Moving Forward

The Role of Postsecondary Education in the 21st Century

2018 Kentucky Postsecondary Education Symposium

Michael M. Crow
Louisville, Kentucky
December 18, 2018

“You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.”

- Buckminster Fuller

Knowledge Is Not Static

Until 1900, human knowledge doubled every **100 years**

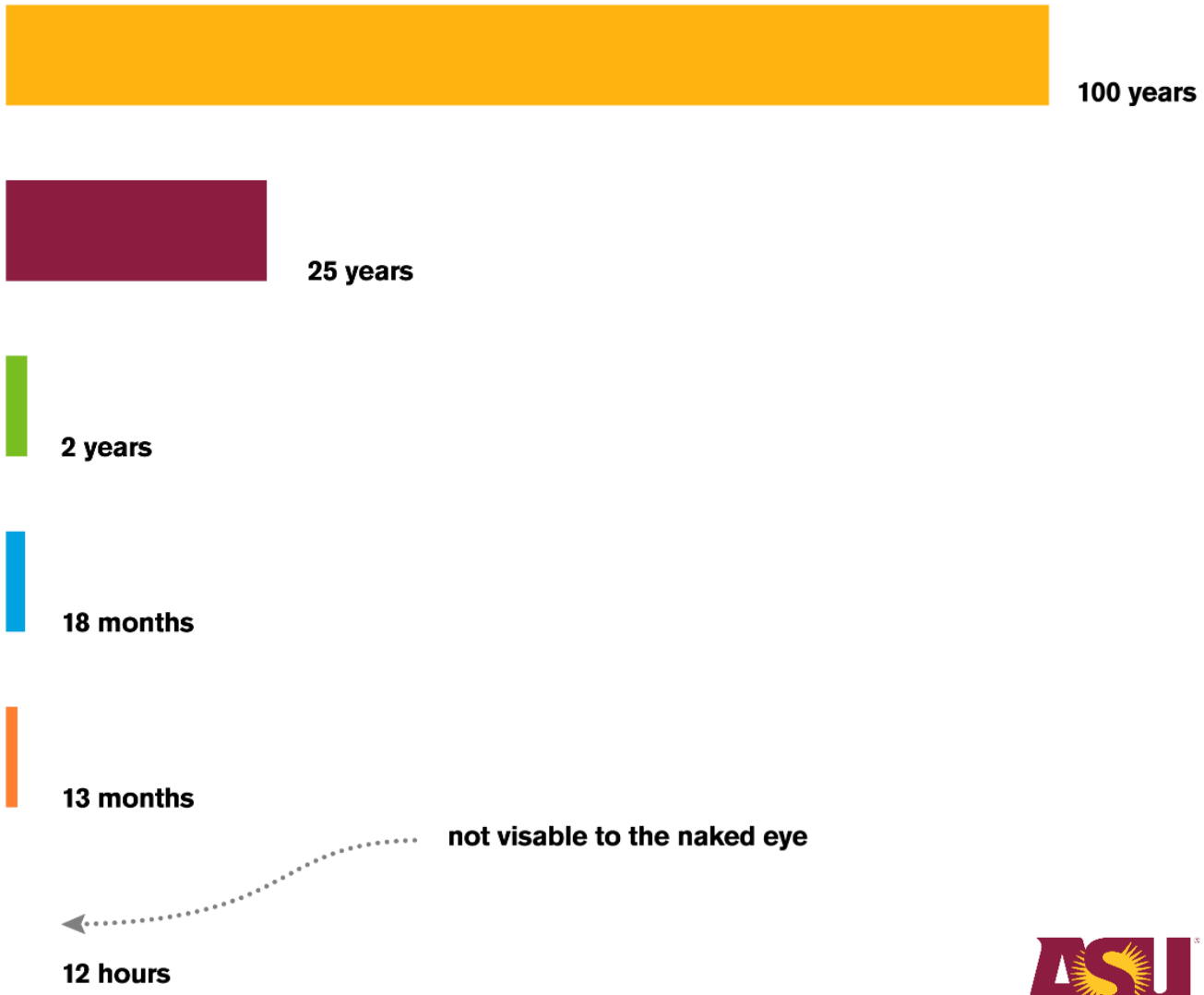
By 1945, it doubled every **25 years**

Nanotechnology: Every **2 years**

Clinical Knowledge: Every **18 months**

Basic Human Knowledge: Every **13 months**

The Internet of Things: Every **12 hours**




65%
of children entering primary school today will ultimately end up working in completely new job types that don’t yet exist.


Universities are slow to adapt

Higher Education Governance Logics

	 Academy Model	 State Control Model	 Market Model	 Enterprise Model
Animating Purpose	Enlightenment of individual students	Organizational preservation	Profit maximization for owners and shareholders	Social transformation Economic Success
Path to Achieving Public Value	Immersive instruction	Achievement of state-specified goals	Efficiency and cost reduction	Connecting instruction to knowledge generation at society-impacting scale
Assumptions of Faculty	Self-governing professionals	Bureaucrats responding to rules	Commodity labor; faculty not entrepreneurial	Knowledge entrepreneurs
Assumptions of Management	Management drawn from and blended with faculty	Traditional public managers distinct from faculty	Professional management distinct from faculty and acting entrepreneurially	Management drawn from and blended with faculty but acting entrepreneurially
Accountability Mechanisms	Faculty and Management Professionalism	Audits, public reporting, standardized testing	Student choice, standardized testing	Demonstrated economic and social progress
Primary Funding Mechanisms	Enrollment funding from state, endowments	Enrollment funding from state	Vouchers, performance based funding from state	Diverse; institutional entrepreneurship
Organizational Scale of Impact	Individual or groups of individuals	Community or state	Indeterminate, any scale from which profit can be derived	Social scale with possible national and global reach

ASU in 1985

Underperforming Public Agency Model

High State Investment

$8,755* per FTE student

No Budget for Improvement

$238 million

Inadequate Student Outcomes

13.8% four-year graduation rate

*** = 2017 Dollars**

ASU in 1985

Underperforming Public Agency Model

Low Price and Low Aid

$2,577* resident undergraduate tuition and fees

<2% undergraduates received Pell Grants

Low Freshman Diversity

84.9% White

9.9% underrepresented populations

Small Contribution to Knowledge Generation

$28 million

in annual research expenditures

*** = 2017 Dollars**

ASU in 2002

Performing Public Agency Model

High State Investment

$9,230* per FTE student

Budget for Growth and Quality

$750 million

Improving Student Outcomes

28.4% four-year graduation rate

*** = 2017 Dollars**

ASU in 2002

Performing Public Agency Model

Medium Price and Medium Aid

$3,527* resident undergraduate tuition and fees

22% undergraduates received Pell Grants

Medium Freshman Class Diversity

71.2% White

17.2% underrepresented populations

Growing Contribution to Knowledge Generation

$123 million

in annual research expenditures

*** = 2017 Dollars**

ASU Charter

ASU is a comprehensive public research university, measured not by whom it excludes, but by whom it **includes** and how they **succeed**; advancing research and discovery of **public value**; and assuming **fundamental responsibility** for the **economic, social, cultural, and overall health** of the communities it serves.

Responsibility and The Public Trust

The charter is a promise to the citizens of Arizona.

ASU has a responsibility to fulfill the requirements of the Arizona Constitution to provide public education.

The responsibility is not one that is conditional upon the actions of the legislature; it is ASU's responsibility to find the means to fulfill its charter while seeking appropriate and fair public investment in the costs of education for Arizona resident students.

ASU Design Aspirations

Leverage Our Place
ASU embraces its cultural, socioeconomic and physical setting.

Transform Society
ASU catalyzes social change by being connected to social needs.

Value Entrepreneurship
ASU uses its knowledge and encourages innovation.

Conduct Use-Inspired Research
ASU research has purpose and impact.

Enable Student Success
ASU is committed to the success of each unique student.

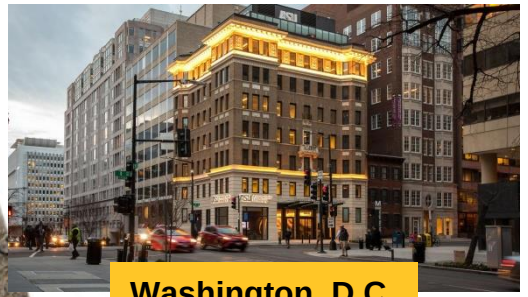
Fuse Intellectual Disciplines
ASU creates knowledge by transcending academic disciplines.

Be Socially Embedded
ASU connects with communities through mutually beneficial partnerships.

Engage Globally
ASU engages with people and issues locally, nationally and internationally

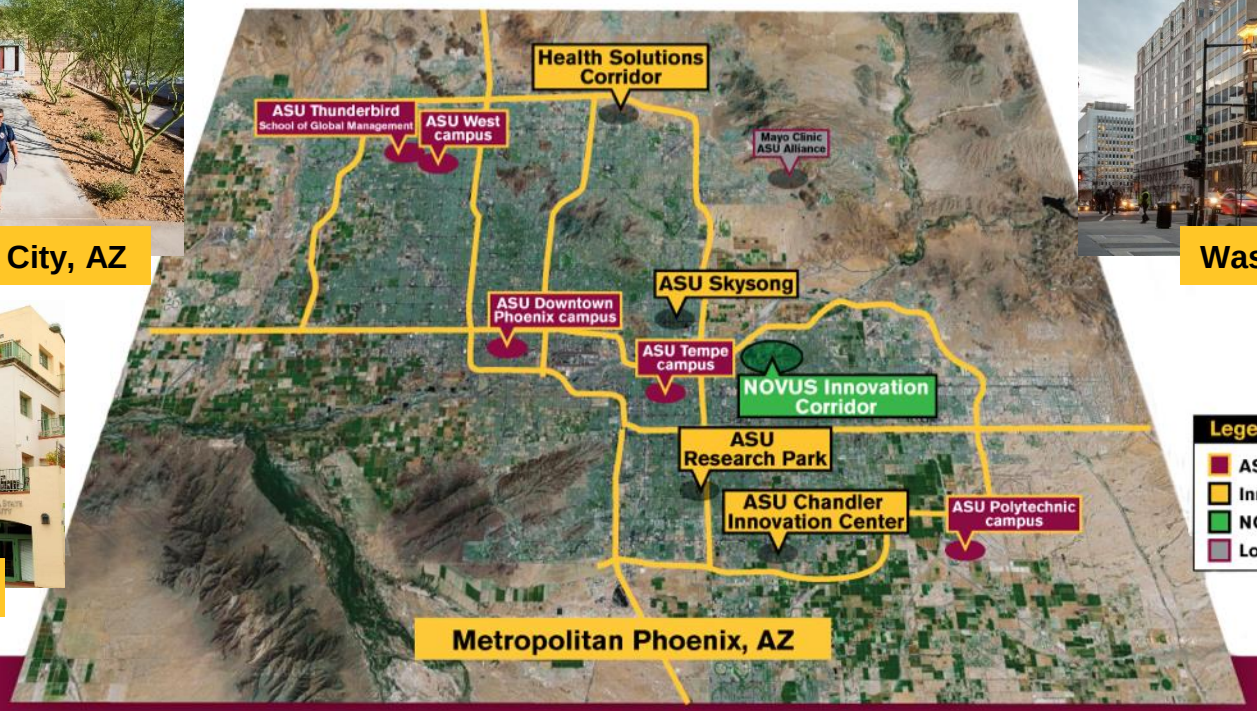
One University in Many Places

Lake Havasu City, AZ



Washington, D.C.

