

Arizona State University

Enterprise Plan 2019



ASU Enterprise Plan

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Introduction

Arizona State University is presenting an update on its business plan, a continuation of the plan outlined to the Board of Regents in 2010 that required ASU to *operate as an enterprise*.

The ASU Enterprise Plan was first outlined for the Board of Regents in our annual Strategic Enterprise Framework Report in February 2010. The 2010 report represented a major policy shift by declaring that ASU would *operate as an enterprise* and would complete its five-year evolution away from an institution that was dependent on State decisions, and emerge as an enterprise taking responsibility for its success in meeting the needs of the State's citizens, fulfilling its Charter, and achieving the mandated ABOR metrics. The primary tactical and strategic elements of the plan have been consistent in the eight reports delivered since then and, with its success, most every metric outlined at the time has been achieved to date.

A detailed ASU Enterprise Plan was presented to the Regents as part of the OFR report in February 2017. It included information on ASU's goals, its strategies for achieving those goals, and its progress in that regard. The plan outlined in that document is one that ASU has been following for the last seven years, and it remains valid as we look to 2019 and beyond.

In this document, ASU is presenting an update on its Enterprise Plan and a report on how it may need modifications due to the ongoing changes in the social and political landscape in which higher education operates.

Before proceeding to the update, it is useful to ground discussion in a summary of the key goals of the ASU Enterprise Plan, as presented in the February 2017 plan.

- Demonstrate leadership in accessibility by providing sufficient capacity at ASU to allow any qualified (as historically and currently defined) Arizona resident to attend and succeed.
- Maintain a tuition and financial aid policy that assures access to ASU is not limited by a resident student's financial circumstances.
- Offer a world-class educational environment of colleges and schools of national standing that teach the most current knowledge in all fields using the most effective pedagogical methods.
- Build the human and technology systems needed to support students in ways that result in retention and graduation rates in which individual effort (rather than family income, ethnic background, and prior preparation) is the determinant of success.
- Maintain and strengthen a faculty committed to interdisciplinary scholarship that is a substantial contributor to new knowledge and has the tools and facilities to participate in major research and creative activities for the benefit of the educational experience of their students and the good of society.
- Extend ASU's visibility and reputation in order to attract more and stronger students and faculty from around the world
- Offer ASU as a design model of how higher education can be made available to a more diverse population and be of greater service to individuals, to Arizona, and to the wider society.

Goals:

**Access, Outcomes and
Research**

ASU's Goals and Scale of Growth

The ASU Enterprise Plan that was outlined in detail in February 2017, for which this document serves as an annual update and progress report, was scaled to allow ASU to **reach the ambitions enrollment, degree, and research targets** in its ABOR-established 2025 metric targets. The Plan outlined the tactics and investments needed to achieve the metrics.

In the last year, ASU increased its performance in all of the metric categories for enrollment, degree, student success and research. In most categories, that performance exceeded the metric targets for the year.

	Metric Target	Fall 18 or FY18 Result	Change from Prior Year
Undergraduate Enrollment	80,888	89,898	+6,347 (7.6%)
Graduate Enrollment	19,297	21,393	+1,377 (6.9%)
Total Enrollment	100,184	111,291	+7,724 (7.5%)
Freshman Retention	85.2%	85.5%	+ 0.3 pts (.35%)
6-Year Graduation Rate	63.0%	70.7%	+3.6 pts (5.3%)
Bachelor's Degrees	16,246	18,178	+1,728 (10.5%)
Graduate Degrees	7,464	7,796	+912 (13.25%)
High Demand Degrees	9,450	9,295	+818 (9.6%)
AZCC Bachelor's Degrees	4,652	4,584 *	+69 (+1.5%)
Research Expenditures	\$562.5M	\$604.0M *	+\$37.5M (4.2%)
Licenses and Options	69	78	-19 (19.6%)
Public Service Expenditures	\$41.4M	\$37.5M	-\$3.9M (-9.4%)

*preliminary data

Undergraduate enrollment and degrees continue to exceed the targeted levels, and this, combined with the continued improvements in freshman retention graduation rates, suggests that the degree award targets will continue to be reached or exceeded in the future.

Access

Resident Undergraduates

Resident undergraduate enrollment is 42,181 in Fall 2018, up 2% from prior year. After the period of decline in immersion resident undergraduate enrollment that followed the recession of 2008-2009, enrollment has rebounded in the last several years, and the application picture for Fall 2019 looks bright. This increase is being driven by increases in the number of students entering as freshmen- which in Fall 2018 were up by 37% over the low point in Fall 2013, and are up 8% in just the last year to 7,933. This growth has offset the ongoing declines in the number of resident undergraduate students entering as transfers. The number of transfers peaked in 2014 at just over 4,449 and has declined by 10% since then. Fall 2018 has shown some recovery from this downward trend with a 4% increase from Fall 2017 to 3,984. The recent declines in Arizona community college enrollment and degrees certainly contribute to the transfer application decreases at ASU. The fact that the transfer decline is matched with ASU freshman increases may suggest that more Arizona students are choosing to begin their college career at ASU rather than community colleges.

To address the transfer student market, ASU is implementing a range of strategies, including refining the ways in which transfer articulation agreements are implemented, creating more options on community colleges campuses for direct engagement with students, expanding AAS to BAS options, looking for greater interactions with the community colleges in helping to get high school students not ready for ASU enrolled in the community colleges in Pathway (MAPP) programs that will lead them to ASU after two years.

ASU's recruitment, programmatic, and financial aid strategies are effective. One of the points of pride in the undergraduate enrollment picture is that the numbers of underrepresented minority students and the number of low-income students in the immersion population has continued to grow and even to out-strip the overall growth rate as is displayed by Figure 1 & 2.

In Fall 2009, 25.1% of the non-international immersion undergraduate population self-identified as other than white or Asian. By Fall 2018, it was 38.4%, growing from 12,523 students in Fall 2009 to 21,544 in Fall 2018.

Figure 1: First-Time Freshmen Enrollment, Fall 1980 - Fall 2018

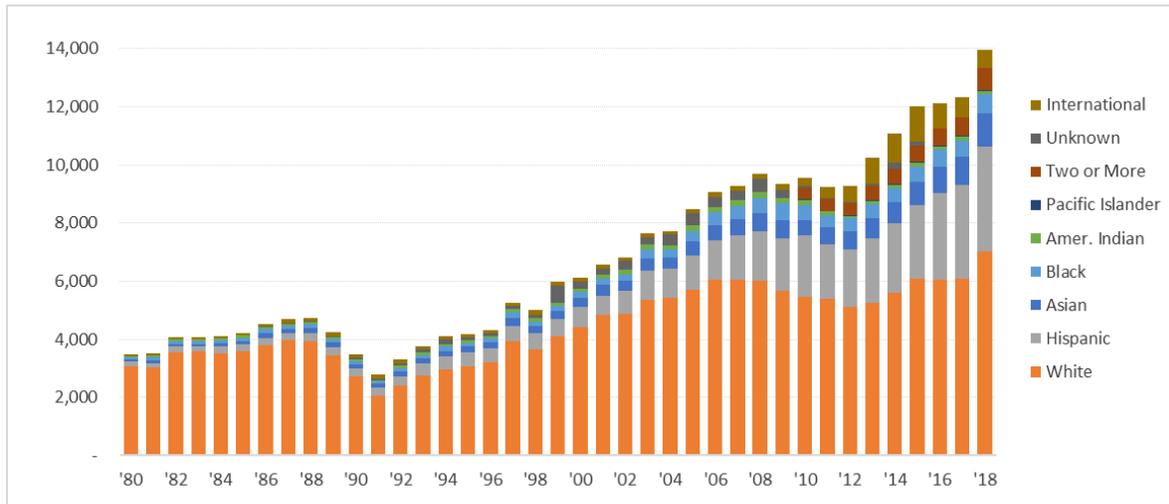
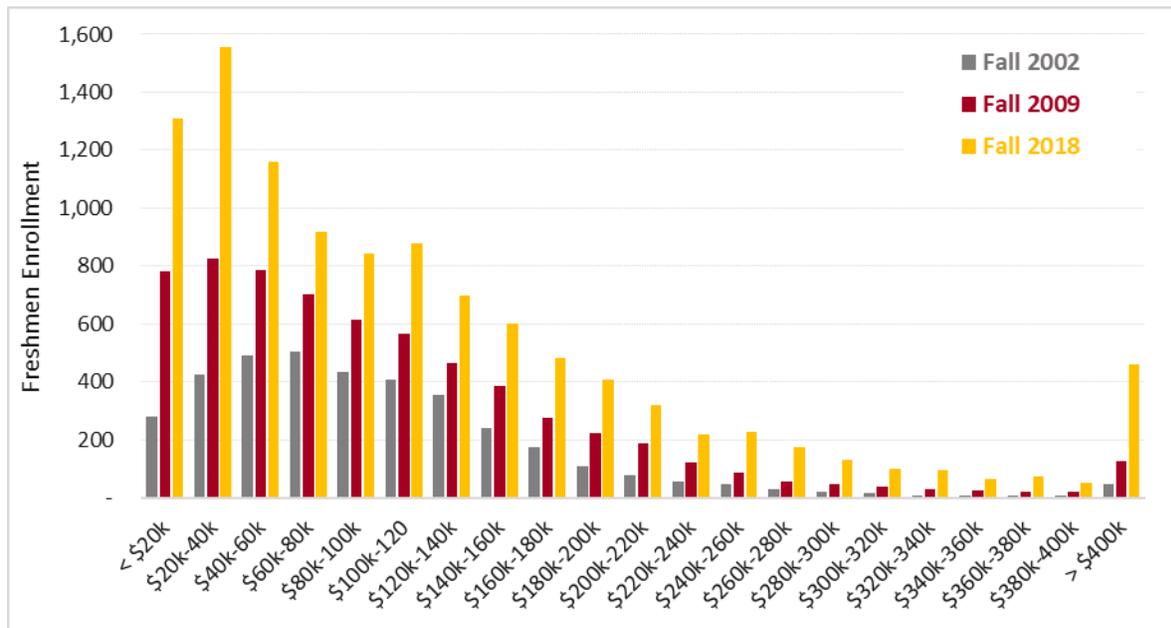


