Presentation to the Senate Subcommittee on Higher Education

Dr. Renu Khator, July 23, 2008

Introduction

To begin, I would like to thank and commend the Texas Legislature for taking up the issue of tier-one universities – a discussion, I am told, that began in this state 10 years ago and led to the creation of the Research Development Fund and the Texas Competitive Knowledge Fund. Both of these funds are incredibly important to the University of Houston as we pursue higher levels of research excellence.

Need for Tier-One Universities

In my estimation, the issue of tier-one universities is one of the most important in Texas higher education today. If the state is to thrive in the global economy, more tier-one universities must be developed:

- Tier-one universities are the best way of developing a highly-skilled workforce, particularly in the sciences, engineering, and professional fields critical to economic success.

- The presence of more tier-one universities will expand the high quality educational opportunities available to Texas students – keeping more of them in the state for college – and will also attract more top students from other states and nations.

- Creating additional tier-one universities will enable Texas to attract more top scientists, engineers and scholars to the state – thereby increasing the amount of external research dollars brought to the Texas economy (especially from the federal government). It will also allow us to produce the next generation of top scientists, engineers, and scholars at our own state institutions.

- Research partnerships between tier-one universities and industry are an important source of economic development in the form of technology commercialization, spin-off companies, and job creation.

Definition of Tier-One

While there is no established criteria for what constitutes a tier-one research university, in general, they can be characterized by the following:

- High levels of external research funding and scholarly publications
- Nationally recognized academic programs and faculty
- A major emphasis on graduate education, especially at the doctoral level
- Highly qualified students – both graduate and undergraduate
- High levels of private support

Over the years, several national organizations have classified, ranked or evaluated universities, including:

- The Carnegie Foundation for the Advancement of Teaching
- The Association of American Universities
- The Center for Measuring University Performance (Top American Research Universities report)

And while these organizations highlight universities of significant achievement, none has specifically sought to create a definition of a tier-one research university. Nor do I believe we should adopt one of these organizations as the standard bearer.

Instead, a Coordinating Board definition may serve us best.

Several years ago, when the CB created the state accountability system, it created peer groups of comparable universities, including "research universities" and "emerging research universities" among others. The criteria for a research university – which only UT-Austin and Texas A&M currently meet – are:

- Comprehensive range of excellent undergraduate and graduate programs
- 100 or more doctoral degrees awarded annually in at least 15 disciplines
- $150 million in research expenditures annually

I believe this is a simple but adequate definition of a tier-one university.

Texas Compared to California and New York

Using these criteria, it is apparent that Texas falls short in the number tier-one universities relative to other large states. Texas, California, and New York are the three largest states in terms of population and gross domestic product, yet California has nine tier-one universities, New York has eight, while Texas has two.

	Population[1]	GDP[2]	Tier-One Universities
Texas	23.9M	$1.1T	2
California	36.6M	$1.8T	9
New York	19.3M	$1.1T	8

1. U.S. Census, 2007 data
2. U.S. Department of Commerce, Bureau of Economic Analysis, 2007 data

Candidates for Tier-One

With that said, not all universities in the state can be elevated to tier-one status. In fact, given limited state resources, not all of the emerging research universities can be elevated to tier-one. From the University of Houston's perspective, two criteria take precedence:

- First, which universities in the state are closest to achieving tier-one in terms of their research productivity? Achieving tier-one is an expensive proposition, so the Legislature should consider only those institutions closest to achieving it.

- And second, which universities have the broadest impact on the state – either by serving statewide constituencies or by serving one of the state's major metropolitan areas?

Texas is dominated both economically and demographically by its metropolitan areas. Today, 64.2% of the state's population lives in its four largest urban areas (Houston, Dallas-Fort Worth, San Antonio, Austin). More strikingly, these metropolitan areas account for 77.4% of the state's economy.

Under these criteria, the University of Houston should be considered a strong candidate for becoming the state's next tier-one university:

- At $73.5 million, research expenditures at UH are the highest among the state's emerging research universities.

- The Houston metropolitan area – representing 24% of the state's population and 32% of its economy – is also critical to the economic well-being of the state.

Resources Required for Tier-One

To determine the resources needed to create an additional tier-one university in Texas, it is instructive to look at the way the Permanent University Fund (PUF) has been used to support the state's two existing tier-one universities: UT-Austin and Texas A&M.

Through the "excellence" component of the PUF, UT-Austin and Texas A&M received $144 million and $84 million respectively in FY 2008. This level of support – year-in and year-out – has enabled these universities to become two of the finest public universities in the nation and of tremendous value to the state of Texas. In fact, the Center for Measuring University Performance in 2007 classified UT-Austin and Texas A&M as the second and third best public universities in the nation without a medical school, behind the University of California-Berkeley.

On a per-student basis, PUF excellence funding amounts to $2,861 per student at UT and $1,809 per student at A&M.

In my estimation, a comparable level of annual funding would be needed to elevate any of the "emerging research" universities to tier-one status. For the University of Houston, for example, this would amount to approximately $70 million per year in increased funding on a recurring basis.

Research Excellence Funding

In addition to base formula funding and special item funding, the University of Houston has two primary sources of funding that it invests toward achieving its goal of becoming the state's third public tier-one university – the Research Development Fund and the Texas Competitive Knowledge Fund.

	UH FY08 Appropriation
Research Development Fund	$7.5M
Texas Competitive Knowledge Fund	$4.1M

I would like to thank the Legislature for creating these funds. This is the best move since the creation of the PUF over 100 years ago for building academic and research excellence at Texas universities.

Unfortunately, the Research Development Fund and the Competitive Knowledge Fund are not sufficiently funded right now for the creation of more tier-one universities. My goal is to increase research expenditures at UH to $150 million in the next five years and thereby enter the top tier of American research universities. To achieve this very ambitious goal will require resources comparable to the PUF excellence funding.

Matching Gift Program

In part, this can be accomplished through increases to the Research Development Fund and the Competitive Knowledge Fund. But I believe a bold new transformational program is in order – one that brings the private sector into our discussion of funding for higher education – especially when it comes to finding the resources needed to create more tier-one universities.

Given limited resources, enhancing the research capacity at Texas universities is not an expense that can be borne by the state alone. Rather it requires a partnership with the private sector, which will be a long-term beneficiary of these investments.

A major matching gift program – through which the state would match private gifts for research-related activities – could produce immense rewards and enhance statewide economic development. Through university-industry collaborations universities could create stronger centers of excellence in research and create an atmosphere for industry to quickly move to commercialize new technologies.

In the coming months, I would like to work with you and our university colleagues around the state to explore some creative ways in which we can engage corporations, foundations and individuals in helping us accomplish the state's higher education research goals.

I will be happy to answer any questions.