



Outline of Testimony

Senate Subcommittee on Higher Education
Charge #5—Research
July 23, 2008

Commissioner Raymund A. Paredes

Committee Charge:

Study research funding and assess the research infrastructure and capabilities at higher education institutions. Make recommendations for streamlining the various sources of funding (Texas Competitive Knowledge Fund, the Research Development Fund, and the Advanced Research Program) and for developing a statewide strategy for increasing research at higher education institutions, including ways to improve research commercialization.

Overview:

- I. ***Closing the Gaps* established a specific target for federal science and engineering R&D occurring at Texas universities.**
 - a. Increase overall federal obligations from 5.5 percent to 6.5 percent by 2015.
 - b. Increase overall research expenditures from \$1.45 billion to \$3 billion.

- II. **Texas has slipped in federal research obligations and is below targets for meeting goals of *Closing the Gaps*.**
 - a. Texas' federal research obligations have increased by \$561 million since 1999.

- b. However, because obligations in other states have increased at a faster rate, Texas has slipped from 5.6% of all federal obligations in FY2004 to 5.5% of obligations in FY2005 (the most recent data available).
- c. We experienced significant growth in obligations early in *Closing the Gaps*, but since 2003 our obligations have only grown by 0.8 percent, compared to 9.7 percent in peer states.

III. Most of Texas research funds come from the federal government.

- a. Approximately 55 percent of all funds are from federal sources.
- b. State appropriations and other state sources account for 13 percent, while private and institutional sources account for 16 percent and 10 percent, respectively.
- c. Comparatively, California receives close to 62 percent of their research funds from the federal government and only 4 percent from the state. Institutions also pick up a greater share of their expenditures—approximately 19 percent.

IV. In 1987, the Texas Charter for Higher Education recommended that state research be funded via the following mechanisms:

- a. Research enhancement programs
- b. Advanced Research Program
- c. Advanced Technology Program
- d. Direct appropriations (e.g. special items)
- e. Indirect cost recovery for research overhead

V. The Advanced Research and Advanced Technology programs were created by the Texas Legislature in 1987.

- a. The ARP is designed to support basic faculty research at Texas' institutions.
- b. The ATP is designed to support applied research in targeted areas to facilitate commercialization.
- c. Funding for these programs has dropped significantly in recent biennia.
- d. ATP has not been funded since the 78th Legislature, and while ARP funding was enhanced last session to \$16.4 million, it was

far short of the Coordinating Board's LAR request for \$75 million.

VI. The Research Development Fund (RDF) helps expand and enhance research capacity at Texas' institutions.

- a. The RDF is the result of consolidation between the Texas Excellence Fund and the University Research Fund and has been operational since FY 2006.
- b. This biennium it was funded at \$80.9 million.
- c. Funds are available to all public institutions via a set allocation formula, with exception of UT-Austin, TAMU, and Prairie View A&M.
- d. These funds are designed to support facility and equipment associated with research, as an example.

VII. The Emerging Technology Fund is designed to fund applied technology research that will facilitate commercialization.

- a. The Fund was created and trustee to the Office of the Governor in 2005.
- b. It is designed to support research and related activities that result in job creation or scientific breakthroughs that will spur commercialization and economic development.
- c. The Fund is directed in three specific areas: 1) support public and private collaborative research; 2) provide matching grants to innovative projects; and 3) attract top research talent to Texas.
- d. During the current biennium, the Fund was appropriated \$117.3 million, for a total of \$317 million since the Fund's establishment.

VIII. The Competitive Knowledge Fund was established by the 80th Texas Legislature to enhance support of faculty for instructional excellence and research.

- a. The Fund is restricted to UT-Austin, TAMU, the University of Houston, and Texas Tech University.
- b. The Legislature appropriated \$93.2 million this biennium.

IX. The Cancer Prevention and Research Institute was created by the Texas Legislature and funding was approved by state voters in 2007.

- a. The Institute is authorized to utilize up to \$3 billion in general obligation bonds over ten years—\$300 million annually.
- b. The bonds will be used as matching grants to institutions and other research organizations starting in 2010 that are dedicated to finding medical breakthroughs related to cancer.

X. The Legislature, from time to time, authorizes direct appropriations for special items related to research and research-related activities.

- a. Last session, the Legislature appropriated approximately \$260.3 million for in special items for research.
- b. An example of such an item is the McDonald Observatory at the University of Texas.

XI. Finally, in 2003 the Texas Legislature adopted the Texas Charter's recommendation to allow institutions to utilize 100% of indirect cost recovery.

- a. Prior to the 78th Legislature, institutions could only utilize 50 percent of their indirect costs.
- b. Since FY 2004, the Coordinating Board estimates that this change has resulted in an additional \$230-\$290 million for additional research investment.

XII. Texas has been conscious of the need to increase institutional research for many years. However we are not keeping pace with peer states which could affect our global economic competitiveness.

- a. We are well below our *Closing the Gaps* targets for research despite the fast start we had earlier this decade.
- b. Texas needs to continue investing in both applied and basic research at all levels in a more concerted and aggressive way if we are to keep up.
- c. Texas must continue to strengthen research capacity at our existing national research institutions so that they remain competitive.

- d. Texas must invest in targeted research excellence at our regional institutions.

XIII. Investment in research pays demonstrable benefits to the state.

- a. A recent analysis of the Advanced Research Program specifically found direct economic benefits such as licensing revenues and commercialization benefits that resulted in more than \$900 million in economic returns for the \$161 million in state investment.
- b. This means Texas gets \$5.70 for every \$1 it invests in research and research-related activities.