Figure 2 shows that ASU consistently and substantially expanded access for those students from the lowest income families. In Fall 2009, 36.0% of the non-international undergraduate population was made up of students who were receiving Pell-Grants during all or a portion of their enrollment at ASU. By Fall 2018, it was 42.1%, growing from 18,743 students in Fall 2009 to 23,721 in Fall 2018.

Figure 2: ASU First-Time Full-Time Freshman Enrollment by Adjusted Family Income

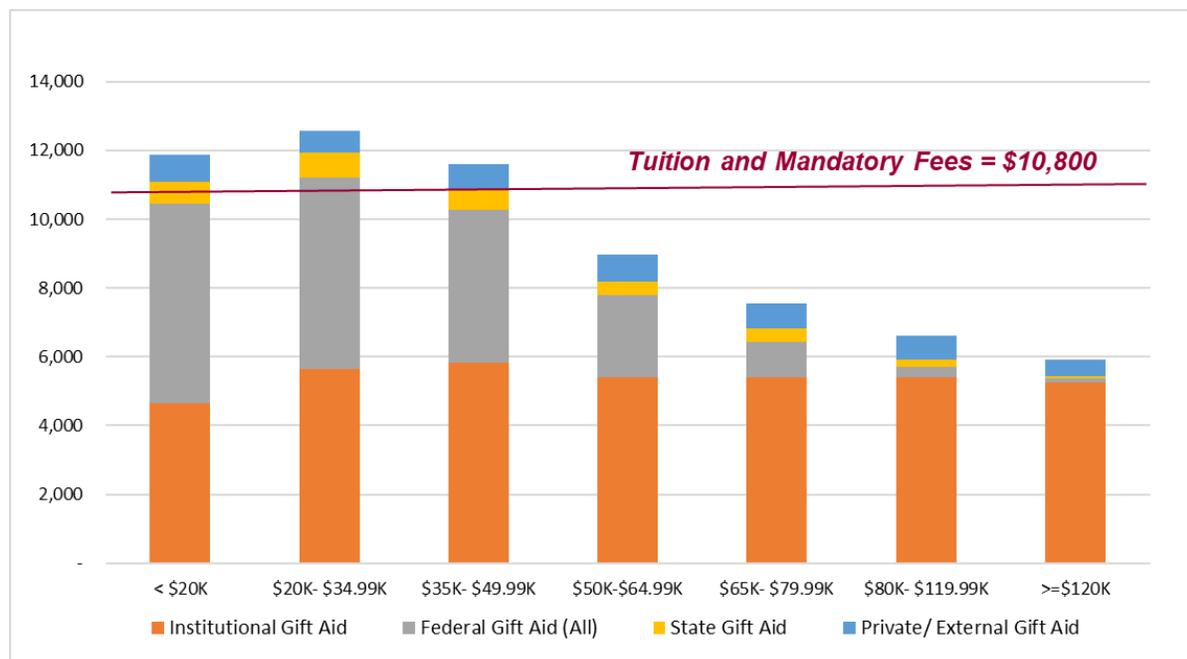


ASU works hard to make tuition affordable. ASU's financial aid policies are an important component of our resident student enrollment and student success efforts.

By including both need and merit elements to financial aid, the ***awards are well-distributed across the socio-economic spectrum of the students' families.*** With the federal aid programs largely based on need, the result is a very affordable net tuition for most students, and a resulting healthy diversity of students on-campus.

As is outlined in Figure 3 below, financial aid to Arizona immersion undergraduates is tailored by family income in order to make it affordable to the full range of students. Students with family income of less than \$50,000, get more aid than the amount for tuition and mandatory fees.

Figure 3: Arizona Resident UGs in 2017-18 Average Gift Aid Awards (\$) by Family Income



Still, financial aid remains one of the major stress points for overall financial planning because of the lack of a state-funded aid program.

Aid from institutional sources is currently the largest source of gift aid (it amounted to over \$350 million in FY18 up \$20 million from FY2017). The ability to attract domestic non-resident and international students who can pay the higher tuition rates is what provides ASU the means to give this aid to other students.

Non-Resident and International Undergraduates

Since 2010, the numbers of domestic non-resident undergraduate students grew by average of 3.1% annually (FY2010-FY2017), with FY2018 experiencing a 5.8% year over year growth.

International undergraduate growth enrollment grew at an even faster rate over that same period (an average of 18% annually), but has declined over the last two years, with a small decline in Fall 2017 and a larger decline of 11% in Fall 2018. Due to the very substantial growth in prior years, the base of non-resident students and international undergraduates remains well over 19, 000 students.

The results of the Fall 2018 for international undergraduates may be explained by the growing competition among universities for these students, some hesitancy to come to the United States following the 2016 election and a reduction in students from the Middle East, due to revisions in some programs sponsored by governments in the Middle East, where ASU had in past years had great success.

ASU is taking aggressive steps to ensure continued growth in these student populations.

ASU has continued its focus on recruiting non-resident students, by adding new recruitment staff in different regions of California that are making contacts in more high schools. We also now have formal partnerships with most California community colleges, where students may lack good in-state options for transfer. Financial aid practices are also being reviewed to assure that ASU remains competitive in its pricing strategies. Branding efforts are also important to help students and families from other states to overcome out-of-date perceptions and to understand the quality of education they can find at ASU.

In the international market, a wider range of recruitment efforts are being made in China and India using both on-the-ground representatives as well as fly-in staff from the university. ASU staff continue to visit China to highlight the nature and quality of ASU. In the Middle East, ASU staff are visiting embassies in the United States and inviting more official visitors to campus to build bridges with individuals responsible for educational decision-making.

ASU Online

ASU Online continues to grow at a substantial rate and remains key in two elements of the ASU planning. One is the strategy to make high-quality and well-supported education available to previously under-served populations or to those who cannot attend immersion programs. The other is its contribution to creating resources in the overall financial enterprise model.

ASU Online needs to continue to evolve and provide even greater value to its students.

One of the hallmarks of ASU Online is its emphasis on strong student support to accompany state-of-the-art academic quality. The work in the last few years to develop a comprehensive student success operation in-house has been very successful in helping students to balance their many responsibilities, provide emotional support, and academic advising. Technology systems are regularly enhanced to provide students and advisors with information about educational issues and to smooth communication with students. Chat systems driven by smart technologies, for example, are being more widely deployed as part of this effort. On another front, ASU Online is building the sales effort needed to find corporate and institutional clients who want to provide top-level educational opportunities for their employees through well-supported partnerships with ASU Online.

