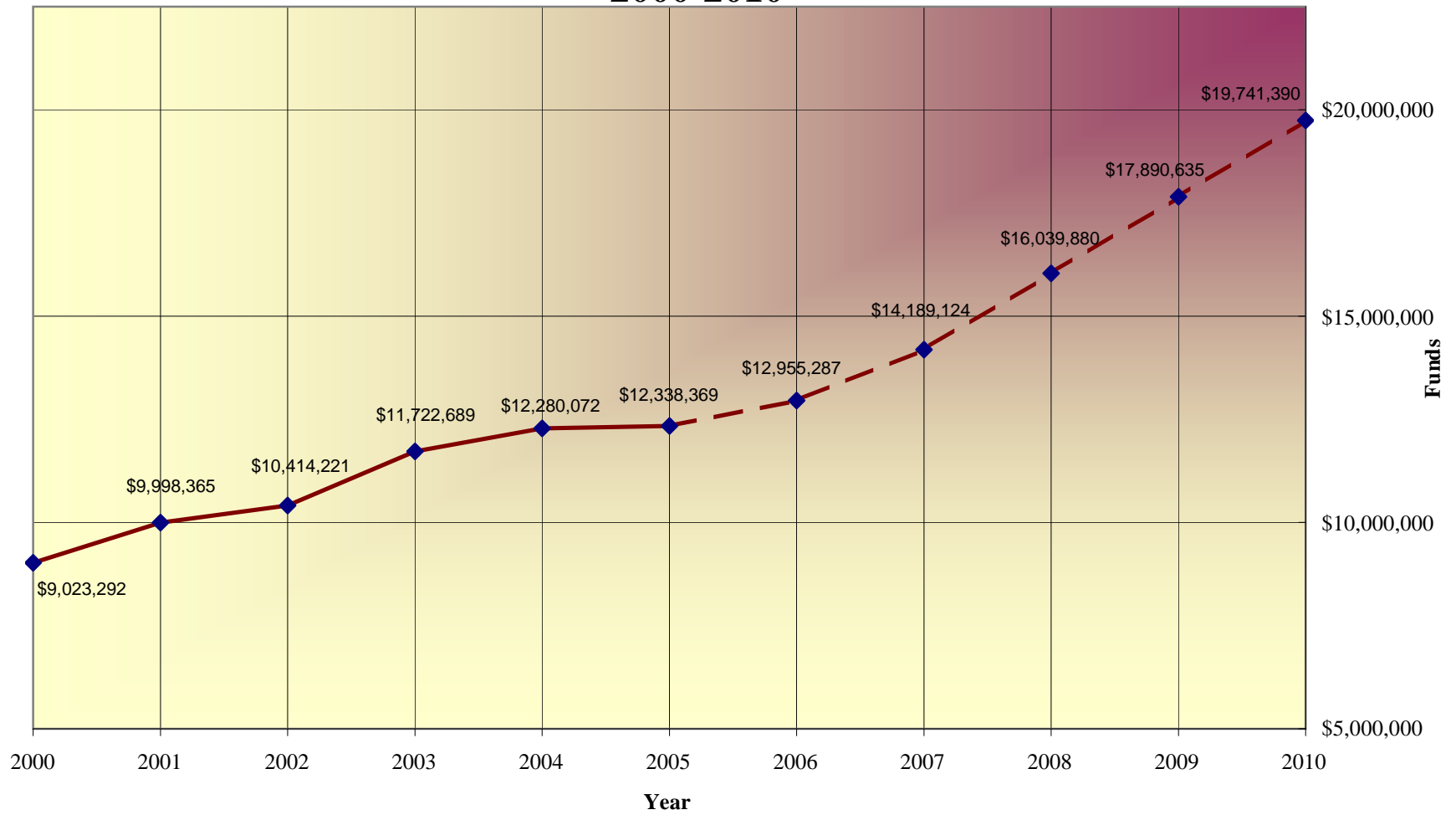


VISION OF EXCELLENCE  
IN  
RESEARCH & GRADUATE EDUCATION

(ABRIDGED)

