TEXAS STATE UNIVERSITY®

The rising STAR *of Texas*

Strategic Plan for Research

Prepared in response to House Bill 51

for the

Texas Higher Education Coordinating Board

by the

Executive Research Planning Committee

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EXECUTIVE SUMMARY

In January 2012, the Texas Higher Education Coordinating Board (THECB) reclassified Texas State University as an Emerging Research University (ERU). In light of its new classification, the university has developed a long-term research strategic plan to accomplish two goals: (1) achieving eligibility to receive National Research University Funding (NRUF) and (2) achieving recognition as a Research University.

In fall 2012, Dr. Gene Bourgeois, Provost and Vice President for Academic Affairs, appointed an Executive Research Planning Committee (ERPC), comprised of faculty, students, and administrative staff from across campus. The ERPC had three important resources to guide its efforts: (1) THECB research plan guidelines, (2) NRUF eligibility criteria, and (3) the recently approved 2012-2017 University Plan. The last of these documents includes three goals that map closely to THECB research plan guidelines (see Preface).

The ERPC assessed two mandatory[1] and six optional[2] criteria necessary for NRUF eligibility. The committee determined that, with the exception of a requirement to award 200 Ph.D. degrees annually, all other criteria were attainable in 8-11 years. Within a contextual framework provided by available documents and resources, the committee then produced a draft strategic plan for moving the university towards its goals. The draft plan was revised after being reviewed by President Denise M. Trauth and her cabinet. The approved plan is summarized below.

VISION STATEMENT

Texas State seeks to become a nationally recognized research university, offering a wide range of quality programs that contribute to building a better and more sustainable future for Texas and the nation. The university's focus is, and will continue to be, on research with relevance: the creation of new knowledge with applicability to real-world issues. Some current key research emphases are in environmental science and sustainability, with special emphasis on

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[1] Mandatory requirements: 1) ERU designation, 2) $45M in restricted research expenditures

[2] Optional requirements: 1) endowments ($400M), 2) number of Ph.D. degrees awarded (200 per year), 3) freshman class of high academic achievement (at least 50 percent of first time entering freshmen in top 25 percent of high school class), 4) recognition of research capabilities and scholarly attainment (Association of Research Library membership, Phi Beta Kappa Chapter, or Phi Kappa Phi Chapter), 5) high quality faculty (5-7 faculty with various international and nationally recognized awards), 6) high-quality graduate education (reflected in number of programs and graduation rates)

water issues; materials science and engineering; leadership in education, including mathematics, geography, and developmental education; nutrition and health; law enforcement; applied computer science; applied anthropology, with emphases in archaeology and forensics; and public administration, with emphasis on the improvement of government function and efficiency. These emphases are a natural extension of Texas State's mission as a student-centered, emerging research university dedicated to excellence in serving the educational needs of the diverse population of Texas and the world beyond.

PLAN TO INCREASE RESEARCH FUNDING AND PRODUCTIVITY

A minimum level of $45M in restricted research expenditures is one of the two mandatory criteria for NRUF eligibility. Research expenditures correlate to an institution's potential for discovering new knowledge and making an economic impact through technology transfer and commercialization of intellectual property. Expenditures also link to the teaching mission of the university because faculty researchers present cutting edge knowledge to students in the classroom and laboratory.

From fiscal year 2009 through fiscal year 2013, Texas State experienced a 57 percent increase in restricted research expenditures, the second fastest rate of growth and third largest gross increase of all ERUs during that period. A similar increase occurred in the number of research proposals submitted to and awards received from external agencies. In particular, expenditures from federal research awards grew by $9 million, which represents a 178 percent increase.

Our plan to increase research funding and productivity rests on a three-pronged strategy: (1) sustaining institutional funding commitments, (2) targeting external sources, and (3) leveraging existing resources. This strategy includes the following features:

- hiring and retaining high quality researchers-scholars;
- providing competitive start up packages;
- balancing faculty workloads to promote research while sustaining quality teaching;
- developing research-related programs that encourage student participation;
- maintaining a safe, well-equipped research infrastructure;
- ensuring that faculty evaluation criteria are commensurate with teaching/research expectations;

- addition of net new graduate research assistants;
- addition of net new staff positions to support research;
- fostering a service-oriented atmosphere within research support offices;
- maximizing funding opportunities in areas of research priorities;
- fostering collaborations among faculty, centers, and companies;
- providing university seed money for research and scholarship;
- cultivating matching research gifts through the Texas Research Incentive Program; and
- implementing incentives identified in each college dean's strategic plan.

PLAN TO IMPROVE UNDERGRADUATE EDUCATION

Texas State is committed to providing a quality education for a diverse student body. In the past decade, enrollment has grown to more than 35,500, making the university the fifth largest in the state. Managing growth is critical for achieving institutional goals for undergraduate education, particularly goals linked to "Closing the Gaps." One aspect of enrollment management specific to NRUF eligibility is having at least 50 percent of entering freshmen drawn from the top quartile of their high school class. To help achieve this goal, Texas State will fully leverage its existing scholarships, enhance its merit-based scholarship programs, create innovative research opportunities that target freshmen, and increase marketing efforts.

Enrollment growth at the university has been matched by increases in retention and graduation rates—the result of an approach that includes increasing the number of quality faculty to teach and mentor students, adding depth and variety to academic programs, establishing the Honors College, which features thesis options, interdisciplinary studies, and special topics courses, and creating the Office of Retention Management and Planning and implementing initiatives directed out of the Division of Student Affairs. Texas State's enrollment and retention efforts for African-American and Hispanic students have resulted in 78 percent and 116 percent increases, respectively, in number of degrees awarded to those groups. This success can be attributed in part to an array of ongoing student support programs.

In coming years, internationalization is a top university priority for enhancing undergraduate education. Specific initiatives include:

- increasing the number of study abroad programs;
- developing international internship opportunities;

- establishing partnerships with universities outside the United States;
- implementing new minors and certificates in international areas;
- improving existing exchange programs and creating new ones; and
- hosting international speakers and scholars.

Another means of improving undergraduate education is expanding STEM-related programs. The university's 2012-2017 strategic plan prioritizes adding new interdisciplinary baccalaureate programs in Civil and Environmental Engineering and Civil and Environmental Engineering Technology. A study examining the feasibility of offering mechanical engineering is in progress, too. Other ongoing STEM efforts include:

- NSF-funded programs such as the Houston-Louis Stokes Alliance for Minority Participation Scholars and SPARK, a program for women in STEM programs;
- the annual Women in Science and Engineering Conference;
- the Edwards Aquifer Research and Data Center Aquatic Science Adventure Camp for STEM-minded students ages 9 to 15;
- Mathworks, a center for mathematics education that promotes curricular and professional development and sponsors a summer learning program;
- the Collaborative Learning Center, a free computer lab and tutoring center open to all students in the College of Science and Engineering; and
- the Texas State Math Tutoring Lab.

PLAN FOR DOCTORAL PROGRAMS

Since launching its first Ph.D. program in 1996, the university has used strategic planning and resource allocation to develop strong doctoral programs that meet state and regional needs. The university currently offers 10 Ph.D. degrees, an Ed.D. degree, and a D.P.T. degree (Doctor of Physical Therapy). Enrollment in doctoral programs increased 35 percent from fall 2008 to fall 2012, with students drawn from a diverse student population that increasingly reflects the demographics of the state. Texas State awarded its first Ph.D. in academic year 1999-2000, with the number of Ph.D. degrees awarded annually increasing to 53 in 2012-2013. Additionally, 40 D.P.T. degrees were awarded during each of the academic years 2012 and 2013.

Assessment measures for doctoral program quality include the THECB's 18 Characteristics of Public Doctoral Programs. The university also uses a comprehensive matrix to select national aspirant institutions for benchmarking doctoral programs. And Texas State

conducts regular, rigorous reviews of academic programs in order to maintain and strengthen quality, productivity, and effectiveness. Program reviews also identify departments/schools with potential to offer new doctoral programs based on such indicators as faculty quality and research productivity, opportunities for multidisciplinary collaboration, economics of scale and scope, competitive climate, and potential state impact.

Texas State is widely known for offering doctoral programs with an applied focus. This focus comes from the university's recognition that graduate education must embrace change in preparing students for careers of the 21st century. Using this philosophy, Texas State has identified potential for new doctoral programs in Computer Science, Applied Anthropology, and Public Administration.

PLAN FOR FACULTY AND STUDENT DEVELOPMENT

The university offices of the Provost and Vice President for Academic Affairs and Chief Research Officer coordinate faculty development in research and scholarship. Development efforts include one-on-one mentoring, internal research grant programs, a developmental leave program, guided workshops, specialized research and compliance training and consultation services, and collaborative programs both inside the university and with cooperating institutions.

Faculty development efforts will also include nomination of nationally and internationally recognized faculty for major awards and for membership in prestigious professional organizations. For example, in the past five years, seven faculty have been designated NSF-CAREER award recipients, and efforts are underway to increase that number.

The university recognizes the importance of both undergraduate and graduate students participating in research. Student involvement provides essential personnel for the design and conduct of research and enhances students' learning experiences. The Honors College and the Office of Sponsored Programs have developed an undergraduate research program and symposium to highlight research outcomes. A new program specifically designed to engage freshmen is under development. Graduate student research, including thesis and dissertation projects, is supported by several programs across campus.

Research and scholarship foster a diverse student body by encouraging inclusiveness, a global perspective, and a sense of community. To help achieve these goals, Texas State has developed and implemented a Diversity Plan that includes a commitment to recruiting and

graduating doctoral students who can contribute to the state's diversity goals in "Closing the Gaps."

OTHER RESOURCES

The construction and renovation of research space are addressed in the 2012-2017 Campus Master Plan. Among planned new construction projects are the Engineering and Science Building on the San Marcos campus and a Health Professions facility in Round Rock. In addition to new capital construction projects, the university will continue to upgrade key infrastructure, such as research facilities, and utilities and communications systems.

The Alkek Library, a vital resource for the university's teaching and research missions, has experienced approximately 20 percent annual growth in collection development expenditures over the past five years. The facility houses the nationally recognized Wittliff Collections. Membership in the Association of Research Libraries is a goal.

Financial support for graduate students is addressed in the strategic planning process, with resources allocated to doctoral students through teaching, instructional, and research assistantships. The Graduate College allocates additional funding for scholarships. To become more competitive in attracting high-quality students, the university is working to identify sources of funding to increase tuition stipends.

The Division of Information Technology and the Chief Research Officer collaborate to provide high performance computing capabilities to researchers who require intensive computational tasks. Plans for further growth in this support area include additional servers and personnel, a data center, and network connection to our Science, Technology and Advanced Research (STAR) Park.

NATIONAL VISIBILITY

National visibility is achieved largely by the academic success of a university: faculty reputation, research productivity, patents secured, and achievements of graduates. The success of non-academic programs is also critical for creating visibility, e.g., public outreach projects, services for students and alumni, and athletics.

Specific goals for improving national visibility include efforts by the Office of University Marketing to strengthen Texas State's brand identity and reputation among internal and external

audiences and to foster employee commitment to university goals and values. The university will improve its national visibility through advertising, through a sustained media relations effort, through enhanced governmental relations, and through use of web-based and other emerging technologies to communicate effectively with stakeholders.

PREFACE

The first step in creating Texas State's Strategic Plan for Research was appointment of the ERPC, comprised of faculty, students, and administrative staff from across campus. In appointing the committee, the Provost established a diverse group of individuals representing a broad cross-section of the institution, a group capable of addressing the various components of the plan outlined in guidelines from the THECB. As a contextual guide for creating the research plan, ERPC members relied upon the recently approved 2012-2017 University Strategic Plan. In particular, three goals in the Strategic Plan, along with selected strategies for implementing those goals, mapped closely to Coordinating Board guidelines:

Goal 1: Promote academic quality by building and supporting a distinguished faculty.

- Provide a university infrastructure (include equipment and facilities) to support teaching, research, and scholarly/creative activity.
- Strengthen research and scholarly/creative activity efforts through achieving increases in grant expenditures and increasing collaboration across disciplines.
- Provide reasonable start-up funds in order to attract and retain distinguished faculty and to provide the essential equipment to conduct research and attract external grants.
- Support faculty efforts in international research.

Goal 2: Provide opportunities for a public university education and contribute to economic and cultural development.

- Move forward on the Closing the Gaps goals of participation, success, excellence, and research.
- Support faculty and students in pursing global academic experiences, e.g. study abroad, internships, field placement, research, service learning.

Goal 5: Develop and manage human, financial, physical, and technological resources effectively, efficiently, and ethically to support the university's mission.

- Assess the needs and opportunities to refine Alkek Library utilization to improve support for the achievement of faculty and student instructional and research outcomes.

With these goals and strategies in mind, the ERPC formed separate subcommittees charged with assessing two mandatory and six optional criteria required for ERUs to receive NRUF:

Mandatory requirements

- ERU designation
- $45M in restricted research expenditures

Optional requirements

- endowments ($400M)
- number of Ph.D. degrees awarded (200 per year)
- freshman class of high academic achievement (at least 50 percent of first time entering freshmen in top 25 percent of high school class)
- recognition of research capabilities and scholarly attainment (Association of Research Library membership, Phi Beta Kappa Chapter, or Phi Kappa Phi Chapter)
- high quality faculty (5-7 faculty with various international and nationally recognized awards)
- high-quality graduate education (reflected in number of programs and graduation rates)

The NRUF eligibility criteria correlate to the seven prescribed sections of the research plan outlined in THECB guidelines. The subcommittee assessments were designed specifically to provide a framework for the planning process, establish which criteria were already met at Texas State, and forecast which four optional criteria might be met in the shortest time.

Because the university has not yet met the second mandatory requirement ($45M in restricted research expenditures), the ERPC assumed this requirement to be the most critical in establishing the minimum time needed for Texas State to be considered as NRUF eligible. Based on the university's fiscal year 2013 restricted research expenditures of $20.9M, the estimated time to reach the required $45M level is 8-11 years, assuming a 7 percent or 10 percent annual growth rate in restricted research expenditures. If a conservative estimate of 7-10 percent annual increase in expenditures is applied, then it is projected that $45M in restricted research expenditures would be realized in 8-11 years. However, if the recent rate of increase holds, the target value would be reached in 5-6 years. The committee has determined that with the exception of one of the optional criteria (200 Ph.D. degrees awarded annually), all other

requirements are attainable in the next 8-11 years. Efforts to reach the various goals are currently underway and will continue until all necessary requirements are met for NRUF eligibility.

It is important to note that NRUF eligibility is not concomitant with Tier One or Research University status as defined by current THECB Accountability Measures. Thus other critical milestones may be targeted during the university's process of moving toward NRUF eligibility. For example, Texas State will pursue membership in the Council for Governmental Relations (COGR). COGR is an association of research-intensive universities and affiliated medical centers/research institutes. The organization is a key source of critical information about current and emerging issues for its members and about agencies and organizations that sponsor research activities. Membership in COGR requires $15M in research expenditures from federal agencies. In fiscal year 2012, Texas State is approximately $100,000 short of that threshold but expects to reach the necessary level in fiscal year 2014 or fiscal year 2015. Another essential milestone is to have Texas State's Carnegie Foundations classification upgraded to "Research, High Activity." COGR membership and Carnegie reclassification, coupled with increases in the percentages of both federal expenditures and research expenditures classified as research, will demonstrate Texas State's progress towards achieving important interim goals and moving toward NRUF eligibility.

In February 2013, the THECB published its annual report on the progress Emerging Research Universities have made towards NRUF eligibility. Of the six universities reporting, Texas State ranked fourth in three categories (endowments, percent of freshman class in top 25 percent of their high school class, high-quality faculty), fifth in two categories (restricted research expenditures and graduate programs), and sixth in one category (number of Ph.D. degrees awarded). In addition, Texas State gained membership in Phi Kappa Phi during 2013. Buoyed by these accomplishments in its initial report as an ERU, Texas State is poised to build on the momentum achieved over the past decade. The university has the vision, energy, and resolve to accomplish the strategies outlined in the research strategic plan.

