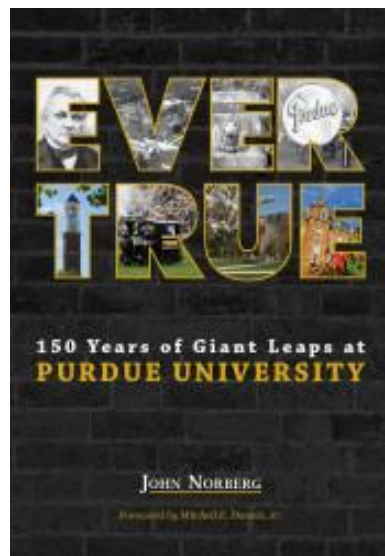


Annual Open Letter to the People of Purdue from Mitch Daniels

January 2020

150 years is a very long time. In an institution with a tradition of excellence like Purdue's, that's enough time to fill a library with achievements and contributions to society. As you know, we chose to celebrate our sesquicentennial not by looking back and reminiscing about our yesterdays, but by looking forward and examining, with the help of some of the finest minds on the planet, ways in which Purdue's special capabilities might make a better world tomorrow. The parade of brilliance that visited us during the year did, I believe, just what we hoped it would: provoked new thoughts, created lasting memories, and elevated Purdue on the world's mental map of places where truly deep and creative intellectual ferment happens.

But we did take time to honor our past. Most notably, we published John Norberg's updated history of Purdue, named like our record-breaking capital campaign Ever True. I heartily recommend the book to you. Surveying the tremendous accomplishments of our university and its people cannot fail to foster a sense of pride, but more important a sense of duty to chip in one's own small part in upholding and extending this legacy. My favorite feature of the book, and of a series of companion videos, is not the chronicle of Purdue's contributions to the advancement of knowledge, thrilling as they are, but the stories of the individual achievements of our graduates through the decades. I have often observed that, along with the chance to interact with bright and purposeful young people on a daily basis, the great joy of my job is to meet our alumni.



And what makes those encounters most striking is not the variety and illustriousness of their accomplishments, but the fact that virtually none of them

came to Purdue from wealthy or privileged backgrounds. Overwhelmingly, great Boilermakers lived out Abe Lincoln and Justin Morrill's dream; they came from the farms, the small towns, the inner cities, places from where the fast-emerging American middle class sprung. They came to study subjects that would matter in the world beyond college, and applied that learning to make that world better. Just as the institution has produced "giant leaps" in knowledge, our graduates have made giant leaps personally. If you haven't already, you'll find their stories as inspiring as I do.