The growth of the platform's enrollment has been robust. In Fall 2018, ASU Online's undergraduate programs enrolled 28,000 students – an increase of 23.7%. This includes almost 7,500 students in the Starbucks College Achievement Program. ASU Online graduate programs enrolled 9,000 students, a growth rate of 18%. Given the remaining untapped market for degrees and continuing education among working adults who have either started but not completed college or who need additional education to advance, the prospects for continued growth of ASU Online are also very good too.

Moreover, ASU Online's enrollment profile demonstrates the value that this kind of educational structure can bring to efforts to assure higher education access. Students taking advantage of the Pell Grant program during their educational career comprise over 48% of the undergraduate students enrolled in Fall 2018, and non-white, non-Asian students comprise 31% of the undergraduates. ASU Online programs are also of substantial value to the educational attainment efforts of the state of Arizona with over 7,300 residents enrolled in ASU Online in Fall 2018. In an effort to further increase the participation rate of Arizona residents, ASU is making changes to its tuition structure in ASU Online for residents to encourage higher course loads that lead to faster and more affordable completion.

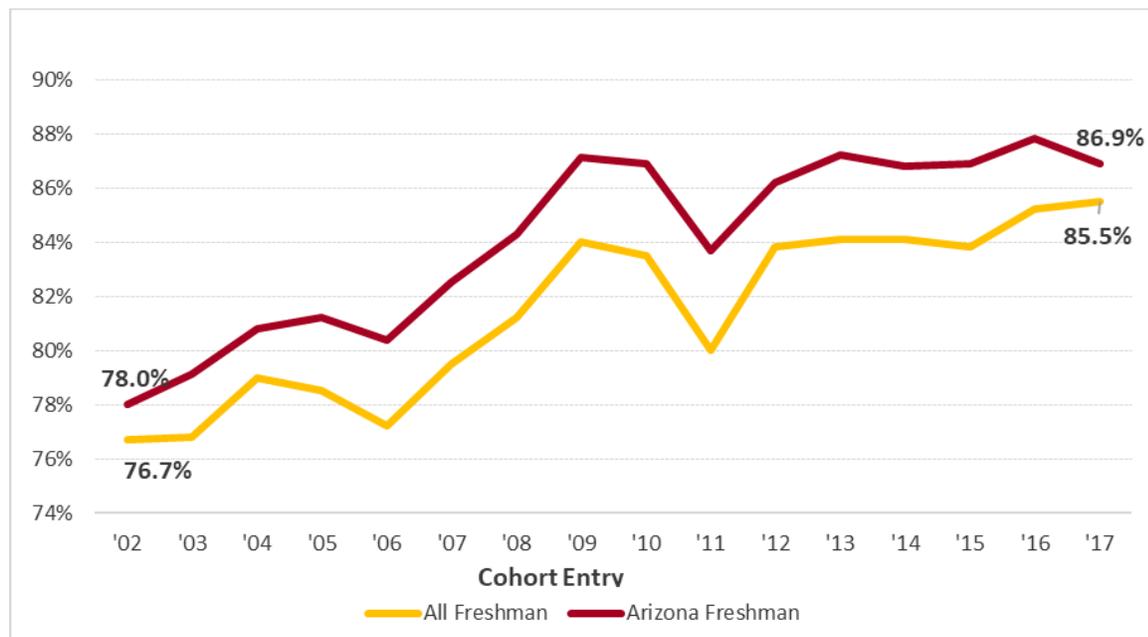
Outcomes

Retention, Graduation and Degree Attainment

Successful enrollment efforts mean little if the students do not graduate, so major efforts continue to be made to improve retention and graduation performance, and to increasingly help freshmen to graduate in four years and transfers in two or three years.

Work on retention and graduation rate improvements is an area of intense focus and substantial investment, just as it has been since the inception of the work by ASU on eAdvisor ten years ago, which kicked off a much broader level of attention across the higher education world to focus on retention and spawned a large private technology sector selling products to support data-driven analysis.

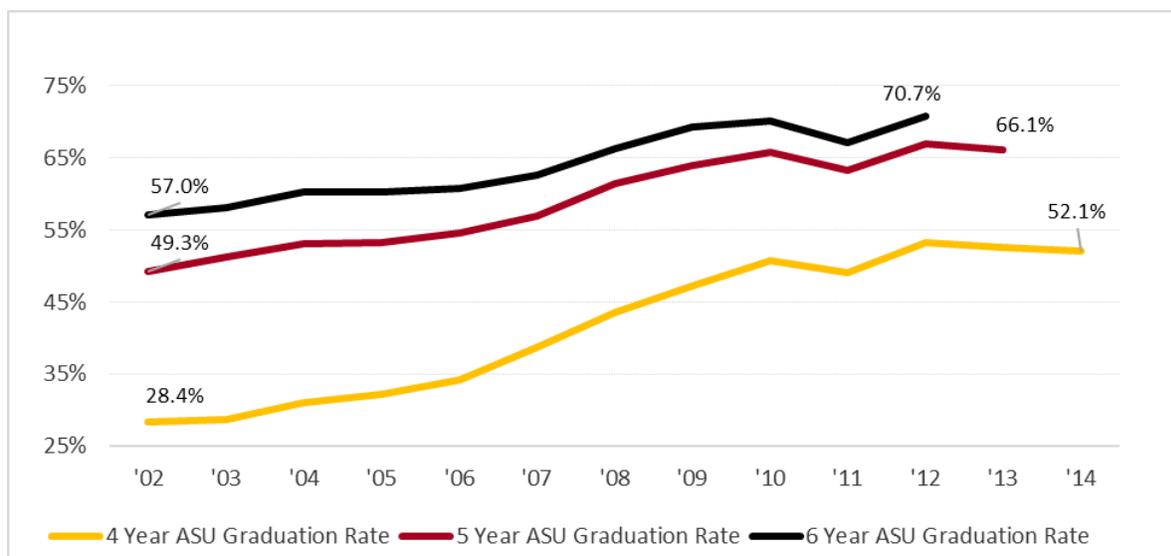
Figure 4: First-time Full-time Freshman Retention Rate by Cohort Year



ASU's efforts on retention have been successful. First year freshman retention rates have improved from 79.5% for the cohort that entered in Fall 2007 to 85.4% for the cohort that entered in Fall 2017, and that rate was up from 85.2% just a year earlier and met the metric goal. For Arizona resident freshmen, the number is an even better 86.9%. The overall freshman graduation rate, measured in the national-reporting framework of six years, is 67.7%, up from 63% in the prior year.

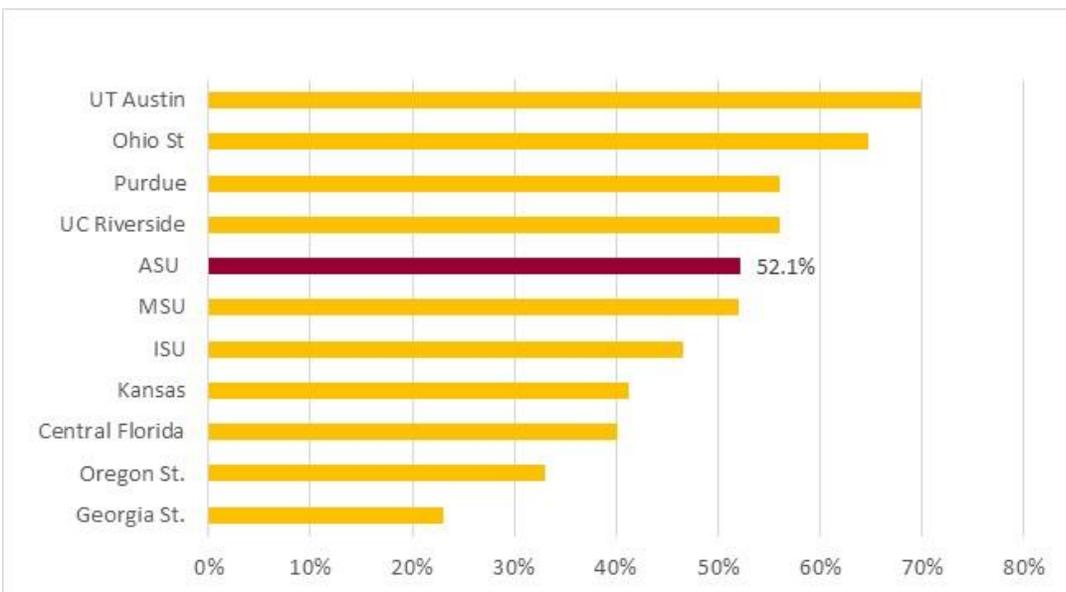
Even more progress is being made in accelerating graduation which lowers overall educational costs and helps students move to the next step in life sooner. Immersion students in the most recent cohort (Fall 2013 freshman entrants) had a 50.3% four-year rate, with a resident rate of 52.1%. While four-year rates are not an ABOR metric, ASU will continue to work to improve that rate as well as to reach the ABOR six-year target of 75% by 2025.