Texas State University

Strategic Plan for Research

I. VISION STATEMENT

I-A. Targeted Status of Institution

Texas State seeks to become a nationally recognized research university, offering a wide range of quality programs that contribute to building a better and more sustainable future for Texas and the nation. As the university moves toward this targeted status, it will develop unique academic programs that advance disciplinary knowledge and, at the same time, provide graduates with the skill necessary to address pressing social problems and economic needs. The university's focus is, and will continue to be, on research with relevance: the creation of new knowledge with applicability to real-world issues. Some current key research emphases are in environmental science and sustainability, with special emphasis on water issues; materials science and engineering; leadership in education, including mathematics, geography, and developmental education; nutrition; health; law enforcement; applied computer science; applied anthropology, with emphases in archaeology and forensics; and public administration, with emphasis on the improvement of government function and efficiency. Through targeted development of graduate programs, creative collaborations across disciplines, and expansion of research opportunities made possible by the university's unique history and mission, Texas State aims to enhance its national profile, moving toward Tier One status as a National Research University.

I-B. Extension of Current Mission

This strategic research plan is a natural extension of Texas State's mission as a student-centered, emerging research university dedicated to excellence in serving the educational needs of the diverse population of Texas and the world beyond. The plan also reflects many of the specific goals in the approved 2012-2017 University Plan. Texas State currently plays a leading role in public higher education by providing a student-centered learning experience for a diverse student body and by ongoing expansion of its research mission. Texas State now serves more than 35,500 students, is a top producer of certified teachers in Texas, and has expanded research

expenditures 92 percent since fiscal year 2008. Growth in master's and doctoral programs has resulted in a 98 percent increase in the awarding of graduate degrees since 2000.

II. PLAN TO INCREASE RESEARCH FUNDING AND PRODUCTIVITY

Our plan to increase research funding and productivity is three-pronged, involving (1) institutional funding commitments, (2) targeted external sources, and (3) leveraging of existing resources. During fiscal year 2013, Texas State generated $37.0 M in expenditures from all types of sponsored programs. Approximately 64 percent of the total was attributed to research activity and the other 36 percent was from instructional activity including public service. The university receives research funding from four primary sources: federal agencies, State of Texas agencies, and private for-profit and non-profit organizations. In aggregate, these sources provided a total of $23.8M in research expenditures during fiscal year 2013, distributed as follows:

- Federal agencies $14.9M
- State agencies $5.0M
- Private for-profit $1.2M
- Private non-profit $2.7M

Thus, federal dollars make up about 63 percent of total research expenditures, while state and private funding sources comprise 21 percent and 16 percent of the expenditures, respectively.

We leverage these existing resources, along with planned resource additions, to increase funding levels from all external sources, and, most importantly, to increase the overall productivity of faculty, staff, and students. We assess productivity in terms of growth in research expenditures, dissemination of research in top-ranked journals, research awards to faculty (e.g., membership in national academies), creation of centers in targeted research areas, number of new doctoral programs, number of doctorates awarded, and number of postdoctoral appointees.

II-A. External Funding

In the short term, the university has set a target of reaching $45M in restricted research expenditures. Since that value is a mandatory requirement for ERUs to become eligible to receive NRUF which is designed to assist ERUs in completing their transformation to a research university. From fiscal year 2009 through fiscal year 2013, Texas State experienced a 57 percent

increase in restricted research expenditures (see Figure 1), which is the second largest rate of increase by any ERU during that time period (see Table 1). Furthermore, Texas State's gross increase in restricted research expenditures during that same time period was $7,608,261 making it the third largest gross increase among all ERUs.

Figure 1: Texas State Restricted Research Expenditures from Fiscal Years 2009 – 2013

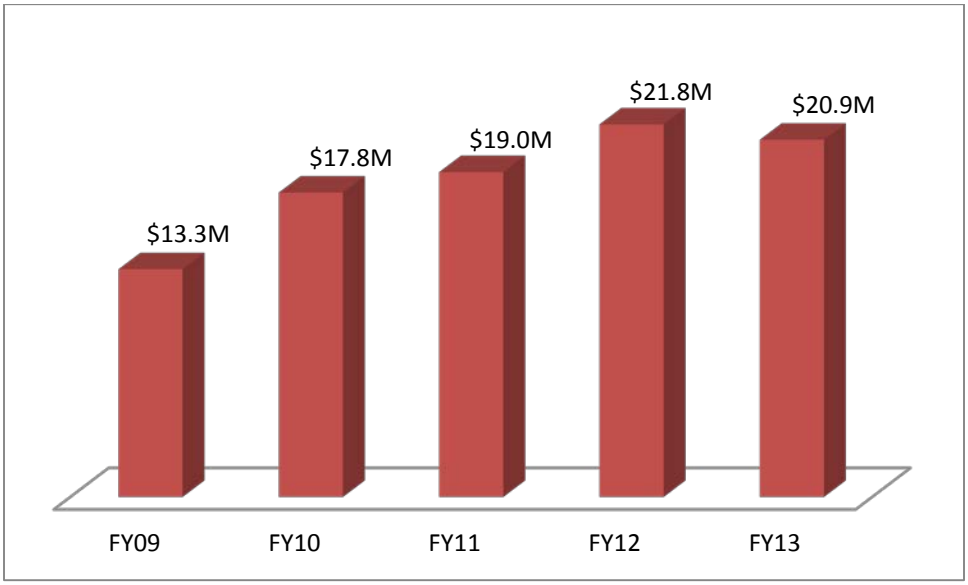

Figure 2: Net Increases in Restricted Research Expenditures by ERUs During Fiscal Years 2009 – 2013.

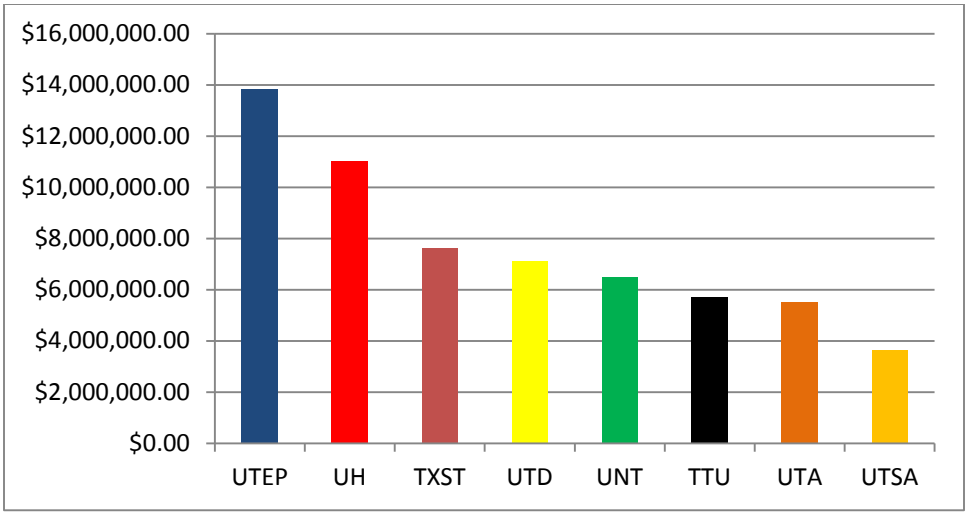

Table 1: Restricted Research Expenditures for ERUs, Fiscal Years 2009 – 2013

ERU	Fiscal Year 2013	Fiscal Year 2012	Fiscal Year 2011	Fiscal Year 2010	Fiscal Year 2009	5-year Increase
Texas State University	$20,944752	$21,761,575	$19,078,112	$17,778,634	$13,336,491	57%
Texas Tech University	$40,735021	$46,106,813	$50,205,458	$50,071,546	$35,030,672	16%
University of Houston	$61,151,281	$51,663,426	$53,100,109	$56,564,687	$50,130,712	22%
University of North Texas	$17,748,903	$16,557,183	$14,476,509	$13,293,480	$11,240,239	57%
University of Texas at Arlington	$32,082,256	$32,284,249	$29,869,344	$32,288,186	$26,555,703	21%
University of Texas at Dallas	$43,944,356	$45,573,771	$43,659,514	$40,906,393	$36,829,369	19%
University of Texas at El Paso	$44,057,028	$43,156,720	$40,179,653	$37,813,868	$30,227,283	46%
University of Texas at San Antonio	$29,163,969	$32,356,827	$30,429,992	$28,084,442	$25,526,758	14%

To achieve the target of $45M in restricted research expenditures, external funding received from federal, state, and private sponsors in the form of grants, contracts, and gifts will have to increase. Table 2 shows a partial list of sponsors that will be specifically targeted for future funding as well as the research priorities they would support. The list is not exhaustive, and is meant to be reflective of those funding agencies where we have had success in the past and those we will target for future funding.

Table 2: Agencies Targeted for Future Funding

Targeted Agency	**Research Priority**
Federal	
National Science Foundation	Materials Science / Engineering / Education / Applied Anthropology / Environmental Science / Computer Science / Geographic Information Science
United States Department of Agriculture	Education / Health / Nutrition
National Institutes of Health	Health / Nutrition / Education / Computer Science
Department of Health and Human Services	Health / Nutrition / Applied Anthropology
Department of Homeland Security	Criminal Justice / Computer Science / Public Administration / Geographic Information Science
Department of State	Education / Public Administration
Department of Commerce	Materials Science / Computer Science / Geographic Information Science
Department of Energy	Materials Science / Engineering / Computer Science
Department of Education	Education
Department of Defense	Criminal Justice / Public Administration / Materials Science / Computer Science
Department of Justice	Criminal Justice / Applied Anthropology
National Aeronautics and Space Administration	Materials Science / Computer Science

Environmental Protection Agency	Environmental Science / Geographic Information Science
State	
Texas Parks and Wildlife	Environmental Science
Department of Family and Protective Services	Education
Texas Department of Transportation	Environmental Science / Materials Science / Engineering / Computer Science
Office of Governor-Criminal Justice Department	Criminal Justice
Texas Education Agency	Education
Texas Higher Education Coordinating Board	Education/ Computer Science / Materials Science
Texas Department of State Health Services	Health / Nutrition / Education / Computer Science
Texas Commission on Environmental Quality	Environmental Science
Private	
Robert A. Welch Foundation	Materials Science
Sid W. Richardson Foundation	Education / Health / Nutrition
The Meadows Foundation	Environmental Science / Education / Applied Anthropology / Criminal Justice / Public Administration
Robert Wood Johnson Foundation	Health / Nutrition / Education
Hogg Foundation for Mental Health	Health / Nutrition / Public Administration
W. M. Keck Foundation	Materials Science / Engineering / Education / Environmental Science / Health / Nutrition

Margaret A. Cargill Foundation	Environmental Science / Education / Health
W. K. Kellogg Foundation	Education / Health / Nutrition / Public Administration
National Geographic Education Foundation	Applied Anthropology / Education / Environmental Sciences / Geographic Information Science

At Texas State, the majority of research expenditures come from activity conducted within the academic colleges that have doctoral programs and university-level centers. For example, during fiscal year 2013, the College of Science and Engineering and the College of Applied Arts produced the most research expenditures at $9.4M and $7.2M, respectively. The university level centers (The Meadows Center for Water and the Environment, Texas School Safety Center, Xiphophorus Genetic Stock Center, Center for Children and Families, and Center for P-16 Initiatives) collectively generated $7.8M. In addition, the College of Health Professions and the College of Education each generated approximately $3.3M. Also noteworthy were research expenditures in the College of Liberal Arts ($1.4M) and the McCoy College of Business Administration ($1M).

Key strategic initiatives that will be employed to help expand the research enterprise will include:

- hiring and retaining high quality researchers/scholars;
- providing competitive start up packages;
- balancing faculty workloads to promote research while sustaining quality teaching;
- developing research-related programs that encourage student participation, especially new doctoral programs;
- maintaining a safe, well-equipped research infrastructure;
- ensuring that faculty evaluation criteria are commensurate with teaching/research expectations;
- addition of net new graduate research assistants;
- addition of net new staff positions to support research;
- fostering a service-oriented atmosphere within research support offices;
- maximizing funding opportunities in areas of research priorities;

- facilitating collaborations among faculty, centers, and companies;
- providing university seed money for research and scholarship;
- cultivating matching research gifts through the Texas Research Incentive Program; and
- implementing incentives identified in each college dean's strategic plan.

Progress towards raising the level of restricted research expenditures from the fiscal year 2013 level of $20.9 M to $45M will be assessed annually by examining the increases in the following parameters: restricted research expenditures, number of proposals submitted and funded, total requested amount in proposed projects, actual award amounts, and the rate at which funds are expended during the project periods of awards. If a conservative estimate of 7-10 percent annual increase in expenditures is applied, then it is projected that $45M in restricted research expenditures would be realized in 8-11 years. However, if the recent rate of increase holds, the target value would be reached in 5-6 years.

In addition to the assessment metrics mentioned above, we will also compare our total research and development expenditures with a subset of national, in-state and out-of-state peer institutions that includes the University of Texas at Arlington, the University of Texas at San Antonio, Portland State University, Wright State University, Northern Arizona University, University of New Mexico, and University of Wisconsin-Milwaukee.

II-B. Targeted Research Priorities

In the current 2012-2017 University Plan, Texas State identifies a limited number of focused research priorities, tied especially to current and future graduate research and education. These priorities are:

Environmental Science	Public Administration
Materials Science and Engineering	Nutrition and Health
Criminal Justice	Applied Anthropology
Education	Geographic Information Science
Computer Science	

The research priorities listed above are a natural consequence of several factors including historical missions and strengths of the university, geographical location, concentration of faculty and resources, research expenditure data, opportunities for collaboration, potential for economic impact, response to current and future industrial demands as well as existing and

planned academic (i.e. doctoral) programs. However, there are some recurring multi- and inter-disciplinary themes that are encompassed within one or more of the main priorities. For example, water is a major theme common to the Environmental Science, Education, Materials Science and Engineering, Applied Anthropology, and Public Administration research priorities. In addition to themes, there are some key principles that are also demonstrated in our research priorities. Another example is the principle of sustainability, which we define as fulfilling the social, environmental, and economic needs of the present and future generations. In support of these strategic research priorities, the university has supported the creation of numerous university, college, and department-level centers that focus on our research priorities. The Centers and Institutes have been listed in Table 3 along with the research priority they are most closely aligned with in terms of their primary mission.

Table 3: University, College and Departmental Centers and Institutes

Center or Institute	Research Priority / Strategic Area
Texas School Safety Center	Education
Advanced Law Enforcement Rapid Response Training (ALERRT)	Criminal Justice
Texas Justice Court Training Center	Criminal Justice
The Meadows Center for Water and the Environment	Environmental Science
Center for Children and Families	Education
The Education Institute	Education
Xiphophorus Genetic Stock Center	Health
Texas State Small Business & Development Center (SBDC)	Public Administration
Center for Migrant Education	Education
Education Policy Information Center (EPIC)	Education
Center for Mathematics Readiness	Education
Texas Mathworks	Education
Center for P-16 Initiatives	Education
Edwards Aquifer Research & Data Center	Environmental Science / Education
Texas State Sleep Center	Nutrition and Health
Center for Geospatial Intelligence and Investigation	Criminal Justice
Center for Autism Research, Evaluation, and Support (CARES)	Education
Gilbert M. Grosvenor Center for Geographic Education	Education
Texas Center for Geographic Information Science (TxGISci)	Environmental Science / Computer Science / Education
Center for Archeological Studies	Applied Anthropology
Freeman Center	Environmental Science

LBJ Institute for the Improvement of Teaching and Learning	Education
Center for Social Inquiry	Public Administration
Center for International Studies	Public Administration
Center for the Study of the Southwest	Education
Center for Entrepreneurial Action	Public Administration
Institute for Global Business	Public Administration
Center for Multicultural & Gender Studies	Education
Center for Texas Music History	Education
James and Marilyn Lovell Center for Environmental Geography and Hazards Research (JMLC)	Environmental Science
Research Center for River Recreation and Tourism	Environmental Science
William P. Hobby Center for Public Service	Public Administration
Richter Research Institute	Education
Shell Center for Polymer Science and Technology	Material Science and Engineering
Center for the Study of Latino Media and Markets	Public Administration

Academic departments/schools, programs, and centers that engage in funded projects associated with environmental science include our multidisciplinary Freeman Ranch and The Meadows Center for Water and the Environment, both of which are university-level centers. Academic departments include Biology, Geography, and Agriculture. The most prominent academic programs that connect to environmental science are the Environmental Geography and Aquatic Resources doctoral programs.