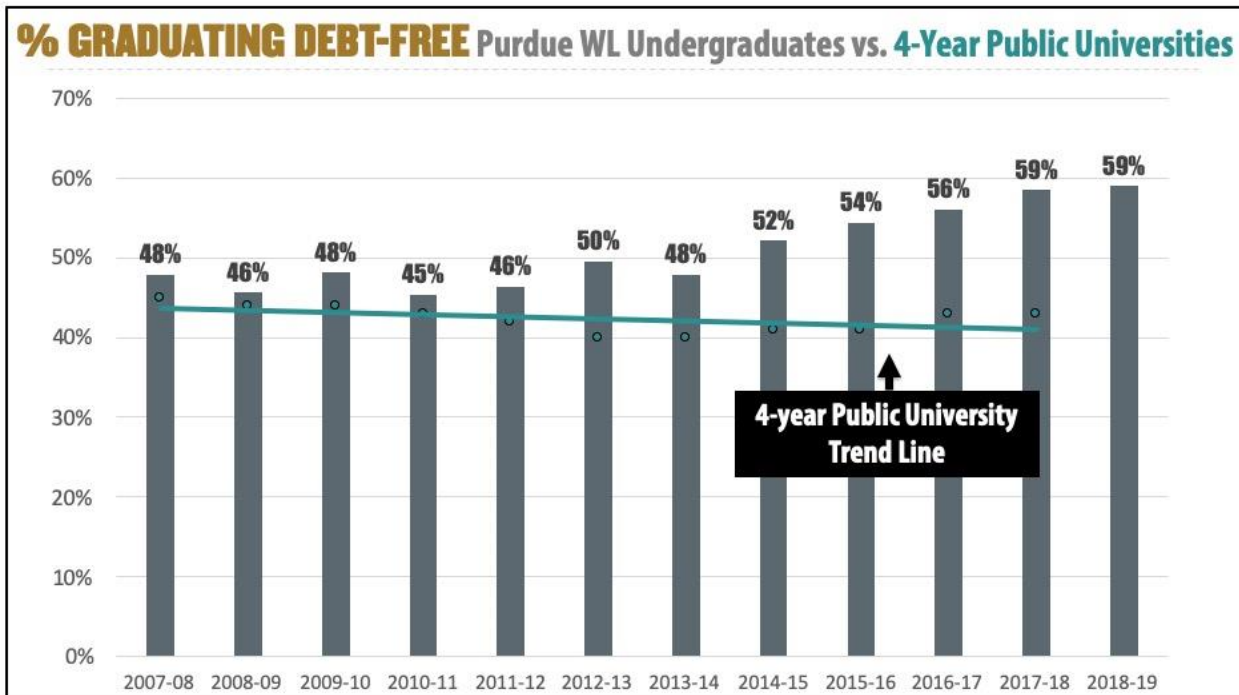
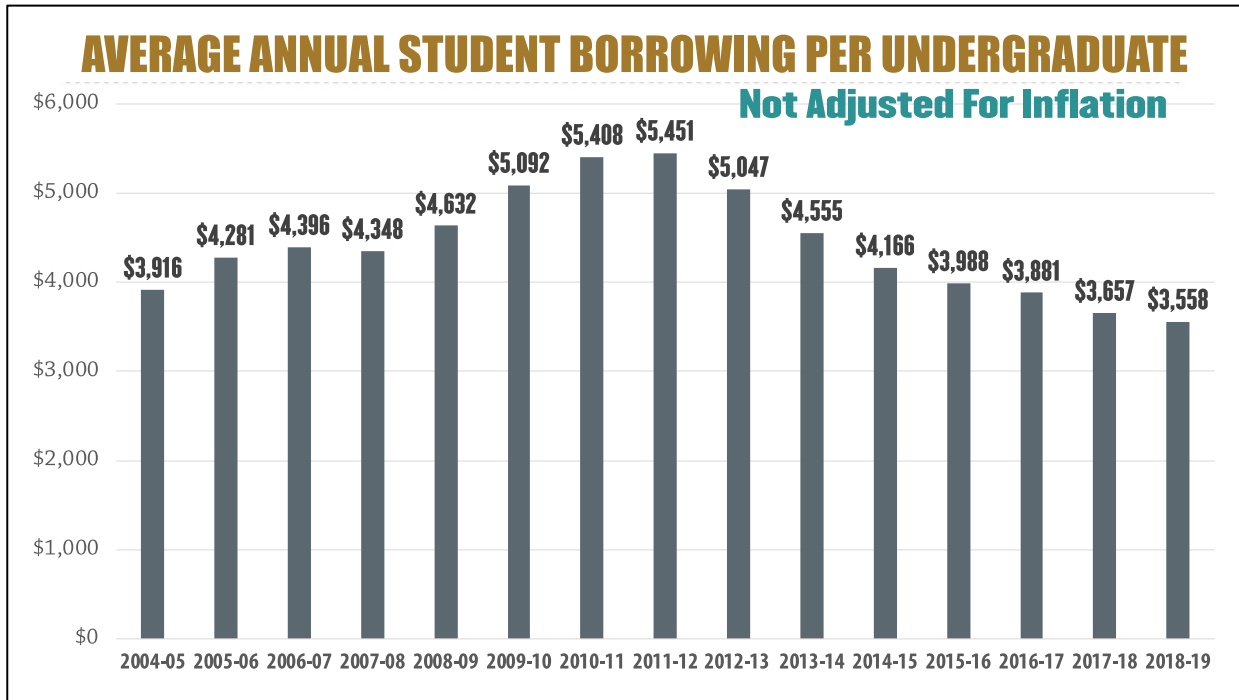
Imitation the Sincerest Form ...

Over the last couple years, the campus has seen a different parade of visitors, these from other schools or observers of higher education interested in one or another of the initiatives or experiments we have attempted. Outside the classroom, I am a big fan of plagiarism, and we regularly look elsewhere for good ideas we haven't thought of, and go "benchmarking" in hopes of self-improvement.

But there's no mistaking that lately we are seeing a "net in-migration," that is, a steady flow of people curious about various projects we have inaugurated, or pursued more vigorously than others. Groups who follow such things have singled us out as unusually "innovative," although as I sometimes joke, when the traffic is moving at 2 mph and you're going 10, people think you're a Ferrari. Still, whether it's in our laboratories or our practices and policies as an overall entity, being seen as innovative is not a bad reputation to have.

One set of past actions generating frequent inquiries include our total revamping of technology transfer and entrepreneurship on campus. Our string of record years in new patents, licenses, and startup companies is now well-established and constantly recognized elsewhere. In one tabulation this year, Purdue placed third behind only Stanford and MIT in birthing new companies based on university-created intellectual property. A little-known university in Cambridge, Massachusetts, trailed us in fourth.

Another source of visits is our track record of controlling the cost of a Purdue education. Since 2012, annual borrowing by our undergraduates is down \$57 million and the percent graduating debt-free is up 13 percentage points to 59%.