# TTU Goal Historical & Projected External Funds 2000-2010



External Proposals Funded by Source  
2004-05

	Federal		State		Industry/Local/Othr Govt		Private/Other		Total	
	Proposals Funded	Funds Received	Proposals Funded	Funds Received	Proposals Funded	Funds Received	Proposals Funded	Funds Received	Proposals Funded	Funds Received
APSU	7	\$1,550,516	19	\$803,238	9	\$360,405	4	\$278,869	39	\$2,993,028
ETSU	49	\$14,259,147	53	\$18,235,749	53	\$3,320,166	49	\$2,109,085	204	\$37,924,147
MTSU	25	\$4,017,969	45	\$15,374,574	7	\$83,511	29	\$1,963,577	106	\$21,439,631
TSU	134	\$33,044,225	7	\$112,742	2	\$114,576	11	\$246,423	154	\$33,517,966
TTU	61	\$3,486,617	65	\$7,722,363	16	\$854,393	12	\$274,997	154	\$12,338,370
UoM	76	\$15,742,642	69	\$17,382,488	156	\$6,341,644	20	\$1,010,362	321	\$40,477,136
Universities	352	\$72,101,116	258	\$59,631,154	243	\$11,074,695	125	\$5,883,313	978	\$148,690,278
		48.5%		40.1%		7.4%		4.0%		100.0%

UT (2005 not available until mid December 2005)

External Proposals Funded by Activity  
2004-05

	Research		Instruction/Training		Public Service		Other		Total	
	Proposals Funded	Funds Received	Proposals Funded	Funds Received	Proposals Funded	Funds Received	Proposals Funded	Funds Received	Proposals Funded	Funds Received
APSU	8	\$621,235	17	\$1,951,220	14	\$420,573	0	\$0	39	\$2,993,028
ETSU	45	\$7,402,360	37	\$12,119,666	121	\$17,402,131	1	\$1,000,000	204	\$37,924,147
MTSU	28	\$1,248,802	23	\$3,460,323	53	\$15,512,732	2	\$1,217,774	106	\$21,439,631
TSU	42	\$12,239,095	76	\$15,147,531	24	\$4,820,790	12	\$1,310,550	154	\$33,517,966
TTU	113	\$8,213,658	12	\$1,015,064	24	\$2,600,879	5	\$508,769	154	\$12,338,370
UoM	189	\$26,348,356	21	\$3,975,249	107	\$9,672,083	4	\$481,448	321	\$40,477,136
Universities	425	\$56,073,506	186	\$37,669,043	343	\$50,429,188	24	\$4,518,541	978	\$148,690,278
		37.7%		25.3%		33.9%		3.0%		100.0%

UT (2005 not available until mid December 2005)

External Funds Received During Past 9 Years

	1997	1998	1999	2000	2001	2002	2003	2004	2005
APSU	\$2,400,000	\$2,700,000	\$3,200,000	\$3,500,000	\$4,000,000	\$2,974,694	\$2,707,194	\$1,929,171	\$2,993,028
ETSU	\$13,985,241	\$20,596,210	\$22,164,122	\$27,912,726	\$31,300,000	\$32,975,663	\$35,546,106	\$36,333,065	\$37,924,147
MTSU	\$3,774,836	\$4,408,983	\$4,437,367	\$5,419,385	\$6,239,255	\$6,672,725	\$11,086,881	\$12,941,095	\$21,439,631
TSU	\$22,290,000	\$22,780,000	\$23,200,000	\$24,210,000	\$30,826,244	\$41,420,980	\$41,594,166	\$34,329,379	\$33,517,966
TTU	\$8,874,334	\$8,814,719	\$8,540,879	\$9,023,292	\$10,414,221	\$11,722,689	\$12,280,072	\$12,338,370	
UoM	\$18,003,643	\$19,836,763	\$23,933,719	\$21,786,208	\$23,763,068	\$29,016,158	\$35,973,985	\$41,399,785	\$40,477,136
Universities	\$69,328,054	\$79,136,675	\$85,476,087	\$91,851,611	\$106,126,932	\$123,474,441	\$138,631,021	\$139,212,567	\$148,690,278
		14.15%	8.01%	7.46%	15.54%	16.35%	12.28%	0.42%	6.81%

UT\* 140,054,153 138,106,717 158,867,806 197,148,780 205,070,895 247,396,098 252,848,163 255,002,434 NA until mid Dec

\* Includes: Inst. Of Agriculture, Institute for Public Service, Health Science Center, Knoxville Campus, Space Institute

