

An Open Letter to the People of Purdue

January 2015

To anyone hoping that the year just past would see a return to “normalcy” in the once-secure world of American higher education, 2014 brought no comfort. Each of the difficulties and criticisms that have arisen over the last few years continued and if anything were amplified. Total national enrollments fell by more than a percentage point for the third straight year. Community colleges and proprietary schools were hit the hardest, but no sector was immune. Even Ivy League universities saw drops in applications, with Dartmouth’s down 14%.

A host of schools, public and private, reported severe financial problems. Moody’s found that one in ten four-year universities is facing “acute financial distress,” and downgraded the credit rating for dozens of them, and for the sector as a whole. Faculty layoffs are no longer unusual: Colleges like Georgetown (Ky.), Quinnipiac, and the University of Southern Maine undertook some of the largest. Some smaller schools, such as Virginia Intermont, closed completely.

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At the other end of the size spectrum, trouble also abounded. The University of California system is more than \$18 billion in debt. Its leaders have asked for a commitment to five straight years of 5% tuition increases, sparking a contentious statewide debate. Public support for higher education, cut dramatically in many states over recent years, is far from a complete explanation, but has contributed: Funding is down 20% in Nevada, 28% in New Hampshire, and 32% in Arizona, since 2008, for instance.^[1]

As one consequence, tuition levels and student debt continued their ascents, although at slower rates than in the recent past. Tuitions still outpaced inflation, and a record number, almost half of all applicants, declined admission to their first-choice school for cost reasons.

" All in, 2014 may be

The class of 2014 was labeled “the most indebted ever,” with more than 70% leaving school with loans averaging an all-time record of

judged a year of progress at our university. But to rise above the threatening environment which now envelops our whole educational sector, and to prove the critics and forecasters of doom wrong at least in our case, much more decisive action will be required."

\$33,000. The problem is not offset by increases in earning power: While student debt jumped 35% between 2005 and 2012, the median starting salary dropped by more than 2%. Historically high percentages are unemployed, and a discouraging 44% of recent graduates are working in jobs that do not require a college degree. Forty-five percent reported that they had resumed living in their parents' home.

But more alarming to me than any of those statistics was a finding by the Gallup Survey in October. The percent

of Americans who believe that a college degree is "very important" has plummeted, from 75% in 2010 to 44% today. With critics relentlessly pointing out the lack of results or demonstrated quality to justify the soaring costs, this stunning diminution is unlikely to reverse as quickly as it came.

The year closed with another barrage of attacks: A highly promoted CNN documentary titled "Ivory Tower" was devoted to questioning "the cost, value, and methods of higher education in the United States." A Washington Post column concluded, "A Reformation is coming, and its message will be the same as it was 500 years ago: Don't outsource your future to a big institution." Any institution still in denial or disdainful of these concerns runs the risk of becoming the next Southern Maine or Virginia Intermont, and would probably deserve its fate.

THE YEAR AT PURDUE

I think it is accurate to say that our university, so far, has stood somewhat apart from these dreary trends, sometimes by virtue of inherent strengths, in some instances because of actions we have all taken together. Operating now under the banner "Higher Education at the Highest Proven Value," we have accepted the legitimacy of the concerns now so prevalent, and the responsibility to address them actively wherever possible.

On the measures of success on which observers and regulators now increasingly focus, our progress is significant. Four-year graduation rates have climbed some 10% in just five years, and look likely to pass 50% this year.^[2] Our six-year graduation rate has also grown sharply, now standing at 74%. Very encouragingly, our retention of students from freshman to sophomore year (93%) and sophomore to junior year (86%) has reached record levels, implying further improvements in on-time graduations.

With tremendous assistance from our faculty, who offered an unprecedented number of required or popular courses, summer credit hour enrollment has risen 19% in the last two years. This result did not happen easily, and ran counter to a national trend. But if it can be sustained, it will deliver yet another powerful boost to graduation and progress rates.

