Arizona State University

**MEMORANDUM**

July 25, 2019

TO: Larry Penley
Chairman, Arizona Board of Regents

FROM: Michael M. Crow
President, Arizona State University

CC: Arizona Board of Regents
John Arnold
Nancy Tribbensee

RE: FY2019 At-Risk Compensation

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Enclosed is my FY2019 Performance Assessment as it relates to the Arizona Board of Regents At-Risk Compensation program. To reiterate from my previous memos, this incentive-based compensation model has been in place for several years following the chairmanship of Regent Rick Myers and has, I think, been useful in helping to guide the energy of the institution and my focus on large long-term goals, as well as important strategic trajectories for the institution. This report represents a summary of the metrics established for two timeframes, first FY2019 itself, and in addition, the three-year timeframe FY2019 through FY2021. This second timeframe is what we call the multiyear objectives. As is usual, there is separate reporting relative to Enterprise Executive Committee metrics and performance.

Like I did for FY2018, I will only elaborate in this memo on the summation of what we're attempting to do with each of the at-risk performance goals and allow the report, which is attached, to speak for itself.

## FY2019 ANNUAL INCENTIVES

### FY2019 GOAL #1:

**Provide a report outlining the feasibility of a focused strategy to significantly raise the research profile and evolve the organizational structure associated with Fulton Schools of Engineering and all related technology units, consistent with launching an institute of technology on the scale of Georgia Tech or MIT. The report should identify expectations related to organizational changes consistent**

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**with being a national institute including technology transfer, sponsored research, a platform for emerging technology and a structure for the training of a technical and professional workforce. The report should also address the relationship of this increased research profile to the overall research goals in the strategic plan and describe the benefits to ASU and Arizona.**

The two annual incentive goals assigned for focus this year are both highly strategic and highly design-oriented in their character. First is the goal of conceptually designing the possible emergence from ASU of a global/national-scale technology institute. The central question would be something like, "Could Arizona State University and, as its agent, metropolitan Phoenix, develop the equivalent of a Georgia Institute of Technology or a Massachusetts Institute of Technology within the structural design of ASU itself?" This is not meant as a literal Georgia Institute of Technology or Massachusetts Institute of Technology but as a functional technology institute of the highest order. One thought has struck me, for instance, is the fact that metro Atlanta and metro Phoenix are both new, emerging global cities and, in the case of metro Atlanta, there is Georgia State University, which has much of the same egalitarian mission as ASU, and in addition to that, there is the Georgia Institute of Technology, which has a very technology-driven and very engineering-driven mission. These two schools evolved separately over decades and have subsequently emerged with Georgia Tech having immense global recognition and Georgia State having largely local recognition. It turns out that ASU is, in many ways, outperforming both with regard to student production, outperforming Georgia State by a factor of 5 in terms of research, and performing in all areas at approximately the same level as Georgia Tech is performing in engineering and science, related to research. So, the fundamental question laid out is whether there is a design opportunity for ASU, conceptually, to create an entity within ASU itself that has the same performance characteristics as the engineering and technology programs at Georgia Tech or MIT.

So, the goal is not the launching of such an entity but the design of such an entity from a conceptual perspective and then from a feasibility perspective. To implement this, I brought onboard as our advisor Dr. Andrea Goldsmith, from Stanford University and member of the National Academy of Engineering. She led our analysis of changing designs at UC Berkeley, MIT, Cornell, CalTech, and Carnegie Mellon, in addition to her detailed review of the program design for the engineering college at Georgia Tech.

The goal, with Dr. Goldsmith working with our ASU team, was to find a way effectively in which we might conceptually think about how to create for Arizona, a top-10 global engineering education and research institution. It goes without saying that such institutions at UC Berkeley and Stanford, Carnegie Mellon, Georgia Tech, MIT, University of Illinois and a few other places have been transformative to the American economy and, in many cases, transformative to the local economies in which they are embedded.

The findings in the conceptual design process are several fold:

1. ASU would benefit by building an institute of technology that not only was centered on engineering but also drew from all other areas that could contribute to technology development, from the entirety of the university. This would give a strategic advantage to ASU over Georgia Tech, MIT, or others because of the breadth of the technology development conceptualization efforts.

2. The design options could focus on merely evolving a technology institute in a defined and narrower space within the university or creating an institution within an institution itself, and both of these were conceptualized and evaluated.

3. There is tremendous flux in the design of science- and technology-oriented academic programs at the leading academic technology centers around the country, and there is a distinct opportunity, if correctly conceptualized and exquisitely implemented, to leapfrog the designs of others in terms of building a new technology institute.

4. There is strong interest within the ASU community for ongoing continued consideration of design alternatives.

5. There continues to be ongoing energy being devoted to the further evolution of the Fulton Schools of Engineering through the further emergence of what we refer to as School #6, the Polytechnic School, located at the Polytechnic campus in Mesa, and the soon-to-be-announced School #7, which is a joint venture partnership with King's College London and the University of New South Wales, in an entity that will be called The Engineering and Design Institute (TEDI) in London in 2020/21.

6. The rate of speed of change associated with engineering education, engineering technology development, technology development more broadly and all areas associated with the emergence of more technology-driven economic change indicates that the last thing we should be doing at ASU is minding our Ps and Qs and not thinking through the design of new pathways and new opportunities to gain academic and, ultimately, economic advantage.

All in all, the feasibility of moving towards the actual design of an ASU technology institute is high. The institution is ready to consider such a move and various pathways to advance in this direction, and this goal was achieved by completing this conceptual design process.

Obviously, much work involving dozens of people would be required to go from concept to actual plan. I'm not making a specific recommendation at this time, but ASU will be making special decision package funding requests in the FY2020-22 state budget requests to facilitate the emergence of not only the largest comprehensive engineering school in the country, which we presently have, but also a research entity at the level of the Georgia Institute of Technology, as a specific goal.

## FY2019 GOAL #2:

**Develop and present a design for ASU's positioning as a prototype for a university of "national service" scale that brings significant benefits to Arizona through its national and international reach, its service and its programs that serve the interests of the U.S.A. and Arizona, and its outcomes that position Arizona as one of the U.S. states that leads in developing and realizing America's potential.**

The second individual at-risk goal for 2019 involves, again, a design conceptualization effort. In this case, ASU is a former teachers college that grew into a regional university and then grew rapidly into a research university that evolved from a research university into a new kind of research university, what we call a New American University, and is, as a result, very different from the history and dynamic evolutionary pattern of, say, the University of Arizona, which emerged as the state's first university and was designated as the state's land grant university.

As Arizona State University has emerged with its unique charter and with its identity as a New American University, the question relative to overall university design is, "Can ASU, emerging from Arizona, become a national-serving institution and through that national service not only provide a service to the country but generate the resources necessary for the institution to be funded for the benefit of the people of Arizona?" Obviously, not every university can do this, and ASU is well on this path already; and in this part of the exercise, we have been in the process over the course of several years to develop and design the idea of ASU as a national-service university and outline the description and logic of what we are hoping to do and how we are doing it, and where we are in the evolutionary path.

ASU clearly is an already dramatically differentiated public university, operating to serve the people of Arizona at scale and, in fact, at increasing scale, and as noted in the presentation, is hugely engaged on a national basis. Our resource portfolio is largely from outside of Arizona, and that allows us to operate the institution as a national service university, deeply committed to the success of Arizona at the same time.

The result of this effort is that we have a conceptual design in place, giving us an opportunity to discuss ASU's continued evolution and the goal was, therefore, accomplished at the design level.

We have much more background on this concept than is presented in the summary for the Regents, but it is fair to say that the goal, a conceptual design for the identity of Arizona State University going forward, has been completed.

## FY2018-2021 MULTIPLE-YEAR INCENTIVES

Secondly, I'm reporting on the progress made on the goals established in 2017 for the timeframe FY2019-2021 around core areas of ABOR-identified attainment metrics. As this is a three-year goal, I will just quickly walk through where we are in each of them in terms of progress.

**FY2018-2021 GOAL #1:**

**Achievement of a freshman retention rate of 88%, with an additional incentive for exceeding the goal by attaining a freshman retention rate of 88.5% by FY2021.**

We continue to make excellent progress in the evolution of Arizona State University from a modestly successful retention rate in the mid-70s percentile, at the time we began this process, to where we are now, which is approaching the goal of 88%. This is a difficult arena for us, particularly as we grow and diversify the first-year class, but nonetheless, we continue to make progress.

It's important to note that one of the challenges at ASU is that we admit A and B students into our first-year (freshman) class. More than 55% of those first-year students from Arizona are eligible for Pell Grants. Lower-income (Pell Grant recipient) students and students coming in with B averages are the most at-risk for not being retained, and we have many, many students, as you'll see in the attached data, with both of these incoming characteristics. Nonetheless, we're making great progress here.

**FY2018-2021 GOAL #2:**

**Achievement of total research expenditures of $720 million with an additional incentive for exceeding the goal by attaining total research expenditures of $745 million for FY2021.**

This is an extremely challenging goal for any institutions, including ASU. None of these goals are designed to be easy, and particularly this one, are borderline impossible. Nonetheless, we are making good and steady progress. ASU is now competing among the highest performing research institutions in the country that don't have a medical school and now is even beginning to surpass those with medical schools. We believe that our research funding level will be above $635 million for FY2019, so therefore good progress is underway.

**FY2018-2021 GOAL #3:**

**Achievement of projected FY2021 strategic plan metric goal in bachelor's degrees awarded of 19,150.**

Here, we have been performing at an outstanding level. In 2002, we had 8,566 graduates. In FY2019, we expect to have 19,289. As of this report, we are 2,325 above our FY2019 goal and are already exceeding the 2021 goal. This, of course, has to be

maintained, which isn't easy in and of itself, but nonetheless, we are making great progress here.

**FY2018-2021 GOAL #4:**

**Achievement of the projected FY2021 strategic plan metric goal of 113,425 students enrolling in the university.**

Here, again, we are making tremendous progress towards our goal of 113,425 students. FY2019 shows enrollment at 111,291, which is above our specific goal of 104,598. There are numerous explanations for this, but at the end of the day, it's a great team executing with a great university attracting many students, both on campus and online.

**FY2018-2021 GOAL #5:**

**Achievement of the projected FY2021 strategic plan metric goal of number of degrees in high-demand fields of 11,966.**

This is a goal that is very challenging. Going from an FY2009 attainment level of 5,127 graduates in these degree areas to the 11,966 is an achievement that no other university in the country has ever obtained at this scale. We're on track to achieve this goal going forward, with progress to date at 10,143 graduates in these areas (STEM, health professions and education).

**FY2018-2021 MULTIPLE YEAR 'UNIVERSITY INITIATIVES' AT-RISK GOAL**

**Increase the student athlete Graduation Success Rate, measured as of June 30, 2021.**

- **Football, from 76% to 85%, and**
- **Men's basketball, from 93% to 95%**

This specific metric reflects student athletes who entered as freshmen six years ago. Basketball, I am pleased to report, is #1 in the PAC 12 and should be at the same excellent level in the upcoming report published in October. Football was impacted by coaching changes and will have upward progress in the upcoming report in October. As always, retention and graduation for all our students, including the student athletes, are major goals for us.

All in all, ASU is continuing to make great progress on many fronts and with regard to these specific goals and objectives, I believe that we're continuing to make great strides. Thanks.

# 2018-2019 Individual At-Risk Goal 1

Provide a report outlining the feasibility of a focused strategy to significantly raise the research profile and evolve the organizational structure associated with the Fulton Schools of Engineering and all related technology units, consistent with launching an institute of technology on the scale of Georgia Tech or MIT. The report should identify expectations related to organizational changes consistent with being a national institute including technology transfer, sponsored research, a platform for emerging technology and a structure for the training of a technical and professional workforce. The report should also address the relationship of this increased research profile to the overall research goals in the strategic plan and describe the benefits to ASU and Arizona.

**Goal Accomplished**

Report Follows

# ASU Institute of Technology Design Report

## Introduction

We are in the midst of the Fourth Industrial Revolution, with technology advances significantly changing the way we live, play, work and relate to one another. Solutions to many of the challenges facing Arizona, the US, and the world require new technology breakthroughs. As a result, students with expertise in technology are in high demand and the companies they staff and create drive economic growth and prosperity. However, a dark side to technology has also emerged, with privacy, security, institutions, and infrastructures exposed to new and emerging technological threats.