Along with other schools seeking ways to slow down their runaway tuition increases, we've been besieged by folks eager to know more about our Back a

Boiler program, which offers income share agreements (ISAs) as an alternative to the more expensive forms of student debt. We received so many such inquiries that we hosted an all-comers conference last spring that saw close to 30 schools as well as interested investors gather on campus.

I am frequently asked for presentations in other states about things we have tried at Purdue. I typically decline, but when I am cornered somewhere I begin an answer by saying that we are not prescribing anything we're doing to anyone else. Tuition freezes, 3-year degrees, a Purdue Global that serves the adult learner/college non-completer population, or any of our other initiatives were chosen because we believe they fit our university and its mission; we do not tout them as necessarily suitable for others.

ISAs are different. In this one case, we are glad to see a growing list of other places starting similar programs. The reason is that, if the ISA is to help reduce student debt for a meaningful number of young Americans, the practice needs to be employed at scale, so that significant repayment history accumulates across geographies, academic disciplines, and types of institutions. The recent traffic flow of interested parties we are seeing, along with accelerating positive commentary about the ISA concept, suggests that this expansion may be about to happen.

Two even younger projects attracting national attention are the product of some remarkable leadership by our faculty colleagues, and each has special importance to me because they address serious gaps between the fine university we are and the fully excellent, top-tier university we must aspire to be. I am referring first of all to Cornerstone, the program of our College of Liberal Arts that seeks to ensure that ideally every Purdue student, regardless of major but with special emphasis on the two-thirds of undergraduates pursuing a STEM degree, has a serious encounter with the humanities.

Second, I am speaking of our Purdue Polytechnic High Schools, our attempt to augment the unacceptably small number of low-income, first-generation, and minority students leaving Indiana high schools with the academic preparedness that success at today's Purdue requires.

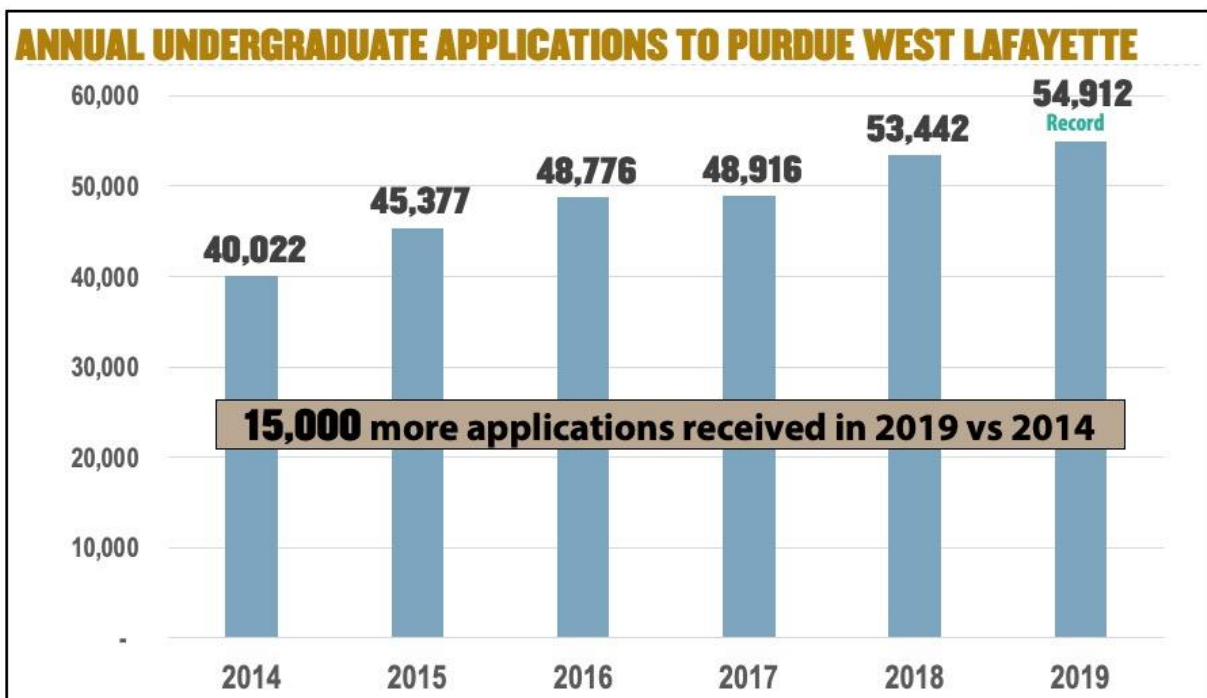
The last couple years have brought an overdue national reawakening to the value, even the necessity of the skills and perspective a solid liberal arts exposure can build. When asked recently about the qualities they need most in new hires,

employers listed writing skills as number one, even ahead of abilities like STEM skills.

While open to all undergrads, the Cornerstone certificate, providing 15 credit hours of great literature, history, and other liberal arts courses, is especially suited to balance the peerless technical training a Purdue STEM student receives with an immersion in the best that has been thought and written in the past. The true leaders in today’s technology-dominated age will be those with a grasp of the historical context and social implications of their innovations, and an ability to communicate about those issues to co-workers and external audiences alike.

