University of Houston
Administrator's Statement

UH Overview and Goals:

The University of Houston is part of the state-supported system of higher education in Texas, serving 37,000 students and generating approximately $99 million in externally funded research expenditures annually. UH is the flagship institution of the University of Houston System and its principal doctoral degree-granting institution. As such, it has the traditional functions and obligations of a comprehensive research university:

- The full range of undergraduate through post-doctoral academic programs,
- Nationally recognized quality in its programs and faculty,
- Extensive externally funded basic and applied research, and
- Diverse cultural and public service programs of benefit to the community and the state.

Led by Chancellor/President Renu Khator and the Board of Regents, the University of Houston has been engaging during the current biennium in a comprehensive strategic planning process through which a new mission statement, goals, accountability measures and enrollment and research projections for 2020 have already been developed, while an academic master plan and facilities master plan are in the process of being developed. Once completed, these plans will identify the programs, faculty, staff and infrastructure needed to achieve the 2020 enrollment and research projections, as well as the resources needed to get there. Central to the university's future are it new goals: student access and success, national competitiveness, and community advancement, all of which further the state's goals for higher education identified in "Closing the Gaps," as well as the social and economic well-being of the Houston metropolitan area – UH's primary service area.

Student Access and Success

The University of Houston is strongly committed to undergraduate education and moving students from admission to graduation while maintaining rigorous academic standards. As the demands and requirements of our population and economic/industrial base increase, a citizenry educated through the baccalaureate has become imperative for the future success of our state. Houston and the Upper Gulf Coast region are critical to this success, and as the region's largest provider of baccalaureate services, the University of Houston's responsibility is significant. UH is working hard to ensure that students have the support they need to complete their degrees in a timely manner. Much progress has been made in this regard. For fall 2010, UH is estimating a record high six-year freshman graduation rate in excess of 45%, which is a 10% increase from last year. We are also projecting baccalaureate degrees awarded in FY10 to exceed 5,000 – again an institutional record. The University of Houston has achieved these results by implementing several new student retention and graduation initiatives. These include increasing the number of academic advisors on campus and the availability of financial aid, as well as implementing a four-year graduation pledge and scholarship reward program for freshmen who complete at least 30 credit hours per year. We have also guaranteed that the University of Houston will cover the tuition and fees of students whose families earn less than $45,000 per year through a program called the Cougar Promise. Looking ahead, beginning in Fall 2012 the university will implement new admissions standards for incoming freshmen, recognizing the link between academic preparation for college and student success. It is also important to note that UH continues to be the most diverse research university in the nation, with no ethnic group constituting a majority of students.

National Competitiveness

In addition to its instructional goals, the University of Houston is committed to the discovery, dissemination, and application of knowledge. As we look to FY12 and FY13, becoming the state's third tier-one research university will remain the University of Houston's highest priority. In FY10, research expenditures at UH were $99 million– a record high for UH and the third highest among Texas public universities behind UT-Austin and Texas A&M. To become a tier-one university, UH must increase these expenditures to $150 million. Our goal is to reach this mark in five years. To do so, we plan to hire

clusters of science and engineering faculty in areas of research strength for the university that align with industry needs – including the health sciences, energy, and complex systems. Our expectation is that these clusters will bring with them $10-20 million in research funding to the University of Houston. Only in this way will we increase our research expenditures to $150 million in five years. Our requests for exceptional item funding – identified among our legislative priorities below and described in our LAR – focus on the state resources needed to hire these clusters.

Community Advancement

Unlike most other Texas universities, UH is a metropolitan university, whose mission is focused on advancing the community in which it is located. An economic impact study conducted by UH economist Dr. Barton Smith estimates that our impact on the Houston economy exceeds $3 billion on a biennial basis. However, given the size and quality of UH, our impact extends far beyond the Houston metropolitan area – our reach is truly world-wide. Apart from its direct economic impact, the University of Houston has a multitude of programs that enhance the quality of life in Houston and beyond. Among them are the Center for Public Policy, the Health Law and Policy Institute, and the Texas Institute for Measurement, Evaluation and Statistics (TIMES), which addresses one of Texas's and the nation's most important challenges – the English reading skills of elementary school students for whom English is not their primary language. The success of these programs has been based in part on special item funding from the state. Building upon our programs in education and community advancement is also central to the University of Houston's tier-one goals. Therefore, an exceptional item request has been included in our LAR to support these activities.

UH 2011 Legislative Priorities

None of the accomplishments the University of Houston has made in the areas of student success, research, and community advancement would have been possible without strong support from the Texas Legislature, and as we look to the 82nd session, we will again seek the investments from the state needed to build on the momentum achieved over the past several years. We do so, however, with full recognition of the unprecedented budget deficits the state is facing and the difficult decisions that lie ahead. We hope that in making budgetary decisions you will give strong consideration to the University of Houston's legislative priorities, given the importance of higher education to the future of Texas.

I. ADEQUATE AND FAIR FUNDING FOR STUDENTS

1. Base Formula Funding

   As demands on our universities grow, it is imperative to provide adequate resources for basic educational services through the formulas. Without sufficient base formula funding universities will not be able to accommodate enrollment demand through course delivery; we will not be able to enhance program quality by recruiting and retaining exceptional faculty members; and we will not be able to enhance student success through academic support services. In short, we will not be able to achieve the goals of "Closing the Gaps." The University of Houston encourages the Legislature to provide sufficient funding for the formula so that it covers at least current services (growth plus inflation) at the state's universities.