Figure 5: Graduation Rates for Arizona Residents (4, 5, 6 year) (FY 2002-2014 Cohorts)



ASU compares favorably to its peers. To put ASU's graduation rate in perspective, Figure 6 compares the 4 year graduation rates of all participants in the University Innovation Alliance (UIA). The four schools ahead of ASU all only admit "A" students, while ASU admits all Arizona residents with a "B" average or better. Of the other UIA schools with a comparable student populations, ASU has the highest graduation rate. ASU has implemented many strategies to improve its graduation rate over time.

Figure 6: University Innovation Alliance Comparative 4 Year Graduation Rates



Improving outcomes for First-Generation and Pell Grant recipients. ASU continues in its commitment to the success of all students. Not only has the number of students who are Pell eligible or first generation doubles over the last ten years, their retention is relatively high at 82%. Their six-year graduation rate increased to 60% for the cohort of 2012.

In the last several years, support programs have been implemented and financial aid programs further enhanced in a manner that more directly addresses the needs of traditionally underserved students who might feel they lack a community or share other concerns upon entering college as freshmen. The results have been excellent. First year retention for Pell and first-generation students is over 81%, up from 75% in 2011. The 6 year graduation rate for this group of students is also above 60%, up from 50% in 2007.

The prior ASU OFR Enterprise Plan reports have included comprehensive detail about all of the ASU efforts and programs to improve retention and graduation. All of those efforts continue and are important. Most recently, additional efforts have focused on:

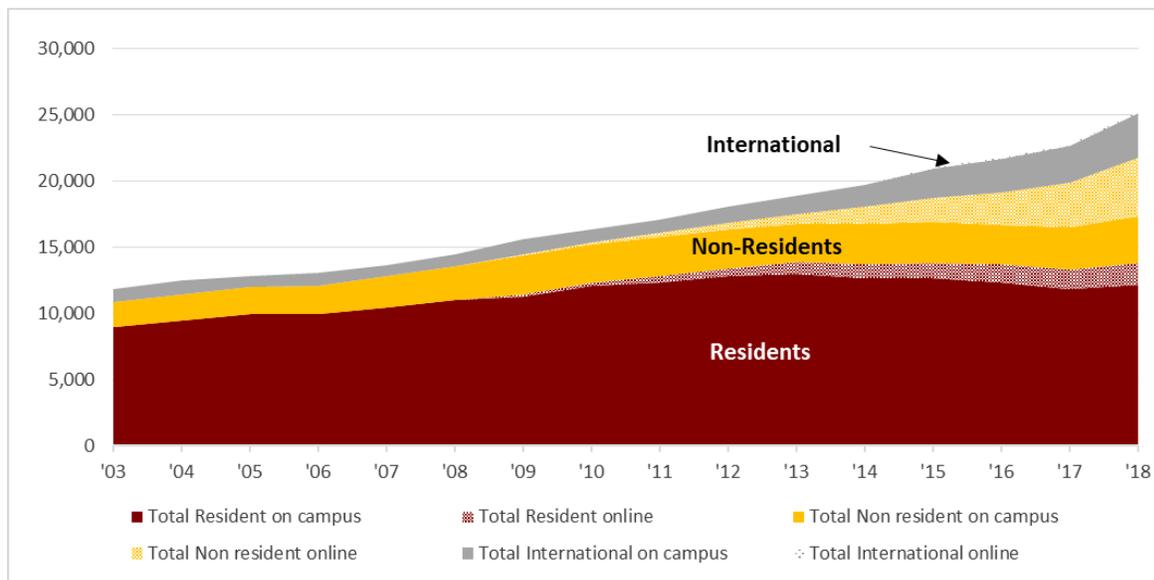
- developing a more detailed set of data analytics to spot needed interventions that are captured in real time during the semester
- programs to help students with the mindset and resilience to persist and succeed

- better integration of financial planning and career planning so that some unnecessary financial pressures might be avoided and students have a better sense of where their education can take them
- expanding the number of adaptive, active, and project-based courses—particularly in introductory courses- in order to combat early failures and loss of confidence and to build a stronger academic base for upper-level work in a student’s major
- new technologies such as chat-bots to address student questions and to ease student interactions with administrative requirements
- more advanced use of the SalesForce CRM system to track student issues and assure more timely interventions

All of this work requires a major level of new and ongoing investment in a team of faculty and professionals, as well as in new technology products and their integration into existing systems. ASU has continued to prioritize these investments in the last year and will need to continue to do so because the gains in retention and graduation performance are increasingly difficult to find and will, for the most part, be accomplished with a series of actions, each of which will target only small subsets of the shrinking percent of students not retained.

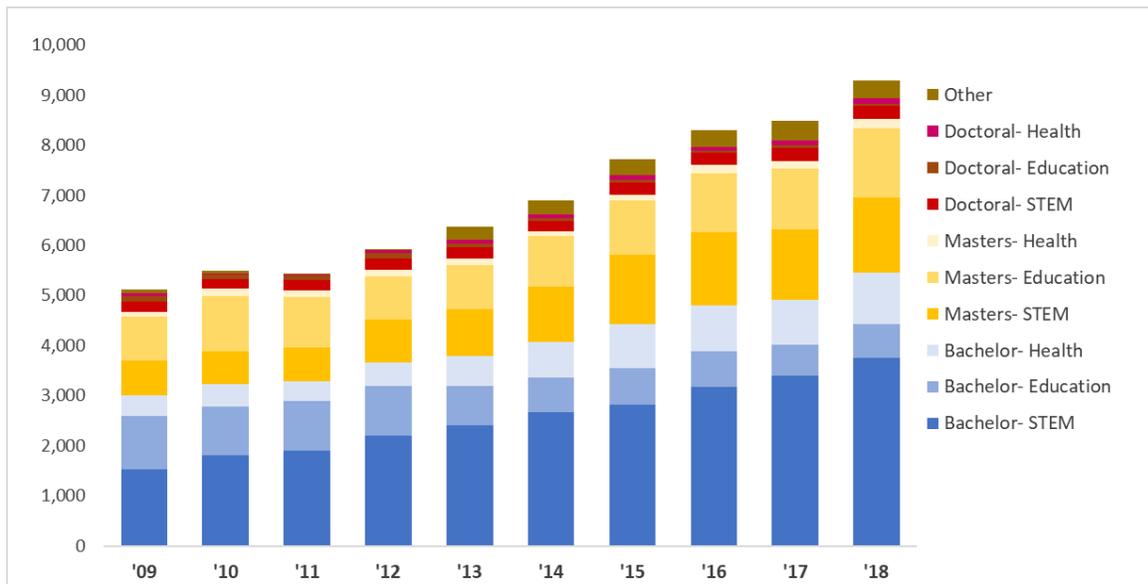
Overall, the number of degrees continues to increase in both immersion and online programs as displayed in Figure 7 below.

Figure 7: Number of Degrees (Undergraduate and Graduate)



In looking at the significant topic of degree attainment and the metrics, one area of interest is that while the number of degrees in the ABOR-defined “high demand” programs was up from the prior year by 818 (to 9,295), it was slightly below the aggressive metric target (9,450).

Figure 8: Degrees Awarded in High Demand Areas (2004-2017)



The data in Figure 8 shows that increases were seen in STEM degrees, particularly at the undergraduate level. Education degrees saw an increase in undergraduate counts (43) and in master’s degrees (166). Health also saw an increase for undergraduates (157) and a slight increase for graduate (22). Enrollment in STEM programs continues to grow, so the degree counts are expected to continue to grow. ASU will focus efforts to look more closely at degree prospects in all of these fields vis-a-vis the metric targets.

