

Facility Life Cycle Planning

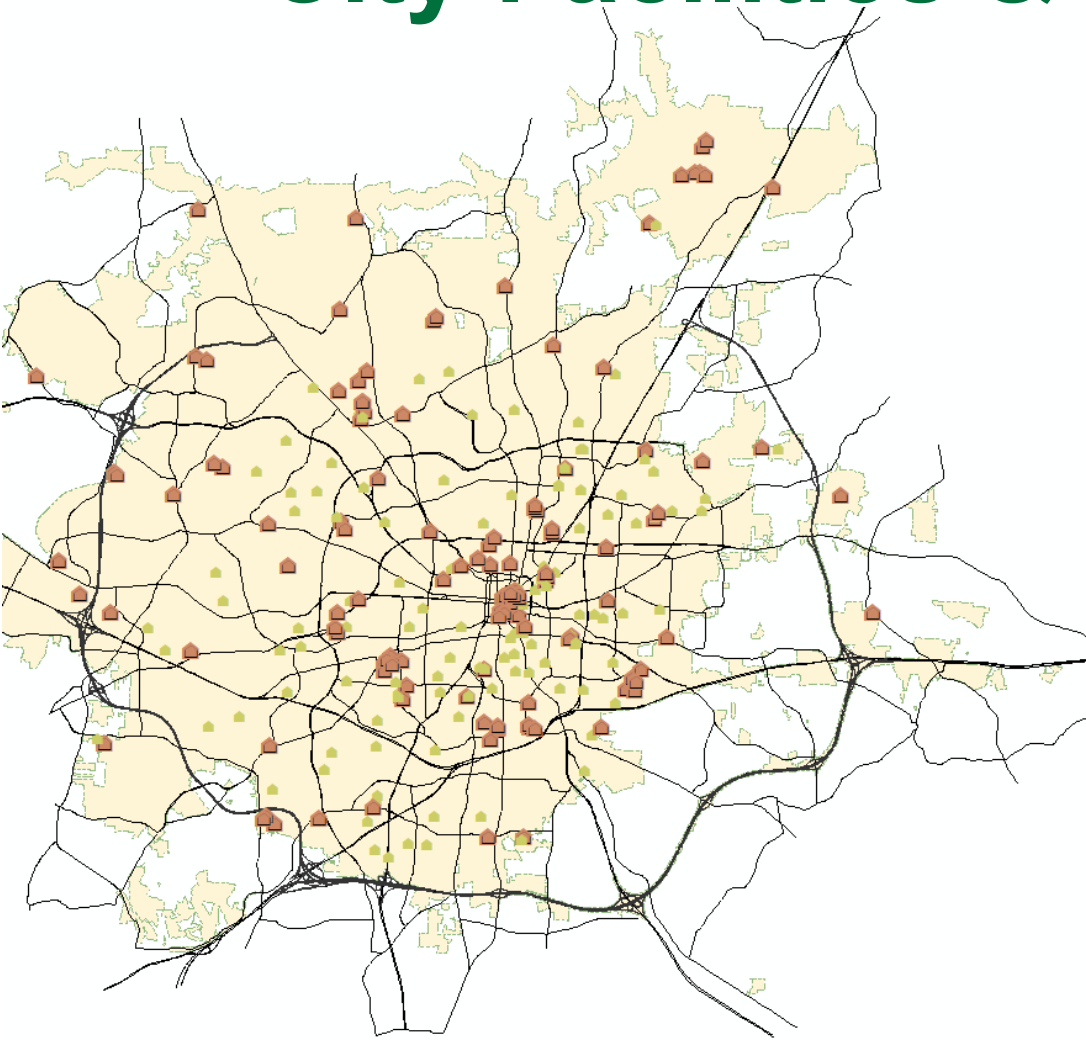
August 26, 2021

Kenney McDowell, PE

Engineering & Inspections



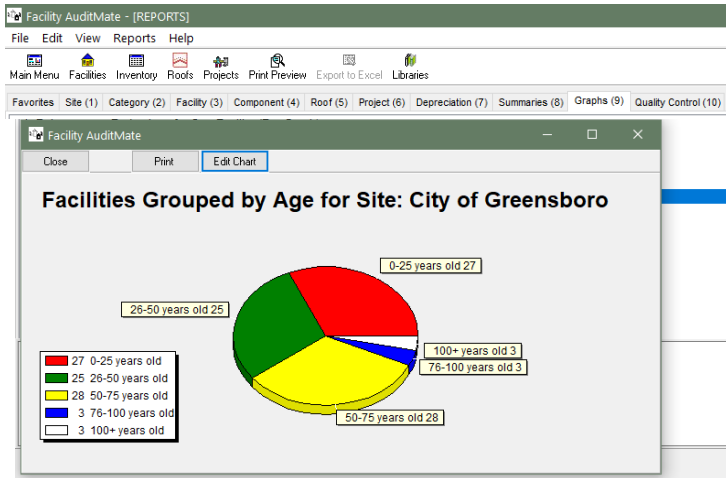
City Facilities & Structures