An Institute of Technology within and across ASU on the scale of MIT or Georgia Tech will create a new paradigm in higher education around technology education, research, and application for positive social impact. It will serve as a catalyst for the interdisciplinary collaborations required to create technology solutions to complex societal challenges. It will raise the profile of ASU as a technology innovation and entrepreneurship engine, and advance the region and state as a tech hub for startups as well as established companies. To serve ASU's educational mission, it will develop technology for education at scale. Finally, it will initiate a cultural shift around technology creation and application as a driver of solutions to benefit humanity.

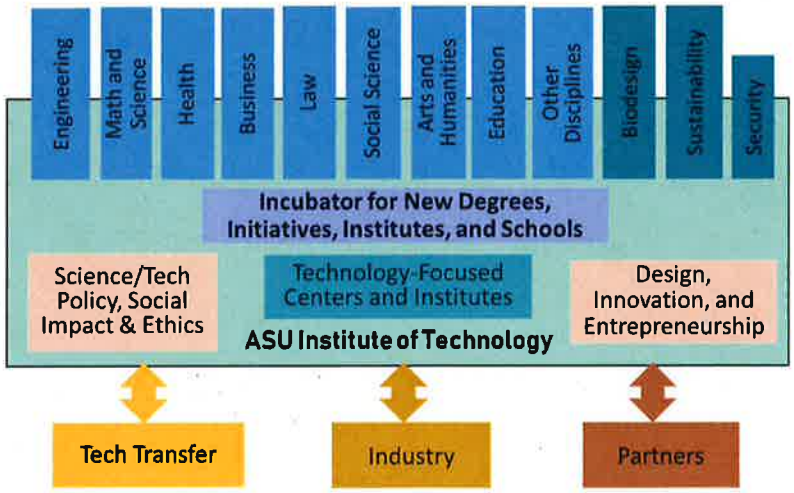
## Background

The growth in government and industry research expenditures nationwide in technology areas as well as surging demand for undergraduate technology degrees have strained existing university structures, particularly in engineering. This has led in recent years to some of the most significant changes to university structures in decades. In particular, last year MIT instituted its first significant structural change since 1950 with the creation of the Schwarzman College of Computing. U.C. Berkeley created its first new division in decades last year as well, a Division of Data Science. Cornell Tech opened in 2012 with a graduate education and research focus on computer science and its intersection with business, law, and design. Its mission is to foster entrepreneurship, economic impact and societal good. New departments in medical engineering and in machine learning have launched at Caltech and CMU. These are a few examples of how university structures are evolving to address the new landscape they face with respect to engineering and technology. Most new university structures are focused on computer science, data science, or artificial intelligence and their impact on other disciplines. None of these new structures are built around technology as a whole, including engineering and science as well as the interdisciplinary fields of data science, artificial intelligence, robotics, automation, medical technology, and product design.

ASU is the largest US engineering school by enrollment, with more than 21,000 undergraduate and graduate students. Its visibility, impact, and research status has grown significantly over the last decade. In particular, its research expenditures exceed 150M annually, its faculty filed 143 patents in the last 3 years, and 21 startups were launched based on technology developed by its faculty and students. Faculty within the Fulton Schools of Engineering collaborate with colleagues across ASU and around the world to solve interdisciplinary research challenges. In summary, engineering at ASU is thriving. Yet, ASU is challenged in attracting the very best faculty, students, and postdocs away from top engineering schools such as MIT, U.C. Berkeley, and Stanford. While it has strong partnerships with some companies, it is not yet viewed as the preferred partner by a broad range of high-tech companies for research development or student recruiting. Its ambitious plans to grow its research expenditures would benefit from a higher visibility of its programs. In addition, ASU's current structure creates barriers to reaching its full potential in

education, research, and application of technology to benefit humanity. Reaching this full potential is the motivation behind the ASU's proposed Institute of Technology.

**ASU Institute of Technology design**




ASU's current structure consists of schools aligned around traditional disciplines such as engineering, science, business, and law, as well as interdisciplinary schools and colleges. All of ASU's educational programs sit within schools and colleges, and faculty appointments are generally associated with at least one school or college. Interdisciplinary institutes spanning multiple schools, such as the Biodesign Institute and the Institute of Sustainability, foster interdisciplinary research and connect faculty and students via research programs, joint equipment, and joint space.

The ASU Institute of Technology would span all of ASU's schools and colleges. Initially faculty affiliations with the institute would follow a similar model as existing institutes; faculty would be jointly appointed to a college or school as well as to the Institute of Technology. Some prestigious faculty appointments entirely within the Institute of Technology are also envisioned to attract top faculty from other universities that will play a key role in the early success of the institute. Over time the institute could hold full faculty appointments, and this might entail one or more schools moving entirely within the institute, similar to the structure of technology institutes such as MIT and Georgia Tech. Centers for science and technology policy, social impact and ethics of technology, as well as for design, innovation, and entrepreneurship would sit within the Institute of Technology. New and existing Institutes and Centers at ASU with a strong technology focus would be moved within the institute to raise their visibility and facilitate collaborations between technology-focused faculty. A new element of the institute that does not exist at other universities is an incubator for new degrees, initiatives, institutes and schools. The incubator would institutionalize the notion of constant innovation and evolution around technology education and research. New degree programs as well as Center and Institutes with a technology focus would be vetted and launched through the incubator, and would remain in place as long as the programs were vibrant. Interdisciplinary areas of technology research with significant interest from faculty, students, and industry would be launched and, if successful over a long period of time, could transform into a new interdisciplinary school. The institute would provide a focal point for collaborations with and technology transfer to the high-tech industry. It would foster partnerships with other universities, research institutes, companies, and medical centers to fulfill its mission of advancing technology research, education, and application to benefit humanity.

# ASU Institute of Technology
# Design Report

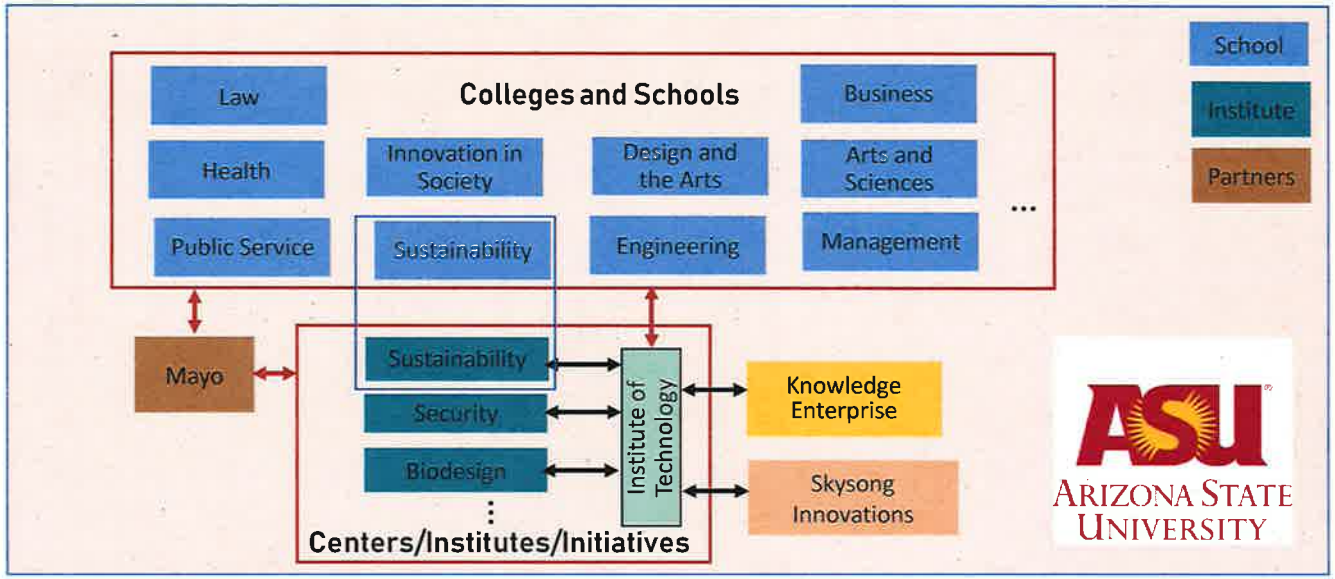
# Background

- Technology infuses all aspects of our lives
  - Little focus on technology development and application for positive social impact
  - Basic knowledge of technology needed for all disciplines
  - Technology advances are stymied by a lack of diversity and inclusion in STEM fields
- Many society challenges require interdisciplinary solutions
  - Technology plays a role in most of these solutions
- Universities structured around disciplinary research and education
  - These structures starting to crack due to forces of change around technology
  - New university structures at University of California - Berkeley, MIT, Cornell, Caltech, and Carnegie Mellon University
  - Technology transfer out of universities could be more effective
- An interdisciplinary Institute of Technology within and across ASU addresses many of these issues

# Mission of ASU Institute of Technology

- Aligned with overall mission, with a focus on technology
  - Measured not by whom it excludes, but by whom it includes and how they succeed
  - Advances research and discovery of public value around technology
  - Positive social impact on ASU, its community, the nation, and the world
- Defines and tackles challenges requiring advances in engineering, science, and health, and uses these advances for positive impact on society
- Serves as a catalyst and connector within ASU, with partners, stakeholders for tech research, education, transfer, and entrepreneurship
- Overarching mission of ASU Institute of Technology is to foster technology education, research, and application to benefit humanity