UT Knoxville	\$73,257,218	\$824,067	\$90,395,516	\$94,511,592	\$116,122,143	\$115,343,071	\$108,973,307	NA until mid Dec
UT Martin							\$4,567,578	NA until mid Dec
UT Chattanooga							\$11,597,549	
UT System Total							\$271,167,561	

## SUMMARY

The members of the Vision Committee and the Graduate Education Taskforce realize that the enterprise to articulate this vision comes at a very important juncture in the history of the State of Tennessee and the TBR system. Our objective was to continue to underscore the fact that public research universities are the most reliable and effective economic engines for ensuring long-term academic, workforce, and financial stability in the State. We also wanted to emphasize the critical role TBR universities, community colleges, and technical centers are presently playing and will continue to play in this endeavor. We envision that there will be a renewed interest in enhancement of the research mission of the TBR institutions allowing them to continue to play a more dominant role in acquisition of knowledge-based learning, in preparation of a highly-skilled workforce, and in achieving regional and state-wide economic stability. The Vision Committee is unanimous in its view that implementation of the recommendations provided in this report will facilitate enhancement of research and graduate education in TBR institutions and beyond. ***We trust that this vision report will inform the campus-specific strategic planning process that is currently underway at several of the TBR universities.***

***It takes a long time to bring excellence to maturity  
Publilius Syrus (Maxims)***

## **A: Transform Existing Culture: Emphasis on Research**

### ***Recommendations:***

- Continue to emphasize the importance of research by the State of Tennessee and the TBR as a fundamental driver for growth and economic prosperity
- Underscore the importance of research and acquisition and dissemination of knowledge-based learning in the mission statements of the TBR and its six universities.
- Facilitate progressive change in campus-wide culture which encourages and rewards research and scholarship in the following areas:
  - Faculty appointment and tenure and promotion process
  - Provision of adequate release time for research faculty
  - Provision of incentives and bonuses to productive research faculty
  - Provision of adequate start-up funds and competitive salaries for newly recruited research-oriented faculty
  - Provision of adequate internal seed funding to support new research projects
- Develop an Annual Research Brochure by TBR to inform the Office of the Governor, the members of the Tennessee Legislature, THEC, the 45 post-secondary TBR institutions, and other public, private, and industry partners of the ongoing research at its universities
- Diversify TBR institutions through determined efforts to recruit and retain underrepresented minority and women faculty
- Encourage THEC to consider including research, scholarship, and creative activities outcomes into the Performance Funding Standards
- Encourage development and implementation of a Research Strategic Plan at each TBR university

## **B: Enhance Research Collaboration**

### ***Recommendations:***

- Enhance collaboration and synergy between TBR universities
  - Provision of seed funding by the State and the TBR for collaborative projects (Approximately \$1 million/year for the next 5-10 years) between TBR institutions including the community colleges and technical centers, between TBR institutions and other universities, and between TBR institutions and the public (e.g. ORNL) and private sectors
  - Establish a review committee composed of experts from both within and outside Tennessee to review grant proposals for seed funding of collaborative projects
  - Require that partners in such grants provide a matching commitment in the form of cash or in-kind

## **C: Enhance Research Funding**

### ***Recommendations:***

- Double extramural research funding from approximately \$53 million (FY 2004) to \$106 million by 2010
- Quadruple extramural research funding from approximately \$53 million (FY 2004) to \$212 million by 2020
- Triple total extramural funding from approximately \$139 million (FY2004) to \$417 million by 2020
- Continue to improve the Federal share of extramural funding to reach approximately 50% of the total by 2010

