STATE OF THE UNIVERSITY

October 6, 2011

This year marks seven years since I arrived in Houston barely able to say “Y’all,” and six years since we adopted the Vision for the Second Century, or V2C, as our basic strategic plan. In those six years we have accomplished a great deal. We have also been through some difficult and challenging times, dealing with fundamental issues around our strategy as a university and perhaps the most challenging financial times in decades. We have weathered these challenges well, and have continued our trajectory as an ever stronger research university with a special dedication to the experiences and opportunities of our students.

Today, the strength of our university is evident in almost every aspect:

- Our ability to retain and recruit faculty
- Our ability to attract students
- Our ability to retain and recruit staff
- The willingness of our faculty to step up to leadership positions, participate in university governance, and develop innovative programs
- Our balance sheet and finances
- Our visibility and recognition in the media
- Our ability to adjust to the economic challenges which have engulfed our country and our world

In these years, I believe we have come to a widely shared understanding of our aspirations as a university. We have disagreed deeply on occasion about particular strategies, and about our assessment of the costs and benefits of particular decisions. As our Faculty Senate has evolved, there have been a few disagreements and course corrections about the best governance processes to use in particular situations. But overall, I think the aspirations for our university are widely shared, and we have made tremendous progress in achieving them.

We aspire to be a wide-ranging university that spans the spectrum of human endeavor. We intend to be in the first rank of research universities, not only domestically but internationally. We intend to attract the most talented and diverse student body, graduate and undergraduate, that can be found anywhere. We intend to be a major contributor to our city of Houston. And we intend to make important contributions to human understanding and welfare. And we intend to do all of this while remaining a special community that supports each other in our common endeavors and both our shared and individual aspirations.

As we approach our centennial celebration, it is a time for taking stock, a time for reflection, and a time to come together to celebrate achievements and to lay out new goals. In past addresses I have presented a great many slides, but today I have chosen to use only a few and make my presentation more verbal but, alas, not shorter. It will be somewhere in between President Lincoln’s two-minute address and Edward Everett’s two-hour oration at Gettysburg. We will make additional slides available online so if you wish, you can see how other data may have changed from prior years.

FACULTY

Our primary mission as a university is our teaching and research, and the success of that depends on our faculty. This past year has been marked by spectacular recruitments, successful retainments and extraordinary achievements of our faculty.

Let me begin with the latter. Most recently, we were moved by the award of the National Medal of Science to our colleague Richard Tapia. This is an extraordinary award, which recognizes not just Richard’s contributions as a mathematician but also his role in opening up the doors of advanced study in STEM fields to under-represented minorities.

Four of our faculty have received NSF career investigator awards already this fiscal year. Pierre Jalbert of our music school had his original work performed last month by the Houston Symphony – and if you think getting published is hard, try getting performed. At least three of our humanities faculty members received prestigious residential fellowships: Martin Blumenthal-Barby at the Stanford Humanities Center, George Sher at the Princeton Center for Human Values, and Marty Wiener at the National Humanities Center.

Earlier this week, I welcomed more than 500 scientists to the International Conference on Infra-red, Millimeter and Terahertz Waves, where Dan Mittleman was this year’s conference chair. Richard Baraniuk is one of six winners of the 2011 World Innovation Summit for Education award. Herb Ward was named winner of the Charles Thom Award, the top national honor for industrial microbiology. Professor and photographer Geoff Winningham’s beautiful book “Traveling the Shore of the Spanish Sea” won the Ron Tyler award for the best illustrated book on Texas history and culture. In the Jones School, Jennifer George was elected as a...
fellow of the Academy of Management and Jing Zhou was elected as a fellow of the Society for Industrial and Organizational Psychology. Such a list could occupy my entire time today. The point is that our colleagues from all across the university are regarded as leaders in their field.

Our faculty’s research continues to be outstanding. Overall, research revenues have reached new heights.[1] Since FY 2008, we have averaged $110 million in annual awards, a substantial 43 percent increase from where we were on average just a few years ago.[2] In the last four years, research awards in engineering, for example, have increased 48 percent. And although the dollars elsewhere may be smaller, our success is not limited to science and engineering. The School of Social Sciences has broken its external funding record for the third year in a row, with $2.7 million in FY 11, up 84 percent from two years ago. Anthropology faculty have secured two National Science Foundation grants totaling $410,000, which, in the context of NSF funding for anthropology, is huge.