Santa Monica, CA



Metropolitan Phoenix, AZ

ASU Downtown Phoenix campus

ASU Polytechnic campus

ASU Tempe campus

ASU Thunderbird campus

ASU West campus

ASU in 2018

Established Public Enterprise Model

Low State Investment

$3,141 per FTE student

Budget for Consistent Growth and Quality

$3.4 billion

High Student Outcomes

51.6% four-year graduation rate

70.7% for A-students and **46.0%** for B-students

ASU in 2018

Established Public Enterprise Model

Medium Price and High Aid

$10,792 resident undergraduate tuition and fees

34.2% undergraduates received Pell Grants

High Freshman Class Diversity

13,000 incoming freshmen

62% Arizonans

53% Arizona freshmen from underrepresented populations

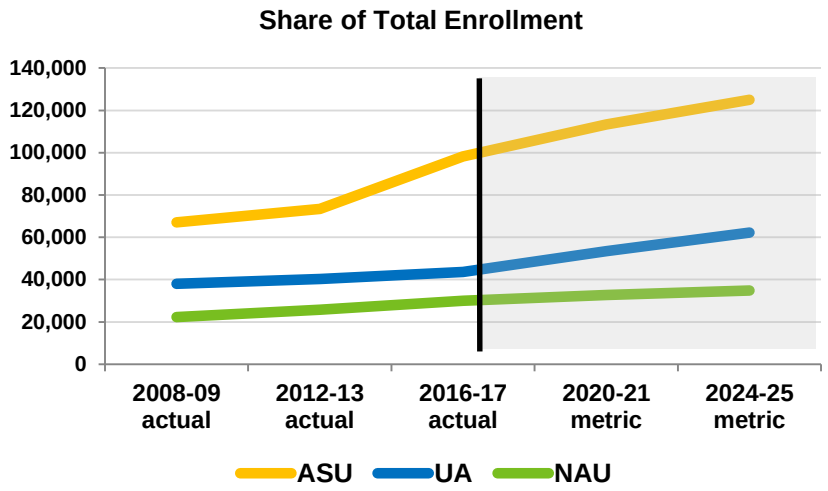
Large Contribution to Knowledge Generation

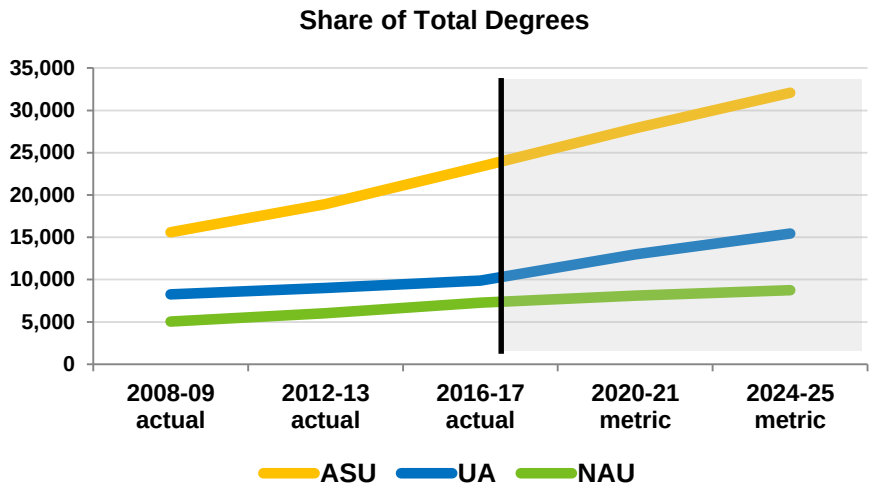
$604 million

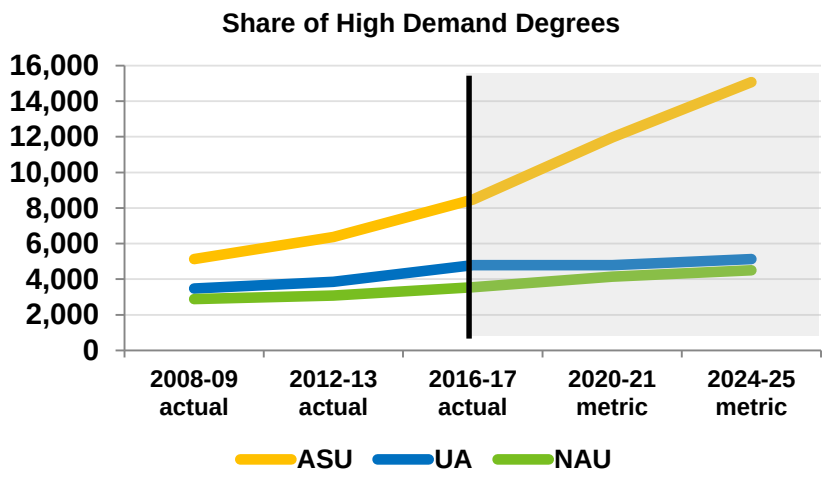
in annual research expenditures

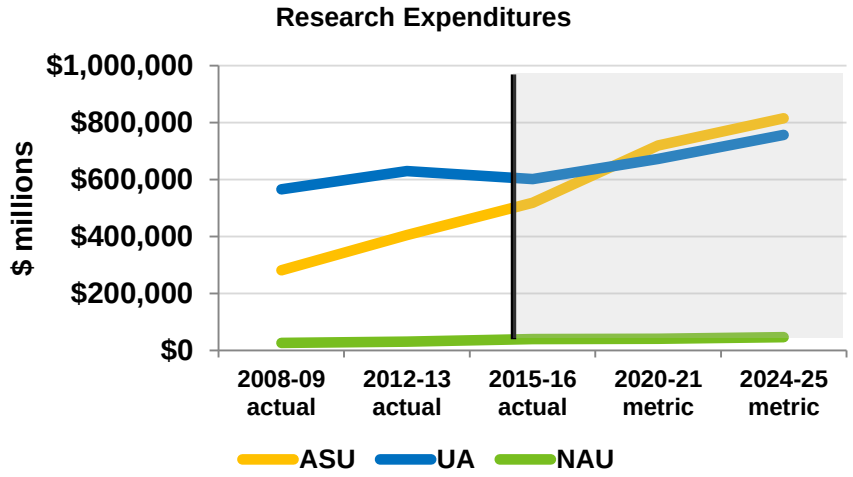
Scale of ASU's Assignment and Social Impact

The 2025 metrics require ASU to increase its proportional share of performance









Six Forces are Reshaping Higher Education

1. Economic and social disruption is continuing to accelerate, which is placing many institutions at risk.

2. Rate and impact of technological change.

3. New business and delivery models are gaining traction.

4. Greater transparency about student outcomes is becoming the norm.

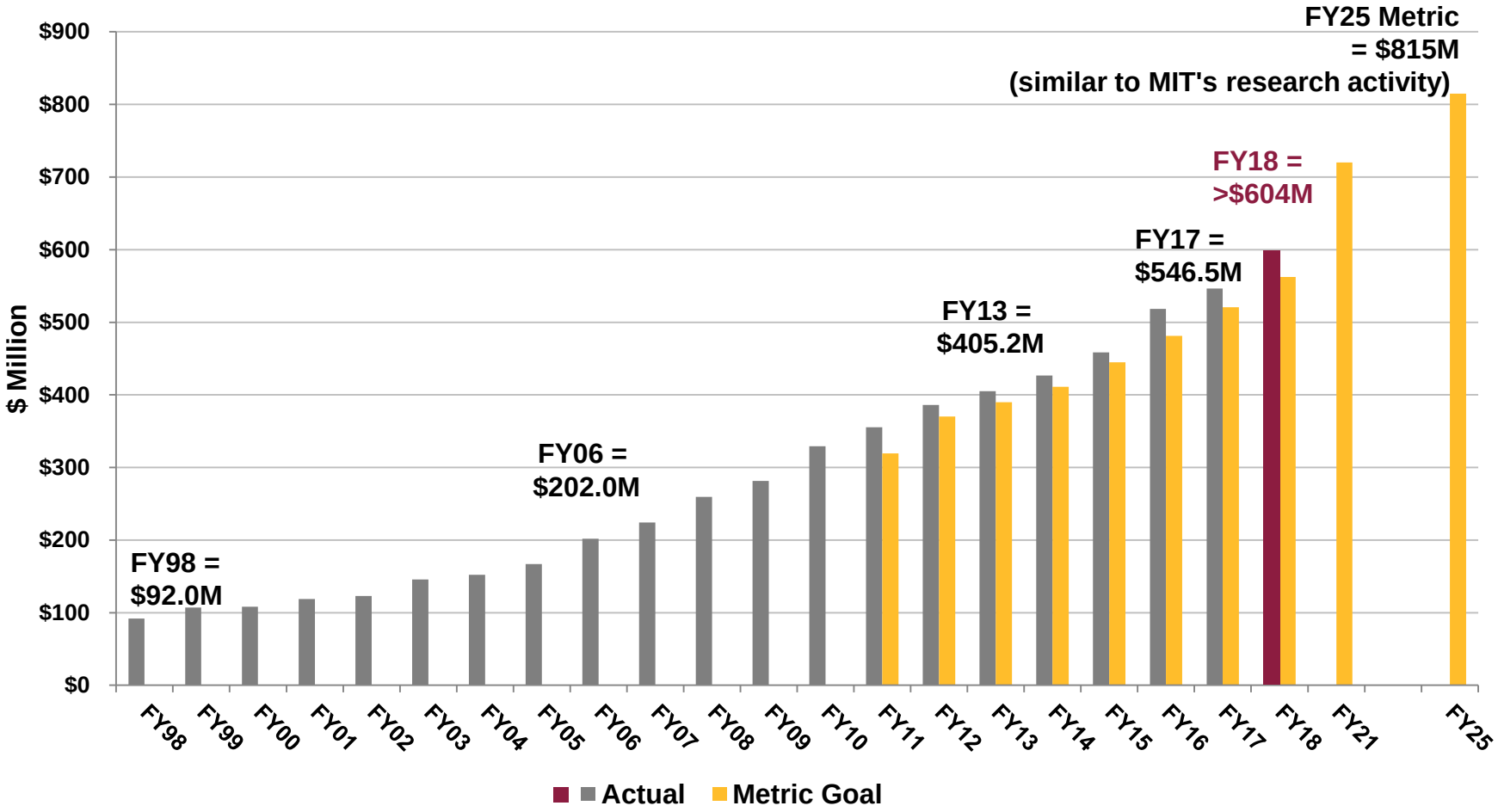
5. Student and family demands are rising for a greater return on investment in higher education.