2. Pharmacy Formula Funding

   Currently, there is considerable disparity between the funding for Texas pharmacy programs that are funded through the health sciences formula versus those that are funded through the formula for general academic institutions (with programs at the general academic institutions, including the UH College of Pharmacy, receiving significantly less funding on a per student basis). The University of Houston encourages the Legislature to appropriate additional funds to the Pharmacy programs at the general academic institutions in order to achieve equity.

3. Financial Aid/TEXAS Grants

   In addition to resources for university operations, state funding for student financial aid is essential if Texas is to expand access to higher education and facilitate student graduation. This is

especially true at the University of Houston, where the education of many of our students is not paid for by their families. Rather our students typically work to pay for college and rely heavily on financial aid. Therefore, the University of Houston encourages the Legislature to increase funding for TEXAS Grants.

II. TIER-ONE INITIATIVES

4. State Funding Programs for Tier One Universities

   Combined, the Research Development Fund, Texas Competitive Knowledge Fund, and Texas Research Incentive Program constitute an innovative and powerful tool for developing more nationally-competitive tier-one research universities. They are of critical importance to the continued growth of Texas' economy and advancement in significant areas of research and industry. They are also the primary resources through which UH funds its national competitiveness/tier-one goals. The University of Houston recommends increased appropriations to each of these funds.

5. Distribution Methodology for the National Research University Fund

   With the creation of the National Research University Fund, the state has once again added an important element to its portfolio of resources dedicated to creating more tier-one universities in the state. What remains to be accomplished is the development of a distribution methodology to support the emerging research universities once they qualify for funding. The University of Houston encourages the Legislature to develop an NRUF distribution methodology during the upcoming legislative session.

6. Funding for Special Items and Exceptional Items

   Each year the Legislature funds numerous programs at the University of Houston that fall outside the scope of formula funding. These programs have a tremendous impact on our academic programs, research endeavors and the communities we serve. For FY12 and FY13, the University of Houston is requesting exceptional item funding for the following four initiatives that directly support the university's goals of national competitiveness and community advancement (as described above):

Exceptional Items	*Biennial Request*
Tier-One Initiative – Health Sciences Research Cluster	$5.0 million
Tier-One Initiative – Energy Research Cluster	$5.0 million
Tier-One Initiative – Complex Systems Research Cluster	$5.0 million
Tier-One Initiative – Education and Community Advancement Research Cluster	$1.5 million

III. ADEQUATE FACILITIES

7. Tuition Revenue Bonds

   Maintaining quality in our classrooms, laboratories, libraries and equipment is critical to achieving the University of Houston's goals of academic and research excellence. And as the number of students and faculty on campus grows, so too does the need for expanded and better infrastructure. Tuition revenue bonds are vital for addressing these needs. As part of its FY12-13 LAR, the University of Houston has requested TRBs for a new Nanotechnology Science & Engineering Research Building, for a new building for the College of Pharmacy, and for renewal of the central plant and utilities infrastructure on campus. The new research building is needed to accommodate the university's investments in the new faculty, research staff, graduate students and equipment

needed to achieve our ambitious research goals. The new Pharmacy building will provide the space needed to support the growth in enrollment and research activity planned for the college. The central plant renewal is needed to repair, expand and upgrade UH's major utility infrastructure systems, which are long past their life expectancy.

Approach to 10 Percent Base Reduction

As requested, the University of Houston has developed a scenario through which 10 percent of base resources has been reduced from designated groups of funds. For UH this totaled $3 million, the loss of which would have a significant negative impact on the university's ability to achieve its goals, as well as those identified in "Closing the Gaps." For UH, the choice was between absorbing the cuts in its special items, thereby impairing progress on the university's national competitiveness and community advancement goals, or absorbing the cuts in fund groups used to support the general operations of the university, thereby compromising the advancement of all of the university's goals. Ultimately, we decided to limit cuts to the latter (Institutional Enhancement, Worker's Compensation Insurance) to 5 percent, thus requiring a reduction to special items of 12.5 percent per program.

Finally, while we believe that increased funding for higher education and the University of Houston is important to the future of Texas, we also realize that universities must be good stewards of the dollars with which they are entrusted. The University of Houston is committed to this principle. Accomplishing our goals, we believe, is predicated on effective management of resources, which the University of Houston strives to achieve. For example, in addition to the state's 5% reduction to the university's appropriations for FY10 and FY11, we have reallocated an additional $16.5 million from low priority areas to high priority areas for the current biennium. The university has very ambitious goals that cannot be funded by the state and students alone. We must be equal partners in moving the institution forward.

University of Houston

Texas Center for Superconductivity
(Existing Item)

Description and Justification
TCSUH was created in June 1987 by the Texas Legislature to establish a world class center to conduct long-term multidisciplinary r&d, education and technology transfer programs in high temperature superconductivity (HTS) and related materials. Its charge was to advance and continue the momentum at UH created by the discovery of a new class of materials by Dr. Paul C. W. Chu and colleagues (patent received in 2006) that become superconducting above the boiling point of liquid nitrogen. By building the critical mass of scientists, engineers, post-doctoral fellows, students, and technicians necessary to remain competitive worldwide, TCSUH is now the leading international multidisciplinary center for superconducting and other advanced materials research, and serves as an informational resource to the US government, industry, academia and K-12 education institutions.