Of course, research productivity cannot be measured solely in terms of funding. Books published by our humanities scholars, for example Douglas Brinkley’s “The Quiet World” on Alaska’s wilderness and Ussama Makdisi’s “Faith Misplaced” on U.S. Arab relations have made an impact and stirred debate. Equally important is traditional scholarship that may receive less public notice, such as Matthias Henze’s book on Jewish Apocalyptics, Harvey Yunis’ book on Plato’s Phaedrus and April DeConick’s new book, Holy Misogyny, on gender conflicts in the early church. Faculty research productivity in the Jones School has led to its research ranking in the Financial Times increasing to No. 14 internationally, compared with No. 52 just five years ago, and a No. 10 national ranking for intellectual capital by Business Week.

Our faculty is doing pathbreaking work that is being published in the most prestigious journals. This August, Ramon Gonzalez in chemical engineering published in the journal Nature work of incredible potential importance about the biosynthesis of fuels from waste using bioengineered bacteria. And late last year Matteo Pasquali published in Science work on how stiff carbon nanotubes can wind their way through crowded environments, perhaps laying the basis for future bio-sensors or hydrocarbon fuel detectors. And in the last couple of days, a slew of publications have reported that Rice physicist Rui Rui Du and graduate student Ivan Knez succeeded in making a “quantum spin Hall topological insulator,” whatever that is, that acts as an electron superhighway and moves us one step closer to being able to make a quantum computer.

Of course, we can do even better, and we will need to work hard in an environment in which external funding becomes more challenging. Vicki Colvin is bringing new energy and ideas to the office of the Vice Provost for Research. I welcome the creation of the Faculty Senate Working Group on Research and Scholarship under Moshe Vardi’s leadership which will assess the processes and structures currently existing on campus designed to support and improve Rice’s research and scholarship efforts, identify best practices here and at peer institutions and translate the V2C’s general research goals to more concrete, measurable ones.

Equally important, our faculty is creating new opportunities for our students, inside the classroom and out. Tony Pinn’s course last year with Bun B attracted great attention, here at Rice and in the media. Social Sciences faculty expanded the Gateway project to give undergraduate students a wide array of experience outside of the classroom through research, internships, international travel, summer fellowships and the Global Urban Lab, which involves studies of urban initiatives in London and Istanbul. Our architecture students, through the Rice Building Workshop, are designing and helping construct the café for the Menil Collection. The adoption of minors by the Faculty Senate a few years ago unleashed a torrent of faculty enterprise and creativity, leading to 14 minors in fields such as Poverty, Justice and Human Capabilities, Global Health Technologies, Jewish Studies, African Studies and Energy and Water Sustainability. In 2007, the Humanities Research Center launched a fellowship program, and since then 74 have been awarded to students across a wide array of disciplines.

Some have remarked in recent years that it can be hard to recruit faculty to serve on particular committees. I do not believe this is because our faculty are less willing to contribute, but rather because they are already contributing in so many ways. A few years ago we did not have a Faculty Senate. Now we have a highly engaged Senate which each year makes important contributions to our effectiveness across a range of issues. The reform of our appeals and grievance procedure is only the most recent example. Another way faculty contribute their time is to make sure we are visible in the media, both locally and around the country and world. Faculty members like Jim Tour, Mark Jones, Utpal Dholakia and Elaine Ecklund have made themselves available to comment on issues of the day and explain their research. Neal Lane led the pack this summer with nearly 400 appearances in the news media explaining changes in the space program, among other issues. This too is important service to the university.

As for recruitments, much notice inside and outside of the university has been taken of our cluster hire of scientists from the University of California in San Diego, which brought three more members of the National Academy of Sciences to Rice in addition to our new dean of engineering, Ned Thomas, a member of the National Academy of Engineering. Recruitment in the music school has been no less spectacular, with truly world class performers and teachers filling openings in violin, clarinet and, most recently, organ. Our History Department has made a strategic and impressive senior appointment in southern and African-American history, which will sustain our leadership in the former and continue to build impressive interdisciplinary strength in the latter. Across-the-board, we have a seen a steady increase in the quality of the junior faculty we are able to attract. Overall, our faculty numbers have increased[3],
with our undergraduate student faculty ratio edging up from 5.4 to 5.8 with the expansion. Although last year we had an unusually low number of tenured and tenure-track recruitments, this year we will see a return to a comparatively high level of 30 searches authorized by the provost.

