

ASHE 2023
ANNUAL CONFERENCE
August 6-9, 2023 San Antonio



From the Boiler Room to the Board Room Leveraging Operational Data to Defend Strategic Infrastructure Investment

Monday August 7, 2023

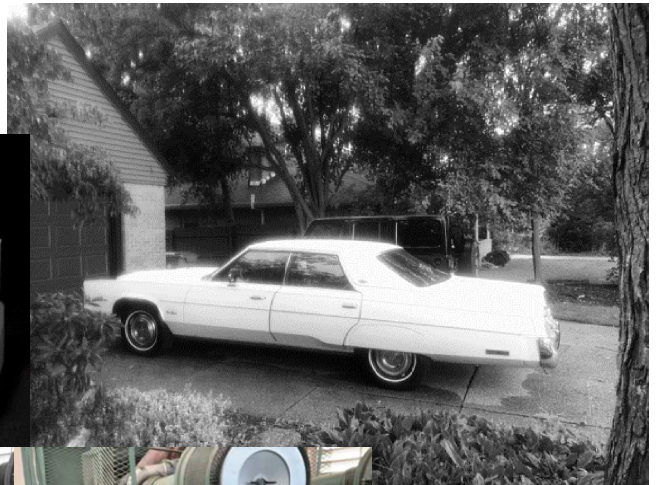
Wednesday, October 11, 2023 – MGPHO

Wednesday, October 25, 2023 – KSHE

Tuesday, November 7, 2023 - AlaSHE



The year is 1977....



Mark Mochel, MBA, CHFM, PMP, ACABE



Strategic Account Executive
Brightly, A Siemens Company
Phone: 616-914-2246
Email: mark.mochel@brightlysoftware.com



- **Mark Mochel, MBA, CHFM, PMP, ACABE** is currently a Strategic Account Executive at Brightly Software. Before joining Brightly, he was a Co-Founder and Senior Vice President at Facility Health Inc., where he was instrumental in introducing new infrastructure investment solutions and benchmarking capabilities to the healthcare industry. Mark has a bachelor's degree in Mechanical Engineering from Purdue University, an MBA from The University of Michigan, and has held executive leadership roles in multiple industries, providing a unique perspective on the challenges facing healthcare facility management today. As a candidate for the American Society for Health Care Engineering (ASHE) National Advisory Board, Mark is passionate about sharing his experience with all who serve and are served through the environment of care.
- **CEU Teaching Experience:** ASHE Annual Conferences 2019, (Virtual) 2020, 2021, 2022, 2023; MiSHE Annual Conferences 2016, 2018, 2022; KHEA Annual Conference 2018; ISHE/MWHCEC Annual Conferences 2018, 2019; HESNI Annual Conferences 2018, 2019, 2022; ASHE Region 8 Annual Conference 2019; NSHE Annual Conference 2020; ACE Summit and Reverse Expo (Virtual) 2021; THEA Annual Conference 2021; WHEA Annual Conference 2021; AAHE Annual Conference 2022; AHA Rural Healthcare Conference 2022; ACHE Congress, 2022; IFMA Facility Fusion 2022; ISHE (Idaho) Annual Conference Keynote; Brightly Illuminate User Conference 2023; Siemens Life Science & Healthcare Seminar 2023; SMSHE 2023; MGPHO Fall Conference 2023; KSHE Annual Conference 2023; AlaSHE Fall Conference 2023.



CONTENT CREDIT

Jonathan Flannery, MHSA, CHFM, FASHE, FACHE



Sr. Associate Director of Advocacy
American Society for Health Care Engineering
Phone: 312-422-3825
Email: jflannery@aha.org