TCSUH's education and industry programs enhance the capabilities of Texas and the US science and engineering community to meet industrial/government needs through utilization of HTS materials. TCSUH has developed materials and prototype applications based on these materials, leading to HTS wire development and driving future applications and products for HTS, positioning Texas for economic growth in this area. The TCSUH Applied Research Hub was created with an award from the Texas Emerging Technology Fund to further enhance interactions with industry to commercialize HTS and create jobs.

Factors Impacting Strategy
High Temperature Superconductivity (HTS) has been identified by the US Government as a critical technology, as one of the 30 most important technologies for the next century, and one of the most important engineering discoveries in the last 75 years (Sci. Amer., Sept. 1995; DOE Roadmap reports and US Energy Policy Act, 2005).

TCSUH is recognized as the most comprehensive, visible and productive HTS research and development center in the US for basic and applied research, evidenced by its selection as host of many prestigious international conferences on HTS. TCSUH also has a comprehensive applied research and technology transfer program to move HTS science into the world market place. One focus area, HTS second generation wire, has become a national agenda to support next generation large current superconducting devices, ie., magnets, motors, generators, fault current limiters, transformers, and transmission wires. The program promises economic development in Texas and increased efficiency and energy savings for the entire US. These efforts are enhanced by partnerships with the Departments of Energy and Defense, NSF and industry, including UH spin-off companies Metal Oxide Technologies (commercialization of second generation HTS wire) and Endomagnetics (medical HTS devices), resulting in economic growth in Texas.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$3,427,244	$3,427,244	$3,427,244	$3,427,244
Exceptional Funding				
Total	**$3,427,244**	**$3,427,244**	**$3,427,244**	**$3,427,244**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Small Business Development Center
(Existing Item)

Description and Justification
The University of Houston Small Business Development Center was established in 1984 under a cooperative agreement with the US Small Business Administration. As one of the preeminent SBDCs in the country and a flagship of small business assistance in Texas, the UH SBDC's central focus is providing quality assistance to the small business community by increasing growth and survivability. The UH SBDC accomplishes its mission by providing free one-on-one business counseling, low-cost business seminars, government procurement assistance, international trade, and technology development. The UH SBDC has had a very successful positive economic impact on Houston and the surrounding communities, particularly in the area of job creation. An annual independent impact study completed in 2010 for businesses assisted in 2008 showed that clients who received five or more hours of counseling from the SBDC generated over $281.5 million in new sales and approximately 2,873 new jobs. In addition, the same survey indicated that SBDC assistance helped clients obtain $246.2 million in start-up and expansion capital, and generate new tax revenues of $32.9 million.

Factors Impacting Strategy
The Small Business Development Center special line item funding is used as cash match to federal contracts and without this funding from the State, over $2.2 million in Federal funds and approximately $1.6 million in other local community funds and program income would be lost annually. State and local economic impact in terms of job creation and tax revenues due to the loss of SBDC services would be felt in the Houston area as well as in the surrounding communities served by our 11 network partners such as Angelina College, Blinn College, Brazosport College, Lamar State College, and San Jacinto College, and who are funded by UH through our SBA cooperative agreement.

Exceptional Funding Request
The UH SBDC proposes two major initiatives to maximize job creation:

(1) Business Technology Commercialization - We propose to expand our program to assist new and emerging Houston area and University based technology firms at all stages, from the identification of product development opportunities, to commercialization and the development of long-term business strategies. Additional objectives include: (1) attracting potential corporate users of University created technology; (2) matching early stage technology companies with potential angel investors and venture capitalists; (3) assisting University and community based researchers to identify and apply for SBIR/STTR grants; and (4) mentoring University faculty and students in business and technology start-up companies.

(2) Export/ Import Assessment and Business Development Program - This program will be designed to assist small and medium sized businesses to enter and succeed in international markets. International trade experts will provide ongoing business consulting to Houston and southeast Texas business owners on the fundamentals of business strategies for exporting/importing, determining company readiness, global research, pricing, trade financing and payments, and market entry and distribution. Consultants will identify country specific opportunities and foster matching opportunities.

	Appropriated*		Requested		
	FY10	FY11	FY12	FY13	Priority
Base Dollar Funding	$2,917,160	$2,917,160	$2,917,160	$2,917,160	
Exceptional Funding			454,000	454,000	6
Total	**$2,917,160**	**$2,917,160**	**$3,371,160**	**$3,371,160**	

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Houston Partnership for Space Exploration
(Existing item)

Description and Justification
The Houston Partnership for Space Exploration (HPSE) increases the intellectual and economic benefits of Texas aerospace organizations, particularly NASA-JSC, to UH, UHCL, Houston, and the State of Texas. HPSE works through the Institute for Space Systems Operations (ISSO) to achieve these primary goals:
• Increase the research and educational capabilities of UH/UHCL faculty, colleges, and institutions across the many disciplines of the aerospace industry
• Continue and expand jointly supported research conducted by the UH/UHCL–Post Doctoral Aerospace Fellows program and particularly the joint UH/UHCL-JSC projects (~75% of funding)
• Provide seed funds to UH/UHCL faculty to enable the development and the submission of competitive proposals for external funding (~20% of funding)
• Expand research activities of UH/UHCL with other universities, companies, and agencies of the statewide Texas Space Grant Consortium to the benefit of all Texans (~5%)

Between 1992 and 2006, HPSE enabled grants and contracts exceeding $20,000,000. The UH/UHCL-JSC Post Doctoral Aerospace Fellowship (PDAF) program with NASA-JSC leverages State funds 20 to 1 through access to unique JSC resources (professionals, space operations, data, and Earth-based and on-orbit facilities).

