

A sunburst graphic with alternating red and blue rays emanating from the bottom right. The background features a bright sun in the upper left and white clouds against a blue sky.

# WELCOME

**President ANN WEAVER HART**  
November 2016



# OVERVIEW



# NEVER SETTLE



# RESOURCING THE FUTURE

**GREGG GOLDMAN**

Senior Vice President for Business Affairs and Chief Financial Officer





**FINANCIAL VIABILITY**

**PHOENIX BIOMEDICAL CAMPUS**

**DEFERRED MAINTENANCE AND  
BUILDING RENEWAL TIME BOMB**

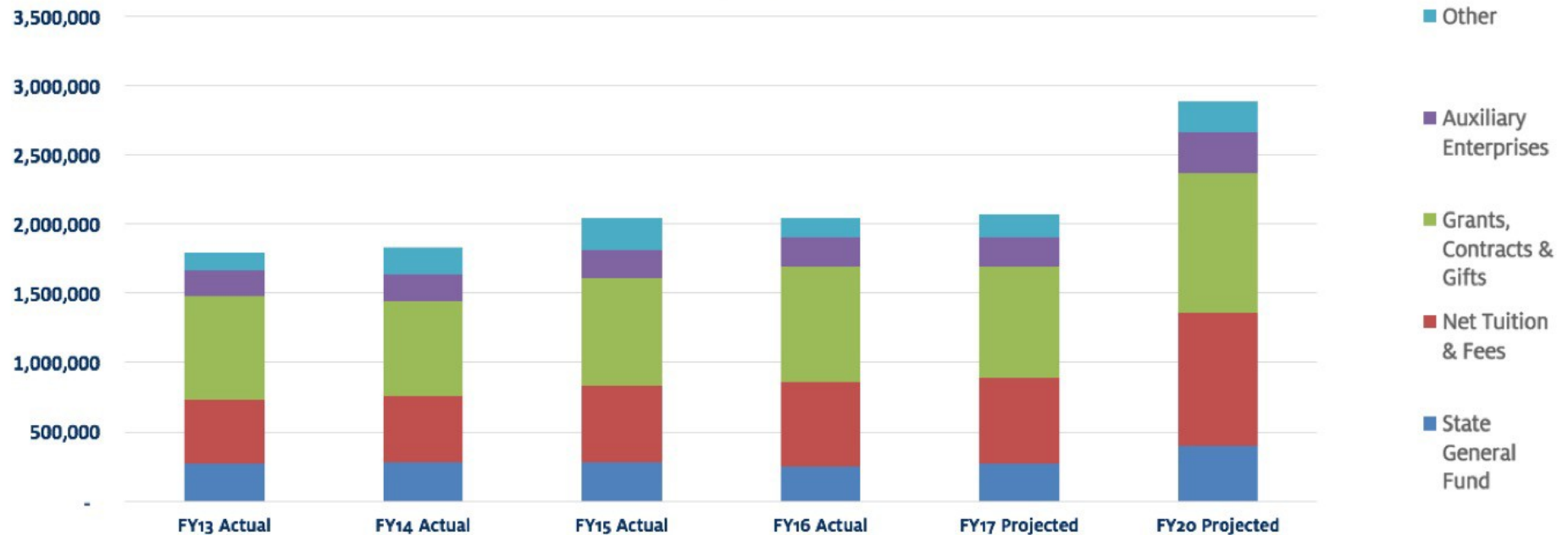
# FINANCIAL VIABILITY – STATE INVESTMENT



## IF THE STATE MET THE RESIDENT STUDENT INVESTMENT GOAL BY FY2020

- The UA would receive an estimated additional \$125M annually
- State support would represent 14% of projected total revenue sources

REVENUE SOURCES



# FINANCIAL VIABILITY – LIQUIDITY



## NOT ALL CASH BALANCES ARE ALIKE

34% of Balances are from Restricted Funds

## REQUIRED BY CREDIT RATING AGENCIES

Moody's Rating Aa2, S&P AA-

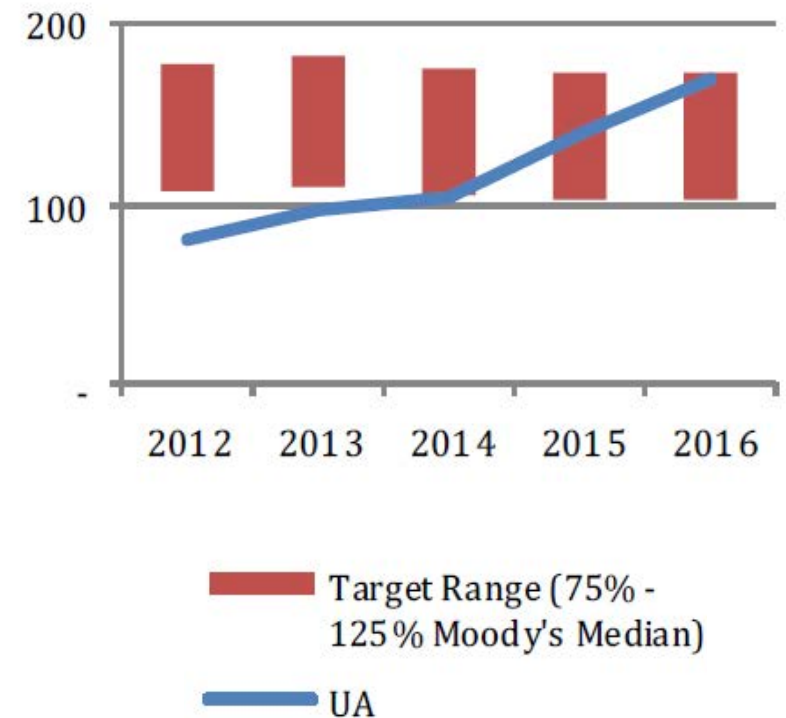
## CASH FLOW TO MEET ON-GOING EXPENSES

\$47M/payroll, \$452M Remitted Tuition, \$48M/month to bridge sponsored grant & contract reimbursement

## RISK MITIGATION

Guaranteed Tuition, State Lottery Reduction, State Appropriation, Future Commitments, TRIF Revenue Sunset

MONTHLY DAYS CASH ON HAND  
AS OF JUNE 30TH

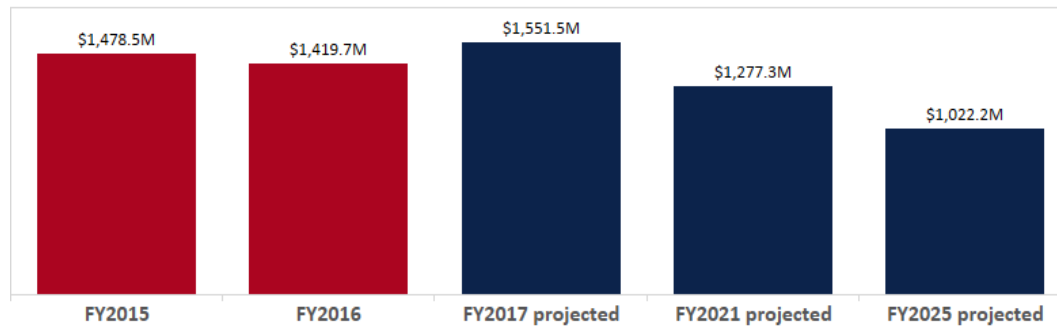


# FINANCIAL VIABILITY – DEBT PORTFOLIO



## Debt Overview

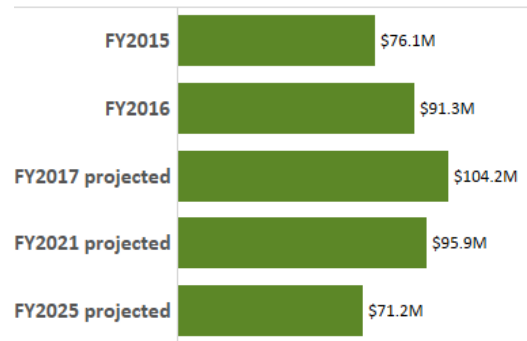
Total Debt



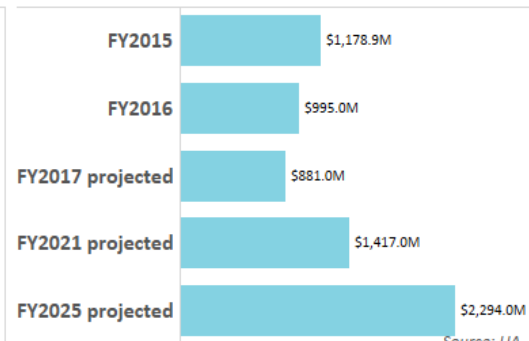
### FY2016 TOTAL DEBT BY USE

- 71% Academic & Research
- 29% Auxiliary

Debt Service



Debt Capacity



Source: IJA

### FY2016 TOTAL DEBT BY FUND SOURCE

- 35% Tuition & General Purpose Funds
- 29% Auxiliary
- 36% State Appropriation/State Lottery

Significant retirement of debt by FY2021 and FY2025 provides future opportunities for reinvesting in Academic & Research infrastructure.

# FINANCIAL VIABILITY – MISSION DIFFERENTIATION



## **LAND-GRANT MISSION – AN EXAMPLE: COOPERATIVE EXTENSION**

- Presence in every county of Arizona
- Facilities, operation & maintenance challenges due to location

## **MEDICAL COLLEGES – TWO IN TWO VERY DIFFERENT CITIES**

- High-cost personnel, laboratories, facilities
- Complex contractual agreements with medical partners
- Patient clinical activities & facilities required

## **OWNERSHIP & MANAGEMENT OF AUXILIARY ACTIVITIES**

### **OTHER FACTORS**

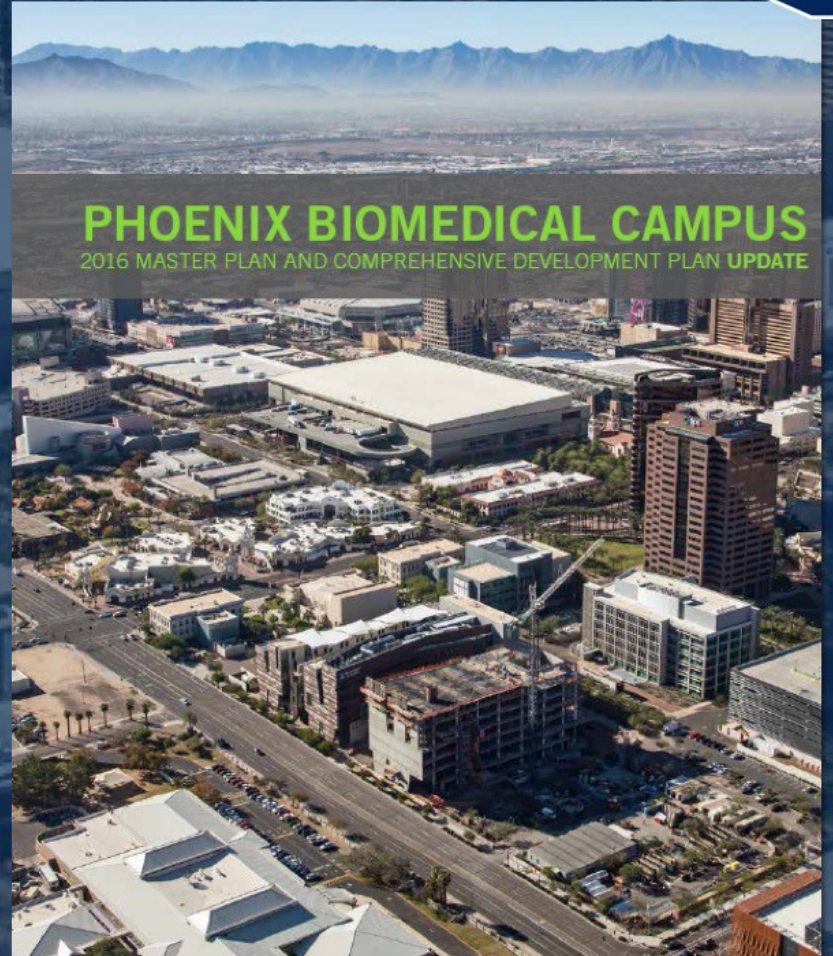
- Decentralized budget model – RCM
- Large amount of sponsored research – cost reimbursement & multi-year contracts
- Special line item appropriations: Freedom Center, Arizona Geological Survey, Telemedicine, Clinical Rural Rotations, Liver Research, etc.





