

CAPITAL RENEWAL CASE STUDY

The University of Texas at Austin

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Course Description

Capital Renewal and Deferred Maintenance have long been a challenge for facilities professionals. The risk to the organization is greater than the organization may believe. It is imperative an organization understand the risks associated with Capital Renewal and Deferred Maintenance. This presentation focuses on solutions for facilities professionals and owners. Using case studies and real-life examples, the facilities professional will leave with the tools needed to communicate the risk, establish the needs, and communicate an action plan.



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Learning Objectives

- Understand Capital Renewal
- Understand how Capital Renewal applies to higher education
- Understand how you can apply Capital Renewal techniques to your campus today

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Introduction Ana Thiemer

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 **Emphasize Risks**

 **Solutions**
Other Universities
UT Austin

AGENDA

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**Deferred Maintenance
Deferred Capital Renewal**

Challenges

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**Deferred Maintenance
Deferred Capital Renewal**

Approaches

**Radical
University of Virginia**

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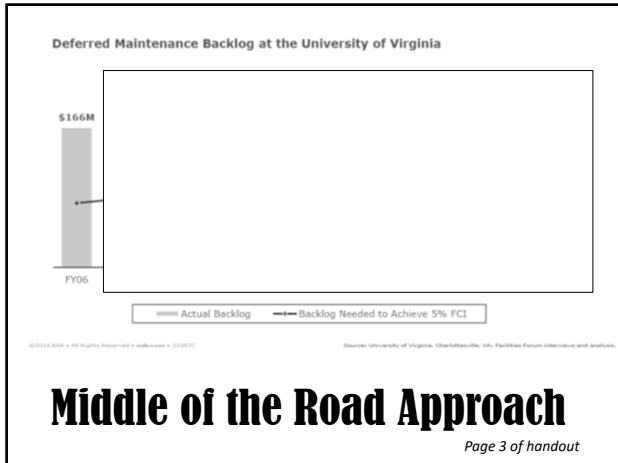
University of Virginia

Founded in 1819

12 SCHOOLS **21.9k** STUDENTS **12k** FACULTY AND STAFF

**125 buildings
10M sq ft** Page 3 of handout

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A ten-year strategy to improve its E&G facilities from "poor" condition to "good" condition by reducing the facility condition index (FCI) from 10.6% in 2004 to 5% by 2015.

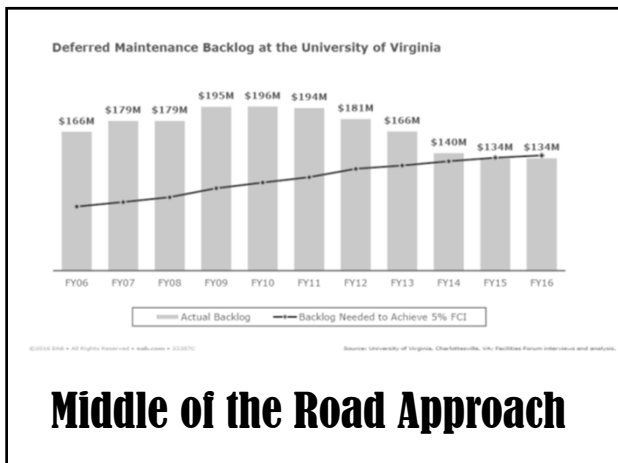
DOUBLED FUNDING IN 2008
from an average of ~\$3M since 1982 to \$7M in 2008

Established annual maintenance funding to prevent further accumulation of DM by increasing the current 1.2% reinvestment rate to a 2% annual reinvestment rate.

INCREASED FUNDING ANNUALLY
from an average of 1.2% to 1.86% in 2014
also budget 2 percent of construction costs to maintain each new building brought online

University of Virginia Middle of the Road Approach

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2004	2015
\$166M DM 10.6% CCI	\$134M DM 5% CCI

University of Virginia
Middle of the Road Approach

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By the numbers:

2004	2015
\$166M DM	\$134M DM
\$1.7B CRV	\$2.7B CRV
10.6% CCI	5% CCI

University of Virginia
Middle of the Road Approach

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Deferred Maintenance Backlog at the University of Virginia

Fiscal Year	Actual Backlog (\$M)	Backlog Needed to Achieve 5% FCI (\$M)
FY06	\$166M	
FY07	\$179M	
FY08	\$179M	
FY09	\$195M	
FY10	\$196M	
FY11	\$194M	
FY12	\$181M	
FY13	\$166M	
FY14	\$140M	
FY15	\$134M	
FY16	\$134M	

Middle of the Road Approach

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What accounts for their success?

