

Capital Renewal and Deferred Maintenance

APPA Facilities Institute
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Course Description

Examine the basic principles related to the management of capital renewal and deferred maintenance programs. The presentation will introduce facility assessment programs including facility condition inspections, audits, estimating techniques, and reporting formats. Learn the business perspectives on capital renewal programs and an assessment tool for determining overall capital renewal needs. Discuss life-cycle planning.

Faculty: Steve Kraal & Ana Thiemer



[Learning Objectives]

- Discuss basic principles of capital renewal and deferred maintenance program management.
- Discuss facility assessment programs
- Learn business perspectives on capital renewal programs and assessment tools.
- Discuss life-cycle planning.



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[Goals]

Develop or Sustain an Effective CR/DM Program

- > Trust and Credibility
 - technically sound data and analysis
 - transparency
 - well defined planning process
- > Stewardship/Sustainability
 - make effective use of existing funding
 - maintain critical resources
 - identify and manage risk



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[Goals]

Develop or Sustain an Effective CR/DM Program

- > Communication Strategy
 - identify key stakeholders
 - develop appropriate information
- > Prepare for Success
 - be active, not reactive



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[Why Worry about This?]

- “What you’re telling me can’t possibly be true, everything was fine a few years ago”
- “Everything is broken and must be replaced right away”
- “It’s not what I know that keeps me awake, it’s what I don’t know”

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[Establishing Credibility]

- What don’t you know about your facility condition?
- What do you know about your facilities and your campus doesn’t know and would find useful?

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[Maintaining Credibility]

Definitions - Do they matter?

- Deferred Maintenance?
- Regular Maintenance?
- Capital Renewal?
- Replacement Value?
- Facility Condition Index?

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How Will This Approach
Establish Credibility?



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Using Data To Establish Trust
and Credibility

Examples of Data

- Building age and size
- Type of construction
- Replacement value
- What other data do you use?

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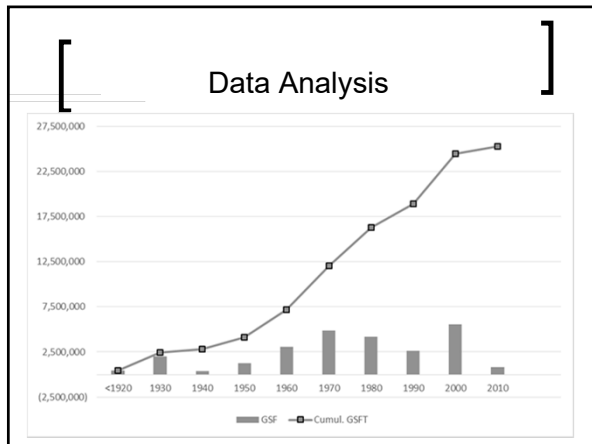
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Examples of Data Sources

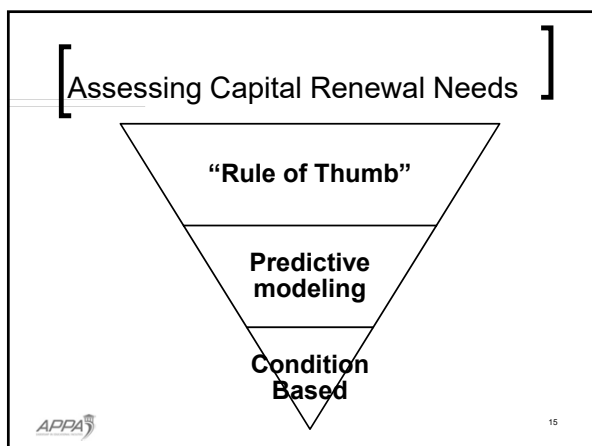
- Annual Financial Report
 - initial investment/reinvestment
 - construction date
- Institutional Research
 - building use
- Registrar
 - classroom/lab utilization

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- ### Trust and Credibility
- Transparency challenges:
- Lack of common terminology
 - Inconsistent use
 - Unreliable or inconsistent data
 - Lack of a “devil’s advocate”
- APPA 14



[Assessing Capital Renewal Needs]

“Rule of Thumb”

- based on a percentage of replacement value, primarily a funding model.

