan is reviewed prior to final approval and transmittal by the executive management of the institution.
Operating Systems	Academic Computing Services: Windows, Mac OS, UNIX, Open VMS, Linux UCS uses IBM's OS/390 OS to support the applications and data for administrative support. Windows/NT and Unix are used for various server applications
Development Methodology	Adherence to the Systems Development Life Cycle (SDLC) is strictly enforced for each project and plan. The SDLC consists of six distinct phases: 1) Requirements Definition Phase 2) Conceptual Design Phase 3) Detail Design Phase 4) Development Phase 5) Implementation Phase 6) Post-Implementation Review Phase Each phase of work is carefully coordinated between IR departmental personnel, key individuals representing the functional user departments, and senior university administrators.
Software Audit and Management	AIS currently uses TRAC-IT as its software/hardware management audit tool for our departmental LAN server. UCS uses IBM's OS/390 OS to support the applications and data for administrative support. Win/NT and Unix are used for various server applications
Quality-Assurance Practices	Departmental policy currently involves step-by-step documentation of all system processes, extensive internal and external testing, and all reported problem areas. Resolution is tracked and managed via problem forms and/or priority requests.

Category	Brief Summary/Overview
	All software changes must comply with the above referenced SDLC, utilize the legitimate change management software, and be fully compliant with change control procedures as established by University Computer Services. Various key departmental individuals from technical and functional areas meet regularly to review continued system functionality and provide the university the appropriate checks and balances needed to ensure the proper level of quality required. UCS conducts weekly and bi-weekly meetings with AIS to discuss outstanding problems, current projects, and Change Management. All system and application changes are documented and approved through by UCS and AIS. UCS has documented uptime and response time goals for all applications. Goals are evaluated against the Biennial Operating Plan each year. UCS will be reviewing its quality assurance practices in regard to the DIR guidelines for internal quality assurance and making appropriate changes in the up coming fiscal year.
E-Government	The university has several initiatives that reform business processes to take advantage of the extensive campus network and the off-campus connection to the Internet and provide the opportunity for the public and university staff to interact with key information systems. Student related processes include electronic admission applications for prospective students, electronic registration of students, and electronic payment of tuition and fees. An application is in development to provide web-based access to the student information system for faculty and staff. A network services application permits faculty, staff, and students to manage their entry into an information directory that provides look-up of key data elements such as telephone numbers and e-mail addresses. This application allows the user to sign up for an e-mail alias and to redirect this alias to the physical mailbox of choice. The user may also control the information that may be released by editing a series of release flags. Together with other major Texas universities, Texas Tech was among the first to implement web-enabled information servers, first through the introduction of Gopher servers and then through the deployment of the World Wide Web technology. The university responded to the recent Texas e-government survey. Finally, a major distance education initiative is underway to provide courses and even complete degree programs to students at remote locations. Instruction will be delivered via various forms of telecommunications including the World Wide Web and interactive video teleconferencing. Establishment of distance

Category	Brief Summary/Overview
	education will represent a major step in making the services of the university available electronically. UCS is enhancing the OS/390 platform to allow more options to web-enable existing applications as well as the development of new applications for the new E-commerce
Change Control	UCS implements Change Control through an Installation Management and Review Meeting (IMRM) each week to document, review, and approve all changes to Operation Systems, Network, and Applications. Each change is recorded in an online database with complete information on the impact of the change, the components affected, the person(s) responsible for installation, the dates/times for installation, and the backout procedures. Change Control software is in use by AIS to track and implement programming changes at the application level.
Security	Board Policy 04.24 deals with computer security and privacy issues. The University takes the position that computer usage is a privilege, not a right. Students or faculty/staff found in violation of this policy are subject to revocation of computing privileges and disciplinary action. Computer security and privacy is discussed in the student handbook and is treated in detail in publications of Academic Computing Services. Although progress is limited by available personnel resources, steps are being taken to enhance computing network security. Security is controlled at the system wide, application, and database levels. System wide security is administered by University Computing Services via use of a unique identifier assigned to each individual user. Application security is authorized for each application system and the data contained therein by the functional departments' Systems Coordinator. Data processing personnel are limited in their access to programs and actual data by a combination of these two mechanisms. All systems and data are backed-up weekly by UCS. Specific applications may request more frequent backups for security purposes. All security decisions must be approved by senior administration. UCS uses the RACF Security System on the OS/390 platform, which protects all data and applications. Windows/NT security is used on all LAN accounts. UCS conformed its data security practices to that mandated by the last State Audit conducted in 1990. No Information Security Risk Analysis, as documented by DIR, has formerly been completed. This analysis will be performed in the up coming fiscal year.