What do we know?

What can we assume?

Middle of the Road Approach

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How do you get your DM/DCR?

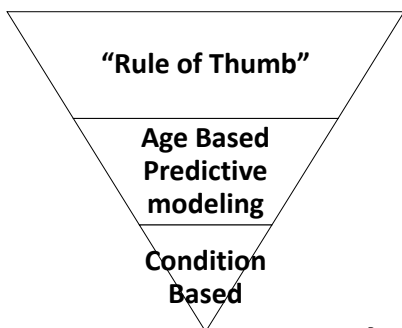
Solution

How do you get your CRV?

Krz #gr# rx#qrz # kdw#
wr #shqg#r#q#lwB#uruk}hB

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Assessing Capital Renewal Needs



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Developing an Effective Facilities Management Program

Trust and Credibility

- Well defined planning process
- Transparency
- Technically sound data and analysis

Stewardship/Sustainability

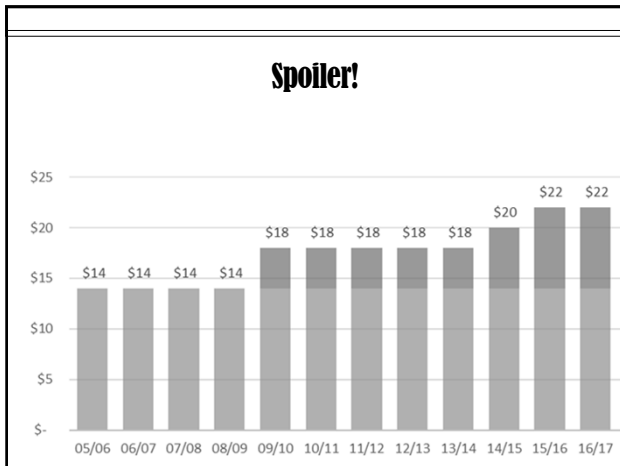
- Maintaining a critical resource
- Make effective use of funding
- Managing risk

Communication Strategy

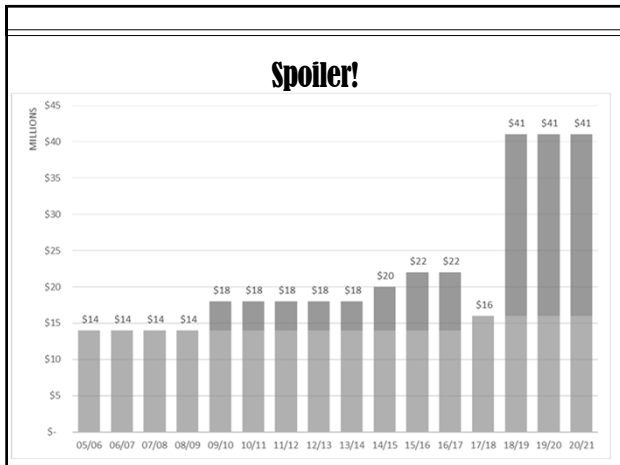
- Identify key stakeholders
- Develop appropriate communication & information

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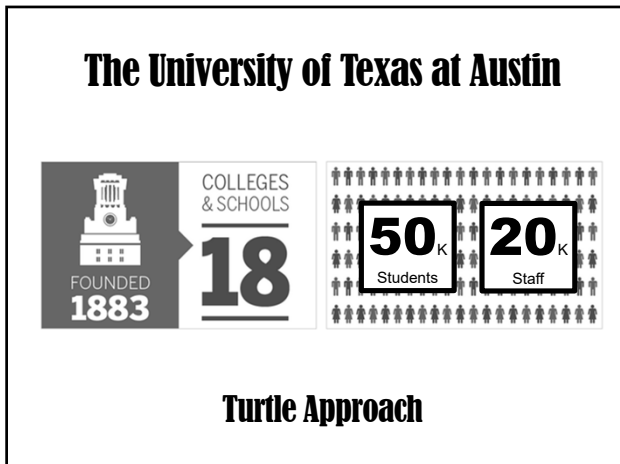
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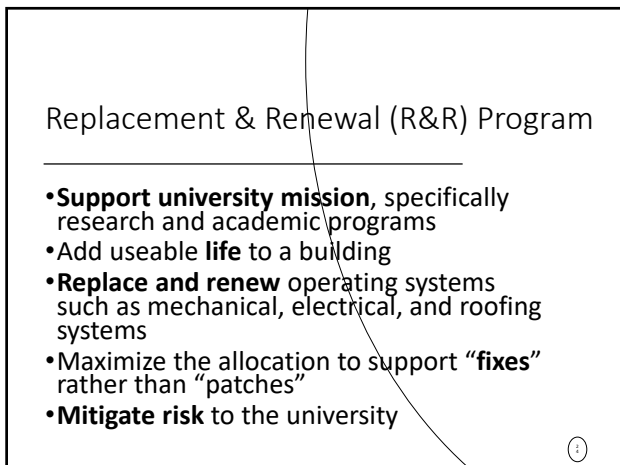
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R&R for Projects between \$5,000 - \$10 million