# Design Options and Evolution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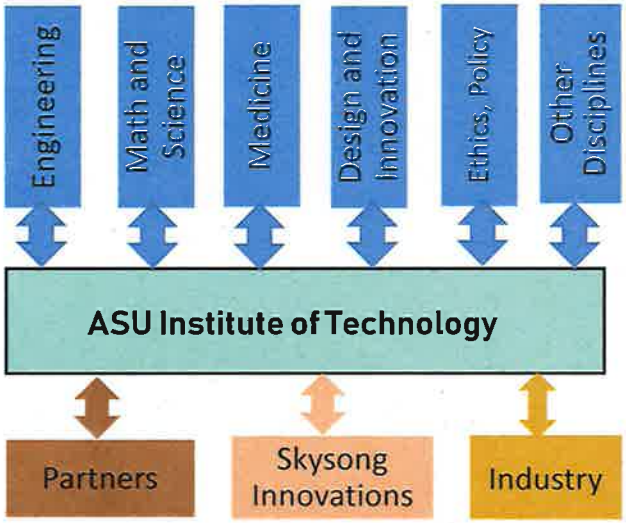
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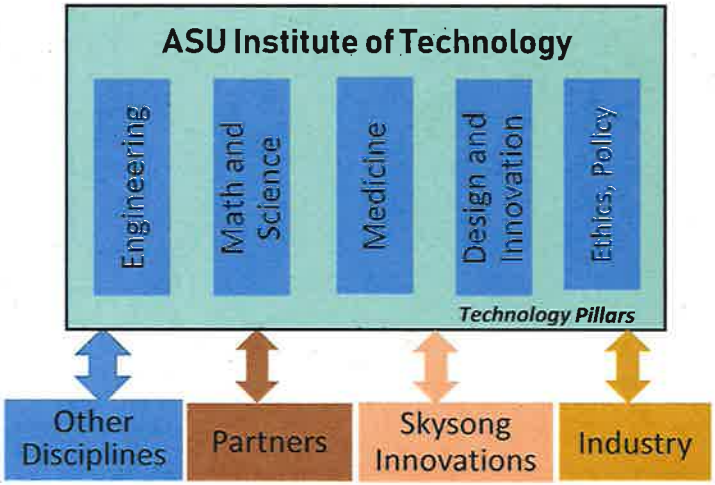
Design Continuum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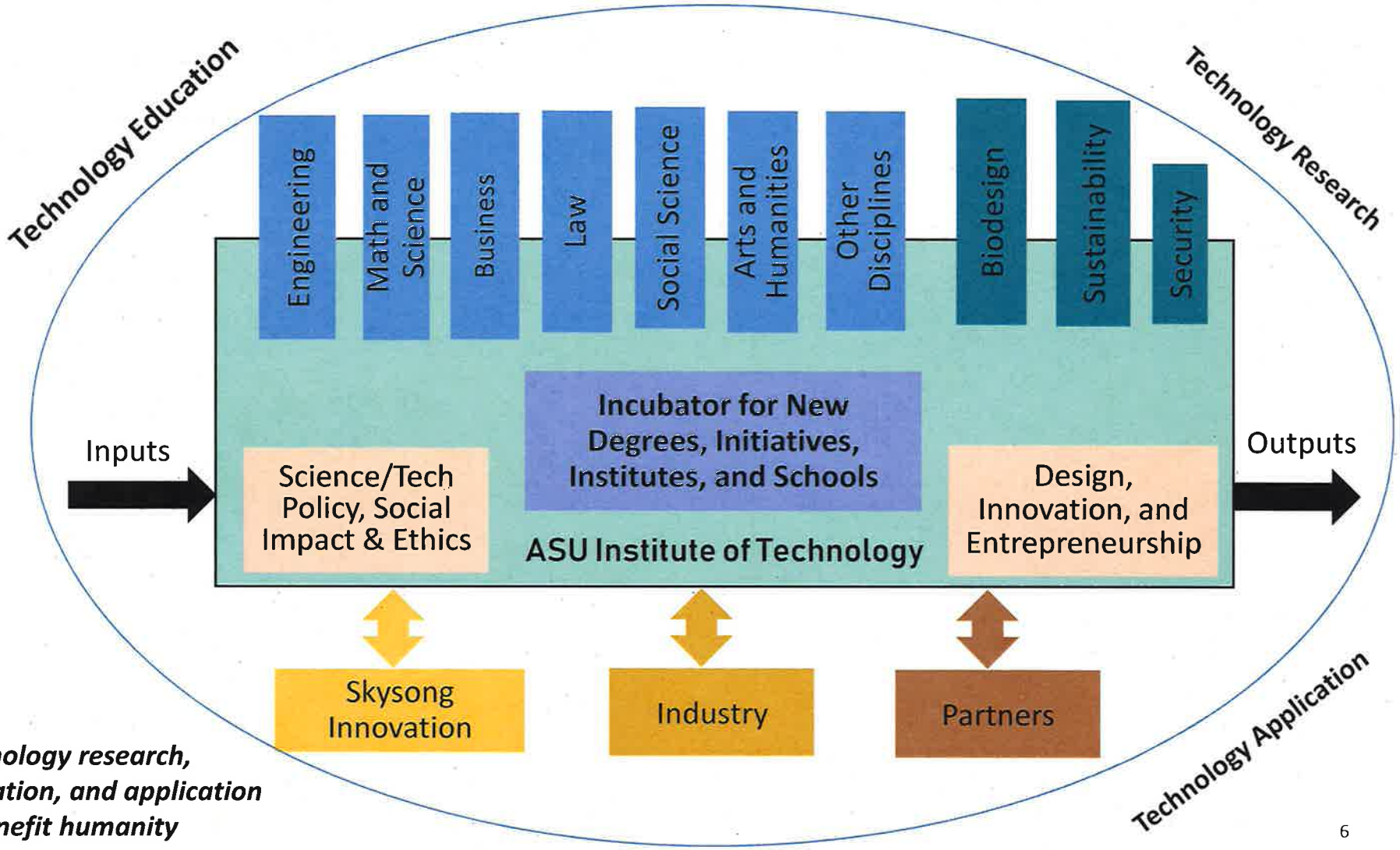
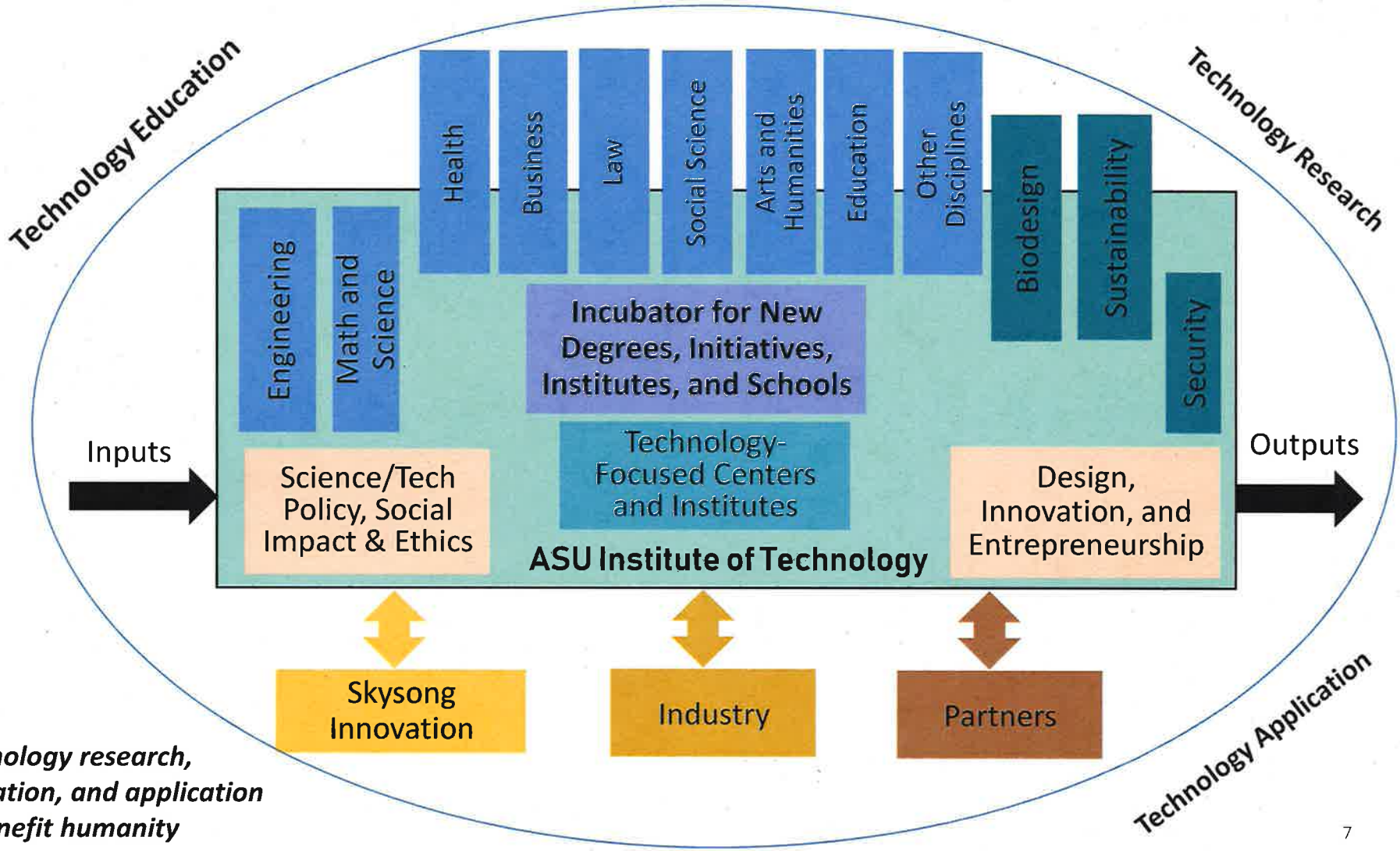



***Technology research, education, and application to benefit humanity***




***Technology research, education, and application to benefit humanity***

# Phased Rollout

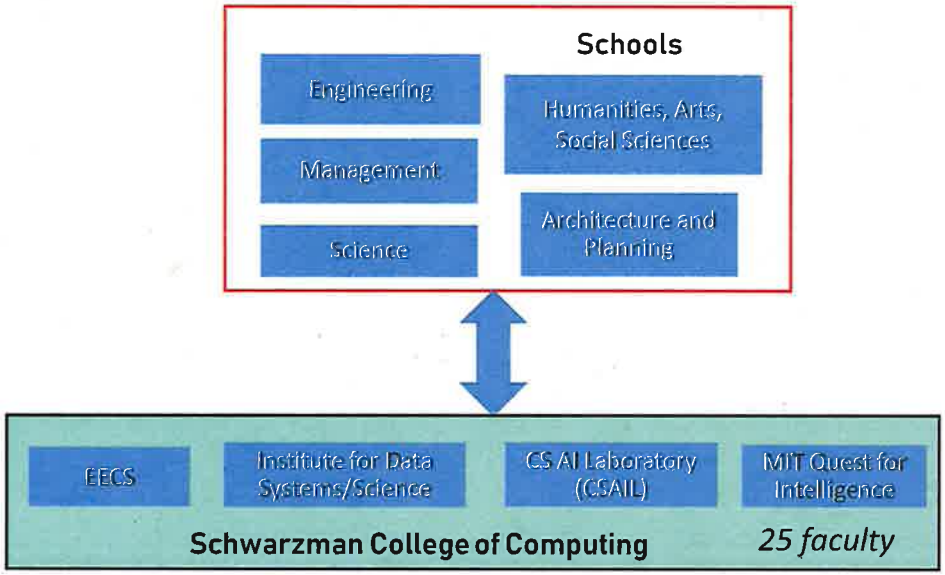
- Phase 1: Regent approval
- Phase 2:
  - Detailed design and launch plans
  - Fundraising campaign and listening tour with stakeholders
- Phase 3: Institute launch (graduate research institute)
  - Initial structure (departments, schools, institutes, and/or centers)
  - Initial degree programs (Graduate)
  - Research initiatives
  - Partnerships
- Phase 4: Evolution
  - New degree programs (e.g. undergraduate programs)
  - Certificates and executive education
  - New departments, schools, institutes and/or centers via Incubator
- Additional Phases

# Budget, Space, and Staff Support

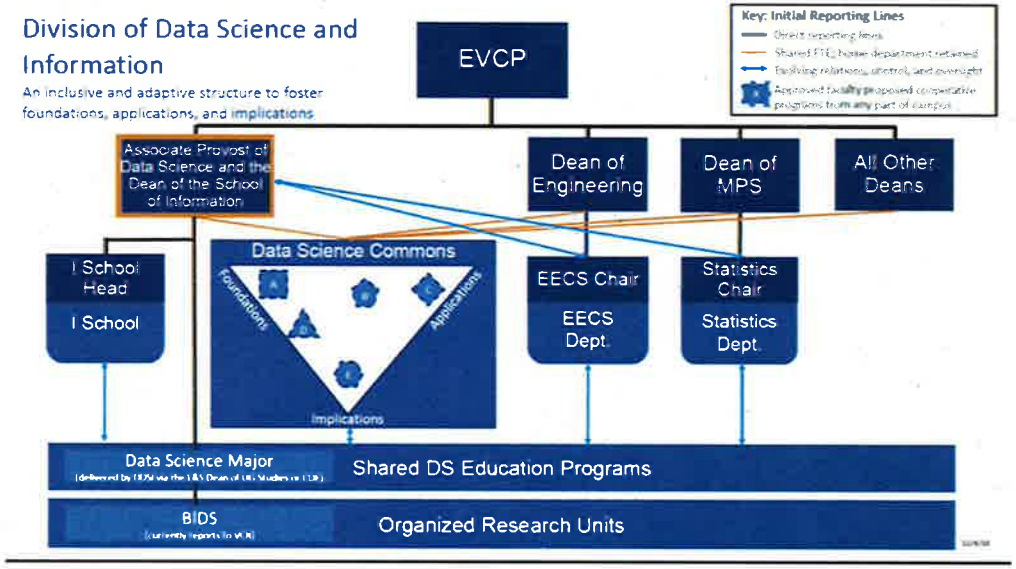
- Budget to launch
  - Required funding to launch
  - Founding endowment (industry, donors, government)
- Budget in steady state
  - Potential funding sources include federal funding agencies; State; Donors; Industry; Other Partners
- Space Requirements to Launch
  - Existing spaces
  - New spaces
  - Shared labs and other facilities
  - Mechanisms for space allocation
- Staff support (human resources, admin, grant support, technical support)