Materials Science and Engineering at Texas State is by nature and design a multi-disciplinary research priority. It primarily involves the partnership between the College of Science and Engineering and the McCoy College of Business Administration due to the unique emphasis on commercialization and entrepreneurial aspects of our MSEC doctoral program. In 2009, Texas State was granted an award from the Emerging Technology Fund to support the

MSEC initiative, and in 2012 we dedicated the first building in our Science Technology and Advance Research (STAR) Park to serve as an incubator and accelerator of new high-tech companies.

Education research has been a mainstay at Texas State since it was initially established over a hundred years ago as a normal school and is reflected in the large number of centers and institutes (see Table 3) that engage in education research. Today, our faculty in the College of Education, College of Fine Arts and Communication, College of Liberal Arts, and College of Science and Engineering conduct education research ranging from new and effective methods for training teachers to increasing student participation in STEM-related fields to geographic education. Four separate doctoral programs in Mathematics Education, Geographic Education, School Improvement and Adult, Professional, & Community Education, and Developmental Education are reflective of our strength and leadership in improving education and pedagogy.

Geographic Information Science was established in 2002 as the third doctoral program at Texas State. The program examines the nature of environmental problems and explores the potential of GIS for environmental modeling and management. The conceptual basis for using GIS as well as the framing of environmental research problems will be covered.

Computer science is an emergent research priority at Texas State particularly in the area of networking and cyber security. The department's faculty are active research-scholars and among them are three faculty members who have recently been awarded the prestigious NSF CAREER Awards and one faculty member named as an IBM Fellow. The proposed Ph.D. program in Computer Science will be structured to serve full-time students as well as working professionals in the computer-related industry.

Criminal justice is a research priority that is connected to a doctoral program at Texas State. Besides that academic program and the associated research, there is also a University Endowed Chair and university-level Center in criminal justice. The Advanced Law Enforcement Rapid Response Training (ALERRT) Center at Texas State was created in 2002 as a partnership between the university, the San Marcos Police Department, and the Hays County Sheriff's Office to address the need for active shooter response training for first responders. It has garnered national attention for its cutting-edge training and research.

Public administration is becoming a critical need as research conducted by Texas State investigators and others has an increasing impact on the local, regional, national, and

international landscape. One way in which the university is responding to the need is in the establishment of centers and institutes dedicated to specific public policy issues (e.g, Center for Social Inquiry, Center for the Study of Latino Media and Markets, and William P. Hobby Center for Public Service). Another response is to develop a new doctoral program in public administration to produce administrators with research skills that will allow for evidence-based, data-driven decision making and problem solving. The new doctoral program would be administered primarily through the Department of Political Science although other departments/schools would participate as well (Social Work, Communication Studies, etc.)

Nutrition and health are two research areas where Texas State is gaining momentum, or expanding on existing programs. For example, one of the university-level centers, the Xiphophorus Genetic Stock Center, has been consistently funded from NIH and other granting agencies for over 20 years. The main mission of the center is to utilize Xiphophorus fish hybrids as animal models in the study of melanomas (skin cancer). The Nutrition Program within the School of Family and Consumer Sciences engages in research into a variety of areas including food systems, food systems production management, food science, advanced food science, nutritional science, nutritional assessment, medical nutrition therapy, nutritional counseling and education, nutrition in the lifespan, wellness, functional foods and nutraceuticals, nutrition and genetics, and biochemical nutrition. The College of Health Professions provides a wide range of research opportunities and curriculum aimed at various health-care related issues. Most notable are the D.P.T. program in Physical Therapy, Professional and University Resources for Health Information Technology program in Health Information Management, and the Nursing program.

Applied Anthropology is another example of how the academic programs are coupled with the research enterprise. The Department of Anthropology is part of the College of Liberal Arts at Texas State and offers learning opportunities in the subdisciplines of anthropology – cultural anthropology, linguistic anthropology, archaeology, and biological anthropology. All faculty members in the department are actively involved in research and other scholarly activities, including fieldwork in the United States, Mexico, Belize, Peru, Madagascar, and the Republic of South Africa. The department houses the following research centers and institutes: the Center for Archaeological Studies, the Archaeological Curation Facility, the Center for the Art and Symbolism of Ancient America, the Forensic Anthropology Center at Texas State, the Gault School of Archaeological Research, and the Center for Middle American Research. Based

on these strengths and activities, a new doctoral program is being planned in Applied Anthropology, applying the methods and theories of anthropology to the analysis and solution of human problems by building partnerships in research and problem solving; acknowledging the perspectives of all people involved; and focusing on challenges and opportunities presented by biological variability, cultural diversity, ethnicity, gender, poverty, and class.

II-C. Allocation of Resources

Over the past eight years, the university has invested $125M toward enhancing its research enterprise, including $11M in new faculty positions, $101.8M in new buildings, and $12M in new and/or updated research equipment. These investments were made in line with carefully defined strategic planning goals focused on increasing research output and external research funding. During this time, the university has hired 191 new research faculty, 102 of whom fall squarely within the university's stated research priorities (see section IIB).

Under the 2012-2017 University Plan, we plan to add approximately 200 new tenure-track faculty and invest between $2.0M and $2.5M per year in research start-up funding, including lab space, equipment, and tech-support salaries. This investment is particularly important for new faculty in engineering and the sciences (e.g., engineering, health, biology, and computer science).

In developing its faculty, the university has focused on allocating resources to hire quality faculty in priority research areas, with the aim of developing graduate programs, including specifically targeted doctoral programs. Continued emphasis will be placed on hiring in areas with potential for growth in both doctoral enrollments and opportunities for external funding (see Section IV for specific doctoral programs proposed over the next 4-8 years). To promote the research productivity of faculty, especially recently hired faculty, the university has allocated resources for workload and other incentives. One example is the Research Enhancement Program, which provides seed-funding for faculty research projects. Faculty may receive up to $8K for individual projects and $16K for projects involving two or more faculty. The university also has expanded its year-long development leave program, and it is committed to strategically improving faculty workload balances to increase research productivity.

Texas State has invested significant resources over the past 10 years to update buildings, to add research space, and to address rapid enrollment growth. Nearly $200M has been invested

over the past six years in research facilities and other academic space. Examples include the Roy F. Mitte Building ($45.9M), Emmett and Miriam McCoy Hall ($21.9M), the Avery Building at the Round Rock Campus ($26.7M), the expansion of the Family and Consumer Sciences building ($9.4M), and adding new structures that include the Nursing Building on the Round Rock campus ($35.9M), an inaugural building at the Science, Technology and Advanced Research (STAR) Park ($6.9M), a research greenhouse ($1.6M), and the recently completed Undergraduate Academic Center ($47.7M). The university also is investing heavily in infrastructure to support strategic research priorities and academic programs. For example $11.8M was allocated to upgrading the electrical infrastructure across campus.

Over the past eight years, we have allocated resources to create 17 new graduate programs, providing approximately $2.8 million in graduate student support in the form of assistantships and scholarships. The university will continue to increase funding for graduate assistantships, and, as with resources for capital items, will tie allocations closely to growth in graduate enrollment and the procurement of external funds by research units.

The University also made a critical decision to provide additional full-time equivalent (FTE) staff personnel to support the increase research activity. For example, the Offices of Research Compliance, Electronic Research Administration and Research Development have each added one new FTE to increase services and functions within the central research administration office. More importantly, 6 new research administrative support positions have been allocated to provide both pre- and post-award support at the college and departmental levels. These personnel will assist with functions ranging from proposal submission to award management (purchasing, hiring, travel, budget adjustments, etc.).

II-D. Enhanced student participation in research activities

Undergraduate research. Research and education are synonymous at Texas State since both activities provide a formal mechanism for students to engage in true mentor/mentee relationships with faculty members. Traditionally, undergraduate students have enjoyed two ways to actively participate in research at Texas State. One way is via the for-credit curriculum courses offered by many academic departments/schools in which undergraduate students work independently with faculty mentors on research projects. In some academic programs undergraduate research courses are a requirement of the degree plan. Another way is by active

membership in a faculty member's sponsored research program whereby the student oftentimes has the opportunity to work in a group setting to solve real life problems as part of a team effort. The funding sources may be both internal (Research Enhancement Program) or external (federal, state, and private sponsors). Through these opportunities, many undergraduate students have gained invaluable and practical experience that greatly enriches their educational experiences at Texas State, raises the academic bar, and motivates students to enroll at the at the university. Expanding these programs is our goal. Additionally, approved undergraduate students can utilize their research experiences as the basis for the undergraduate thesis program in the Honors College.

The university has recently developed new programs designed to recruit high-achieving undergraduate students and to engage current students in a wide array of research activities. For example, the Student Undergraduate Research Fund (SURF) Program aims to:

- improve recruitment and retention of all undergraduate students, with particular attention to high-achieving, at-risk, underrepresented, and veteran students;
- develop qualified graduating students who can move on to graduate enrollment;
- foster a community of student scholars;
- integrate undergraduate students into the culture of research at Texas State;
- coordinate with existing programs and other efforts that involve undergraduates in research partnerships with faculty; and
- increase donations from both non-profit and business institutions to contribute to and endow specific research-related scholarships and awards.

Other undergraduate research programs at Texas State include the annual Undergraduate Research Conference, which provides opportunities for students across various colleges and disciplines to share their work with members of the university community. Two presentations are selected by judges to represent Texas State at the state and national levels in the Texas Undergraduate Research Day at the Capitol and Posters on the Hill sponsored by the Council on Undergraduate Research.

The innovative Freshman Initiative for Research Enrichment (FIRE), currently in development by our Honors College, emulates a similar program offered at the University of Texas at Austin. In this program high-achieving incoming first year students would receive academic credit for introductory laboratory curriculum courses by engaging in research and

mentorship opportunities within a faculty member's laboratory. During the first semester, faculty members present their research topics to the cohort of FIRE students. After mutual agreement, the student then joins the faculty member's research group.

To help disseminate the outcomes of research conducted by our undergraduate students, the *Texas State Undergraduate Research Journal*, an annual peer-reviewed digital publication, is being launched in 2013. In addition, the newly developed Rising S.T.A.R. program, funded by the Associated Student Government, provides research travel support for students presenting work at conferences.

In addition to the internal funding allocated to support undergraduate participation in research activity and the individually funded research programs, Texas State has aggressively pursued external funding to support undergraduate research. For example, the Houston-Louis Stokes Alliance for Minority Participation is a student success driven partnership among the National Science Foundation, the University of Houston, Texas Southern University, Texas State University, Rice University, the University of Houston-Downtown, the University of Houston-Victoria, the Houston Community College System, the San Jacinto College District, the Houston Independent School District, and numerous corporations. The primary goal is to significantly increase the number of underrepresented and minority students earning baccalaureate degrees in STEM fields and prepare these students for graduate study and professional careers.

Under its recent designation as a Hispanic Serving Institution (HSI), Texas State has received awards from the NSF, USDA, and other agencies to provide innovative opportunities for under-represented undergraduates to participate in relevant research for chemistry, energy, computer science, mathematics, agriculture, and biology. These programs provide faculty mentoring and encouragement to continue academic and professional training and careers in science for this group.

Graduate Research. Texas State has programs specifically designed to facilitate graduate student research. A pilot program established via a partnership between the College of Education and the Research Administration Office was implemented. The program involves the submission of a proposal reviewed by a panel that then makes funding recommendations. The Dean of The Graduate College has committed $50,000 annually to fund a Doctoral Research Stipend program, which was implemented in 2012. Doctoral students who have advanced to candidacy are eligible to apply. Supplemental stipends in the amount of $2,500 to $5,000 are

awarded to fund dissertation research. In addition, the Office of the Provost partners with the College of Education to support a dissertation completion initiative, providing $30,000 annually toward the effort. Another program to support graduate research is the Freeman Fellows Program administered by the Freeman Center. This internal grant program primarily serves graduate students in the disciplines of forensic anthropology, biology, agriculture, and geography who conduct their research on the Freeman Center property. Typically four or five awards up to $3000 each are made annually. These and other programs and initiatives provide opportunities for expansion, leading to increased graduate student research.

III. PLAN TO IMPROVE UNDERGRADUATE EDUCATION

III-A. Strengthening the Quality of Undergraduate Education

Texas State is committed to providing a quality educational experience for all undergraduate students. Over the past decade, rapid enrollment growth and financial constraints have made doing so a challenge, but administrators, faculty, and staff remain committed not only to maintaining academic quality but also to strengthening undergraduate education. This section reviews current trends in undergraduate education at the university and outlines plans to strengthen the academic profile of our students and the effectiveness of our degree programs.

Undergraduate Academic Goals

Enrollment. Over the past decade, Texas State has experienced significant enrollment growth. Between 2000 and 2013, undergraduate enrollment rose from 29,458 to 31,032, an increase of 60 percent. With overall enrollment over 35,000, Texas State is now the fifth largest public university in the state and the 33rd largest in the nation.[3] Our goal for the future is to have sustained, but controlled, undergraduate enrollment growth. Managing growth will enable us to add the faculty and infrastructure needed to preserve a quality academic experience and ensure that student success rates continue to improve. This approach is consistent with our strategic plan and supports the enrollment and completion goals set out in the THECB's "Closing the Gaps" initiative.

[3] In fall 2012, the five largest universities in Texas were the University of Texas at Austin, Texas A&M University at College Station, the University of Houston (main campus), the University of North Texas and Texas State. Source: THECB Accountability System.

Student profile. In the mid-1990s, Texas State adopted competitive admissions criteria in order to improve the academic profile of its undergraduate students. This change, together with an increased emphasis on student recruitment and scholarships, helped transform the quality of entering undergraduates and contributed to a marked increase in their success. The impact of higher standards is evident in the profile of entering freshmen. In 1991, only 33 percent of new freshmen graduated in the top quartile of their high school class. Today, roughly 50 percent of freshmen do so. With continued enhancement to our recruitment efforts and merit scholarship programs, our 5-year goal is to enroll a freshman class with 50-55 percent of students coming from the top-quartile of their high school class.

Retention rate. The adoption of more selective admissions requirements in the 1990s also contributed to an improvement in freshman retention. In 1992, the freshman-to-sophomore retention rate was 60 percent. Ten years later the retention rate had increased to 77 percent and has generally remained at that level through 2012. From 2002 to 2012, the university's freshman retention rate exceeded the average retention rate for Texas public colleges and universities. In fall 2012, Texas State's retention rate ranked seventh among Texas public colleges and universities.[4] Our institutional goal for the next five years is to increase the retention rate to 80 percent. This ambitious goal will be achieved through a combination of retention programs and services designed to emphasize student engagement, career planning, and advisement.