OUR STUDENTS

Although the core of the university is our faculty, much of its character and personality lies in its student body. As our students return each fall, we experience that renewed sense of vitality and dynamism that is essential to the university experience. In the last five years, we have carried out our plan to expand our student body from an entering class of about 725 to 950, with our undergraduate student body reaching the announced goal of 3,800 in fall 2013. And we have achieved this expansion while enhancing both academic quality and diversity. The success of our university is reflected in the rapid expansion of our applicant pool by 75 percent to almost 14,000, which has resulted, despite the increase in the size of the class, in a sharp downward trend in our admit ratio. In sum, we have become more selective in the course of the expansion, while increasing the diversity of perspectives we bring to our campus.

This year’s class reflects these changes. First, I do want to acknowledge the unanticipated large size of the class, 1,000, and assure you that our goal remains 950. As this slide shows[4], to offset the size of this year’s class, next year we intend to reduce the class below that target to 935, and also plan for a modest reduction for the class entering in 2013. This increase in enrollment was the result of a yield of 39 percent, the highest we have experienced in some time[5], and a new low of accepting only 18 percent of our applicants. And our increase in yield came even as we found ourselves competing more with the most prestigious universities in the country.

Our entering class is in some ways a watershed, and may reflect what our classes are more likely to look like in the future. Some 10 percent of our students are international, that is requiring a visa for enrollment, and an additional 45 percent come from outside Texas. This year’s class is almost exactly split between women and men. Ethnically, the entering class has no majority. As this chart shows [6], of the Americans or permanent residents in the class, 20 percent are Hispanic, 8 percent African American, 21 percent Asian, and 5 percent of the class identifies itself as mixed race.

These students come not only with stellar academic credentials, but remarkable accomplishments. One student created four libraries in Tanzania and donated 33,000 books to 11 libraries. Another holds two patents. A third is a published author with three books for sale on Amazon. The quality of our students, and the increased quality of some of our advising, led us last year to have a Rhodes and two Marshall scholars among our graduating seniors, a remarkable showing for a small university.

And our students are happy. As reported earlier, based on student surveys, the Princeton review ranked us first in the country for both student happiness and student quality of life.

The expansion of our student body has not come without stresses, as I warned in prior State of the University addresses. It is not simply that the student body has thus far expanded by 27 percent, but also that the expansion has been unevenly distributed in ways we could not fully anticipate. At this point, the most pronounced stresses appear to be the result of increased interest in the social sciences, and also courses and majors that serve or especially attract pre-medical students.

Since the expansion of the student body began, the number of students majoring in the Social Sciences has increased by 43 percent from 702 total majors in 2006 to 1,002 in 2011, and the largest increase in both absolute numbers and percentage among students in the entering class were in those indicating they intended to major in the social sciences. That increase was entirely due to an increase in yield among students interested in the social sciences, as we in fact admitted slightly fewer such students this year. Shifts in interest in particular courses are in some areas even more pronounced. In fall 2005 there were 158 students enrolled in microeconomic theory. This fall, that number is 344, a 118 percent increase. Similarly large changes have been seen in some of the pre-med courses. Physics 101 increased more than 51 percent. We are working with the schools and departments to address this increased demand, recognizing that in some cases changes in our student body must result not only in more faculty, but in reallocation of faculty time.

Our graduate students continue to represent about 40 percent of the student body, as they did in fall 2005. As a result of funding constraints, both internal and external, we have experienced somewhat less growth in our graduate programs than we would have liked. [7], [8] The graduate students we have attracted are impressive, even in our newest programs. We have a number who have won prestigious fellowships. This year, Rice has 33 graduate students who are NSF fellows.

INCREASED CAMPUS VIBRANCY
In part as a result of our larger population, but perhaps more the result of greater activity and engagement and better facilities, we are seeing many signs of greater vibrancy on our campus. People lately have been commenting to me that the campus just “feels” more vibrant and dynamic. Indeed, over a wide range of categories -- including conferences and symposia; visitors to campus; use of the recreation center; bicycles on campus; bus ridership; sales in the Brochstein Pavilion and Coffeehouse -- activity has increased 20-to-30 percent each year for the past four years, far more than the increase in our student population.