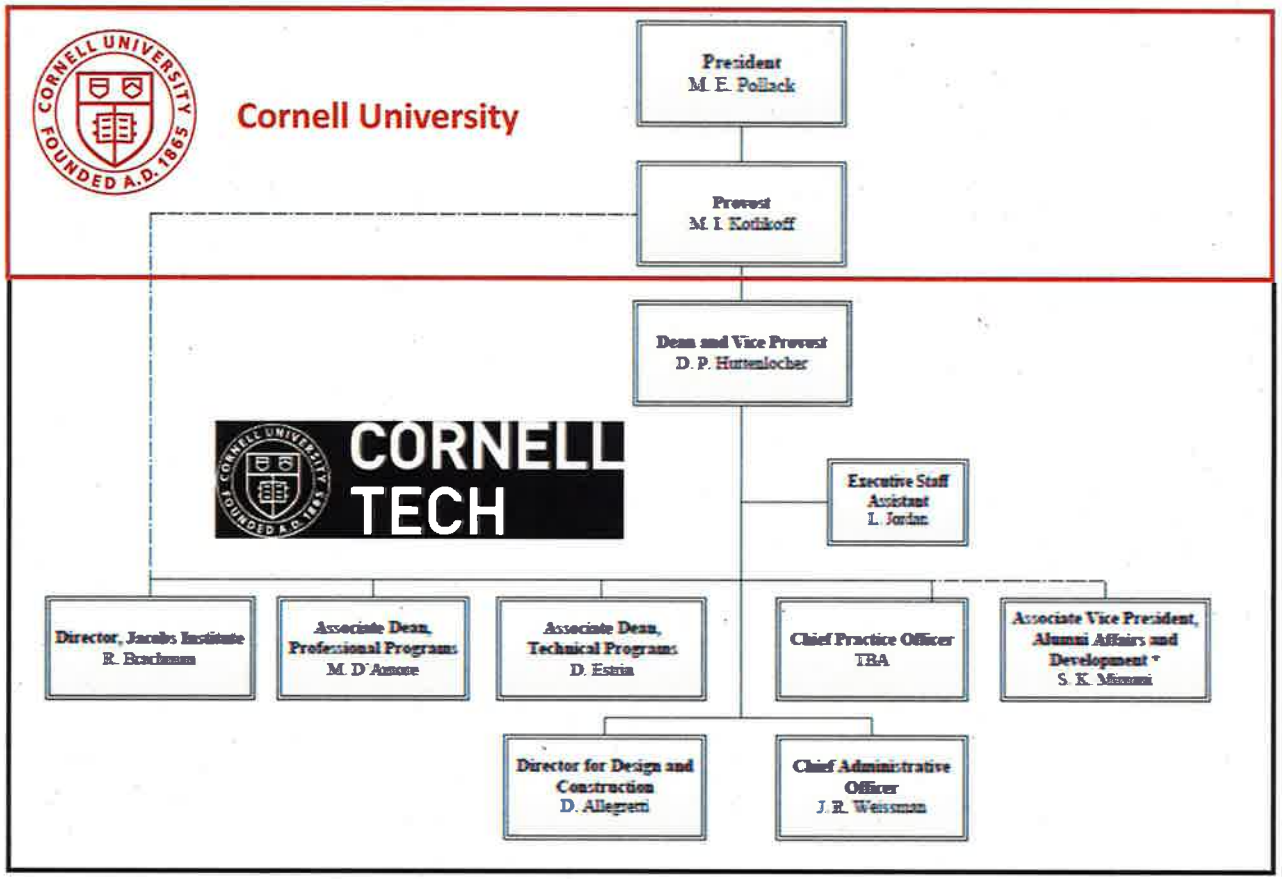
# New University Structures around Technology

**MIT**




**U.C. Berkeley**






**Focus on graduate education, research, and entrepreneurship:** Research and teaching designed for the digital age; Integrating technology, business, law and design in service of economic impact and societal good.

# ASU Technology Institute: Opportunity

- Define and tackle grand challenges across engineering, science, and health, and use these solutions for positive impact on society
- Raise the visibility for ASU as a technology innovation engine and hub
- Enhance education and research in developing and applying technology
- Attract high caliber students, postdocs, faculty, and affiliates
- Forge new connections to industry
- Influence Phoenix as a technology hub
- Facilitate partnerships with other universities, research labs, and government
- Provide a model for other universities in interdisciplinary education and research around technology to benefit humanity
- Provide a platform for design thinking about technology to enable positive societal change

# 2018-2019 Individual At-Risk Goal 2

Develop and present a design for ASU's positioning as a prototype for a university of "national service" scale that brings significant benefits to Arizona through its national and international reach, its service and its programs that serve the interests of the U.S.A. and Arizona, and its outcomes that position Arizona as one of the U.S. states that leads in developing and realizing America's potential.

**Goal Accomplished**

Report Follows

**ASU as a National Service University**

**Executive Summary**

*Overview*

ASU is developing a new institutional model that represents the next phase in the evolution of American higher education: the national service university. ***National service universities aspire to accelerate positive social outcomes through the seamless integration of cutting-edge technological innovation and scalability with institutional cultures dedicated to the advancement of academic enterprise and public value.*** As the nation's leader in university innovation, ASU serve as a prototype for the national service university and advance it as an adaptable model to meet America's evolving social and economic needs. To realize this outcome, the university has committed to:

1. Develop internal capacity for further exploration, validation, and implementation of the national service university concept
2. Identify external sources of support
3. Map successful supporting initiatives to date
4. Identify and capitalize on growth areas and opportunities
5. Facilitate uptake of the National Service University model by other institutions

*Background*

U.S. higher education institutions evolved in four waves, beginning with the establishment of seminaries and Greek academies in the 17th century, followed by the creation of state-supported public colleges in the 18th century, the endowment of the land grant system in 1862, and eventually the emergence of the first research universities in the late 19th century. Over these four waves, U.S. institutions of higher learning have come to embody diverse operating models, missions, and approaches to educating students. The National Service University represents the fifth wave in the evolution of U.S. higher education.

As the largest university in the U.S. by enrollment, ASU is the standard bearer for national scale institutions. ASU was the first public research institution to embrace national scale aspirations and pioneered many of the technological, organizational, and pedagogical approaches that drive education at scale. Building upon ASU's success in reaching socioeconomically, ethnically, and geographically diverse student populations, the National Service University model is further differentiated by an explicit mission of achieving social and economic outcomes that maximize public value. This model will advance America's interests by providing high-quality education to close the college achievement gap; increasing the number of skilled workers to drive U.S. competitiveness globally; and enabling scientific discoveries that foster economic growth, technological primacy, and military superiority.

ASU's efforts to conceptualize the national service university draw upon the idea of a national university, which dates back to America's founding. The first five U.S. presidents advocated for the creation of a national university to promote civic leadership and national unity; George Washington argued that such an institution was necessary for the thriving and longevity of the republic and set aside a portion of his estate to establish it. Unable to garner congressional support for a national university during their presidencies, Thomas Jefferson established the University of Virginia and James Monroe assisted in establishing George Washington University, both which were intended to serve as a national

university but fell short of their founders' grander vision. The three U.S. presidents following the Civil War also advocated for the creation of a national university.

*Salience of National Service University to ASU Strategic Enterprise Plan*

The national service university represents evolutionary next step for ASU's Strategic Enterprise Plan. To date, ASU's strategic planning has focused on Arizona as the primary beneficiary of the university's efforts. In the course of expanding college access and improving educational outcomes for Arizona's students, increasing the university's capabilities for discovery and innovation, and promoting knowledge-driven local and regional economic growth, ASU has built the capacity perform these functions at national scale. Integrating the national service university concept into ASU's Strategic Enterprise Plan will:

- Support strengthening of the university's nationally relevant capabilities
- Further establish Arizona as a leader in creating solutions to improve college completion and bolster American competitiveness globally
- Create an adaptable design for adoption by other forward-thinking national scale institutions
- Allow ASU to attract further external support for scaling its impact

*Work Plan and Work to Date*

ASU is carrying out the following workplan to advance prototyping and design of the National Service University:

1. Develop internal capacity for concept design
2. Identify external sources of financial support
3. Identify existing foundational successes, growth areas and opportunities
4. Identify and mobilize resources to engage

A number of critical work undertakings are underway or have been completed. For example, to date, ASU has received more than $5m in support from the Bill and Melinda Gates Foundation to map success factors of key ASU initiatives and units that operate in service to ASU the leading "national scale university" that is challenging "the traditional definition of higher education institutions and changing market dynamics on the national scale..."

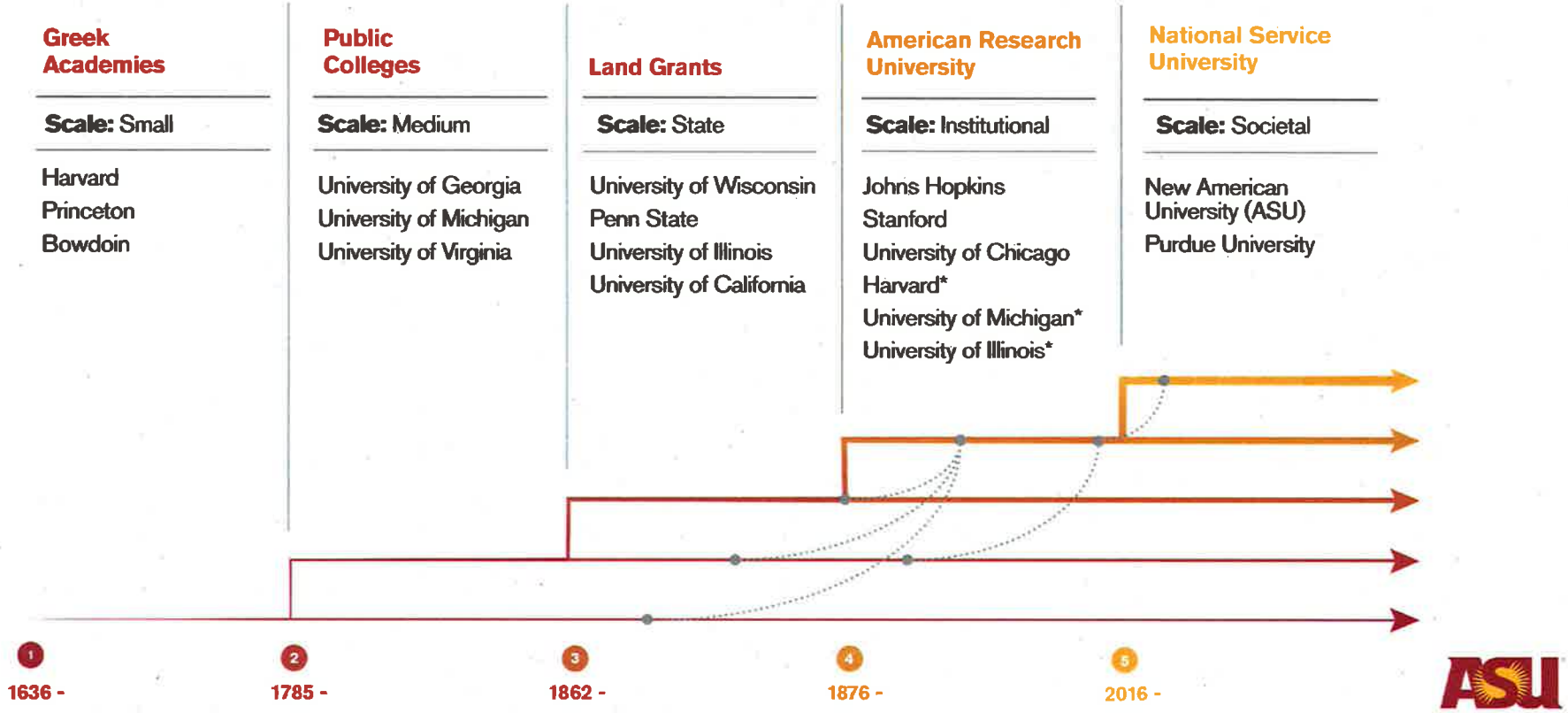
To oversee implementation of the work plan and all National Service University-related activities, ASU's Office of the President authorized creation of the *University Design Institute* (UDI), which has made progress in several key areas:

- Developed definition of the national service university
- Undertaken initial work to conceptualize national service university model, including its historical context, operational necessities and constraints, potential adoptive institutions, etc.
- Initiated process mapping work to identify foundational successes including numerous innovative ASU initiatives, such as: Global Freshman Academy; Education for Humanity; Public Service Academy; ASU international development; ASU Prep; ASU Prep Digital; Enterprise Partners; and more
- Developed print and digital materials for promoting and advancing the national service university concept.