Graduation rate. Texas State's six-year graduation rate has also improved steadily. This progress resulted from higher admissions standards and a growing system of retention programs within the Division of Academic Affairs and the Division of Student Affairs. In 1996, our six-year graduation rate stood at 30 percent (14th in the state). Since then, the graduation rate has improved steadily, recently hovering around 55 percent. In 2011, a graduation rate of 54.8 percent placed us fifth among the 38 Texas public colleges and universities.[5] Our current goal is to raise the graduation rate to 60 percent by 2019. Achieving this goal will require an integrated campus-wide effort.

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[4] In fall 2012 the top seven public colleges and universities in terms of retention rates were: University of Texas at Austin, Texas A&M at College Station, University of Texas at Dallas, University of Houston-Clear Lake, University of Houston, Texas Tech University, and Texas State. Source: THECB Accountability System.

[5] In fall 2011, the top five institutions in terms of six-year graduation rate were: Texas A&M University at College Station, University of Texas at Austin, Texas Tech University, University of Texas at Dallas, and Texas State. Source: THECB Accountability System.

Recruiting Top Students and Strengthening Academic Quality

Admissions. The university's Office of Undergraduate Admissions is charged with improving the academic profile of the freshman class, as defined by class rank, test scores, and number of Texas State Assured Scholarship recipients. Over the past decade, several steps have been taken to attract top students. The university has:

- hired seven regional admissions counselors and stationed them strategically across the state;
- increased its pool of qualified prospects by obtaining search names from the College Board and ACT;
- increased the number and quality of printed publications, developed a broad-based social media recruitment program, and improved the look and functionality of websites;
- enhanced the academic emphasis in all recruitment publications and created counselor programs with a greater focus on academics;
- worked with the university's Honors College to target recruitment efforts for top scholars; and
- made raising philanthropic dollars for scholarships a priority in the Pride in Action fundraising campaign.

These and other efforts demonstrate that Texas State's recruitment efforts are effective in helping the university meet its goal of improving the academic profile of incoming freshmen.

Merit Scholarships. The university continues its effort to attract high achieving students by increasing the number of merit-based scholarships awarded. High ability students enrich the campus environment, both inside and outside the classroom, and contribute to the goal of strengthening the quality of university's undergraduate academic experience. The number of scholarships awarded has increased dramatically. Between 2004 and 2006, Texas State awarded an average of about 1,468 undergraduate scholarships annually. Over the past five years, the number of scholarship recipients has increased to an annual average of 2,158, an increase of 47 percent over the 2004-2006 average. Merit scholarships have helped raise the academic profile of our student body. Given the salutary effects of increasing the proportion of scholarship students on campus, we will work to increase the number of merit-based awards as our endowment grows.

The Honors College. The Texas State Honors Program, established 45 years ago, was designated as an Honors College in 2012. With new resources and a broadened mission, the Honors College will provide an avenue for recruiting and retaining top students and for strengthening academic programs at the university. Incoming and current students are admitted to the Honors College based on superior academic qualifications. Looking ahead, we expect the college to attract top students and foster intellectual growth among participants. Features of the Honors College experience include the following:

- a thesis option that allows students to complete a research or creative project under the mentorship of a faculty member;
- an interdisciplinary honors studies minor that includes a cross-cultural competency requirement, usually fulfilled by a study-abroad experience;
- special topics courses designed specifically to be taught in a small-seminar format; and
- an innovative two-course humanities sequence co-taught by faculty from different disciplines.

Honors College participation has nearly doubled since 2006, and we expect growth to continue. The program is one of several pathways toward strengthening academic quality at Texas State.

Faculty Resources. Offering a quality academic experience for undergraduate students depends in large measure on having sufficient numbers of qualified faculty to teach courses and mentor students. Texas State's unprecedented enrollment growth over the past decade has prompted the addition of hundreds of new faculty, but fiscal constraints have made it impossible to keep pace with enrollment growth and lower the student-to-teacher ratio. THECB accountability measures indicate that Texas State has the highest student-to-faculty ratio (29:1) of any public university in the state. Nevertheless, the university maintains strong retention and graduation rates, a result it attributes to faculty quality, teaching effectiveness, strong support services, and a campus culture dedicated to student success.

Commensurate with achieving the long term goal as an Emerging Research University, Texas State is emphasizing strategic and efficient allocation of its available resources. In the university's 2012-2017 University Plan, academic colleges requested funding for more than 400 new tenure-track faculty and full-time lecturers. In addition to increasing the number of faculty,

Texas State is committed to building—and retaining—a high quality faculty devoted not only to research and graduate programs but also to quality undergraduate education.

Academic Programs. Another means of attracting talented students and strengthening quality is to add depth and variety to academic programs. Texas State currently offers nearly 100 baccalaureate degrees, including degrees in high-demand fields such as nursing, business, healthcare and health information management, engineering, communication, education, and others. As of fall 2012, the five most popular undergraduate programs were interdisciplinary studies/education, exercise and sports science, psychology, mass communication, and business management. Several popular programs are subject to enrollment capacity limits as well as accreditation and licensure standards for class size. Therefore, pent-up demand exists for a number of undergraduate programs.

In addition, the university wishes to add new programs in high-demand areas that support the state's economic and social development. These issues are addressed in the university's strategic plan, which calls for additional campus buildings, more faculty members, more staff and academic advisors, and other added resources required for improving undergraduate capacity and quality. The following are noted in the 2012-2017 University Plan as the university's top undergraduate program priorities: BS, Civil and Environmental Engineering; BS, Civil and Environmental Engineering Technology; BA, BS, Psychology (fully online program); Minor, Business (fully online program); and Minor, International Business. This brief list reflects the uncertain economic and legislative climate in Texas as of early 2013. Given this uncertainty, the university has developed a two-pronged approach for developing quality, competitive academic programs: (1) committing to the sustainable growth of a few new high-demand programs and (2) enhancing quality and outcomes of its existing undergraduate programs. This approach is part of a broader strategy that includes advances in student admissions profiles, improvement of retention and graduation rates, and growth in scholarship funding.

Departments/schools and colleges have committed to the following efforts, among many others, to enhance the undergraduate learning experience at Texas State:

- increase internship opportunities;
- utilize industry and professional advisory councils;
- add seminar courses to support undergraduate research;
- add laboratory and experiential activities to more programs;

- coordinate with community colleges to find outstanding students;
- share retention and graduation data with faculty and staff on a regular basis;
- revamp program websites to better reflect quality and excellence;
- implement exhibitions to showcase student work; and
- add a service-learning component to more programs.

Internationalization. In December 2010, a task force issued a report recommending that the university make internationalization a top priority. Subsequently, the university's 2012-2017 University Plan incorporated numerous initiatives to implement the task force's recommendations—initiatives designed to broaden the curricula, to diversify the student body, and to build a more globally engaged faculty. Looking ahead, internationalization efforts will be a fundamental means of strengthening the university's academic programs and attracting quality students who seek an educational experience that prepares them to participate fully in a complex global economy.

The university has two primary initiatives for internationalizing the curriculum. The first is a two-day workshop entitled "Preparing Students for Socially Responsible Global Citizenship." Sponsored by the Office of Academic Development and Assessment, this workshop focuses on strategies faculty can implement to infuse a global perspective into the courses they teach and effectively prepare students for socially responsible citizenship. The second initiative is the Multicultural Course Transformation and Research Workshop. Sponsored by Texas State's Center for Multicultural and Gender Studies, the workshop assists faculty in redesigning courses to emphasize multicultural, including global, content, and to incorporate pedagogies appropriate for diverse learners. Participants in both workshops are expected to transform a course syllabus to reflect more international and/or multicultural content. Beyond the workshop, departments/schools, colleges, and divisions have embraced varied strategies for internationalizing the curriculum and co-curricular activities, including the following:

- increasing the number of study-abroad programs;
- developing international internship opportunities;
- establishing partnerships with universities outside the United States;
- implementing new minors and certificates in international areas;
- establishing new and improving existing exchange programs;

- increasing scholarship and travel support for study abroad;
- hosting international speakers and scholars; and
- developing and enhancing research collaboration with international partners.

In addition to these and many other initiatives, the university intends to increase the number of international students enrolling at Texas State. In coming years, the university will revitalize its international student recruiting efforts. These efforts, coupled with a dynamic marketing plan and recognition as a HSI and ERU, should increase the international student population at Texas State. Achieving that goal is one of many ways in which the university will strengthen the quality of undergraduate education.

III-B. Increasing baccalaureate degrees awarded in "Closing the Gaps" fields

Rapid minority enrollment growth at Texas State is closing the gap in higher education participation and will ultimately lead to more degrees awarded to African-American and Hispanic students. Since the base year of 2000, African-American participation at Texas State has increased by 114 percent, which exceeds the overall growth rate for African Americans at ERUs (82 percent), Texas public universities (73 percent), and the Texas population aged 18-24 years (26 percent). Since the base year of 2000, Hispanic participation has increased 133 percent at Texas State, which exceeds the Hispanic growth rate at ERUs (100 percent), Texas public universities (102 percent), and in the Texas population aged 18-24 years (37 percent).

Enrollment growth among African Americans and Hispanics at Texas State will only close the gaps in success if accompanied by favorable retention and graduation rates. Fortunately, the university is one of the state leaders in student success. African-American student retention is similar to the retention rates for white students and has consistently exceeded the state average since the 2000 baseline. Likewise, Hispanic retention rates at Texas State are similar to retention rates of white students and have consistently exceeded the state average since the 2000 baseline (see Figures 3 and 4).

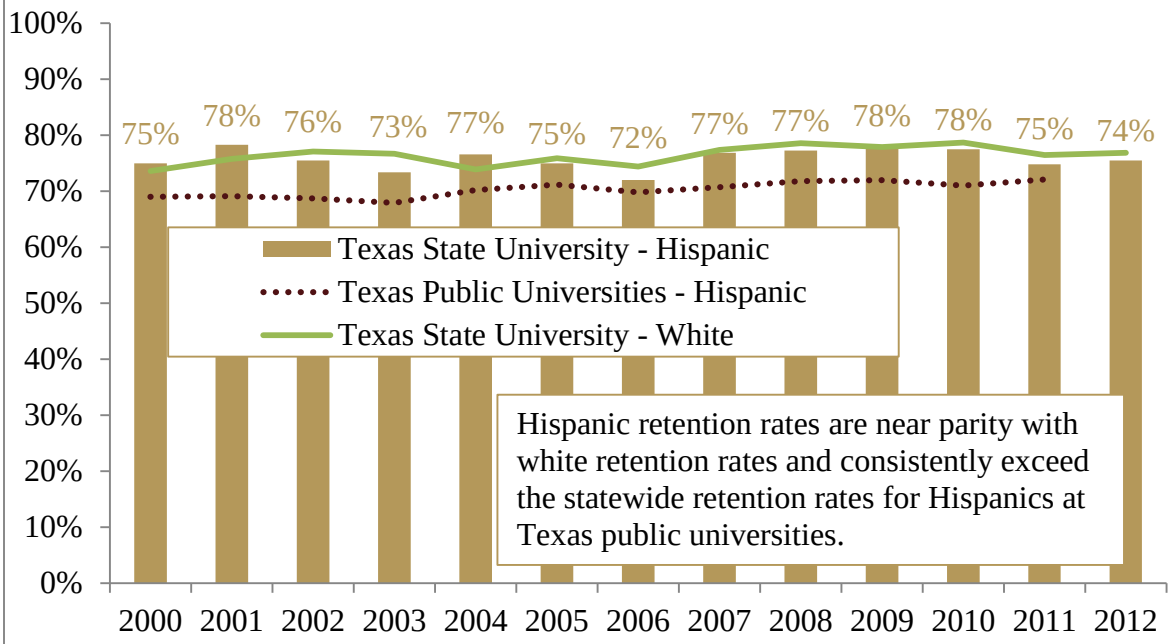

Figure 3. Closing the Gaps in Hispanic One-Year Retention Rates at Texas State University and Comparison Groups by Entering Cohort

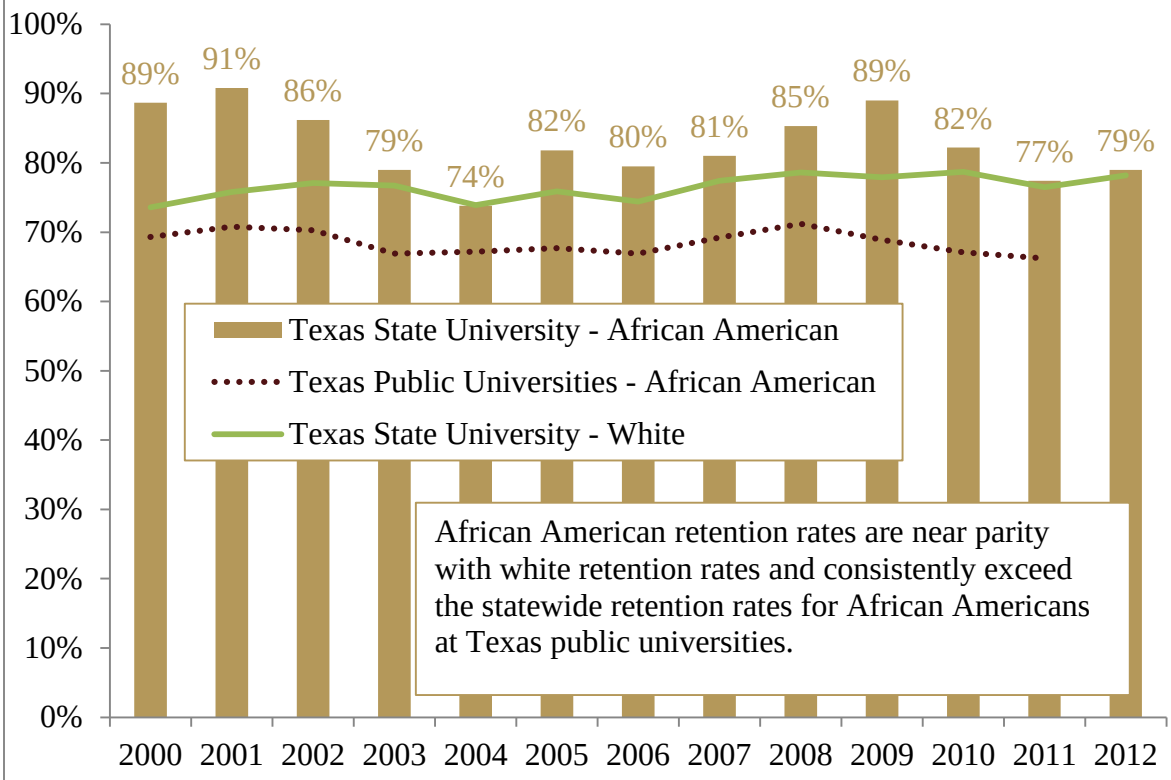

Figure 4. Closing the Gaps in African American One-Year Retention Rates at Texas State University and Comparison Groups by Entering Cohort

Gains in African-American and Hispanic participation at Texas State are now beginning to translate into the more important result: degrees awarded. The number of bachelor's degrees awarded to African Americans increased 78 percent from 2000 to 2012, and the number of degrees awarded to Hispanics increased 116 percent during the same period. This latter increase is similar to that for ERUs and for institutions statewide.

Finally, although we are waiting for African-American and Hispanic participation rates to be reflected fully in graduation rates, our 83 percent growth in bachelor's degrees awarded in critical fields exceeds the growth for ERUs (69 percent) and Texas public universities (39 percent) from 2000 to 2012. The growing participation and graduation rates of African Americans and Hispanics at Texas States reflect the university's commitment to creating the conditions necessary for academic success.

The university offers a wide array of programs designed to provide all students, especially underrepresented populations, with access to the tools necessary for degree completion. The newest such program is the Personalized Academic and Career Exploration (PACE) initiative, part of the university's Southern Association of Colleges and Schools Commission on Colleges Quality Enhancement Plan. PACE provides advising and other support to ensure that entering students complete the first year of college with an educational plan in hand that will guide them to graduation in four years.