# PHOENIX BIOMEDICAL CAMPUS PLANNING

**PHOENIX BIOMEDICAL CAMPUS**  
2016 MASTER PLAN AND COMPREHENSIVE DEVELOPMENT PLAN UPDATE



# PHOENIX BIOMEDICAL CAMPUS



## SUCCESS THROUGH COLLABORATION

### UNPRECEDENTED NUMBER OF CAMPUS-WIDE UA COLLABORATIONS

- **City of Phoenix** – land leases, masterplan & building development collaboration, site infrastructure
- **NAU** – HSEB & BPSB partnerships, program collaborations, NAU development projects managed by UA
- **ASU** – ABC<sub>1</sub> partnership, synergistic developments north of UA/PBC, central plant collaborations
- **Banner Health** – multi-campus partnership, with new clinic collaboration at PBC
- **Dignity Health** – cancer care delivery partner at UA Cancer Center – parking provided through UA
- **Boyer Company** – P<sub>3</sub> project with city for PBC garage – garage lease rates/terms negotiated by UA
- **NRG** – central plant & infrastructure planning & development collaborations
- **TGen** – program & shared use of TGen building
- **Multiple Planning, Design & Construction Teams** – diverse collaborations to build world-class, award-winning urban health care, educational & research facilities in the heart of downtown Phoenix

# PHOENIX BIOMEDICAL CAMPUS



**SUCCESS THROUGH  
COLLABORATION**

**AWARD-WINNING  
UA FACILITIES**



# PHOENIX BIOMEDICAL CAMPUS



## UA – PHOENIX INVESTMENT & ECONOMIC IMPACT

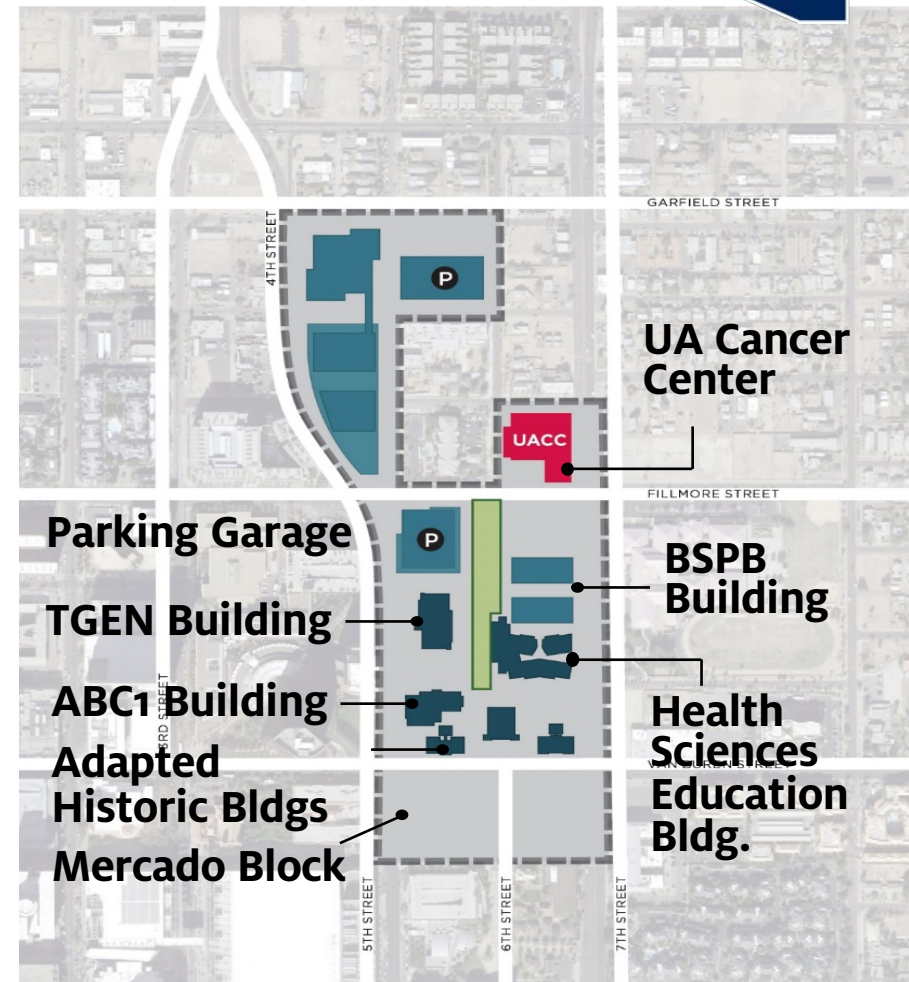
### UA 15-YEAR INVESTMENT OF OVER \$414M (1.3M GSF OF SPACE)

\$268M	UA SPEED Funds
\$ 86M	UA System Revenue Bonds
\$ 15M	Federal Grant Funding
\$ 17M	Charitable Contributions
\$ 20M	NAU & ASU Funding Contributions
\$ 7M	Dept. or Auxiliary-Funded Investments
<hr/>	
\$414M	Total UA PBC Investment

### PLUS ONGOING UA P3 INVESTMENTS

Lease for three Historic Buildings  
Garage Licensing for 418 Spaces

### \$.66M ALSO INVESTED IN PBC BY OTHERS

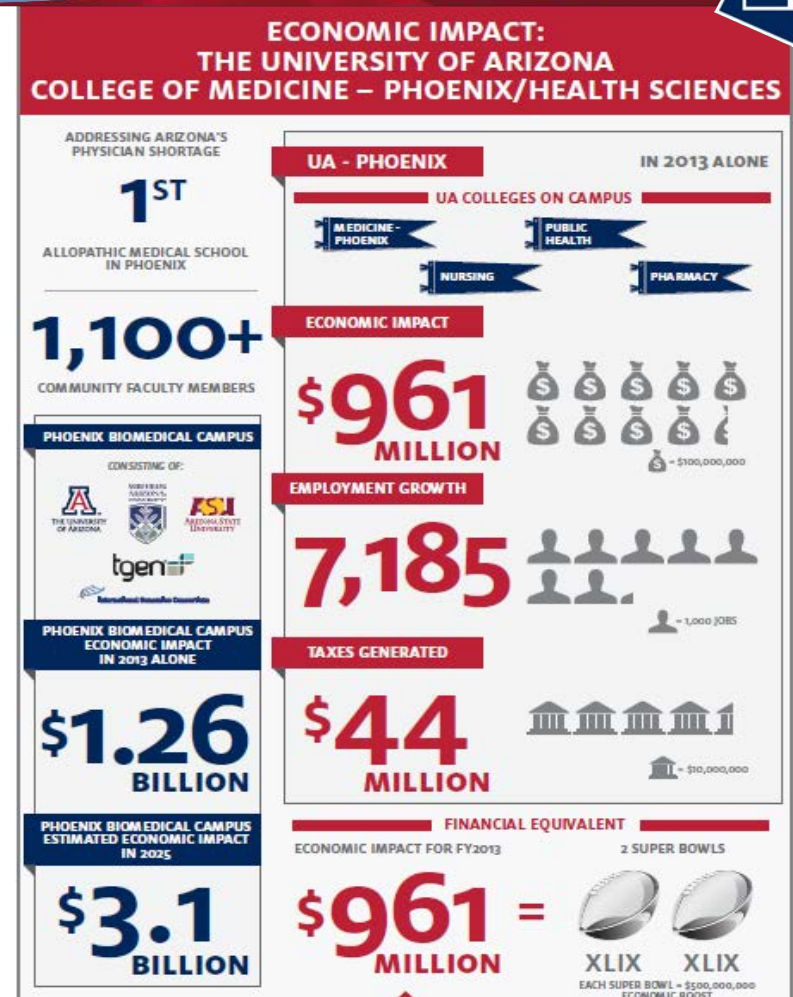


# PHOENIX BIOMEDICAL CAMPUS



## UA – PHOENIX INVESTMENT & ECONOMIC IMPACT

- UA – Phoenix currently has over \$1B annual economic impact on community
- Economic equivalent to two Super Bowls coming to Phoenix each year
- Employment growth of over 8,000 jobs added to community
- UA – Phoenix to have \$3.1B annual economic impact in 10 years

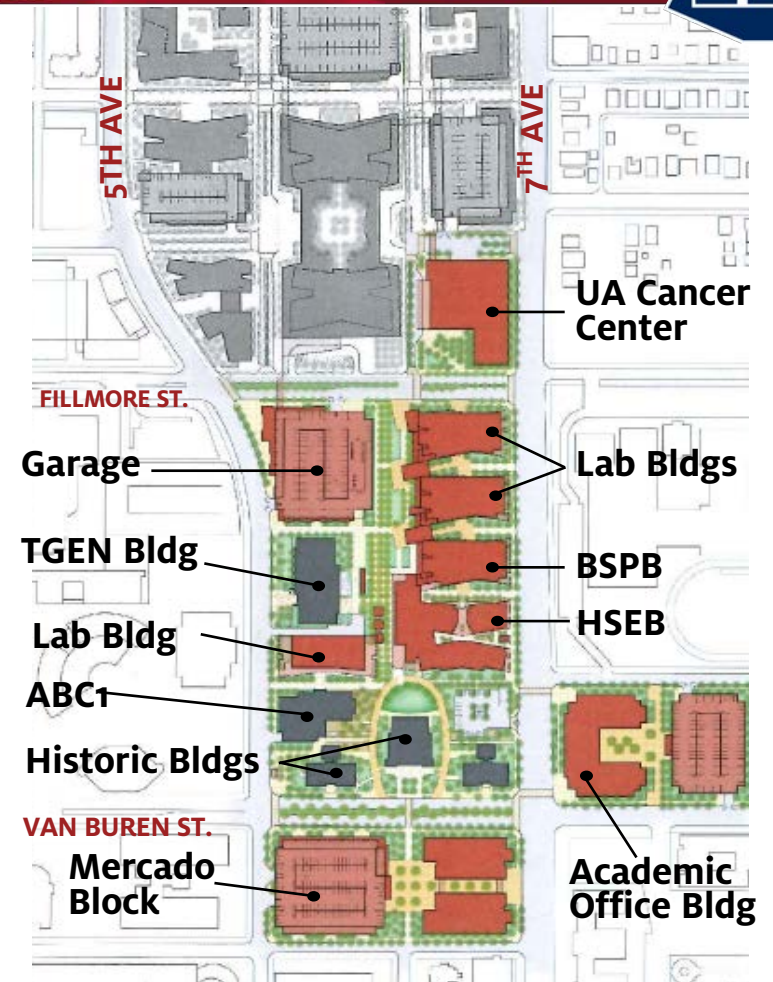


# PHOENIX BIOMEDICAL CAMPUS



## UA – PHOENIX / PBC MASTERPLAN UPDATE

- 1.43M GSF currently on UA-designated part of campus
- Additional .75M GSF (\$500M) in UA growth anticipated in next 10 years
- 2.2M GSF total development capacity for UA-designated part of campus
- Plus future development capacity of roughly 1.2M GSF on Mercado block
- Recently purchased PBC bldg. 4 to be developed for UA office educational use
- UA – Banner clinic collaboration in discussion for site adjacent to PBC campus



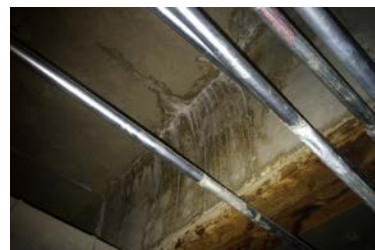
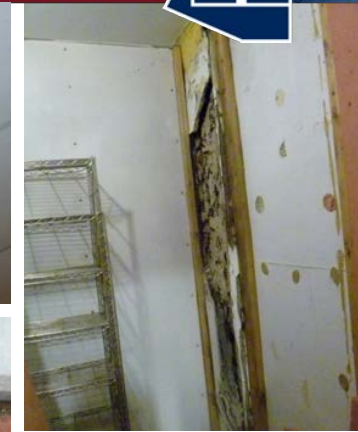


# DEFERRED MAINTENANCE AND BUILDING RENEWAL TIME BOMB

# FACILITY CONDITION ASSESSMENT RESULTS



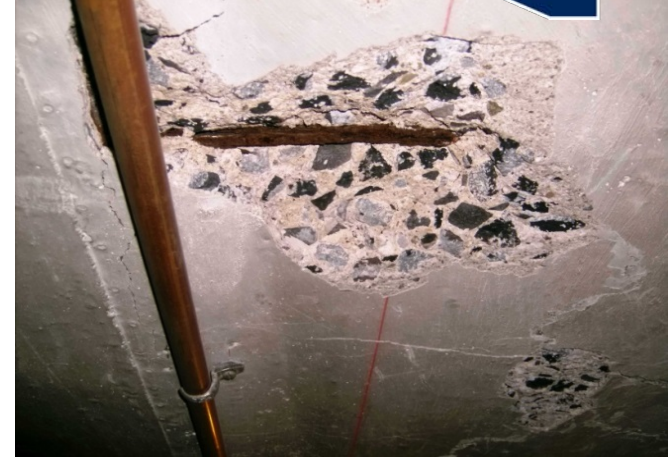
- Cracked concrete floors
- Antiquated cold rooms
- Envelope leakage
- Asbestos fireproofing
- Deteriorated insulation
- Duct leakage
- Constant volume air handlers
- Inefficient lab exhaust
- No energy recovery
- Low air changes
- Dirty ductwork
- Interior duct lining
- Exterior standing water
- Grading/site drainage issues
- Piping dead legs
- Industrial Hygienist results