R&R Only for E&G Facilities

R&R Only for Systems Necessary for Building Operation

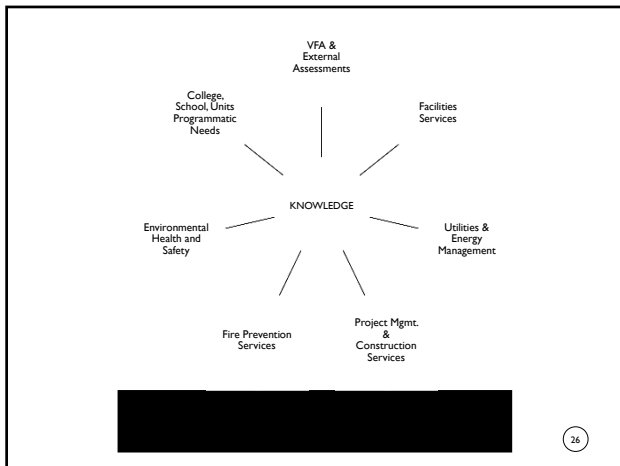
R&R Renews or Adds Life to a System

R&R Renews Infrastructure

R&R Not for Regular Maintenance

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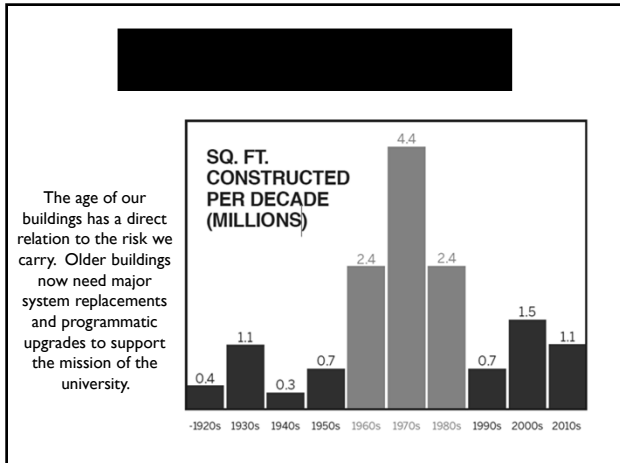
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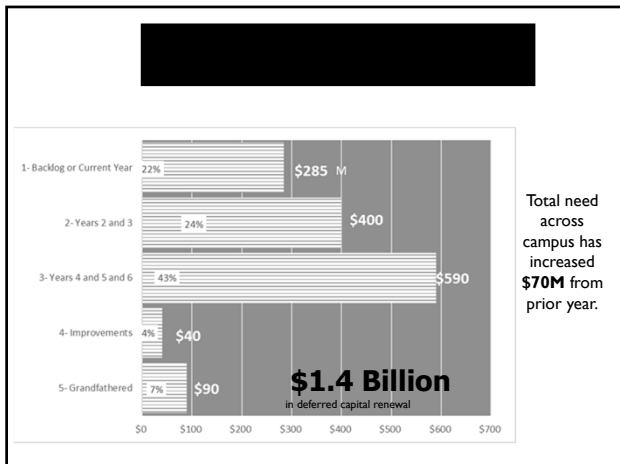
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CURRENT CONDITIONS