6. The globalization of education is accelerating.

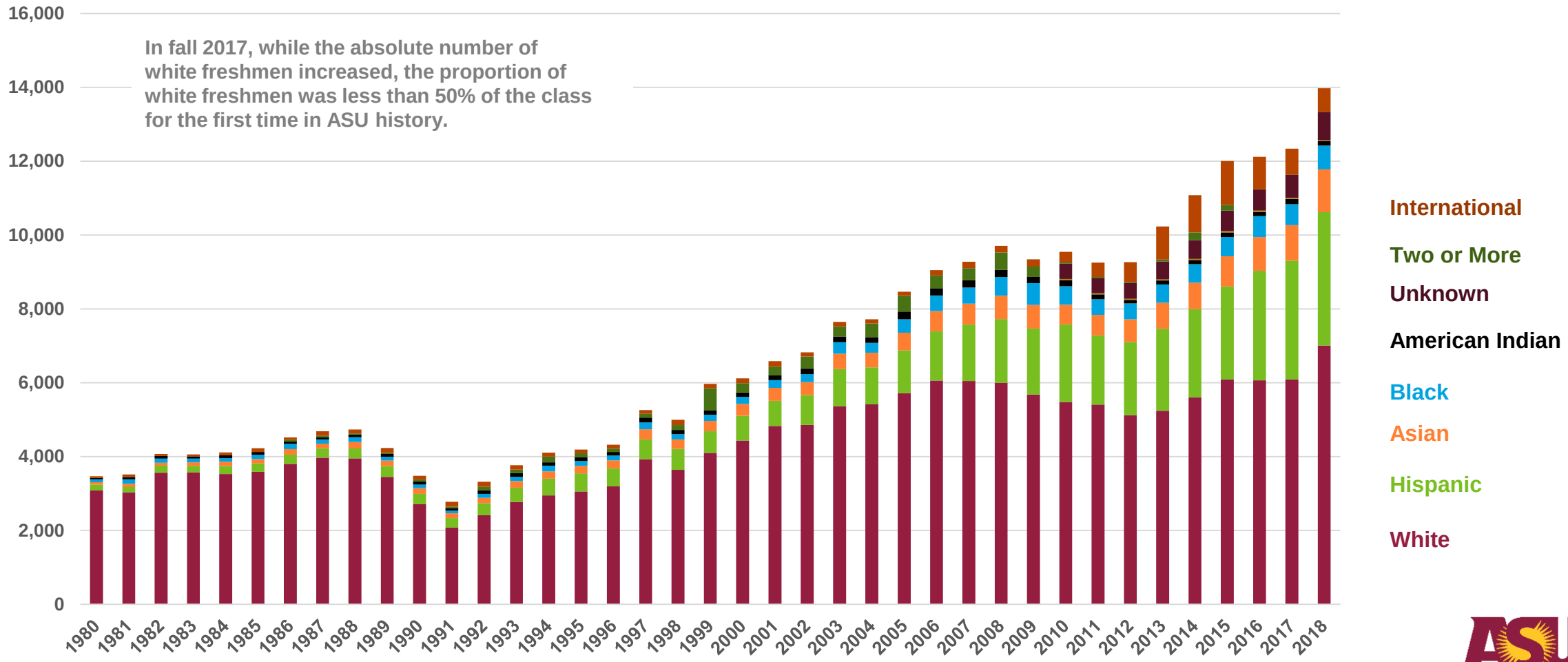
Performance to Date

ASU: World-Class Research University

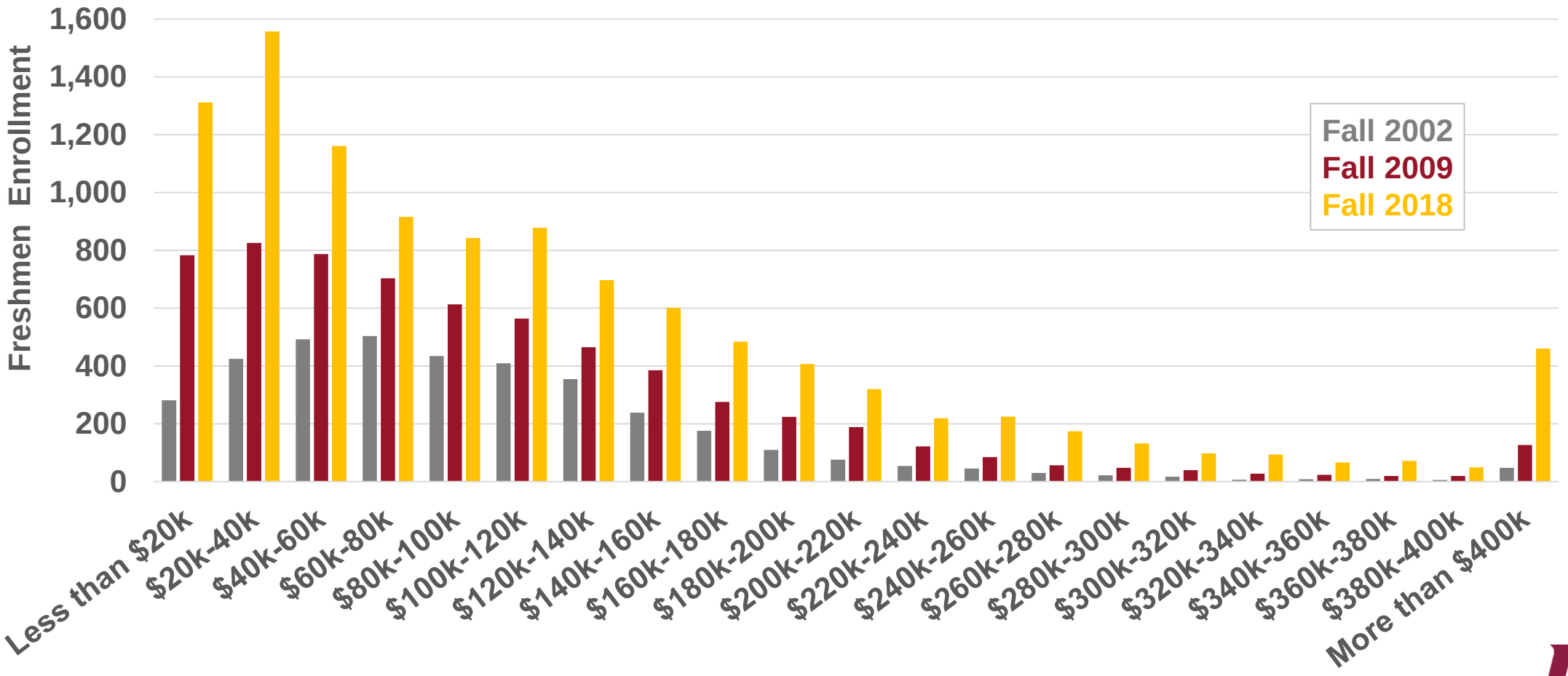
Research expenditures have doubled every six to eight years



First-Time Freshmen Enrollment, Fall 1980-Fall 2018



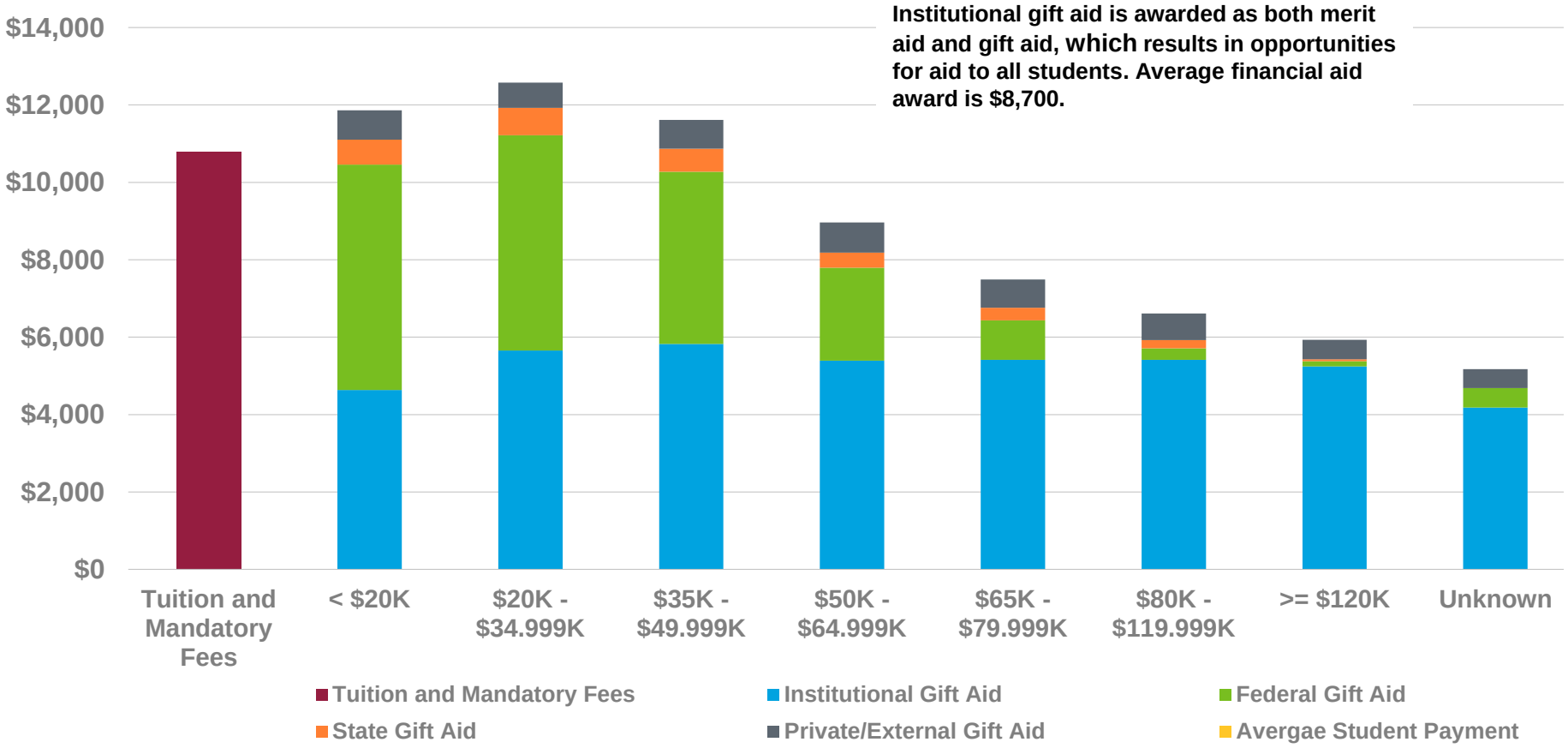
ASU First-Time Full-Time Freshman Enrollment by Adjusted Family Income