# UTILITY TUNNEL ASSESSMENT UPDATE

## GILA TUNNEL PHOTOS



# UTILITY TUNNEL ASSESSMENT UPDATE ANTHROPOLOGY TUNNEL PHOTOS



# UTILITY TUNNEL ASSESSMENT UPDATE COCONINO TUNNEL PHOTOS



# THE UNIVERSITY OF ARIZONA DEFERRED MAINTENANCE TIME BOMB

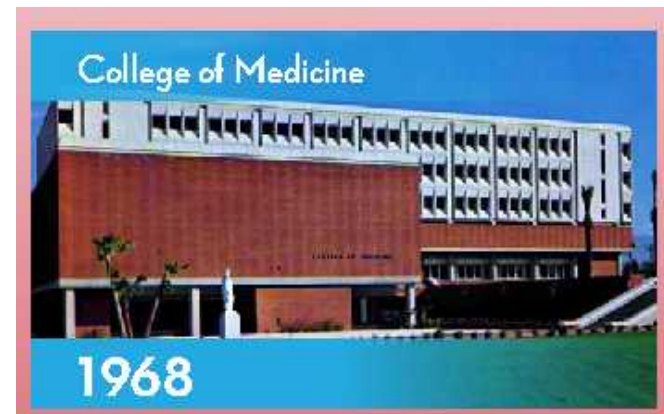
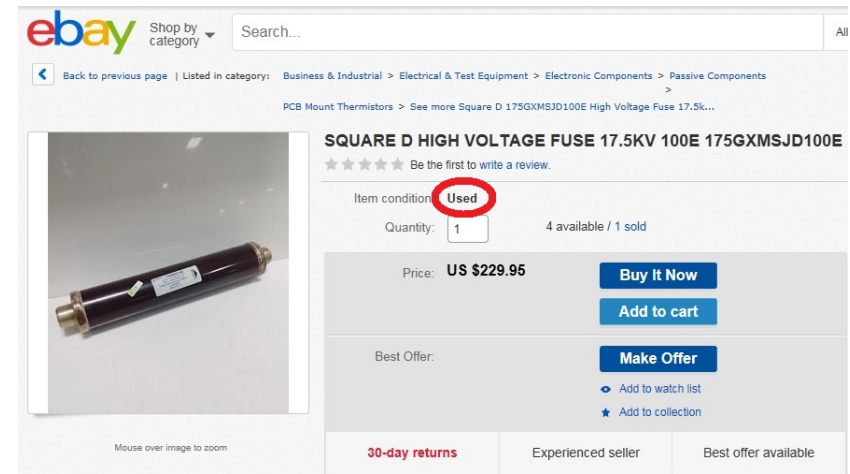


- Deferred Maintenance 2005 – 2006 **\$61,999,581**
- Deferred Maintenance 2015 – 2016 **\$312,360,564**
- Deferred Maintenance 2025 – 2026 **\$1,070,000,000**

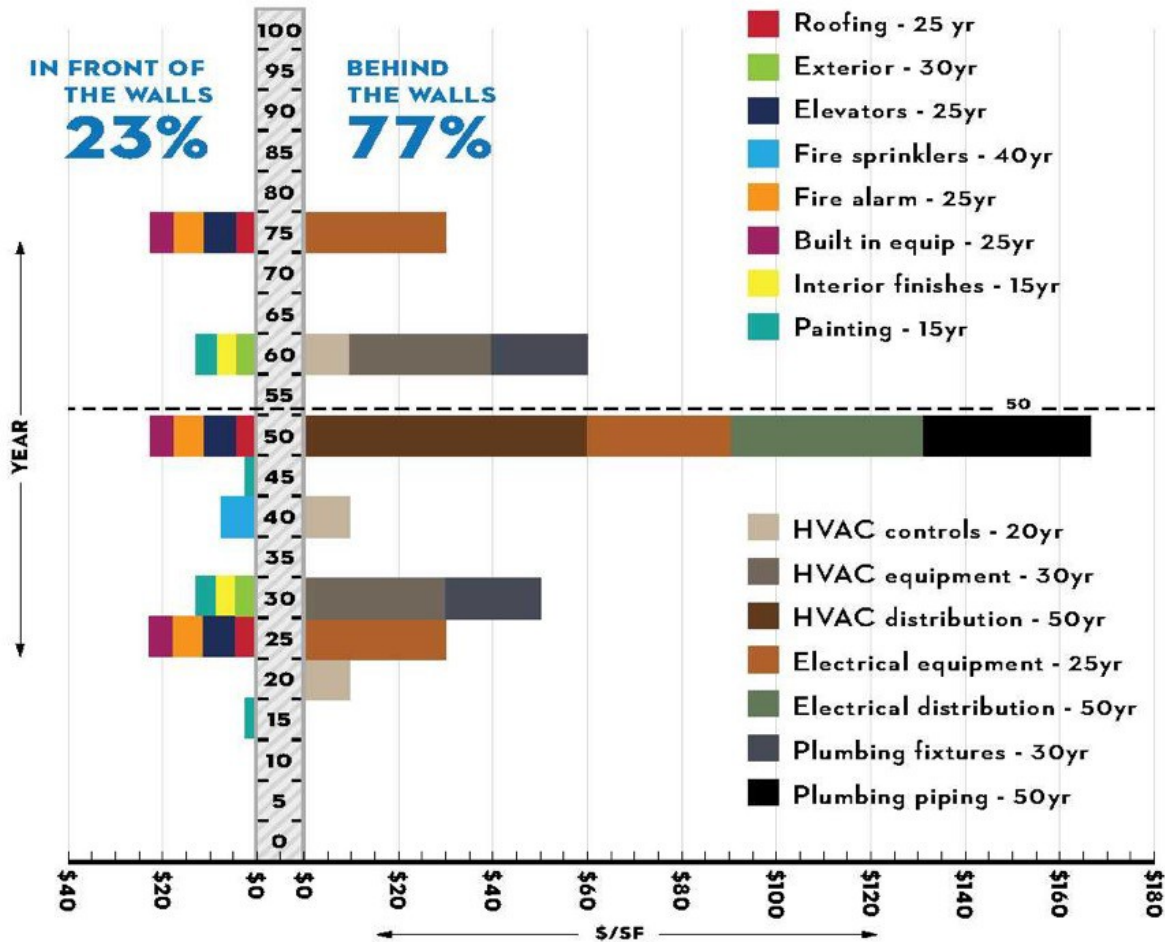
# DEFERRED MAINTENANCE CATASTROPHIC FAILURE



- Summer of 2016 – Electrical fire at UAHS affected emergency power and chilled water that resulted in the relocation of patients for a 24-hour period.
- Electrical equipment needed to be secured through eBay due to unavailability of the 1960s fuses.



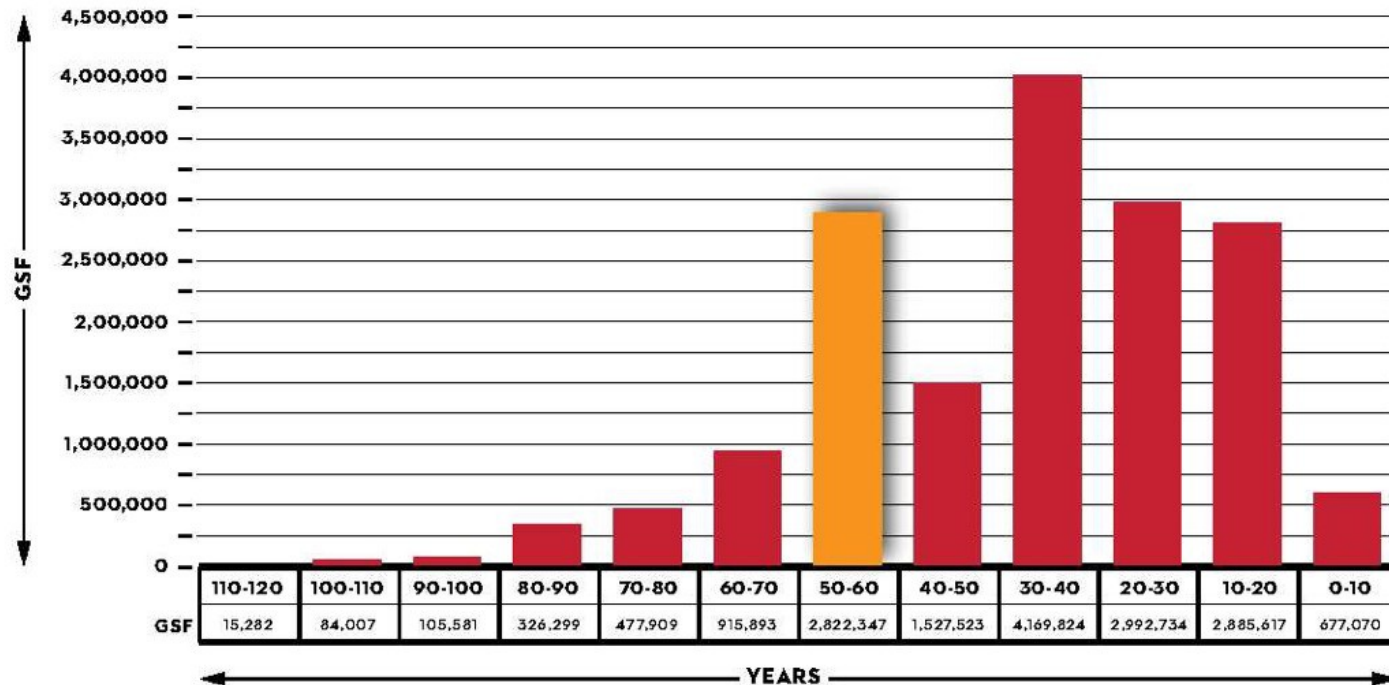
# LIFE CYCLES AND PERIODIC RENEWAL COSTS OF BUILDING SYSTEMS



# CAMPUS-WIDE FUNDING NEEDS

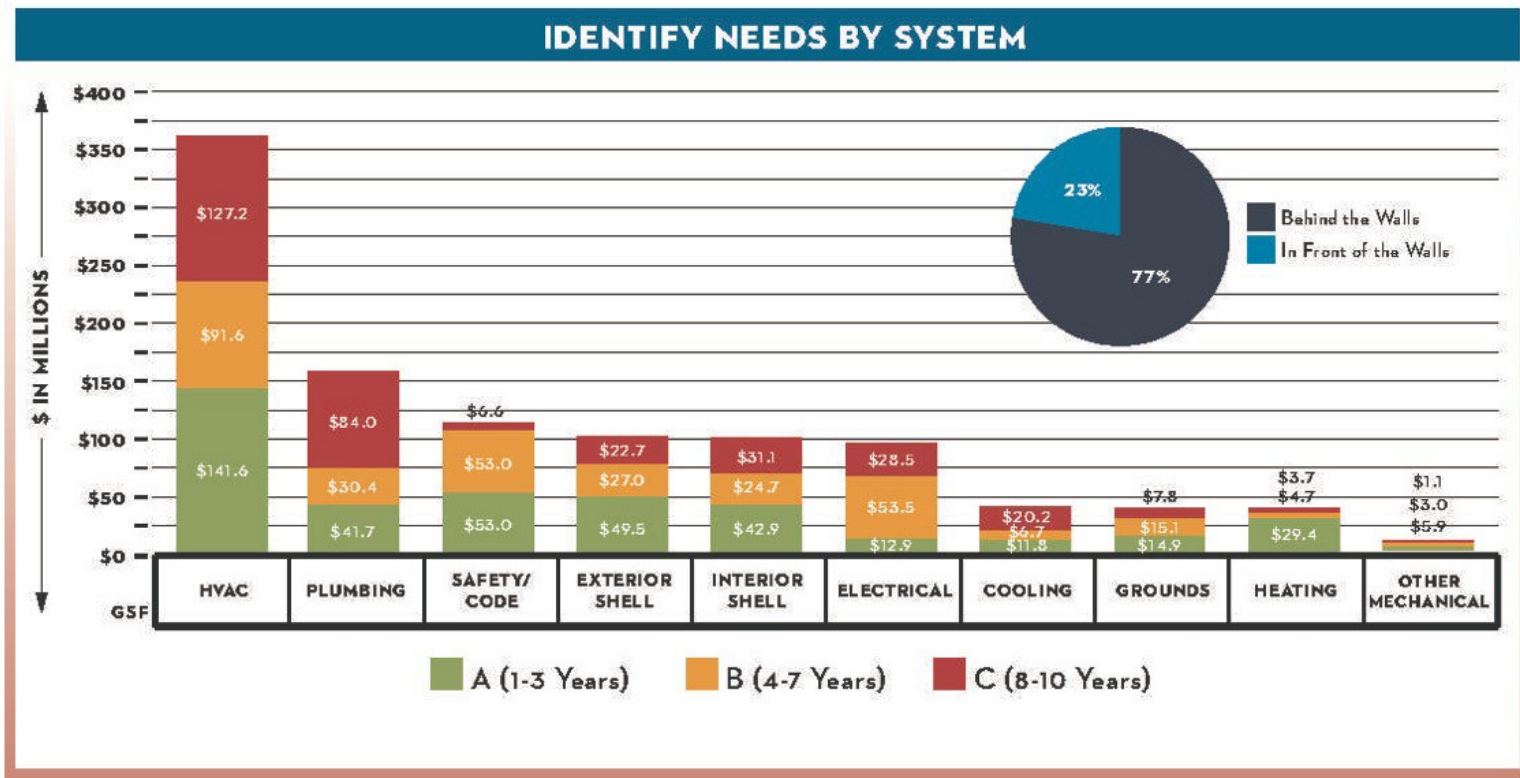


## GROSS SQUARE FOOTAGE BY AGE



- In the absence of renewal, lab buildings from the 1950s and 1960s are becoming high-risk
- Buildings from more recent decades will soon become the focus of tomorrow