## **D: Enhance Research Infrastructure**

### ***Recommendations:***

- The State of Tennessee and the TBR must partner with individual university campuses to improve their research infrastructure
  - Ensure that by 2010, each Carnegie Doctoral/Research Universities - Intensive TBR university will move towards acquiring at least one state-of-the-art basic and applied research facility of adequate size to meet the present and growing research and education needs of the institution
  - Ensure that by 2010, the Carnegie Doctoral/Research Universities - Intensive TBR universities (ETSU, MTSU, and TSU) will move towards reclassification as Carnegie Doctoral/Research Universities - Extensive
  - Ensure that by 2010, the two existing Carnegie Master's Colleges and Universities - I institutions in the TBR (APSU, TTU) will move towards reclassification as Carnegie Doctoral/Research Universities - Intensive
  - Ensure that University of Memphis – the only TBR university with Carnegie Doctoral/Research Universities – Extensive classification continues to retain and improve its research status
  - Encourage TBR universities to establish and adequately support core facilities that are critically needed to further their research and education missions
  - Establish state-of-the-art regional core research facilities shared by various TBR and non-TBR institutions
  - Develop a program to ensure that teaching laboratories are adequately housed, equipped, and staffed
  - Encourage our policy makers and legislators to work with the NSF to ensure that the State of Tennessee is eligible to compete for the NSF EPSCoR RII funding, allowing us to improve our research infrastructure
  - Ensure that the State invest in the establishment of a robust cyberinfrastructure. Implementation of the forthcoming recommendations of the TN EPSCoR's CIC are endorsed
  - Ensure that TBR universities have adequate library facilities and print and electronic holdings to meet the present and growing needs of the graduate students and faculty

## **E: Enhance Technology Transfer and Commercialization**

### ***Recommendations:***

- Advocate for the State, TBR, County and City Offices, and individual universities to collaborate to develop business incubators or innovation parks in each research-extensive TBR university by 2008 and explore mechanisms to partner with the neighboring Community Colleges and Technology Centers in this effort
- Incorporate Tennessee Small Business Development Centers as an integral component of these regional incubators or parks
- Encourage TBR and its universities to develop jointly an educational brochure/workshop to inform and encourage entrepreneurship and commercialization of university-developed technology for its faculty, staff, and students
- Establish an RODP curriculum in entrepreneurship leading to a certificate using existing entrepreneurial programs
- Encourage establishment of Research Foundations (501c3) in each TBR university by 2006
- Establish an Office of Research and Technology Transfer at the level of the TBR to facilitate this process (see Section VH)
- Facilitate establishment of Office of Technology Transfer and Commercialization in each TBR university



## **F: Establish a State-wide Science and Technology Advisory Group:**

### ***Recommendations:***

- The State of Tennessee should consider establishing a State-wide Science and Technology Advisory Group which must include:
  - Associate Vice Chancellor for Research, TBR
  - Vice President for Research, UT System
  - Vice President for Research, Vanderbilt University
  - President, Oak Ridge Associated Universities
  - Director, Oak Ridge National Laboratories
  - President, Tennessee Independent Colleges and Universities Association
  - Executive Director, EPSCoR
  - Vice President for Research, Tennessee Valley Authority
  - Head of R&D at two or three private industries in the area of biotechnology, manufacturing, engineering, etc.
- The primary function of this group is to:
  - Develop and implement State-wide strategic plans for the enhancement of research and collaborations
  - Serve as an advisory to the Governor, the Tennessee Legislature, THEC, and TBR and inform them on issues related to research
  - Work collaboratively with other State agencies to enhance economic development and education and training of skilled workforce for advanced technology-based industry

## **G: Establish a TBR System-wide Research Council:**

### ***Recommendations:***

- TBR must consider establishing a system-wide Research Council which includes:
  - Chief Research Officers of the six TBR universities
  - Vice Chancellor for Academic Affairs, TBR
  - Vice Chancellor for Administration and Finance, TBR
  - Associate Vice Chancellor of Research, TBR (Chair)
  - Associate Vice Chancellor for Research & Assessment, TBR
  - Director, Technology Transfer, TBR
  - Chief Information Officer, TBR
- The primary function of this group is to:
  - Develop and implement system-wide strategic plans for the enhancement of research and collaborations
  - Facilitate development and implementation of policies and procedures which encourage system-wide enhancement of research
  - Assist the TBR Office of Research and Technology Transfer (proposed in Section H below) in the implementation of this vision
  - Serve in an advisory capacity to the TBR Board, the Chancellor, and the University Presidents and Chief Academic Officers
  - Review strategic areas of research interests for the TBR based on the list provided in Section IV of this report
  - Recommend strategies to align faculty research expertise with national and regional workforce needs
  - Facilitate development and implementation of policies and procedures which encourage system-wide entrepreneurship and university-based technology commercialization
  - Develop strategies to improve cyberinfrastructure in the State and in the TBR institutions
  - Facilitate development of a model that links faculty workload to research, mentoring and teaching of undergraduate and graduate students