- **Jonathan Flannery, MHSA, FACHE, FASHE** is currently the Senior Associate Director, Advocacy for the American Society of Healthcare Engineering, American Hospital Association. With over 30 years of health care engineering and administrative experience, Jonathan provides testimony, engages in deliberation, and develops public comments on proposed regulations to the benefit of ASHE and AHA members. Jonathan represents ASHE on professional advisory committees, oversight boards, technical committees, and issue-specific task forces to influence regulations, standards, and guidance at the earliest and least burdensome level such as the International Code Council's Health Care Committee, ASHRAE/ASHE SSPC 170 Ventilation of Health Care Facilities, and NFPA AIC-AAA Committee for NFPA Standards 90A & B. Jonathan has a bachelor's degree in Architectural Studies from Ottawa University and an MHSA from the University of Arkansas for Medical Sciences.
- **CEU Teaching Experience:** 53rd Annual Michigan Health Care Conference 2021; ASHE Annual Conferences 2019, (Virtual) 2020, 2021, 2022, 2023; International Summit & Exhibition on Health Facility Planning, Design & Construction 2018, 2020, 2021; AHE Health Care Leadership and Preparedness Symposium 2017, 2019, ACHE Congress 2019, 2018, 2022; ISHE (Idaho) 2023; ASHE Faculty member



Matthew Stiene, PE, CHFM, CHC



**Senior Vice President Construction
and Facility Services**
Novant Health
Phone: 704-774-7862
Email: mhstiene@novanthealth.org



- Matthew Stiene, PE, CFM, CHFM** is currently the Senior Vice President of Construction and Facility Services for Novant Health in Charlotte NC, where he oversees design and construction, plant operations, property management regulatory compliance, energy management, environmental affairs, infrastructure capital replacement, engineering design and construction, medical equipment planning, and manages several real estate initiatives. With Novant Health, Matt has been involved in over \$750 million of acute care construction and renovation and oversees an operating budget of \$60 million with over 250 FTEs. Matt possesses a Master of Engineering degree in Fire Protection Engineering from the University of Maryland, and a Bachelor of Science degree in Mechanical Engineering from Clarkson University. Matt has worked in the facilities management and construction industry for over 20 years as a consulting engineer, project manager, and facility manager. He is a licensed professional engineer in New York, North Carolina, South Carolina, and Virginia and is a Certified Healthcare Facility Manager and Certified Facility Manager.
- CEU Teaching Experience:** BOMA Medical Office Building Conference 2016; ASHE Annual Conferences 2018, 2019, (Virtual) 2020, 2021, 2023; ACE Summit and Reverse Expo (Virtual) 2021; AAHE Annual Conference 2022; AHA Rural Health Care Leadership Conference 2022; ACHE Annual Congress 2022; VSHE Spring Conference 2022; PSHFE Annual Conference 2022; Healthcare Facilities Symposium 2022; Interface Healthcare Real Estate Carolinas 2022