The PDAF program provides Texas with a unique method of deriving benefits from its largest federal R&D installation, the NASA-Johnson Space Center. All HPSE/ISSO reports can be viewed at http://www.isso.uh.edu

Factors Impacting Strategy
Since the establishment of the NASA-Manned Space Center, NASA has expended approximately $100 billion in the Houston area and Texas. In FY2005, NASA-JSC obligated $2.4 billion for Space Shuttle, $1.1 billion for International Space Station, $0.4 billion for Exploration, and $0.5 billion for overhead and other contracts. JSC expended ~$1.5 billion supporting 3,100 civil servants and 13,600 contractors in the Houston area. In 2003, NASA-JSC expended $550 million on research, development, and advanced engineering. These advanced R&D expenditures are increasing under the Presidential Vision for the United States space program. In FY2005 JSC obligated ~$42 million on grants, contracts, and agreements with Texas universities and non-profit organizations. The HPSE/ISSO programs enable UH, UHCL, and other Texas universities, agencies, and industries to participate directly in the advanced research, development, and operations activities and make the disciplines key to these programs available to the citizens of the State of Texas.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$332,486	$332,486	$332,486	$332,486
Exceptional Funding				
Total	**$332,486**	**$332,486**	**$332,486**	**$332,486**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Health Law and Policy Institute
(Existing Item)

Description and Justification

The Health Law & Policy Institute provides legislators with expertise on a range of health law and policy issues. During the 81st Legislature, the Institute completed over a dozen research projects for the legislature including health care access under Medicaid, patient privacy rights, electronic health records, consumer directed health care, transparency, prison nursery programs, and criminal competency. During the current biennium, the Institute is assisting Legislators with interim charges related to electronic health records and has prepared a series of special briefings on implications for the state from the federal health reform legislation. The Institute also updated a web version of "Control Measures and Public Health Emergencies: A Texas Bench Book." The Institute publishes a monthly Update on Health specifically for the use of members of the Texas Legislature which summarizes recent developments in federal and state initiatives; analyzes relevant federal and state court opinions; monitors regulatory activity; and explores recent medical or health services research results of particular pertinence to state policy makers. The Institute also sponsors Health Law Perspectives, a web-based article providing commentary on current health policy developments. The Institute received a five star rating for the excellence of its content. The Health Law Perspectives frequently generate requests for interviews and additional commentary from news media as well as heath related publications across the country.

Factors Impacting Strategy

State government recognizes the critical impact of health policy decisions. The Health Law & Policy Institute is one of the nation's foremost interdisciplinary centers for the study of health law and policy, particularly with respect to issues of federalism. It has been ranked consistently among the top health law programs in the U.S. by U.S. News & World Report for the past decade.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$276,389	$276,389	$276,389	$276,389
Exceptional Funding				
Total	**$276,389**	**$276,389**	**$276,389**	**$276,389**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Center for Public Policy
(Existing Item)

Description and Justification

The Hobby Center for Public Policy (HCPP) provides scientific, non-biased data and analysis to public officials, business professionals, community leaders and others within the Houston region and the state of Texas. The HCPP is interdisciplinary with emphasis on combining case-study, mathematical modeling and applied statistical/experimental methods, and shares the results of its work through reports, workshops, online archiving and media. The HCPP is a national leader in establishing social science methods. Institutes include the Survey Research Institute and the Institute for Regional Forecasting. The Concept Visualization Lab creates multi-dimensional visualizations and proto-types to display research findings in dynamic and interactive graphics. The HCPP is also dedicated to mentoring students, providing professional training and conducting active community outreach through research and civic projects. The HCPP's Civic Houston Internship Program annually places approximately 100 students from UH and UH-Downtown in city, county, state and federal offices and its Mickey Leland Congressional Internship Program allows UH, UHD and TSU students to work as congressional aides in D.C. The HCPP's affiliation with the state's Certified Public Manager Program provides management training to local professionals. Other outreach endeavors include leading and/or providing technical and academic expertise to community partners such as the Natural Gas Vehicle Alliance, Coalition for the Homeless, City of Houston, Harris County Election Division and the League of Women Voters.

Factors Impacting Strategy

Without special item support, the Hobby Center for Public Policy could no longer provide the array of services to the public including undergraduate and graduate students, community and business leaders and local governmental organizations. The HCPP would discontinue its policy research, economic symposia, internship programs, conferences and seminars. The lack of such base support would also make obtaining federal grants and private funding much less likely, both aspects of which are critical to reaching Tier One status.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$236,906	$236,906	$236,906	$236,906
Exceptional Funding				
Total	**$236,906**	**$236,906**	**$236,906**	**$236,906**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Partnership to Support Public Schools
(Existing Item)

Description and Justification
Special item funds appropriated through the Partnership to Support Public Schools are invested in UH programs dedicated to improving the quality of public education and enhancing student success, including:

Consistency Management/Cooperative Discipline is a comprehensive instructional/management reform model that combines responsibility for learning and classroom organization among teachers and students. External assessments have shown that CMCD significantly reduces discipline problems and office referrals (48% to 78% per school), improves teacher and student attendance, and increases teaching and learning time from 2.4 to 5.4 weeks.