Facilities & Structures Require Ongoing Maintenance

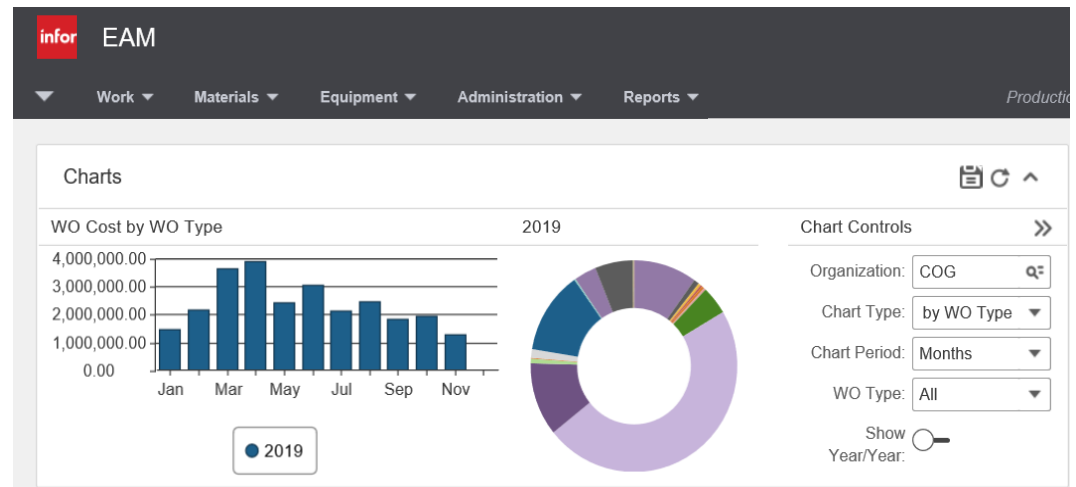


How Do We Plan For Replacements?



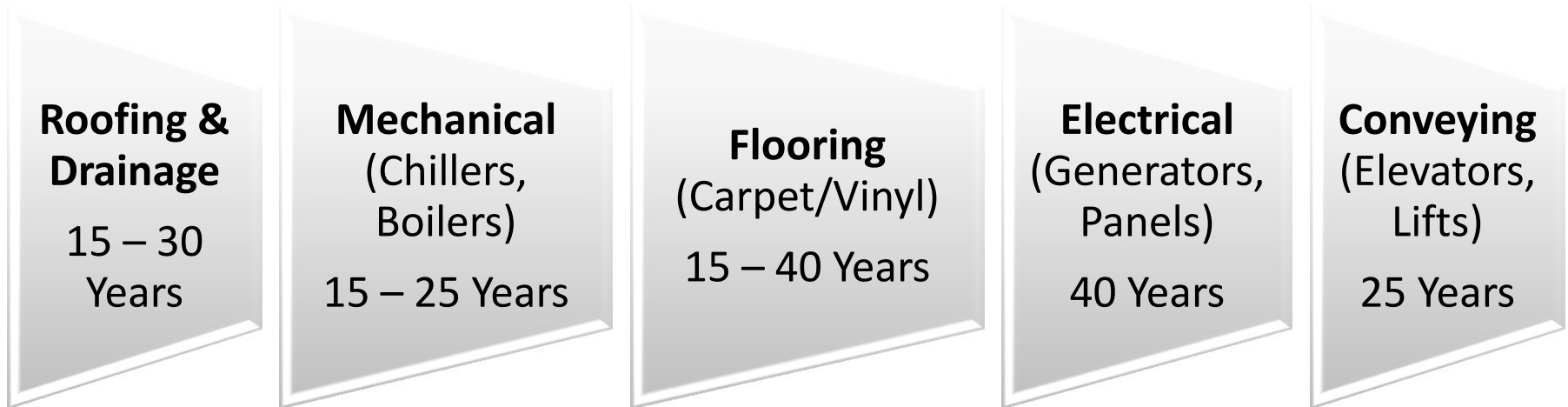
Maintain an Inventory of occupied buildings and their major components.