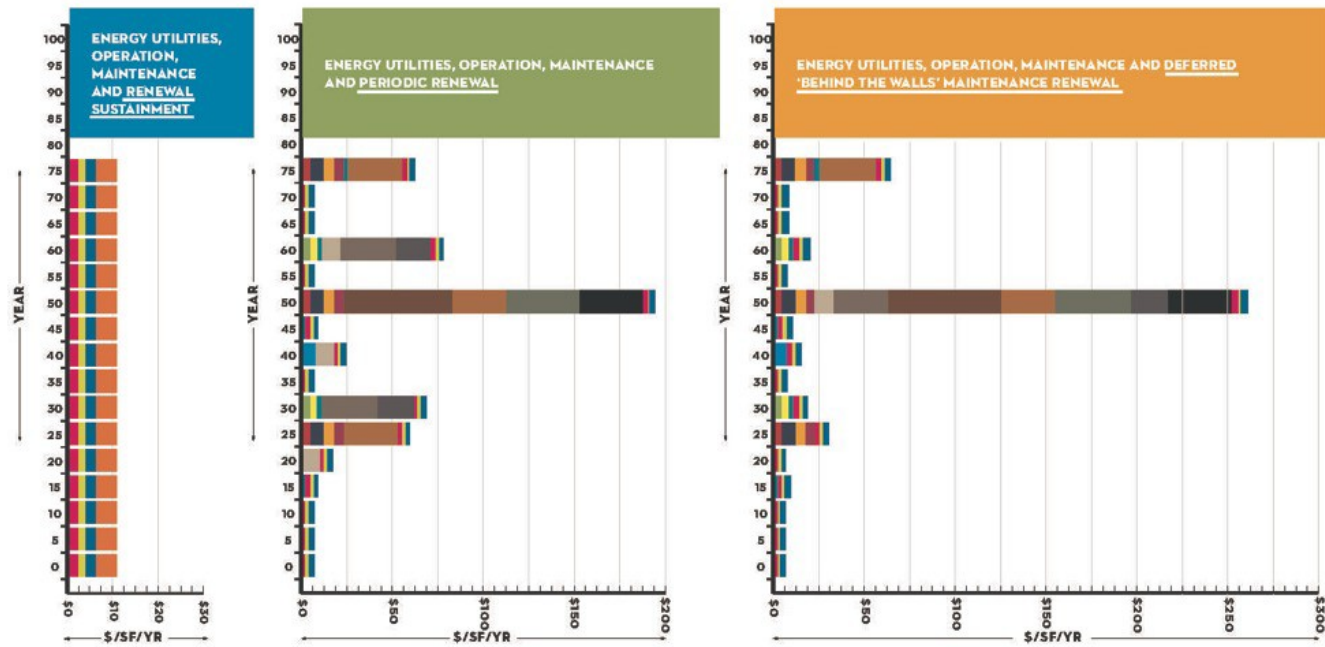
# CAMPUS-WIDE FUNDING NEEDS



- Building renewal “inside the walls” represents the most urgent and highest renewal needs and costs



# OPTIONS FOR RENEWAL FROM A LIFE CYCLE PERSPECTIVE



Operation \$1.50/SF/YR	Roofing - 25 yr	Fire alarm - 25yr	HVAC controls - 20yr	Electrical distribution - 50yr
Maintenance \$2.50/SF/YR	Exterior - 30yr	Built in equip - 25yr	HVAC equipment - 30yr	Plumbing fixtures - 30yr
"Renewal Sustainment" \$/SF/YR	Elevators - 25yr	Interior finishes - 15yr	HVAC distribution - 50yr	Plumbing piping - 50yr
	Fire sprinklers - 40yr	Painting - 15yr	Electrical equipment - 25yr	Energy/Utilities \$2.50/SF/YR

## SINKING FUND

- Regular annual contributions
- Sustains life-cycle renewal costs

## PERIODIC RENEWAL

- Replace systems at term
- Piecewise reinvestment

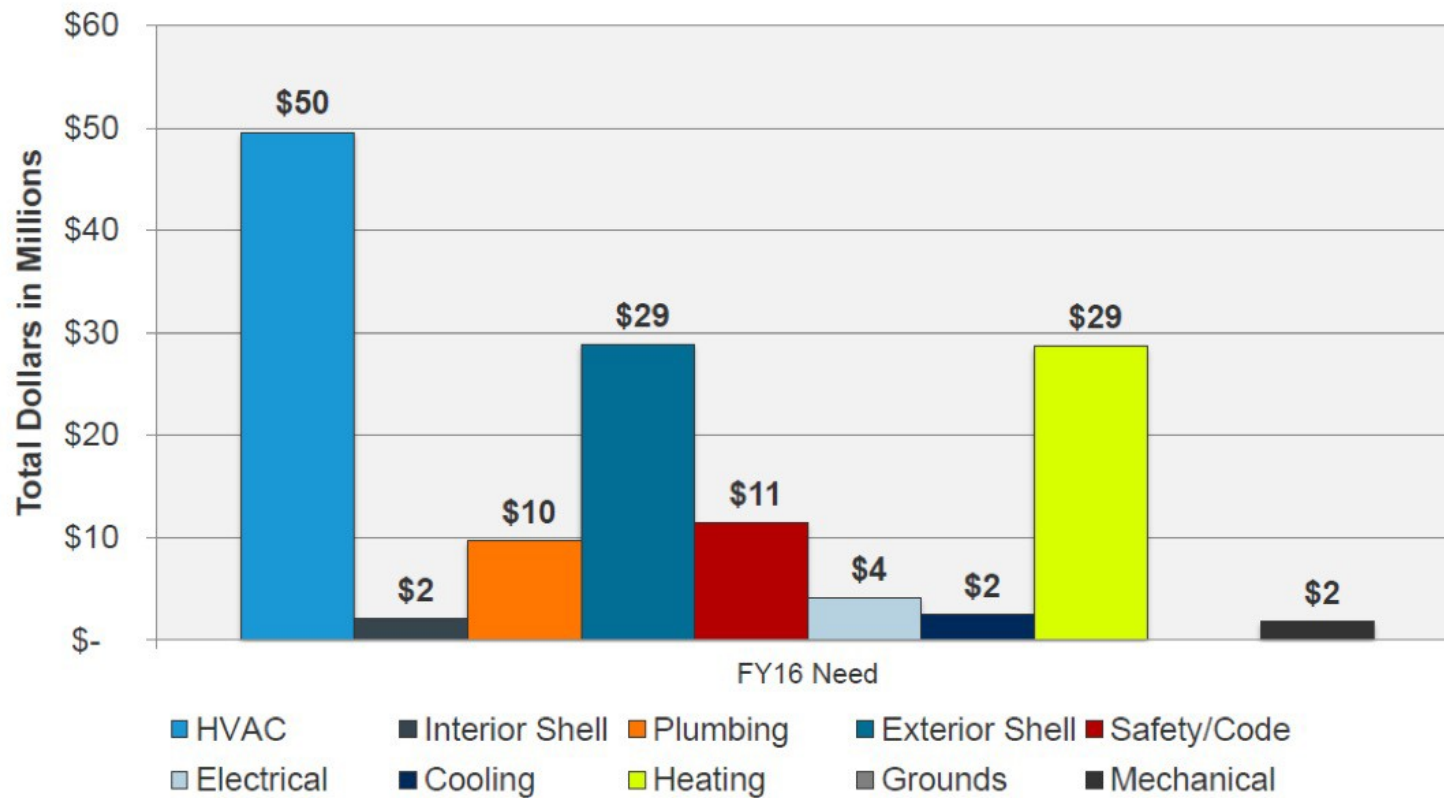
## DEFER MAINTENANCE

- Allow systems to deteriorate
- Renewal costs approach replacement

# FY17 SINGLE-YEAR NEED BY BUILDING SYSTEM



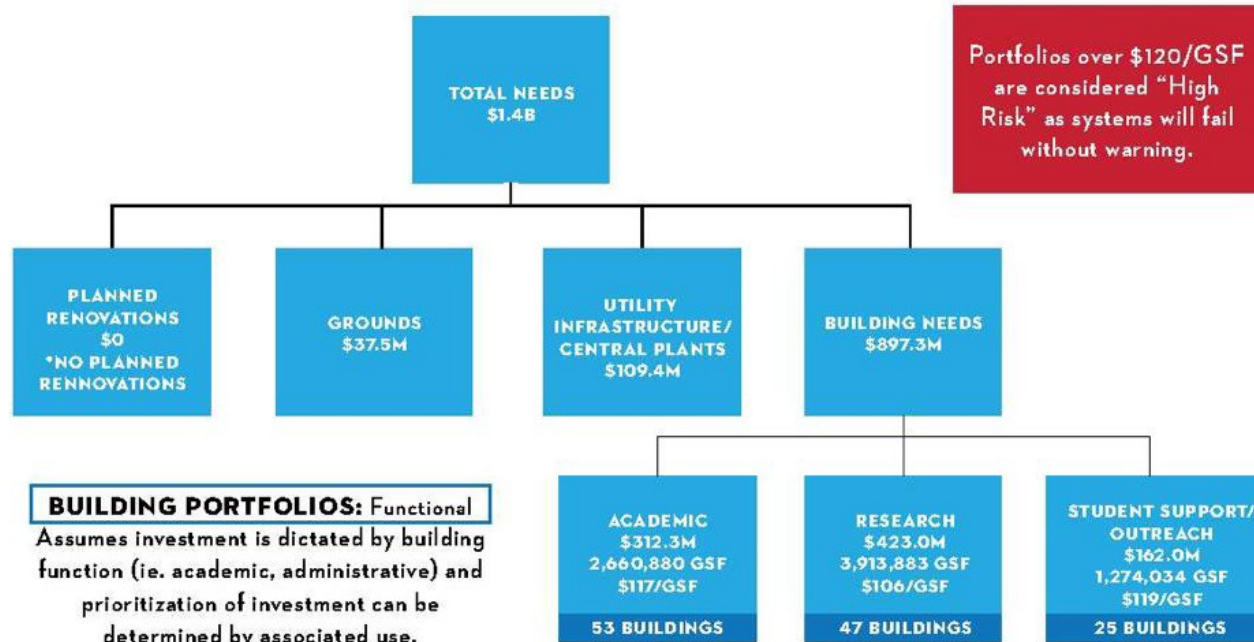
## FY17 Single-Year Need



# CAMPUS-WIDE FUNDING NEEDS



## BUILDING PORTFOLIOS

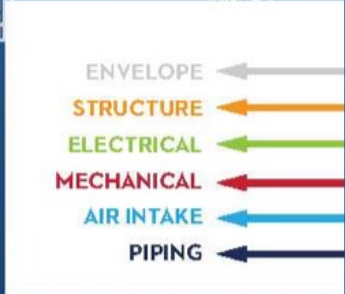
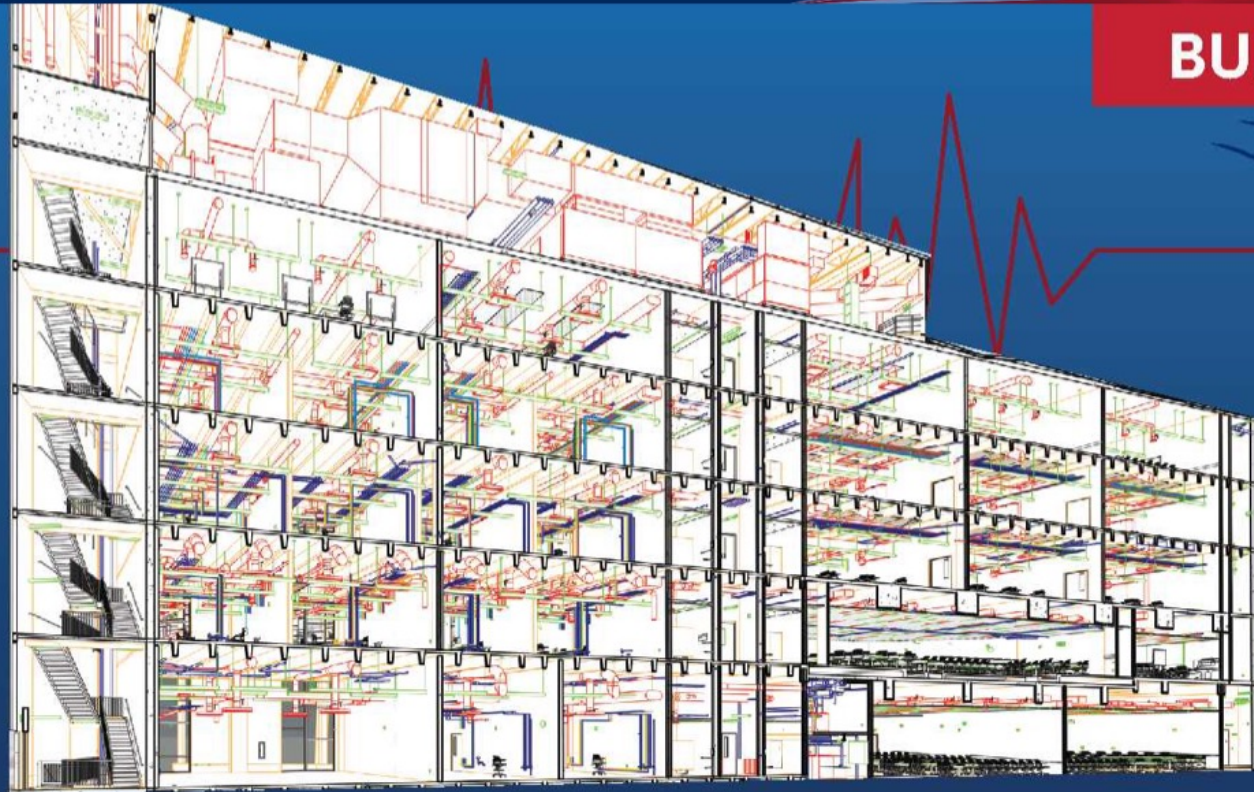