Research conducted through TIMES enables the improvement of learning skills of students for whom English is not their first language. Among its many accomplishments, TIMES has directed the evaluation of the Texas Reading First program and provided recommendations to the TEA Commissioner on reading assessments. TIMES has also collaborated with major Texas university partners in a successful $20M proposal to the Institute of Education Sciences under the Reading for Understanding competition.

Established in 2007, the teachHOUSTON program was created to address the shortage of qualified math and science teachers in our country. Modeled after a successful format at the University of Texas at Austin, teachHOUSTON is a collaborative project of the University of Houston College of Natural Sciences and Mathematics, the College of Education, and local school districts.

Factors Impacting Strategy
The State of Texas has made providing quality public education a priority, as it is essential for students to succeed in college and become productive members of the workforce (which increasingly requires higher levels of education). Programs offered through the Partnership to Support Public Schools improve the quality of education provided to PK-12 students through the dissemination of quality instruction and research.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$1,300,783	$1,300,783	$1,300,783	$1,300,783
Exceptional Funding				
Total	**$1,300,783**	**$1,300,783**	**$1,300,783**	**$1,300,783**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Commercial Development of Space
(Existing Item)

Description and Justification
The Center for Advanced Materials-CAM (previously the Space Vacuum Epitaxy Center (SVEC)), promotes research, technology development, and the commercialization of advanced thin film materials developed terrestrially and in space for economic benefit to Texas and the nation. CAM has advanced 14 technologies that have resulted in the following product developments: (1) semiconductor thin film infrared lasers for defense and environmental monitoring; (2) high efficiency solar cells for space and terrestrial electric power; (3) hydrogen storage materials; (4) thin film solid oxide fuel cells for distributed electric power; and (5) a new resistive random access computer memory.

CAM has additionally focused its R&D efforts on alternative energy materials. This R&D addresses a number of problems in the alternative energy arena and supports Texas and national needs for new energy applications. CAM has licensed technologies and has started 6 spin-off companies. Four of these companies either have established or are establishing manufacturing facilities in Texas with nearly $60M of private investment and have brought more than 300 jobs and $150M of economic growth to Texas in the past 4 years. CAM has leveraged Special Item funds by more than a 4:1 ratio and has generated over $450M of economic benefit to Texas in the past 15 years. CAM also significantly supports undergraduate education through student involvement in the research experience.

Factors Impacting Strategy
CAM has established itself as a highly successful R&D center, as well as a technology development partner for industry. CAM is recognized as one of the foremost developers of new technologies for terrestrial and space applications and has marshaled its materials expertise to address today's challenges in alternative energy. The present energy landscape calls for new basic research, new ideas in energy generation, and the transfer of research and ideas into the applications arena. CAM is ideally positioned for this role and has already shown its ability to realize success through funded research programs and technology licensing in solar cells and fuel cells. CAM's energy focus is also addressing energy challenges in the space environment where CAM solar cells, fuel cells and hydrogen storage technologies are addressing NASA energy needs.

The continued application of CAM's nanotechnology strengths to materials in the energy sector will further result in improved solar cells, unique materials for conversion of heat to electricity, hydrogen storage materials, and high performance fuel cells. Internally, CAM has worked to disseminate basic and applied knowledge to the Texas and national industrial sectors. This has been supported by an interdisciplinary program incorporating students and faculty from science, engineering, business and law into joint technology and product development groups that help guide technology advancement for CAM and its industry partners.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$380,856	$380,856	$380,856	$380,856
Exceptional Funding				
Total	**$380,856**	**$380,856**	**$380,856**	**$380,856**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Texas Learning and Computation Center
(Existing Item)

Description and Justification
In 1999, UH built an environment for the design and delivery of cutting-edge, technology-based research and learning tools—the Texas Learning and Computation Center (TLC2). With its implementation of the Research and Education Network of Houston (RENoH), a data communications network connecting the University of Houston, the Texas Medical Center and Rice University at state-of-the art levels to Internet2 and the NLR was established. The establishment of this 10G fiber network encouraged partnerships with the Texas Medical Center. The increased bandwidth enables research in the region to be at the national level. This network will play an integral role in the next phase of Texas' fiber infrastructure. Further, TLC2 will train a new generation of technologists, scientists and artists by leveraging its 3-D capabilities in its high definition visualization facility.

Seed monies have been granted in several departments throughout four colleges of UH and have generated federal funding. With support of major federal grants, TLC2 has successfully created a pipeline of students to address the nationwide shortage of qualified science, engineering, and math students and has hosted a number of opportunities for middle and high school students and teachers to become involved with the center. This investment of time and effort as part of its educational mission benefits the state of Texas in the production of a trained workforce in segments of the economy that exhibit strong growth, such as the health care, energy, computer and communications sectors. Additionally, the State benefits from researchers receiving federal funds for significant parts of necessary infrastructure, student assistantships, and professional staff for operation of laboratories.

Factors Impacting Strategy
Houston is the center of the world's energy industry, and the computer, communications, and biotechnology industries are a growing segment of the local economy. In 2008, Houston's gross area product was $440.4 billion— slightly larger than Sweden's GDP. Only 21 nations other than the US have a GDP exceeding Houston's GAP. In the wake of the nation's recent economic crisis the city seemed to be recession proof. It is clear that the economic future of Texas is inextricably tied to that of Houston.