Evaluate repair and maintenance history to project building components “End of Life”.

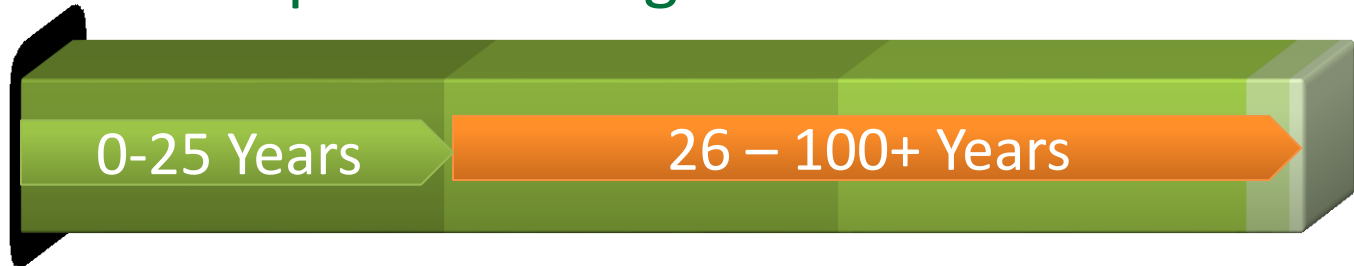


Building Inventory

- “End of Life” for Building Components = Industry Standard Life Expectancy +/- Condition Assessment

