



National Association of College Cost Accountants

**Leading Excellence in Research
Costing Practices**

Depreciation
components
challenges/allocations
/best practices

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Mariana Traetta – HCA

Denise Dellinger – U Arizona

**General Conference
October 30-November 1, 2024**

Speakers

- **Denise Dellinger** – University of Arizona
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- **Greg Sheahan** – HCA Asset Management
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Agenda

U Arizona

- Preparation for base year
- Current state and institutional challenges
- Planning and recommendations

Building

- Analysis of new construction
- Opportunities to optimize component
- Componentization Studies
- Research and Building Materials

Equipment

- Review of existing business processes
- Preliminary data analysis
- Allocations and data clean-up

Space

- Considerations space inventory process
- Considerations space survey process
- Institutional considerations in preparation for base year

A Taste of Tucson





What to expect when you are expecting

- FY2026 is UA's next base year
- Planning phase
 - Changes in leadership
 - Culture changes
 - Budget woes
 - Hiring freeze/Compensation freeze
 - Travel restrictions
 - Delays in capital projects
 - Procurement restrictions

What we know

- New leadership
- Culture changes
- Budget challenges
- Decentralization of departments
- Space changes (i.e. new buildings, expired leases, WFH or hybrid employees, retirements, etc.)

Have a plan!

- Know your space and who is in it
- Know what buildings are being built and when they will be occupied
- Do you have Green Buildings? They are great for the environment but not great for optimizing F&A
- Where 'o where are our assets?



T H I S I S
ARIZONA

F&A Considerations - Buildings



F&A Considerations - Buildings

Building Depreciation

- Significant portion of the university's F&A rate, typically as second biggest facilities component
- Keep an eye for **major construction projects** since last proposal
- For new buildings, know:
- **Activity – Research intensive?**
 - Know which departments are moving into new space and what will happen to space vacated
 - PIs with established research portfolio vs. new faculty
- **Funding – How will building be funded?**
 - Bond issuance? Any fed funding?
- **Dates – When will building be substantially complete and occupied?**

F&A Considerations - Buildings

Componentization Studies

- Building Componentization studies analyze the work done during capital construction projects, classifies this work into categories, and assigns useful lives to each category/component.
- Typically done for **research-intensive** facilities
 - Shorter and more accurate useful lives given type of facility
 - Criteria for building selection must be consistent to prevent ‘cherry-picking’
- **Fixed equipment costs** – depreciation can be allocated to the space functional percentage at the room level



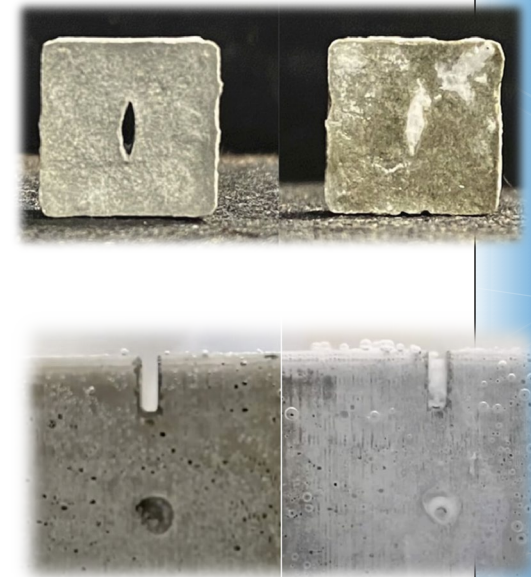
Research & Building Materials

- The ancient Romans were masters of engineering, constructing vast networks of roads, aqueducts, ports, and massive buildings, many remains have survived for over 2000 years
 - Researchers from MIT and Harvard traveled to Rome to attempt to figure out this riddle: Why was Roman Concrete so Durable?
 - The Pantheon in Rome, with the world's largest unreinforced concrete dome, dates back to A.D. 128 and is still intact.
 - They discovered that the exothermic reaction produced by using quicklime (lime in its more reactive hot mix form) used by the Romans was responsible for the super durable nature.