Houston is home to 10 universities, 10 community colleges and over 60 independent school districts, including the Houston ISD, which enrolls over 200,000 students. These institutions are struggling to meet the educational needs of their students. TLC2 works with public schools to address these needs. Through centers such as the Louis Stokes Alliance for Minority Participation, TLC2 is engaging the members of diverse communities to encourage, nurture, and graduate first generation college bound students.

The establishment of the RENoH network was the first step in helping not only to bring the University of Houston's researchers to both the national/international research community but to leverage the intellectual capital of the region. Investigators affiliated with the Center are on the cutting edge of changing the paradigms in the areas of diagnostic testing for sleep apnea and brain trauma. Research providing a greater understanding of subsurface structures promises to make oil exploration safer and more efficient for generations to come. TLC2 is committed to creating sensor based networks to monitor air quality to enhance the quality of life for the residents of the Gulf Coast.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$1,839,015	$1,839,015	$1,839,015	$1,839,015
Exceptional Funding				
Total	**$1,839,015**	**$1,839,015**	**$1,839,015**	**$1,839,015**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Interdisciplinary Energy Research
(Existing Item)

Description and Justification
As part of its drive to become a nationally recognized tier-one research university, the University of Houston has established a goal of increasing research expenditures to $150M by 2015. To reach this level of productivity, UH is investing in its energy research programs, which represent one of the university's major areas of research strength. Located in the center of the world's energy industry, UH has built partnerships with international energy companies and developed research programs that focus not only on oil and gas but on electricity, alternative energy sources, conservation and air quality. Signature UH energy programs include the Texas Center for Superconductivity, Center for Advanced Materials, National Wind Energy Center, and Texas Diesel Testing and Research Center.

Major allocations of special item resources include energy-related lab renovations, equipment purchases, and institutional matches for external grants. These investments enable UH to leverage external funding from industry and the federal government. To date, major funding from the Energy Research special item has been invested in the university's wind energy program, which has leveraged $4.4 million in Congressionally directed funding over the past 3 years, with an additional $3 million currently included in the FY11 Energy & Water Appropriations Bill pending in Congress. Special item funds have also been used to leverage a $3.5 million Emerging Technology Fund Grant and $8.8M in industry contributions for the university's superconducting wire project.

Factors Impacting Strategy
The state of Texas has recognized that increasing the number of nationally competitive tier-one research universities is critical to the state's economic future. With more tier-one universities, Texas would draw more top students, scientists and scholars to the state; improve the quality of its workforce, particularly in the sciences and engineering; and facilitate research partnerships with industry that lead to economic development. In addition, with 65% of Texas' population and 77% of its economy centered in its four largest urban areas, it makes sense for the state to create more tier-one universities in its major cities.

The University of Houston is poised to become the state's next tier-one research institution. UH is the largest university in Texas' largest city. It is also the third largest university in the state (behind UT and A&M) in terms of both enrollment and research productivity. Among the state's emerging research universities, UH is the closest to achieving tier-one status, the impact of which would have a significant effect on the Houston economy. (In fact, UH's impact on the Houston economy is already significant. Our contribution in terms of GDP has been estimated at more than $3B biennially.) UH's ability to become a tier-one university is contingent upon the success of its energy research programs.

	Appropriated*		Requested	
	FY10	FY11	FY12	FY13
Base Dollar Funding	$2,375,000	$2,375,000	$2,375,000	$2,375,000
Exceptional Funding				
Total	**$2,375,000**	**$2,375,000**	**$2,375,000**	**$2,375,000**

Note:* Appropriated amount reflect a 5% reduction to the original appropriations.

University of Houston

Tuition Revenue Bond – Debt Service
(Existing Item)

Description and Justification
This request is for a continuation of the current special item which provides for retirement of the tuition bonds as authorized in prior legislative sessions.

Exceptional Funding Request
Debt Service Request for the new Tuition Revenue Bond including the following two projects:
1.Pharmacy Building ($4,792,000).
2.Research Building ($9,076,000).

Factors Impacting Strategy
The obligation for existing tuition revenue bonds has been incurred and the UH System is legally responsible for the payment.

	Appropriated		Requested		
	FY10	**FY11**	**FY12**	**FY13**	**Priority**
Base Dollar Funding	$11,652,230	$11,642,262	$10,692,367	$10,694,047	
Exceptional Funding				13,868,000	5
Total	**$11,652,230**	**$11,642,262**	**$10,692,367**	**$24,562,047**	

University of Houston

Tier-One Initiative – Energy Research Cluster
(New Item)

Description and Justification
As part of its drive to become a nationally recognized tier-one research university, the University of Houston has established a goal of increasing research expenditures to $150M by 2015. To reach this level of productivity, UH is investing in its energy research programs, which represent one of the university's major areas of research strength. Located in the center of the world's energy industry, UH has built partnerships with international energy companies and developed research programs that focus not only on oil and gas but on electricity, alternative energy sources, conservation and air quality. Signature UH energy programs include the Texas Center for Superconductivity, Center for Advanced Materials, National Wind Energy Center, and Texas Diesel Testing and Research Center.