# National Service University

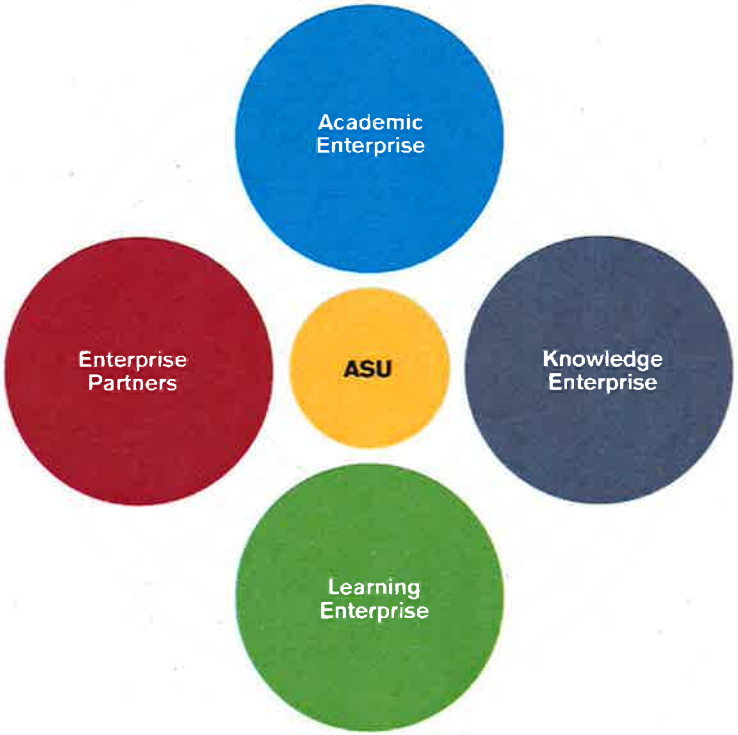
## A renewed model for American higher education

# Evolutionary History of American Higher Education



**National service universities** aspire to **accelerate positive social** outcomes through the seamless integration of **cutting-edge technological innovation and scalability** with institutional cultures dedicated to the advancement of **academic enterprise and public value**.

# Cross cutting initiative



# Attributes of a national service university

**Academic enterprise**
Connects faculty and students in teaching and research at scale in areas that support national progress. Ensures a continued student-focus and solutions-orientation.

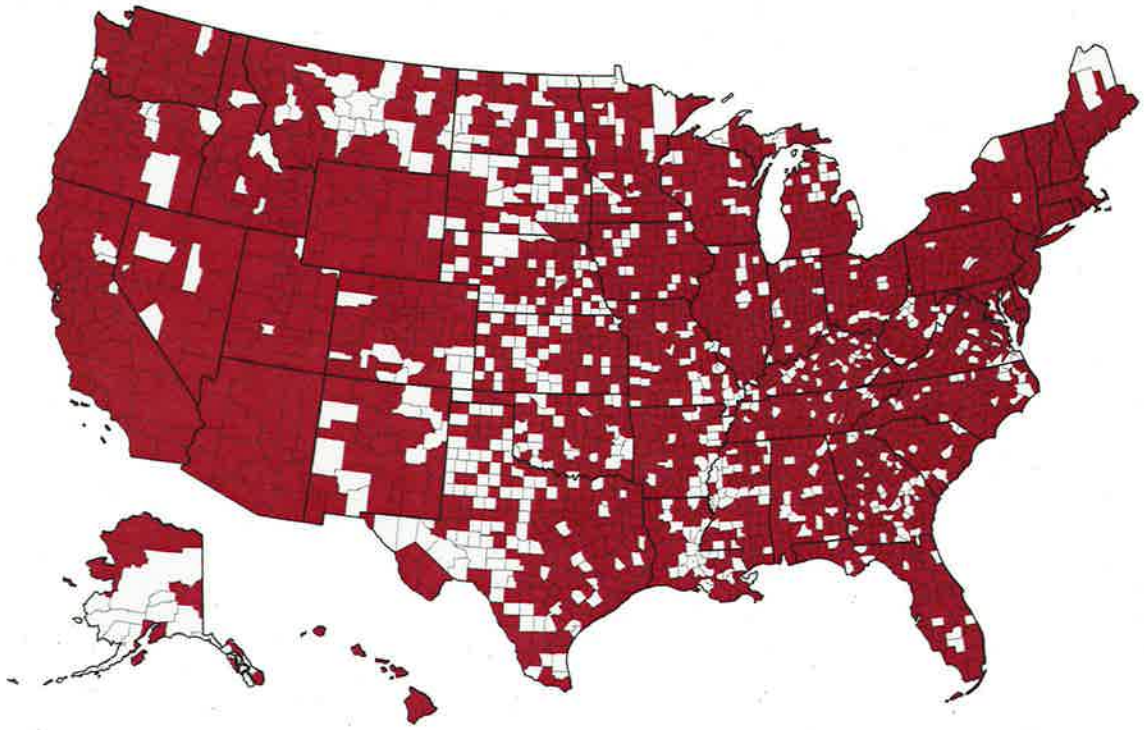
**Knowledge enterprise**
Advances use-inspired and transdisciplinary research with a broad base of support from national agenda stakeholders.

**Learning enterprise**
Explores and validates new learning engagement models and technologies that expand the relevance of the university to national service initiatives.

**Enterprise partners**
Expands national service capacities through critical institutional partnerships that drive operational efficiency, technological innovation and entrepreneurship.

# ASU's national service teaching

**ASU student enrollment by county, Fall 2018**

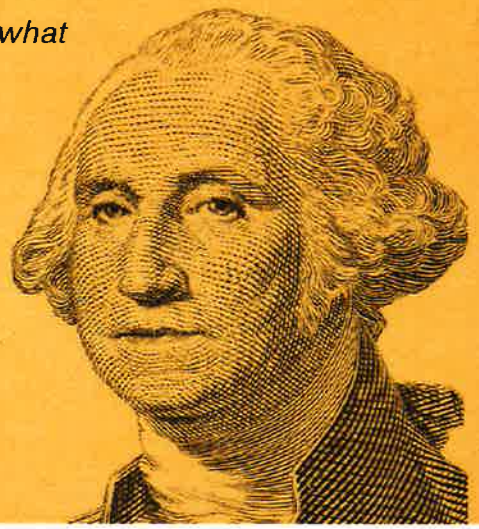


# ASU's national service R&D

**ASU R&D grants by source zip code, 2016**

*"I have heretofore proposed to the consideration of Congress the expediency of establishing a national university... Amongst the motives to such an institution, the assimilation of the principles, opinions, and manners of our country-men by the common education of a portion of our youth from every quarter well deserves attention. The more homogenous our citizens can be made in these particulars the greater will be our prospect of permanent union; and a primary object of such a national institution should be the education of our youth in the science of government. In a republic what species of knowledge can be equally important and what duty more pressing on its legislature than to patronize a plan for communicating it to those who are to be the future guardians of the liberties of the country?"*

**— George Washington**
Eighth Address to Congress
January 1796



ASU

# ASU's national service university opportunity

**Increase ASU reach**
Strengthen ASU's capabilities for national scale operations

**Elevating Arizona's National Standing**
Establish Arizona's leadership in solutions for college completion and American competitiveness

**Scale the National Service University Model**
Create proof of concept for wide adaptation/adoption

**Enhanced support**
Attract external resources to scale ASU's impact

# Towards a system of national service universities

**2017 to today**
The Bill and Melinda Gates Foundation has supported more than $5 million of work relating to ASU's operations as a national "scale" university.

**2018**
Purdue University adopts "national service university" status, primarily based on appreciation of the conceptual model and underlying values.

**2019**
Early stage policy engagement around such concepts as national digital grant and university classification regimes that may empower national service universities.

**2019 and beyond**
Continued development of the conceptual and operational model, identification of policy levers to accelerate outcomes, identification of partners (for example Penn State, Maryland).

# Other core accomplishments

- Established the University Design Institute (UDI) to coordinate advancement of the national service university concept.
- Undertaken initial work to conceptualize national service university model, including its historical context, operational necessities and constraints, potential adoptive institutions, etc.
- Initiated process mapping work to identify foundational successes in ASU's national service university innovations and initiatives such as: Global Freshman Academy; Education for Humanity; Public Service Academy; ASU International Development; ASU Prep; ASU Prep Digital; Enterprise Partners; and more

# Impact on ASU Strategic Plan

**Integrating the national service university concept into ASU's Strategic Enterprise Plan will:**

- Support strengthening of the university's nationally relevant capabilities
- Further establish Arizona as a leader in creating solutions to improve college completion and bolster American competitiveness globally
- Create an adaptable design for adoption by other forward-thinking national scale institutions
- Allow ASU to attract further external support for scaling its impact

## 2018-2021 Multiple-Year 'Enterprise Performance' At-Risk Goal 1

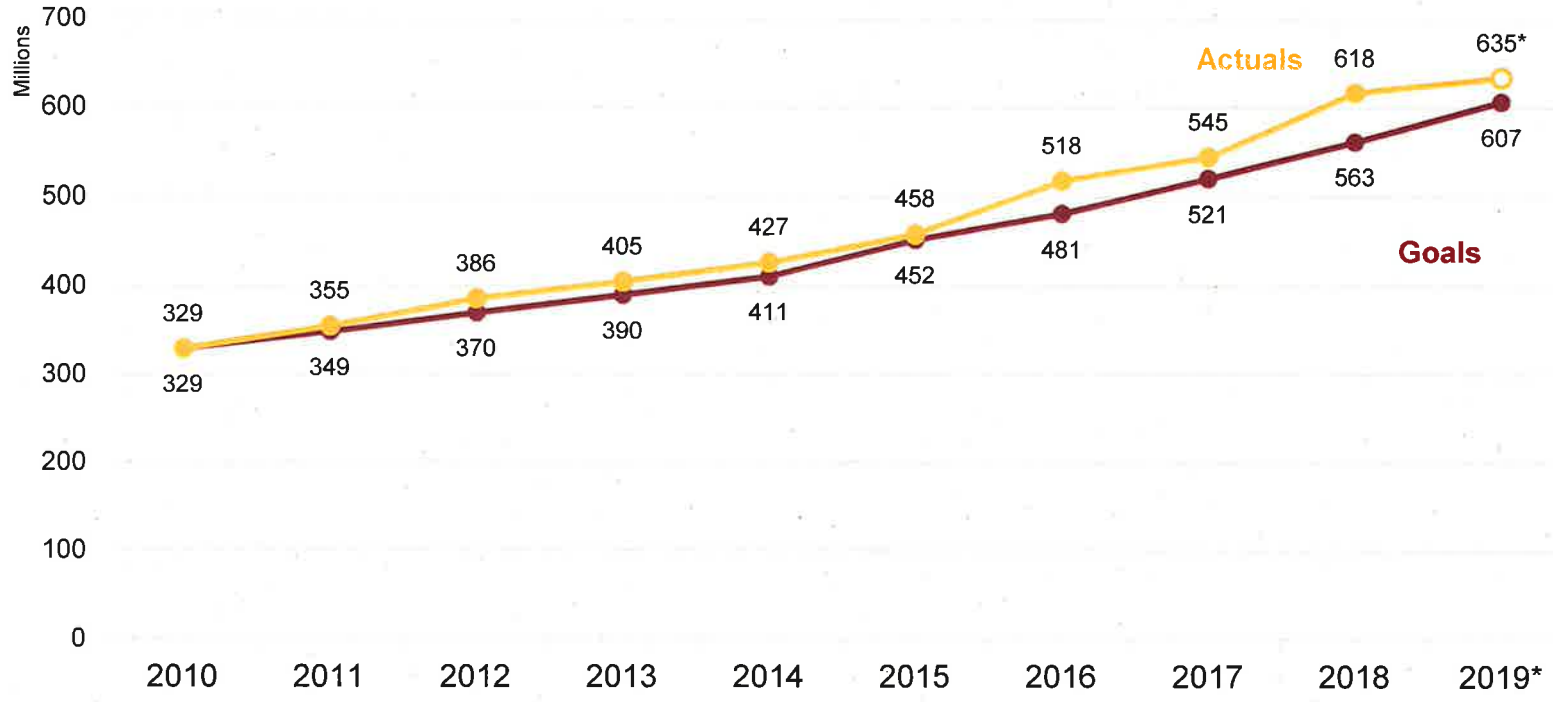
Achievement of a Freshman Retention Rate of 88%, with an additional incentive for exceeding the goal by attaining a Freshman Retention Rate of 88.5%, by FY 2021.