ENGAGEMENT WITH HOUSTON

Our V2C goal of broadening and deepening our engagement with our home city of Houston has taken many substantive forms. One of the most visible is the creation of the Kinder Institute for Urban Research, where Steve Klineberg’s 30-year-old Houston survey has found a permanent home. The Kinder Institute is also expanding our urban research effort across both disciplinary and international boundaries, and it has become a key strength in building relationships with universities around the world.

Over the last few years, Rice has built on a solid base to become even more engaged in our city’s K-12 education efforts. There are at least 85 different Rice programs serving the K-12 community in the greater Houston area, with numerous faculty members in every school making a contribution. In September, the Glasscock School for Continuing Studies launched the Center for College Readiness, which consolidated an impressive array of teacher preparation and training efforts from across the university. And with a $1.3 million grant from the Arnold Foundation, sociologist Ruth Lopez-Turley has launched the Houston Education Research Consortium in collaboration with the Houston Independent School District.

FINANCES

So we have achieved many things under the V2C, but now let me talk a bit about a matter that has been very much on our minds these past three years, and that with the current gyrations in the markets will continue to be an important factor -- namely our finances. As you know, just over two years ago we suffered an investment loss in our endowment of slightly more than 18 percent. In some ways, however, the decline was in fact more substantial, since we of course spent money during that year, producing an overall decline in endowment value of almost 22 percent.

Our prudent policies and the commitment of our Board of Trustees have helped us weather these dramatic losses. Working with our board, the administration adopted a plan to return us to our spending target of not more than 5.5 percent of our three-year trailing average market value by fiscal year 2018. That required that we take two successive cuts to the core budget of 5 percent which, while modest compared with some of our peers, struck deeply into our endeavors given our generally lean configuration.

We were also helped significantly by the expansion of our student body and a decision to narrow the gap between our tuition and that of our peers, with Rice’s now approximately $6,000 per year less than most of our competitors. The increase in net tuition per student was not as much as we might have anticipated, because in 2007-2008 we revised our financial aid policies in light of competition, public perception and the needs of our students. As this chart [9] shows, as a result of our expanding student body and price increases, there has been an overall increase in total net tuition of 85 percent since FY 2005, bringing in an additional $29 million that has helped us weather the storm.

As these pie charts show [10], we are still heavily, although slightly less, reliant on our endowment returns. The endowment still provides about 40 percent of our total resources, and 58 percent of resources outside research grants and charges for housing and dining and other auxiliaries, with net tuition now providing 25 percent. So perhaps the most important financial news is good news: Last year’s return on the endowment was 22.4 percent[11], slightly more than Harvard and Yale. Because our policy focuses on the three-year average of the market value and because markets remain uncertain, this return does not mean there will be an immediate increase in resources from the endowment. What it does mean, however, is that we have an additional cushion against future developments. For example, if this year we had a zero percent return, or even slightly negative, we would not have to alter our future budgetary plans. But if there is another substantial loss, it will of course have consequences for spending at the university.

We continue to make great progress on the capital campaign, with commitments of $741 million as of September 30, 2011. As this chart shows [12], of that amount, well over half -- $419 million -- is in areas directly supporting the academic enterprise, including endowed chairs, departmental endowments, faculty research and other departmental funds. We’ve had two challenging years [13] given the financial environment, but commitments made in FY 2011 of $106 million were 50 percent higher than FY 2010 commitments, and we remain optimistic we will achieve our billion dollar goal by the campaign’s conclusion in 2013.

Of course, we have been engaged in a very substantial building boom, which has both brought us vital new facilities but also added some additional stresses to our budget. In the past five years, we have added 1.4 million square feet of new space on our campus and substantially renovated a large amount of other space. These efforts have brought new research and education facilities in
the BioScience Research Collaborative and Brockman Hall for Physics, housed a higher percentage of our larger student body in Duncan and McMurtry colleges and in the expansion of Baker and Will Rice colleges, added facilities that support a dynamic community in the Pavilion, Gibbs Recreation Center and Tudor Field House, and renewed and expanded the infrastructure of our campus. Some of this work has opened up additional spaces, including a new home for political science in Herzstein Hall, which in turn allowed the Baker Institute to expand its programs with additional fellows.