Category	Brief Summary/Overview
Geographic Information Systems	The university has an unlimited site license for geographic information systems software, provided by ESRI. This license primarily provides software for use by the academic programs, but also may be used, as appropriate, for other non-commercial purposes. The GIS products in use support all GIS standards as established by the Texas Department of Information Resources.
Disaster Recovery/Business Continuity Planning	Texas Tech University has a comprehensive disaster operations and recovery plan that is reviewed and updated annually and is periodically tested. This plan deals with all aspects of business recovery and continuity and priorities are set in conjunction with the process of maintenance of this plan. University Computing Services is in the process of re-working its business recovery plan. The plan will follow the Disaster Planning Guidelines developed by the TASSCC Disaster Recovery Planning Committee and adopted by the Automated Information and Telecommunications Council. The objective of this plan is to minimize the effects of a disaster upon the operation of the University. The emphasis is on safeguarding the vital assets of the University and ensuring the continued availability of critical computing services. Academic Computing Services has a contract in place to ensure ready replacement of equipment damaged/destroyed by disaster-type events.
Resource Use	The following Operating Policies and Procedures are related to voice services: OP 10.18- Telecommunication Devices for the Deaf, OP48.01 and OP 61.01- Telephone Calling Cards, OP 72.09- Telephone Purchase Orders, OP 48.03- Purchasing Telephones, OP 48.04- Cellular Telephones, OP 61.01- Use of Telephones for Private Purposes. OP 30.06 deals with KTXT Television while OP 30.22 provides guidelines for use of broadcast services. Texas Tech University's Academic Computing Services publishes an extensive booklet Laws, Policies and Computer Use in which the university's policies are set forth. Information about this and other reference materials is available via the World Wide Web at the location: http://www.acs.ttu.edu/docs/ Finally, the university adheres to the standards for video conferencing as adopted in TAC 201.16, specifically through the standard H.320.

Category	Brief Summary/Overview
Contract/Consultant	Operating Policy 72.03 establishes policies and procedures for use of private consultants to assure that TTU is in compliance with state law and Board of Regents rules and regulations. Private consultants may be used only if there is a substantial need for the consulting services and the service cannot be adequately performed with TTU personnel or by contracting with another state agency. This OP also prescribes the procedures to be followed in obtaining private consultant services. Operating Policy 65.06 establishes the conditions governing a grant or consulting contract made directly to an individual employee of the University.
Information Sharing	Texas Tech University is fully compliant with the data sharing requirements required by state level reporting in regard to Human Resources (HRIS), Uniform Statewide Accounting System(USAS), State Property Accounting(SPA), Tax Payer Identification Number(TPIN), and all Coordinating Education Board(CEB) without violation of individual rights.
Training and Education	The university provides extensive training in the use of major information systems and in the use of essential application software products. The Advanced Technology Learning Center has offered short-courses in the use of common operating systems and application software for many years. The university training department provides training in use of the major information systems, such as the financial information management, the human resource information system, and the student information system and also trains in the use of many lesser systems and the university processes that are implemented on these systems. More recently, the Teaching, Learning, and Technology Center provides training to faculty in the use of products designed to produce and deliver technology enabled courseware, such as web-based courses and interactive video based instruction. Thorough contract with Smart Force Academic Computing Services provides a system of over 300 instructional packages that cover virtually all computer-based areas including operating systems and applications. These products have proven to be a very cost-effective way to provide this type of user training on a self-study basis.
Data Center Operations	UCS has no plans to move any operations to the WTDROC