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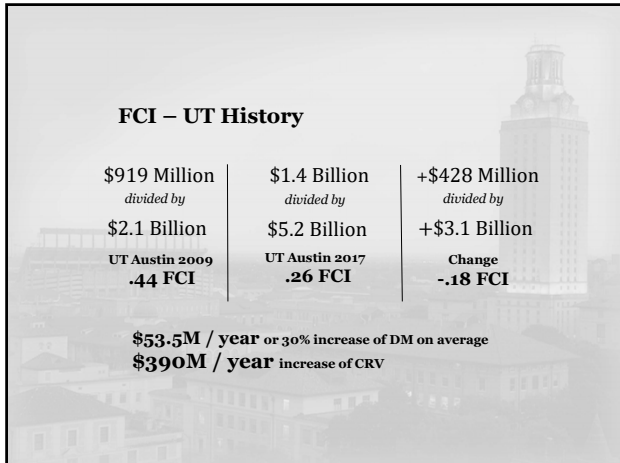
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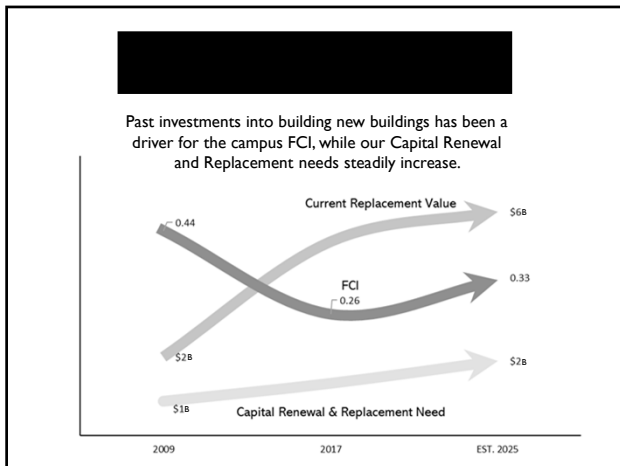
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$$\frac{\$1.4 \text{ Billion}}{\$5.2 \text{ Billion}} = \mathbf{FCI = 0.26}$$
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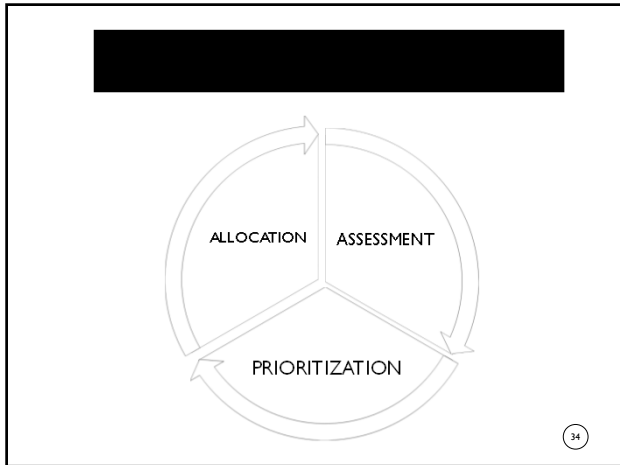
WAL★MART®

ALWAYS LOW PRICES.

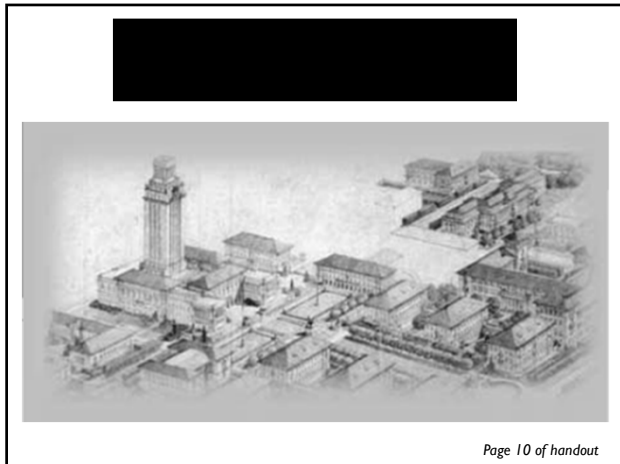
Always.

How can DATA help?


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A – Recently Replaced or Renewed	CI .00 to .15
B – Moderate R&R Allocation	CI .16 to .40
C – Heavy R&R Allocation	CI .41 to .60
D – Capital Project	CI > .61

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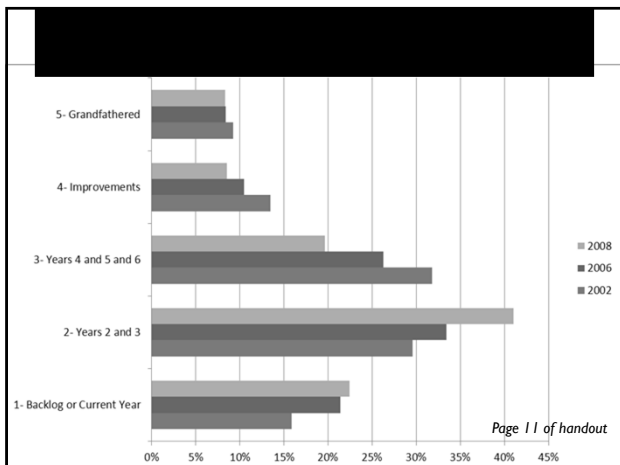
A – Allow to Age Gracefully	FCI .00 to .15
B – Bandage as Needed	FCI .16 to .40
C – Can Be Saved	FCI .41 to .60
D – Do a Capital Project (CIP)	FCI > .60 +