We are beginning to realize the potential of the BioScience Research Collaborative to serve as the convener of and catalyst for interdisciplinary and inter-institutional research among Rice and other members of the Texas Medical Center. It’s been slower in coming than we initially hoped, but there are many signs that the BRC now has traction.

Here’s a small illustration of that. Last week Dan Carson, I and others picked up a symbolic giant check for $14 million presented by the Cancer Prevention and Research Institute of Texas, or CPRIT. CPRIT is now an occupant of the BRC, and the organization chose the BRC as the best place to announce its latest grants to all Houston recipients over the past 15 months. Joining CPRIT and Rice researchers in the BRC are the Clinical Trials Network of Texas, the Gulf Coast Consortia, the National Space Biomedicine Research Institute, BioHouston and, soon, conditioned on support from CPRIT, the Houston Area Translational Research Consortium, or HATRC, which will include a leading venture capital firm.

Facilities do matter. The Oshman Engineering Design Kitchen has already transformed our engineering education, and produced student teams that have garnered numerous awards around the country. The inventions these students are creating — such as creating a low-cost, low-tech blood centrifuge out of a salad spinner -- are winning international acclaim and, I hope, saving lives in the poorest parts of the world.

As our buildings have expanded, so have our programs, including three new Ph.D. programs in business, art history, and sociology. The Chao Center for Asian Studies, the Kinder Institute and Rice 360 have already established themselves in central roles on our campus.

Of course, there are many areas where we can do better. The visibility of the arts at Rice has significantly increased as a result of our campus art program, which is bringing 11 new works to our campus, including works by Turrell, Surls and soon, Plensa and others. But we still need to increase our commitment to the arts. Following the recommendation of a student-led committee, we placed $1 million from the sale of the KTRU transmitter and FCC license into an endowment for student art programs and to fund preliminary studies on a new building to replace the temporary building that has housed our visual arts faculty for 40 years.

VALUES

Over the last seven years, I have increasingly come to appreciate the things about Rice that set us apart. We are a special place and face special challenges. We aspire to be among the world’s foremost research universities, while remaining comparatively small and providing personal attention to the success of our students. Although our resources are a key element of our success, so are our culture and our values. It is important that we work to reaffirm those values, as they help assure that even as we and our environment continue to change, we will preserve those things that have been best about Rice.

When I spoke to our undergraduates at matriculation, I also emphasized the importance of Rice values.[13] In order that both they and I might remember them, I used the four letters of Rice – R, I, C, and E – to encapsulate those values. They stand for Responsibility, Integrity, Community and Excellence. I asked our students, as I ask our staff and faculty, to take responsibility not only for their individual success, but for Rice’s success. Our integrity in everything we do – in the classrooms and in the laboratories, in our writings and public speeches, in academic endeavors and in athletic competition – is central to who we are and the reputation we enjoy. That sense of honor is embodied deeply in our honor code, and even in our school song, “Rice’s Honor.”

Our sense of community is at the heart of what makes us a distinctive. It is a community where all of us stand ready to help each other, whether in a hurricane or finding a building on campus. Outsiders who visit Rice often quickly experience that sense of community. I suggested to the students they adopt a new texting acronym, “HCIH” – How can I help?, and hope that will characterize as well for faculty and staff the way we interact with each other. We are an increasingly diverse community, and that requires that in our actions we be sensitive to the experiences and perspectives of others. Finally, we are committed to excellence in all our endeavors. That means not only that in everything we do the very best we can, but that we then ask how we can do it better.

OUR PLANS

Let me conclude by talking a bit about our future. In the near future, we must place the greatest emphasis on the recruitment and retention of outstanding faculty who will continue to enhance the reputation of our university. Where appropriate, we must work with departments and schools to recruit small clusters of faculty who we might not be able to bring to the university individually.
Across the board, we must as previously mentioned figure out how we can best support our faculty’s research ambitions in a changing environment. We must assure that our compensation practices are competitive.