Some of the many other support services on campus designed to foster academic success and improve retention and graduation rates are as follows:

- the Writing Center which provides one-on-one tutoring, workshops, and other activities to enhance student success;
- the Student Learning Assistance Center which offers tutoring services across the curriculum;
- a Supplemental Instruction program that uses collaboration, group study, and other methods to assist students taking traditionally difficult courses;
- Emerging Stars which brings at-risk students to campus for a summer program that fosters study skills and supports early academic success;
- Early Alert and PAWS Alert, two web-based programs designed to identify and support students who need extra assistance; and
- Texas State Student Success Plan, a self-directed guide for a student to achieve success on campus.

III-C. Expanding Academic Programs in STEM Areas

Created in 2007, the Ingram School of Engineering currently offers three BS degrees: electrical engineering, manufacturing engineering, and industrial engineering. These programs are fully subscribed. Therefore, to strengthen the quality of its programs, especially in STEM areas, Texas State seeks to add a BS in Civil and Environmental Engineering and a BS in Civil and Environmental Engineering Technology. Both programs will facilitate enrollment growth in the high-demand engineering area and promote cross-disciplinary collaboration and research. Texas State's existing academic programs in engineering technology, particularly in concrete industry management and construction management, complement the proposed additions. Texas State is also exploring the feasibility of adding a baccalaureate degree in mechanical engineering.

Beyond departmental scholarships and student organizations dedicated to STEM students, various other initiatives at Texas State enhance student access to and success in STEM programs. The university-wide efforts to meet Closing the Gaps goals and retention and graduation goals support all students. The following are some of the many programs that advance STEM efforts at Texas State:

- The Houston-Louis Stokes Alliance for Minority Participation Scholars Program, an NSF-funded program in the College of Science and Engineering;
- SPARK, a scholarship program for women entering Texas State to study science, technology, engineering, or mathematics, also NSF-funded;
- the Annual Women in Science and Engineering Conference at Texas State;
- the Edwards Aquifer Research and Data Center Aquatic Science Adventure Camp for STEM-minded students ages 9 to 15;
- Mathworks, a center for mathematics education at Texas State that promotes curriculum development and professional development and sponsors a summer math program for middle school and high school students;
- the Collaborative Learning Center, a computer lab and tutoring center open to all students in the College of Science and Engineering; and
- The Texas State Math Tutoring Lab, sponsored by the Department of Mathematics.

As Texas State looks toward the future, these and other initiatives will strengthen the quality of the university's undergraduate programs, expand opportunities in STEM fields, and advance the already successful efforts to "close the gaps" in Texas higher education.

IV. PLAN FOR DOCTORAL PROGRAMS

Existing Doctoral Programs

IV-A. Summary of Existing Programs

Texas State's strategic approach to doctoral education has enabled the university to build programs that meet state and regional needs. As of December 1, 2012, the THECB Program Inventory listed 12 doctoral degrees offered by the university:

Degree Title	**Number of Degrees Offered**
Doctor of Education	1
Doctor of Philosophy	10
Doctor of Physical Therapy	1
Total Doctorates Offered	12

Establishment of successful doctoral programs was paramount to achieving Texas State's near-term plan of becoming an ERU. Assessment and continued strengthening of existing doctoral programs as well as development of new doctoral programs complements the university's long-range plan of transitioning from an ERU to a NRU.

Texas State received approval for its first doctoral programs—Environmental Geography and Geographic Education—in 1996. The two programs were strategically chosen and represented teaching and research areas for which the university was and still is nationally known. At the time the geography programs were approved, the THECB indicated that the university would need to satisfy a five-year review of these programs before additional doctoral programs would be approved. After successful completion of this review, doctoral programs in Geographic Information Science and the College of Education were approved in 2002.

Since the early 1990s, Texas State has implemented sound strategic planning in proposing new doctoral programs. The university currently offers the following 10 Ph.D. programs (implementation date shown in parenthesis):

- Ph.D. in Geography – Environmental Geography (1996);
- Ph.D. in Geography – Geographic Education (1996);
- Ph.D. in Geography – Geographic Information Science (2002);
- Ph.D. in Education – School Improvement (2002);
- Ph.D. in Education – Adult, Professional, and Community Education (2002);
- Ph.D. in Aquatic Resources (2003);
- Ph.D. in Mathematics Education (2008);
- Ph.D. in Criminal Justice (2009);
- Ph.D. in Developmental Education (2011); and
- Ph.D. in Materials Science, Engineering, and Commercialization (2012).

Enrollment in the university's doctoral programs increased 35 percent from fall 2008 to fall 2012. Enrollments (Table 4) have grown over time and have now reached a relatively steady-state in most of the well-established programs. Enrollment in the two most recently approved programs, Developmental Education (implemented fall 2011) and Materials Science, Engineering, and Commercialization (implemented spring 2012), is expected to increase as the programs become established and build national reputations.

Table 4: Enrollment Trends in Existing Ph.D. Programs

Year	EG	GE	GIS	SI	APCE	AR	ME	CJ	DE	MSEC
Fall 1996	4	2								
Fall 1997	11	2								
Fall 1998	12	4								
Fall 1999	17	5								
Fall 2000	18	6								
Fall 2001	23	7								
Fall 2002	20	8	3	18	20					
Fall 2003	28	11	9	25	29	12				
Fall 2004	32	10	12	36	39	21				
Fall 2005	30	22	12	41	48	28				
Fall 2006	26	16	15	43	55	27				
Fall 2007	28	20	19	49	55	32				
Fall 2008	29	19	16	55	65	33	17			
Fall 2009	33	19	20	62	64	37	22	14		
Fall 2010	37	18	19	67	64	38	23	19		
Fall 2011	30	18	18	62	62	31	22	36	3	
Fall 2012	29	16	18	72	57	31	29	41	9	14

Program abbreviation: EG=Environmental Geography; GE=Geographic Education; GIS=Geographic Information Science; SI=School Improvement; APCE=Adult, Professional, and Community Education; AR=Aquatic Resources; ME=Mathematics Education; CJ=Criminal Justice; DE=Developmental Education; MSEC=Materials Science, Engineering and Commercialization.

Texas State's current doctoral programs resulted from a strategic planning process and adherence to decision criteria established internally and externally by the THECB. This systematic approach, which will continue to be employed, yielded new academic initiatives that fit into the institution's near-term and long-range plans. Six themes characterize the initial group of doctoral programs at Texas State:

1. emerged out of sustained success and quality at the baccalaureate and/or master's level in the same or related discipline;

2. represented departments and faculty members already prominent in research, grant funding and educational excellence and with the capacity to continue;

3. developed in response to employment, economic and cultural needs in niche and applied areas that other universities would not or could not fulfill;

4. demonstrated the ability to attract a critical mass of superior students;

5. proceeded through a rigorous development process, including a "proof of concept" review by out-of-state faculty members and consultants; and

6. reflected the university's mission, vision and shared values and demonstrated the capacity to further the institution's long-term impact on Texas and beyond.

Texas State assesses strengths and weaknesses of its doctoral programs annually using the THECB's 18 Characteristics of Public Doctoral Programs. These characteristics are considered indicators of program quality. Data are reported for programs that have been in existence for three or more years. Data are updated annually and reported in full at the following website: http://www.gradcollege.txstate.edu/phd_char.html. Texas State also submits annual progress reports to the THECB for doctoral programs approved since 2008. These reports are due during the first five years of a program's implementation and assess student enrollments, student diversity, financial support for students, faculty research and grant productivity, student success, and whether resource commitments have been met. In light of the annual progress reports and 18 characteristics, a summary of strengths and weaknesses of Texas State's doctoral programs is provided below.

Number of Degrees per Year. This indicator represents an area to improve. Data from fiscal years 2009-2011 reveal that all doctoral programs awarded an average of less than 10 degrees per year. The low number of degrees awarded is most likely related to the fact that most

of Texas State's doctoral programs are relatively new. We expect the number of degrees awarded to increase as doctoral faculty become more seasoned in directing dissertations.

Diversity. The existing Ph.D. programs are attracting a diverse student population, with 50 percent white, 19 percent Hispanic, 6 percent black, 3 percent other minority, 12 percent international, and 10 percent of unknown race/ethnicity in fall 2012. In particular, this is consistent with the closing the gaps goal of increasing the higher education participation rate for the Hispanic population of Texas.

In recent years, women have outpaced men nationally in earning doctoral degrees. However, women still lag behind in STEM disciplines. Texas State female enrollment exceeds male enrollment in STEM Ph.D. programs. The university offers two STEM Ph.D. programs, Aquatic Resources and Mathematics Education, which have been in existence for more than three years. Combined, more than half (57 percent) of the 60 students in these programs are women. In fall 2012, 14 of 31 students (45 percent) enrolled in the Aquatic Resources program and 20 of 29 students (69 percent) enrolled in the Mathematics Education program were women.

Texas State's doctoral programs are making progress in recruiting a diverse student population and in particular recruiting women in STEM fields. While, the level of diversity achieved thus far is considered a strength of our doctoral programs, we would like to improve upon this to meet THECB expectations. Texas State has a goal of continuing to increase the number of underrepresented students in doctoral programs. To achieve this goal, The Graduate College is developing plans to improve recruitment of underrepresented students. Increased diversity will further strengthen the university's doctoral programs.

Student Financial Support**.** Texas State provides financial support to doctoral students through teaching assistantships, instructional assistantships, and research assistantships. The vast majority of full-time students receive financial support (Table 5). This represents the strength of our doctoral programs. However, the extent of support offered to doctoral students in Adult, Professional, and Community Education lags behind the other doctoral programs and needs improvement.

Table 5: Percentage of Full-time Doctoral Students with Institutional Financial Support in Fiscal Year 2011 (for programs in existence for at least three years as of fall 2011)

Ph.D. Program	**Percentage with Financial Support**
Environmental Geography	93%
Geographic Education	100%
Geographic Information Science	81%
School Improvement	96%
Adult, Professional, and Community Education	65%
Aquatic Resources	100%
Mathematics Education	96%

Note: Table shows Ph.D. programs.

Employment Profile. Texas State awarded its first Ph.D. degree in academic year 1999-2000. The number of Ph.D. degrees awarded per year has increased steadily, with 17 degrees awarded in academic year 2008-2009, 26 in 2009-2010, 25 in 2010-2011, and 34 in 2011-2012. Graduates of existing Ph.D. programs are successful in securing employment in the field (Table 6). Most doctoral programs show a 100 percent employment rate, which is an obvious strength of our programs. The employment profile the doctoral programs have achieved is evidence that our doctoral programs are offering an education that includes the knowledge and skill sets employers are seeking in making hires.

Table 6: Percentage of Graduates Employed in the Field within One Year of Graduation (for programs in existence for at least three years as of fall 2011)

Program	**2008 - 2009**	**2009 - 2010**	**2010 - 2011**
Environmental Geography	100%	100%	100%
Geographic Education	100%	100%	NA (no graduates)
Geographic Information Science	100%	100%	100%
School Improvement	100%	100%	100%
Adult, Professional, & Community Education	100%	87.5%	85.7%
Aquatic Resources	100%	100%	80%
Mathematics Education	NA (no graduates)	100%	NA (no graduates)

Quality Faculty. Texas State's doctoral faculty are prolific scholars recognized nationally in their fields. Table 7 shows the three year (fiscal year 2009, fiscal year 2010, and fiscal year 2011) average number of core doctoral faculty discipline-related referred publications, the average number of core doctoral faculty receiving external grants, and the average external grant expenditures by program. The research contributions made by our doctoral faculty are considered a strength of the doctoral programs.

Table 7: Fiscal Year 2009 - 2011 Average Core Ph.D. Faculty Publications, Average Number of Core Faculty Receiving External Grant Funding, and Average Grant Expenditures per Program

(for programs in existence for at least three years as of fall 2011)

Ph.D. Program (n=number of core doctoral faculty)	**Three Year Average Discipline-related publications**	**Three Year Average Number faculty receiving external grants**	**Three Year Average External grant expenditures per program**
EG (n=10)	2.2	1.3	$26,598
GE (n=4)	3.1	2.7	$438,101
GIS (n=7)	3.5	3	$186,274
SI (n=9)	3.5	2	$1,036,751
APCE (n=8)	2.3	2.3	$1,116,793
AR (n=18)	3.6	15.7	$1,266,094
ME (n=11)	2.9	4.3	$1,178,965

Program abbreviation: EG=Environmental Geography; GE=Geographic Education; GIS=Geographic Information Science; SI=School Improvement; APCE=Adult, Professional, and Community Education; AR=Aquatic Resources; ME=Mathematics Education; CJ=Criminal Justice; DE=Developmental Education; MSEC=Materials Science, Engineering and Commercialization

Regional Impact. Strong doctoral programs tend to have strong regional impact. Existing doctoral programs have established ties to the community that are of mutual benefit. One example is the Aquatic Resources' Project Flowing Waters. Texas State Aquatic Resources Ph.D. students, known as Resident Scientists, are teamed with San Marcos middle school science teachers to enhance delivery of real-world, hands-on science content, increasing student interest and achievement in science. Project Flowing Waters creates innovative learning opportunities for students utilizing the scientific method to study local aquatic and other environmental phenomena. The program allows students to see Resident Scientists as positive role models, exemplifying the pursuit of higher education and using their passion for science and research to

broaden and encourage students' education and career aspirations. The interaction with Resident Scientists also enriches and expands the science content knowledge of San Marcos CISD middle school science teachers. The program was launched in the 2008-2009 school year with a five year NSF grant and additional support from the Texas Pioneer Foundation for the first three years. Over the past four years, 22 Resident Scientists have engaged over 4,000 mostly Hispanic, economically disadvantaged, and at-risk students in hands-on science instruction. At the two middle schools participating in the program, pass rates on the state-mandated eighth grade TAAKS Science test improved from 52 percent to 70 percent and 60 percent to 69 percent during the first three years of the program.

The university has recently opened the first building at the STAR Park. This will provide opportunities for doctoral students in the MSEC program to collaborate with start-up companies that are tenants in the incubator. Some of those companies will be significant for economic growth in the central Texas region. The FOCUS Program is another example of the significant impact existing doctoral programs in Developmental Education and Mathematics Education has on the region. In operation since 2008, FOCUS utilizes research-based instructional best practices aligned to the Texas College and Career Readiness Standards to provides just-in-time remediation in content (developmental mathematics), content-specific support (learning support), and academic support (college going and success) to developmental mathematics students. The program has demonstrated phenomenal results including an 80 percent pass rate in College Algebra with a 'C' or better, persistence towards and through graduation, and transfer of study and learning strategies for overall academic success. Greater emphasis and expectations will be placed upon garnering external funding in other existing doctoral programs within the College of Education and the School of Criminal Justice to provide enhanced research and learning opportunities and financial support for the enrolled graduate students. Towards that end, the Advanced Law Enforcement Rapid Response Training program has incorporated tenure-track faculty and graduate students into its program to strengthen ties to the academic community.

IV-B. Quality Control for Existing Doctoral Programs

Of the 10 Ph.D. programs offered by Texas State, six have been in existence for at least 10 years as of fall 2013. Using graduation data from fiscal years 2009-2013 and the projected number of graduates in fiscal year 2014, all of the programs should meet the Low-Producing

Programs standard, adopted by the THECB in April 2010, of graduating more than 10 students in five years.

In an annual report, programs use the *18 Characteristics of Public Doctoral Programs* the institution produces as an assessment tool for quality control. Additionally, The Graduate College has formed a Doctoral Council, consisting of the program director of each doctoral program, which meets regularly with the Dean and Associate Dean of The Graduate College to discuss best practices in doctoral education.

