

# Project Costs & Investments

Sadie Greiner, P.E., Chief of Staff for Facilities  
Florida State University  
Sgreiner@fsu.edu

**APPA** | ADVISORS



Why does it cost so much?

# High Compared to What?

Frame of reference



# High Compared to What?

Compared to residential construction



# High Compared to What?

Compared to commercial construction



# Comparisons Are Not Valid

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

# Bottom Line

Costs for campus projects rank among the highest in the market...

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

# 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 (D+C+F) + Operating Costs + Capital Renewal +  
Decommissioning



# Cost vs. Investment

Higher capital investments can lower the total-cost-of-ownership

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

Therefore, a higher project investment may be in the best financial interest of the institution

# 3-30-300 Rule



(Source: Jones Lang LaSalle)

# 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?*



# Why the High Cost?

-  Sense of Place
-  Codes, Regulations & Standards
-  Complexity
-  Institutional and Statutory Requirements
-  Time Pressures
-  Maintainability, Reliability, Longevity & Sustainability
-  Technology, Security & Inclusion



# Sense of Place

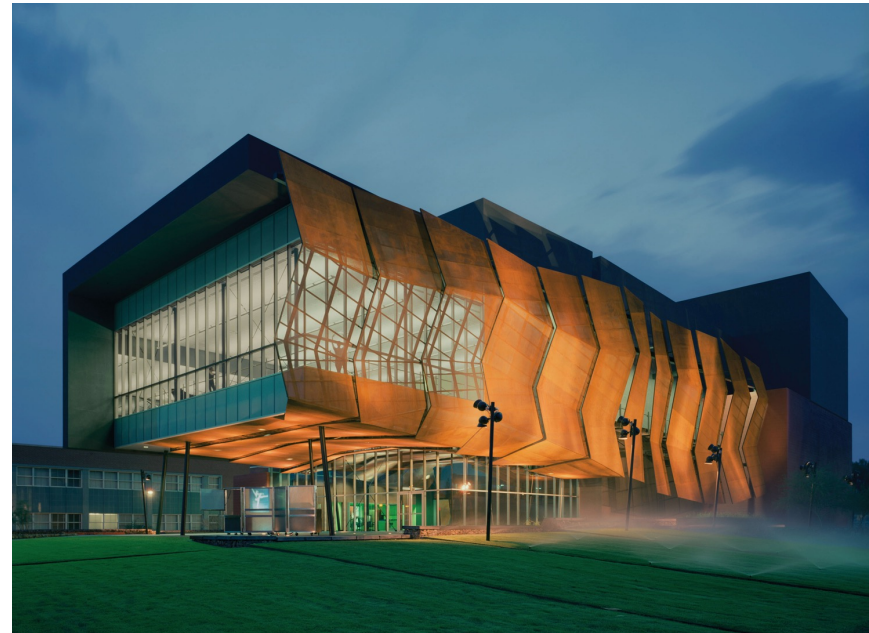
# Institutional Vision

Our institutions choose to build above the baseline



# Institutional Vision

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



# Institutional Vision

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





# Image Comes at a Price

Institutions are competing for national and international recognition



\$ X million, 152,000 gsf  
(\$184/gsf)



\$ 3X million, 149,000 gsf  
(\$476/gsf)