Communication

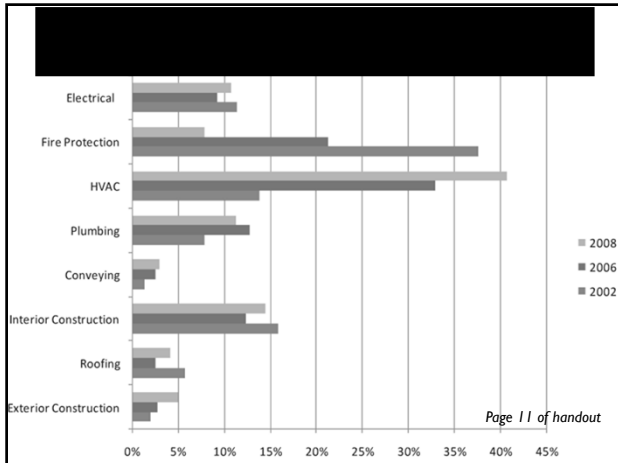
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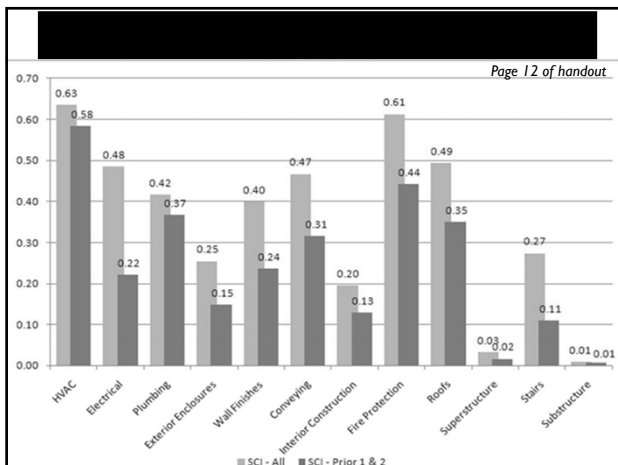
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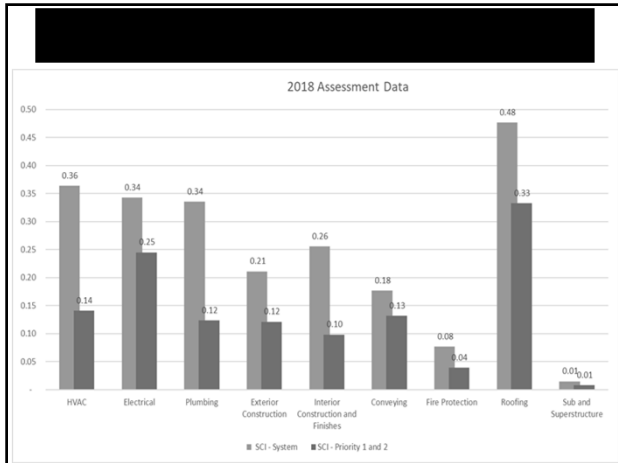
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**Minimizing Risk
Combining Data
for
Communication**