The academic readiness of entering students has continued its strong improvement, with the 2014 entering class, though slightly larger than its recent predecessors, again the strongest ever, and again with test scores and overall profiles well above all our sister Indiana public universities. (I thought it best to state that obliquely!) Without question, the rising caliber of our student body is a principal driver of these better success rates, but we will not rely on ever-increasing selectivity to produce those successes; more on this later.

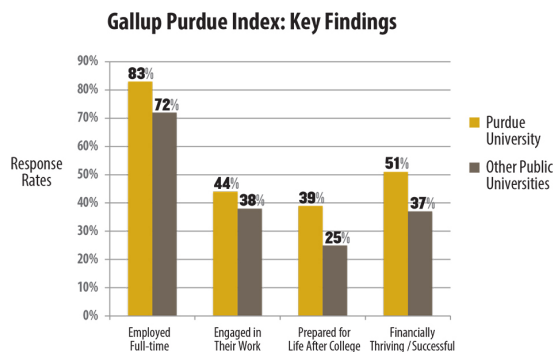
"We should pause more often than we do to salute the hard work of those support, clerical, professional, and facilities staff without whose diligent work none of these accomplishments would be possible."

Our remarkable faculty helped drive these student achievements, and also turned in another year of excellence in expanding the boundaries of knowledge. Total research funding reached a near-record \$389 million, with dozens of individual recognitions ranging from our senior leaders, led by Graham Cooks' selection for the most recent Dreyfus Prize in Chemistry, down to young talents like Tamara Moore and Jeff Karpicke, recipients of the Presidential Early Career Award for Scientists and Engineers (PECASE). Five professors were named to the National Academy of Inventors, and

Jan Allebach became our newest member of the National Academy of Engineering.

Along with faculty distinctions, student achievements are a mark of our overall excellence, and here, too, progress was noteworthy. Alerted by a former student that Purdue had no adequate concerted program to identify, encourage, prepare and assist promising student scholars, we organized such an effort under the label [NISO](#) (National and International Scholarships Office). Its first cohort has already won Purdue's first Mitchell Fellowship, our first Gates Cambridge Finalist, and produced a record number of finalists for such awards as the Fulbright, Marshall, and Churchill. (Ours is the only university in the country with two Churchill finalists.)

Confident of what we will learn, Purdue seeks to be a leader in the new Era of Accountability that is rapidly coming to higher education. Last year saw the inaugural [Gallup-Purdue Index](#), the largest data base ever assembled to evaluate the life success of American college graduates. The Index generated a constant stream of prominent national press coverage, through regular reports of its findings, and positive commentary by authors and columnists who have studied them. But national recognition for Purdue, while welcome and helpful, was neither the motive nor the principal value of the project.

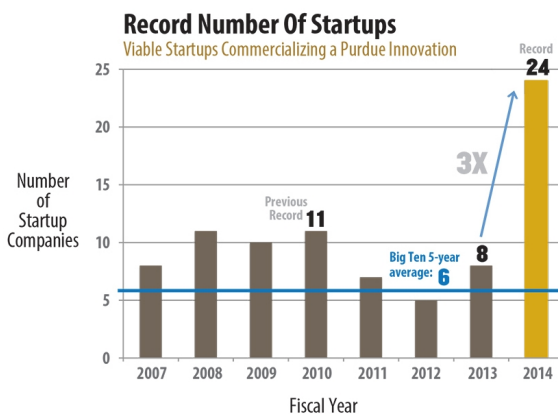
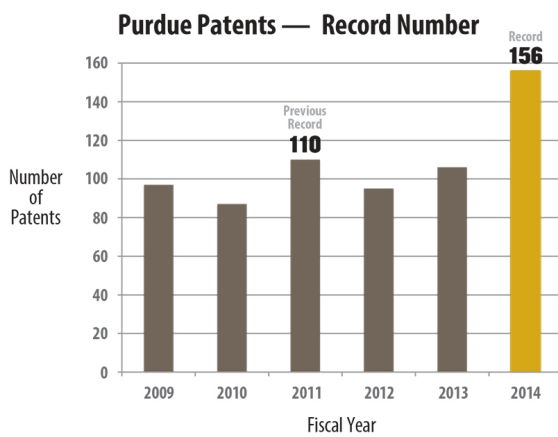