IV-C. Quality Enhancement for Existing Doctoral Programs

Texas State provides doctoral students with financial support through teaching assistantships (TA), instructional assistantships (IA), and research assistantships (RA), and offers opportunities for professional development to promote academic excellence (see Table 9). Departments/schools offer a professional development course for TAs and IAs designed to provide teaching and other professional skills. The university pays the tuition and fees associated with the course. The Office of Research Integrity Compliance provides the on-line Collaborative Institutional Training Initiative (CITI) course in Responsible Conduct of Research, which is available to all students and faculty. The CITI course is required for students employed as RAs on NSF funded research projects. The Graduate College offers dissertation workshops, IRB workshops, copyright workshops, and reference workshops in collaboration with the Texas State Institutional Review Board and Alkek Library. The Office of Professional Development, also offers workshops for graduate assistants, such as a grant proposal preparation workshop. The Office of Professional Development affords faculty numerous developmental opportunities that enhance the quality of our doctoral programs, including workshops on writing grants, administering grants, and mentoring graduate students.

Texas State provides doctoral students with travel funds to attend professional conferences to make research presentations. The Graduate College also sponsors the International Research Conference for Graduate Students on campus each fall. Graduate students from Texas State, other universities in Texas, and universities in other states and countries present their research and receive feedback about their presentations from faculty judges.

As mentioned in section D of part II, the university has programs designed to improve dissertation completion rates. The Dean of The Graduate College has committed $50,000 annually to fund doctoral students who have advanced to candidacy to assist with completion of their dissertations. One goal of this program is to increase the number of doctoral degrees conferred annually and to decrease the time to completion. Supplemental stipends in the amount of $2,500 to $5,000 are awarded to fund dissertation research. For another example, the Office of the Provost partners with the College of Education to support a dissertation completion initiative, providing $30,000 annually toward the effort.

Texas State will continue to expand the professional development offered for doctoral students and will seek increased funding to support graduate student research in a concerted, strategic effort to increase the quality of doctoral programs with the goal of achieving national prominence. Texas State recently completed a university-wide strategic planning process. The 2012-2017 University Plan includes a focus on increasing support for graduate assistant stipends, scholarships, and fellowships. One planned new initiative is the Texas State University Research Fund to recognize and support graduate education. This program proposes to use designated philanthropic funds like the Spoonamore and Gowens gifts to develop graduate fellowship programs to be administered by the Dean of The Graduate College (see section V-E for more details).

Achieving a level of national prominence will also require that significant resources be directed to attracting and maintaining highly competent faculty. The 2012-2017 University Plan includes an initiative to increase the number of full-time tenured and tenure-track faculty. To attract the highest quality faculty, the plan specifies increased starting salaries and competitive start-up packages for new faculty hires, as well as support for high achieving faculty through annual merit raises based on performance and targeted salary adjustments. The plan also includes expanded efforts to promote diversity among faculty, students, staff, and administrators. Texas State is committed to focusing on measures that reflect institutional excellence relating to students and faculty; these measures will increase the university's national visibility and research reputation.

IV-D. Comparisons with National Peers

Texas State used a comprehensive matrix to select national aspirant institutions to use in benchmarking existing doctoral programs. Short-term and long-term aspirants were selected from public universities that do not have a medical school. We examined available 2010 data and used the following 13 variables in selecting aspirants: denial rate for undergraduate applicants, matriculation rate for undergraduate applicants who are accepted, median SAT score of applicants, full-time student equivalent (FTSE) enrollment in the fall, one-year retention rate for new freshmen, six-year graduation rate for new freshmen, total operating revenues, state appropriations per FTSE, instructional expenditures per FTSE, research expenditures per full-time faculty member in top three ranks, scholarship and fellowship expenditures, value of endowment, and average salary for full-time faculty in top three ranks.

Table 8: National Aspirant Universities for Benchmarking

Short-term Aspirants	**Long-term Aspirants**
New Mexico State University	University of Nebraska-Lincoln
Clemson University	University of Oklahoma
University of Oregon	University of California Santa Barbara
University of Central Florida	Arizona State University
	University of Arkansas

IV. PLAN FOR DOCTORAL PROGRAMS

New Doctoral Programs

IV-E. Areas of Emphasis/Strategic Planning for New Doctoral Programs

Texas State employs a strategic planning process for developing and implementing new academic programs, including doctoral programs. Based on its strategic plan, the university prioritizes and supports doctoral proposals that can: (1) document demand for the program, (2) demonstrate capacity to offer a program with high quality, and (3) detail how the program can be cost effective. Indicators, such as faculty quality and research productivity, opportunity for

multidisciplinary collaboration, economics of scale and scope, competitive climate, and potential to impact the State of Texas and beyond, are used to determine the proposed doctoral programs included in the strategic plan for future development.

Texas State's strategic priorities drive resource allocation, so the university is able to make significant investments in proposed doctoral programs by hiring faculty with national and international reputations; by providing competitive salaries and start-up packages; by making renovations to accommodate new offices, lab space, and technology; and by authorizing other expenditures to ensure that a department/school is properly supported for success in receiving THECB approval and in implementing a high-quality program.

Texas State has a policy of conducting an external review of a proposed doctoral program during the proposal development phase. Typically, a team of external experts is brought to campus for a two-day visit to view facilities and meet with faculty, students, and administrators to assess the proposed program. The review team provides a report, and its suggestions for improvement are incorporated in the proposal. This process has strengthened programs proposed by the university.

No Ph.D. programs have been requested for the Texas State Table of Programs in the 2012 cycle. The next regular cycle to request preliminary authority for new programs occurs in September 2016. Texas State received preliminary authority for a Ph.D. in Computer Science in 2005; submission of a full proposal is planned for September 2016. The degree is included as a priority for the College of Science and Engineering in the 2012-2017 University Plan. The 2012-2017 University Plan also includes the following proposed new Ph.D. programs, which are expected to be added to the 2016 Table of Programs: a Ph.D. in Applied Anthropology (preliminary authority); and a Ph.D. in Public Administration (preliminary authority).

Ph.D. in Applied Anthropology. Anthropology is the study of people, in the past and present, with a focus on understanding the human condition both culturally and biologically. Applied Anthropology refers to the application of the methods and theories of anthropology to the analysis and solution of human problems by building partnerships in research and problem solving; acknowledging the perspectives of all people involved; and focusing on challenges and opportunities presented by biological variability, cultural diversity, ethnicity, gender, poverty, and class. Students pursuing Ph.D. study in anthropology are increasingly concerned with selecting programs that offer applied educational opportunities that will prepare them for

employment in both academic and nonacademic spheres. However, less than 18 percent of all United States Ph.D. granting anthropology programs offer coursework in applied anthropology, and only three programs offer a Ph.D. in Applied Anthropology (Oregon State University, University of South Florida, and Columbia University).

Typical nonacademic employment settings for applied anthropologists with Ph.D.s include federal, state, and local government agencies, development agencies, consulting firms, research institutes, nongovernmental organizations, tribal and ethnic associations, advocacy groups, social-service and educational agencies, and corporations and businesses. Clearly, there will be a continued need for doctoral graduates in applied anthropology in central Texas and beyond, particularly those who will pursue employment outside of academia.

Texas State is taking steps to position the Department of Anthropology to offer a quality Applied Anthropology Ph.D. program. The department has hired four new faculty members in the last five years, focusing on how these faculty will contribute to the planned Ph.D. program. The department has also established two research centers: the Center for Archaeological Studies (CAS) and the Forensic Anthropology Center at Texas State (FACTS). The primary mission of CAS is to conduct archaeological investigations for federal, state, and local governments as well as private entities as required by law. FACTS is a multifaceted forensic anthropological research, teaching, and outreach center, which includes a body donation program and the outdoor Forensic Anthropology Research Facility. FACTS faculty provide expert forensic anthropological case services for law enforcement, medical examiners' offices, lawyers, and others, and offer high quality osteological consulting and research for archaeologists, cultural resource managers, government agencies, and private entities.

Ph.D. in Public Administration. The proposed Ph.D. in Public Administration will integrate public administration and public and non-profit management with political theory and law. As the United States population grows and public functions continue to devolve from federal to state and local authorities and their non-profit partners, the need for more efficient and effective public administration at the state, local, and non-profit level is becoming increasingly critical. In the future, to use limited resources effectively, the public sector will need highly skilled administrators with research skills that will allow for evidence-based, data-driven decision making and problem solving. Governments and non-profit organizations are

increasingly commissioning research studies to help them make decisions about the most effective allocation of resources and provision of services.

As the National Research Council of The National Academies has formally recognized, the increased complexity of modern society calls for a new generation of high-level public administrators with Ph.D. training who can absorb research results and move them into the research-policy-practice nexus. In addition to the increasing need for Ph.D.-level academics to train those who will enter lower-level government and non-profit positions in the future, government and non-profit organizations of all types suffer from a lack of adequately trained high-level management. This need speaks to a strong and growing demand for a Ph.D. program in public administration in central Texas.

Texas State is taking steps to position the Department of Political Science to offer a quality Ph.D. in Public Administration. The department has hired two senior professors with a focus specifically on their role in a future Ph.D. program. The department has also established the Center for Research, Public Policy, and Training to launch and maintain outreach to granting agencies, foundations, and government and non-profit organizations. For several years, the department has housed the William P. Hobby Center for Public Service, which is highly regarded both nationally and in Texas. The center's director is a member of the prestigious National Academy of Public Administration. The Center offers the Certified Public Manager (CPM) Program for Texas' state and local government and non-profit sector employees. The CPM program is a nationally accredited comprehensive statewide management development program specifically for managers in federal, state, and local government. The program's primary goal is to improve the performance of public sector managers and the organizational performance of local, state, and federal government.

Ph.D. in Computer Science. The proposed Ph.D. program in Computer Science will be structured to serve computing professionals. The regional demand for computer science Ph.D.s is driven by the leadership needs of rapidly growing small and large companies producing computer software and hardware. The department's faculty are active scholars, producing approximately 70 refereed journal and conference publications annually. Their work has attracted more than 30 external grants from federal and state agencies and local industry, totaling more than $5M in the past five years. Three faculty members have received prestigious NSF

CAREER awards in the past two years, and one faculty member received an IBM Faculty Fellow award. Two graduate students recently have received NSF Graduate Research Fellowships.

Since receiving preliminary authority for the Computer Science Ph.D. degree, Texas State has made a concerted effort to position the department to offer a high-quality doctoral program. The department has hired 11 new or replacement faculty in the past seven years. All of these faculty are working in various aspects of applied computer science. Their research interests include cyber security and networking, energy-efficient high performance computing, Web scale data analytics and management, and next generation human computer interaction systems. The department has also developed a strong partnership with industry.

IV-F. Plan for Assessment of New Doctoral Programs

Texas State conducts regular, rigorous reviews of all academic programs in order to maintain and strengthen their quality, productivity, and effectiveness. The process for an Academic Program Review is spelled out in Academic Affairs Policy and Procedure Statement 2.13. Academic Program Reviews are intended to support academic units in (1) recognizing strengths and achievements, (2) promoting goal setting and planning, and (3) identifying areas for improvement. The review process includes the following:

1. a self-study culminating in a report that provides a detailed picture of the academic unit and all its degree programs;

2. a site visit by a program review team, ordinarily consisting of three members including two external experts in the discipline and one Texas State faculty member residing outside the college of the program under review, culminating in the program review team report(s); and

3. a follow-up response and action plan from the academic unit for each degree program in consultation with the college dean and the Provost and Vice President for Academic Affairs.

IV-G. Regional Impact of New Doctoral Programs

Texas State is widely known for offering doctoral programs with an applied focus. This focus comes from the university's recognition that graduate education must embrace change in preparing students for careers of the 21st century. University faculty positions will remain a viable career path for holders of the Ph.D., which necessitates that faculty continue to train graduate students for the professoriate. However, the global job market clearly demonstrates that

careers outside academia are becoming increasingly viable for doctoral graduates. Training graduate students for non-academic career paths requires partnerships among graduate faculty, graduate administrators, and business and industry professionals. Entrepreneurship training is sorely needed in graduate education to build workforce knowledge to meet the demands of a changing world. Several of our current Ph.D. programs, such as Aquatic Resources, Criminal Justice, and Materials Science, Engineering, and Commercialization are filling this niche. Training in entrepreneurship and providing doctoral students with skills to enter non-academic positions leads to a direct positive economic impact for the state. The Ph.D. programs Texas State is planning to propose will strengthen this impact.

In the next decade, Texas will experience the expansion of metro regions along with increasing complexity of state and regional governmental processes. Public administrators will increasingly have to deal with complex interactions with federal, state, regional, and local authorities as well as with a host of quasi-public and non-profit organizations. More sophisticated public administration is needed if Texas is to thrive. The proposed Ph.D. in Public Administration will help Texas meet the current and future needs for trained professionals.

Similarly, the proposed Ph.D. in Applied Anthropology will address a growing need in the state. Texas ranks second to California in national employment of anthropologists and the Austin-Round Rock area has a relatively high concentration of anthropologists who are employed in non-academic settings. The United States Department of Labor's Bureau of Labor Statistics predicts overall non-academic employment of anthropologists with advanced degrees to grow 15 percent by 2016, including an anticipated 9 percent growth in industries related to scientific research and development services. The Applied Anthropology Ph.D. program will train professionals to fill this future job need.

The proposed doctoral program in Computer Science will focus on computer applications. Central Texas is a hub for high tech companies. The applied emphasis of the Ph.D. program will prepare graduates positioned to lead Texas companies in generating computer software and hardware for the Internet, E-commerce, smart devices, social media, and gaming. The Ph.D. program will train students in the theoretical expertise and innovation needed for the successful creation—and application—of new technology.

In developing its existing and proposed Ph.D. programs, the university is especially cognizant of the need in Texas for Hispanic and African-American doctoral training. State

demographics are shifting. Texas is already a majority-minority state. Notwithstanding these demographics, Hispanics and African Americans are poorly represented in doctoral programs nationally and in Texas. The THECB has advised Texas institutions of higher education to become more inclusive of historically underrepresented groups in the doctoral programs. One of the university's goals is to achieve inclusiveness and diversity in doctoral graduates of our current and proposed Ph.D. programs.

V. PLAN FOR FACULTY AND STUDENT DEVELOPMENT

V-A. Faculty Research

In moving toward Tier One status, Texas State will employ a multi-layered strategy aimed at enhancing research productivity, innovation, and faculty efficiency. The university plans to:

- provide faculty with support services to reduce the administrative burden associated with grant administration, including allocation/reallocation of staff to aid grant activity at the college, school, and department levels;
- offer ongoing, efficient, and effective administrative support for research through the offices of Commercialization and Industry Relations, Electronic Research Administration, Research Compliance, General Accounting, and Purchasing and Contracting Services;
- promote incentive programs that encourage the innovation and productivity of faculty through buyouts of faculty time and access to research funds for field expenses;
- reexamine tenure and promotion policies specifically related to funded research and scholarly endeavors;
- expand research support services provided by the Initiative for Research Design and Analysis, a faculty intake for research design and analysis training and consultation;
- offer faculty development opportunities for enhancing research skills through the Offices of the Associate Vice President for Research and Federal Relations, Research Development, Sponsored Programs, and Faculty Development;
- explore opportunities for redirecting faculty workload to allow for increased engagement in research and creative activities;
- create a culture for mentoring faculty research, beginning with faculty orientation, continuing through the First-year Faculty Program for, and culminating in, learning communities and peer mentoring relationships fostered through faculty development

and academic units. Mentoring efforts will be especially directed toward obtaining competitive grant funding and prestigious awards;

- promote research accomplishments through university level awards (such as the Presidential Award for Excellence in Research and the Presidential Seminar), as well as promotion, tenure, and annual evaluation;

- enhance and promote applied research and development activities by assisting faculty in the capture of commercial research and development funding through the Office of Commercialization and Industrial Relations, which coordinates Texas State's commercialization and industrial activities;

- support the development of innovative research grant proposals and projects by awarding seed grants through the Research Enhancement Program, as well as through the appropriation of returned indirect funds. Texas State has created a new pilot program to initiate a multidisciplinary internal research grant with an expressed goal of leveraging internal funding to garner increased external funding;

- encourage faculty to take advantage of development leave opportunities to launch new research initiatives and to apply for supplemental assistance to offset research expenses while on a development leave;

- maximize potential to employ graduate research assistants, when possible, to support faculty research endeavors; and

- foster environment that maximizes faculty participation in the entrepreneurial Science, Technology, and Advanced Research (STAR) Park through collaboration with start-up companies as well as creating spin offs based on intellectual property created through research.

