



The University of Vermont

ALL HANDS MEETING
Wednesday, October 9, 2018

David Blatchly, Capital Renewal Engineer



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MOST POPULAR questions over the last 2 months...

1. HEY DAVE, WHERE IS YOUR TRUCK?
2. HEY DAVE, WHAT ARE YOU DOING BACK AT 284?



NEW Job = NEW questions to Answer...

What are the assets we have?

What is the “real” condition of our assets?

How do we know what our DM/CR needs are on Campus?

What is the benchmark? What is our FCI?

How do we prioritize and show progress?



Facility Condition Index (FCI)

$$\text{FCI} = \frac{\text{Current DM Backlog}}{\text{CRV}}$$

Current Replacement Value (CRV)

FM Global/Risk Mgmt.

Facility Condition Assessment (FCA)

3 Methods



Definitions:

Deferred Maintenance is not a type of maintenance, but rather a condition. Maintenance becomes deferred because of intentional decisions to not complete reoccurring maintenance activities as a result of not having sufficient resources (i.e., time, funding, or skills).

Renewal is inevitable and periodic. It is the act of making significant repairs or replacement by restoring, refurbishing or rehabilitating. It can occur at the time of improving an asset. Renewal will occur at a predictable end of design life or at a time when programmatic needs dictate a facility enhancement.



Total Cost of Ownership Framework

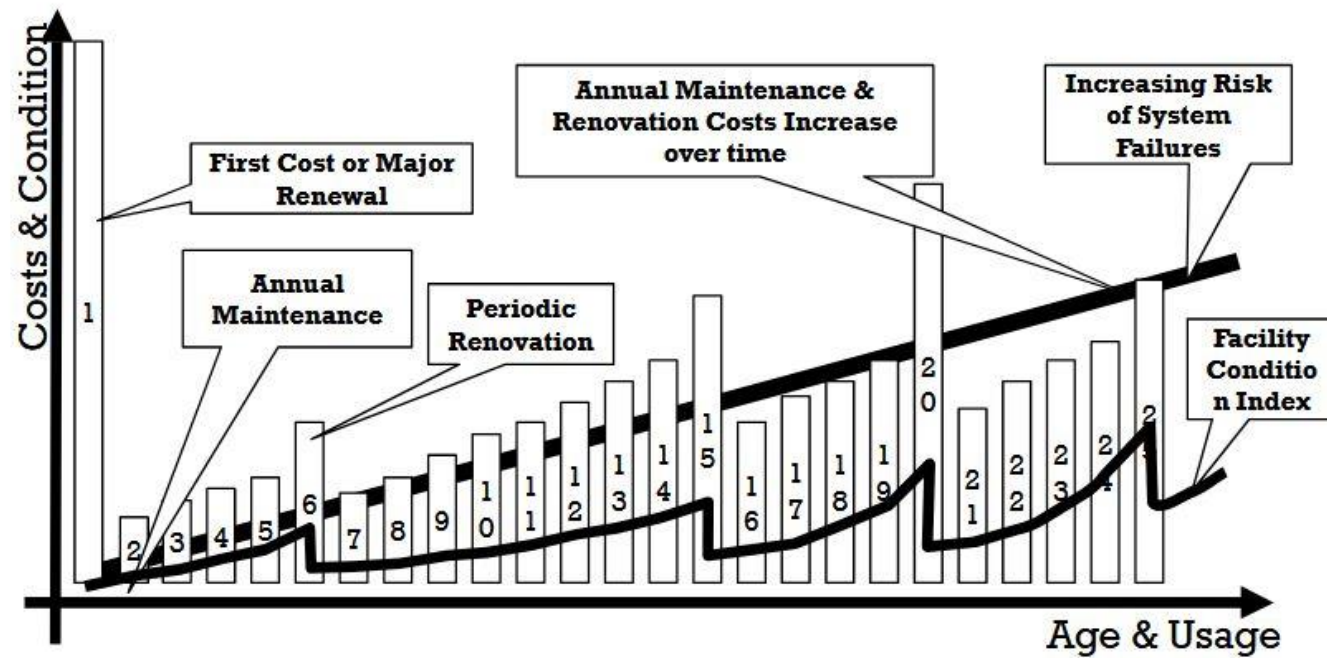
A	Initial Asset Costs / First Costs (One Time)
A.1	Planning and Programming
A.2	Acquisition
A.3	Design
A.4	Construction/Site Development
A.5	Commissioning
B	Operations and Maintenance (Recurring)
B.1	Lease or Rental
B.2	Maintenance
B.3	Operations
B.4	Overhead and Administration
C	Utilities (Recurring)
D	Renewal
D.1	Replacement
D.2	Programmatic Upgrades
D.3	Improvements/Enhancements
E	End of Useful / Functional Life (One Time)
E.1	Sale/Adaptive Reuse
E.2	Re-sale Value/Salvage Value
E.3	Removal
E.4	Site Restoration/Remediation
E.5	Deconstruction/Recycling