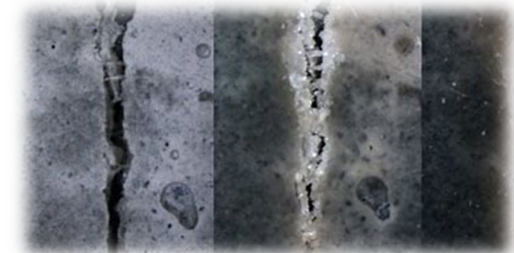
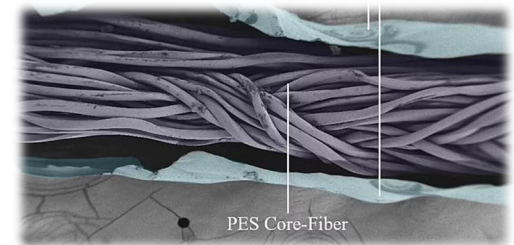
Research & Building Materials

- 1/6/2023 To prove that this was indeed the mechanism responsible for the durability of the Roman concrete, the team produced samples of hot-mixed concrete that incorporated both ancient and modern formulations, deliberately cracked them, and then ran water through the cracks.
- Sure enough: Within two weeks the cracks had completely healed, and the water could no longer flow. An identical chunk of concrete made **without** quicklime never healed, and the water just kept flowing through the sample. As a result of these successful tests, the team is working to commercialize this modified cement.



Research & Building Materials

- 12/29/2023 A team from Drexel University has published their research into a self-healing system for concrete. The team, operating in the University's College of Engineering, embedded bacteria in their concrete system that, when activated by water, can repair cracks in the concrete.
- The team was inspired by the ability of human skin tissue to self-heal, and the ability of vascular systems to help organisms heal their own wounds. The team identified a strain of *Lysinibacillus sphaericus* bacteria as a bio-healing agent for the fiber, which is found in soil and can produce a stone-like material capable of healing exposed cracks in concrete.



Research & Building Materials

- Named 'BioFiber Concrete', a grid of biofibers embedded in a concrete structure can improve the system's durability, prevent cracks from growing, and enable self-healing, according to the research published in the journal Construction and Building Materials.
- Imagine the implications of expanded service life of concrete as America rebuilds its infrastructure systems.



F&A Considerations - Equipment



F&A Considerations - Equipment

- Equipment Component – Property Control
 - **Review Physical Inventory Process**
 - UG requirement to conduct physical inventory every 2 years
 - Other compliance requirements (e.g. state statutes, sponsor-owned, etc.)
 - Should be done before base year in case new baseline is needed
 - Timely additions and tag application
 - **How is physical inventory being conducted at your institution?**
 1. Centralized – by central department
 2. Outsourced – by external party
 3. Decentralized – by departments, self-certification



F&A Considerations - Equipment

- Equipment Component – Property Control
 - **Inventory Process** – spreadsheet, inventory system?
 - **Tag Type** – None, RFID, barcode?
 - Increased adoption of **RFID technology** due to reduced costs
 - Fewer disruptions to operations
 - Increased efficiencies by an average of 30-40%
 - No line of sight necessary for scans
 - Passive technology – no interference with other equipment
 - Do you have **personnel resources** to conduct physical inventory?
 - Administrative staff at central and departmental levels working remotely



F&A Considerations - Equipment

- Equipment Component – Retirements
 - **Review Disposition Process**
 - Disposition process:
 - Form? Electronic or paper?
 - Validation against current records?
 - **Proper approvals** within institution
 - Process for **PI transfers** in/out
 - Clearly communicate disposition requirements to departments
 - Accurate and **timely updates** to asset system
 - Periodically review expiring awards to ensure equipment disposition is handled properly



F&A Considerations - Equipment

- Equipment Component – Processes
- **Make it easy for departments to communicate dispositions, transfers, donations to central office**
- Communicate and educate:
 - Simplify policies and procedures
 - Clarify roles and responsibilities
 - Automate approvals and updates as much as possible
 - Develop culture of accountability
- **Have a robust asset system**
- **Keep the data clean**

F&A Considerations - Equipment

- Equipment Component – Analysis
 - **Preliminary Institutional Analysis**
 - Review if there are any **audit findings** related to equipment
 - Single audit, financial audits, state audits, etc.
 - Review last F&A proposal or mock rate components for potential **growth opportunities**
 - Perform internal physical **audit samples**
 - Focus on research intensive departments