V-B. Faculty Recognition

Texas State employs faculty who are nationally and internationally known for scholarly excellence. Among our faculty are seven NSF Career Award recipients and three Guggenheim Fellowship winners. Over the next 10 years, the university will enhance current efforts to increase the visibility of our high-quality faculty. We will:

- encourage faculty to nominate eligible colleagues for the annual Presidential Excellence Awards for Scholarly and Creative Activity, which includes a monetary award, and for department/school- and college-level scholarly awards;

- promote the Presidential Seminar award by encouraging eligible faculty to apply for consideration to receive this recognition;

- maintain and publicize a university-wide list of nationally recognized faculty awardees;

- publicize all state- and local-level scholarly achievement awards to increase the visibility (local and abroad) and emphasize the quality of scholarly activity generated by Texas State faculty;

- establish a clearinghouse for information about the criteria for the national- and international-level awards identified by the THECB;

- encourage faculty to become eligible for these awards by enhancing their ability to be innovative and productive (as described in section V.A);

- facilitate national and international award nominations by developing a department/school-level process of inquiry that identifies potential nominees; and

- provide support to nominees as they assemble their application packages.

In addition to cultivating award recognition, we will also encourage faculty to hold leadership positions in national and international organizations that promote scholarly activity, and we will provide resources for travel to those meetings in order to enhance the national and international visibility of tenured and tenure-track faculty. Also, we will nominate qualified faculty at the department/school level to serve on national research review panels that consider grant applications for our nation's most prestigious organizations (e.g., NIH, NEH). And we will promote the Texas State campus/community as an ideal location for hosting national and international scholarly meetings that will serve to increase national and international visibility of the university faculty.

V-C. Collaborations and Partnerships

Texas State encourages internal and external cross-disciplinary and multidisciplinary collaboration among faculty and students in order to enhance research efforts. The following provides several examples of strategies to increase collaborations and partnerships:

Office of Research Development. When faculty identify a potential funding source that requires or encourages collaboration, the Office of Research Development assists them in identifying partners in other Texas State colleges and departments/schools; at outside universities, community colleges, and school districts; at private/commercial entities; and even at other local, state, and federal agencies. The office also assists faculty in locating funding opportunities that match research strengths on campus and then solicits participation by

multidisciplinary groups. Occasionally external partners solicit the Office of Research Development in locating partners for upcoming funding opportunities. Additionally, the office makes presentations to external entities highlighting research strengths of Texas State faculty and hosts potential partners in making presentations at Texas State.

The Texas State University System (TSUS). Increasing communication between TSUS universities and with other institutions helps to identify synergistic activities that promote collaboration (i.e., Institute for the Study of Invasive Species, Rural Sociology Initiative, System-Wide Energy Initiative, South Texas Center for Climate, Energy, Environment, and Engagement in Semi-Arid Regions).

HSI Partnerships. Texas State promotes collaboration through an expanded network of HSI partners that actively participate in Texas HSI and Hispanic Association of Colleges and Universities (HACU) events and advocacy trips.

Multi/Interdisciplinary Research Grant Program (MIRG). Texas State sponsors an internal MIRG program to increase collaborations across disciplines, with the expressed purpose of enabling teams to earn sustained extramural support.

Intra- and Inter-College Collaborations. Texas State encourages, and will continue to pursue, cross-disciplinary collaborations by research area. Examples of areas in which intra- and inter-college collaborations are encouraged include STEM education; Technology Transfer and Commercialization of Intellectual Property; Social, Behavioral, and Cognitive Sciences; Biomedical Research; Disease, Health, and Nutrition; Data Management, Security, and Networking; Homeland Security; Biological, Agricultural, and Environmental Sciences; and Sustainability.

V-D. New Faculty

In recent years, the university has made significant progress in hiring and retaining faculty who are nationally recognized in their fields. Strategies for continuing these recruitment efforts include the following:

Targeted hiring. By identifying and actively recruiting senior faculty in critical areas (e.g., doctoral producing programs), the university will build centers of faculty excellence that, in turn, will attract additional talent.

Research professors. The university will hire a limited number of research professors to help raise the profiles of key programs and to stimulate grant writing and collaboration among faculty.

Recruitment Incentives. By continuing to link starting salaries to College and University Professional Association for Human Resources figures and by aggressively offering, where appropriate, added salary incentives, the university will bring the best possible faculty to campus.

Start-up packages. The university will continue to fund generous start-up packages and will offer candidates research facilities comparable to those of peer institutions.

Special research incentives. Special research facilities, such as the Science, Technology, and Advanced Research (STAR) Park, Advanced Functional Materials Laboratory, and the Forensic Anthropology Center, will provide incentives to bring top quality faculty to campus as a means of forming collaborative research teams.

Endowed professorships and chairs. The university will draw talented senior faculty to campus by creating new endowed positions and by seeking nationally recognized candidates to fill existing professorships and chairs.

Timely searches. The university will strategically schedule and conduct searches in order to make offers early, thereby drawing the strongest candidates from applicant pools before they have been hired elsewhere.

Special funding opportunities. By seeking matching Texas Research Initiative Program funds for research gifts and by applying for funding available to the university because of its HSI status, Texas State will create research opportunities to help attract highly qualified faculty.

Work-life incentives. The university will be cognizant of and prepared to seize on special opportunities such as its attractive location near Austin and its proximity to two major airports. The university will also offer such work-life recruitment incentives as spousal/partner hiring.

Promoting faculty success. Once top quality faculty are hired, the university will make every effort to ensure their success and retention—e.g., by providing teaching loads that allow faculty to pursue active research agendas, by offering research support, and by maintaining competitive salary levels.

V-E. Student Awards

Texas State has supported both undergraduate and graduate students with a variety of competitive awards. Over the past six years, Texas State has granted a total of $4.542M in competitive scholarships to undergraduates, averaging $757,000 per year. These include several awards funded internally by Texas State, such as the National Merit, National Hispanic, and National Achievement programs, in addition to President's Honor, and Texas State Achievement awards. The university has also developed several initiatives to increase the number and prestige of competitive research awards for graduate and undergraduate students. An overview of the research awards is provided below.

Graduate Student Research Competitive Awards

Freeman Fellows Graduate Research. Freeman Center, which reports to the Chief Research Officer, administers annually the Freeman Fellows Program with associated awards of $3000 each. Typically four-five awards are made to support graduate student (masters and doctoral) research projects conducted primarily on the Freeman Ranch. Students from all disciplines are eligible to apply, but projects with an emphasis on agricultural, anthropological, biological, environmental, geographical, geological, hydrological, and renewable/sustainable resource studies are highly encouraged.

Women in Science and Engineering Research Conference. Awards $1,000 scholarships to female graduate students engaged in research from approved disciplines. In addition to the scholarships, monetary awards were given to the top poster presentations.

College of Education Graduate Research Program. The College of Education in conjunction with the Chief Research Officer developed a pilot program to fund both M.S. and Ph.D. students in their efforts to complete theses and dissertations. The maximum award is $500 and last year nine projects were fully funded (2 dissertations and seven thesis research projects). In addition, the Office of the Provost partners with the College of Education to support a dissertation completion initiative, providing $30,000 annually toward the effort.

The Graduate College. The Dean of The Graduate College has committed $50,000 annually to fund doctoral students who have advanced to candidacy to assist with completion of their dissertations. One goal of this program is to increase the number of doctoral degrees

conferred annually and to decrease the time to completion. Supplemental stipends in the amount of $2,500 to $5,000 are awarded to fund dissertation research.

Texas State Doctoral and Graduate Merit Fellowships . Other fellowship programs administered by The Graduate College are based upon the initial philanthropic gifts made by Spoonamore and Gowens to support graduate research by providing fellowships to approved applicants. The Texas State Doctoral/Master's Merit Fellowship provides $9,000 or $2,500 to new doctoral or masters students, respectively for their first academic year of study (paid in early September, January, and June). Approximately 6 awards will be made each year. Fellows are expected to enroll in a minimum of 9 hours in both fall and spring semesters, and in 6 hours in the summer.

Pre-doctoral Fellowships. The Graduate College sponsors a program that brings under-represented doctoral candidates to campus for the summer to work with faculty mentors in completing dissertation research. The program, provides participants with office space and research equipment, also fosters interaction with department/school faculty, with the possibility that candidates might later apply for faculty positions at Texas State. Since 2006, 45 pre-doctoral fellowships have been awarded.

Undergraduate Research Programs

Student Undergraduate Research Fund (SURF). Because successful undergraduate research projects and publication have become criteria for admission to top graduate programs, the SURF initiative was developed by the Honors College and the Chief Research Officer to encourage undergraduate research and to introduce students to proposal writing and the competitive grant application process. This program provides undergraduates with instruction, guidance, funding, and the connections needed to conduct research in a chosen field.

Women in Science and Engineering Research Conference. Awards $1,000 scholarships to female undergraduate students engaged in research from approved disciplines. In addition to the scholarships, monetary awards were given to the top poster presentations.

Freshman Initiative for Research Enrichment (FIRE). This program, being developed by the Office of the Associate Vice President for Research and the Honors College, will offer laboratory and mentorship opportunities to high-achieving first-year students who can advance academically while doing cutting-edge, original, and publishable research in any university

discipline. The three-semester program develops discipline-related experimental techniques through research experience and a close mentorship relation with supervising faculty members.

V-F. Student Diversity

In pursuing its mission, which includes "serving the educational needs of the diverse population of Texas and the world beyond," Texas State is guided by a shared collection of values. Listed among the university's value statements are "a diversity of people and ideas, a spirit of inclusiveness, a global perspective, and a sense of community." In support of the university's mission and value statements, Texas State has developed a strategic Diversity Plan that sets institutional goals, including a commitment to recruiting and graduating doctoral students who can contribute to the state's diversity goals in "Closing the Gaps."

In developing and implementing its Diversity Plan, Texas State has created a bold blueprint—defining results, identifying specific measures of success, and outlining action plans. These elements are embedded in the following institutional processes in order to ensure student diversity: the 2012-2017 University Plan, the Diversity Strategic Plan, and procedures for merit and competitive awards.

VI. OTHER RESOURCES

VI-A. Research Facilities

Seven years into the 2006-2015 Campus Master Plan, Texas State has made significant progress in developing its 457-acre San Marcos campus, its 101-acre Round Rock campus, and the 38-acre tract in San Marcos known as the Science, Technology, and Advanced Research (STAR) Park. The university has completed, or has in progress, 67 percent of the projects listed in the plan. More than a dozen of these are major new projects, including the Performing Arts Center, the Undergraduate Academic Center, the Nursing Building, a major addition to the Family and Consumer Sciences Building, a Research Greenhouse, additions to Bobcat Stadium, expansion of the Student Recreation Center, three parking garages, two 600-bed student housing facilities (and design of a third similar facility), and planning for a Health Professions Building in Round Rock and a San Marcos Engineering and Science Building that will facilitate space reallocation and renovations of the Roy F. Mitte and Supple Science buildings.

Looking ahead, the construction of new space and the renovation of existing space to support research remain important strategic goals of the institution, now guided by the 2012-2017 Campus Master Plan Update, which builds on the original 2006-2015 plan. Current planning for capital improvements focuses on a number of new or renovated interdisciplinary research facilities, expansion and construction of incubator and commercialization facilities, and enhancement of the utilities infrastructure. Financing for these projects will be sought from various sources, including tuition revenue bonds from the Texas Legislature, Higher Education Assistance Funds from The Texas State University System, and other sources, including grants from federal, foundation, and private philanthropic sources.

The 2012-2017 Campus Master Plan Update summarizes accomplishments under the original plan, reinforces assumptions and guiding principles, and discusses new strategies for addressing changes that have occurred since completion of the earlier document. The Campus Master Plan Update also establishes new, near-term goals for the physical campus and identifies projects for the 2012-2017 window based on near- and long-term recommendations from consultant reports. The THECB Academic Space Projection Model for fall 2012, showed Texas State with an "adjusted deficit" of 1,072,325 square feet. This is the third largest space deficit of the eight emerging research universities in the state (the average deficit for the other seven is approximately 875,022 square feet). While space and infrastructure issues continue to be a concern, Texas State is fortunate in having benefited from a number of recent projects, and planning is underway for new facilities and infrastructure upgrades that will provide badly needed space and support for research laboratories, classrooms, and offices. Major construction projects and infrastructure issues are outlined below.

A feasibility study was undertaken in 2011 with Perry Dean Rogers Architects to assess and recommend a conceptual plan for converting library space to a learning commons environment. Construction of a collections repository near the Texas State campus at STAR Park will facilitate reconfiguration of research and learning space in the Alkek Library. This high-density, environmentally controlled repository will house a significant portion of the library's general collection, the Wittliff Collections, and the University Archives.

New construction projects. Several major construction projects are included in the Campus Master Plan Update, all of which will expand and/or improve research facilities at the university:

1. *Engineering and Science Building.* A major new facility is needed to house the expanding enrollment in the Engineering, Materials Science and Biology programs. It will consist of research laboratories, shared interdisciplinary labs, classrooms, facility offices, seminar, and conferencing facilities. The building will include the most sophisticated information and instructional technology features designed and installed for an information intensive environment. The project will require campus infrastructure and site utilities necessary to support a facility of this size. The CIP estimated cost was adjusted in May, 2012. Facility Programming and Consulting of San Antonio, Texas, updated the program document for the Engineering and Science Building project. The updated program document accounts for current end user needs as well as infrastructure requirements associated with this project. The updated program document served to guide Texas State in the preparation of a Tuition Revenue Bond funding request for the Legislative Appropriations Request in July, 2012. A request was submitted with a Total Project Cost of $91,582,161 and TRB Request of $83,000,000 and the balance to be covered by a combination of HEAF, Unexpended Plant Funds, and Utility System Funds. The project is on hold pending funding.

2. *Round Rock Health Professions Building (1).* A third academic building (87,274 gross square feet) with a total project cost of $56.3M for construction on the Round Rock campus is currently programmed for classrooms, laboratories, and offices to support three of seven departments/schools in the College of Health Professions as well as a gross anatomy lab that will be shared in a unique partnership with the Texas A&M Health Science Center.

3. *Science, Technology, and Advanced Research (STAR) Park.* The construction of the first building at the STAR Park complex was completed in 2012: a 20,000 square-foot facility for the research, development, and commercialization of multifunctional materials that will help drive development and innovation for the next generation of devices used in the fields of energy, security, and health. Future development at the 38-acre STAR Park site includes a new Data Center and a second Research Commercialization building as well as the Library Repository.

4. Alkek Library Repository. Construction of an approximately 15,000 gross square-feet collections repository at the university's STAR Park will provide remote secure and climate controlled storage space for a significant portion of the library's low-use materials, as well as for special collections and archives. The construction of the repository will, in turn, allow the university to repurpose existing library space to accommodate collaborative learning and

research activities, while continuing to provide traditional space for solitary research and quiet study.