Graduate Students

Graduate enrollment continues to grow, driven by international student enrollments on campus and by online programs. The numbers of graduate degrees awarded also grew in the last year by over 900, representing a 13% increase. Graduate online degrees continued to increase and represent 2/3’s of the graduate degree growth.

Immersion graduate program growth is a key goal in helping to spur the strength and diversity of the Arizona economy. ASU is engaging in a number of activities to spur that growth. These include development of new master’s offerings that are tied to specific career development and market niche needs, promoting programs to encourage ASU undergraduates to make early

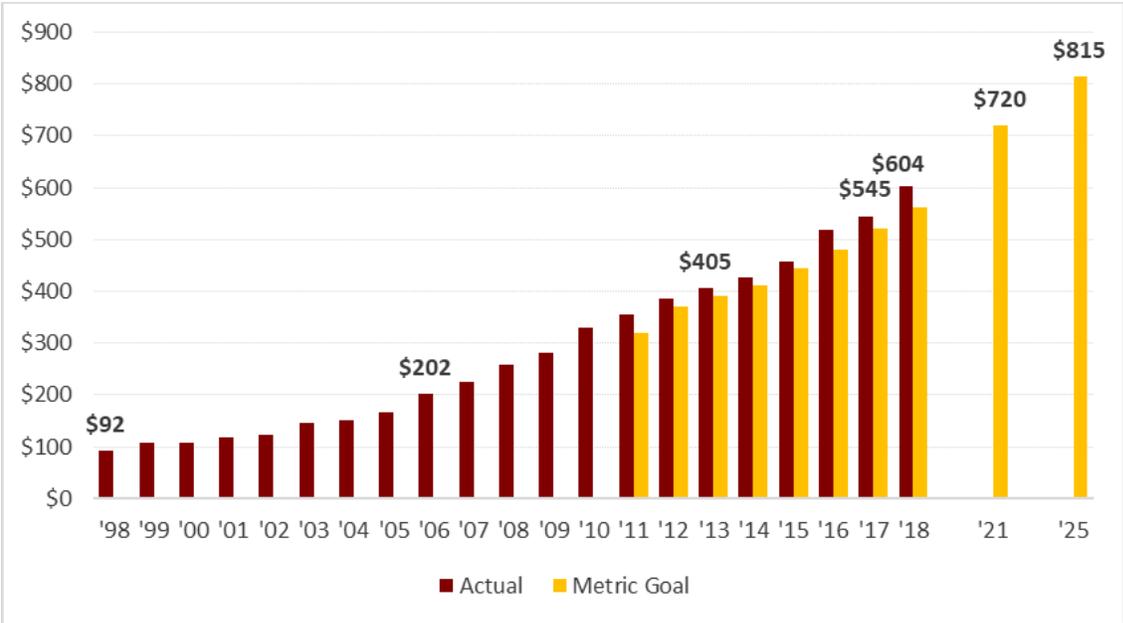
plans to pursue master's degrees upon graduation, often in 4+1 programs, making better use of faculty members as recruiters, and more nuts-and-bolts efforts to accelerate the admissions processing cycle.

Research

In addition to its importance to the quality of the education for our students, research expenditures bring funding from outside the state to Arizona, provide new well-paid jobs, and produce innovations capable for spinning off new businesses.

Continuing on its path as a rapidly growing research enterprise, Arizona State University reported \$545 million in research expenditures for fiscal year 2017, up from \$518 million in FY16. ASU announced that its research expenditures for FY18 now total more than \$600 million — a first for the university. As indicated by Figure 9, FY18 expenditures increased by 10.8% and reached \$604 million, well ahead of the metric target of \$562.5 million.

Figure 9: ASU Research Expenditures '98-2018 Actual and 2025 Metric Goals (\$m)



The NSF’s FY17 Higher Education Research and Development (HERD) rankings, its most recent report based on FY17 expenditures, has ASU holding a strong lead among all reporting institutions. ASU is holding its rank at No. 44 for total research expenditures in the U.S., remaining ahead of the California Institute of Technology and the University of Chicago. Among institutions without a medical school, ASU moved up one spot to No. 8, ahead of Princeton University and Carnegie Mellon University. In addition, it holds the No. 1 ranking in anthropology expenditures, ahead of Harvard and Stanford universities. ASU ranks No. 2 in geological and earth sciences, ahead of Stanford University, MIT and Penn State; and ranks No. 3 for

transdisciplinary research expenditures, ahead of Ohio State, MIT and Michigan State University. ASU also made significant gains in rankings for expenditures in metallurgical and materials engineering, physics, and visual and performing arts, according to the HERD report. See Figure 10 below.

Figure 10: 2017 National Science Foundation (NSF) Higher Education Research and Development (HERD) Rankings

Total Research Expenditures: 44 of 903 ahead of



Total Research Expenditures among Institutions without a Medical School: 8 of 747 ahead of



Non-Medical School Expenditures: 21 of 903 ahead of



Public institutions: 27 of 400 ahead of



Since 2002, ASU’s research enterprise has seen enormous growth. To support this growth, ASU launched several interdisciplinary initiatives, providing a framework for researchers to build teams that can solve complex global challenges. For example, ASU’s Biodesign Institute, which launched in 2004, focuses on interdisciplinary research approaches to global health, security and sustainability. Since its inception, Biodesign Institute has attracted more than \$740 million in funding. ASU’s Global Security Initiative, launched in 2015, addresses global security challenges through interdisciplinary research. The team recently received a \$20 million award from the Department of Homeland Security to develop tools to improve operations in the department’s component organizations, including the Transportation Security Administration, U.S. Coast Guard, Federal Emergency Management Agency and Customs and Border Protection. In 2004, ASU established the Julie Ann Wrigley Global Institute of Sustainability. The institute is the hub of ASU’s sustainability initiatives and research. Experts from a range of disciplines in the natural and social sciences, medicine, engineering, mathematics, humanities

and the arts work to solve global sustainability problems. In FY17, sustainability scientists and scholars across ASU accounted for \$93 million in research expenditures.

ASU is well on its way to its goal of expanding the university's research enterprise to \$815 million in expenditures by 2025. A key element to research growth is building advanced and appropriate lab space. ASU has built several advanced research buildings. The latest is the five-story, 191,000 square-foot Biodesign C building, which opened in the fall of 2018. Biodesign C will be home to 80 lead researchers and 400 support staff. Scientists there will tackle major health care and environmental societal issues through its multidisciplinary research centers, including the ASU-Banner Neurodegenerative Disease Research Center, the Biodesign Center for Applied Structural Discovery, the Biodesign Center for Mechanisms of Evolution and several labs from ASU's School of Molecular Sciences. A new research tool will be completed in the year ahead — the world's first compact X-ray free-electron laser — a key instrument that can unlock the interaction of molecules and be used in drug discovery and energy research.

The other legs of the strategy continue to be pursued, including **ongoing hiring of faculty members with strong research credentials or potential** – in addition to a commitment to teaching, and the pursuit of major collaborative projects and teams or national laboratories. Along with student success initiatives, faculty hiring is the other most important priority for university investment. These recruitment efforts for faculty often overlap with the efforts to seek out opportunities for large scale projects and teams. The Office of Knowledge Enterprise Development has a sophisticated structure for identifying areas of intended national investment and groups at other institutions which might be targeted to join ASU. These OKED efforts are key to both supporting current faculty work and to developing the research potential of the future.

ASU has done extremely well in adding star researchers. ASU's Center for Global Discovery and Conservation Science will launch in 2019. Greg Asner, who will join ASU in January from the Carnegie Institution for Science, Washington D.C., will lead the center. Asner has been a leader in airborne mapping techniques that help reveal functional diversity and vulnerabilities of various ecosystems and identify targets for conservation. Asner was elected to the U.S. National Academy of Sciences (2013) and is a fellow of the American Geophysical Union (2015) and of the Ecological Society of America (2016). In addition, Kathleen Merrigan, former U.S. Deputy Secretary of Agriculture and a leader of sustainable food systems, was named the first executive director of ASU's Swette Center for Sustainable Food Systems in fall 2018.

Academic Plan:

New Programs

Curricular Innovation

and Assessment

New Programs

New degree programs in 2018-2019 advance issues of community development, health, education, language and linguistics, sustainability, leadership and innovation, and natural resources. They leverage our place, transform society, value entrepreneurship, include use-inspired research, enable student success, fuse intellectual disciplines, are socially embedded, and engage students with issues locally, nationally and internationally.