Assets Accounted For

99%

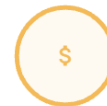
✓ 10253 / 10366 Total



Net Book Value Located

100%

✓ \$67,045,457.61 / \$67,287,724.02 Total



Acquisition Cost Located

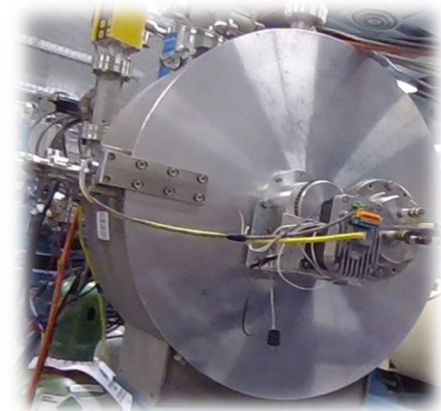
99%

✓ \$252,388,099.06 / \$254,783,485.28 Total



F&A Considerations - Equipment

- Equipment Component – Analysis
 - **Preliminary Data Analysis**
 - Review asset **last verification date**
 - Review **common inconsistencies**:
 - Account/expense codes
 - Bulk purchases
 - Fabricated items
 - Upgrades to existing assets and partial payments
 - Construction and renovation projects
 - Review asset acquisition details to ensure **funding sources** can be easily identified and flagged
 - Federal, sponsored-owned, government-furnished, etc.
 - Review assignment of asset title



F&A Considerations - Equipment

- Equipment Component – Analysis
- **Allocate as much of equipment to the room level as possible**
 - Allocations by Department and Building not as beneficial to OR Rate
 - **F&A depreciation recovery on equipment using % of research by room predicated on institutions ability to demonstrate accurate accountability/location of assets**
 - Review space survey functionalization results in conjunction with rooms with high depreciation dollars

F&A Considerations - Equipment

- Equipment Component – Analysis
 - **Data Clean-up**
 - Review **location** information at the room level
 - Validate building and room against space records
 - Review **custodian people** responsible for asset
 - Fix inconsistencies and ideally validate against employee table
 - Pls that may have left institution, deceased, etc.
 - Review **custodian departments** responsible for asset
 - Fix inconsistencies between cost centers
 - Internal asset transfers
 - Confirm that **proper exclusions** are in place
 - Federal funds, matching, service centers



F&A Considerations - Equipment

- Equipment Component – Analysis
 - **Change in threshold to \$10K**
 - Importance of discussing across departments
 - Financial Reporting, Property Accounting & Costing need to talk
 - Proposal submission or rate extension?
 - Impact statement may be needed
 - Diminished burden by decreasing number of assets to track, but also analyze impact on indirect cost rate to determine best timing to switch
 - Potential decrease in depreciation and increase in expenses
 - Coordinate with property control to comply with any requirements regarding “sensitive” or “controlled” items

F&A Considerations - Space



F&A Considerations - Space

- Space Inventory Process
 - Importance of space inventory data **BEFORE** survey starts.
 - Ideally should be updated throughout the year.
 - Consistent **room numbers** across university systems:
 - Physical Signage/Plaque
 - Floor plans
 - Space Records
 - Asset Management Records
 - Accurate **room type/HEGIS/FICM** designations
 - Research intensive room types
 - Alternative Space Methodology



F&A Considerations - Space

- Space Inventory Process
 - Accurate assignment of **space users**:
 - Pls – or primary space occupant
 - Departments
 - Movement, lost/gained space
 - Accurate assignment of **occupants**:
 - Faculty, staff, paid and unpaid, visiting faculty, etc.
 - Will need occupant payroll with corresponding functions for space survey
 - Measurement of **assignable square footage**, if necessary



F&A Considerations - Space

- Space Survey Process
 - **Determination of the threshold**
 - Dollars and research room types
 - Based on threshold, identify departments that will participate



Things to consider:

- No cherry picking
- Data elements by department, for on-campus
OR: salaries, MTDC, research labs, research lab service.

F&A Considerations - Space

- Space Survey Process
 - **Space System**
 - Home grown, external?
 - **Departmental space coordinators**
 - Training, identify any new coordinators who may need more hand-holding
- **Extract data from various systems**
 - Financial – COA, Departments, function, recharge
 - HR/Pay – Employee ID, name, title, dollars and funding source (sponsored and non-sponsored), FTE
 - Space management – Bldg., room number, room type, department, assignable square footage

F&A Considerations - Space

- Space Survey Process
 - **Good space data = functionalization support**
 - Importance of reviewing functionalization results collected against payroll dollars for occupants in space
 - Ensure sponsored activity is supported by sponsored accounts
 - Match space & base

Questions?

Thank you!