

Facility Assets Life Cycle Planning

Thursday, January 31, 2019

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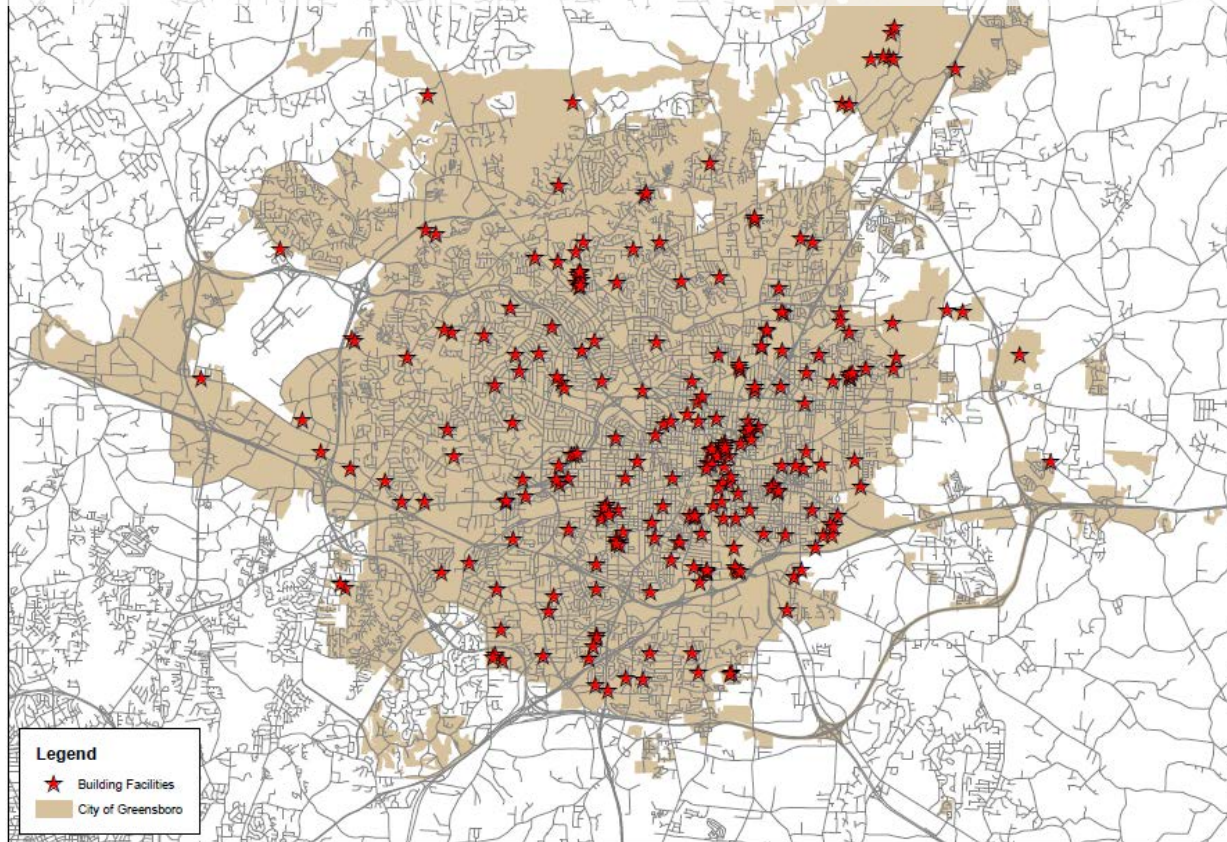
Kenney McDowell