On the academic front, we must continue the articulation and implementation of the three initiatives identified last year in energy, biomedical research and international programs. Our international relationships must increasingly focus on the department to department or program to program opportunities for joint research and education. Important new programs, including perhaps our first dual degree programs, are emerging with the two best universities in China, Tsinghua and Peking universities, although we see many opportunities for such collaboration throughout China.

We are also significantly strengthening our ties in Latin America, where Brazil is emerging as our most promising priority. We will soon have 15 tenured and tenure-track faculty in Latin America-related fields, more than three times what we had just five years ago, plus a new Baker Institute fellow. An extraordinary opportunity is emerging for us in Brazil, as we build both on faculty expertise across the university and in the strategic interface between Brazil, Houston and energy.

Of course, while these three strategic areas are vital to our future, the interests and creativity of our faculty encompass many other important fields of research and scholarship. It is in part for this reason that we decided this year to relaunch the Faculty Initiatives Fund. As before, the primary premise underlying the fund is that faculty talent, commitment and initiative is a scarce resource that needs to be nurtured, in some cases with institutional seed funds. Some of those initiatives will mesh with broader focused strategies of the university, but others will not. The fund will provide small amounts of resources each year to enable faculty members to develop adventurous projects that will improve the university and enhance its reputation, and that might lead to larger endeavors, research breakthroughs, external funding opportunities or unusually creative works.

Although we have taken increasing advantage of collaborative opportunities with nearby institutions, there are even greater opportunities ahead. In areas like global health, neuroscience and bio computation, we can build extraordinary programs if we build deep collaborations with the Texas Medical Center, and especially with the Baylor College of Medicine. And I believe we have only begun to tap the collaborative potential with the Museum of Fine Arts Houston and the Menil Collection.

Under John Hutchinson’s leadership, we have seen the beginning of new programs on student leadership and communication, and a new structure for faculty mentoring. In the last few years, there has been new academic programming in the colleges, led by the college-based Societies of Academic Fellows, launched in 2006. Another innovation has been student-taught courses, with 29 offered this fall. Each course has a faculty sponsor, and each student teacher participates in a teaching practicum led by the college masters.

And yet, we have indications from survey data that, while our students find a strong sense of community at Rice, they are not always sufficiently challenged and engaged in the classroom. In a spring 2011 survey of enrolled students, 53.6 percent said they were “very satisfied” with the sense of community on campus, well above our peers, but only 21 percent said that they were “very often” excited by class, and only 27 percent reported participating in class discussions “very often.” These numbers are below those of our peers, so we must take steps to ensure that we are using our talented faculty in ways that fully engage our students.

Although as we approach the centennial we will have a substantial lull in construction, some projects are on the near horizon depending on funding: a new home for the Glasscock School of Continuing Studies, for which more than half the funding has been raised, and possibly a new arts center.

LOOKING FURTHER AHEAD

But as we approach our centennial, we must do more than look a year or two, or even five or 10 years, ahead. I cannot overstate the pressure that higher education is under today. The attacks on higher education — on our cost, on the connection between teaching and research, on academic freedom, on the effectiveness of our education, on almost every aspect of what we do — are relentless. I am confident we will withstand most of these, but the world is changing in ways that will inexorably change our institutions.

We need to have conversations about these longer term trends. I was therefore pleased and grateful that at the first Senate meeting this year, the idea was raised for a new university-wide discussion of our evolving vision for the second century and its development over the next 20 or 25 years. The university ecosystem is changing rapidly with regard to research funding, technology, globalization and commercialization, posing major challenges for our teaching, research and scholarship missions. We must consciously explore how we respond to these changes while maintaining our core values and the things which have set us apart. I urge all of you to participate as the Senate lays out a format for these discussions, beginning this year, of our long range vision and strategy.

As we approach our centennial, we know we cannot rest on our laurels. We cannot rest both because we have not achieved our full aspirations and because we operate in a highly competitive and dynamic environment. We must continue to be bold, to seize
new opportunities when they arise, and act to create opportunities. If it seems like the bar is being set ever higher, that is because it is. When Edgar Odell Lovett spoke of there being no upper limit, perhaps he had mind the ever evolving nature of a great university. (Or for those of you with small children, as Buzz Lightyear would say, “To infinity … and beyond!”) These are challenging times, but Rice’s history is one of rising to those challenges and, speaking at least for myself, I have never been more confident of our ability to do so.