Learning Objectives and Agenda

Leveraging Operational Data to Defend Strategic Infrastructure Investment

Learning Objectives

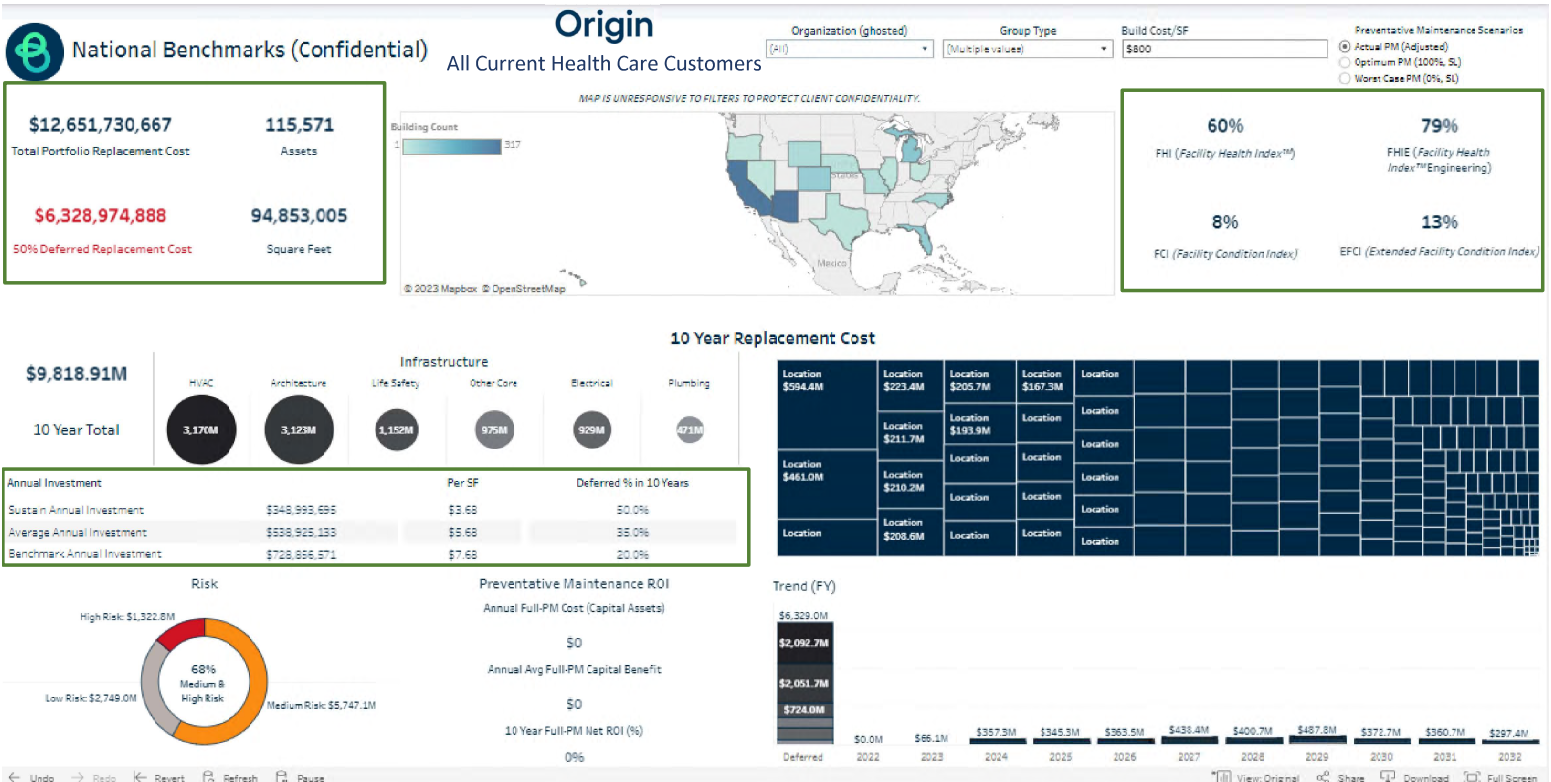
1. Understand the difference between a cost-center and a profit-center and challenge ourselves to redefine the "Business" of facility management.
2. Introduce the basic concepts of income statements and balance sheets to create a framework for communicating facility investment needs.
3. Conduct "Sales" Training 101. Use the Features, Advantages, Benefits framework to articulate the VALUE streams of infrastructure investment to non-facility leadership.
4. Identify common objections that are often used to justify budget limitations and discuss alternative means of "Selling" the ROI of infrastructure investment.

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ASHE
Optimizing health care facilities

Where are we now?




Summer 2021

MAINTENANCE

Best practices to deal with deferred maintenance

Facilities leader at Novant Health breaks down the basics of deferred maintenance and gives strategies for managing infrastructure

January 21, 2022 | Jamie Morgan



From left to right: Jonathan Flannery, Mark Mochel and Mathew Stiene present a conference session on deferred maintenance at the 2021 ASHE Annual Conference.

Image courtesy of ASHE

The image shows three men on a stage in front of a large screen. In front of them are five bins of different colors: yellow, blue, light blue, green, and light green. Each bin has a label: 'BREAK/FIX REPAIR OPEX', 'GENERAL OPERATIONS OPEX', 'COMPLIANCE PIA, ITM OPEX', 'PIA RCM OPEX', and 'PLANNED REPLACEMENT CAPEX'. The men are dressed in business suits and are engaged in a presentation.

Photo Source: ASHE Annual Conference 2021; ASHE Health Facilities Management Magazine (January 21, 2022)



- Early Impacts of Pandemic
 - Decrease in Operating Margins
 - Historic Underinvestment in Infrastructure
 - Focused on Capital Investment and the Impact on Deferred Maintenance
- Bucket Concept Goals:
 - Understanding how facility management money flows through the organization.
 - Defining the relationship between operational and capital expenditures.
 - Clearly communicating deferred maintenance as a key measure of facility performance.