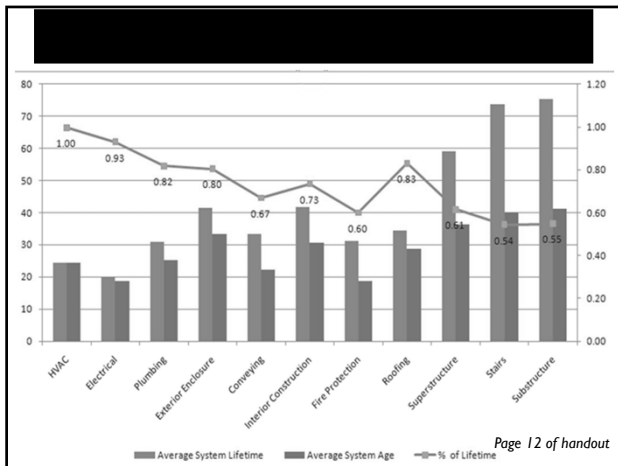
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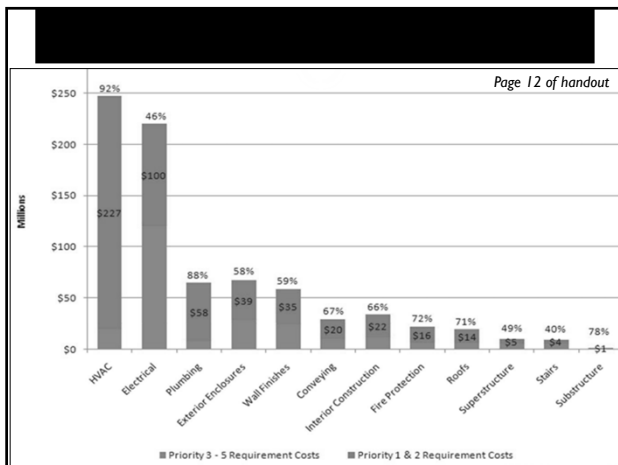


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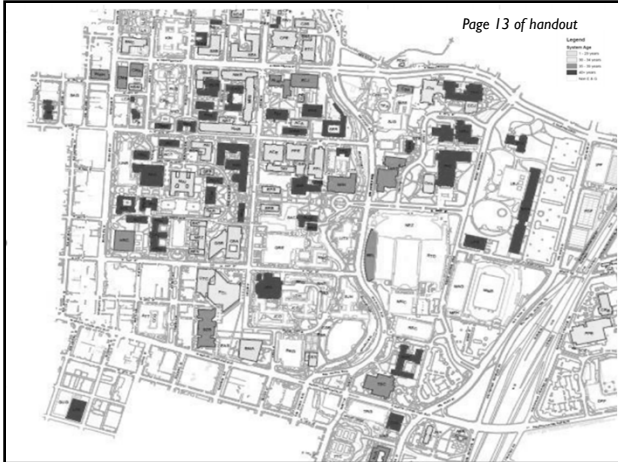
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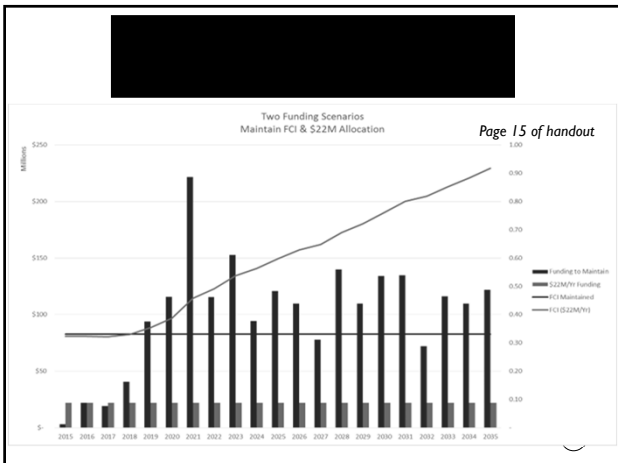
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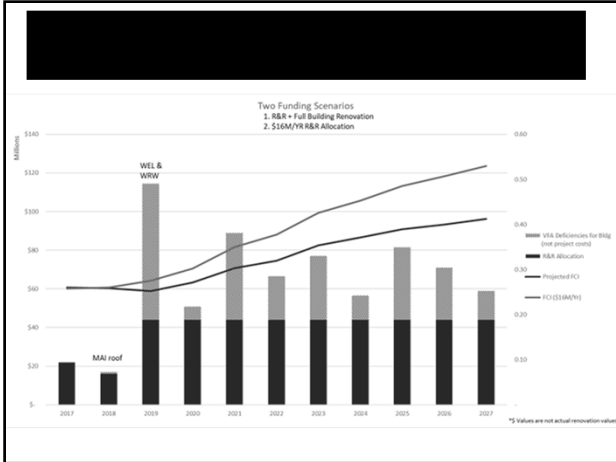
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CONTINUING to Minimize Risk
Combining Data
for
Communication