The new programs include:

- Bachelor of Arts in Community Development
- Bachelor of Science in Natural Resource Management
- Bachelor of Science in Sports Science and Performance Programming
- Bachelor of Science in Sustainable Food Systems
- Master of Arts in Classical Liberal Education and Leadership
- Executive Master in Community Development
- Master of Professional Studies in Community Development Practice
- Doctor of Philosophy in Data Science, Analytics and Engineering
- Master of Education in Early Childhood Education
- Master of Science in Environmental Engineering
- Doctor of Philosophy in Geographic Information Science
- Master of Global Leadership and Strategy
- Master of Science in Health Care Simulation
- Master of Science in Innovation and Venture Development
- Master of Arts in International Affairs and Leadership
- Master of Arts in Investigative Journalism
- Master of Arts in Language Teaching
- Master of Science in Natural Resource Management
- Master of Science in Organizational Leadership
- Master of Arts in Policy Advocacy
- Doctor of Philosophy in Spanish Linguistics
- Master of Science in Supply Chain Management
- Master of Science in Sustainable Food Systems

Curricular Innovation and Assessment

ASU is committed to the success of each student through leadership in academic excellence and accessibility, national standing in academic quality and impact of programs, empowering families in the education of their children, increasing student success through personalized learning pathways, and promoting a college-going culture in Arizona's K-12 schools.

Dimensions of student success include:

- Producing graduates who are thoughtful, intellectually well-rounded and have an appreciation for lifelong learning
- Promoting the intellectual, personal, social, and ethical development of the individual
- Equipping graduates with 21st-century communication, analytical and problem-solving skills
- Enhancing measured student development and individual student learning to national leadership levels
- Enhancing linkages to the university at all levels for all learners
- Engaging students with quality and innovative teaching and learning experiences
- Providing a stimulating, politically and intellectually diverse and respectful atmosphere that attracts, inspires and retains students, faculty and staff while recognizing our place
- Encouraging public service, research experience, internships, clinical placements and other types of professional engagement as an integral part of the overall student experience
- Providing outstanding extracurricular activities
- Maintaining excellent and significant international programs
- Establishing national standing in academic quality and impact of colleges and schools in every field
- Attaining national standing in the learning value added to our graduates in each college and school

A baccalaureate degree should equip students to be well-educated citizens prepared for professional achievement, advanced study, and constructive personal, social and civic lives. In addition to depth of knowledge in a particular academic or professional discipline, students should also be broadly educated and develop the general intellectual skills they need to continue learning throughout their lives. Thus, the general studies requirement complements the undergraduate major by helping students gain mastery of critical learning skills, investigate the traditional branches of knowledge and develop the broad perspective that frees one to appreciate diversity and change across time, culture and national boundaries.

ASU's process to ensure accountability is multi-faceted and includes accreditation reviews, Academic Program Reviews, annual academic program assessments, extracurricular program assessments, and the review of faculty, including the annual review, tenure and promotion decisions, and post-tenure review. These assurance processes are systematic and collaborative, incorporating input from faculty, students, professional staff, and external bodies with specialized expertise.

These outcomes are measured using a number of tools:

- Graduating student self-assessments and alumni surveys. All graduating students respond to a survey which includes a self-assessment of their experiences at ASU. Each year, approximately 6,000 alumni respond to the survey of recent graduates.
- Annual Academic Program Assessments
- Extracurricular Program Assessments
- Writing skills evaluations, dissertations, and theses
- Professional Examination Pass Rates

- Student, faculty and employer feedback and surveys

- Post-baccalaureate employment, job placement and certification rates

- Academic Program Reviews
- National program rankings
- Measuring participation in capstone/ experiential learning, research, clinical/field experience
- Surveys of employment over time including departmental surveys and DES reports
- Rates of graduate degree admissions and number attaining further degrees

To advance continuous improvement of academic programs, ASU is focusing on learning outcomes, concepts, competencies, assessment methods and both internal and external measures. The information is reviewed and used to improve the curriculum and teaching methods. Models are also being developed to deconstruct national and international rankings to identify weaknesses that can inform strategic development of academic programs. Through the recently formed data collaboratory, we are able to revise and build out the public and internal data sites to present important university data to the respective constituencies.

Innovations are being launched to address performance issues with specific subsets of students identified by increasingly sophisticated data analytics. For example, ASU is redesigning a number of the largest introductory courses with relatively low pass rates as blended active/adaptive courses. In these courses, students study the standard course content digitally and are constantly assessed in each learning objective. When they achieve proficiency, they move to the next learning objective. They then meet in an interactive classroom setting in which they collaborate on applying their knowledge to solve problems related to the course content.

Successful efforts to date include introductory math (3 courses), biology, economics (2 courses), psychology, history and chemistry courses. At a minimum, two courses in astronomy and a philosophy course will be added next academic year. Enrollment in these courses is expected to exceed 20,000 students next year. In addition, currently in development is a new initiative that involves adapting this approach to a collection of ‘connected’ courses in a single major. The required courses for the biology major (the “biospine”) is nearing completion. Initial efforts over the past three years have shown that this adaptive learning approach substantially increases success rates in the respective courses.

- Student success in one introductory math course has improved from ~65% to ~ 80%.
- Student success in an introductory biology course also has improved, from ~75% to 90%.
- As the other courses scale-up, similarly positive results are occurring. In Introductory Psychology, the success rate (A,B,C) increased from 79% in fall of 2017 to 86% in fall of 2018 when the blended format was widely adopted. The percent of Withdrawals declined to a very low 6% rate. And in terms of mastery, the percent of students earning an A or B went from 57% in 2017 to 73% in 2018. The scale-up in economics is still partial as the courseware took longer to develop, especially in the macroeconomics

course. Additionally, there is greater experimentation ongoing in economics among the instructors as to how to conduct the applied interactive learning at scale. As a result, comparing aggregate results across the varied approaches is not as clear cut. One thing we have observed consistently across all the courses is that it takes time for instructors, who have lectured their entire career, to perfect this form of instruction. Thus, following the same instructors (using the same grading standards) over several years provides insight. When this is done in microeconomics, the success rate (A,B,C) increased from 69% in Fall 2016 (lecture format); to 79% in Fall of 2017 (blended format); to 86% in fall of 2018 when the blended format was taught again. The percent of Withdrawals declined to a very low 3% rate in 2018 from 10% in 2017 and 15% in 2016 (lecture format). And in terms of mastery, the percent of students earning an A or B went from 50% in 2016 (lecture) to 59% in 2017 and 2018 (blended).

- Student success is not just measured by grade performance in these renovated courses. Academic standards have increased in these courses and students have demonstrated success beyond grades. In two of the courses, pre- and post-tests were conducted in the blended course and the traditional lecture hall version of the course, several times taught by the same instructor. Students in the blended classes generally achieved higher post-test scores and the highest growth between pre- and post-test. Moreover, the blended active learning components of these classes require students to apply the content from the adaptive learning component in interactive exercises. They collaborate in solving more complex problems, often outside of the context of the lesson. Students begin practicing communication & collaboration, problem solving, quantitative reasoning and other career-oriented skills. As this type of training is repeated in other classes taught in this manner, students build thinking habits that last their lifetime. In short, adaptive learning substantially increases students' attainment of expected learning outcomes.

Student success is integral to all aspects of the academic plan at ASU. eAdvisor, ASU's signature suite of advising tools, continues to be refined through analyses of course sequencing, toxic combinations of courses, critical courses that are diagnostic of success in a major, and milestones that mark competencies. Early intervention is vital to effective assistance, and through the newly designed Advising Portal, students have a persistence outlook that is updated daily based on data pulled from the learning management system, student information system and data warehouse. When students need assistance, cases are created centrally through the student relations management system and delivered to the individual student's

academic advisor. Further, refinements continue to occur with Project LEAD (Learn • Explore • Advance • Design), a program that integrates three courses and thus more effectively facilitates learning of course concepts and develops students' critical thinking and communication skills. The retention rates and GPAs of students enrolled in LEAD have exceeded substantially the success of similarly matched students not in the LEAD curriculum since the initial pilot in the 2014 – 2015 academic year. The LEAD program expanded to almost 1,000 incoming freshmen and is part of the way academic planning is conceived within the context of student success.