Predictive modeling

- assessment of facility condition at the system level using observation combined with “statistical” analysis.

Condition or Deficiency-Based

- comprehensive physical inspection performed on regular cycles, identifying observed deficiencies.



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“Rule of Thumb”

- Generally 1.5% to 3% of replacement value
- Used to establish a funding or operating range.
- Usually based on a large aggregation of building or facility types.
- May not apply to small building inventories



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[Assessing Capital Renewal Needs]

“Rule of Thumb” State of Texas

\$33.6 Billion	EG CCIV (FY11)
2% of EG CCIV (FY11)	\$508M
MP4 FY11 Expenditures	\$151.3M
% of EG CCIV (FY11)	0.5%
Top 3 Institutions	1.1% 1.2% 1.9%

[Assessing Capital Renewal Needs]

Statistical method of determining or estimating long range capital requirements

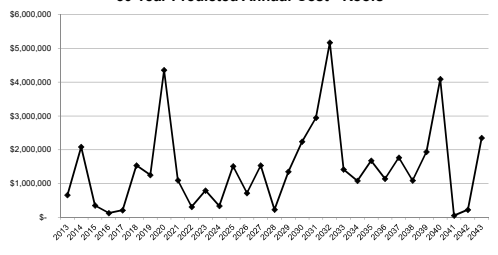
- Focus is on primary building systems:
 - life span
 - system cost
- Applied to individual buildings or group of buildings
- Provides, annual, average & total costs
- Can be used to estimate future costs

Predictive modeling



[Example of Predictive Modeling]

30 Year Predicted Annual Cost - Roofs



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[Assessing Capital Renewal Needs]

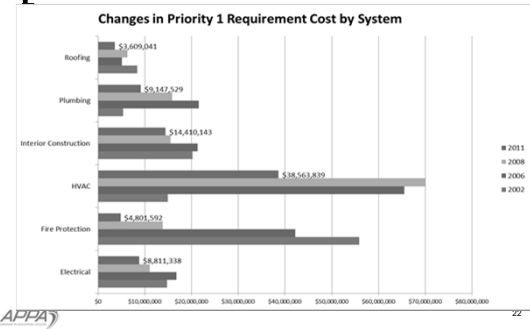
Condition Based

- Primary focus is on providing objective data on current facility condition
- Generally groups data into categories, i.e. priorities and systems
- Establishes a benchmark to evaluate changes in condition over time
- Can be used to project impact of spending levels on future condition



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Using Assessment Data



Triangulation

Comparison of costs to maintain current facility condition

Approach	Outcome \$M/year
Percentage of Value at 2.5%	\$55M
Predictive/Life Cycle Condition Assessment Requirements @ 20 yrs.	\$50M
	\$42M

FCI Discussion

Facility Condition Index

CR/DM Backlog

Replacement Value

Example: $\frac{\$100 \text{ Million Backlog}}{\$1 \text{ Billion Replacement Value}} = .10 \text{ FCI}$
 $\frac{\text{backlog}}{\text{Replacement Value}} = .10$

[Condition Index Clarified]

- It's not an indicator of operational capability
- It is a ratio of reinvestment vs. capital replacement cost
- It may be an indicator of risk



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[Use of FCI at UT Austin]

FCI – groups of buildings

BCI – individual buildings

SCI – specific building system



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[Communication Strategies]

- Consistent message
- Focused on specific audiences
- Identify how they benefit
- Keep it simple, bumper sticker



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Who Are Your Key Stakeholders?

- Academic/Research
- Finance/Budget Office
- Governing Board



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Building A Successful Program

- Understand and Manage Your Reality
- Address Planning Challenges
- Develop Trust and Credibility
- Focus on Stewardship/Sustainability
- Establish Good Communication
- Plan For Success



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Be This Dog That Caught The Car



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Capital Renewal and Deferred Maintenance

Questions, Comments, Observations

Sign-in Sheet & Evaluations

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Comprehensive Capital Asset Management

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