Unsurprisingly, Cornerstone started attracting lots of national attention this past year along with its own stream of inquisitive visitors.

Our second Purdue Polytechnic High School opened in the Broad Ripple section of Indianapolis this last August, joining our downtown location, now in year three. We also are in active discussions with the South Bend Community School Board about a third high school to be located on the west side of that city, as our hope is to create a network of such schools across the state’s population centers. Tourists from around the world of K-12 education, including the U.S. Secretary of Education, have come to see them. Let me take a moment to review why we have attempted this new, uncertain and even daunting project, and why it is approaching a critical juncture this upcoming year.



Each enrollment season, I request and then am instantly dejected by the following statistic: In the entire state of Indiana, how many underrepresented minority (URM) students graduated from high school with an academic profile (GPAs and standardized test scores) at the current Purdue median? (I say “current” because the explosion in applications, 55,000 for the 2019 class and apparently headed higher again this year, has been accompanied by each new class arriving with a higher, record-setting profile. In other words, the bar keeps going upward.)

Here are the thoroughly discouraging numbers for the last few years: This universe of clearly prepared candidates, for whom every college private and public is avidly competing, is unacceptably tiny if we are to continue and accelerate Purdue’s growth in serving such students. To be clear, we have made record progress the last few years, in the numbers and composition of both student body and faculty, but it has been far too gradual.

NUMBER OF INDIANA HIGH SCHOOL GRADUATES WITH SAT AND GPA			
IN PURDUE’S AVERAGE RANGE By Race			
Year	All Races	African American	Hispanic
2017	9,112	320	560
2018	8,072	298	470

IN TOP 15% OF PURDUE FRESHMEN By Race			
Year	All Races	African American	Hispanic
2017	654	9	25
2018	512	5	13

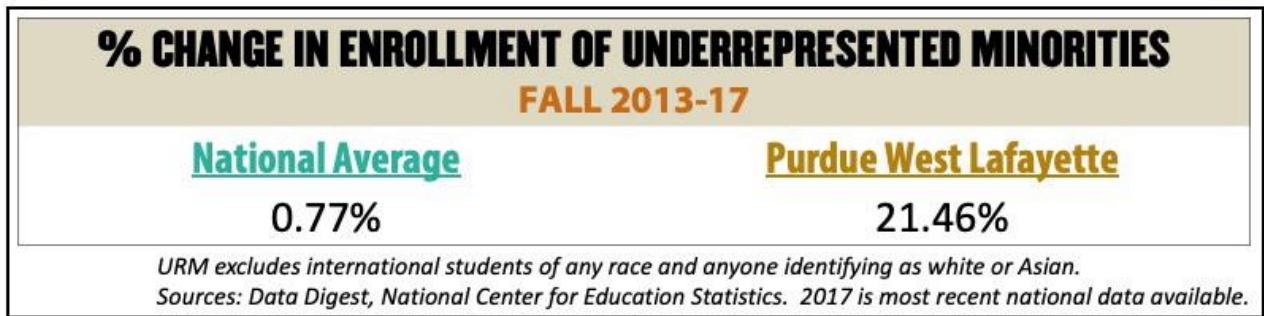
Purdue West Lafayette Only

% GROWTH IN UNDERREPRESENTED MINORITY PURDUE EMPLOYEES 2013-18			
Year	2013	2018	Growth
Faculty / Instructors	197	291	47%
Staff	988	1,213	23%
Total	1,185	1,504	27%

URM excludes anyone identifying as white or Asian.

For context, the problem is national in scope; the Chronicle of Higher Education reports that overall black student enrollment peaked in 2010 and has dropped by 13% since then. Department of Education data show an even larger drop. Our

land-grant cousin North Carolina State, for example, suffered a black enrollment decline of 26% between 2010 and 2017. There is some evidence that part of the decline in national black college enrollment is actually a reporting and identification issue with more African Americans self-identifying as belonging to more than one race since that became an option about a decade ago. Regardless, we all agree the nation would benefit from more progress.



We launched the Purdue Polytechnic high schools in 2016 as an attempt to build our own pipeline of talent from these target populations. If you aren't familiar with the unique approach taken at these schools, under the wonderful oversight of our Purdue Polytechnic Institute (itself, you'll remember, a brilliant innovation as it transformed itself a few years back from the previous College of Technology), here's a short description: <https://pphs.purdue.edu/about>.

The first PPHS graduates will receive their diplomas just seventeen months from now. It has always been our goal to enclose a Purdue acceptance with as many of those diplomas as possible. A student-by-student review I requested by our Admissions Office reported that at least one-third of our 115 juniors look clearly Purdue-ready. Another one-fourth or so appear to be strong possibilities, and the main reason for the review was to identify them and see what extra effort on our part might ensure that they join the first category.