**Required Resources:
Investment Priorities,
Enterprise Resources
Cost Effectiveness, and
Financial Strength**

Investment Priorities

ASU's enterprise investment priorities are as follows:

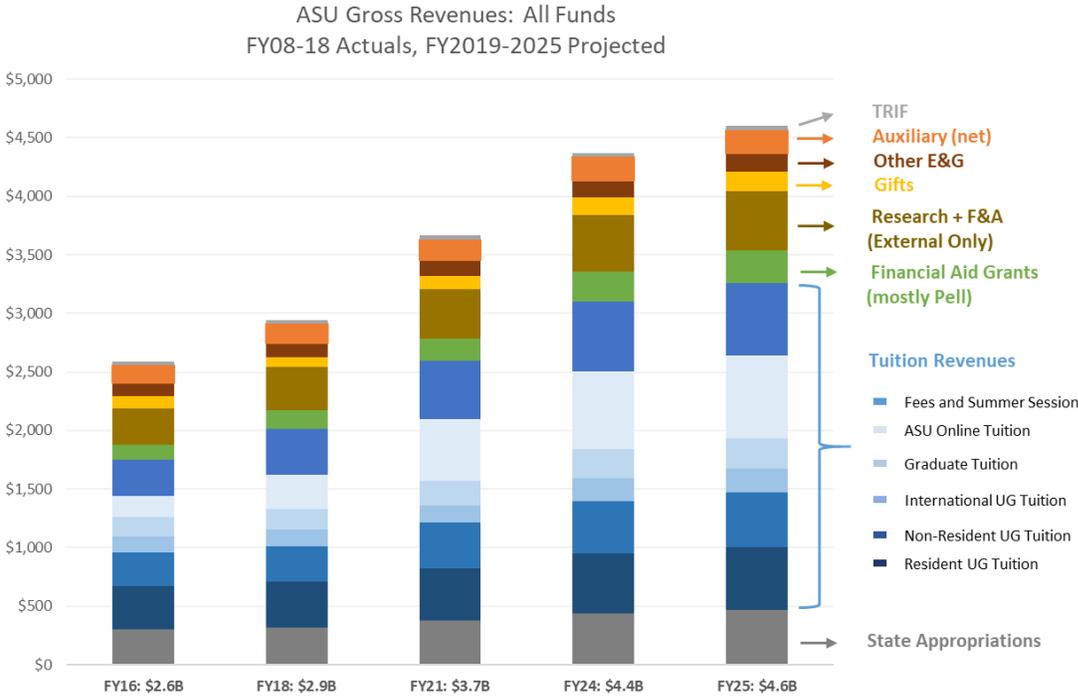
- Continue growing the size of the 3,400-person faculty by 20% to 30% with emphasis on tenured and tenure track hires,
- Expanding support positions at rates needed to maintain or improve service levels
- Increasing the amount of research space by about 500,000 to 600,000 SF
- Increasing the amount of classroom and office space by about 600,000 to 700,000 SF
- Invest in the expansion of ASU Online, including corporate partnerships
- Maintenance and updates in the physical infrastructure
- Continue with needed investments in our technology infrastructure.
- Student housing expansion, both through partnerships with private developers and internal financing
- Athletic facility expansion whose needs will be met by a combination of athletics revenues, philanthropy, and the revenue from the Novus Innovation Corridor

The Enterprise Plan anticipates that the investment listed above will be supported by the new revenue generated during the start-up phases of each venture as well as current university resources.

Enterprise Resources

Figure 11 outlines the revenue sources reflected in the ASU Enterprise Plan is displayed below. There are no major changes in the relative size of the different revenue sources compared to prior year’s chart.

Figure 11: Projected ASU University Gross Revenue Sources: All Funds



The success of the Enterprise Plan and the ability to maintain low tuition rate increases are supported by financial aid policies aimed at driving access and quality is ultimately driven by ASU’s success with its overall enterprise efforts to build non-resident and international enrollment, expand its online programs of enrollment, and build an ongoing program for philanthropic support. The fund-raising efforts are well underway with Campaign 2020 and it has already surpassed its \$1.5 billion goal, 18 months prior to deadline. The Campaign is also meant to establish a culture of philanthropy and the infrastructure needed to support it.

While ASU know that it cannot build an enterprise plan that is dependent on large increases in State investment, the plan continues to include a projection of modest increases. While we will continue to work diligently towards the goal of State investment at the

level that supports half of the cost of education for resident students, the assumed increase in state investment built into the projections is well below what those levels would be. If these state investment projections are not achieved, there will be greater pressure on the tuition sticker prices in order to gain the resources needed to achieve the enterprise goals.

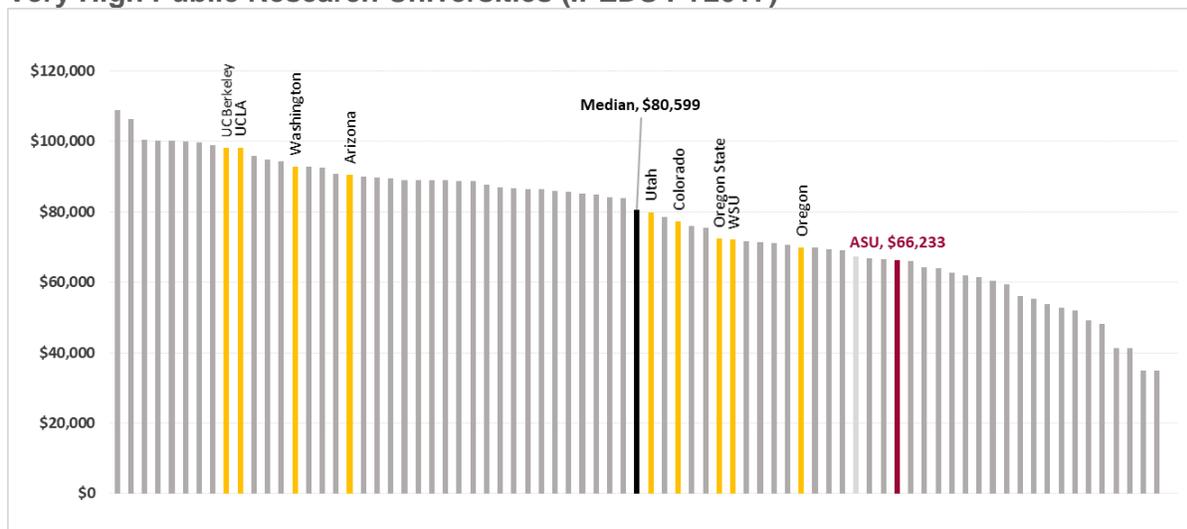
Cost Effectiveness

The resources projected in the ASU Enterprise Plan are significant: By 2021, gross revenues will rise from \$2.9 billion in FY18 to \$3.5 billion, and by 2025 to \$4.3 billion. But these numbers are based on, and will be needed to support, similar rates of increase in students and research activity as discussed in the previous sections.

This means that ASU’s already-impressive level of cost effectiveness must not only be maintained but accelerated to account for inflation.

Two data points provide the evidence for the current cost effectiveness. One is the comparison regularly reported that indicates that among all public universities classified as “high research”, ASU shows a level of resources available for educational use (tuition and state appropriations) that is almost 20% below the median. Figure 12 below shows data updated from the version used last year. Were ASU at the median level, it would be spending \$18,178 more per degree produced, or \$261 million more at the current degree production level.

Figure 12: Tuition, Fees, and State Appropriations per Degree Awarded Very High Public Research Universities (IPEDS FY2017)



On average ASU uses half the number of staff compared to its peers. Figure 13 below demonstrates ASU’s cost effectiveness by comparing the number of employees per 100 FTE students at ASU and at its ABOR peers over the FY12 to FY18 period. Deployment of technology in support systems, lean staffing levels, and use of online and hybrid teaching tools

and course structures, as well as strategic use of private sector partners for services that can benefit from the partnerships, all play a role in keeping ASU's this outcome.