# Marketing

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



# Marketing

*Which would you choose to send your family to?*



# Marketing

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



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

# Marketing

*“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

# Architectural Character

Building designs make statements



# Architectural Character

Building designs make statements



# Architectural Character

With exteriors





# Architectural Character

And interiors



# Quality is in the Details



# Quality is in the Details

## Prominent entrances



**Commercial Entrance**



**Institutional Entrance**

# Quality is in the Details

## Hidden downspouts



# Quality is in the Details

## Buried utilities



# Quality is in the Details

## Screened trash receptacles



**Commercial: None or Chain Link**



**Institutional: Masonry**

# Quality is in the Details

## Discrete service access



# Quality is in the Details

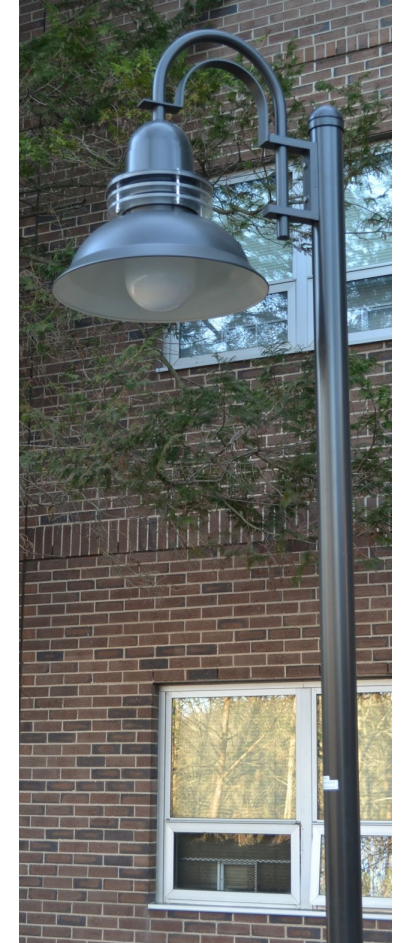
## Public art





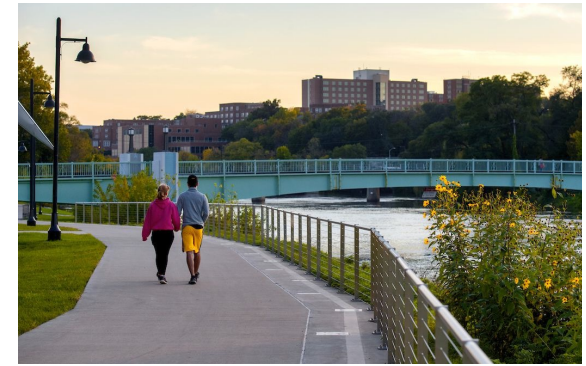
# Quality is in the Details

## Site amenities



# High Compared to What?

## Intensive & extensive landscape

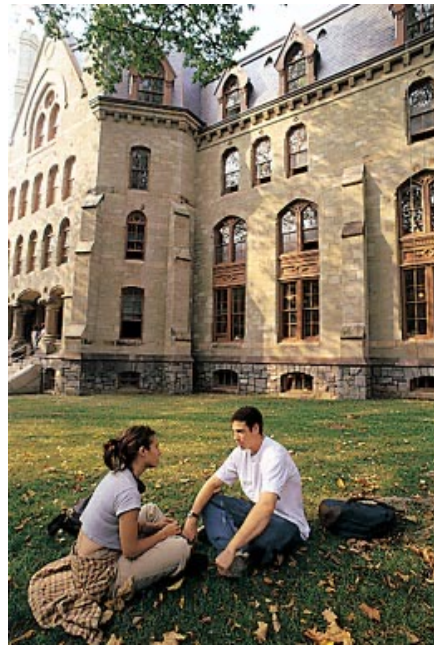


# Preservation of Land



# Preservation of Land

## Importance of green space



# Preservation of Land

## Optimizing building footprints



# Preservation of Land

There is a cost of building upward



# Quality Comes at a Price

We are not just building structures...  
...we are creating a “sense of place”





