

# UH System/University of Houston Chancellor/President Renu Khator

Testimony to the House Higher Education Committee

October 5, 2012

---

**Charge:** *Review the various research funding programs available to institutions of higher education. Analyze the effectiveness of each program and recommend whether state funding should be continued. Consider whether the investments made in these programs are attracting research projects to Texas and whether more emphasis should be placed on policies that attract outside research funding to Texas. Consider whether maintaining multiple programs dilutes the state's efforts to attract groundbreaking research to Texas.*

## **Introduction**

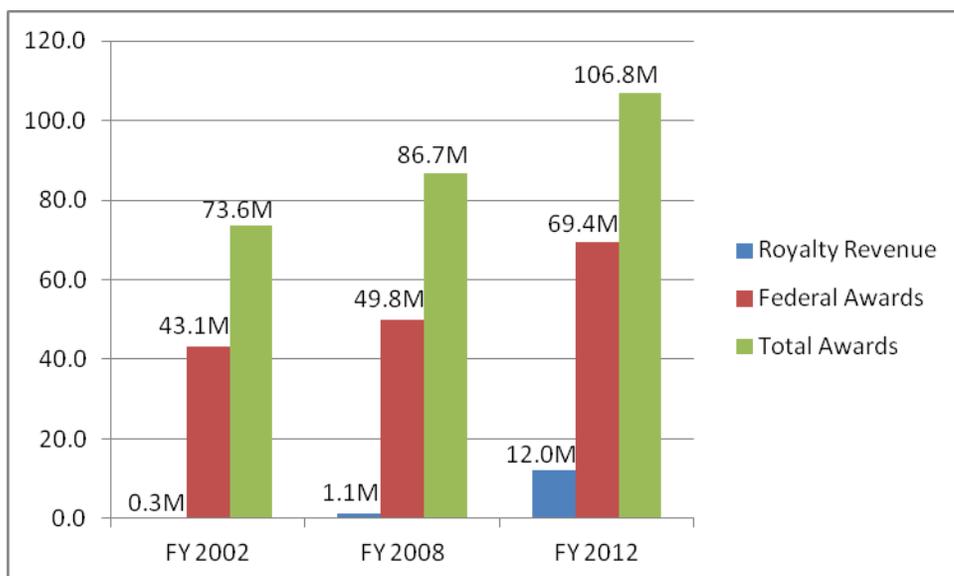
Over the past decade, the Texas Legislature has created four funds designed to enhance the research productivity of the state's public universities: the Research Development Fund (RDF), the Texas Competitive Knowledge Fund (TCKF), the Texas Research Incentive Program (TRIP), and the National Research University Fund (NRUF). Taken together, these funds constitute one of the most important initiatives undertaken in American higher education in recent years – a firm recognition that Texas must develop more nationally competitive, Tier One research universities if the state is going to compete and succeed in the global economy. Tier One universities are essential to discovering new knowledge; building a highly educated workforce; developing and commercializing new technologies; bringing the most talented students, faculty and companies to Texas; and preventing a loss of local talent to other states. They return many times more to the state economy than what is invested in them. Since 2000, total research expenditures at Texas public universities have more than doubled, increasing from \$1.6 billion to \$3.7 billion in 2011. This progress would not have been possible without the state's creation of these four Tier One funds.

## **Impact of Tier One Funding on the University of Houston**

The University of Houston has received appropriations from these funds since the 2003 creation of the Research Development Fund. Last year, UH's combined appropriations from the RDF, TCKF, TRIP and NRUF totaled \$24.4 million. Without question, these appropriations – which have increased over the years with the addition of each new fund – have enabled UH to transform itself into a nationally recognized Tier One institution. The university's accomplishments are comprehensive. They include greatly enhanced research productivity, the addition of world renowned faculty, and a steady climb up the national rankings.

### → Research Productivity

As the chart below demonstrates, UH has experienced significant growth in federal research awards, total research awards, and royalty revenues over the past 10 years:



Total research awards have increased by 45%, federal awards by 61%, and, particularly noteworthy, royalty revenue is 40 times greater than it was 10 years ago. This extraordinary growth is due in large part to the development and commercialization of two drugs, one of which is used to treat epilepsy, the other to treat cancer. This is a dramatic example of how intellectual property can serve not only to enhance research productivity and economic development but also to extend and save human lives.