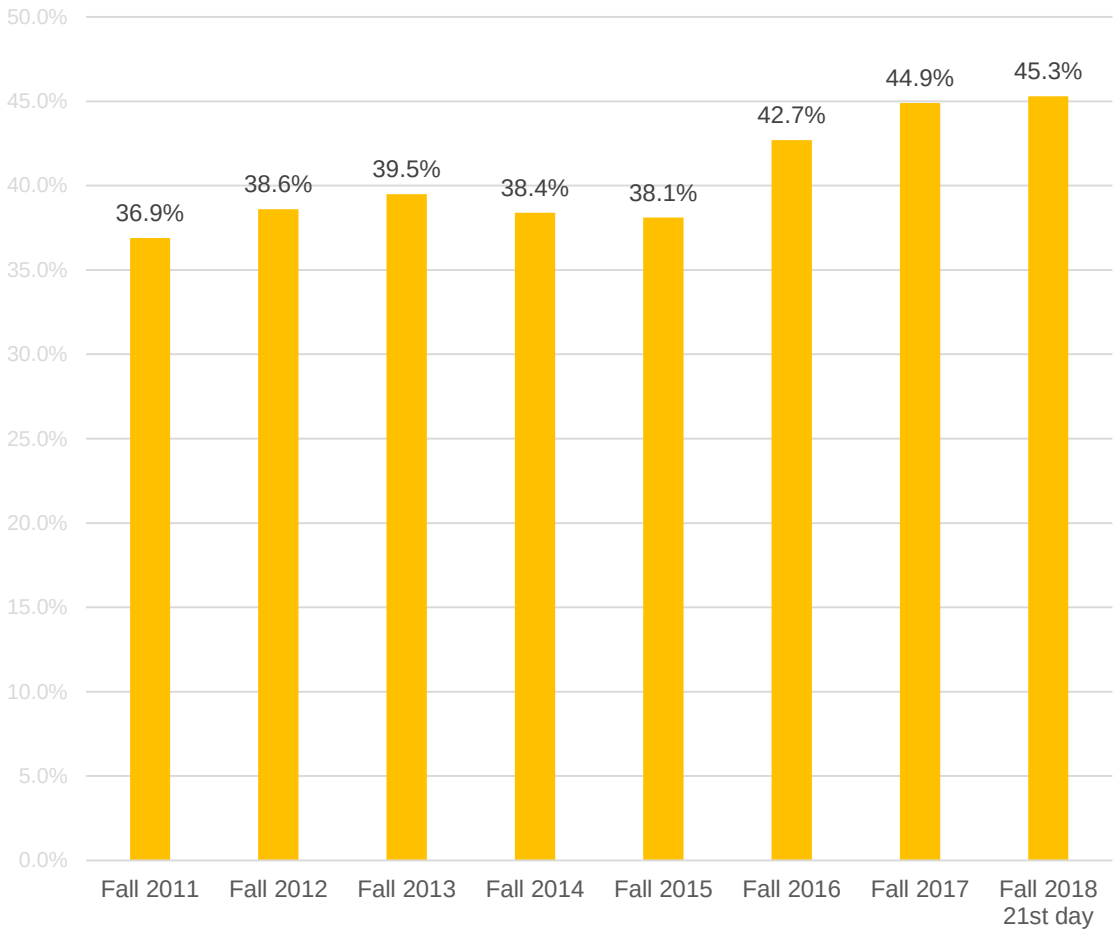
All incomes adjusted to 2018 dollars using CPI.

Arizona Resident Undergraduates in 2017-18

Average Gift Aid Awards by Family Income

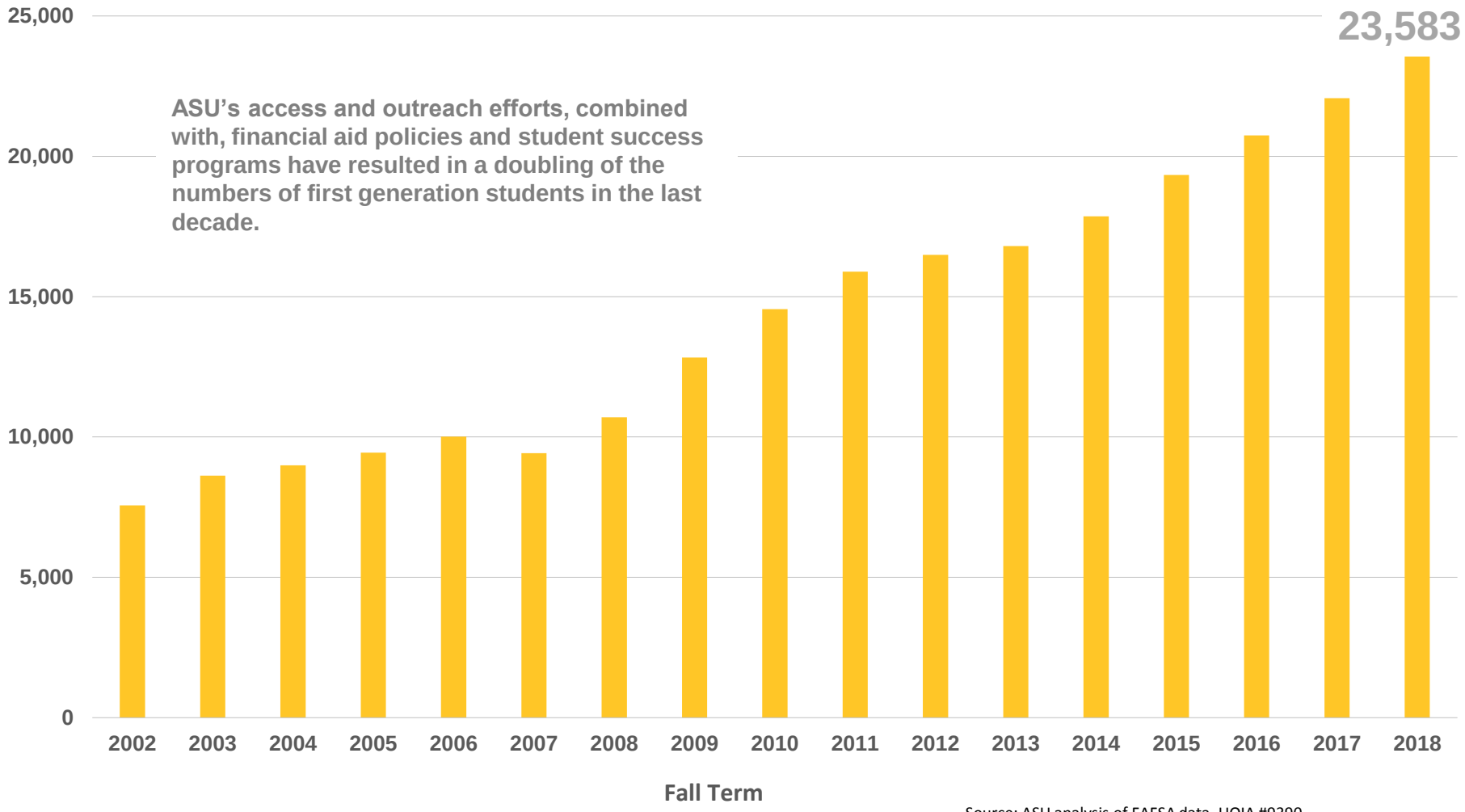


Diverse and Inclusive Freshman Class



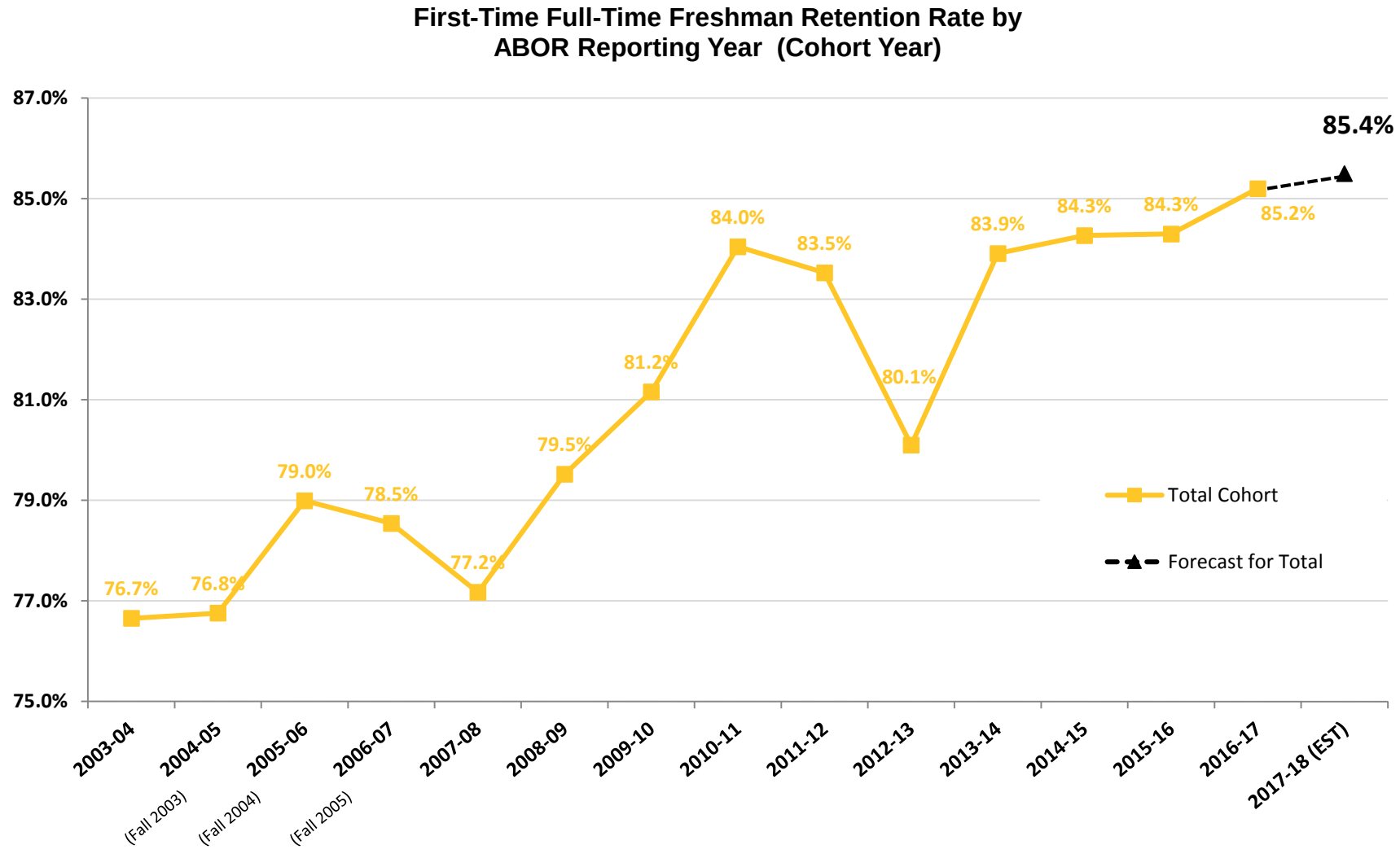
This percentage reflects the entire domestic (in- and out-of-state) freshman class.