# Codes, Regulations & Standards



# Gathering Places

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



# Gathering Places

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



# 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



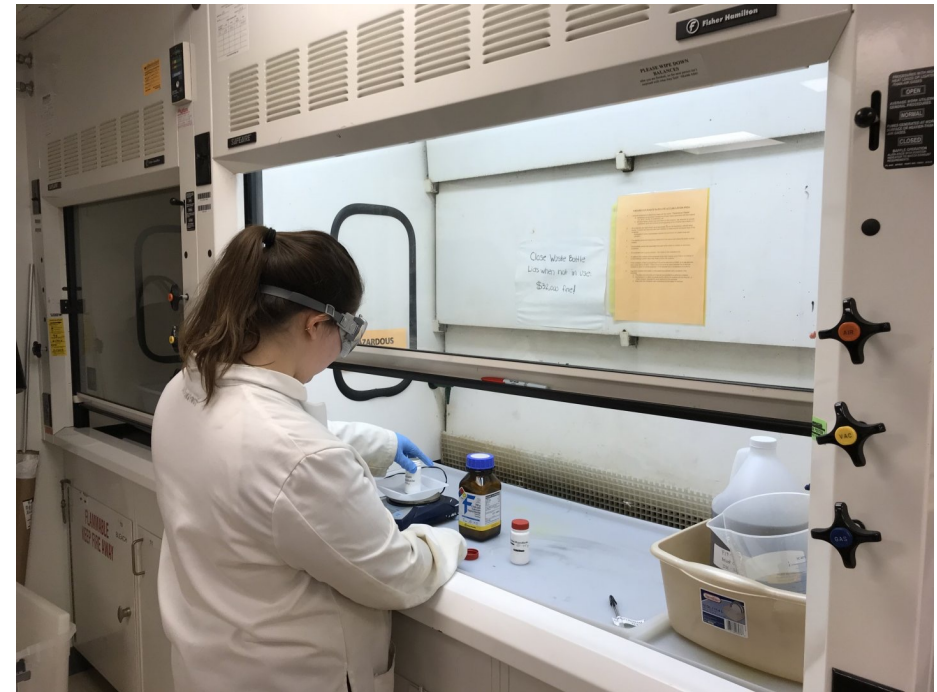
# Universal Design

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



# HVAC Standards

Labs are intensive energy consumers



# HVAC Standards

Classroom and assemblies are also intensive



# HVAC Standards

Ventilation requirements drive up the size and cost of mechanical systems







# Complexity

# Complex Facilities

Sophisticated research facilities



# Complex Facilities

High occupancy and specialized venues



# Complex Facilities

## Intensive technological environments



# Complex Mechanical Systems

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



# Structural Loading

## Heavy floor loadings



# Structural Loading

## Column-free spans



# Mixed Use Facilities

Combine classrooms, assembly space, laboratories, meeting rooms and offices all under one roof