→ Faculty Achievements

The core strength and reputation of a Tier One university lies in its ability to attract scholars of national prominence. Indeed, the University of Houston has been assembling a faculty of remarkable achievement over the past several years. Today the University of Houston has 11 national academy members, placing the university among the top 50 public institutions nationally. Membership in a national academy represents the highest level of achievement for a faculty member in the sciences, engineering and medicine. Similarly, last year a record eight UH faculty members received National Science Foundation CAREER Awards. Given to early-career scholars of exceptional promise, these awards reflect well on the quality of young faculty UH is recruiting. Finally over the past five years, the number of times UH faculty scholarship has been cited in academic publications has doubled (from 21,000 to 41,000). Less acknowledged than research awards but equally important, citations are a strong indication of the quality of UH faculty work and its respect among peers.

→ National Rankings and Recognitions

The culmination of these accomplishments is that the University of Houston's reputation as a Tier One university is on the rise, as demonstrated by national rankings and recognitions UH has received from organizations that evaluate quality and productivity in higher education. Over the past few years alone, the University of Houston has received the following recognitions:

<b>Organization</b>	<b>Recognition</b>	<b>Year</b>
Top American Research Universities (TARU)	Top 50 rankings for endowment, annual giving, and national academy members	2009-2011
Carnegie Foundation	Very High Research University Status (Tier One)	2011
Association for University Technology Managers	Ranked 17 <sup>th</sup> nationally among public universities for royalty revenue	2011
Chronicle of Higher Education	Best Colleges to Work For	2011-2012
Princeton Review	Best Value College	2012
Princeton Review	Best 377 Colleges for Undergraduates	2013
U.S. News & World Report	Top 200 national universities	2013
U.S. News & World Report	Ranked 7 <sup>th</sup> for students graduating with least amount debt	2013

An examination of these recognitions reveals that not all are focused on research excellence, but on other aspects of institutional performance not directly supported by the Tier One funding sources the state has created – undergraduate education, affordability, private support, work environment, the quality of the institution as a whole. However, it is important to recognize that the RDF, TCKF, TRIP and NRUF have had a profound impact on the culture of the University of Houston – inspiring excellence across all facets of our operations. Therefore, none of these accomplishments would have been possible without the state’s support for UH to become a Tier One institution and the university’s ability to rise to this challenge.

### **National Research University Fund**

One of the University of Houston’s most important recent achievements is meeting the very high criteria necessary to qualify for the National Research University Fund. UH joins Texas Tech University as the first institutions to qualify for NRUF, with each university receiving annual appropriations of \$7.8 million. A question posed in the charge to the Committee on Higher Education is whether maintaining separate funds for Tier One excellence dilutes their potential impact. The University of Houston has already addressed this issue. Rather than consider our NRUF appropriation a discrete source of funding, UH has combined it with appropriations from the RDF, TCKF and TRIP to form the University of Houston Research Investment Fund (UH-RIF). Given the extraordinary costs of the research enterprise, doing so will enable us to maximize their value to the institution.

Resources allocated from the UH-RIF will be used to fund the university’s highest research priorities, with preference given to the development of core facilities to be shared by multiple faculty across multiple disciplines in the university’s most productive/promising areas of research, most notably energy and the health sciences. Central to UH’s research activities in these fields are the Energy Research Park (ERP), a 64-acre warehouse and office complex one mile from campus, and a new Health and Biomedical Sciences Building, which will be completed this fall. Both facilities have significant infrastructure needs that will be met through resources from NRUF and the other state funds that comprise the UH-RIF. For example, a significant part

of the university's initial NRUF appropriation of \$7.8 million will be invested in animal care facilities in the Health and Biomedical Sciences Building. Other major projects to be funded include a core imaging facility, an academic computing facility, and start-up resources for the targeted hiring of 60 new faculty members in STEM disciplines – one of universities top priorities over the next two years.

### **Looking to the Future – Increased Funding for Tier One Research Excellence**

In general, the resources allocated to research activities begin to produce results three to five years after initial investment. Therefore, the resources invested in the Research Development Fund, Texas Competitive Knowledge Fund, and Texas Research Incentive Program have already yielded enhanced research productivity at the recipient universities, with recent investments in the National Research University Fund certain to follow. We believe the state is earning a good return on these investments. Therefore, as we look ahead to the 83<sup>rd</sup> Texas Legislature, we will encourage members to maintain and expand if possible the state's appropriations to these funds. We realize that these are difficult economic times and that resources are scarce. We believe, however, that the sustained development and expansion of Tier One research universities is essential to the long term economic prosperity of Texas.