Facility Assets – Life Cycle Planning

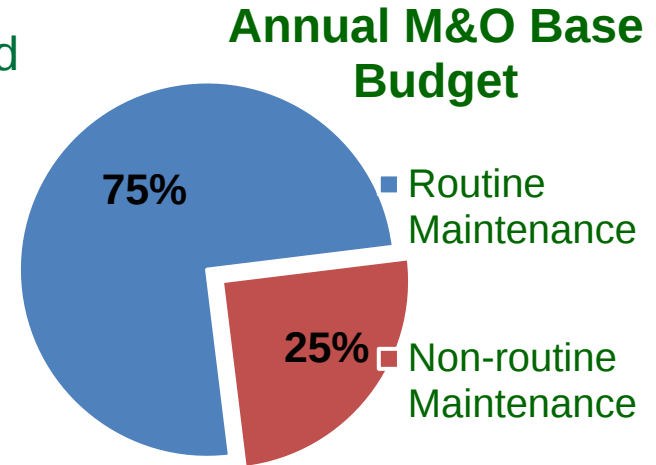
- “Maintaining Facility Infrastructure” requires “Capital Improvement Planning”
- Approximately 380 City owned structures including 89 occupied buildings
- Occupied building examples: City Hall, Cultural Arts Center, Fire Stations, Recreation Centers, Libraries, Water Resources Operations Center, GTA
- Other structure examples: Park restroom facilities, park shelters, storage sheds, maintenance buildings, salt barn, generator buildings, parking
- Maintained by the Facilities Division, Engineering and Inspections Department with full time plumbing, electrical, heating, air conditioning and carpentry staff

Facility Assets – Life Cycle Planning



Facility Assets – Life Cycle Planning

- Similar to private commercial property, these public structures require “ongoing investment” for operation and maintenance
- Some needs are *routine maintenance* and build into the annual base budget as reoccurring costs such as pest control, window washing and minor repairs such as broken locks, damaged walls, etc...
- *Non-routine maintenance* needs such as a new roof, chiller or elevator are addressed on demand as systems reach end of life
- Additional funding needs for *non-routine maintenance* are planned for and budgeted through “Capital Improvement Planning”



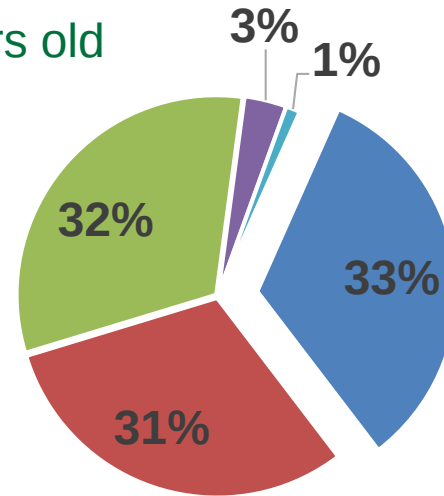
Facility Assets – Life Cycle Planning

- This overall planning process is known by many names:
 - Life Cycle Planning
 - Facility Asset Reinvestment
 - Capital Asset Management
 - Infrastructure Renewal Planning
 - Asset Management is the common industry term
- A typical industry asset management strategy requires knowing:
 - What assets do you own?
 - What conditions are those assets?
 - What is the maintenance priority of the assets?
 - What amount of funding can be dedicated to maintaining assets?

**These are all
the same
thing.**

Facility Assets Owned

- We utilize a software called Audit Mate to collect and maintain data on our major facilities
- Within this data, all the major components of the building are listed along with normal life expectancy based on industry standards
- 67% of these buildings are over 25 years old
- Component life expectancy (examples):
 - Single Ply Roof – 15 years
 - Adhered rubber roof – 25 years
 - Elevator controls – 25 years
 - Chillers – 25 years
 - HVAC Controls – 15 Years