Estimate as of July 2019

Progress Report Follows

## Total Research Expenditures

# Research Expenditures vs. Goals



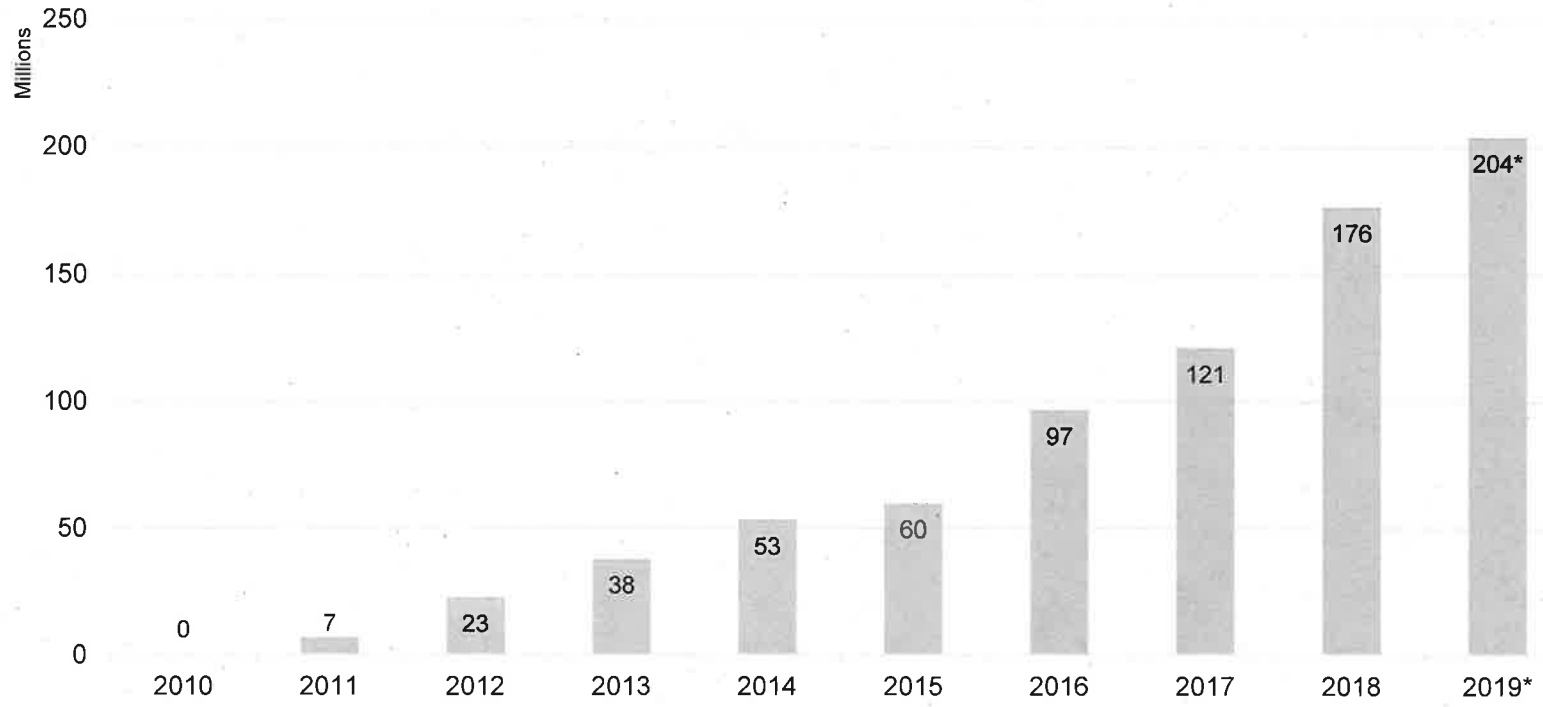

ASU has met or exceeded its goal in each year of the Enterprise Plan.

ASU's Research Expenditures have increased by 65% in the first 8 years of the Enterprise Plan.

*FY19 estimate

## Total Research Expenditures

# Cumulative Outperformance vs. Goals




ASU has outperformed its research expenditure goals by about 180M.

*FY19 estimate

*research.asu.edu*

## 2018-2021 Multiple-Year 'Enterprise Performance' At-Risk Goal 2

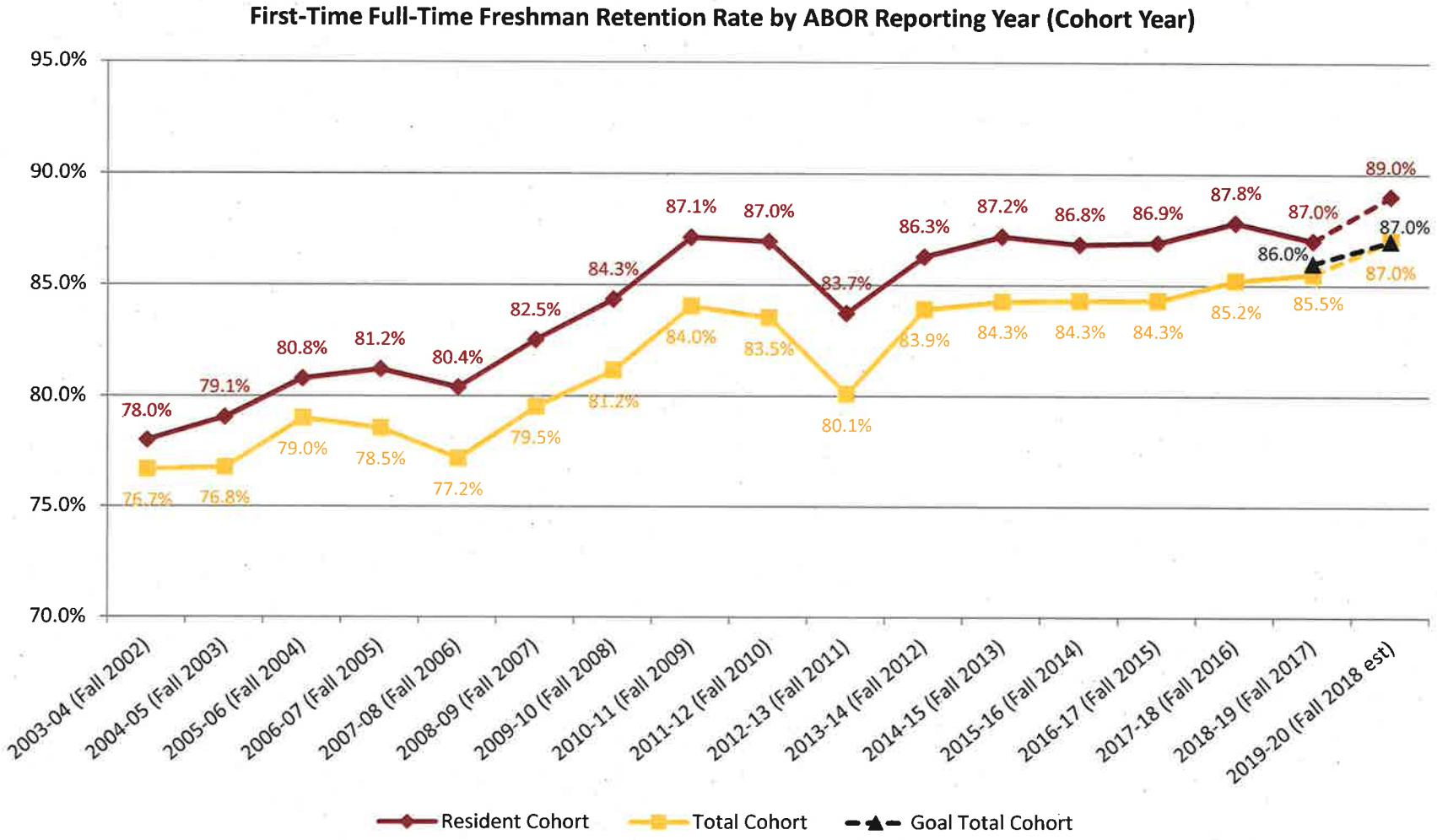
Achievement of total Research Expenditures of $720 million, with an additional incentive for exceeding the goal by attaining total research expenditures of $745 million, for the 2021 fiscal year.

Estimate as of July 2019

Progress Report Follows

# FY 2021 First Year Student Retention Goal: 88.0%

# FY 2019 Progress to Goal: 85.5%



## FY 2021 First Year Student Retention Goal: 88.0%
## FY 2019 Progress to Goal: 85.5%

**Context:**

- ASU's persistence and graduation rates are a function of expanded accessibility compared with institutions that admit only A and A+ students.
- ASU admits all Arizona students who have the ability to do university level work (A and B students).
- The first year student class of 13,975 now matches the socioeconomic and ethnic diversity of Arizona. In 2002, 17.2% of first year students were underserved minorities, increasing to 37% by Fall 2018. Additionally, 56.7% of resident first-year students in Fall 2018 received Pell Grants. This access model impacts retention.
- ASU students who enter with a HSGPA of B+ or higher retain at rates above 90%; but the overall rate is 85.5%.
- To meet our goals, the success of the students below a B+ must be brought up to the level of those above a B+.

# FY 2021 First Year Student Retention Goal: 88.0%
# FY 2019 Progress to Goal: 85.5%

**Continuing to implement an integrated and interdependent set of student success tools and strategies:**

- **Data from the Civitas Learning predictive analytics platform and other data sources are integrated through Salesforce in the Advisor Portal, which has become the communication network for academic advisors. It enables systematic case management and personalized student-centric assistance, shifting interaction with students from a transactional mode to a proactive mode. Systematic interventions are implemented based on real-time data.**
  - Access to the Student Profile in Salesforce, a holistic view of meaningful data organized around the student, was extended this past year to student facing staff outside of academic advising (such as in Housing, Dean of Students, Registrar and Financial Aid offices), for a total of 560 additional users. Access to the Student Profile enhances student serving staff's ability to provide personalized, data-driven services to students, while coordinating care of the student across academic and service departments.

- **Curricular innovations continue to expand.**
  - Enrollment in general education adaptive/active learning courses exceeded 20,000 in 2018-19, an increase of more than 11,000 over the prior year.
  - Compared to traditional lecture formats, the percentage of students achieving a B or better was 11-29 percentage points higher in adaptive-active formats.
  - Planning for key courses in Business Calculus and Engineering Calculus is underway and Physics for Engineering is under exploration. These three courses have high failure rates and all affect students' ability to remain in the major. All will benefit for the adaptive/active approach to teaching and learning.

# FY 2021 First Year Student Retention Goal: 88.0%
# FY 2019 Progress to Goal: 85.5%

**Continuing to implement an integrated and interdependent set of student success tools and strategies (cont.):**

- ***Sunny*, ASU's chatbot, was introduced to prospective undergraduate students in February 2018 to assist them through the admissions process to enrollment.**
  - *Sunny* was embraced enthusiastically by students and therefore continued to assist new students through their first year. A series of text message campaigns were sent each week focused on socializing new students to ASU support services (e.g., FYS Coaching, eAdvisor, etc.) and awareness of critical timelines (FAFSA, enrollment in next term). These engagement campaigns resulted in 191,000 nudge texts sent to new students in their first year at ASU.

- **ASU launched a comprehensive mobile app that serves all students, including graduate and undergraduate, digital and campus immersion. The app is designed to meet students' expectations of mobile technologies, receiving timely and relevant communications, while enhancing their engagement with the university.**
  - Over the last academic year, 52,790 new users downloaded the ASU app with an average of 17,885 unique users per week. Over 250 campaigns were sent via notification functionality, targeting 1.6 million personalized notifications.