Conclusions - 2021

- ✓ ■ Infrastructure investment has been lagging actual needs for over 2 decades. Critical infrastructure continues to age.
- ✓ ■ Financial projections indicate that securing and/or allocating needed funds will be more difficult going forward, not easier.
- ✓ ■ Therefore, we must transform our thinking and work to promote the strategic importance of properly funding our facilities.
- ✗ ■ **However, we underestimate the impact of reduced operational spend on our facility infrastructure.**



Poll Question 1 – From ASHE San Antonio

- In 2021 we polled the ASHE audience at the annual conference, and 43% of respondents reported that the pandemic had “Definitely” impacted facility OPEX budgets in a negative way. Now, in 2023, has that situation gotten better or worse?
 1. Better Since 2021
 2. Worse Since 2021
 3. Neutral – No Change
 4. Don't Know



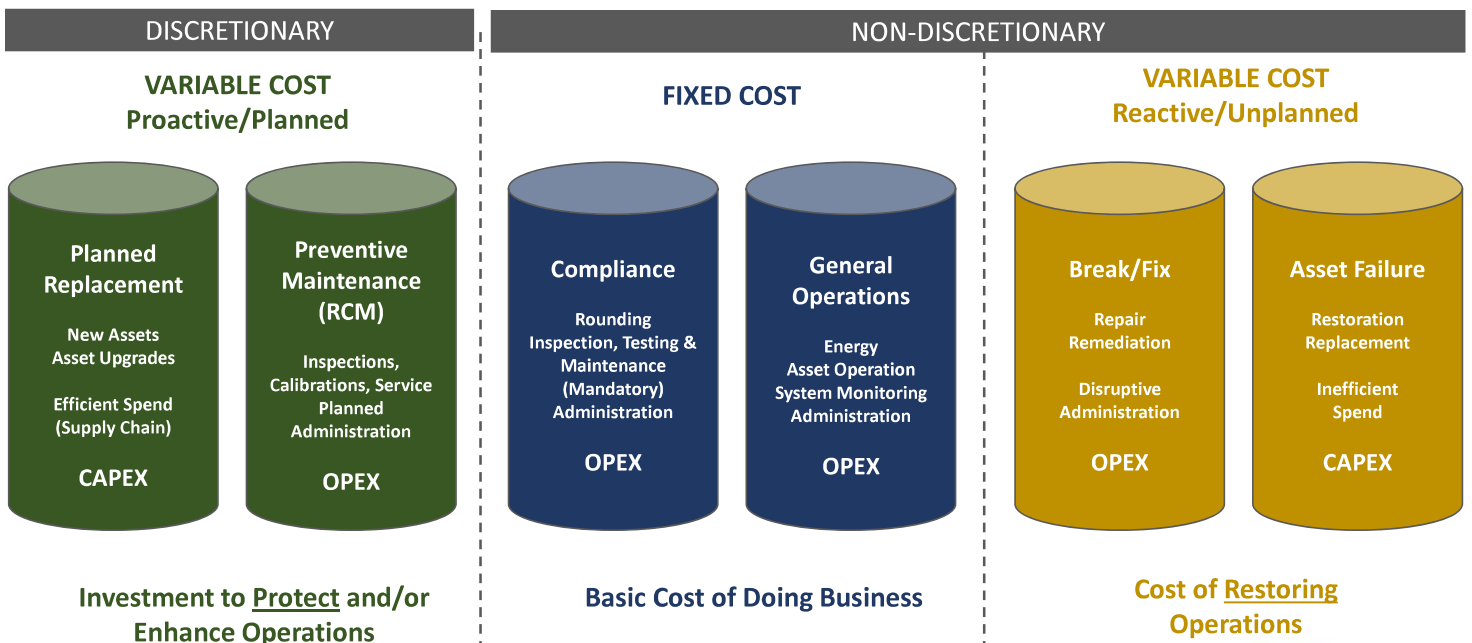
3 Questions

1. How much should be invested to properly maintain a facility?
2. Where should that investment be made in order to maximize the performance of the facility?
3. **How do we demonstrate good stewardship of precious resources in order to secure ongoing investment?**