As was the intent from the outset, we became the first university to commission a contemporaneous study of our own alumni, for comparison to the Index's first-ever

national benchmark. As we strongly suspected, we found that, in every dimension Gallup measures, Purdue alumni are thriving in life compared to other college graduates. This, of course, is a tribute to the faculty, administrators, staff, donors, and all those who built the university that prepared these high-achieving citizens all those years ago. These authoritative findings give us a credible basis for asserting to potential students and their families that a Purdue education is truly out of the ordinary.

Even more important, however, are the lessons the Gallup-Purdue Index provides for how we make today's Purdue even more valuable, and even more distinct from its competitors. The positive impact of internships, undergraduate research, and especially personal attention by faculty members is emphatically plain from the GPI data. It tells us that these features, while always part of many students' experiences on our campus, must become as nearly universal as we can make them.

Another realm of truly impressive improvement is reflected in the explosive growth of technology transfer, the movement of our research breakthroughs into useful applications in the marketplace. Our faculty, and not infrequently our students, are shattering all records for new patents, licenses, and new startup companies, and are set to lead the Big Ten and virtually all peer institutions in these categories. Our leadership teams at the Purdue Research Foundation and in our Office for Research and Partnerships are working diligently and seamlessly to support our faculty who are interested in commercializing their discoveries, and in establishing Purdue's growing national reputation as a true "Entrepreneur U."



A similarly strong performance was turned in by our University Development Office, which logged one of the strongest fundraising years in school history, and attracted more first-time donors than ever before. Especially heartwarming was the record set in donations for student assistance, as Boilermakers everywhere responded to our commitment to affordability. These fine results notwithstanding, we have set very high goals for the next few years and, with our sesquicentennial approaching in 2019, you may expect the launch of a highly ambitious effort to boost our financial resources, timed to that exciting event.

We should pause more often than we do to salute the hard work of those support, clerical, professional, and facilities staff without whose diligent work none of these accomplishments would be possible. We know that we must work to properly recognize their efforts by bettering working conditions as best we can. In the

one survey we have, Purdue employees ranked us in the Top 25 Best Universities to

Work For, the only Indiana school on that list. Eighty-six percent said they would recommend Purdue employment to a friend. We hope that these findings are reasonably reflective of our coworkers' views, and resolve to do what we can to justify such attitudes.

The community of scholars that comprises the essence of Purdue underwent some important changes, and growth, in 2014. We welcomed a new Provost, or rather, welcomed him back, as Dr. Deba Dutta earned his doctoral degree from our university. We have named a [new Dean of Liberal Arts](#), to whom will fall a host of critical tasks, some mentioned in the next section of this letter. Perhaps most notably, our faculty is now growing in every category: Tenured and tenure track faculty have increased from 1,849 in 2013 to 1,880 today; total excluding adjuncts are up from 2,804 to 2,920. Our "Purdue Moves" investments in engineering, computer science, and basic research areas make it likely that these numbers will go still higher in the near future.

A review of 2014 cannot omit to mention its most tragic moment, the murder on our campus of Andrew Boldt. A life of proven character and glorious promise was cruelly taken from us, and none of us will ever forget Andrew or the events of last January. We continue to be thankful for those who responded so quickly to ensure that the tragedy became no worse, and for their exceptional work day in and out. Statistically, our campus is as safe as any in our peer group, at or below the mean in every category of crime. Even though we constitute a "city" of more than 50,000 people at any given time, ours is literally one of the safest places anywhere in the country.

Some credit should be shared with our student body. Over and over, we receive evidence that student conduct at Purdue is superior to that in other universities. For example, each time the excise police undertake simultaneous sweeps of major Indiana campuses, citations and arrests at West Lafayette are fewer than at Indiana University or Ball State by factors of five to seven. While we seek further reductions, and zero is the goal, it is worth noting that Purdue students are demonstrating a level of character and maturity substantially above that prevailing across American universities in general.