- Campus systems have different renewal needs
- Labs and research buildings often have highest needs

# TWO SYSTEMS: BUILDINGS AND HUMANS



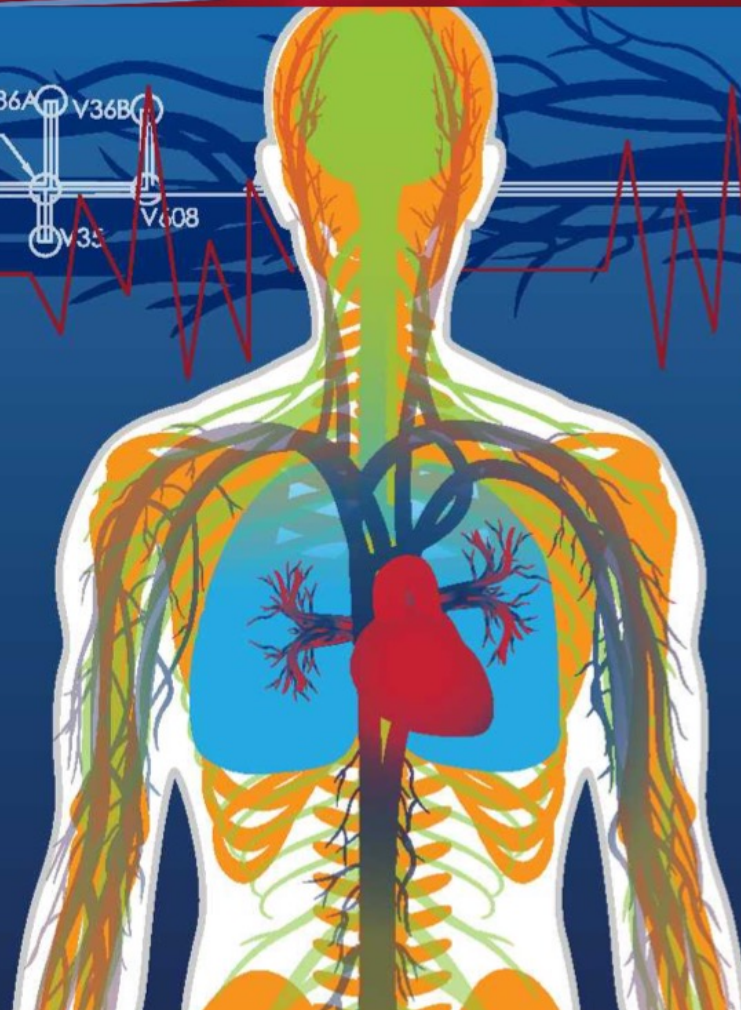
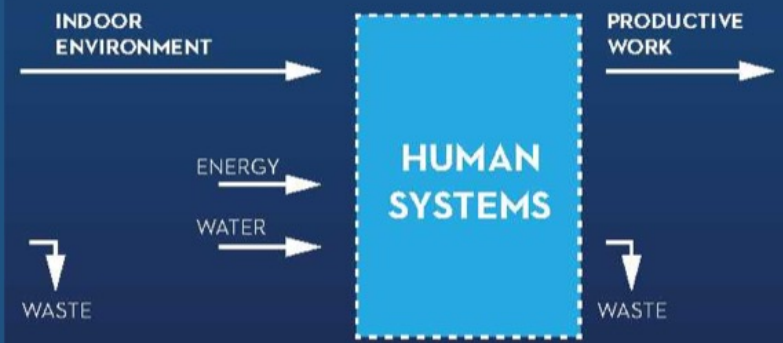
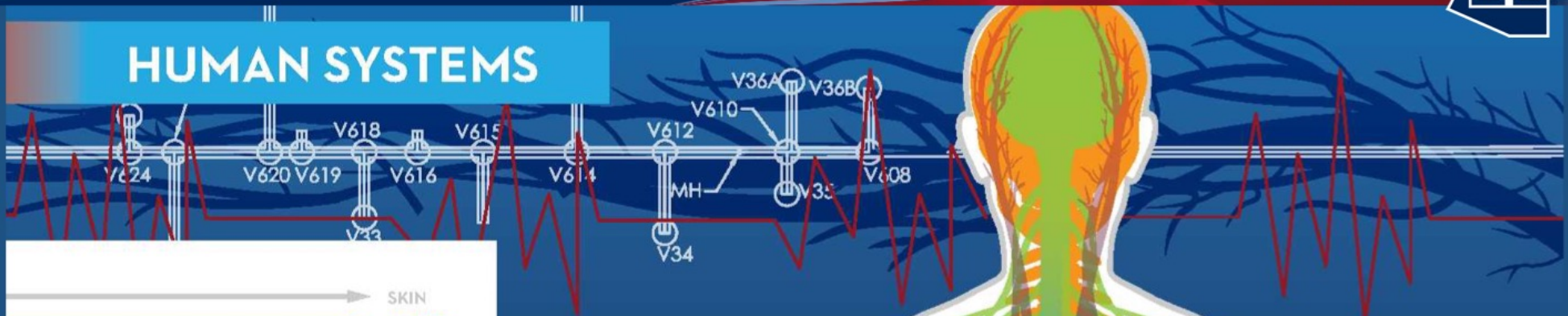
## BUILDING SYSTEMS



# TWO SYSTEMS: BUILDINGS AND HUMANS



## HUMAN SYSTEMS



# INDOOR HEALTH ISSUES



The effect of building health on the humans and human systems housed within is not insignificant.



Emerging research suggests long term exposure to very low concentrations of certain molds, allergens and other airborne contaminants may lead to sensitization, manifested in a broad spectrum of symptoms.



Occupants spend up to one third of their lives within the indoor environment.



Many of the symptoms associated with indoor air quality directly affect concentration and productivity.



Long term effects of temperature, humidity, pressure, noise, vibration, particulates and airborne contaminants may have direct and indirect consequences on individual health.



Buildings are communities where the knowledge, perception and concern of individuals becomes a part of the collective experience.



Indirect effects of indoor building health include recruitment, retention, productivity, and culture.

