APPA Institute for Facilities Management

Project Costs & Investments

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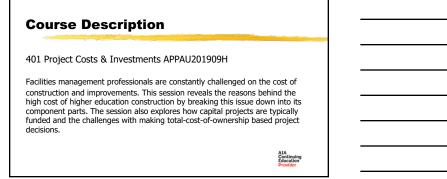
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Learn the reasons for higher education construction costs

Learn how capital projects are funded

Learn the challenges with total cost-of-ownership based projects

Discuss the challenges of construction and improvements

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Why does it cost so much?

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High Compared to What?

Frame of reference

Comparisons Are Not Valid

- Residential Designed and built for light traffic and medium life, high importance placed on <u>aesthetics</u>
- Commercial Designed and built for medium traffic and short life, high importance placed on <u>function</u>
- **Institutional** Designed and built for heavy traffic and long life, high importance placed on <u>aesthetics and function</u>

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Bottom Line

Costs for campus projects rank among the highest in the market \ldots

...and would we want it any other way?

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Total-Cost-of-Ownership

These higher costs are by and large a reflection of sound total-cost-of-ownership decisions

Total-Cost-of-Ownership (TCO) = Total Project Cost + Operating Costs + Capital Renewal + Decommissioning

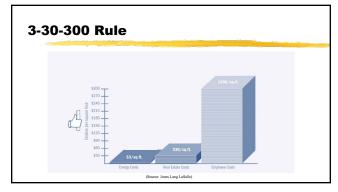
Cost vs. Investment

Higher capital <u>investments</u> can lower the total-cost-ofownership

Many incremental investments we make in a capital projects yield attractive savings and higher values

Therefore, a higher project <u>investment</u> may be in the best financial interest of the institution

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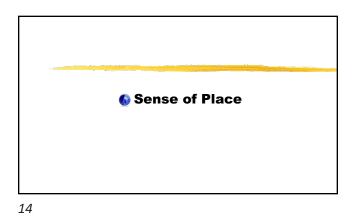
Question?

How do you get these many marbles into this jar without increasing the size of the jar, reducing the number of marbles, or breaking the marbles?









Institutional Vision

Our institutions choose to build above the baseline

The physical environment creates the visual and tangible image of our institutions

In short, the facilities we construct reflect the vision and aspirations of the institution

Marketing

Institutions are competing for national and international recognition

Noel-Levitz, Carnegie Foundation and Washington State University studies have cited the impact the physical environment has on prospective students

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Marketing

"As students increasingly select colleges based on what they can see, colleges will spend more money on that which can be seen."

"Rigor in the classroom and intellect in the faculty cannot easily be seen – certainly not as easily as a fitness center or a three-story granite fireplace."

> Excerpted from: "Forget the Classrooms: How Big Is the Atrium in the New Student Center? The Chronicle of Higher Education: July 11, 2003

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Architectural Character

Building designs make statements

With exteriors and interiors

Quality is in the Details

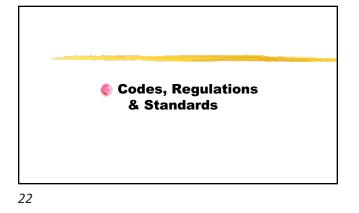
Prominent entrances Hidden downspouts Buried utilities Screened trash receptacles Discrete service access Public Art Site amenities Intensive & extensive landscape

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Preservation of Land

Importance of green space Optimizing building footprints There is a cost of building upward





Gathering Places

Large assemblies drive our facilities into a higher level of life safety design

Code requires rated corridors, stair towers, fireproofing, fire alarm systems, sprinklers and smoke evacuation systems

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Legislative Mandates

Federal, state and local regulations add cost burdens to our facilities

- Asbestos abatement
- Hazardous waste removal
- Storm water runoff
- Air quality control
- Dust, noise & vibration controls

Universal Design

Universities facilities must not only be compliant with ADA but are increasingly expected to go well beyond to universal design principles.

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HVAC Standards

Labs are intensive energy consumers

Classroom and assemblies are also intensive

Ventilation requirements drive up the size and cost of mechanical systems

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@ Complexity

Complex Facilities

Sophisticated research facilities

High occupancy and specialized venues

Intensive technological environments

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Complex Mechanical Systems

Designed for extreme conditions Hottest and coldest temperatures Humidity extremes Strictest controls Highest occupancy Sensing and metering Fault Detection & Diagnostics

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Structural Loading

Heavy floor loadings Column-free spans

Mixed Use Facilities

Combine classrooms, laboratories, meeting rooms and offices under one roof

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Institutional & Statutory Requirements

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Statutory Requirements

Procurement Statutes Prevailing Wages Project Labor Agreements MBE/DBE/TSB Programs Insurance Bonding

Institutional Constraints

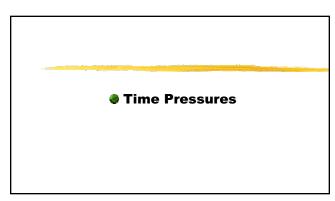
"Protected environment" of the campus Minimize campus disruptions Restricted building sites Limited access and staging space Restricted construction traffic Complex phasing schemes

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Additional Requirements

Noise restrictions Fencing and protection No Parking No Smoking Litter-free, weed-free work site Full time supervision Elevated safety expectations

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Time Constraints

Immovable completion date and compressed construction windows

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Maintainability, Reliability, Longevity & Sustainability

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Stewardship

Designing for low life cycle cost requires higher initial investments: Energy efficiency Maintainability Long life Adaptability

Adaptability

Increased floor to ceiling heights lower future renovation costs

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Durability

Campus facilities subjected to frequent cycles of use

Durability important component of doors, hardware, carpeting, restrooms, furniture, etc.

Much of our deferred renewal backlog is due to short-sighted life cycle decisions

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Reliability

Reliable electrical and mechanical systems are essential to our institutional missions

Higher cost for providing emergency power, redundancy, generators, UPS systems, and centralized utility systems

Sustainability

Higher education embraces sustainable design Renewable-sourced building products Managed construction waste Porous pavements Green roofs Gray water systems Solar Panels Other

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Technology

Active learning classrooms

Sensors, Fault Detection and smart building systems

Access & Security

Increasing demands for safety

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Inclusiveness

Diversity, equity and inclusion



Renovations

Often modifying existing conditions is more expensive than starting new

We find this to be true with ADA compliance

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Renovations

Buildings built in previous generations may not have the infrastructure for today's renovations

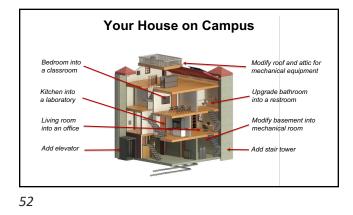
Investments in renovations must often be made to correct the "sins of the past"

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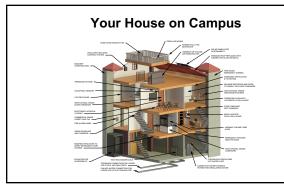
Renovations

Renovations magnify the perception of high cost because they often fall in the realm of personal expenditures...thus heightening the "sticker shock" experience

Inevitably, comparing institutional renovation costs to residential housing investments...









In Summary...

- Stewardship demands a long-term view of project investment decisions
- Investments are made with total-cost-of-ownership as an aligning principle
- Value and excellence is in the details thousands of cost additive details
- Construction costs mirror institutional values, demands and aspirations

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