Excise Police Incidents

Weekend	Ball State	IU	Purdue
2013 Grand Prix / Little 500	NA	235	53
2014 Grand Prix / Little 500	NA	187	38
August 22, 2014	47	74	10
November 7, 2014	26	26	4

As reported in various media

All in, 2014 may be judged a year of progress at our university. But to rise above the threatening environment which now envelops our whole educational sector, and to prove the critics and forecasters of doom wrong at least in our case, much more decisive action will be required.

THE YEAR AHEAD

The major investments we collectively call the Purdue Moves made reasonable progress in 2014, but this year must be a time of acceleration. Our colleagues in the College of Engineering and the Department of Computer Science added 43 new faculty collectively; by next year's letter, we expect an additional 50 to join us. Great credit is due these units for expanding their student numbers ahead of schedule: When

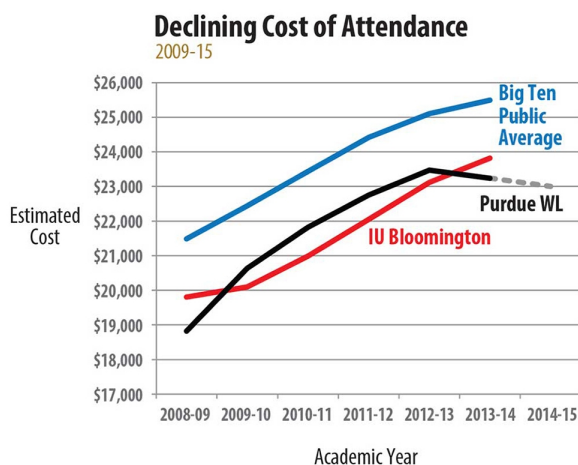
the new entering class is in place, we anticipate total student growth in these critical disciplines to have grown by nearly 800 since the Moves were chosen. Many thanks to our faculty for shouldering the additional work involved.

Similar commendation is owed to those who are overseeing our expansion of study abroad, and our rapid transformation of courses into the promising new pedagogies we label “[IMPACT](#).” 2014’s 28% increase in student international study must be extended this year. With 120 courses already modified into some form of hybrid or “active learning,” we believe we are literally leading the nation in such innovation. But this still represents a small fraction of all Purdue courses, and many of these “transformations” involve fairly minor changes in the traditional methods.

Our commitment of institutional financial resources to seek global preeminence in certain basic research categories has, it is only honest to say, moved slowly to date. Our College of Agriculture has advanced on several fronts in its Plant Science initiative, but we have yet to see the first “all-star” hires to augment our excellent coterie of researchers. In Drug Discovery, the other area selected, we have struggled in our initial attempts to recruit top-tier experts. We recognize the odds and the difficulties when aiming as high as we are in the brutal competition for top talent, but still we must find a way to successfully attract the world-class intellectual leadership we are seeking.

Meanwhile, we will take another step forward toward research excellence as we search for new leadership of Discovery Park. At the recommendation of a search committee which includes several of our most renowned researchers, this post will be designated Chief Scientist and Executive Director. Here, too, we must aim very high, and find a first-rank scholar who will bring intellectual vision as well as managerial leadership to this expanded role.

Of all the Moves we are pursuing, perhaps none has greater potential for true innovation, and national acclaim, than the impending conversion of our College of Technology into the [Purdue Polytechnic Institute](#). Reaction from would-be students at one end and potential employers at the other has been effusive. None of us underestimates the difficulty of a transformation as profound as that our Technology colleagues are contemplating, including its shift to new degree programs and a competency-based curriculum. We are deeply admiring of their boldness, and prepared to support them as vigorously as possible. 2015 must be the year that this exciting project takes flight.



Lastly, the overarching goals of accountability and affordability remain works in progress. The Gallup-Purdue Index meets half our accountability responsibility by documenting the results of our graduates after leaving school, but leaves the question, which our Trustees have committed to answering, of how much today’s students are growing intellectually during their Purdue years.