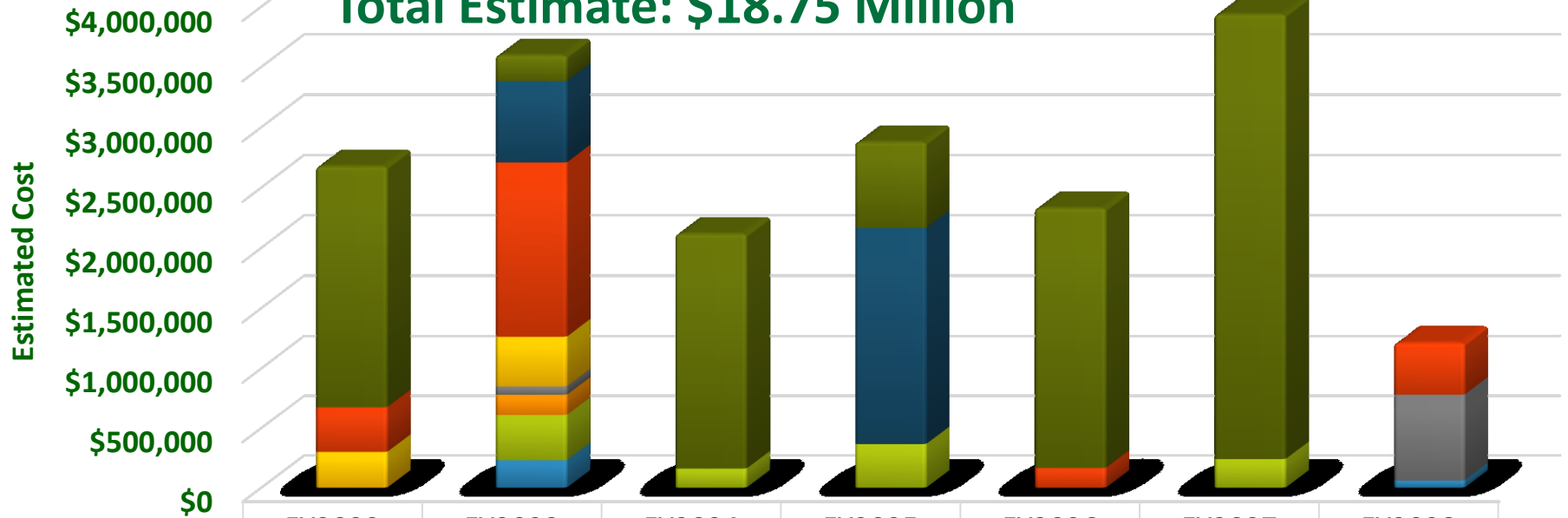


- 67% of the occupied buildings are older than 25 years



Facilities Needs FY2022 through FY2028

Total Estimate: \$18.75 Million

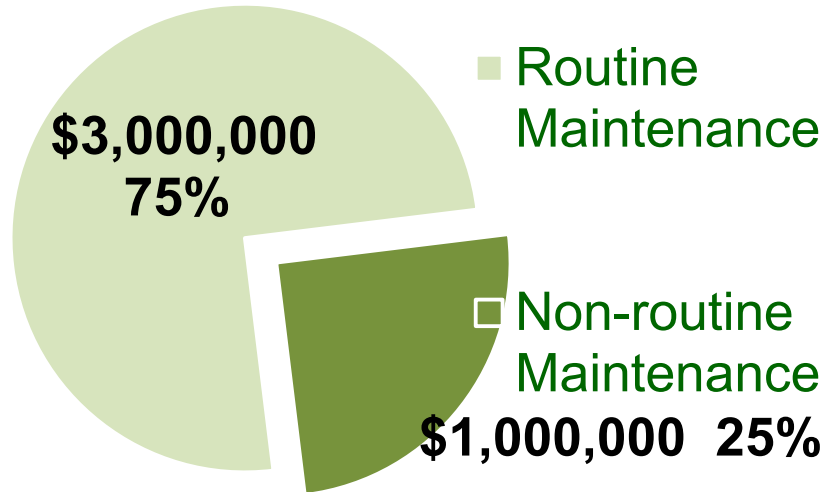


	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Roof	\$2,000,000	\$213,230	\$1,955,070	\$710,000	\$2,162,000	\$3,695,200	
Other		\$675,000		\$1,800,000			
HVAC	\$375,000	\$1,445,000			\$166,000		\$430,695
Flooring	\$300,000	\$412,957					
Fire		\$70,000					\$720,852
Elevator		\$170,000					
Electrical		\$380,000	\$160,000	\$366,000		\$240,000	
ADA		\$230,000					\$60,000

How Are We Funded?

Facilities Maintenance

Base Budget - Total \$4 Million



Additional funding needs for Replacements are planned for and budgeted through “Capital Improvement Planning” process

Routine Maintenance & Repairs

- Funded through our annual base budget

Replacements of Components

- Funding is planned and budgeted for as components reach end of life.
- Estimated annual need is \$3.0 to \$3.5 Million

Unfunded Needs - Example

Central Library

- Constructed in 1998 – building is now 23 years old
- Roof (Life Expectancy 15 years for ballasted roofs)
 - Roof & Skylight Estimated Replacement: \$1.25 million
- Chillers (Life Expectancy 15-25 years)
 - Estimated Cost: \$365,000
- Carpet (original to the building)
 - Estimated Cost: \$300,00
- Total Estimated Cost: **\$1,925,000**

Central Library Repair Needs

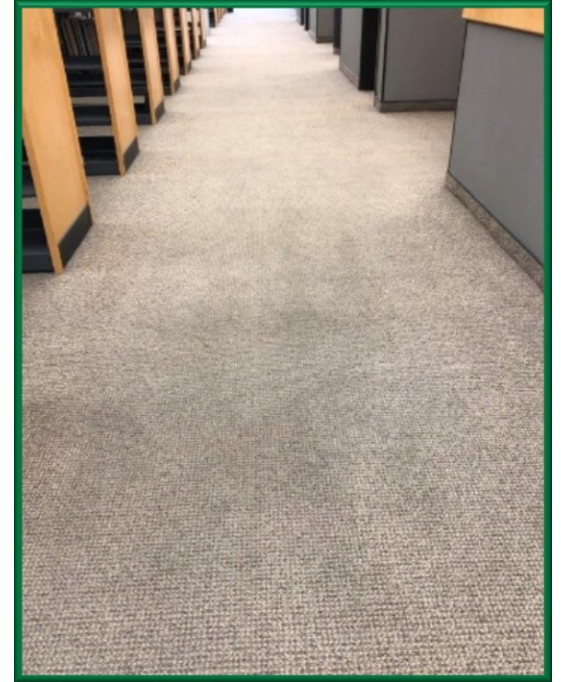
Decaying Roof Structure
\$1,250,000



Cooling Tower
\$375,000



Carpet
\$300,000



Impacts of Roof Leaks

Images taken after a heavy rain event in January 2020



Emergency Shut-down of Library in 2018 after a heavy storm



In 2018 water intrusion from roof leaks caused a electrical fire in the computer server room



Sustainability

- Replacement Equipment is almost always more efficient than original equipment due to overall energy efficiency progress in manufacturing.
- Solar opportunities are investigated on a case by case basis when major roofs need to be replaced.
- An example of a solar option is the Central Library Roof:
 - Roof cost \$1.2 million
 - Add 1 MW solar would cost an additional \$2-\$3 million based on current market conditions



Questions

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