# SEVEN HIGH-RISK BUILDINGS



Forbes



Steward Observatory



Biological Sciences East



Harshbarger/Mines and Metallurgy



Shantz



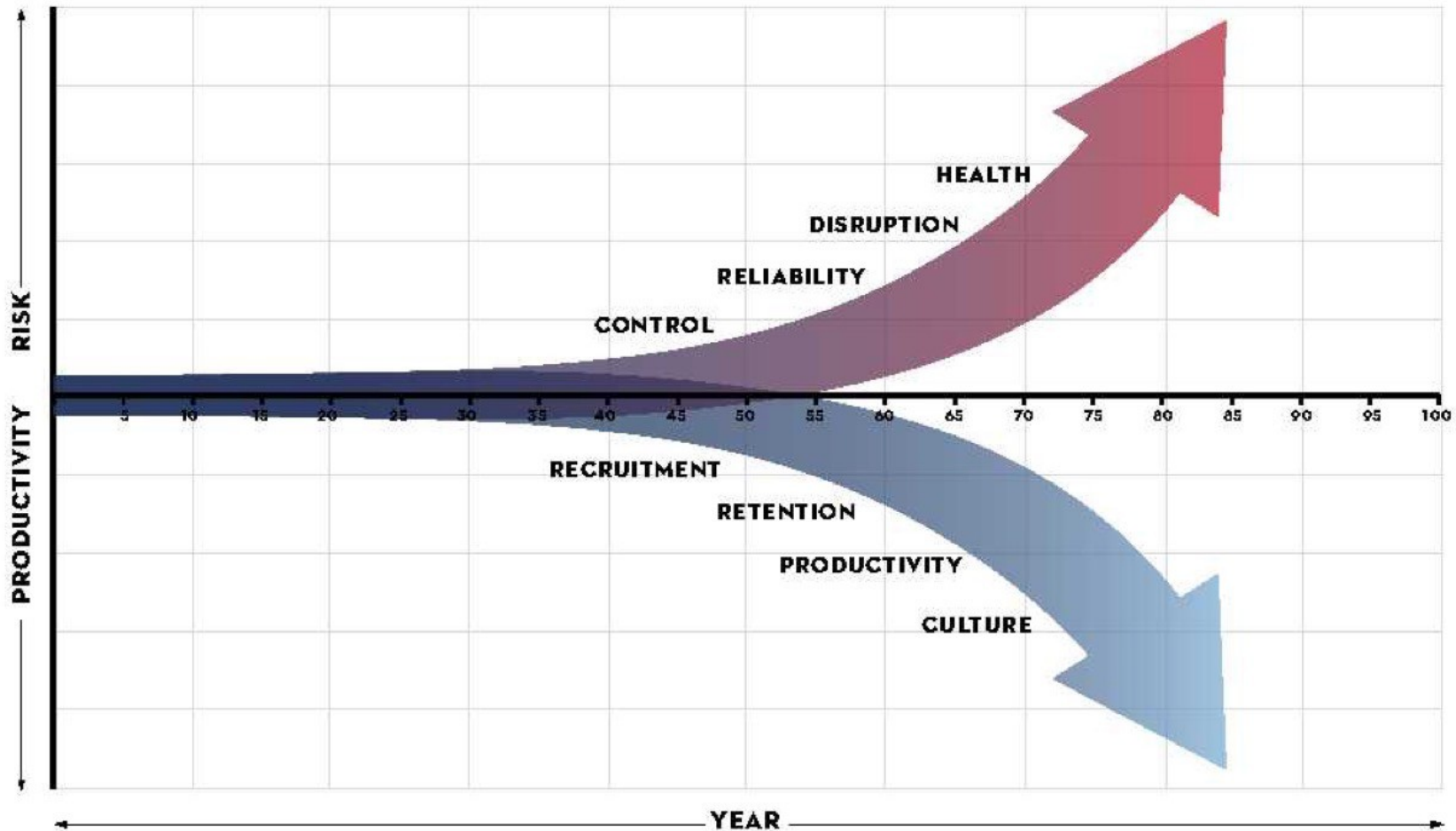
Biological Sciences West



College of Medicine

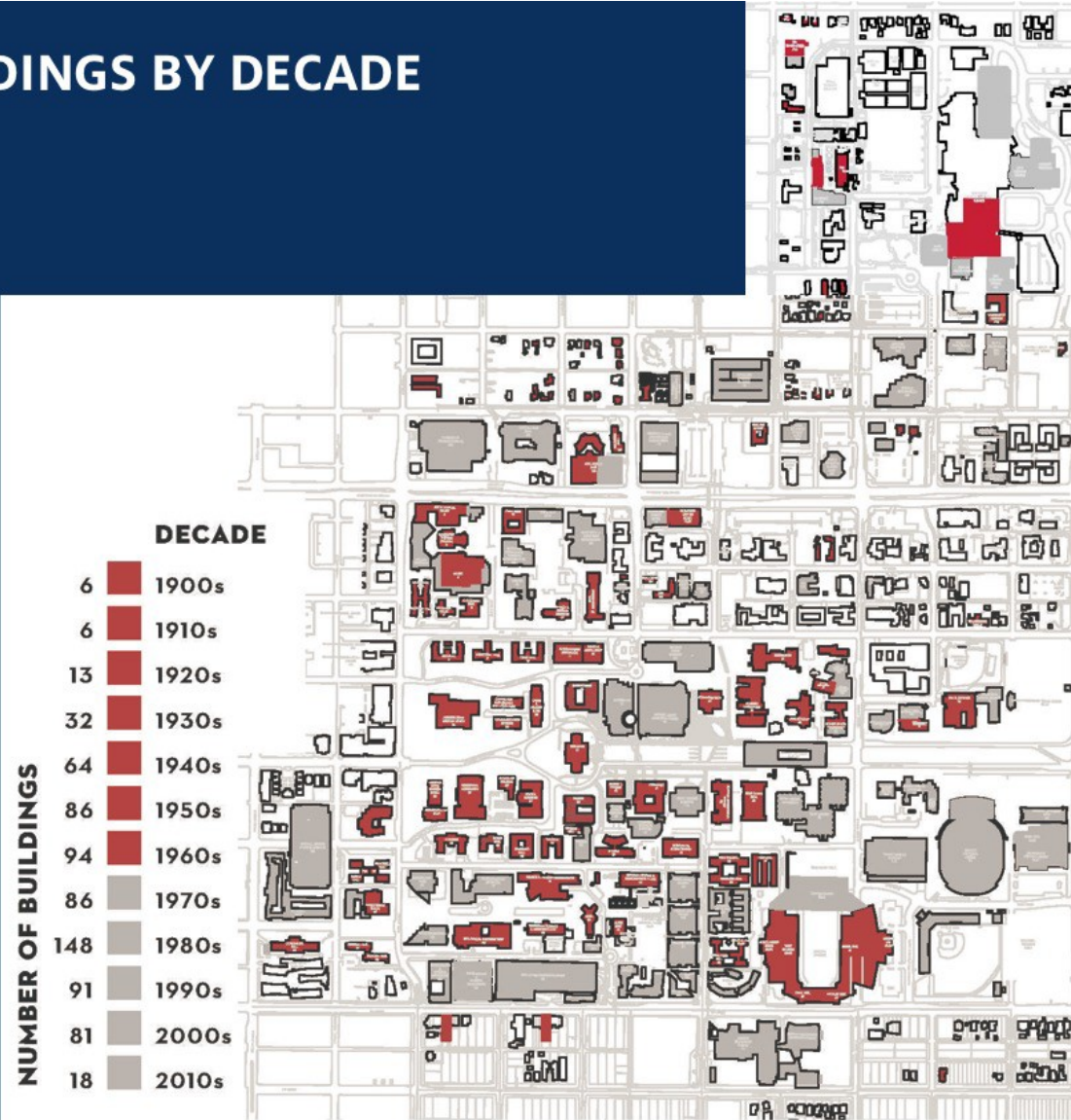


# RISK AND PRODUCTIVITY IN THE ABSENCE OF DEFERRED MAINTENANCE





# CAMPUS BUILDINGS BY DECADE



# FACILITY CODE INDEX MAP – JULY 2016

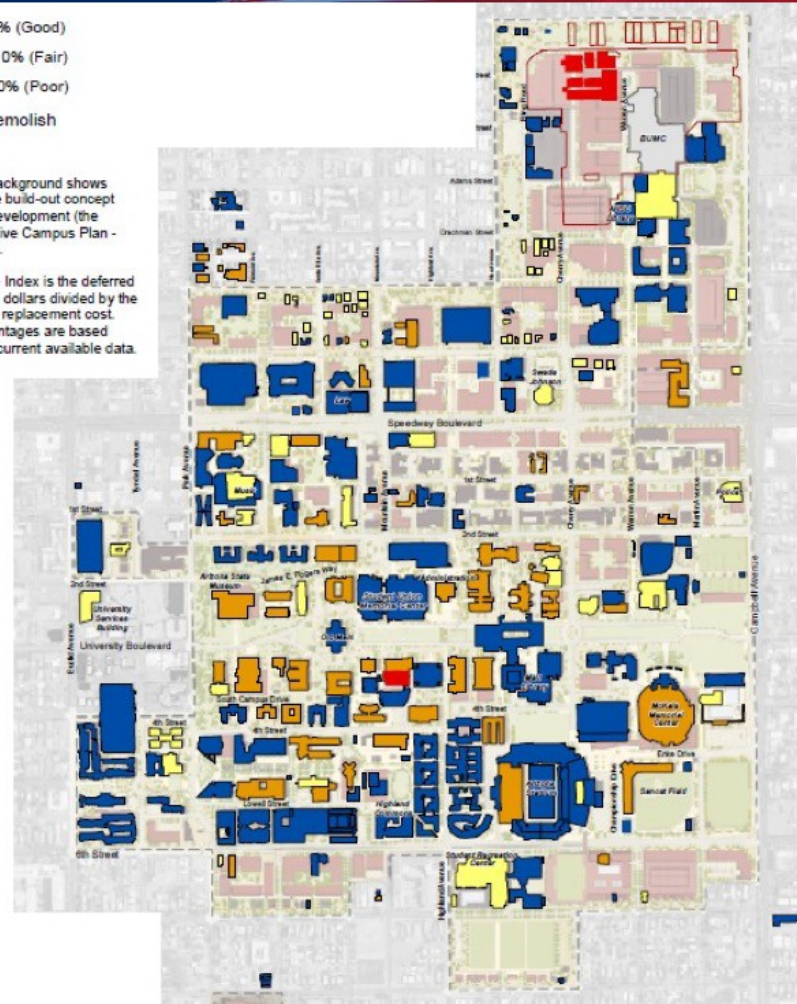


## FACILITY CODE INDEX

-  <5% (Good)
-  5-10% (Fair)
-  >10% (Poor)
-  Demolish

Note: Map background shows an illustrative build-out concept of campus development (the Comprehensive Campus Plan - ABOR 2009).

Facility Code Index is the deferred maintenance dollars divided by the total building replacement cost. These percentages are based on the most current available data.





# DISCUSSION

# RELENTLESSLY FUTURE-FOCUSED

**MELISSA VITO EdD**

Senior Vice President for Student Affairs & Enrollment Management  
and Senior Vice Provost for Academic Initiatives & Student Success





## RELENTLESSLY FUTURE-FOCUSED

- **Redefined “engaged learning”**  
to distinguish a UA degree as the new standard of educational excellence for students, faculty, and employers
- **Precision data and analytics**  
that maximize student success and potential
- **Educational liberty**  
for every deserving student who seeks a UA degree
- **A profound reinvention**  
of the “traditional” campus

# REIMAGINING ENGAGEMENT



- The new national model
- Complete redefinition of “engagement”
  - Innovation driver in learning and teaching
- Embedding corporate partners into the learning experience
- Idea to reality in three years



# REIMAGINING ENGAGEMENT



**#1**

**MOST ENGAGED  
UNIVERSITY IN ARIZONA**  
WALL STREET JOURNAL

**#6**

**MOST ENGAGED  
UNIVERSITY IN THE WEST**  
WALL STREET JOURNAL

**92%**

**EMPLOYERS WHO RATE UA  
GRADS WITH SKILLS NEEDED  
TO SUCCEED ON THE JOB**

**89%**

**EMPLOYERS WHO RATE  
QUALITY OF UA GRADS  
AS EXCEEDING PEERS**

**450+**

**ENGAGED LEARNING  
EXPERIENCES AVAILABLE**

**5000+**

**ENGAGED LEARNING  
TRANSCRIPT  
NOTATIONS AWARDED**

# SEAMLESS ACCESS





# SEAMLESS ACCESS TO A WORLD-CLASS EDUCATION



# SEAMLESS ACCESS TO A WORLD-CLASS EDUCATION



## FRESHMAN

- On track to meet 2025 goals
- A reimagined pipeline – the first in Arizona to:
  - Offer micro-scholarships to financially incentivize leadership and reward academic excellence
  - Embed **UA counselors** in local high schools to remove barriers to access
  - Develop a suite of gap experiences leveraging local and international opportunities

# SEAMLESS ACCESS TO A WORLD-CLASS EDUCATION



+11%

UA

AZ

-20%

## TRANSFER

- On track to meet 2025 goals
- 370 statewide pathways, up from 33 since 2011-2012
  - Signed agreements with every AZ Community College
- Deep integration with UA Online

# SEAMLESS ACCESS TO A WORLD-CLASS EDUCATION



## ONLINE

- Ahead of 2025 goals
- World-class academic quality, research, and engagement
- Unique online models
  - UA Online General Education Academy
  - UA Online Science Academy, 2017
    - World-renowned lab sciences and STEM fields
- Broad corporate partnerships



# SEAMLESS ACCESS TO A WORLD-CLASS EDUCATION



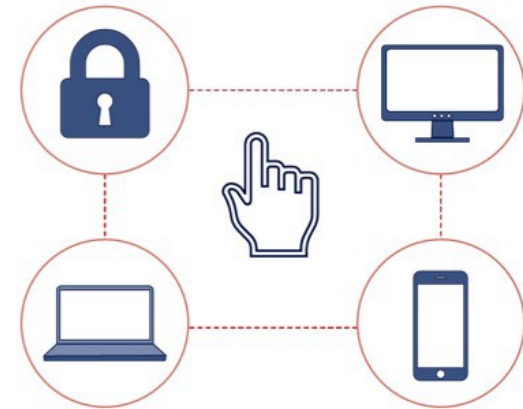
## DISTANCE/STATEWIDE

### UA SOUTH:

- First ever deep analysis of branch campus and surrounding community
  - Hispanic Serving Institution (HSI)
  - Bachelor of Applied Science
  - Harnessing market-driven opportunities
  - Unique regional partners
  - Cyber Operations program, launched 2016

### YUMA:

- Yuma strategic opportunities
  - 300+% growth by 2024



# SEAMLESS ACCESS TO A WORLD-CLASS EDUCATION



## DISTANCE/INTERNATIONAL

- **First-of-its-kind model**
- 20 micro-campuses by 2020
  - 3 agreements since May
  - In discussions with 50+ institutions
- New opportunities for student exchange, collaboration, and research
- Reorganization includes international student recruitment





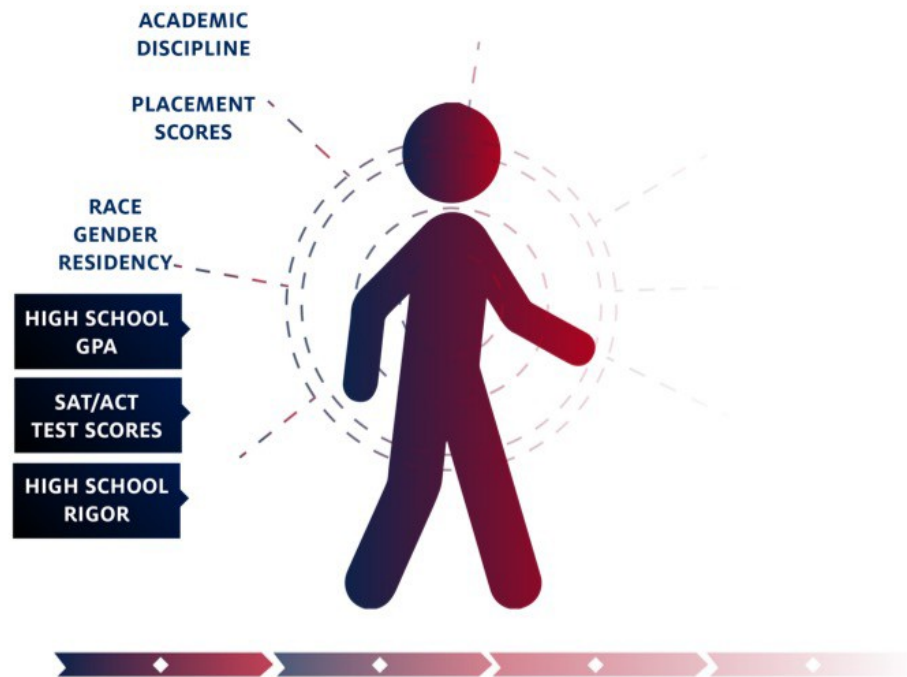
**THE STORY IN THE DATA**

# USING BIG DATA TO MAXIMIZE STUDENT SUCCESS





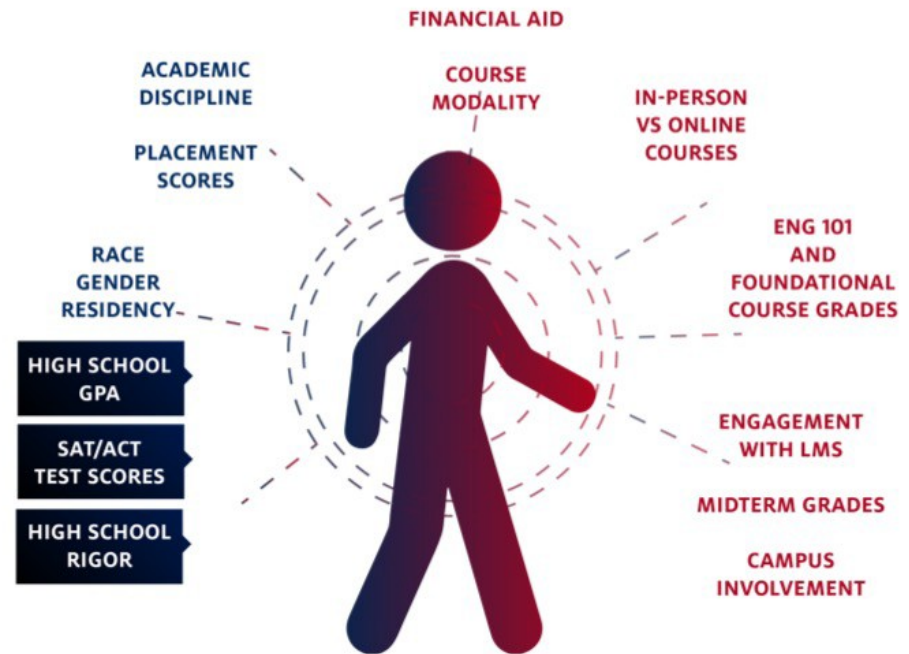
# USING BIG DATA TO MAXIMIZE STUDENT SUCCESS



# USING BIG DATA TO MAXIMIZE STUDENT SUCCESS



- **Living, breathing data**
  - Dynamic and developmental
- Finding new and unexpected predictors for student success
- **Real-time** retention and intervention programs