The Faculty Committee on Student Progress requested that this school year be used to test alternative systems for

measuring this growth; we must receive and implement their recommendation starting with the 2015 entering class.

On affordability, our collective efforts have begun to make a detectable difference. The overall cost of attendance at Purdue has gone down the last two years, for the first time on record. Total debt has dropped 18%, or some \$40 million, in those same two years, such that now our graduates with any debt owe amounts well below the national average. With cost now the first concern for high percentages of applicants, our proven concern on this score should differentiate us in a highly positive fashion. While we are not yet able to say what our tuition and fees will be beyond 2015-16, we have tried to be clear that our commitment to affordable access is a permanent policy and not a one-time gesture.

Closely related to affordability, and to the risks of a major upheaval in the higher ed environment, is the matter of capital spending. The last decade or so has seen a huge increase in the amount of fixed capital plant at Purdue. 2014 alone saw the completion of several new major buildings, including Lyles-Porter Hall, Bailey Hall, the Krach Leadership Center, and the Bindley Center expansion, plus the commencement of work on long-planned, enormously expensive projects at the Active Learning Center and the Honors College. Purdue already owns almost 400 buildings containing more than 12 million square feet, with several more under construction. Meanwhile, a recently completed audit by our new CFO Bill Sullivan's team has identified a startling 520 additional projects, projected to cost some \$800 million, to which the university has at some time or another "committed."

When the doomsayers predict the collapse of the residential model of higher education, and draw parallels to fallen industries like newspapers and big-box bookstores, massive capital assets and their concomitant debt and maintenance costs is always one factor cited. The impulse to put up a building at the first whiff of an attractive new idea must give way to a presumption that new construction will be the last, not the first resort.

As a first step toward getting a handle on this situation, the CFO's staff is working on a space utilization study. The work will take months to complete, but the first findings are graphic, and instructive.

Based on the initial findings, available classroom and teaching lab space campus-wide is being utilized to less than one-third of its capacity. Those rooms (only 40% of the total) under so-called central control appear to be used more than twice as frequently and as fully as those managed by departments. There are all kinds of practical reasons that not all space can be in use at all times, and we are searching for benchmarks to tell us what "good" is, but plainly this isn't it.

The Board of Trustees is in agreement that we must proceed with extreme caution in adding further to the university's long-term capital obligations. "Moratorium" would be too strong a term, but from this point on, any suggestion of new investment must be accompanied by a clear demonstration that the college, department, or auxiliary unit asking for such funds is using its current space to the maximum practical degree.

WHAT KIND OF UNIVERSITY?

Especially in a time of challenge and change, institutions are wise to continually reassess not just their practices but also their basic operating philosophies. In at least three dimensions, I believe a shift in emphasis is in order.

Our student body – I have learned so much in my first two years at Purdue, and much of that learning has caused me to change my mind about things. For instance, I abandoned the notion that our technology transfer activities should concern themselves with near-term revenues to the university, concluding instead that the goal should be maximum faculty success at winning patent protection, starting new enterprises, etc. I likewise have altered my views about our objectives in recruiting and enrolling new students.

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There is no question that Purdue's leaders and trustees chose thoughtfully a few years ago when they directed that our admissions policy should become more restrictive, aiming at higher-quality freshmen. Progress and graduation rates were unacceptably low, and limiting enrollment to better prepared entrants definitely was the major contributor to the improvements of recent years.

But, at a time when our state and nation need more well-educated — the latter adjective is essential — college graduates, one must ask whether a school like ours must accede to the tradeoff that higher selectivity implies. We believe we have learned a lot, and are now in some ways leaders in the assortment of interventions that contribute to student success. We have exchanged, or we hope we have, any cultural notion that our role is to "weed out" weaker students for an ethic that embraces the responsibility to help every possible student we admit to succeed and graduate.

We can do better. To take one vivid example, the software known as Signals, which provides early warning that a student is likely to struggle academically, was born at Purdue, and is now used all over the country. And yet, utilization by our own faculty amounts to a dismal 1-2%.