First-Generation Undergraduates at ASU

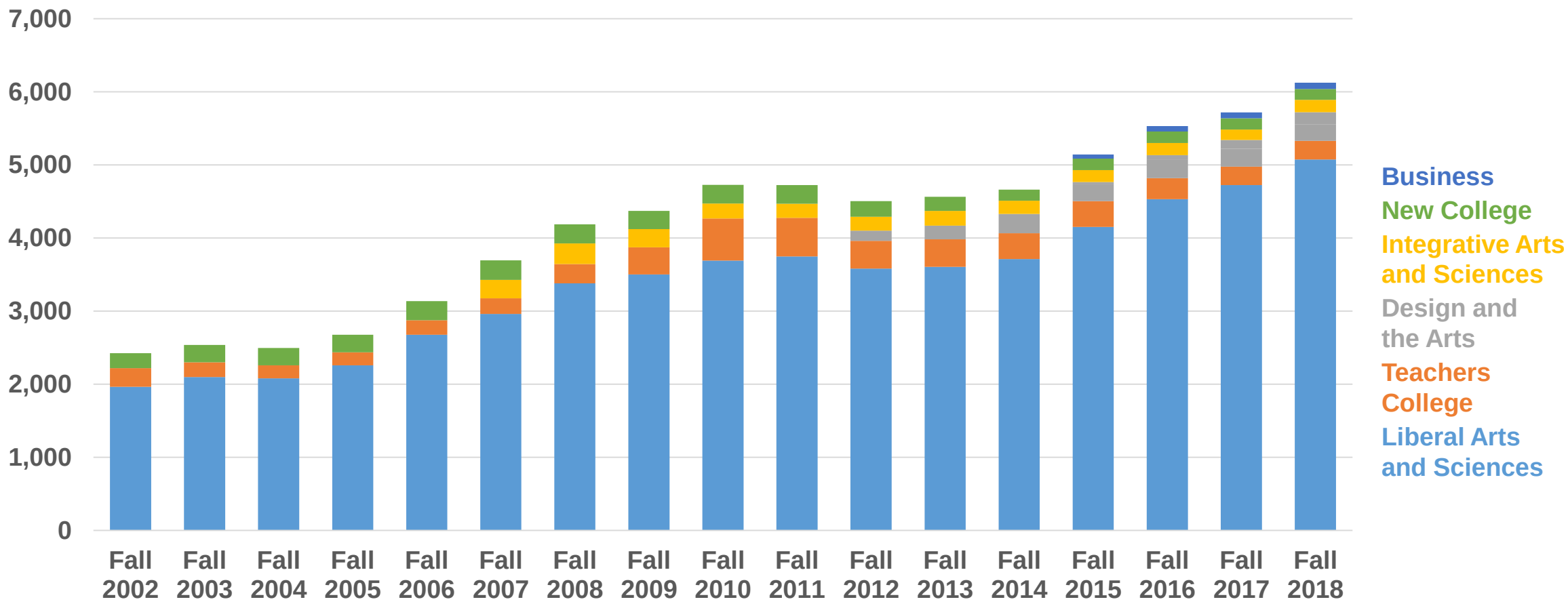


Source: ASU analysis of FAFSA data. UOIA #9390.

Achieving Freshman Retention Goal

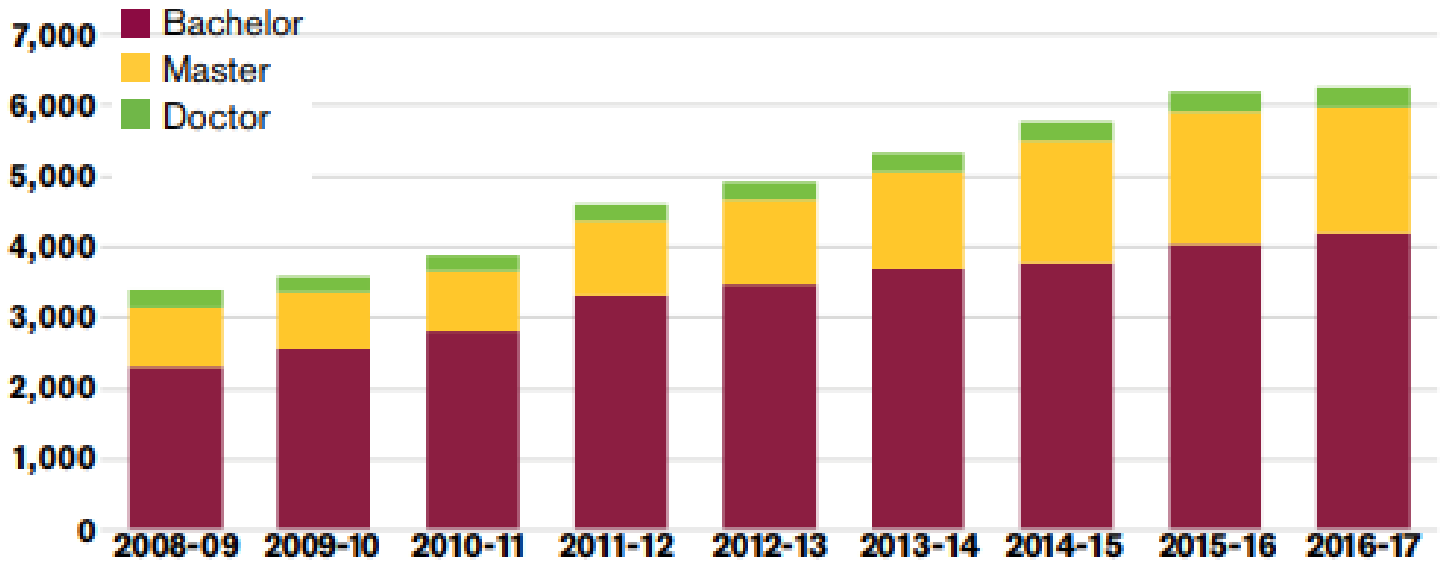


Humanities Enrollment by College



Data: ASU Office of Institutional Analysis

Degrees Awarded in STEM-related Disciplines



The academic year begins in summer and includes the following fall and spring terms.

Degree counts are based on IPEDS campus reporting.

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Bachelor	2,314	2,560	2,807	3,319	3,475	3,685	3,771	4,038	4,195
Master	840	803	842	1,047	1,184	1,382	1,718	1,871	1,769
Doctor	238	219	230	243	251	251	281	286	293
Total	3,392	3,582	3,879	4,609	4,910	5,318	5,770	6,195	6,257

2017 National Science Foundation (NSF)

Higher Education Research and Development (HERD) Rankings

Total Research Expenditures: 44 of 902 ahead of

THE UNIVERSITY OF CHICAGO · BROWN · PRINCETON UNIVERSITY

Total research expenditures among institutions without a medical school: 8 of 719 ahead of

Caltech · PRINCETON UNIVERSITY · Carnegie Mellon University

Anthropology: 1 of 215 ahead of

UNIVERSITY OF MICHIGAN · HARVARD UNIVERSITY · Stanford University

Geological and Earth Sciences: 2 of 359 ahead of

Stanford University · Massachusetts Institute of Technology · PennState · UNIVERSITY OF MICHIGAN

Social Sciences: 4 of 491 ahead of

Berkeley UNIVERSITY OF CALIFORNIA · Cornell University · UCLA · Penn UNIVERSITY of PENNSYLVANIA

Humanities: 5 of 400 ahead of

Yale · HARVARD UNIVERSITY · PRINCETON UNIVERSITY · COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

Political Science: 5 of 332 ahead of

Berkeley UNIVERSITY OF CALIFORNIA · PennState · Duke UNIVERSITY

Electrical, Electronic, and Communications Engineering: 9 of 286 ahead of

Stanford University · Carnegie Mellon University · Massachusetts Institute of Technology

ASU

Non-Science and Engineering: **13 of 551** ahead of

Stanford University · The University of Texas at Austin · Columbia University in the City of New York

NASA Funded Expenditures: **8 of 430** ahead of

Stanford University · Georgia Tech · UCLA · Columbia University in the City of New York

Sociology: **21 of 369** ahead of

Yale · Columbia University in the City of New York · Harvard University

Economics: **12 of 341** ahead of

The University of Chicago · Duke University · Penn · Yale

Business and Management: **18 of 360** ahead of

The University of Chicago · Duke University · Columbia University in the City of New York

Psychology: **13 of 438** ahead of

Stanford University · Berkeley University of California · Cornell University

Education: 12 of 457 ahead of

UCLA · TEXAS The University of Texas at Austin · MIT Massachusetts Institute of Technology

Engineering Expenditures: 18 of 394 ahead of

Cornell University · Carnegie Mellon University · Caltech · Stanford University

Non-Medical School Expenditures: 21 of 629 ahead of

Stanford University · The University of North Carolina at Chapel Hill · Columbia University in the City of New York

NSF Funded Expenditures: 22 of 593 ahead of

Harvard University · The University of Chicago · Penn University of Pennsylvania · Princeton University

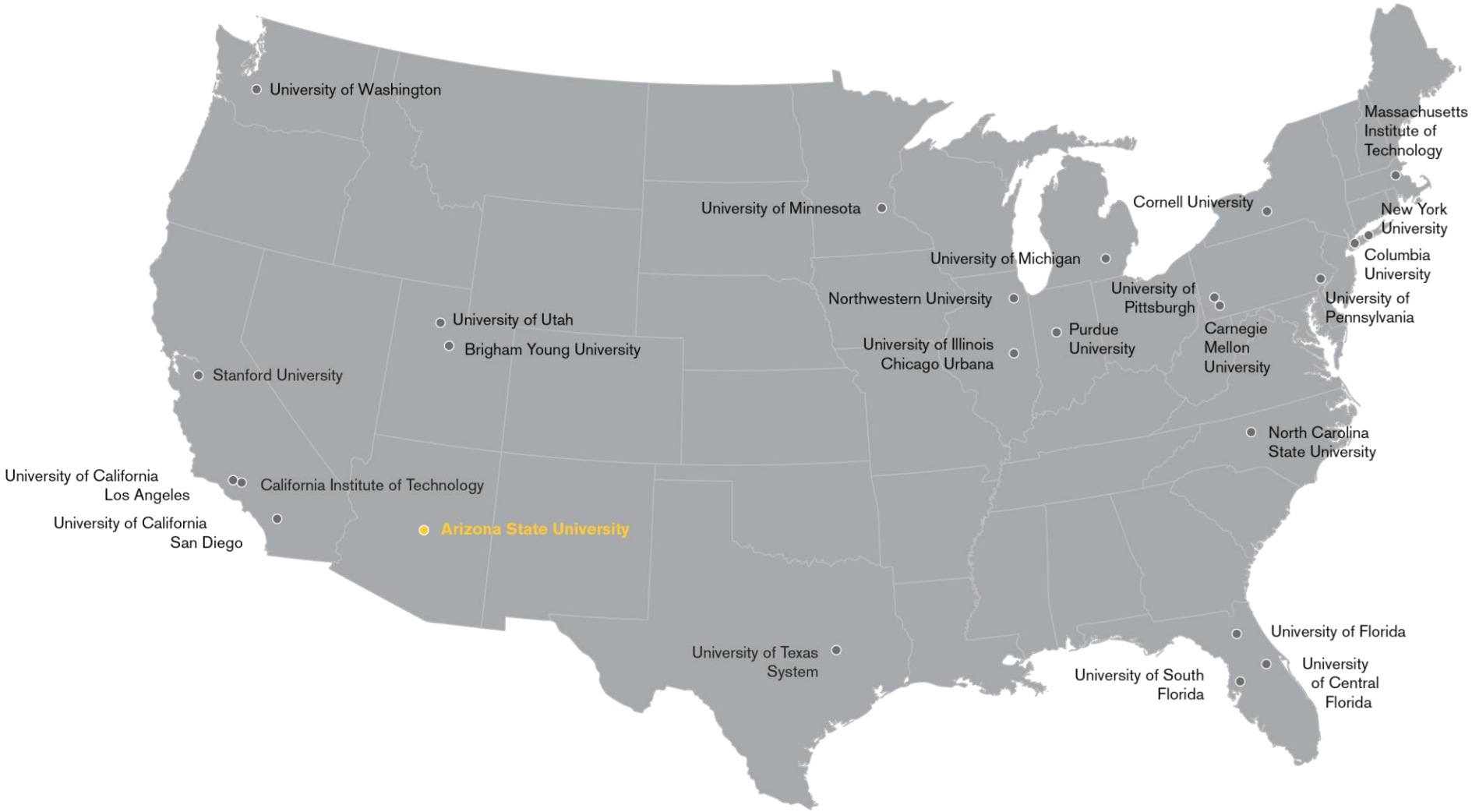
DOE Funded Expenditures: 28 of 345 ahead of