# Institutional & Statutory Requirements

# Statutory Requirements

Procurement statutes

Prevailing wages

Project labor agreements

MBE/DBE/TSB programs

Insurance

Bonding



# Institutional Constraints

“Protected environment” of the campus



# Institutional Constraints

Minimize campus disruptions



# Challenging Logistics

## Restricted building sites

**Commercial Site**



**Campus Site**



# Challenging Logistics

Limited access and staging space



# Challenging Logistics

Restricted construction traffic



# Challenging Logistics

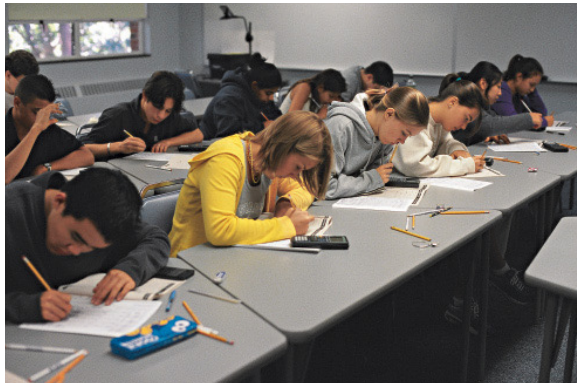
## Complex phasing schemes





# Additional Requirements

## Noise restrictions



# Additional Requirements

Noise restrictions

Fencing and protection



# Additional Requirements

Noise restrictions

Fencing and protection

No Parking

No Smoking

Litter-free, weed-free work site

Full time supervision

Elevated safety expectations

Misc. project administration requirements





# Time Pressures

# Time Constraints

Immovable completion date and compressed construction windows





Maintainability, Reliability, Longevity & Sustainability

# Stewardship

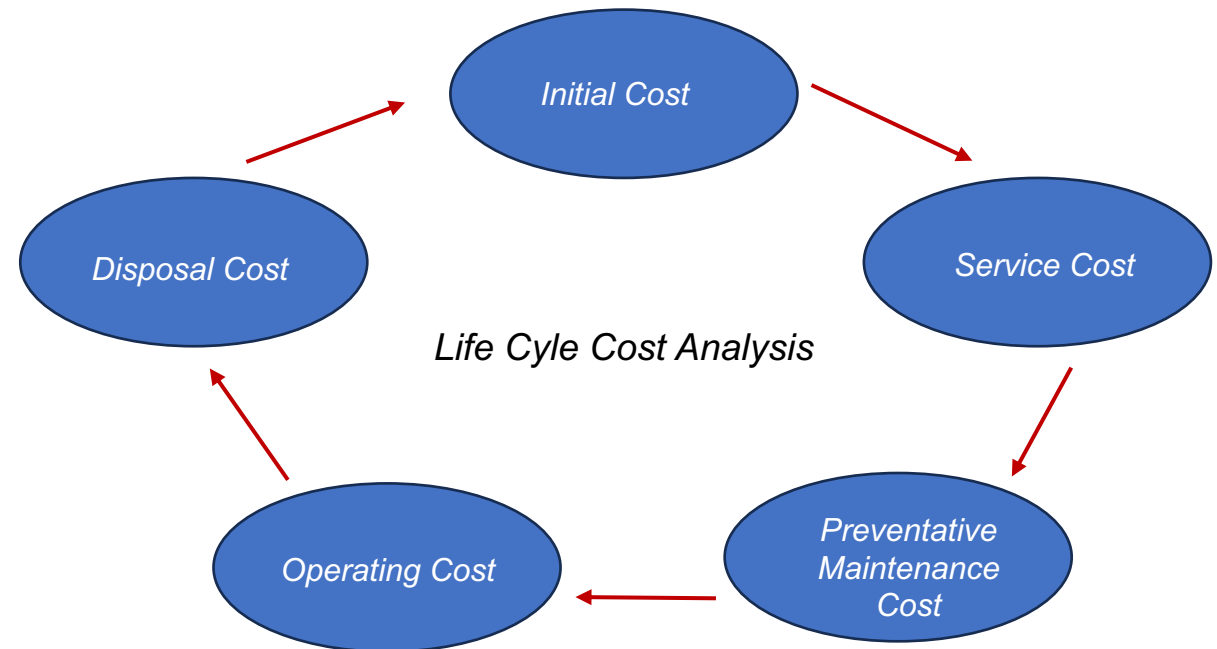
Designing for low life cycle cost requires higher initial investments:

Energy efficiency

Maintainability

Long life

Adaptability



# Adaptability

Increased floor to ceiling heights lower future renovation costs





# Durability

Campus facilities subjected to frequent cycles of use



# Durability

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



# Durability

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



# Reliability

Reliable electrical and mechanical systems are essential to our institutional missions



# Reliability

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





# **Technology, Security & Inclusion**

# Technology

## Active learning classrooms







# Technology

## Audio Visual



# Access & Security

Increasing demands for safety



# Inclusiveness

## Diversity, equity and inclusion



What About Renovations?