# FORWARD THINKING



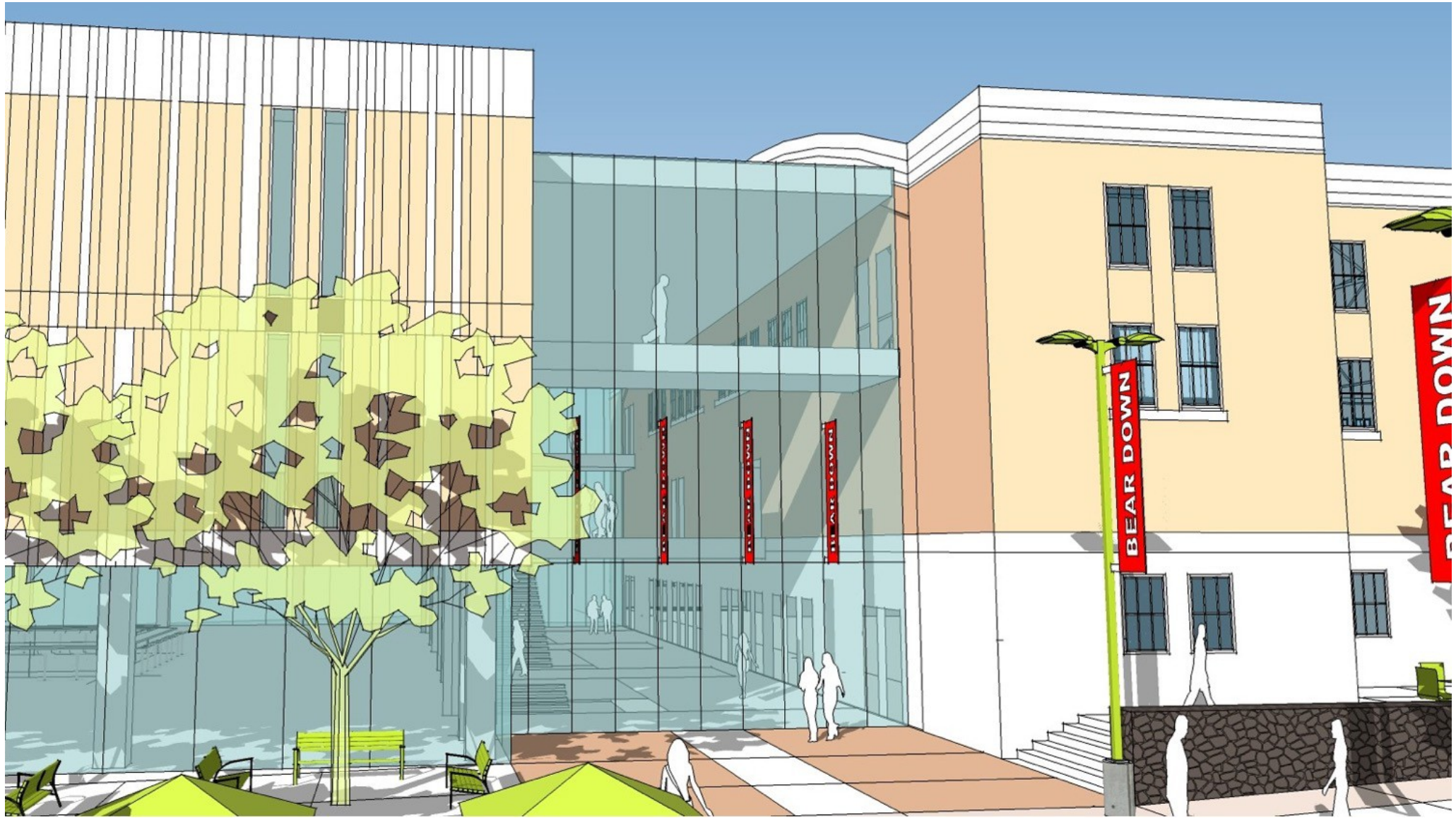
# FORWARD THINKING



- **Pushing data's limits** to inform retention strategies
- The District: red brick is the new building block of success
- Scanning the environment, focusing on the whole student









# SHAPING OUR ACADEMIC FUTURE

**ANDREW C. COMRIE PhD**  
Senior Vice President for Academic Affairs & Provost





# SHAPING OUR ACADEMIC FUTURE



## DEFINING THE NEXT 10+ YEARS

- A Distinctive Student Experience
- Faculty Innovation: Knowledge Frontiers
- Data-Informed Business Decision Models

# A DISTINCTIVE STUDENT EXPERIENCE



## RE-ENVISIONING HONORS TASK FORCE

- Look beyond solely academic achievement
- Creativity, collaboration, group problem-solving
- Students address service and creative engagement, technical challenges in industry, partnerships within communities
- A “maker” culture, with curricular innovation
- Highly effective environment for world-class teaching, learning, and career preparation



# A DISTINCTIVE STUDENT EXPERIENCE



- Developing a road map
  - Timeline
- Dean succession
- Financial plan & fundraising
- Building plan

## UA HONORS



# A DISTINCTIVE STUDENT EXPERIENCE



- Active learning instruction
  - Faculty Learning Communities
- Student learning initiatives
  - E.g., SAIL fellows
  - HLC quality model initiative
- Collaborative learning spaces
  - Classroom conversions
- CUES
  - A new Center for University Education Scholarship
  - \$3 million anonymous gift
- Support: AAU, NSF
- Recognition: ACUE, trade publications



# FACULTY INNOVATION: KNOWLEDGE FRONTIERS STRATEGIC CLUSTER HIRING INITIATIVE



## STRATEGIC OBJECTIVE:

**Lead in existing and emerging strengths that align with funding and scholarly opportunities**

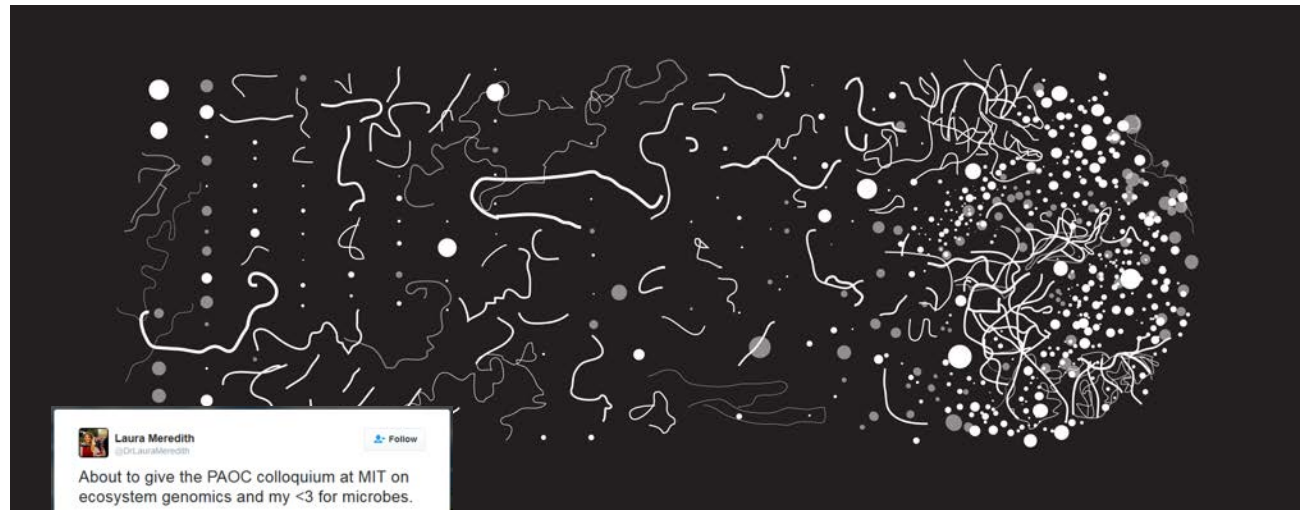
- **Seven clusters**
  - Technology Enhanced Language Learning
  - Computational Media
  - Space Situational Awareness
  - Earth Dynamics Observatory
  - Ecosystem Genomics
  - Imaging Excellence
  - Big Data
- **~30 new interdisciplinary hires**
- **Augment four Health Sciences focal areas:**
  - Precision Health, Population Health, Health Disparities, Neuroscience
- **TRIF investment to leverage ~20 additional hires**
  - Security, Health, Space/Optics, Water/Environment

# FACULTY INNOVATION: KNOWLEDGE FRONTIERS STRATEGIC CLUSTER HIRING INITIATIVE



## LAURA MEREDITH

- Ecosystem Genomics cluster
- Soil scientist, recruited from Stanford
- How soil microbes influence the atmosphere we breathe and survive in



**Laura Meredith** (@DLauraMeredith) [Follow](#)

About to give the PAOC colloquium at MIT on ecosystem genomics and my <3 for microbes.

**Microbe-mediated trace gas fluxes**  
linking ecosystem genomics to  
atmospheric composition

Laura Meredith  
University of Arizona

RETWEETS 3 LIKES 8

8:08 AM · 31 Oct 2016



# FACULTY INNOVATION: KNOWLEDGE FRONTIERS STRATEGIC CLUSTER HIRING INITIATIVE



## JOSEPH FARBROOK

- Computational Media cluster
- Digital Artist, recruited from Worcester Polytechnic Institute
- Invented a completely new art medium, lineographs on electronic ink screens
- Screen emits no light and is entirely reflective, mimicking the aesthetic of an ink drawing, except with movement

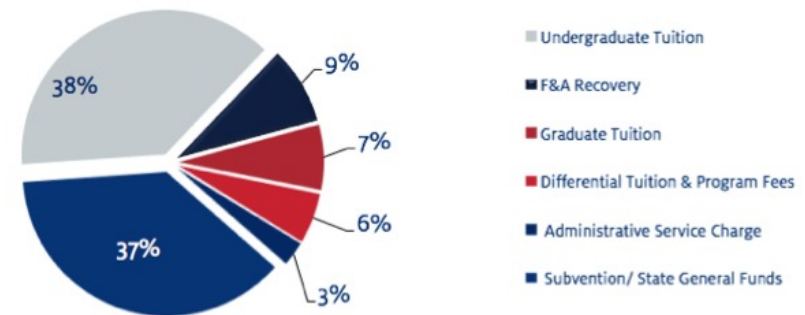




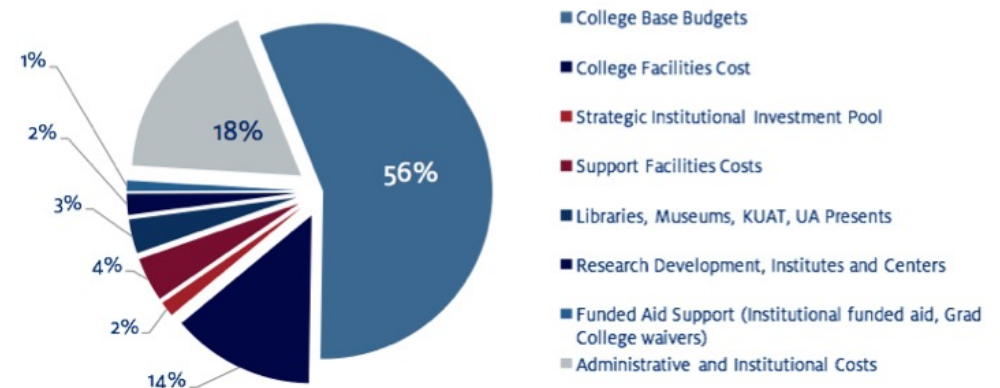
## Responsibility Centered Management (RCM)

- Fundamental restructuring of entire budget
- Manage effectively and efficiently through a “market-based” business model
- Directly tied to performance and cost containment
- Incentivizes entrepreneurship

### RCM REVENUES



### RCM COST ALLOCATIONS







### RCM POSITIVE MACRO INDICATORS:

- Increased college reserves for long-range investment
- Enabled a raise program for faculty and staff
- Has driven entrepreneurial new degree programs through strategic investments

### Philanthropy for Academic Achievement

- Double college fundraising in 5-8 years
- Complete reorganization of reporting structures
- Emphasis on coordinated goals, metrics, and key performance indicators
- Specific initiatives
  - E.g., Eminent scholars endowment matching program

# CREATING TOMORROW'S INNOVATIONS TODAY

**KIMBERLY ANDREWS ESPY PhD**  
Senior Vice President for Research



# CREATING TOMORROW'S INNOVATIONS TODAY



**“Built-to-last” foundational infrastructure** that speeds discovery, knowledge, and application

**Visionary, signature research** that tackles the world’s grand challenges

**Seamless innovation partnerships** that drive benefit to the economy in Arizona and beyond



# BUILT-TO-LAST FOUNDATIONAL INFRASTRUCTURE



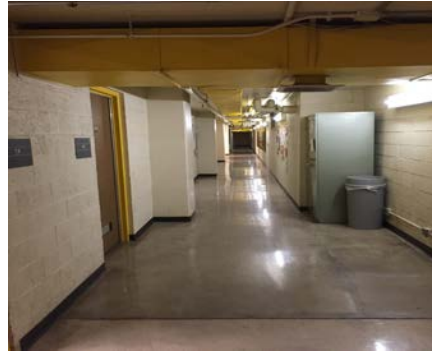
- UA has 75% of the research space of our peer mean
- Significant investments in new buildings
- Substantial need for modernized research space
- Strong ROI of Research Infrastructure I



# BUILT-TO-LAST FOUNDATIONAL INFRASTRUCTURE



- \$13M investment in large-scale instrumentation
- Coalesced existing distributed capacities into core facilities
- Deliver upgraded, professional services with sustainable business model
- Hubs for interdisciplinary collaboration & industry engagement



# BUILT-TO-LAST FOUNDATIONAL INFRASTRUCTURE



## Reorganization to Enable Big Ideas:

- Research Development Services
- Tech Launch Arizona
- Clinical Research Services
- Strategic Business Initiatives
- Arts, Culture and Heritage
- Innovation
- Interdisciplinary Philanthropy
- Global Research Alliances

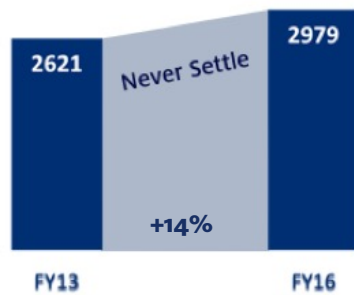


*“Imbuing culture of entrepreneurial research development for all funding sources”*