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With the profile of entering students so much higher than just a few years back, and the arts of student success allegedly so much better developed, it seems more consistent with our duty as a land-grant institution to seek a larger student body while remaining totally committed to our exceptional standards of rigor and to ever-higher graduation rates.

Given our current momentum, it may be that we can add students while academic

profiles continue to rise. But if not, so be it. As higher ed thought leader President Michael Crow of Arizona State says, “We should seek to be known by how many we send out, not by how many we turn down.” Accordingly, we have directed our admissions team to pursue a freshman class this year of at least 6,800 students, up from this year’s 6,373, and to expect somewhat higher targets in subsequent years.

Fully prepared graduates – Purdue is Indiana’s STEM university and proudly so. In an era which demands more and better trained engineers and technologists, our current expansions of our STEM disciplines are unquestionably justified.

But our land-grant assignment, and frankly that of any institution claiming to deliver “higher education,” is not limited to the teaching that produces scientific or technical expertise. Our task calls us to produce citizens, men and women who are able to think reflectively and creatively not only at the workplace but also to thrive in those other domains of well-being measured so interestingly by the Gallup-Purdue Index.

A study conducted by our Office of Institutional Research revealed that, of Boilermakers graduating in the Spring of 2014, only 40% had taken even a single economics class. Only 45% had taken any sociology, 40% any psychology, 23% any philosophy. Most troubling, 15% or fewer had completed even one government course, one literature course, or even a single American history course. The results are so concerning that I returned them twice for further verification. But even if they were to prove inaccurate by a very wide margin, that is no way to send the world either well-rounded workers or fully effective citizens.

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The advent last year of the new Core Curriculum should lead to some improvement in these troublesome figures. But its breadth, already comprising some 300 course options and climbing, gives no assurance that tomorrow’s graduates will experience the value that the liberal arts bring, either when studied as a major or in combination with a STEM concentration.

Senate Chair Patty Hart expressed the matter well before our Board of Trustees in December: “A well-rounded university should prepare students for a lifelong pursuit of wisdom and goodness ... (S)cience relentlessly seeks out what is possible, while the humanities add the study of what is moral ... Even as we discover new wonders, we need more than ever to ask the eternal questions.” Our Provost and Liberal Arts dean will be working with the faculty on ways to refine the current Core Curriculum to make sure that future Boilermakers do not leave West Lafayette without having encountered the essential facts and ideas central to the preservation and success of a free society.

A presumption of trust – As we explore ways we might be a more efficient and

effective institution, we continue to encounter systems, policies, and practices built with the right intentions but counterproductive in operation. Common to many of these is the implicit assumption that we cannot fully trust each other, and therefore need restrictive safeguards to make sure that no mistakes or misdeeds ever occur.

This pattern first became evident as we listened to staff and faculty complaints about some of our administrative systems. The Concur travel software, as implemented at Purdue but nowhere else we can find, requires expense projection submissions in advance of trips which, if inaccurate, trigger additional digital paperwork.

We have adopted an analogous approach to monitoring staff hours. In the Kronos system, in essence a 21st century punch clock, we tested a thumb-print identification to make certain that no one logged in for a friend. But when, not infrequently, the system failed to function perfectly, workers wound up standing in line awaiting their thumb's turn. As in the case of Concur, any savings reaped are probably outweighed by the lost time and productivity.

The alternative is to start not with a presumption that we are a community of chiselers but rather that we are a community of scholars and conscientious workers, in which wrongdoers are a small minority. Accordingly, CFO Sullivan has decided to substantially [simplify Concur](#), and to discontinue the roll-out of Kronos, unless and until it is simplified and workable.

This does not mean we are indifferent to those who would misuse university resources, or abuse the trust we are extending. Those few, and we know there will be some, who attempt to take unfair advantage will be dealt with firmly whenever apprehended. But, in choosing to assume the best about our colleagues and coworkers, we know that we will simplify and improve working life for everyone, while eliminating countless hours of administrative makework.