Table 3: Agency Platforms, Systems, and Telecommunication

Category	Type	Operating System	Database Management System	Capacity/Size/Count	Comments/ Descriptive Information
Mainframe	IBM	OS/390	DB2	219 MIPS	Primary Administrative applications
Minicomputer	IBM	AIX-Unix	Proprietary	166 Mhz	SNMP Network Mgmt
Minicomputer	Compaq/Alpha	OpenVMS	None	SPECfp95 = 9.64	Interactive users, e-mail access, and programming
Minicomputer	Compaq/Alpha	OpenVMS	None	SPECfp95 = 21.9	E-mail server: SMTP, POP3, and IMAP4
Minicomputer	Compaq/Alpha	OpenVMS	None	SPECfp95 = 21.9	E-mail server POP3, and IMAP4
Network					See Network Topology Maps below
LAN Server (Central)	PC	Win/NT	Various	6	LAN, Email , Web, Authentication, Network Servers.
LAN Server (Central)	PC	Win/NT	MS SQL 6.5	28	Lab/Staff support servers and CBT servers. Network support
LAN Server (Central)	PC	Linux	None	7	Internal Support servers, web servers, mailing list servers
LAN Server (Central)	Compaq/Alpha	Tru64 UNIX	None	5	Web servers, news servers, webmail servers
LAN Server (Central)	Mac	Mac OS X	None	2	Lab support servers
LAN Server (Central)	PC	Novell 4.11	Oracle 7.3	7	
LAN Server (remote)	PC	Novell 4.11	Oracle 7.3	1	
LAN Client Workstations	PC	Win/98/NT	N/A	30	Departmental PC
LAN Client Workstations	PC	Win/98/NT	MS Access MS SQL 6.5	151	Lab wordstations, lab support, network support
LAN Client Workstations	Mac	Mac OS 8.6	None	80	Lab workstations, lab support
LAN Client Workstations	PC	Win/NT Wkst.	None	25	Staff workstations
LAN Client Workstations	PC	Win/95/98	Oracle 7.3	200	
LAN Client Workstations (remote)	PC	Win/95/98	Oracle 7.3	40	
WAN Servers	Hardware DNS	Proprietary	N/A	2	DNS for administrative component network

Category	Type	Operating System	Database Management System	Capacity/Size/Count	Comments/ Descriptive Information
WAN Servers	PC	Win/NT	N/A	1	Microsoft Exchange Email Server for TECHMAIL – approx. 700 users.
Internet Service Provider		GSC		N/A	General Services Commission
Shared Network		TTUnet			University owned