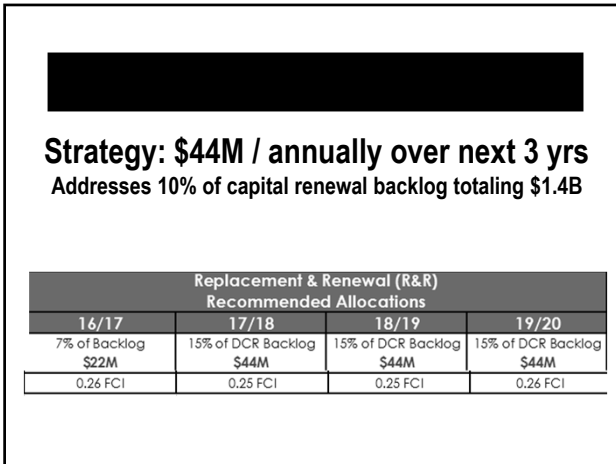
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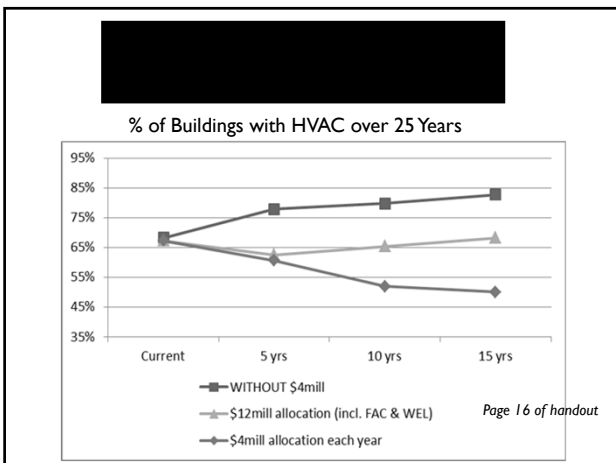
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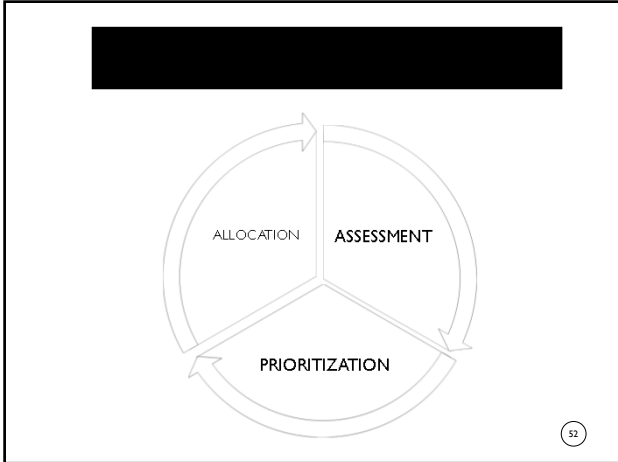
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- Identify critical areas
- Support university's strategy
- Consistent, repeatable, and defensible decisions
- Rank relative to each other
- Allow ranking within and between project selection
- Encourage bottom-up initiation
- Incorporate wisdom of others
- Easy to communicate

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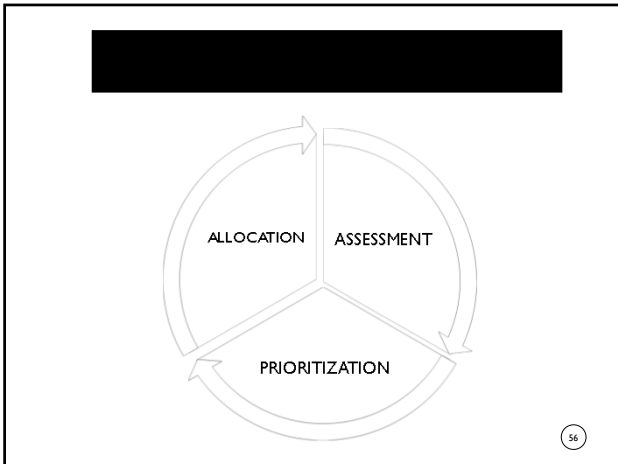
Area	Criteria	New
Impact on Health, Safety & Environment	Impact on People	30
	Impact on Environment	8
Mission (Risk) Impact	Intellectual Property Damage	8
	Property Damage	5
	Time Disruption	6
	Area Impact	10
System Impact	Public Image	5
	ROI	20
	Probability of Failure	8
Total		100.00