Purdue Polytechnic High School Downtown students and faculty

These numbers may seem small and, of course, the goal is to maintain and grow them each year, especially if we can bring new schools successfully on line. The following chart reveals what a difference even this first cohort could mean compared to the reality we have been living with.

CURRENT INDIANAPOLIS PUBLIC SCHOOL PIPELINE		
Year	# of Purdue freshmen enrolling from IPS	% of IPS class enrolling at Purdue
Fall 2015	30	2.6%
Fall 2016	22	2.95%
Fall 2017	42	3.72%
Fall 2018	32	2%
Fall 2019	34	2.68%

Enhancing the scholastic readiness of PPHS URM students has been an exciting and promising endeavor. Bringing them to campus several times a year has, we hope, given them confidence that they belong and are welcome at Purdue, and are truly ready for its challenges. But this year, we must turn our attention to the final barrier that could keep some of these young people from joining us at West Lafayette, namely that they find it financially unaffordable.

I have asked our Development Office to open a specific scholarship fund for the graduates of Purdue Polytechnic High Schools, in hopes of removing cost as a stopper. How sad it would be if we go to the enormous effort involved in creating and operating these unique schools, only to see students we have assisted not take that last step and join the Boilermaker family. Cheri and I are making the first donation; anyone interested in helping out can learn more here: <http://giving.purdue.edu/PPHSfund>.

Our Midwest Home — The Half-full View

I devoted a section of last year’s letter to the undeniable demographic and economic “headwinds” facing higher education, especially in the Northeast and Midwest where a disproportionate number of the nation’s colleges are located. The U.S.-wide “birth dearth,” which poses a variety of long-term problems for our entire country, is visiting some of its earliest and most severe consequences on our sister institutions in our region and up through the New England states.

Higher ed headlines in the latter months of 2019 featured words like “crisis,” “doomsday,” “panic,” and “enrollment crash.” Sadly, the year produced ample evidence that these terms may not be hyperbolic. One fourth of the colleges once in Vermont have now closed. A Harvard researcher told CBS News that he expects 25% of all schools to fold, merge, or go through some form of bankruptcy in the next two decades.

Companies have formed to consult with colleges on how to handle closure. One such company conducted a study with Brandeis University researchers that identified 946 private nonprofits that it expects to shut down in coming years. The organization suppressed its analysis under threat of litigation from a number of the schools on the list.

The problem is not limited to states to our north and east. Articles with titles like “Illinois higher education in disarray; can it be saved?” have catalogued the shrinkage of many of our neighbor’s “directional” state schools, where enrollments at the Carbondale, Charleston, and Macomb campuses are down by more than half from a decade ago.

As President Ronald Reagan, an eternal optimist, used to say about the proverbial pile of manure, “There’s got to be a pony in there somewhere.” I think it’s possible to spot more than one pony, if we take the right actions with the required vigor.

One bright spot is that much if not most of the flight from traditional higher ed is occurring at private schools, often those with high price tags and what looks like watered-down academic programs. This surely can operate to the advantage of public schools that teach things that matter in the marketplace, teach them with rigor and demonstrable results for their graduates, and do so at an affordable price.

Whether in a business facing a tough market, a state competing with 49 others during a national recession, or a university in times like these, there is always an opportunity to outperform the competition and earn market share that more than offsets an overall decline in demand. In fact, that’s what Purdue has been doing, when one recognizes that we have seen record applications and enrollments while total college enrollments have dropped each of the last several years.

Another reason for optimism is that long-term trends, largely adverse for so long, may soon be operating very much in the favor of the region where we reside. States on both coasts now have problems, many of them self-inflicted, that they

must see as very ominous if they are paying attention. Individuals and businesses are exiting states like California, New York, and Connecticut, exacerbating the low birth rates already mentioned. Policy choices that have jacked up the cost and inconvenience of doing business have many firms looking elsewhere, and energy consumers enduring shortages and the nation's highest costs, not to mention power blackouts ordinarily associated with third-world countries. CNBC has started a series of programs called "Growth in the Heartland" to examine the now-evident "renaissance" of many Midwestern cities, including nearby Indianapolis. I joined AOL founder Steve Case as the presenters at the 2019 finale show.

Over time, these developments are highly promising for schools like ours, but only if we take thoughtful and forceful action to take advantage of them. This starts with a superior academic offering, with a concentration in the economically prized disciplines of data, computer, physical, and life sciences, but extending across all areas through initiatives like Cornerstone. But it also will require a resolute, sustained program to build a living and working environment that successfully attracts the most talented faculty, students, and businesses in the country. That is the ambition that animates our Discovery Park District project, through which we imagine a future Purdue surrounded by thriving, high-tech businesses that employ our students, fund exciting new research by our faculty, and bring thousands of new citizens to our area. The good wages paid to those employees will in turn generate new cultural, culinary, recreational, and retail investments in a constantly more attractive Greater Lafayette.