Yale · Columbia University in the City of New York · Carnegie Mellon University

DOD Funded Expenditures: 44 of 455 ahead of

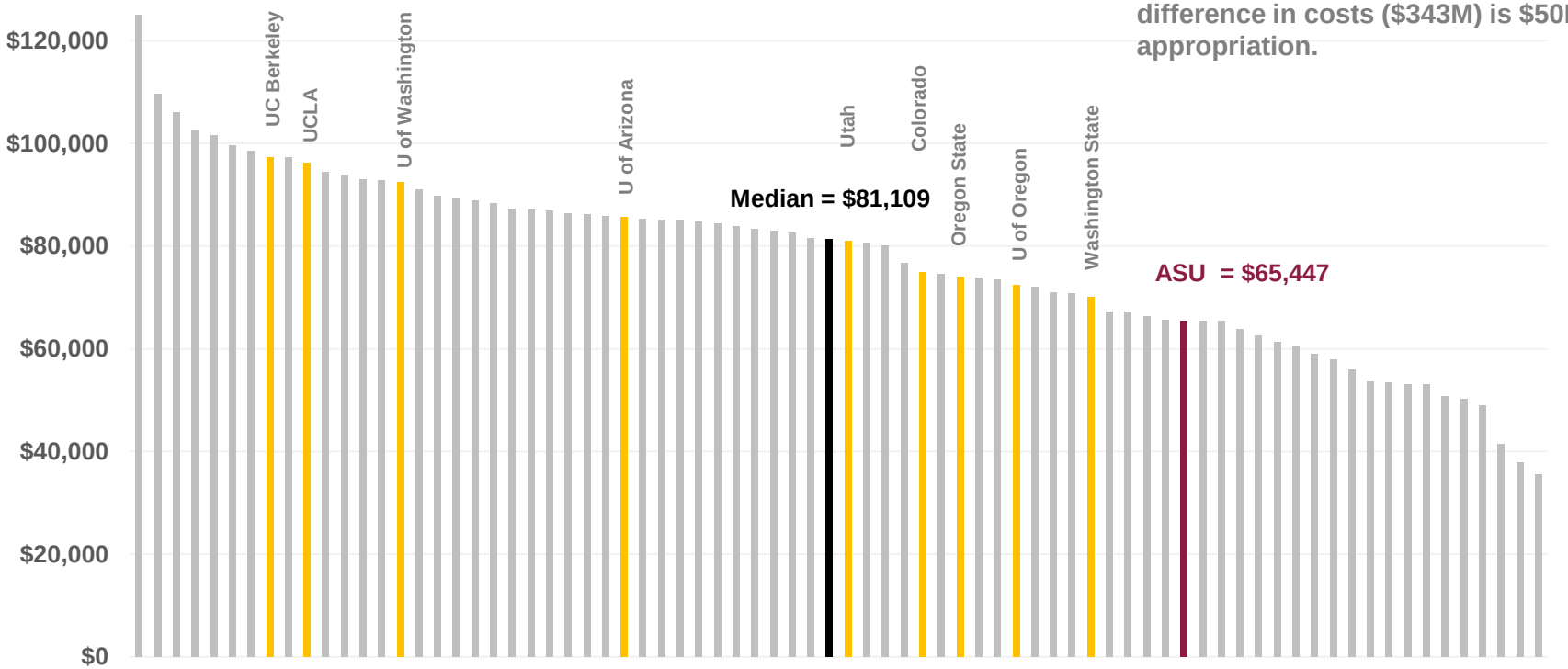
Wake Forest University · The University of Arizona · Texas A&M University

Transforming Regional Economic Competitiveness



Tuition and State Appropriation per Degree Awarded in FY2016 Public Very High Research Universities

ASU's uses 19.5% fewer resources per degree awarded than the national median. At current levels of degree production, the difference in costs ($343M) is $50M more than the FY16 state appropriation.



PAC-12 schools shown in gold

source: IPEDS

#1 in the U.S. for innovation

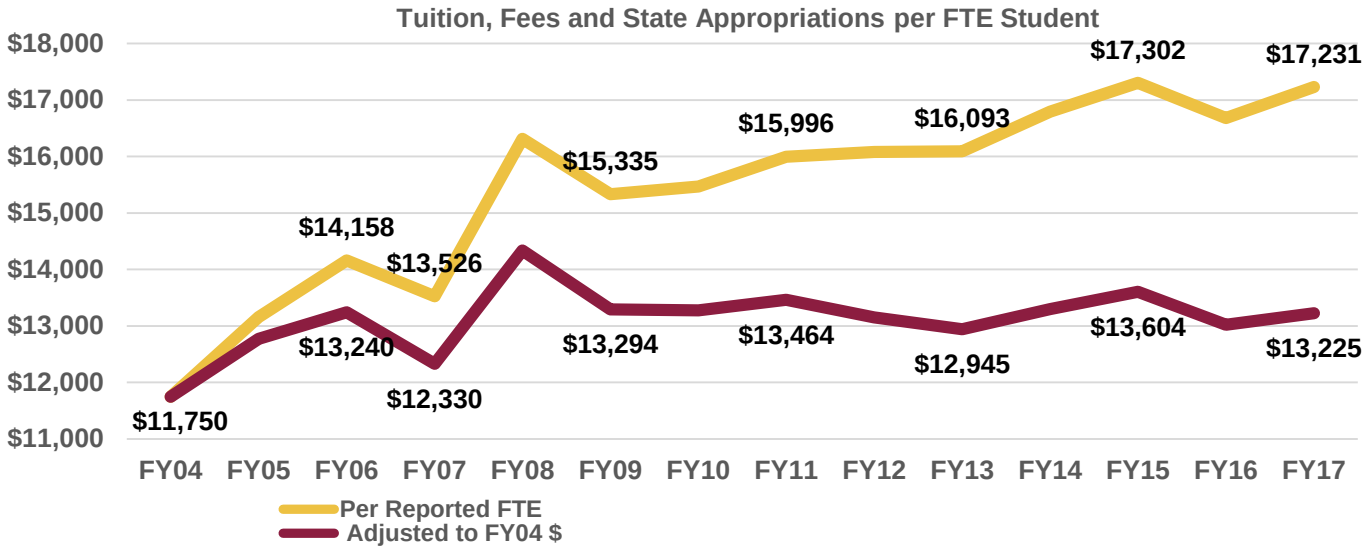
ASU ahead of Stanford and MIT

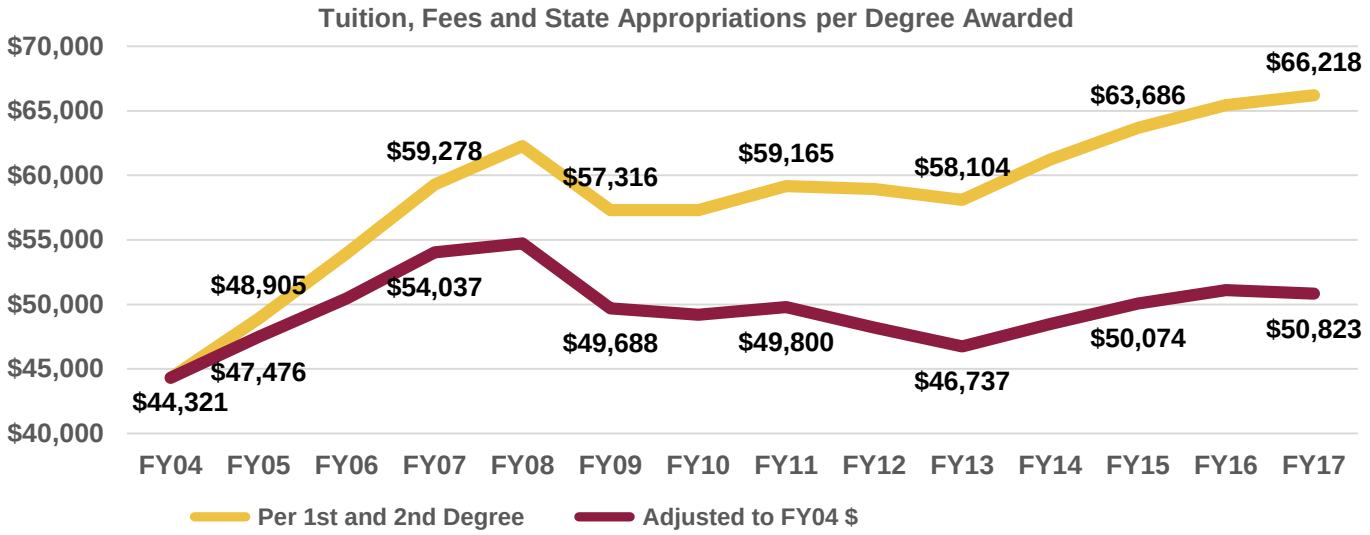
– U.S. News & World Report 2016, 2017, 2018 and 2019

BEST COLLEGES
U.S.News & WORLD REPORT
MOST INNOVATIVE
2019

Ahead of Carnegie Mellon, Northeastern, Harvard, Duke, Georgia Tech, Purdue, Cornell, USC, UT-Austin and Yale

Where Will the Resources Come From?