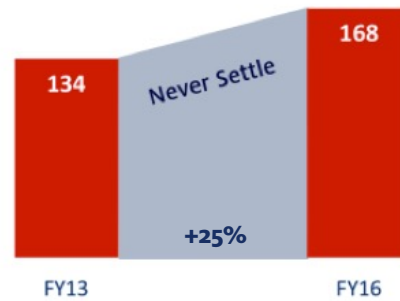
# RESULTS



## NUMBER OF R&D PROPOSALS

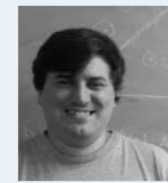


## NUMBER OF CROSS COLLEGE R&D AWARDS

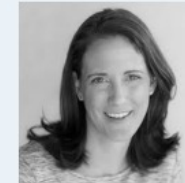


**MORE FACULTY WINNING  
EXTERNALLY FUNDED  
AWARDS**

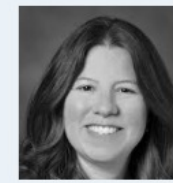
## DISTINGUISHED EARLY CAREER AWARDEES



Energy



NIH



NSF



NIH



NSF



NIH



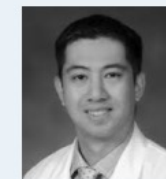
NSF



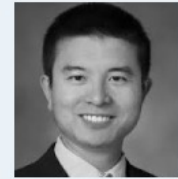
Air Force



NIH



Energy



Navy



**UA student,  
Lujendra Ojha,  
discovered  
water on Mars**

**VISIONARY SIGNATURE RESEARCH**



# VISIONARY SIGNATURE RESEARCH



## Institutes and Centers

- Arizona Institute for Energy Solutions
  - Biosphere 2
  - Center for Applied Genetics & Genomic Medicine
  - Center for Disparities in Diabetes, Obesity & Metabolism
  - Center for Population Science & Discovery
  - D7: Data Science Institute @ Arizona
  - Evelyn F. McKnight Brain Institute
  - Institute of the Environment
  - Transportation Research Institute
- Arizona Institute for Clinical & Translational Science
  - Bio5
  - Center for Biomedical Informatics & Biostatistics
  - Center for Elimination of Border Health Disparities
  - Center for Innovations in Brain Science
  - Confluence Center for Creative Inquiry
  - Defense and Security Research Institute
  - Institute for LGBT Studies
  - Udall Center for Studies in Public Policy
  - Water and Energy Sustainable Technology Center
  - UA Cancer Center

***“...tackling big R&D questions, delivering better answers”***

# VISIONARY SIGNATURE RESEARCH



\$7M NIH grant awarded to the UA College of Medicine -Tucson



Internationally renowned AFRL space lead joins UA to launch Space-Defense Initiative



UA study of devastating lung disorders in the critically ill receives \$11.4M boost



UA Cancer Center retains prestigious NCI Comprehensive Status with \$17.6M award



UA gets \$10.3M grant for Alzheimer's Disease research on women



UA, Banner Health receive \$43M historic funding for landmark Precision Medicine Initiative Cohort Program



Smithsonian Institute/ Harvard NASA Goddard researcher joins UA's LPL



Princeton researcher, NSF awardee joins UA Geosciences



Noted Atmospheric researcher brings extensive grant portfolio to UA



U-Minnesota expert on remote sensing joins UA Earth Dynamics Observatory team

# VISIONARY SIGNATURE RESEARCH



## **Precision Medicine award drives genomics, informatics research strengths into clinical treatment**

- UA-Banner Partnership
- Integrates essential health data, biological specimens with “Big Data” methods
- Industry and provider network partners
- Personalized treatments based on each patient’s individual needs
  - based on disease characteristics, genetics, lifestyle, and environment

**“Creating next-generation medical care”**

AWARDED

**\$43M / 5 YEARS**

Largest NIH peer-reviewed grant in Arizona history



**Banner  
University Medicine**



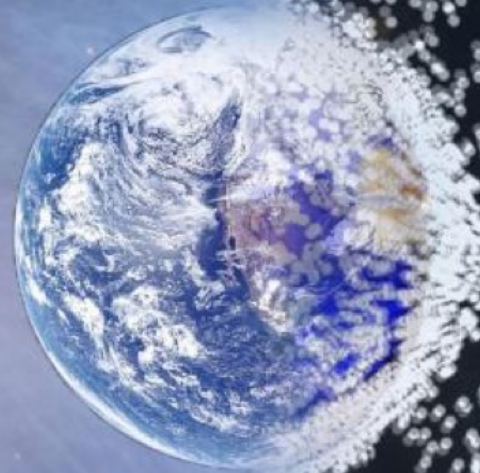
VISIONARY SIGNATURE RESEARCH



MATERIALS



CYBER



SPACE OBJECT  
BEHAVIOR

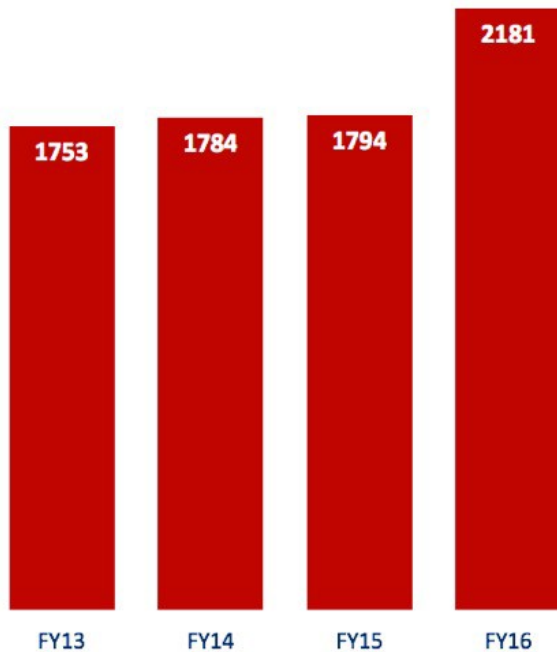
The University of Arizona's **Defense and Security Research Institute** is delivering mutually beneficial partnerships between the University of Arizona, industry, and the government, and is providing unique solutions to complex defense and security problems by leveraging the University's research excellence.

# RESULTS

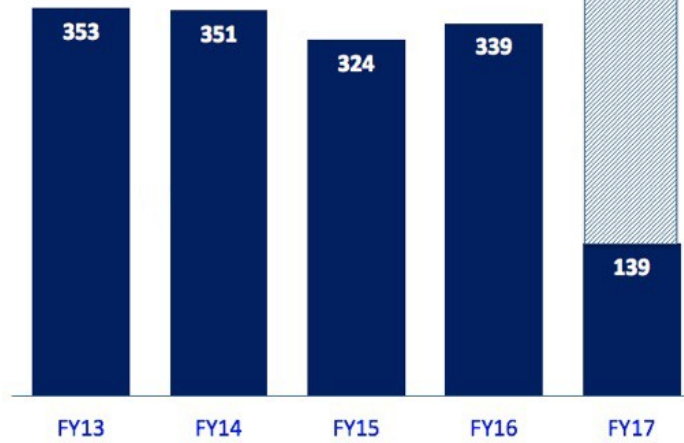


## *Research future looks bright*

NUMBER OF R&D AWARDS



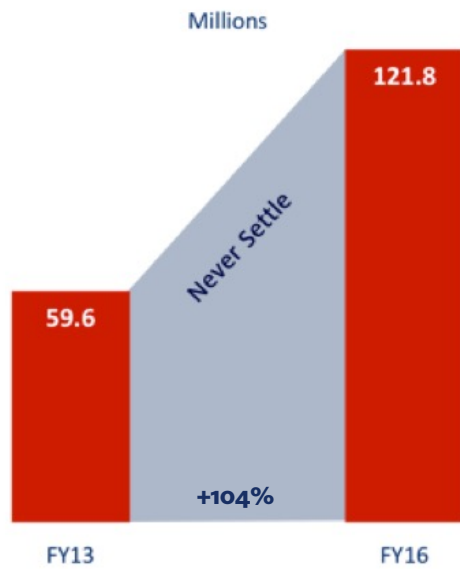
R&D AWARDS (\$ in Millions)



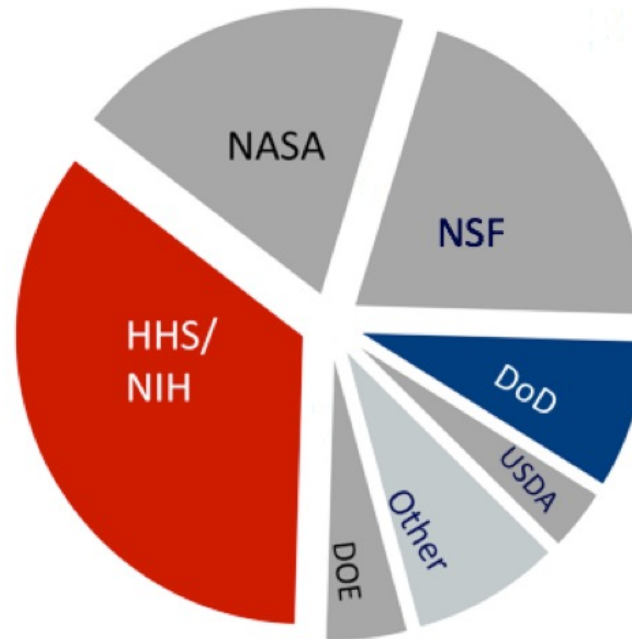
# RESULTS



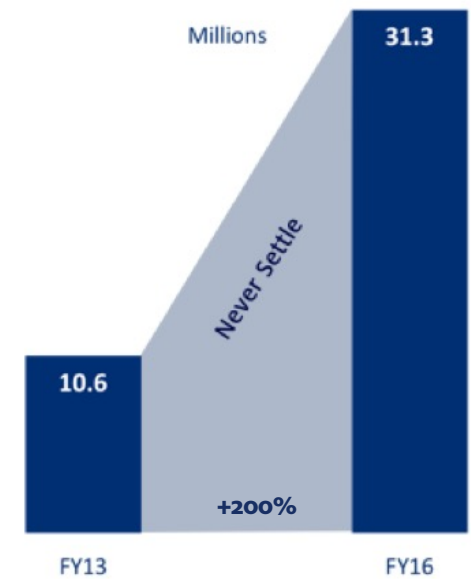
### NEW NIH R&D TOTAL AWARDS




### BREAKDOWN OF R&D ACTIVITY BY FEDERAL AGENCY SPONSOR



### NEW DOD R&D TOTAL AWARDS



A young man with dark hair is looking intently at a large, dark, rectangular panel. He is wearing a black t-shirt and a grey wristband. The panel is mounted on a complex mechanical setup that includes a large lens or camera-like component on the right side. The background is slightly blurred, showing other people in a lab or workshop setting.

**UA student  
working on a  
holographic  
display project  
for Honeywell.**

**SEAMLESS INNOVATION PARTNERSHIPS**

# SEAMLESS INNOVATION PARTNERSHIPS



*“Revolutionizing internet communication by using light to move information faster”*

## AIM PHOTONICS

National Network Manufacturing Initiative

- UA leads science team
- \$600M+ in federal, industry, and state funding to advance US leadership in integrated circuits
- Training students for industry careers





# SEAMLESS INNOVATION PARTNERSHIPS



## **Innovation @ UArizona:**

“Innovation and Economic Prosperity University” designation by APLU

NSF-Funded I-Corps Site

US News “Most Innovative Schools”

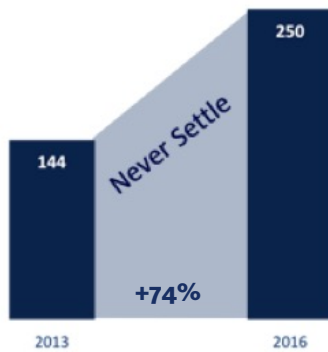
Reuters 100: World’s Most Innovative Universities

***“Preparing students for their futures”***

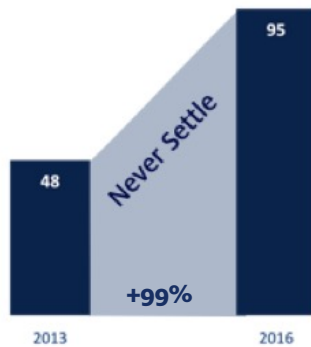
# RESULTS



## INVENTION DISCLOSURES

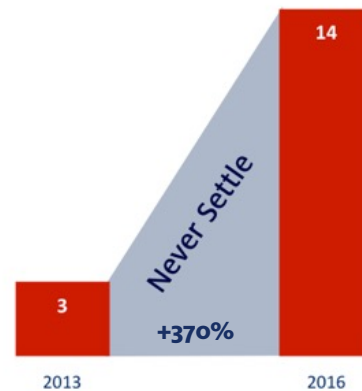


## LICENSES & OPTIONS



## Tech Launch Arizona Exceeded ABOR Research Commercialization Targets

## STARTUP COMPANIES



# GROUNDBREAKING DISCOVERIES. COLLABORATIVE SPIRIT. REAL-WORLD IMPACT.

The University of Arizona's ecosystem of innovation is moving today's groundbreaking discoveries into tomorrow's solutions.



Discovery  
Research

Development

Application

Translation

Proof of  
Concept

Market

Impact



# DISCUSSION



The background features a sunburst pattern with alternating red and blue rays emanating from the bottom right. A bright sun is visible in the upper left quadrant, and white clouds are scattered across the blue sky.

THANK YOU

President ANN WEAVER HART  
November 2016