5. *Vivarium.* Construction of a 2,000 square-foot vivarium, a small-animal facility to support research, was added to the Board of Regents approved list of capital improvements in May 2012.

6. *Round Rock Health Professions Building (2).* The fourth academic building on the RR campus will include classrooms and offices to support four existing departments and additional academic programs in the College of Health Professions. The re-programmed building, cost estimate and project budget for the 70,431 gross square foot building were completed and forwarded to TSUS for possible funding by the legislature during the 2011 session. The Program document served to guide Texas State in the preparation of a Tuition Revenue Bond funding request for the Legislative Appropriations Request in July, 2012. A request was submitted with a Total Project Cost of $31,900,000 to be fully funded with the TRB funds. Status: The project remains on hold pending funding.

7. *Music Building.* A new music building to address the pressing need for a music facility, classrooms, and rehearsal space will be located in close proximity to the new university performance facility. The re-programmed building, cost estimate, and project budget for the 109,582 gross square foot building were completed and forwarded to TSUS. Estimated cost is $56,705,000.

Infrastructure issues. The university's utilities and communications systems, which are aging and at capacity in many areas, are facing increasing demands from enrollment and research growth at the San Marcos campus. Over the past five years, the university exceeded its ten-year enrollment growth projections, placing heavy burdens on the existing utilities infrastructure. This rate of growth is not expected to change in the near future. Additionally, an increasing number of research programs on campus are placing redundancy, quality, and reliability demands on the systems that have not previously been required. In order to accommodate enrollment growth and continue expanding research programs, the university plans to upgrade its utilities infrastructure system over the next several years. None of the challenges are insurmountable, but careful planning, continued improvement, and creative approaches will be required to meet demands.

Following completion of the 2006-2015 Campus Master Plan, the university created a comprehensive Utility Master Plan for the San Marcos campus. The document identified several near-term projects needed to accommodate anticipated growth. Several upgrades identified in the plan are currently under construction. Additionally, the Utilities and Communications Infrastructure Symposium, which brought outside experts to campus for an intensive, three-day evaluation, identified "big picture" recommendations that the university should consider in order to position itself for growth beyond the immediate window.

In order to accommodate growth and build on its successes as an emerging research university, Texas State must focus special attention on its electric systems. High performance computers and other sophisticated research equipment demand uninterrupted power supplies, electricity that is not subject to surges or sags, and maintenance of specific environmental criteria. These requirements go beyond simply increasing capacity and will require the institution to consider reinstating on-campus cogeneration ability in order to provide priority system support and upgrades to distribution loops and other major electrical systems over the next few years. For the near-term, the university has already funded projects and is working with the San Marcos Electric Utility to create redundant, looped systems and to increase capacity at key building locations.

As Texas State expands its physical plant to accommodate student growth, it must be proactive in coordinating infrastructure projects with the City of San Marcos, the San Marcos Electric Utility, and local communications providers. While the campus is equipped to service most of the on-campus utility infrastructure, it depends on commercial providers for sanitary sewer, electricity, natural gas, and communications. Therefore, careful coordination is necessary to ensure that demand can be accommodated. Long-range communications and information technology plans for San Marcos and the university will be pursued in partnership with city and county leaders to deliver reliable, redundant service to the area.

Currently, the San Marcos campus utility infrastructure consists of the following components: domestic water, chilled water, steam, hot water, sanitary sewer, storm drainage, electric, natural gas, and information technology. The university operates its own domestic water, chilled water, steam, hot water, and storm drainage systems.

At one time, the university generated part of its own electrical power by means of a now-defunct cogeneration system. The university plans in the near future to pursue a private-public

venture to restore cogeneration capability in order to ensure a reliable electrical power supply to support research capabilities and growth. The cogeneration project is conceived as a public-private venture that will provide the financing, design, construction, operations, and maintenance of a plant capable of generating up to 18 megawatts of power and recovering waste heat for the production of steam and chilled water. The project was added to the Capital Improvements Program in May 2012, and a Request for Qualifications was released in calendar year 2013 to hire consultant to assist in the preparation of the private-public cogeneration venture. Award of the consulting contract is anticipated in January 2014 and the initial report regarding the overall viability of a private-public partnership and value-for-money assessment is due in early summer 2014. The existing infrastructure (power, water, communications, etc.) at the Round Rock campus is relatively new and adequately meets the immediate demands of that campus. Furthermore, it was designed to accommodate future growth to the campus.

As part of its infrastructure planning process, the university will also pursue efficiency and conservation initiatives in order to minimize demand on utilities systems, reduce consumption, and ultimately save money. New state legislation requires that institutions achieve a five percent annual reduction in building energy use for the next ten years starting in 2011, giving the university additional incentive to implement conservation programs.

Texas State has a process to assess existing and future infrastructure needs. Based on this process the current infrastructure is adequate to meet the current demands but may need to be reevaluated as new acquisitions of equipment and buildings are made in the future.

VI-B. Library Resources

Texas State's Alkek Library advances the teaching and research mission of the institution, providing students, faculty, and other researchers with user-centered services; comprehensive, diverse collections; individual and collaborative learning environments; and opportunities to learn, create, and discover. Since its opening in 1990, the library has seen dramatic growth in its collections, now consisting of over 2.3 million titles. Annual collection development expenditures increased 18.42 percent over the past five years, growing from $5.4M in fiscal year 2007 to $6.4M in fiscal year 2011. The library is also home to the nationally recognized Wittliff Collections (composed of the Southwestern Writers Collection and the

Southwestern and Mexican Photography Collection), as well as a rapidly expanding University Archives.

Through its Digital Collections the library supports distribution of the research and intellectual production of the university community, providing full-text electronic access to Texas State master's theses and doctoral dissertations, faculty publications, and other scholarship. In fiscal year 2011, readers downloaded 785,868 documents available through the Digital Collections website.

The library participates in developing new academic programs, including Ph.D. programs, by assessing the library's readiness to support a new degree. For doctoral programs, the library conducts collection analyses using holdings at comparable institutions as benchmarks for the collections needed to support the proposed degree. Collection analysis provides a data-driven means to determine resources needed to enhance collections, and supplemental funding has been provided to support several new doctoral programs. Typically, $100,000—spread over the first five years of the program—has been provided, depending on results of the library's collection assessment. Exceptions include the Ph.D. in Developmental Education ($15,000/year) and the Ph.D. Materials Science, Engineering and Commercialization ($75,000/year).

Three library grant programs support faculty research. A pool of $25,000 is set aside each year for Library Research Grants to provide individual faculty up to $3,000 to acquire library materials supporting their research or creative activities. Beginning in fiscal year 2012, library start-up funds were set aside for new tenure-track faculty, with $15,000 available annually on a first-come, first-served basis. As with Library Research Grants, start-up funding allows faculty to acquire library research materials. In recognition of the growing availability of electronic research materials, several years ago the library began providing Online Resource Grants for faculty. Eligible online resources typically include, but are not limited to, primary source databases, e-journal back files, e-book packages, and streaming video and audio collections. In fiscal year 2013, $173,000 in funding was available.

The library's strategic plan for 2012-2017 includes initiatives to promote research and scholarship, including leadership for copyright and scholarly communication concerns. To that end, in 2012 the library hired a Copyright Officer to provide expertise and support on the interpretation of copyright law, best practices, copyright education, assistance obtaining copyright permissions, and copyright policy development. Another initiative being pursued will

address the need to preserve and provide access to scientific and technical data generated by research. Another initiative addresses the need to preserve and provide access to scientific and technical data generated by research. The library, working in collaboration with other information technology staff and the Office of Research and Sponsored Programs, is creating a suite of services and resources to support researchers developing and adhering to data management plans.

Despite a significant shift to electronic resources, digital materials have not entirely replaced print media and are not expected to do so at Texas State, where new academic programs continue to require both print and electronic resources. Print resources require space, and the library is outgrowing its facility. Space is also needed to support the rapid growth of special collections. To address the growing space deficit, the university plans to create a collections repository, while updating the Alkek Library as the central library for public access. The university has already conducted a feasibility study (see page 63) and will move forward with the projects as resources become available.

Attainment of national research university status includes pursuit of Association of Research Libraries (ARL) membership. Texas State's library currently ranks 111 among the 116 ARL members according to the 2010-2011 ARL Library Investment Index. Continued development of the Wittliff Collections remains a high priority, one that may address another membership criterion, i.e., evidence of significant contribution to the distributed North American collection of research resources. Library plans call for continued attention to ARL's principles of membership and the Association's qualitative and quantitative criteria.

VI-C. Graduate Student Support

Texas State uses the strategic planning process to allocate resources to doctoral programs, including financial support for graduate students. The university supports doctoral students with three types of assistantships: teaching assistantships (TAs), instructional assistantships (IAs), and research assistantships (RAs). From 2008 to 2012, Texas State added more than $2M of additional funding for TA and IA positions; this funding was targeted especially to support new doctoral programs in Mathematics Education, Criminal Justice, Developmental Education, and Materials Science, Engineering, and Commercialization. Table 9 (see page 71) gives TA and IA allocations for each doctoral program.

Ordinarily, doctoral teaching assistants are hired at 50 percent FTE for nine months. Upon request from the director of their program, the Dean of The Graduate College may approve 75 percent FTE employment in the fall and spring semesters and up to 100 percent FTE employment in the summer. For example, in fall and/or spring, a 50 percent teaching appointment could be supplemented with a 25 percent research appointment to employ the doctoral student at 75 percent FTE, thus making the university's financial offer more competitive. Research assistants' salaries depend on funding source. Students making satisfactory progress towards the degree can expect to receive 2-5 years of support depending on their doctoral program (see Table 9). Beyond that, core doctoral faculty are expected to employ their students as research assistants.

To ensure timely degree completion, doctoral students must enroll for at least nine credits during any fall or spring semester in which they are employed as graduate assistants. Out-of-state and international students working as graduate assistants pay in-state tuition. This benefit is a crucial one in recruiting students from outside Texas.

Table 9: Total Amount of Resources Allocated for TA and IA Positions by Program, Fall 2013

Program	Base Salary @ 50 percent FTE / nine months	Years Support, (with satisfactory progress)	Number of assistantships allocated
Aquatic Resources Ph.D.	$25,000	4	20
Criminal Justice Ph.D.	$26,000	4	10
Developmental Education Ph.D./Ed.D.	$26,000	6	19
Education Ph.D.	$23,000	4	12
Geography Ph.D. • Geography – Environmental Geography • Geography Geographic Education • Geography - GIScience	$26,000	4	32
Material Science, Engineering, and Commercialization Ph.D.	$32,000	2	22
Mathematics Education Ph.D.	$26,780	5	23
TOTAL	$184,780		138

The Graduate College has an annual budget of $305,000 in scholarships funds, which it allocates to academic colleges based on their graduate enrollment. Each college selects its scholarship recipients. The minimum scholarship award is $1,000, which permits out-of-state and international scholarship holders to pay the in-state tuition rate, a significant tool for recruitment.

In fall 2012, in-state tuition and fees for nine hours cost $3,290. Texas State does not offer tuition stipends for doctoral students, which makes the university less competitive than

universities that either waive tuition or provide stipends or scholarships to offset tuition. Given this recruiting disadvantage, core doctoral faculty are strongly encouraged to build funds for doctoral student tuition into their external grant budgets. The Provost and the Dean of The Graduate College are also working collaboratively to identify sources of funds to allocate towards tuition stipends.

The Texas State Office of Sponsored Programs provides excellent support for faculty seeking external funding. The result has been a significant increase in grant expenditures over the past few years, with further increases anticipated going forward. As external research funding increases, doctoral research assistantships positions will become a more prevalent source of financial support for doctoral students.

VI-D. Research Computing Services (RCS)

The Division of Information Technology, in collaboration with the Office of the Associate Vice President for Research and Federal Relations (AVPR), provides researchers who need support for intensive computational tasks a high performance computing (HPC) platform. This collection of servers, in conjunction with a high-speed connection, provides individual researchers a safe and secure environment for data and computing resources. HPC is designed as a cost sharing plan: Principle Investigators (PIs) have priority use of the equipment they purchased, with unused cycles available for other faculty and PIs who are unable to contribute monetarily.

RCS is committed to increasing the deployment and use of its platform to a broad array of HPC-related disciplines. Doing so will increase the competitiveness, visibility, and reputation of Texas State as a research institution. RCS strives to increase the breadth and depth of cross-disciplinary collaborative research involving participants within and outside the university. RCS assists Texas State researchers in obtaining external funding support for research projects in several ways:

- the availability of on-campus HPC hardware, software, and education and consulting services indicates to proposal reviewers that PIs HPC-intensive research plans can be carried out effectively and efficiently;
- successful execution of research projects using HPC resources cultivates a track record of scientific excellence that will enhance Texas State's reputation with funding agencies; and

- the improved research climate at Texas State will attract highly qualified students, faculty, and staff, thereby increasing opportunities for external funding proposals as well as rates of successful funding.

Recent additions to the university's Research Computing Services include a dedicated 2,500 square-foot data center with room for 39 racks of computer equipment. There is also a dedicated 10-gigabit network connection from the Research Data Center (RDC) to our Science, Technology, and Advanced Research (STAR) Park Center for Research Commercialization facilities, which enables university faculty and partner companies to adapt their computational footprint rapidly. From this data center there is a 1-gigabit connection to our sister institutions within The Texas State University System via the Lonestar Education and Research Network (LEARN). LEARN is a consortium of 38 Texas organizations that includes public and private institutions of higher education, community colleges, the National Weather Service, and K-12 public schools. The consortium connects these organizations and over 500 affiliate organizations with high-performance optical network services to support their research, education, healthcare, and public service missions. LEARN is also a part of a national community of research optical networks and this provides Texas connectivity to the national and international research and education networks, such as Internet2. Internet2 provides critical high-bandwidth connectivity to universities and research institutions.

VII. NATIONAL VISIBILITY

In the long term, national visibility is achieved largely by the academic success of a university: the reputation and stature of the faculty it hires and retains, faculty publications and other creative outcomes, the patents they secure, and the achievements of graduates in their careers and public lives. The success of non-academic programs is also critical for creating visibility, e.g., public outreach projects, services for students and alumni, and athletics.

To highlight all these and other areas of achievement, the university will continue to implement a coordinated marketing plan designed to enhance national visibility. This plan was first developed in 2006, a few years after the university's name changed from Southwest Texas State University and the university began efforts to centralize marketing activities. The plan focuses on enhancing the image and brand equity of the university by highlighting university features, unique benefits, and credible outcomes that are valued by both internal and external constituents. Effective promotional tools are selected as part of an integrated marketing

communication strategy to deliver accurate, clear, consistent, and continuous messages about the university.

Specific marketing goals for improving national visibility include the following:

- strengthening the Texas State brand by ensuring that the university's brand identity, brand elements, and marketing themes are cohesive, centralized, and valued;
- enhancing Texas State's image among internal audiences to foster employee commitment and dedication to the university's goals and values;
- enhancing Texas State's image among external audiences to enhance the reputation of Texas State and its divisions, departments, and programs; and
- enhancing university marketing services by establishing and maintaining appropriate marketing budget, staff, and administrative structure.

Specific communication goals for improving national visibility include the following:

- using advertising on television, radio, billboards, magazines, newspapers, airport signage, etc.;
- implementing a media relations campaign by establishing regular meetings with managers, editors, and staff of national television stations and newspapers;
- promoting Texas State through enhanced state and federal government relations activities;
- enhancing web-based services, website design, and website content; and
- using emerging technology such as social media to market the university to broader audiences and communicate with stakeholders on a daily basis.

Texas State's commitment to academic excellence, status as a HSI, membership in the Sun Belt Conference, student success in national and international competitions, and faculty research activities and recognitions in national associations are all expected to provide sustained thrusts toward generating publicity and enhancing the national visibility of the university.