There is reason to believe that this image is not fanciful. Due primarily to our State Street and Discovery Park District undertakings, Purdue was selected to receive both the APLU's 2019 Innovation and Economic Prosperity Place award and the Institute of Transportation Engineers' 2019 Complete Streets Council Best Project Award. And, in what one hopes will prove a pattern and not an aberration, Tippecanoe County registered the fastest year-over-year growth in average weekly wages in the entire U.S. for calendar year 2018. In December, West Lafayette was ranked among the nation's top 25 college towns, the only one to make the list in Indiana.

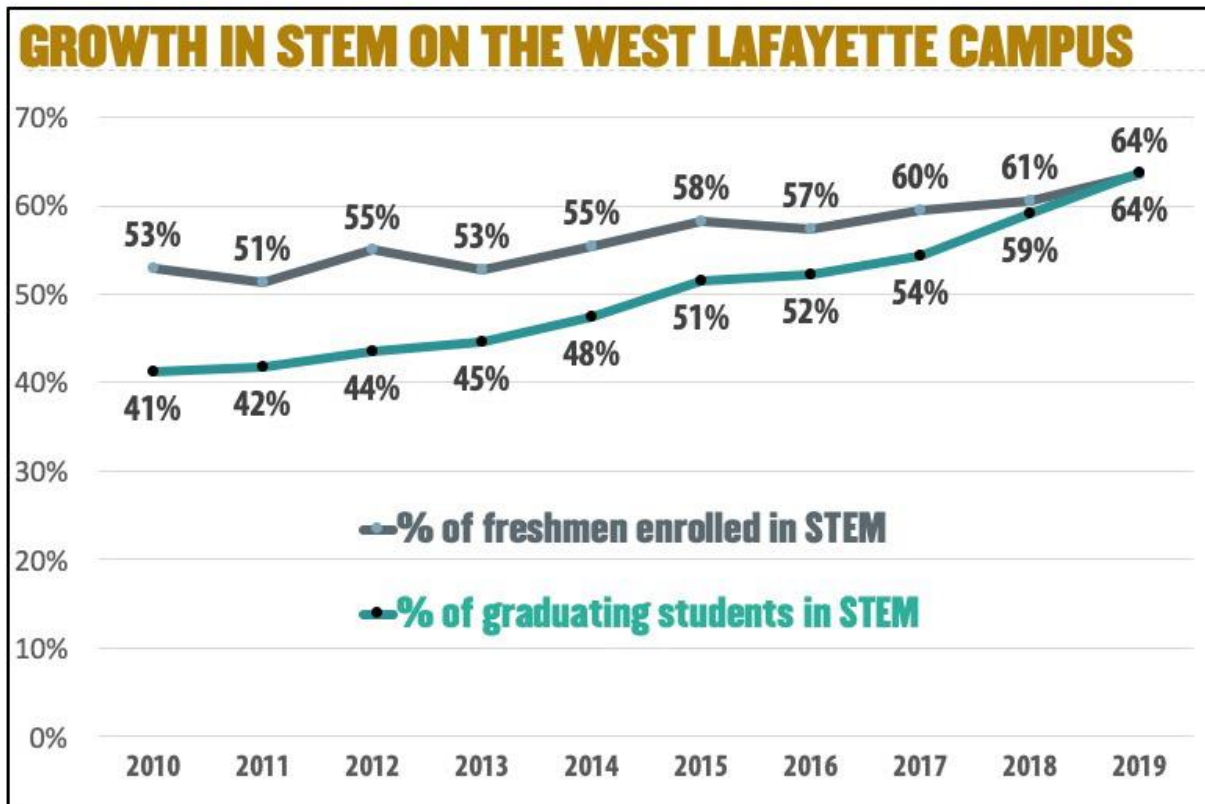
Keeping up With a Growing Purdue

2020 will bring the next set of decisions and investments bearing on this potential future. The Convergence and Continuum buildings will open on State Street, offering space to corporate and governmental partners, and new adult residents respectively. But the core of our capital investments will remain those that support

our central mission, the teaching of students and the creation through research of new knowledge for the world.

As detailed in this letter last year, our Board is analyzing on a rolling basis the question of Purdue's most appropriate size. The current direction is to continue our growth beyond the consecutive records we have been setting in each recent year. Our target for 2020 of 8,100 entering freshmen would take the total undergraduate body to an estimated 34,394. This compares to 29,440 in 2013. Unnoticed at the time, during Purdue's 150th year, we topped 100,000 students as a system thanks to the addition of 30,000 from Purdue Global. Watch for a separate message next month summarizing this landmark and how it has changed and diversified our student body.

Record enrollment, coupled with a continuing trend in the direction of STEM majors has put tremendous pressure on our classroom, lab, and other academic facilities.¹ We have made great strides in utilizing our existing capacity. Alums will be interested to know that evening classes and Saturday labs are back in vogue! But still we are bumping into physical limits.