TTU NET Core Backbone

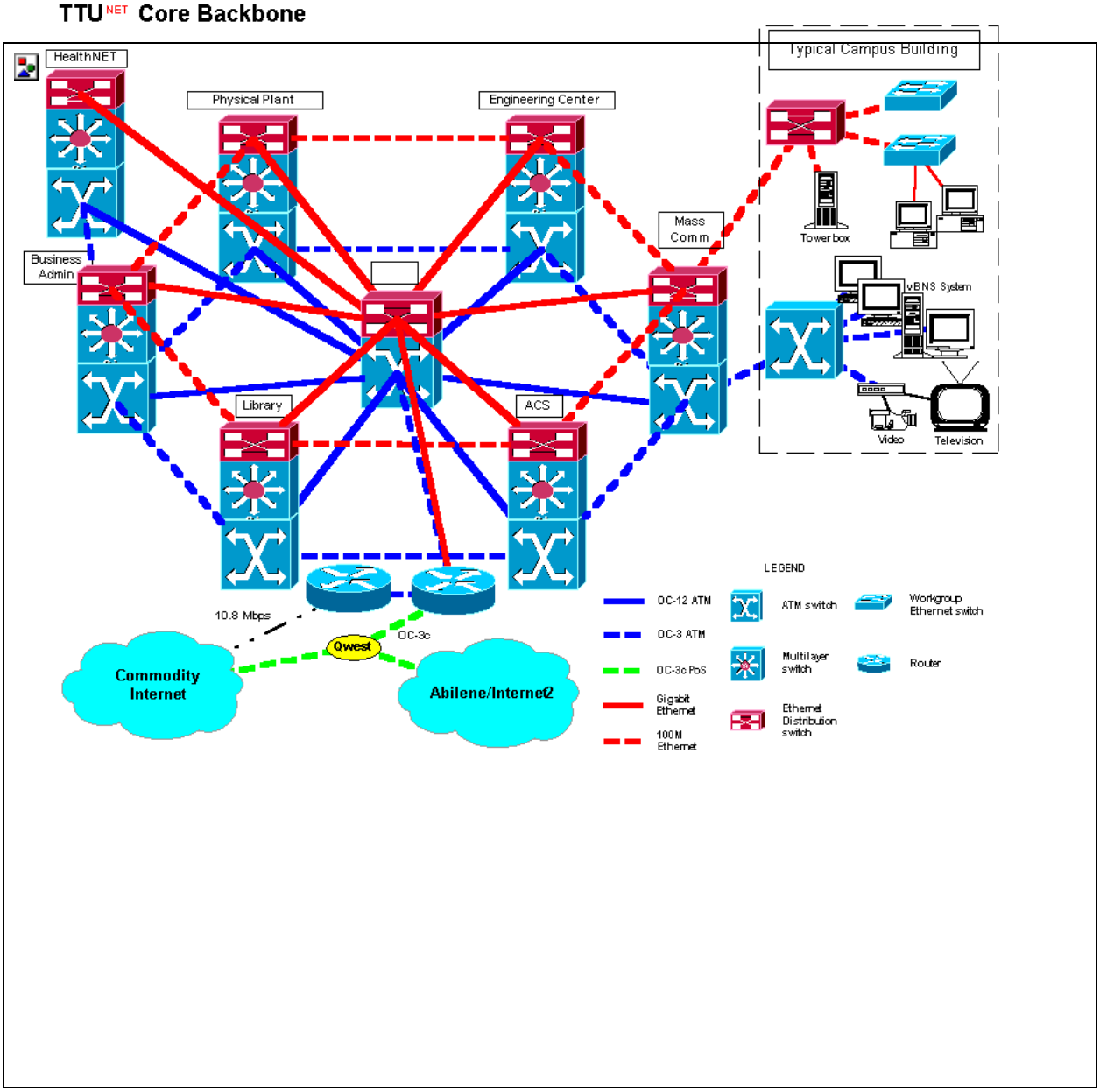


Figure - TTUnet Backbone

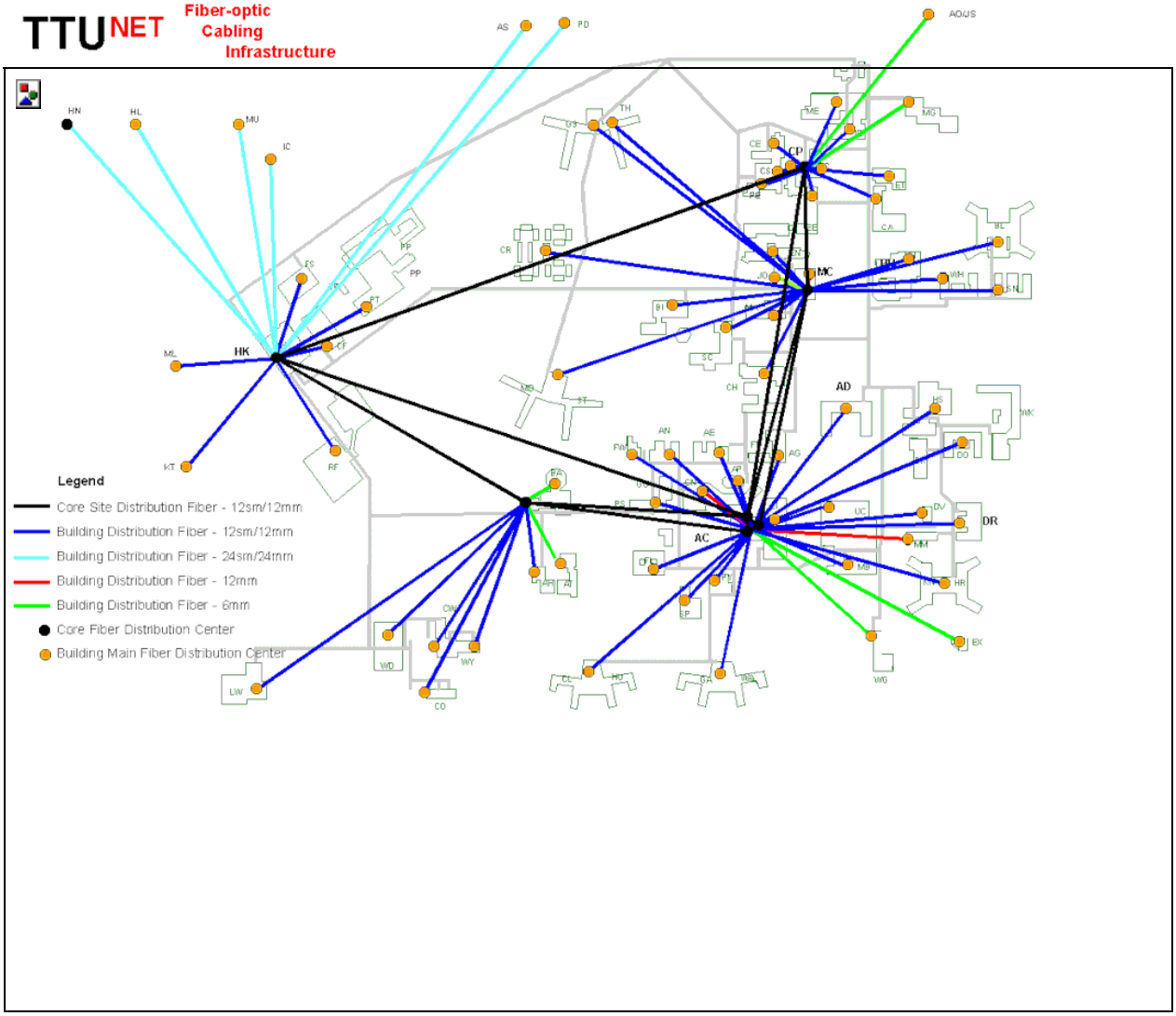

TTUNET
Fiber-optic
Cabling
Infrastructure
HN
HL
MU
IC
AS
PD
AO/JS
HK
AC
MC
CP
AD
DR
Legend
Core Site Distribution Fiber - 12sm/12mm
Building Distribution Fiber - 12sm/12mm
Building Distribution Fiber - 24sm/24mm
Building Distribution Fiber - 12mm
Building Distribution Fiber - 6mm
Core Fiber Distribution Center
Building Main Fiber Distribution Center

Figure - TTUnet fiber optic infrastructure

Table 4: Agency Databases

Database Name	TechFim, TFMSYSDB
Database Description	A collection of VSAM, DB2 tables, and sequential files consisting of financial data; provides all accounting & fiscal reporting for member of the university community connected with business and fiscal affairs.
Database System	DB2, VSAM
Estimated Physical Storage Requirements	VSAM – 6.5 GB (anticipated growth factor of 25%). DB2 - 6.0 GB (anticipated growth factor of 100%) Sequential – 2.5 GB (anticipated growth factor of 10%)
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	Data is shared with the State Comptroller's Office, TTU & HSC fiscal affairs offices. Some of it is online; some is electronically transmitted to Austin.
Future	
Database Name	TechPay
Database Description	Payroll system for Texas Tech System, used primarily by the Payroll Department..
Database System	DB2, with some interface to VSAM files for accounting
Estimated Physical Storage Requirements	4.7 GB (production only, would be an additional 4.7 GB for test), expect approximately 750MB per year growth.
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	Shares wage information with federal and state agencies for tax, retirement, insurance, garnishments, and employment reporting.
Future	Stable and no planned major changes or interfaces.
Database Name	HRTREMDB, HRTRCTDB, HRTRSTDB, HRSATSDB, HRSPYTDB, and HRSTCTDB (common name: Techris).
Database Description	Houses personnel, security, applicant tracking, time capture, state level reporting, and other Human Resource information.
Database System	DB2
Estimated Physical Storage Requirements	HRTREMDB – 707K (growth = 30% per year) HRTRCTDB - 9K (growth = 5% per year) HRTRSTDB - 13K (growth = 1% per year) HRSATSDB - 120K (growth = 5% per year) HRSPYTDB - 112K (growth = 15% per year) HRSSTCTDB – 456K (growth = 30% per year)
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	State of Texas, TTU/HSC online..