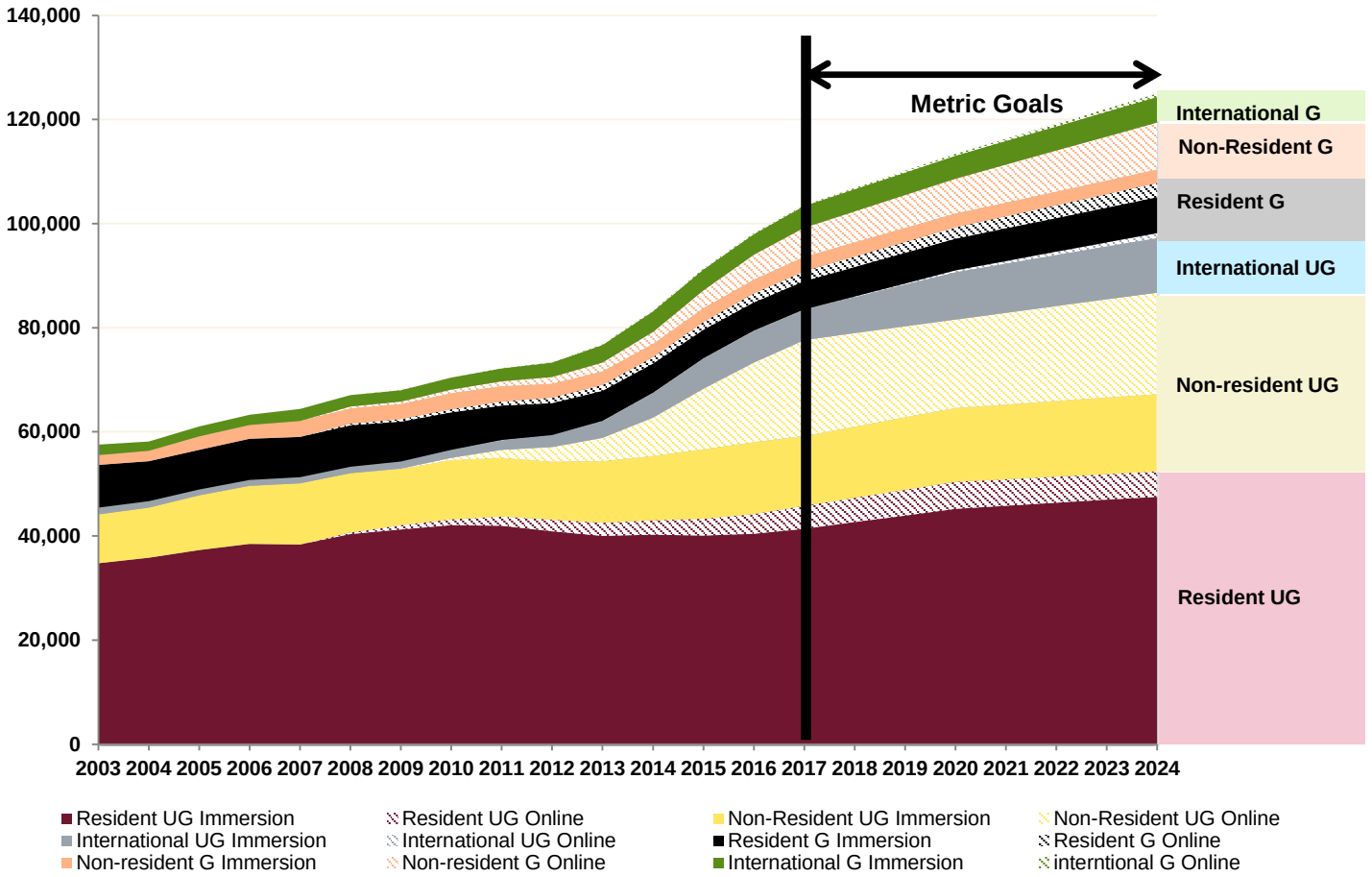




ASU has increased its performance in ways that allow it to serve more students and to grant more degrees despite inflation.

Given that the state investment component of the available resources is less than half of the FY04 level, the cost effectiveness improvements have moderated the rate of tuition increase.

Tuition revenue from sources other than residents drives the enterprise resource strategy



Enrollment capacity is critical to the ability to meet the access mission as well as to creating the resources needed in the Enterprise Plan. ASU is prepared to expand resident enrollment beyond the metric levels shown. It should be noted that the non-resident and online metrics are based on slower rates of growth than those of the last five years.

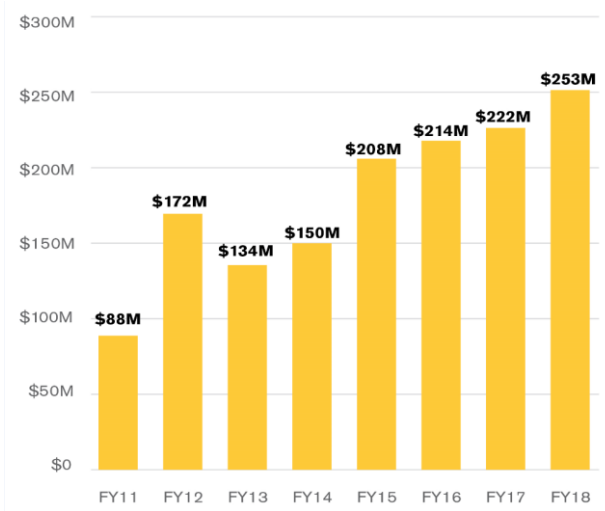
In the enterprise model, ASU seeks resources from a wide range of activities related to the mission

Partnerships with municipalities, private sector housing developers, and commercial firms supporting research.

Philanthropy - Campaign ASU 2020 seeks >$1.5 billion in new support, and also is the basis for building an organization capable of more philanthropic support after the campaign ends.

Compatible development of university-owned land to support athletic facilities and to relieve pressure on tuition rates.

Development also enhances ASU's environs and will increase student opportunities for internships and post-graduation employment.



ASU's online and digital programs support the mission in many ways

ASU Online programs generate over $200 million in gross revenue which supports faculty hiring that benefits both immersion and online students.

EdPlus has developed a range of student support technologies that are used in different ways to support all students.

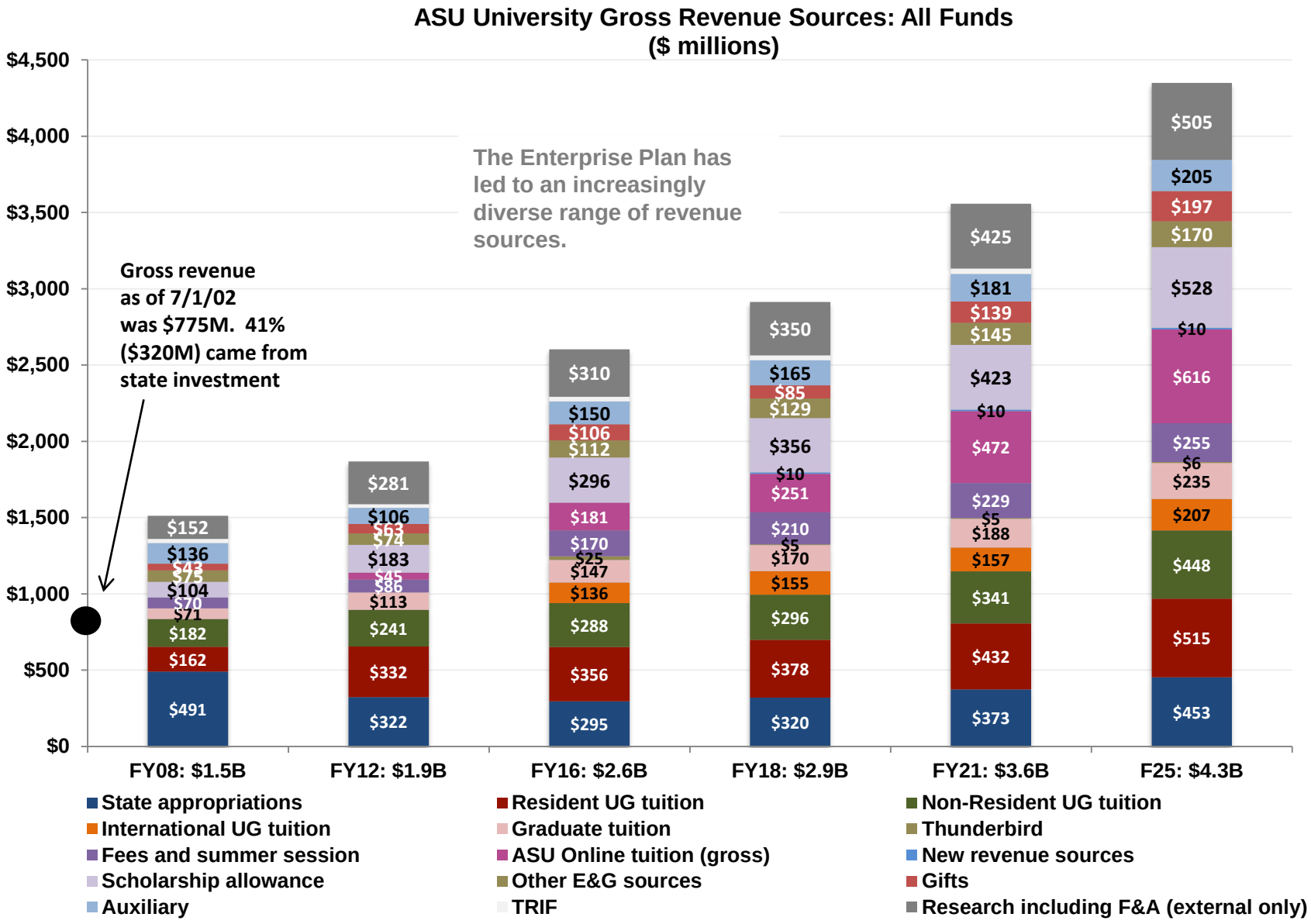
Online courses are offered to immersion and to online students, and enhances student outcomes and time to degree.

Adaptive courseware developments benefit all students.

ASU is recognized as a leader in online education, innovation, and applications of technology to improve educational outcomes.

ASU online
ARIZONA STATE UNIVERSITY

ASU


ASU University Gross Revenue Sources: All Funds
($ millions)
$4,500
$4,000
$3,500
$3,000
$2,500
$2,000
$1,500
$1,000
$500
$0
The Enterprise Plan has led to an increasingly diverse range of revenue sources.
Gross revenue as of 7/1/02 was $775M. 41% ($320M) came from state investment
FY08: $1.5B
FY12: $1.9B
FY16: $2.6B
FY18: $2.9B
FY21: $3.6B
F25: $4.3B
$491
$162
$182
$71
$70
$104
$75
$43
$136
$152
$322
$332
$241
$113
$86
$45
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$472
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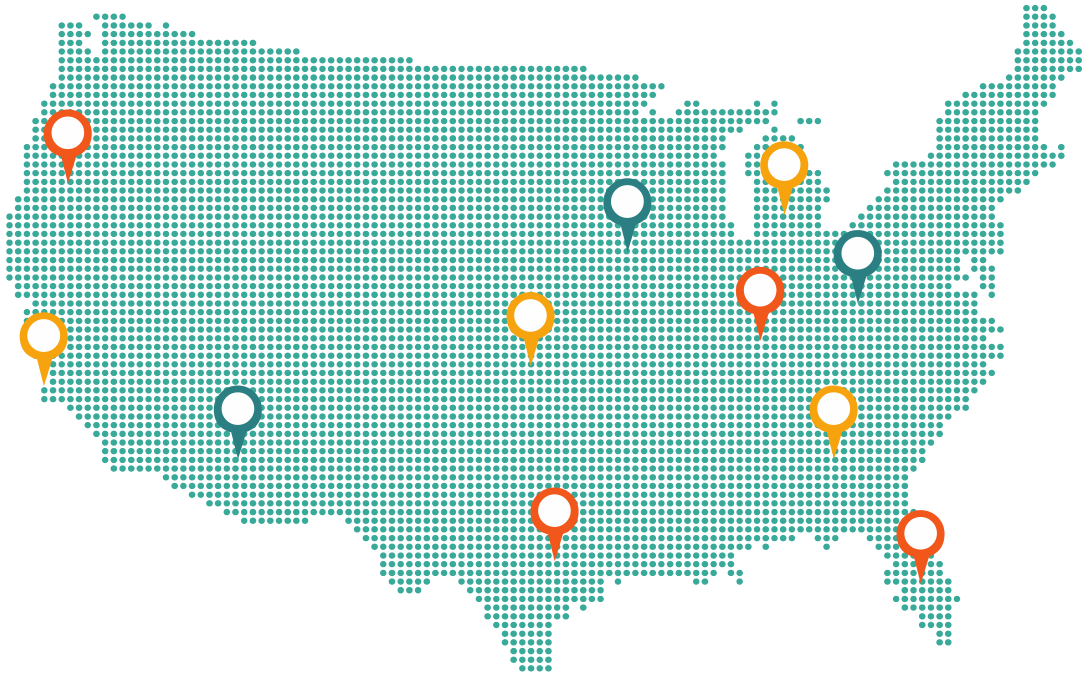
$145
$139
$181
$425
$453
$515
$448
$207
$235
$6
$255
$616
$10
$528
$170
$197
$205
$505
State appropriations
Resident UG tuition
Non-Resident UG tuition
International UG tuition
Graduate tuition
Thunderbird
Fees and summer session
ASU Online tuition (gross)
New revenue sources
Scholarship allowance
Other E&G sources
Gifts
Auxiliary
TRIF
Research including F&A (external only)