¹ Purdue consistently ranks among the top three most STEM-centric research universities in the country. Since 2013, our freshmen studying STEM have grown from 53 percent to 64 percent.

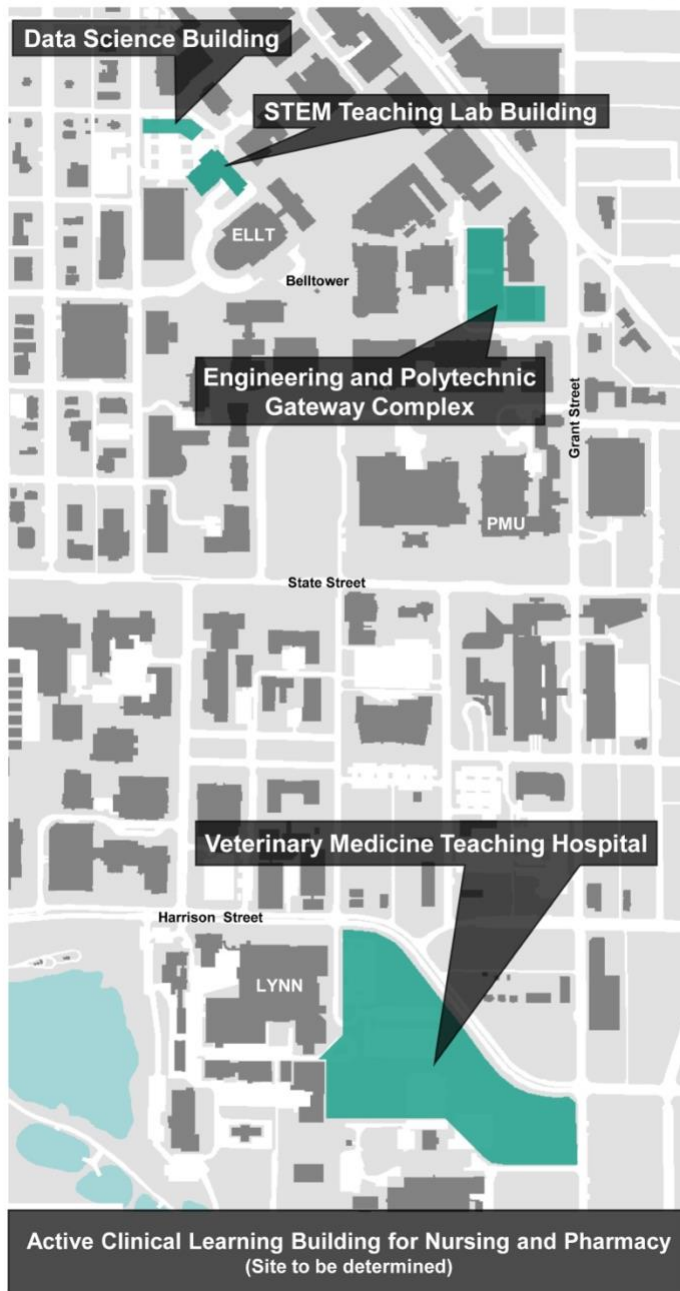
This August, our new STEM building will open, featuring the world's most advanced teaching facilities. The building will enable instructors to incorporate so-called "Internet of Things" technologies into the classroom laboratory. In place of the traditional lab notebook, instruments will send data to tablets, and students will access interactive lecture notes and lab manuals digitally. Already on the way is the Gateway complex on our southeast quadrant, an enormous new teaching facility to be designed and shared equally by the College of Engineering and the Polytechnic Institute.

Next will come our new Veterinary Teaching Hospital, replacing the nation's oldest such facility and one which, had we not replaced it, might well soon have cost our veterinary college its accreditation. Instead, in the most successful year in Indiana history in terms of the state's investment in Purdue, the legislature decided to fund this hospital as well as a big piece of the Gateway. Clearly, members of both parties have come to agree when we say to them, "In today's world, if you didn't have a Purdue University, you'd be trying to invent one."

There's still more to do. Next comes a Data Science Building, to accommodate not just the explosive growth in student interest in that field, but even more importantly our intention that every Boilermaker receive at least some training in this soon-to-be-essential skill. We must make at least an acquaintance with data science as ubiquitous as English composition has been historically.

Finally, we are beginning planning for a new Active Clinical Learning Building for Nursing and Pharmacy. Our excellent nursing program, which has been forced by capacity constraints to turn away a host of talented candidates for this badly needed profession, has responded to my encouragement to at least double its size. Our top

WEST LAFAYETTE CAMPUS NEW BUILDINGS



10 Pharmacy program, which has educated two-thirds of all Indiana pharmacists, must replace antiquated teaching spaces. Combining these two important programs in a single facility lets us take full advantage of the clinical teaching space both programs require.

