Moving Forward

The Role of Postsecondary Education in the 21st Century

2018 Kentucky Postsecondary Education Symposium

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Louisville, Kentucky
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“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

<table>
<thead>
<tr>
<th>Academic Model</th>
<th>State Control Model</th>
<th>Market Model</th>
<th>Enterprise Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Animating Purpose</strong></td>
<td>Enlightenment of individual students</td>
<td>Organizational preservation</td>
<td>Profit maximization for owners and shareholders</td>
</tr>
<tr>
<td><strong>Path to Achieving Public Value</strong></td>
<td>Immersive instruction</td>
<td>Achievement of state-specified goals</td>
<td>Efficiency and cost reduction</td>
</tr>
<tr>
<td><strong>Assumptions of Faculty</strong></td>
<td>Self-governing professionals</td>
<td>Bureaucrats responding to rules</td>
<td>Commodity labor; faculty not entrepreneurial</td>
</tr>
<tr>
<td><strong>Assumptions of Management</strong></td>
<td>Management drawn from and blended with faculty</td>
<td>Traditional public managers distinct from faculty</td>
<td>Professional management distinct from faculty and acting entrepreneurially</td>
</tr>
<tr>
<td><strong>Accountability Mechanisms</strong></td>
<td>Faculty and Management Professionalism</td>
<td>Audits, public reporting, standardized testing</td>
<td>Student choice, standardized testing</td>
</tr>
<tr>
<td><strong>Primary Funding Mechanisms</strong></td>
<td>Enrollment funding from state, endowments</td>
<td>Enrollment funding from state</td>
<td>Vouchers, performance based funding from state</td>
</tr>
<tr>
<td><strong>Organizational Scale of Impact</strong></td>
<td>Individual or groups of individuals</td>
<td>Community or state</td>
<td>Indeterminate, any scale from which profit can be derived</td>
</tr>
</tbody>
</table>
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

Small Contribution to Knowledge Generation
$28 million in annual research expenditures

Low Freshman Diversity
84.9% White
9.9% underrepresented populations

* = 2017 Dollars
Performing Public Agency Model

ASU in 2002

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
Performing Public Agency Model

ASU in 2002

Medium Price and Medium Aid

$3,527* resident undergraduate tuition and fees
22% undergraduates received Pell Grants

Growing Contribution to Knowledge Generation

$123 million in annual research expenditures

Medium Freshman Class Diversity

71.2% White
17.2% underrepresented populations

* = 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
Established Public Enterprise Model

ASU in 2018

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
Established Public Enterprise Model

ASU in 2018

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
Research expenditures have doubled every six to eight years.
In fall 2017, while the absolute number of white freshmen increased, the proportion of white freshmen was less than 50% of the class for the first time in ASU history.
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

Institutional gift aid is awarded as both merit aid and gift aid, which results in opportunities for aid to all students. Average financial aid award is $8,700.
Diverse and Inclusive Freshman Class

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

53.0%
Arizona freshmen from underrepresented populations
ASU’s access and outreach efforts, combined with financial aid policies and student success programs have resulted in a doubling of the numbers of first generation students in the last decade.
Achieving Freshman Retention Goal

First-Time Full-Time Freshman Retention Rate by ABOR Reporting Year (Cohort Year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Retention Rate</th>
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<tbody>
<tr>
<td>2005-06</td>
<td>76.7%</td>
</tr>
<tr>
<td>2006-07</td>
<td>76.8%</td>
</tr>
<tr>
<td>2007-08</td>
<td>79.0%</td>
</tr>
<tr>
<td>2008-09</td>
<td>78.5%</td>
</tr>
<tr>
<td>2009-10</td>
<td>79.5%</td>
</tr>
<tr>
<td>2010-11</td>
<td>81.2%</td>
</tr>
<tr>
<td>2011-12</td>
<td>84.0%</td>
</tr>
<tr>
<td>2012-13</td>
<td>83.5%</td>
</tr>
<tr>
<td>2013-14</td>
<td>80.1%</td>
</tr>
<tr>
<td>2014-15</td>
<td>83.9%</td>
</tr>
<tr>
<td>2015-16</td>
<td>84.3%</td>
</tr>
<tr>
<td>2016-17</td>
<td>84.3%</td>
</tr>
<tr>
<td>2017-18</td>
<td>85.2%</td>
</tr>
</tbody>
</table>

Total Cohort: 85.4%
Humanities Enrollment by College

- Business
- New College
- Integrative Arts and Sciences
- Design and the Arts
- Teachers College
- Liberal Arts and Sciences