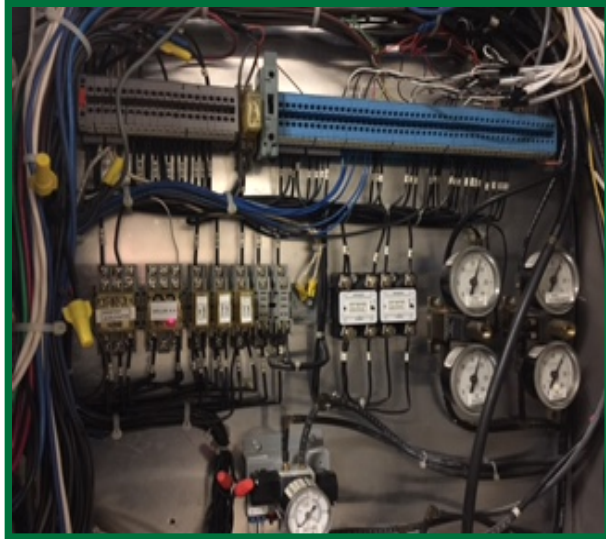


**Audit Mate
Facilities - Age**

- 0-25 years
- 26-50 years
- 51-75 years
- 76-100 years
- 100+ years

Facility Assets Condition

Bryan Park (1978)
Pneumatic Controls



Central Library (1998)
Cooling Tower



Roof



Facility Assets Maintenance Priority

- As individual major components reach the end of their life expectancy, an Audit Mate report lists these for review
- Just because the report says it is due does not mean we automatically replace it
- That's where the City's work order system history becomes relevant:
 - InforEAM (City's work order system) tracks repair orders and scheduled preventative maintenance that is routinely performed on individual building components
 - When an item comes due for replacement in Audit Mate, its corresponding EAM work order history is reviewed to verify that it actually needs to be replaced

Facility Assets Condition

Greensboro Cultural Center (1988)

Decaying Roof Structure



Leaking Roof Result



Facility Assets Maintenance Priority

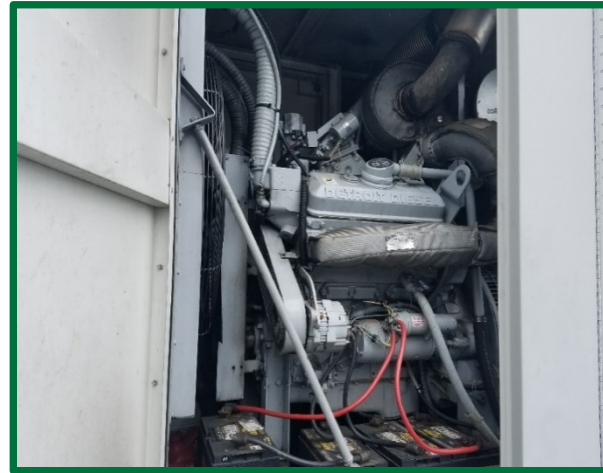
- The Audit Mate report creates a list of items for replacement
- InforEAM records are checked to verify that replacement is warranted
- If replacement is not warranted, Audit Mate is updated so items can be reviewed in the future
- Warranted replacement items make the “Capital Improvement Plan”
- Prioritized needs are requested for funding within the yearly operating budget
- Remaining unfunded critical needs are then submitted for additional funding consideration

Facility Assets Condition

Police Headquarters (1950)
Electrical



City Hall (1970)
Generator (age unknown)



Facility Assets Dedicated Funding

- Our annual projected needs are close to \$2.2 million
- Our deferred maintenance needs are close to \$3.2 million
- We historically have annual operational funding between \$500,000 and \$1,000,000 for these needs
- Addressing annual needs would require an additional \$1.0 - \$1.5 million
- Good news is that in the last four years we have addressed some significant backlog in deferred maintenance due to receiving additional capital reserve funds

Facility Assets Reinvestment

- Examples of Recently Completed Major Maintenance Projects
 - City Hall Elevators, Chiller, Roof and Skylight
 - Greensboro Science Center and Bryan Park Boilers
 - Proximity Card System Change Out
 - Multiple Roofs at Service Center, Fire Stations, Libraries and Recreation Centers
- Current Major Maintenance Projects
 - Cultural Arts Building Structural Repair
 - Central Library HVAC Controls
 - Greensboro Science Garden Center Roof



Facility Assets – Asset Management

- Proposed 2019-2020 Major Maintenance Projects
 - Greensboro Science Center Main and Great Hall Roof
 - Public Safety Training Center Chiller
 - Sanford Smith Building Electrical Equipment
 - Greensboro History Museum Retaining Wall
- “Capital Improvement Plan” funding request for 2019-2020
 - Cultural Arts Center Roof
 - Central Library Roof, Cooling Tower and Carpet
 - Police Headquarters Electrical Equipment
 - Bryan Park Fire Protection System

Facility Assets Condition

Central Library (1998)

Decaying Roof Structure



Leaking Roof Result



Original Carpet



Facility Assets – Asset Management

Questions?