# FY 2021 First Year Student Retention Goal: 88.0%
# FY 2019 Progress to Goal: 85.5%

**Continuing to implement an integrated and interdependent set of student success tools and strategies:**

- **The financial literacy platform, iGrad, continues to provide access to personalized student financial learning and planning, emphasizing college and life/career financial planning for students and their families. In Fall 2018, 4,808 first time students had taken an iGrad course.**

- **The GetSet platform encourages growth mindsets by matching students to peer mentors who successfully navigated similar challenges and obstacles.**
  - In Fall 2018, 13,196 unique students engaged in using GetSet, an increase of 4,500 over the prior year. Students who entered ASU at higher academic risk gained the greatest improvement in retention when they used GetSet. Overall, the Fall to Spring retention rate for GetSet users was 4.6% higher than for non-users (94.4% vs. 89.8%).

- **The Learn Explore Advance Design (LEAD) program for students with at-risk profiles grew to over 1,000 students in AY 2018-19. For the targeted population, retention of those participating in LEAD in Fall 2017 was about 78% vs 76% for those who did not participate.**

- **Use of the ePortfolio platform (Digication) continues to grow, enabling students to store, share, and showcase their in and out-of-class work and achievements, building the ingredients for a top-notch resume and portfolio.**
  - At the end of the 2018-19 academic year, there were nearly 116,000 students and over 5,700 courses that had used the platform.

## 2018-2021 Multiple-Year 'Enterprise Performance' At-Risk Goal 3

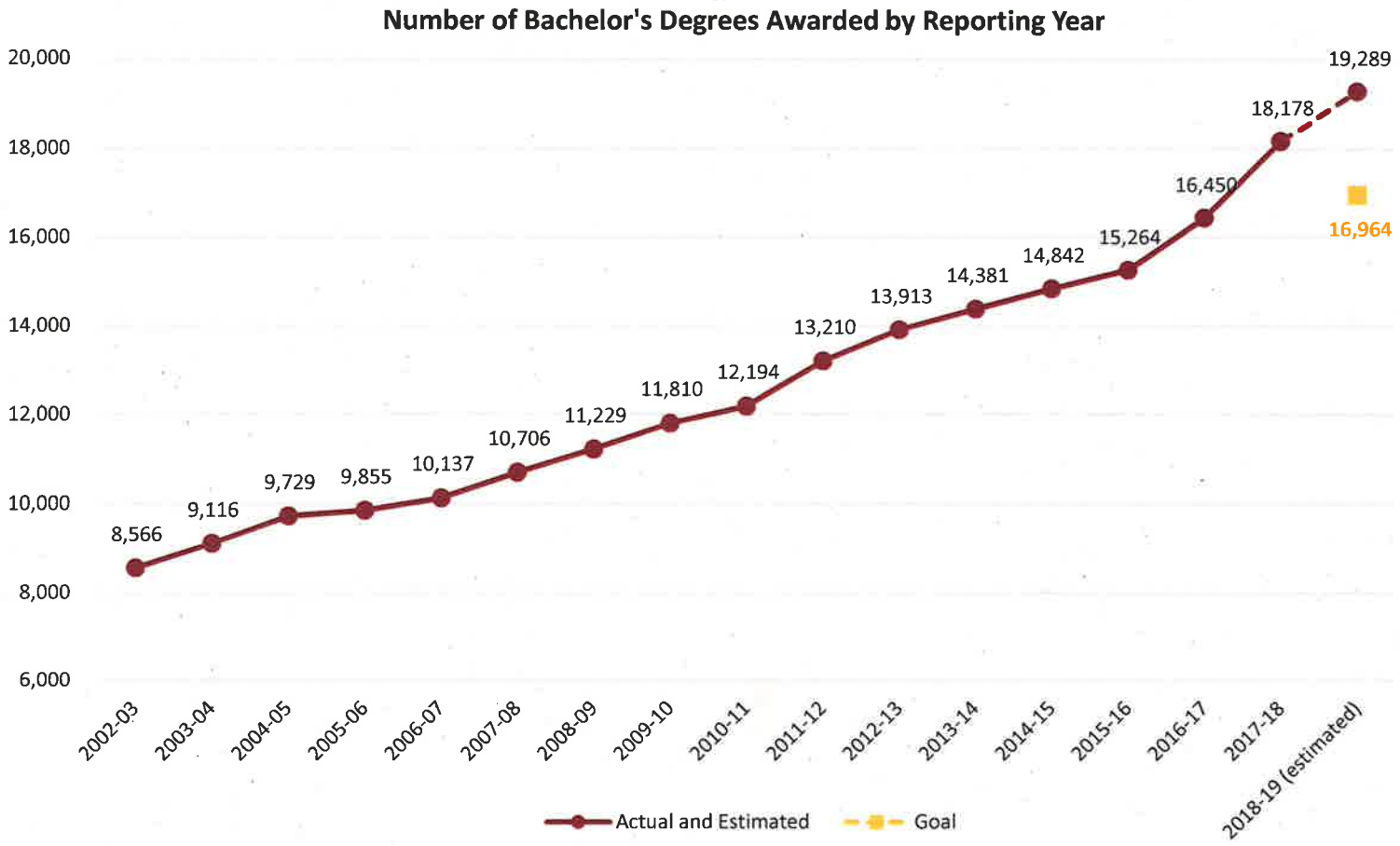
Achievement of the projected 2021 fiscal year strategic plan metric goal in Bachelor's Degrees Awarded of 19,150.

Estimate as of July 2019

**Goal for FY21 estimated to be achieved the year just concluded (FY19)**

Progress Report Follows

# FY 2021 Bachelor's Degree Goal: 19,150 Degrees
# FY 2019 Progress to Goal: 19,289 Degrees (est)



**FY 2021 Bachelor's Degree Goal: 19,150 Degrees**
**FY 2019 Progress to Goal: 19,289 Degrees**

Quality higher education should be available to any student capable of performing university-level work, regardless of socioeconomic status or geographic constraints. This objective is central to the ASU charter and organizational design. The university is dedicated to providing all learners with accessible and valuable pathways to knowledge, and preparing universal learners capable of lifelong adaptation.

## FY 2021 Bachelor's Degree Goal: 19,150 Degrees
## FY 2019 Progress to Goal: 19,289 Degrees

**Social Benefits of Increasing Bachelor's Recipients in Arizona**

- Obtaining a college degree remains the single greatest determining factor in social mobility, the ability to improve one's socio-economic position.
- University graduates produce cutting edge ideas, products, and processes that move creativity and discovery into the marketplace, boosting personal as well as societal success.
- Increasing the number of college graduates will increase earnings and tax revenue, reduce unemployment, improve health status, increase voting and civic participation, and decrease use of social services.

## FY 2021 Bachelor's Degree Goal: 19,150 Degrees
## FY 2019 Progress to Goal: 19,289 Degrees

### Strategies to Realize the Goal

- Continued to grow the number of students enrolling in the first year class. The number of students increased by 13% in the 2018 class over the 2017 class. Overall, the number of first year students has increased by 105% since 2002.
- Continued to grow transfer pathway programs with community college partners. The number of new transfer students increased by 13% in 2018-19 over 2017-18. Overall, the number of new transfers has increased by 135% since 2002-03.
- Continued to add new undergraduate degree program offerings. With 245 bachelor's degree programs offered across multiple campuses and locations in 2018-19, the number increased by about 45 over the last 5 years.
- Continued to increase Online program offerings. More than 90 undergraduate degree programs and concentrations are offered through ASU Online.

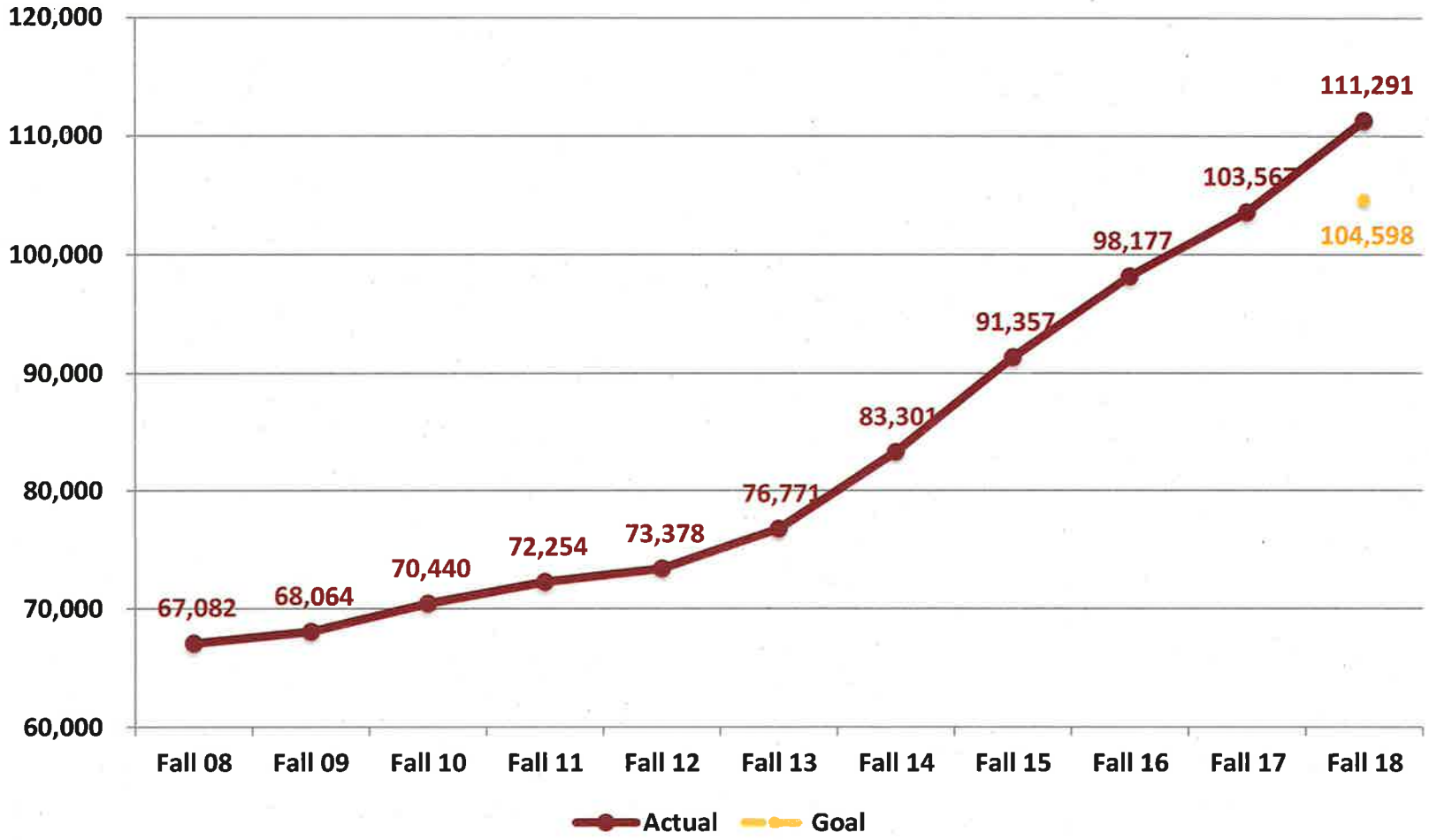
## 2018-2021 Multiple-Year 'Enterprise Performance' At-Risk Goal 4

Achievement of the projected 2021 fiscal year strategic plan metric goal of 113,425 total students enrolling in the University.

Estimate as of July 2019

Progress Report Follows

# FY 2021 Total Enrollment Goal: 113,425
# FY 2019 Progress to Goal: 111,291



# FY 2021 Total Enrollment Goal: 113,425
# FY 2019 Progress to Goal: 111,291

## Enrollment Capacity and Growth

**Continuing to create capacity for increasing number of students is implicit in the ASU Charter; emphasizing access, inclusion, discovery, and fundamental responsibilities for the communities it serves.**

- ASU seeks to serve increasing numbers of students through multiple pathways, including:
  - Recent high school graduates
  - Transfer students from community colleges
  - College completers through online programs
  - Areas outside metropolitan Phoenix through programs in Lake Havasu City and at rural community college sites, including Arizona Western, Central Arizona, Cochise, Eastern Arizona, Pima, and Yavapai Community Colleges.
  - Corporate partnerships, such as with Starbucks, and other employers
  - College graduates pursuing advanced degrees or certifications

# FY 2021 Total Enrollment Goal: 113,425
# FY 2019 Progress to Goal: 111,291

## Enrollment Capacity and Student Success

**Continued efforts to improve student persistence increases overall enrollment, but also creates greater capacity as students graduate earlier.**

- Many efforts are directed at improving persistence and degree attainment, including:
  - Predictive analytics and tools to facilitate advisors and other student support staff information and communication with students.
  - Curricular innovations to incorporate more adaptive and active pedagogies.
  - New student facing tools to provide information and communication with students through technologies that today's students desire.
  - Financial literacy, growth mindset, and other programmatic features that address potential barriers to success.