# Renovations

Often modifying existing conditions is more expensive than starting new

We find this to be true with ADA compliance



# Renovations

Often modifying existing conditions is more expensive than starting new



# Renovations

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





# Renovations

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



# Renovations

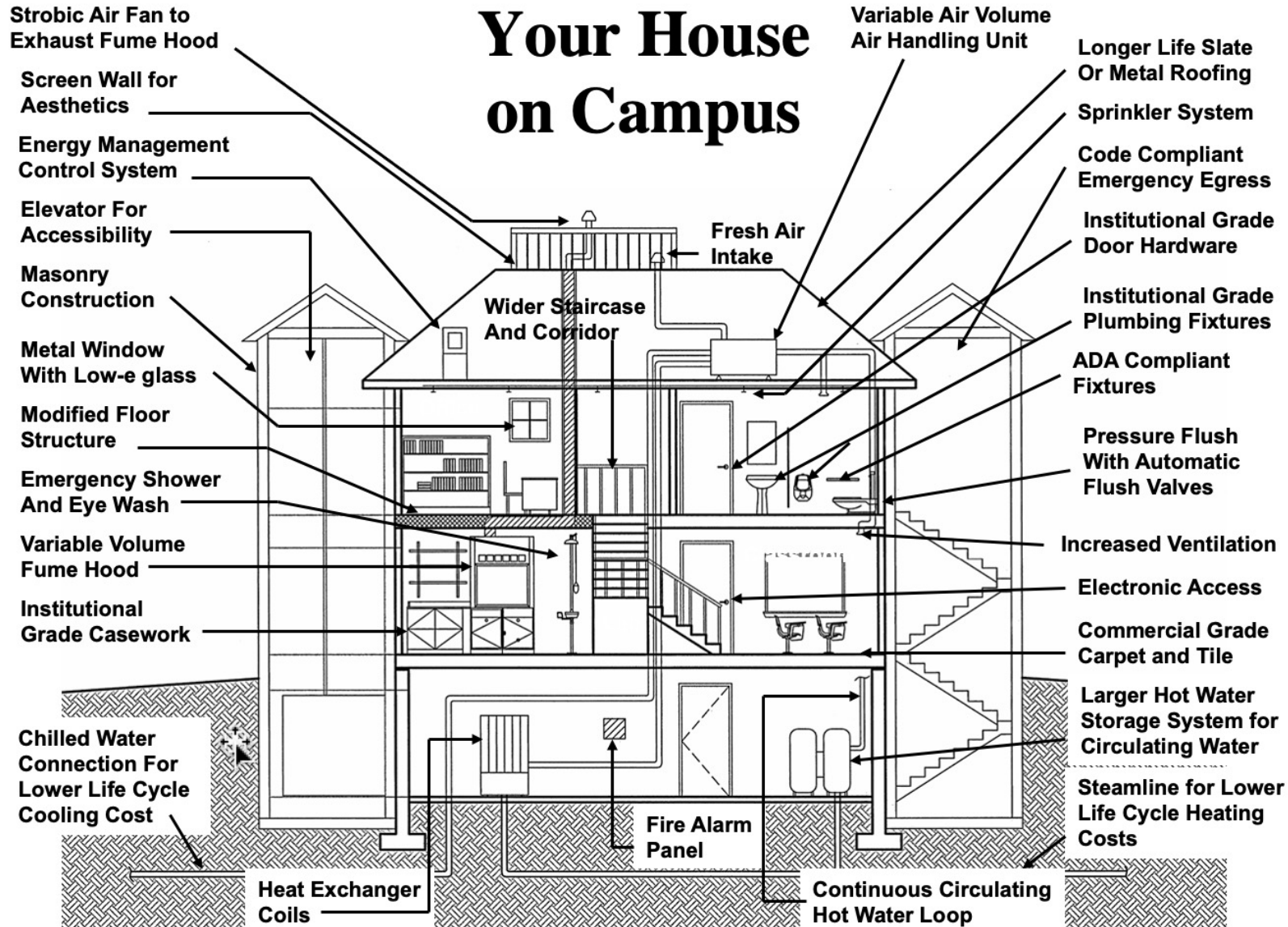
Renovations magnify the perception of high cost because they often fall in the realm of personal expenditures...thus heightening the “sticker shock” experience

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



**“For a quarter-million dollars, I can buy a pretty nice three- or four-bedroom home with a gourmet kitchen** in one of Columbia’s nicer neighborhoods. That makes me curious as to what the school board is getting for the \$346,000 renovation of a culinary arts classroom. Isn’t that just a kitchen?”








# Your house on campus



# Why the High Cost?



# Why the High Cost?

-  Sense of Place
-  Codes, Regulations & Standards
-  Complexity
-  Institutional and Statutory Requirements
-  Time Pressures
-  Maintainability, Reliability, Longevity & Sustainability
-  Technology, Security & Inclusion

# In Summary...

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

## Evaluation Time



This concludes The American Institute of  
Architects Continuing Education  
Systems Course