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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Bachelor</th>
<th>Master</th>
<th>Doctor</th>
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<tbody>
<tr>
<td>2008-09</td>
<td>2,314</td>
<td>840</td>
<td>238</td>
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<tr>
<td>2009-10</td>
<td>2,560</td>
<td>803</td>
<td>219</td>
</tr>
<tr>
<td>2010-11</td>
<td>2,807</td>
<td>842</td>
<td>230</td>
</tr>
<tr>
<td>2011-12</td>
<td>3,319</td>
<td>1,047</td>
<td>243</td>
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<tr>
<td>2012-13</td>
<td>3,475</td>
<td>1,184</td>
<td>251</td>
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<tr>
<td>2013-14</td>
<td>3,685</td>
<td>1,382</td>
<td>251</td>
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<tr>
<td>2014-15</td>
<td>3,771</td>
<td>1,718</td>
<td>281</td>
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<tr>
<td>2015-16</td>
<td>4,038</td>
<td>1,871</td>
<td>286</td>
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<tr>
<td>2016-17</td>
<td>4,195</td>
<td>1,769</td>
<td>293</td>
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<table>
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<tr>
<th>Year</th>
<th>Total</th>
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<tbody>
<tr>
<td>2008-09</td>
<td>3,392</td>
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<tr>
<td>2009-10</td>
<td>3,582</td>
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<td>2010-11</td>
<td>3,879</td>
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<td>2011-12</td>
<td>4,609</td>
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<tr>
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<td>5,318</td>
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<td>2014-15</td>
<td>5,770</td>
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<tr>
<td>2015-16</td>
<td>6,195</td>
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<tr>
<td>2016-17</td>
<td>6,257</td>
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</table>
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
MICHIGAN  HARVARD UNIVERSITY  Stanford University

Geological and Earth Sciences: 2 of 359 ahead of
Stanford University  MIT  PennState  MICHIGAN

Social Sciences: 4 of 491 ahead of
Berkeley  Cornell University  UCLA  Penn

Humanities: 5 of 400 ahead of
Yale  HARVARD UNIVERSITY  PRINCETON UNIVERSITY  COLUMBIA UNIVERSITY

Political Science: 5 of 332 ahead of
Berkeley  PennState  Duke

Electrical, Electronic, and Communications Engineering: 9 of 286 ahead of
Stanford University  Carnegie Mellon University  MIT
<table>
<thead>
<tr>
<th>Field</th>
<th>Rank</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Non-Science and Engineering</td>
<td>13 of 551</td>
<td>ahead of</td>
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<tr>
<td>NASA Funded Expenditures</td>
<td>8 of 430</td>
<td>ahead of</td>
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<tr>
<td>Sociology</td>
<td>21 of 369</td>
<td>ahead of</td>
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<tr>
<td>Economics</td>
<td>12 of 341</td>
<td>ahead of</td>
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<tr>
<td>Business and Management</td>
<td>18 of 360</td>
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<tr>
<td>Psychology</td>
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<td>ahead of</td>
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<tr>
<td>Category</td>
<td>Value</td>
<td>Ahead of</td>
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<td>--------------------------</td>
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<tr>
<td>Education</td>
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<tr>
<td>UCLA</td>
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<td>TExAS</td>
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<tr>
<td>MIT</td>
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<tr>
<td>Carnegie Mellon University</td>
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<tr>
<td>Cornell University</td>
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<tr>
<td>Caltech</td>
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<tr>
<td>Stanford University</td>
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<tr>
<td>Non-Medical School Expenditures</td>
<td>21 of 629</td>
<td></td>
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<tr>
<td>Stanford University</td>
<td></td>
<td></td>
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<tr>
<td>University of North Carolina at Chapel Hill</td>
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<tr>
<td>Columbia University</td>
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<tr>
<td>in the City of New York</td>
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</tr>
<tr>
<td>NSF Funded Expenditures</td>
<td>22 of 593</td>
<td></td>
</tr>
<tr>
<td>Harvard University</td>
<td></td>
<td></td>
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<tr>
<td>The University of Chicago</td>
<td></td>
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<tr>
<td>Penn</td>
<td></td>
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<tr>
<td>Princeton University</td>
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<tr>
<td>DOE Funded Expenditures</td>
<td>28 of 345</td>
<td></td>
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<tr>
<td>Yale</td>
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<tr>
<td>Columbia University</td>
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<td>in the City of New York</td>
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<tr>
<td>Carnegie Mellon University</td>
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<tr>
<td>DOD Funded Expenditures</td>
<td>44 of 455</td>
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<tr>
<td>Wake Forest University</td>
<td></td>
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<tr>
<td>The University of Arizona</td>
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<td></td>
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<tr>
<td>Texas A&amp;M University</td>
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</table>
Transforming Regional Economic Competitiveness
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.
#1 in the U.S. for innovation

ASU ahead of Stanford and MIT


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.
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.
The Enterprise Plan has led to an increasingly diverse range of revenue sources.

ASU University Gross Revenue Sources: All Funds ($ millions)

- Gross revenue as of 7/1/02 was $775M. 41% ($320M) came from state investment.

The graph illustrates the breakdown of ASU University’s gross revenue sources from FY08 to FY25:

- FY08: $1.5B
- FY12: $1.9B
- FY16: $2.6B
- FY18: $2.9B
- FY21: $3.6B
- FY25: $4.3B

The revenue sources include:

- State appropriations
- International UG tuition
- Fees and summer session
- Scholarship allowance
- Resident UG tuition
- Graduate tuition
- ASU Online tuition (gross)
- Non-Resident UG tuition
- Thunderbird
- New revenue sources
- Research including F&A (external only)
- Gifts
- Other E&G sources
- TRIF
- Auxiliary

Gross revenue as of 7/1/02 was $775M. 41% ($320M) came from state investment.
Enterprise and Innovation
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
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
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

- Pre-K
- K-12
- Technical School
- Undergraduate
- Graduate

Age:
- 0
- 40
- 80+

ASU
Future: Universal 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