## **H: Establish an Office of Research and Technology Transfer - TBR**

### ***Recommendations:***

- TBR must establish an Office of Research and Technology Transfer which is located within the Academic Affairs, this office must be provided with adequate funds to support on-going initiatives and adequately staffed as follows:
  - Associate Vice Chancellor
    - A researcher of national significance must be recruited to provide a leadership role in this position
    - Serve as Chair of system-wide Research Council
  - Director, Technology Transfer
  - Director, Research Collaborations
  - Administrative Assistant
- The primary function(s) of this office will be to (among others):
  - Facilitate growth of research and technology transfer across all TBR institutions
  - Develop productive relationships with other public and private universities, institutions, and industry partners
  - Inform and educate key stakeholders about the importance of research in higher education
  - Develop and disseminate Annual Research and Technology Transfer Reports
  - Provide assistance and support to system-wide Research Council
  - Provide oversight of the timely execution of the recommendations of this vision report
  - Support Office of Technology Transfer at individual TBR university campuses
  - Develop and maintain a central repository of faculty experience and expertise

## **I: Centers and Chairs of Excellence: Enhanced Emphasis on Research**

### ***Recommendations:***

- Greater emphasis must be placed by the THEC and the TBR on discovery and innovation and reliance on extramural research funding to support growth and scholarly activities in the Centers and by the Chairholders
- THEC and TBR must exercise greater level of oversight of Centers and Chairs of Excellence to assure:
  - Accountability
  - Resourcefulness
  - Outreach programs
  - Level of integration into campus-related activities
  - Alignment of mission with State and institutional priorities
- TBR and its institutions must maintain a longitudinal database of acquired extramural research and public service funding, scholarly publications, and other such related activities by the Centers and the Chairholders
- THEC, TBR, and its universities must facilitate greater integration of these Centers and Chairs into graduate and undergraduate teaching and training
- THEC and TBR must develop a standardized assessment tool to periodically review the progress of a Center or a Chair with the ultimate objective of evaluating its regional and national role in enhancing research, scholarship, creative activities, public service, public-private industry partnerships, and undergraduate and graduate education

## **J: Enhance Graduate Education and Research**

### ***Recommendations:***

- The important link between research and graduate education must be emphasized by the TBR and its universities
- Each TBR university must be encouraged to focus on enhancing the quality of its existing graduate programs
- Initiation of new Masters and Doctoral programs must be facilitated by THEC and TBR on the basis of need, uniqueness, and institutional strengths and expertise
- TBR must continue to facilitate development of interdisciplinary Masters and Doctoral programs at its universities
- TBR must continue to facilitate development of collaborative inter-university (within the TBR system) Masters and Doctoral programs in the State
- TBR must encourage its Centers of Excellence to actively support graduate education initiatives by involving graduate students in research and by providing them with assistantships and other forms of financial support
- TBR universities must be encouraged to increase the number of available assistantships to approximately 20% of its total graduate enrollment by year 2010
- TBR universities must be encouraged to provide competitive stipends and health benefits to recruit and retain outstanding graduate students
- TBR universities must be encouraged to allocate a portion of their indirect cost recovery from research grants and contracts to support graduate education initiatives
- TBR must continue to seek funding from the State and/or other resources to provide scholarships to outstanding graduate students
- To maintain diversity, TBR institutions must make every effort to recruit and retain underrepresented minority and women students

## **K: Enhance Undergraduate Research**

### ***Recommendations:***

- TBR must promote and facilitate the recognition of the importance of research and knowledge-based learning for undergraduate students
- TBR and its institutions must facilitate systematic integration of research into the undergraduate curriculum
- TBR universities must be encouraged to allocate a portion of their indirect cost recovery from research grants and contracts to support undergraduate research initiatives
- TBR and its institutions must facilitate development of a model that links faculty workload to research mentoring of undergraduate students
- TBR and its institutions must be encouraged to obtain extramural funding to support the establishment and growth of undergraduate research programs on their campuses
- TBR must continue to seek funding from the State and/or other resources to provide scholarships to outstanding undergraduate students to engage in research at its universities
- Each TBR university campus must establish an Office or a Center for Undergraduate Research to facilitate this process
- Students who participate in undergraduate research and satisfy the requirements should graduate as Regent's Research Scholars and have this distinction duly noted on their transcript