To move forward, UH is building energy research clusters, which include teams of nationally renowned scientists, promising junior faculty, top graduate students, and core research facilities. These teams are expected to bring to UH – and the state – $10M-20M in research funding. If appropriated, exceptional item funding would be used to fund the development of these clusters, the goals of which are to achieve the highest levels of research productivity and move UH closer to becoming a tier-one university.

Factors Impacting Strategy
The state of Texas has recognized that increasing the number of nationally competitive tier-one research universities is critical to the state's economic future. With more tier-one universities, Texas would draw more top students, scientists and scholars to the state; improve the quality of its workforce, particularly in the sciences and engineering; and facilitate research partnerships with industry that lead to economic development. In addition, with 65% of Texas' population and 77% of its economy centered in its four largest urban areas, it makes sense for the state to create more tier-one universities in its major cities.

The University of Houston is poised to become the state's next tier-one research institution. UH is the largest university in Texas' largest city. It is also the third largest university in the state (behind UT and A&M) in terms of both enrollment and research productivity. Among the state's emerging research universities, UH is the closest to achieving tier-one status, the impact of which would have a significant effect on the Houston economy. (In fact, UH's impact on the Houston economy is already significant. Our contribution in terms of GDP has been estimated at more than $3B biennially.) UH's ability to become a tier-one university is contingent upon the success of its energy research programs. Given UH's strength in energy research and its partnerships with the energy industry, funding this exceptional item request would enable UH to achieve tier-one status as quickly as possible.

	Appropriated		Requested		
	FY10	FY11	FY12	FY13	Priority
Base Dollar Funding					
Exceptional Funding			$2,500,000	$2,500,000	1
Total			**$2,500,000**	**$2,500,000**	

University of Houston

Tier-One Initiative – Health Sciences Research Cluster
(New Item)

Description and Justification
As part of its drive to become a nationally recognized tier-one research university, the University of Houston has established a goal of increasing research expenditures to $150M by 2015. To reach this level of productivity, UH must invest in its health sciences research programs. The health sciences constitute one of UH's strongest research areas. Over the years UH has developed strong research partnerships with Texas Medical Center institutions, and currently 52% ($43M) of UH's total research expenditures and 57% ($22M) of its federal research expenditures are health related. Major UH programs conducting health-related research include the Texas Center for Superconductivity, Center for Advanced Materials, Texas Learning and Computation Center, Institute for Space System Operations, and Health Law and Policy Institute.

To move forward, UH is building health sciences research clusters, which include teams of nationally renowned scientists, promising junior faculty, top graduate students, and core research facilities. These teams are expected to bring to UH – and the state – $10M-20M in research funding. If appropriated, exceptional item funding would be used to fund the development of these clusters, the goals of which are to achieve the highest levels of research productivity and move UH closer to becoming a nationally recognized tier-one research university.

Factors Impacting Strategy
The state of Texas has recognized that increasing the number of nationally competitive tier-one research universities is critical to the state's economic future. With more tier-one universities, Texas would draw more top students, scientists and scholars to the state; improve the quality of its workforce, particularly in the sciences and engineering; and facilitate research partnerships with industry that lead to economic development. In addition, with 65% of Texas' population and 77% of its economy centered in its four largest urban areas, it makes sense for the state to create more tier-one universities in its major cities.

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	Appropriated		Requested		
	FY10	FY11	FY12	FY13	Priority
Base Dollar Funding					
Exceptional Funding			$2,500,000	$2,500,000	2
Total			**$2,500,000**	**$2,500,000**	

University of Houston

Tier-One Initiative – Complex Systems Research Cluster
(New item)

Description and Justification
As part of its drive to become a nationally recognized tier-one research university, the University of Houston has established a goal of increasing research expenditures to $150M by 2015. To reach this level of productivity, UH must invest in its research programs in complex systems – the application of advanced computer, network and database technologies to address some of the nation's most important challenges. At UH, scientists are incorporating the traditional disciplines of computer science, biology, chemistry, geology, engineering, and psychology among others into complex systems that address such diverse issues as air quality, homeland security, student learning, and space operations. Major UH programs conducting complex systems research include the Texas Learning and Computation Center; Texas Institute for Measurement, Evaluation and Statistics; and Southwest Center for Public Safety Technology.

To move forward, UH is building complex systems research clusters, which include teams of nationally renowned scientists, promising junior faculty, top graduate students, and core research facilities. These teams are expected to bring to UH – and the state – $10M-20M in research funding. If appropriated, exceptional item funding would be used to fund the development of these clusters, the goals of which are to achieve the highest levels of research productivity and move UH closer to becoming a tier-one university.

Factors Impacting Strategy
The state of Texas has recognized that increasing the number of nationally competitive tier-one research universities is critical to the state's economic future. With more tier-one universities, Texas would draw more top students, scientists and scholars to the state; improve the quality of its workforce, particularly in the sciences and engineering; and facilitate research partnerships with industry that lead to economic development. In addition, with 65% of Texas' population and 77% of its economy centered in its four largest urban areas, it makes sense for the state to create more tier-one universities in its major cities.