Future	No major change for first 5 (new in July 1999); Currently rewriting HRSTCTDB
Database Name	TSISPROD (Student Information System)
Database Description	Production Student Information Systems Database
Database System	DB2
Estimated Physical Storage Requirements	33.19 GB, < 10% annual growth
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	N/A
Future	Continuously upgraded with local and vendor modifications. Graduate Admissions and Law School will be added to this database effective Fall, 2000.
Database Name	TechAims
Database Description	Comprehensive system used to track biographical, giving, and cultivation activities for Development, the Ex-Students Association, and others interested in university advancement.
Database System	DB2
Estimated Physical Storage Requirements	
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	
Future	
Database Name	Budget
Database Description	Budget system for Texas Tech System, used primarily by the Budget Offices.
Database System	DB2, with some interface to VSAM files for accounting.
Estimated Physical Storage Requirements	277MB (production only, would be an additional 277MB for test), expect approximately 50MB per year growth.
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	Shares Budget information with state agencies related to statewide budge reporting and the Legislative Appropriations Request (LAR).
Future	Stable and no planned major changes or interfaces
Database Name	TTUPAC (Public Access Catalog)
Database Description	Public Access Catalog for the Texas Tech University Library
Database System	Indexed Sequential Access Method

Estimated Physical Storage Requirements	
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	
Future	
Database Name	Fleming Systems 4Site Facilities Management System
Database Description	A client/server based maintenance and materials management system. The system performs dynamic work scheduling, integrated equipment and asset management, accounting, purchasing, maintenance, inventory stores, price books and cost collection.
Database System	Oracle 7.3
Estimated Physical Storage Requirements	Current 2.3 GB; expected growth 15% annually.
GIS Classification	Supports no spatial operations and contains no geographic data that would be of use to the state
Sharing	N/A
Future	Upgrade to Version 3.0 in implementation phase.

14. VI. Table 5: Agency Applications

Application Name	TechFim
Application Type	Financial System; data warehouse. Interfaces with several client departmental systems.
Application Description	Provides data integrity, warehousing, processing of all university financial data for all business related functions (i.e., accounting, Purchasing, payables, fixed assets, etc.).
Database System	VSAM/DB2/Sequential
Development Language	COBOL/Natural
Sharing	State Comptroller's office; other TTU/HSC departments. Is accomplished via online, FTP, reports, etc.
Future	Unknown. Currently building several interfaces with client server functional business systems. Anticipate plans to move document entry to web enabled format. Currently have concurrent databases VSAM and DB2 for the most used information so that users can more easily access data for internal uses.
Application Name	TechPay

Application Type	Human resources, payroll
Application Description	Payroll system for Texas Tech System.
Database System	DB2
Development Language	Natural
Sharing	Shares wage information with federal and state agencies for tax, retirement, insurance, garnishments and employment reporting.
Future	Stable and no planned major changes or interfaces.
Application Name	Budget
Application Type	Human Resources/Budgeting
Application Description	Budget system for Texas Tech System.
Database System	DB2
Development Language	Natural
Sharing	Shares budget information with state agencies related to statewide Budget reporting and the Legislative Appropriations Request (LAR).
Future	Stable, possible rewrite of version 2 of system in next two years.
Application Name	TechRis, HRIS
Application Type	Human resources
Application Description	Data warehouse for Personnel, Applicant tracking, HRIS, Time Capture.
Database System	DB2
Development Language	Natural/CSP
Sharing	State of Texas, TTU/HSC online.
Future	Time capture being rewritten in Natural as part of Techris.
Application Name	SCT'S SIS PLUS 2000, (TechSIS)
Application Type	Mainframe Student Information System, partially web-enabled
Application Description	Fully integrated student information systems, supporting undergraduate admissions, student records, degree audit, financial aid, billing and receivables for TTU/HSC System..
Database System	DB2
Development Language	Cobol
Sharing	N/A
Future	Continuously upgraded with local and vendor modifications. As of Fall 2000, Graduate and Law Admissions will be moved to TechSIS.
Application Name	TechAims
Application Type	Development (alumni/donor tracking)

Application Description	Comprehensive system used to track biographical, giving, and cultivation activities for Development, the Ex-Students Association, and others interested in university advancement.
Database System	VSAM
Development Language	CSP
Sharing	
Future	
Application Name	TTUPAC (Public Access Catalog)
Application Type	Library automation, web-enabled
Application Description	Public Access Catalog for the Texas Tech University Library
Database System	Indexed Sequential Access Method
Development Language	Object code from vendor (Data Research Associates)
Sharing	
Future	

Table 6: Interagency Data Needs

List	None identified
Obstacles	None identified
Needed Assistance	None identified