Figure 13: FTE Employees Per 100 FTE Students (Excludes Medical School FTEs)

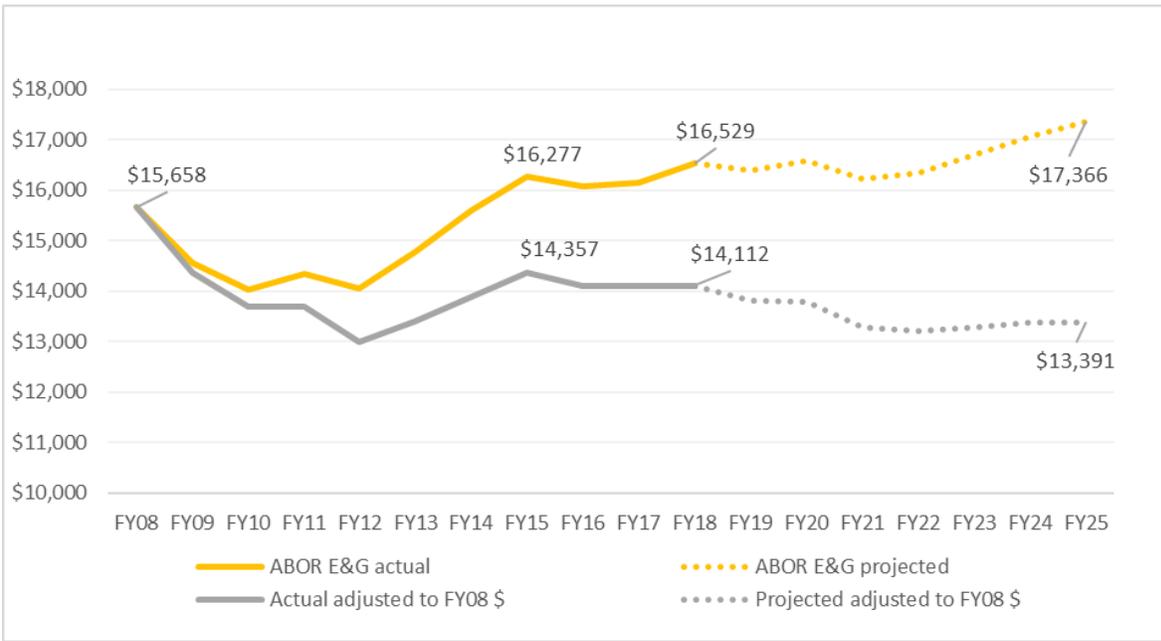
	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Arizona State University	12.91	12.93	12.92	12.85	12.52	12.36	12.90
Florida State University	15.3	15.8	16.1	16.0	16.1	16.2	16.8
Indiana University-Bloomington	20.1	20.5	20.1	20.8	20.3	20.8	22.1
Michigan State University	22.7	21.5	21.3	21.6	21.9	22.8	22.9
Ohio State University-Main Campus	24.3	23.0	23.0	22.9	22.7	22.9	23.5
Pennsylvania State University-Main Campus	28.6	28.8	28.8	29.0	29.6	29.3	30.1
Rutgers University-New Brunswick	23.0	23.9	25.7	25.0	24.7	25.9	29.9
The University of Texas at Austin	28.8	32.8	26.0	26.7	27.4	27.7	27.2
University of California-Los Angeles	27.3	26.7	28.4	26.4	26.9	26.7	27.1
University of Connecticut	26.9	28.1	28.3	27.6	27.2	27.9	28.5
University of Illinois at Urbana-Champaign	24.3	24.4	25.1	25.2	25.2	24.2	24.0
University of Iowa	23.2	23.3	23.5	24.1	24.2	23.5	23.2
University of Maryland-College Park	24.9	25.8	26.0	27.4	25.5	25.6	25.0
University of Minnesota-Twin Cities	29.6	30.3	30.9	31.2	31.6	31.7	31.9
University of Washington-Seattle Campus	25.6	24.4	25.3	25.6	21.7	25.6	24.7
University of Wisconsin-Madison	26.4	26.9	26.9	27.6	27.5	27.8	28.0
Peer Median	24.9	24.4	25.7	25.6	25.2	25.6	25.0

Note: IPEDS, data excludes medical school employees for the universities among the peers which have medical schools.

ASU's educational and general expenses, as depicted in Figure 14, show that per student costs have been stable in the subsequent years, and are projected to remain stable. Thus, one should expect this cost effectiveness to be reflected again in future comparisons.

Cost control efforts cannot be accomplished by skimping on the key elements required for success in achieving metric goals: faculty strength, appropriate facilities for teaching and research, and effective student success support structures. Cost control has to be implemented in other areas either to allow or advance the priorities. The major elements for accomplishing this remain the ASU culture, ongoing innovation in the application of the technology, and an organizational structure that avoids duplication but does not skimp on the talent needed to carry out the mission in all of its complexity.

Figure 14: ASU Education and General (E&G) Expenses FY2008-2025

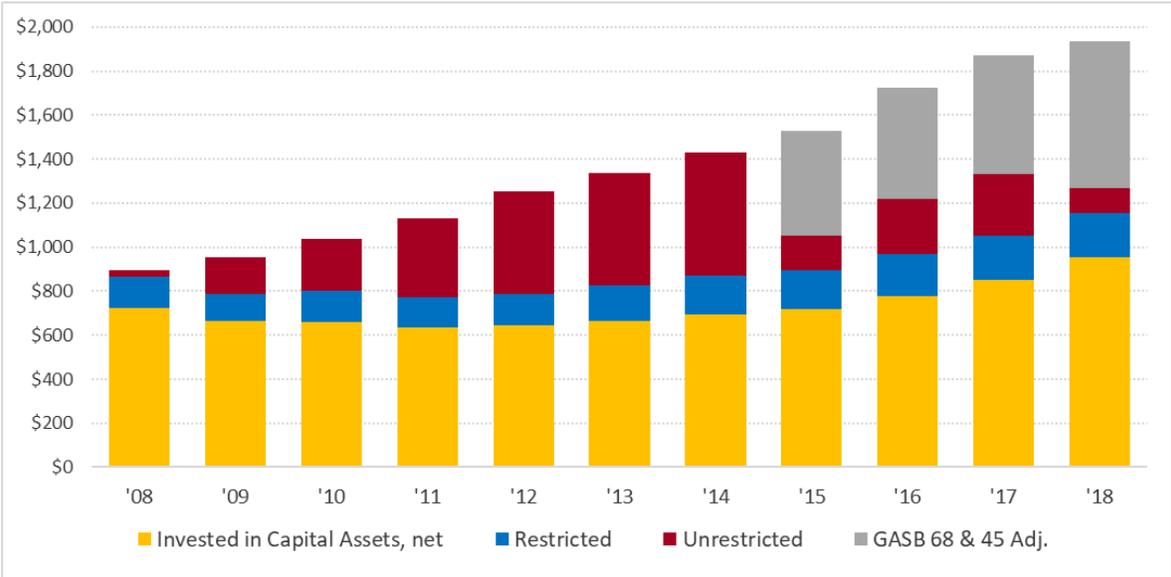


Financial Strength

Managing the resources available and their use, is a critical element of management attention at ASU. A main reason for this is that ASU’s ability to build the facilities it will need to support academic quality and research expansion depends upon its access to capital markets at a competitive cost of capital. Financial results that yield adequate levels of new asset growth are a key to this.

At June 30, 2018, the University had total assets of \$4.1 billion and net position of \$1.3 billion as displayed by Figure 15 below. In FY18, ASU strengthened its financial foundation with a \$63 million increase in net position, adding to the \$146 million increase in FY 2017. This represents the 13th straight year in which ASU reported an increase in net position. In the five years from 2014 to 2018, ASU has been able to build its net position by more than 35% (\$502 million).

Figure 15: Net Position (FY 2008-2018)



The Enterprise Plan projects an additional cumulative increase in net position of about \$740 million over eight years. **ASU’s projected net position has been judged to be sufficient for ASU to work with the rating agencies to maintain a strong credit rating and to ensure sufficient financial resources to manage economic volatility without significant operational disruptions.**

Conclusion

The frontiers of Arizona's prosperity

The ASU Enterprise Plan which was adopted in 2010 has provided the strategy and tactics to advance the institution's capacity to grow and diversify enrollment, improve student success rates, expand degree production, and become a research powerhouse. In accomplishing all of this, major strides have been made to honor the ASU Charter and build one model for public universities seeking to address, at scale, the need for a larger proportion of the population to have access to a research-grade education to improve lives and careers. The path to 2025 and succeeding in meeting ASU's ABOR-assigned responsibilities will be certain to present as many challenges as the last ten years, but the strategy and tactics presented in this report, combined with the demonstrated ability to react, adapt, and innovate, makes us confident about the future.