Figure 4 - TCO Framework



NOTIONAL 25 YEAR PLAN

Approach can be used for a single asset or an entire portfolio



Dana Kemish Smith
Vermont Planning, LLC



Gather the Asset Information:

- 2001 Facilities Condition Assessment (Outsourced this initial effort)
- Equipment Inventory (FAMIS EQU's)
- Floor Plans & system diagrams
- Observation Check list
- End of Useful life data/model
- Real life inspections
- Cost Estimates & Deficiency score sheet



Benefits to the In-house Assessment

- Far more cost effective
 - Less of a rush to get through the details of the assessment
 - Institutional teams
- Continuous Improvement of data
 - Easily updated, filterable, customizable, cycle of updates can be increased
- Opportunity to Refine the *Sightlines Growth rate* (inspected vs predicted)
- Insight to Master plans of the Institution.



Assessing Facilities – The Facility Condition Index (FCI)

- **300 + UVM Facilities**
- Gross Area *Owned & Maintained* = **5.85 Million SF**
- Current Replacement Value (CRV) *Owned & Maintained* = **\$1.38 Billion**

$$\text{FCI} = \frac{\text{Current DM Backlog}}{\text{CRV}}$$

“RULE of THUMB”

**AGE Based
Predictive
Modeling**

**Condition
Based**

Rule of Thumb Method:

A FCI of “FAIR” is **5% - 10%** of CRV = **\$69 – \$138 M**

Age Based:

UVM Buildings - average age is 72 years – Software will predict Remaining Useful Life of building assets. Customize to account for renovations and previous renewal efforts.

Infield Inspections for best assessment:

Evaluates maintenance practices and real conditions.
Approach will be the **“30/30 Examination”**



“30/30 Examination”

Condition Based

- **Top 30**
 - Most valuable (CRV = \$9.9M)
 - Largest facilities (GSF = 3.5M)
- Approach to conduct detailed condition assessments to capture **72%** of CRV and **60%** of the space we own and maintain.
- Augment assessments with priority facilities



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MAIN CAMPUS - TOP 30 GSF/TOP 30 CRV OWNED AND MAINTAINED	CRV	GSF
DUDLEY H. DAVIS CENTER	\$ 78,423,471.00	197,217
DISCOVERY HALL	\$ 75,596,251.00	117,690
GIVEN COMPLEX (incls ct yd)	\$ 74,798,405.00	276,884
UNIVERSITY HEIGHTS	\$ 72,536,799.00	281,556
CENTRAL CAMPUS RES. HALL	\$ 69,627,436.00	210,904
LIVING & LEARNING	\$ 66,073,741.00	227,595
JAMES M. JEFFORDS HALL	\$ 62,082,191.00	104,300
WATERMAN BLDG	\$ 57,225,647.00	189,946
PFG COMPLEX	\$ 50,633,439.00	370,549
HEALTH SCIENCE RESEARCH FACILITY	\$ 40,136,451.00	123,006
WING WILKS DAVIS	\$ 35,734,820.00	128,121
BAILEY/HOWE LIBRARY	\$ 33,955,430.00	174,313
STAFFORD HALL (incl. GH and HH)	\$ 24,859,775.00	91,509
COLCHESTER RESEARCH FACILITY	\$ 24,303,189.00	72,503
MARSH LIFE SCIENCE (incl. Carr Wg)	\$ 20,992,605.00	90,900
CHRISTIE WRIGHT PATTERSON	\$ 20,762,223.00	135,295
BILLINGS	\$ 19,988,199.00	50,952
MASON SIMPSON HAMILTON	\$ 19,017,411.00	143,803
HARRIS MILLIS	\$ 18,912,245.00	165,623
VOTEY HALL	\$ 18,739,650.00	81,404
KALKIN/IFSHIN	\$ 18,227,549.00	79,665
OLD MILL/LAF/ANNEX	\$ 17,922,518.00	93,267
MARSH AUSTIN TUPPER	\$ 17,264,535.00	109,620
WILLIAMS HALL	\$ 16,856,100.00	56,187
DELEHANTY HALL	\$ 16,329,416.00	43,345
ROWELL HALL	\$ 16,129,419.00	82,883
AIKEN	\$ 14,766,888.00	41,354
DEWEY	\$ 13,586,100.00	45,287
CONVERSE	\$ 13,304,330.00	42,796
TERRILL HALL	\$ 13,304,330.00	32,095
	\$ 991,457,124.00	3,490,020
% of Campus (OWNED/Maintained)	72%	60%

2013 - 2017



2017 - PRESENT





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THANK YOU