We will request state assistance for some part of these new facilities when that opportunity comes again in 2021. And we will look to Purdue’s many philanthropic alumni and other friends to help us bring them into being. But we must proceed now, hoping and trusting that we will succeed in those appeals; it is our opportunity and our duty to furnish the world with as many new Boilermaker employees, citizens, and leaders as we can.

Because our mission is teaching, research, and engagement, our spending priorities must always remain centered there, as detailed above. There are other valuable purposes which enhance and enrich the work we do, amenities like campus improvements, extracurricular activities such as our

spectacular music programs, or intramural and collegiate athletics. For those, whenever possible, we look for chances to use my favorite revenue source – Other People’s Money. You have already seen us employ this practice in the construction of our newest residence halls and student apartments through so-called “P3s” or Public-Private Partnerships.

The exceptional generosity of Purdue donors has made possible a host of capital projects, such as the Purdue Musical Organization’s Bailey Hall, and forthcoming

projects like the Union Hotel renovation and the new Bands & Orchestras Building. We will be offering a wealth of new retail dining options, long requested by students, staff, and faculty, and here, too, we are moving toward partnerships and contracts with private sector experts. It's not only about conserving our funds for academic priorities; we believe that people whose everyday work is food, dining, or entertainment will do a better job than we can do as relative amateurs in those pursuits.

Attention Sports Fans ...

By far the most expensive investments outside our core mission are in the realm of athletics. Purdue doesn't have a more devoted fan than I am, but in my view our policy of athletics paying its own way must remain inviolate. As much as athletics contributes to the sense of community and just plain fun on our campus, it would not be right to impose fees on the 98%+ of our students who cannot play for a Purdue team, or on those whose interests do not encompass sports at all.

Self-reliance is more the exception than the rule in college athletics; many of our Big Ten counterparts do charge every student to support their sports programs. The University of Connecticut reports spending of \$81 million against athletic revenues of only \$40 million, and there are doubtless even more striking examples.

I'll be as excited as anyone as major new improvements to Ross-Ade Stadium or other athletics facilities come on line. And I'll be grateful for Athletics Department leadership, present and past, that accomplishes these advances with careful fiscal management and dollars they generate through our terrific, loyal donors, and their own creative activities.

Before leaving the topic, it's worth noting that the college athletics world as we've known it is in all likelihood about to change in a major way. What seems to be a decisive majority of the sports world, the political community, and society at large has concluded that, given the prodigious amounts of money that has flooded into NCAA sports, fairness requires the compensation of athletes beyond the roughly \$200,000 value a full-ride scholarship brings, plus the perhaps million dollars of additional lifetime earnings that at least historically has come along with a college degree.

I don't find it difficult to understand the sense of justice that underlies that viewpoint. What I do find very difficult, if not impossible, is understanding how to abandon the amateur model and start paying, or allowing third parties to pay,

student athletes without creating abuses and problems far worse than the one people want to see solved.

Let's hope that, whatever change is coming, it doesn't totally tear apart the college sports world. It's even possible that we could see a fracture of that world into professional ("Let's welcome the Crimson Tide, sponsored by the University of Alabama!") and traditional collegiate sectors. If some states dictate that their public universities *must* pay athletes, the disruption and realignment could reach even further.

Whatever one wants to see happen in the area of further compensation, it's important to take a cautious approach to massive new investments without assuming that tomorrow's Division I will look just like today's.

Our tomorrows

150 years is indeed a very long time. But then...

Purdue grads Drew and Meredith Gradle, God bless 'em, delivered – OK, it was our daughter Mere who really delivered – their third and family-wide grandchild #7 on Halloween night (John Purdue's birthday!). I stop to ponder that Lucas Gradle is highly likely to celebrate his 80th birthday at a time when that may be considered "middle age." When that occasion arrives, Lucas will be as far from my own birth as we are today from the birth of Purdue University. And it is a certainty that, for all the massive changes that the world has seen since 1869, Lucas will have experienced far more.

Will there still be a place, and an entity, called "Purdue University" on that day? If so, will it look even remotely like the center of learning for young people, and pathbreaking research by their faculty, that we are today? If you have answers to those questions, please mail them in forthwith, because I don't pretend to know.

I think the best any of us can do during our time of service and stewardship is to think as deeply as we can about how that future might unfold, and make decisions calculated to improve the odds that, come what may, our institution might not just survive but deserve to do so, because of the special standards it upholds and contributions it makes. On behalf of all of us employed for the moment in Purdue's service, I want to affirm that we are doing our best to make such decisions, and always, always to invite the ideas of others about which decisions we should make.

Happy New Year to all. Boiler up.

A handwritten signature in black ink, appearing to read "Mitchell". The signature is fluid and cursive, with a prominent dot above the first 'i'.

Mitchell E. Daniels, Jr.
President