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	Appropriated		Requested		
	FY10	FY11	FY12	FY13	Priority
Base Dollar Funding					
Exceptional Funding			$2,500,000	$2,500,000	3
Total			**$2,500,000**	**$2,500,000**	

University of Houston

Tier-One Initiative – Education and Community Advancement Research Cluster (New Item)

Description and Justification

As part of its drive to become a nationally recognized tier-one research university, the University of Houston has established a goal of increasing research expenditures to $150M by 2015. To reach this level of productivity, UH must invest in its education and community advancement programs. As Texas' premier metropolitan research university, UH has developed research and outreach programs that address the major challenges facing our cities and state. Specific areas of expertise include economic development; social issues such as substance abuse, aging, immigration, child welfare, health services and homelessness; and all levels of education . Signature programs include the Health Law and Policy Institute, Center for Public Policy, and Texas Institute for Measurement, Evaluation and Statistics (TIMES), which focuses on the evaluation and improvement of the English reading skills of elementary school students for whom English is not their first language (in FY09, TIMES generated $5M in research funding). If exceptional item funding is appropriated, UH will invest these resources in the nationally renowned scholars, promising junior faculty, and top graduate students needed to build education and community advancement programs that achieve the highest levels of research productivity, that have a significant impact on the community, and that move UH closer to becoming a tier-one university.

Factors Impacting Strategy

The state of Texas has recognized that increasing the number of nationally competitive tier-one research universities is critical to the state's economic future. With more tier-one universities, Texas would draw more top students, scientists and scholars to the state; improve the quality of its workforce, particularly in the sciences and engineering; and facilitate research partnerships with industry that lead to economic development. In addition, with 65% of Texas' population and 77% of its economy centered in its four largest urban areas, it makes sense for the state to create more tier-one universities in its major cities.

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	Appropriated		Requested		
	FY10	FY11	FY12	FY13	Priority
Base Dollar Funding					
Exceptional Funding			$750,000	$750,000	4
Total			**$750,000**	**$750,000**	

University of Houston

TRB Project Request
Nanotechnology Science and Engineering Research Building
(New Item)

Description and Justification

A new Nanotechnology Science and Engineering research building on the University of Houston campus is needed to accommodate the growth of research programs in the sciences and engineering. It is based on the university's goal of increasing research activity by $100M over the next decade. Doing so will require investments in new faculty, research staff, graduate students and labs, which in turn will require additional facilities. The space provided by UH's most recent research lab construction project (Science & Engineering Research Center) is already fully assigned and will be completely occupied in the next 18 months.

	Requested	Priority
TRB Bonding Authority Request	$89,500,000	1
Total	**$89,500,000**	

University of Houston

TRB Project Request
Pharmacy Building
(New Item)

Description and Justification

This project proposes the construction of a new facility adjacent to the Optometry Building and planned Health and Biomedical Sciences Building on the University of Houston campus. This adjacency will allow the establishment of shared core research and teaching facilities in fields that are becoming increasingly interrelated and, long term, will reduce the operating expenses in both areas. Additional instructional and research space is needed to accommodate the planned increase in cohort size in the College of Pharmacy and the growth of research activity in this field. Expansion of College of Pharmacy programs and facilities will provide the State of Texas with the trained professional pharmacists needed to serve the state's increasing population.

	Requested	Priority
TRB Bonding Authority Request	$47,300,000	2
Total	**$47,300,000**	

University of Houston

TRB Project Request
Central Plant Renewal and Utility Infrastructure Deferred Maintenance
(New Item)

Description and Justification

The University of Houston is requesting tuition revenue bond authority for the expansion, renewal and deferred maintenance of the central utility plant and the campus electrical utility infrastructure. University of Houston has been planning for upgrades to our major utility infrastructure systems servicing the expanding Houston campus. The equipment and systems in the UH central utility plant are tremendously inefficient, long past their projected life expectancy and damage during Hurricane Ike makes replacement critical to providing a consistent level of utility service to existing buildings as well as accommodating future campus improvements. Additionally, the systems are energy inefficient and produce high NOX emissions. This is particularly a problem since Houston is an EPA non-attainment zone under pressure to meet federal air quality mandates. As such, UH must replace this equipment within the foreseeable future to meet these mandates or face potential penalties. The single largest component is the utility infrastructure upgrade to replace and/or improve major equipment in the central utility plant, including all chillers, boilers and cooling towers as well as our current campus electrical service infrastructure. The project scope also includes upgrade to a common converged network infrastructure across the entire campus. New state-of-the-art equipment will decrease energy usage by three to four percent, or approximately $1M to $2M per year allowing UH to service more of our new buildings using an efficient central utility plant. New equipment will reduce NOX emissions allowing the University to set the standard for air emissions and quality, and reduce the campus's carbon footprint.

This project is critical for Tier One and campus expansion and has a number of goals. First, the Central Plant's existing equipment is past its manufacturer recommended life which makes it increasingly expensive to maintain therefore replacement is critical. Secondly, older equipment causes our current plant to be energy inefficient and not as clean when compared to new state-of-the-art technology—a major problem in an air quality non-attainment zone like Houston. The federal government and EPA have mandated that we replace existing equipment with new lower polluting equipment as part of the directive that calls for Houston to meet clean air requirements. Third, with the increased efficiency we will reduce energy usage, we'll save significant money and reduce the university's carbon footprint dramatically. Finally, this project will increase the Central Plant's capacity to serve future buildings that are needed to support our Campus Framework Plan, house Tier One research, increase on campus housing, and add extra instructional and student support space. The project will also address aged electrical infrastructure as well as increase campus reliability to ensure ongoing business continuity.

	Requested	Priority
TRB Bonding Authority Request	$65,000,000	3
Total	**$65,000,000**	