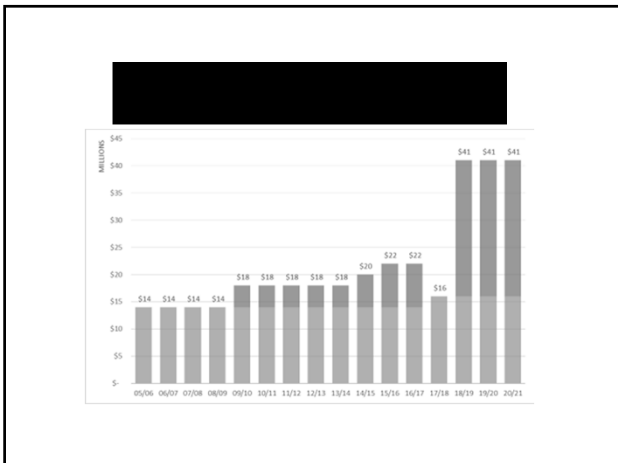
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[Redacted Title]

- Support university mission, specifically research and academic programs
- Add useable life to a building
- Replace and renew operating systems such as mechanical, electrical, and roofing systems
- Maximize the allocation to support “fixes” rather than “patches”
- Mitigate risk to the university

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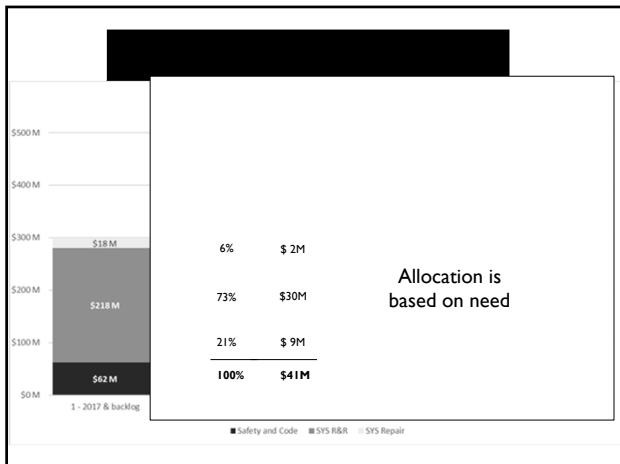






- **Lowering Risk**
 Prioritization process identifies risk and aligns funding with:
 - system replacements,
 - highest priority, &
 - greatest risk of failure.
- **Maximizing Funding**
 Collaborate with CIP projects to ensure funds are efficiently used (i.e. component replacements to extend life until CIP projects are executed).
- **Aligning with University Mission**
 Bundle R&R investment with planned, program-driven projects in support of Provost, colleges & other campus units.

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Learning Objectives

- Understand Capital Renewal
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Emphasize Risks

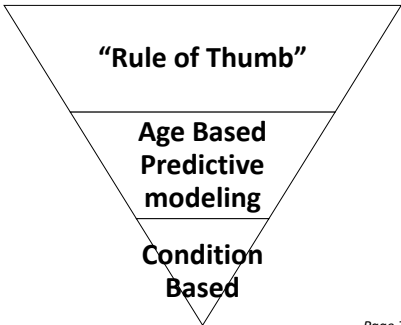


Solutions
Other Universities
UT Austin

AGENDA

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Assessing Capital Renewal Needs



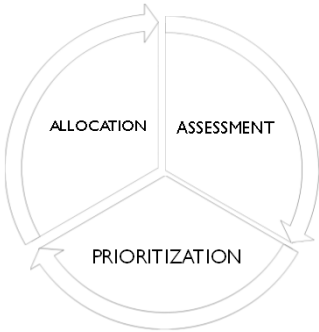

“Rule of Thumb”

**Age Based
Predictive
modeling**

**Condition
Based**

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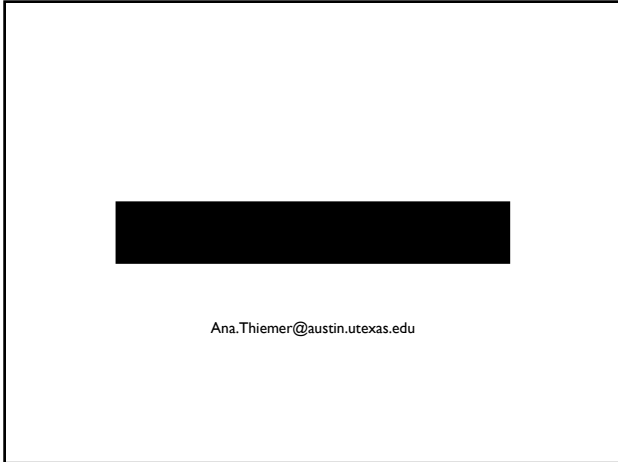


ALLOCATION **ASSESSMENT**

PRIORITIZATION

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