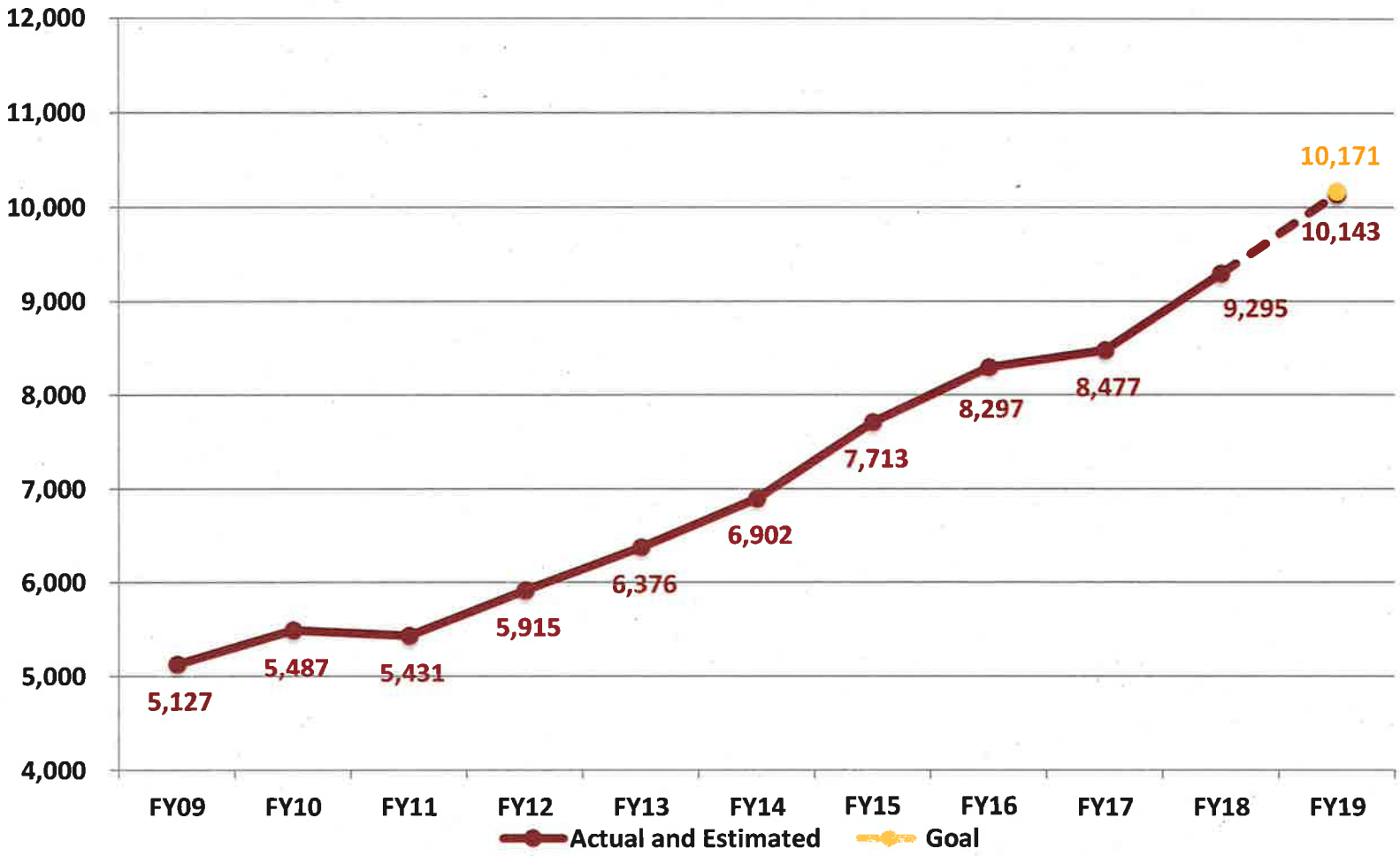
## 2018-2021 Multiple-Year 'Enterprise Performance' At-Risk Goal 5

Achievement of the projected 2021 fiscal year strategic plan metric goal number of degrees in high demand fields of 11,966.

Estimate as of July 2019

Progress Report Follows

# FY 2021 High Demand Degree Goal: 11,966 Degrees
# FY 2019 Progress to Goal: 10,143 Degrees (est)



## FY 2021 High Demand Degree Goal: 11,966
## FY 2019 Progress to Goal: 10,143 (est)

- ABOR defines high demand degrees as those in STEM fields (natural sciences, engineering and technology, and mathematics), health professions, and education.

- Student demand has shifted towards most of these fields (except education) as concerns about career prospects have become more of a focus in the choice of majors.

- ASU believes that this shift will continue, and current enrollment patterns confirm that. Achieving the targets requires the resources that enable sufficient capacity to meet demand.

## FY 2021 High Demand Degree Goal: 11,966
## FY 2019 Progress to Goal: 10,143 (est)

- Continuing investments in faculty, laboratory classrooms, and in residential college student housing is required to meet continued growth in the sciences and engineering.

- Additional online programs, particularly in engineering and in bio-medical sciences, will continue to increase capacity for enrollment.

- Additional programs in health professions have been introduced to provide more opportunities beyond nursing. Examples include: Health Care Compliance and Regulations, Health Entrepreneurship and Innovation, Health Management, Community Health, Pharmacology and Toxicology, and Biomedical Informatics.

## FY 2021 High Demand Degree Goal: 11,966
## FY 2019 Progress to Goal: 10,143 (est)

- The slight underachievement of the overall target is due to the decline in Education degrees over the last few years. Education enrollment began to decline during the recession, hitting a low in 2013. Since then, enrollment has grown slowly, although growth was up 10% in Fall 2018 over 2017.

- Continued demand for education degrees will require improvements in teacher salaries and career opportunities. It is hoped that steps taken in Arizona over the last year will continue, including partial funding of the Arizona Teachers Academy.

- Efforts by the Mary Lou Fulton Teachers College to redesign teaching career paths and classroom staffing structures seek to enhance the attractiveness of teaching as a career.

## 2018-2021 Multiple-Year 'University Initiatives' At-Risk Goal

Increase the student athlete Graduation Success Rate, measured as of June 30, 2021.

- Football, from 76% to 85%, and
- Men's basketball, from 93% to 95%

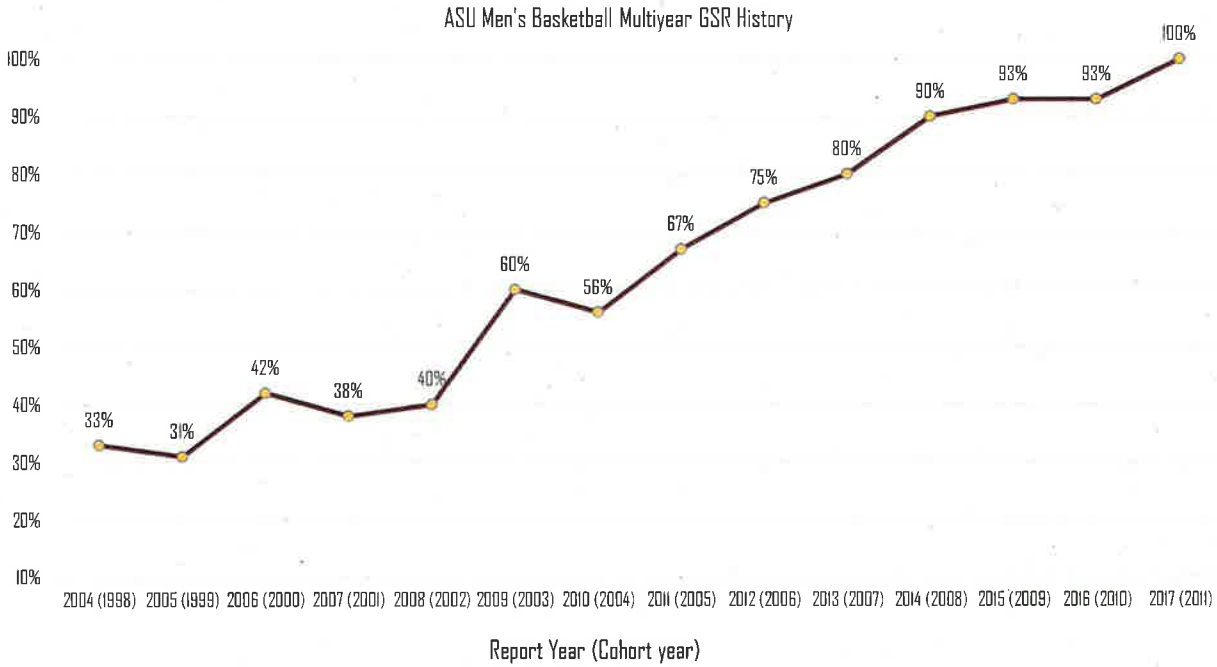
Estimate as of July 2019

Progress Report Follows

# SUN DEVIL ATHLETICS 2019 ABOR Report

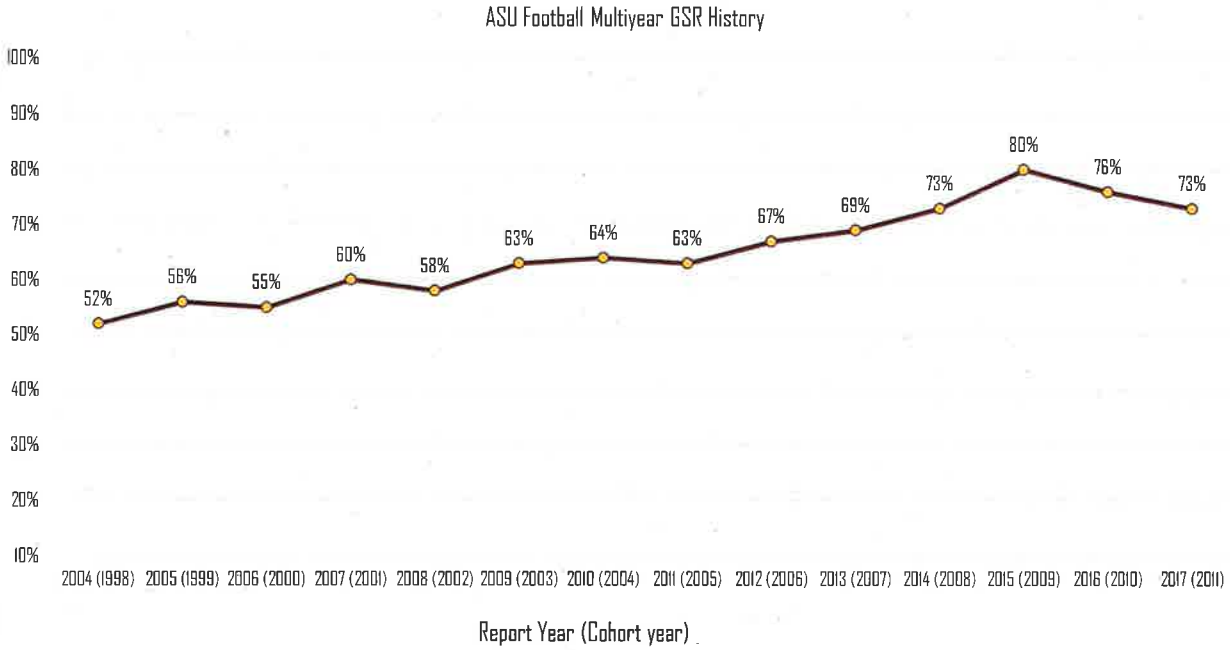
ARIZONA STATE UNIVERSITY

# Men's Basketball Graduation Success Rate (GSR)




- Currently ranked 1st in the Pac 12.

# Football Graduation Success Rate (GSR)




- ASU expects to report 75% in Fall 2019.