Judging from the complaints we receive, and the wasted effort they cause hundreds of times each day, these are not trivial matters. But there are broader applications of the same principle.

One of the major challenges we must tackle this year is to restore the number of students successfully transferring to West Lafayette from our own regional campuses and from other schools. That number declined by several hundred in the span of just the last few years. This has cost the university revenue but, more important, has cost hundreds of students, who have already proven their commitment to university-level study, the chance at a Purdue degree. (Analysis shows that transfer students progress and graduate at rates similar to freshman admittees.)

As our Provost fashioned our new Transfer Up program to address this problem, it became clear that the biggest reason for the precipitous drop was the refusal of various academic units to trust each other: of colleges to raise barriers to transfer lest some unprepared student slip through our admissions officers, or of departments to disallow credits earned at other schools or even elsewhere in the Purdue system.

Here, too, an alternative is to place greater confidence in each other, measure to determine whether the incremental transferees do or do not succeed adequately, and make adjustments if they do not.

WHAT WE ASPIRE NOT TO BE

Higher education's crises in 2014 were not solely of the financial variety. Events at far too many schools reflected a bankruptcy not of material resources but of values.

Headlined by the truly awful case of one major university, the sacrifice of academic integrity on the altar of Division I athletics reached a new low. Phony courses, phony grades, falsified homework, all enabled and managed for decades in plain view of scores of faculty and administrators — one well-known university generated the most attention, but everyone knows that these offenses are far from unique.

Every Boilermaker can be proud of an athletic program that insists on high standards of conduct, operates without subsidy from either student tuition dollars or the taxpayers, and upholds the ideals of genuine amateur college sports: real students, taking real courses, earning honest grades. We must never take this record for granted, and will continue to exercise all the vigilance we can design to guard against its ever being tarnished.

At other once-proud schools, academic integrity was violated in an even more fundamental way. These institutions disgraced themselves — no weaker term suffices — by capitulating to demands for the exclusion or “disinvitation” of perfectly reputable visitors invited to speak on their campuses. Such censorship in what are supposed to be society's safest refuges of full and free inquiry make a mockery of pretensions to the critical value of diversity.

2014 saw a wide variety of speakers, conferences, and guests at Purdue, offering a full spectrum of views and advocacy. Debate was often vigorous, but all were treated respectfully. Let us resolve that, whatever course other schools choose, ours will remain a campus where diverse speech is not merely protected but celebrated.

Amid its positive findings about alumni success and its key correlates in undergraduate education, the Gallup-Purdue Index uncovered one other noteworthy fact: To a degree strikingly higher than at other universities like ours, Boilermakers express a feeling of “strong emotional attachment” to Purdue. Any of us who interact with our graduates hears this sentiment voiced on a regular basis.

Surely much of this “ever grateful” attitude traces to the rigor, and therefore the excellent preparation for work and life, that Purdue has always maintained. But it's clear to me that in large part it also springs from the “big break” that our university has always offered to young people of modest means, who were able to develop their talents and pursue their dreams because a Purdue education was kept within their economic reach. Welcoming and actively seeking young people of all backgrounds and income levels is as central to our identity and our societal responsibility as it was when Abe Lincoln and his allies gave birth to universities like ours.

To protect and extend that noble, land-grant assignment; to do so while constantly improving the rates at which our students of all kinds successfully capitalize on their Purdue opportunity; to do so while building our reputation for excellence in teaching, in research, and in the effective transmission to society of the fruits of that research; here is a mission for which we can all be grateful to play a part.

And if in that process we can play some role in revalidating the essential importance of research-based, residential higher education, and in preserving the best-anywhere status of American research universities, that too would be an endeavor worthy of our best efforts.

I feel a “strong emotional attachment” to that mission, and the university to which it is home. I hope that you do, too.

Sincerely,

Mitchell E. Daniels, Jr.
President

[1] For purpose of comparison, Indiana spending went up 21% from FY2008-12, the 3rd largest increase in the country.

[2] It is important to note the limitations of this data, which only credits universities for students who begin in the fall semester and never transfer to another school.