Enterprise and Innovation

UNIVERSITY INNOVATION ALLIANCE



- Arizona State University
- Georgia State University
- Iowa State University
- Michigan State University
- The Ohio State University
- Oregon State University
- Purdue University
- University of California at Riverside
- University of Central Florida
- University of Kansas
- University of Texas at Austin

ASU

Mayo Clinic and ASU

Established in 2002

Shared desire to advance groundbreaking ideas, accelerate research and revolutionize patient care

Includes collaborative research, shared facilities, faculty, appointments and graduate students

Also joint education programs and a joint seed-fund program

Formalized Mayo Clinic and Arizona State University Alliance for Health Care in 2016

Welcomed first cohort of Mayo Medical School in Arizona in collaboration with Arizona State University students in 2017

Foci: Science of Health Care Delivery, Biomedical Informatics, Proton Beam Therapy, Metabolic and Vascular Biology, Imaging Health Project

Starbucks and ASU

Established in 2014

Believe all people deserve opportunity, access to education, and responsibility for our communities

Launched the Starbucks College Achievement Plan (SCAP) to cover four years of full ASU online tuition for benefits-eligible Starbucks partners without a bachelor's degree

Expanded in 2015 to allow partners who are current military or veterans to designate an additional family member who can participate in SCAP

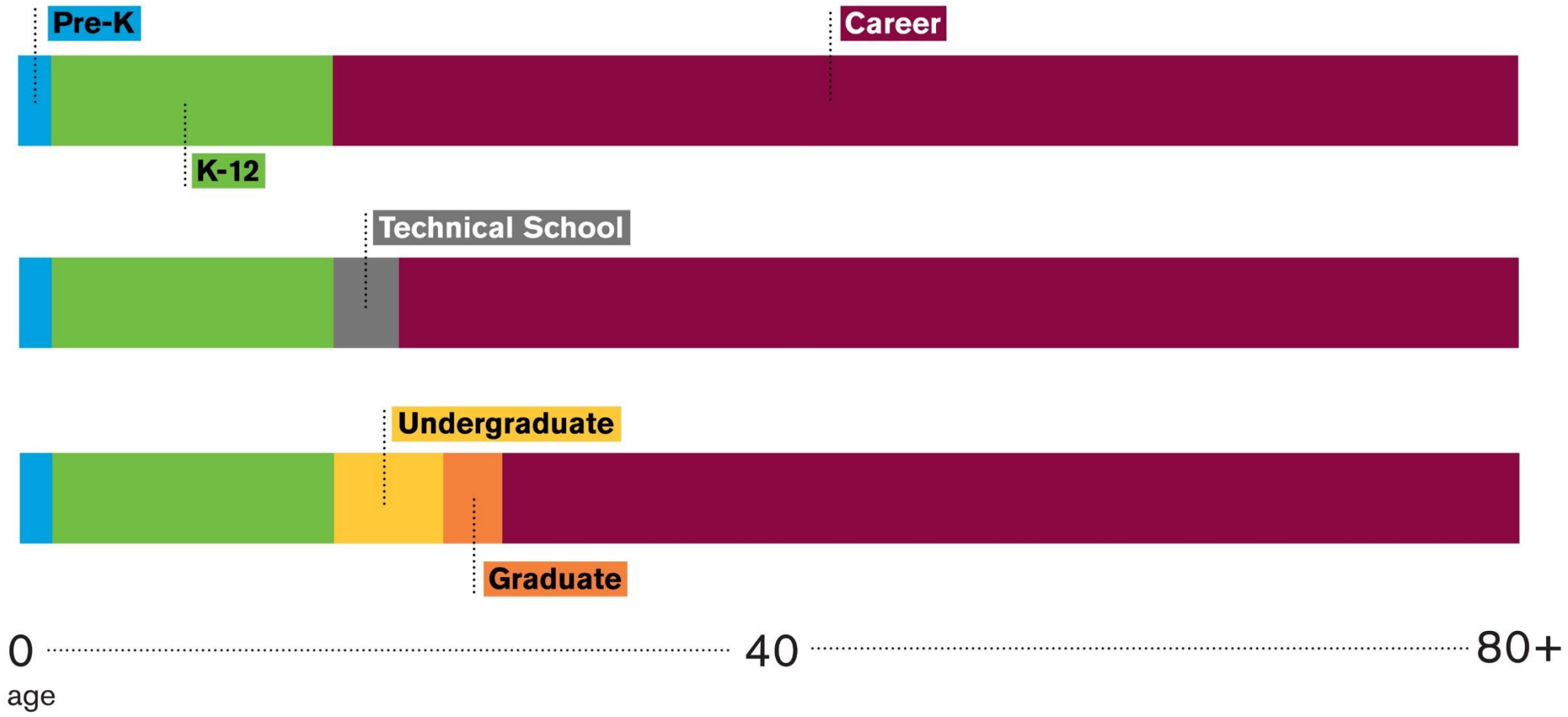
Added Pathway to Admission in 2017 to give tuition-free access to up to 10 freshman-level courses

More than 7,000 Starbucks partners have enrolled in SCAP

2,500 SCAP graduates by December 2018

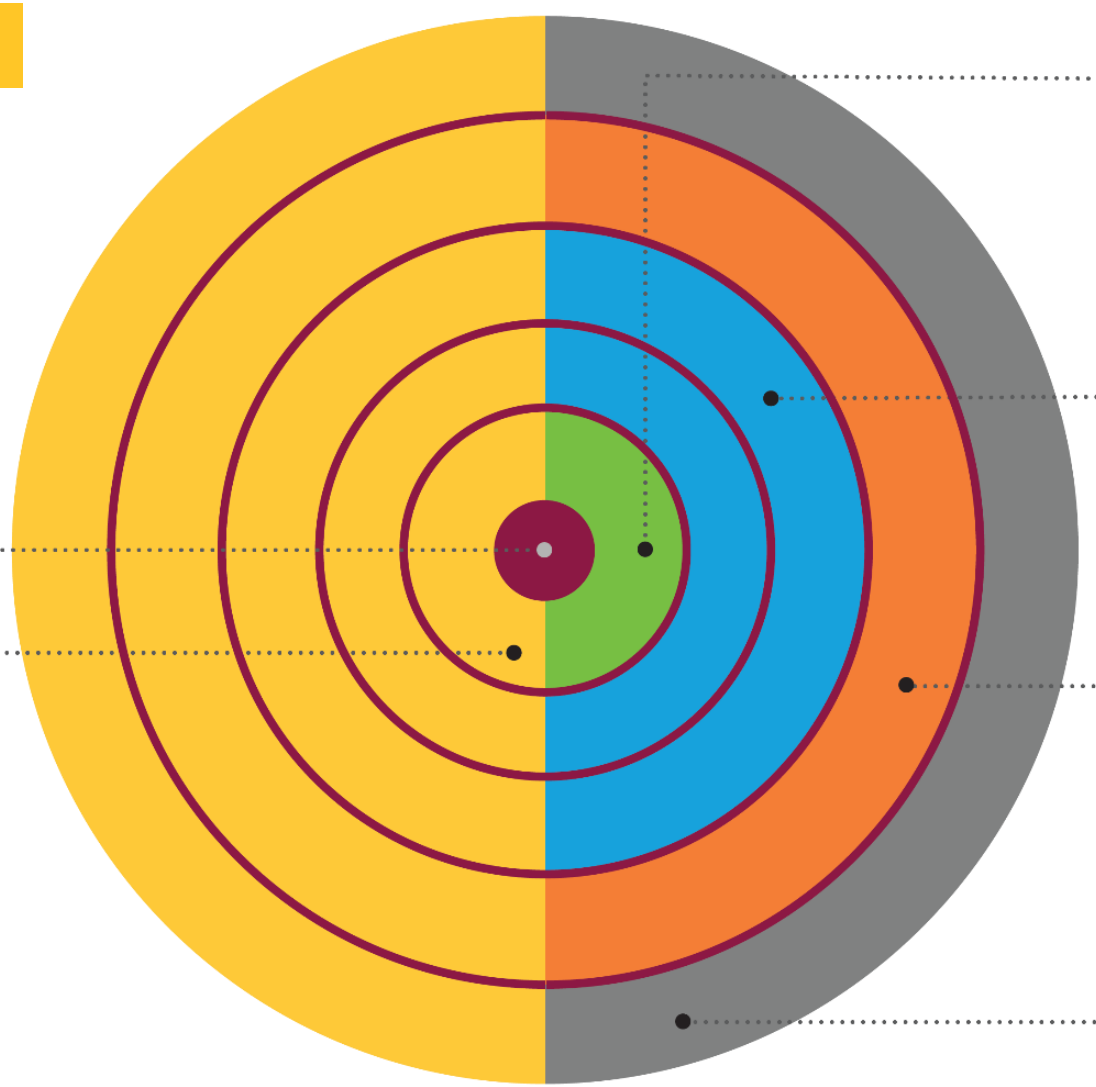
Goal: 25,000 graduates by 2025

2018: Distinct Life Stages



Future: Universal Learning

ASU Learning Realms



Knowledge Core

Realm 1
Full Immersion
On-campus
Technology Enhanced

The ideas and means of the university

Realm 2
Digital Immersion
Online
Technology Enhanced

Realm 3
Digital Immersion
Massively Open
Technology Enhanced

Realm 4
Education through Exploration
Technology Enhanced

Realm 5
Infinitely Scalable Learning

Universal Learning at ASU

Evolving a model capable of being of service to all learners, at all stages of work and learning, from all socioeconomic backgrounds, through educational, training, and skill-building opportunities

Arizona State University

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@michaelcrow