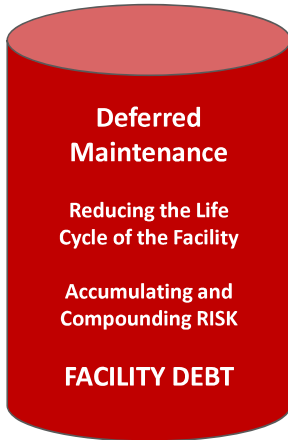




Buckets

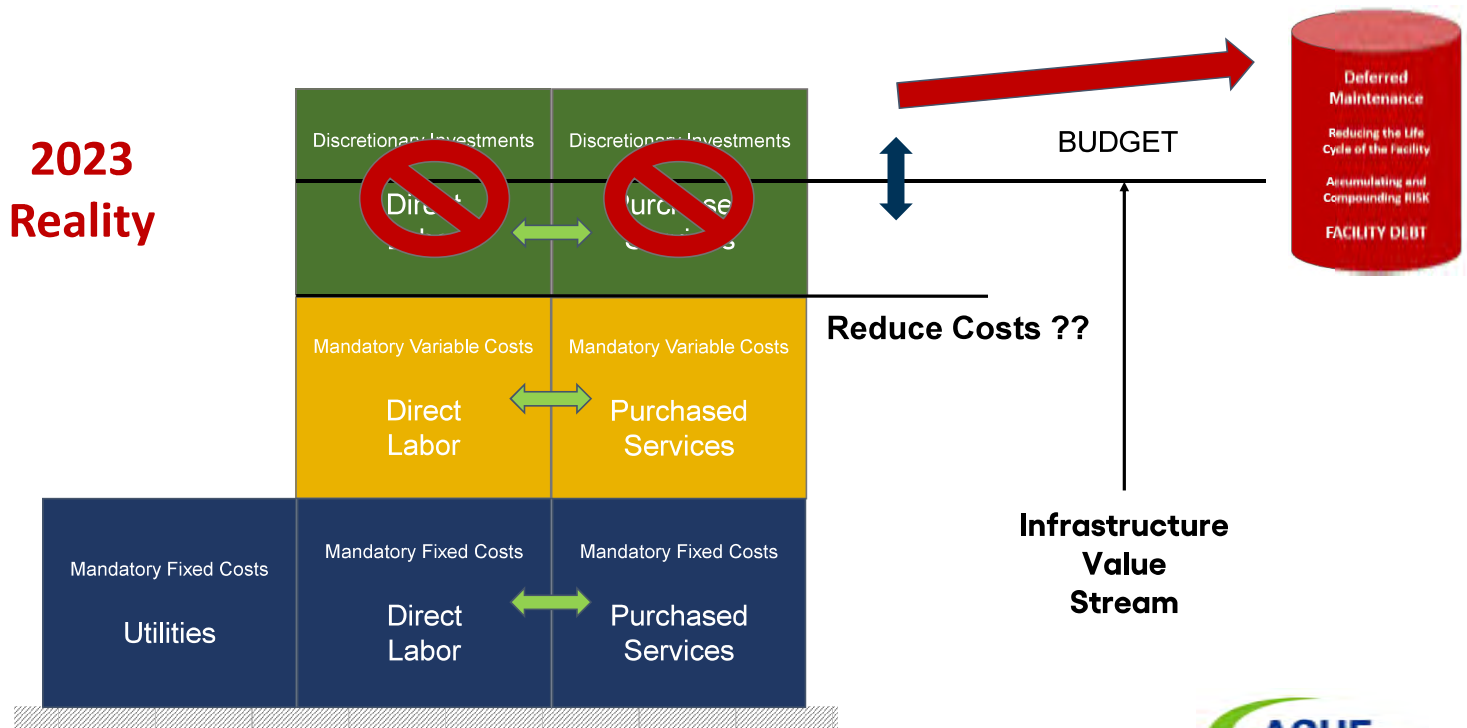


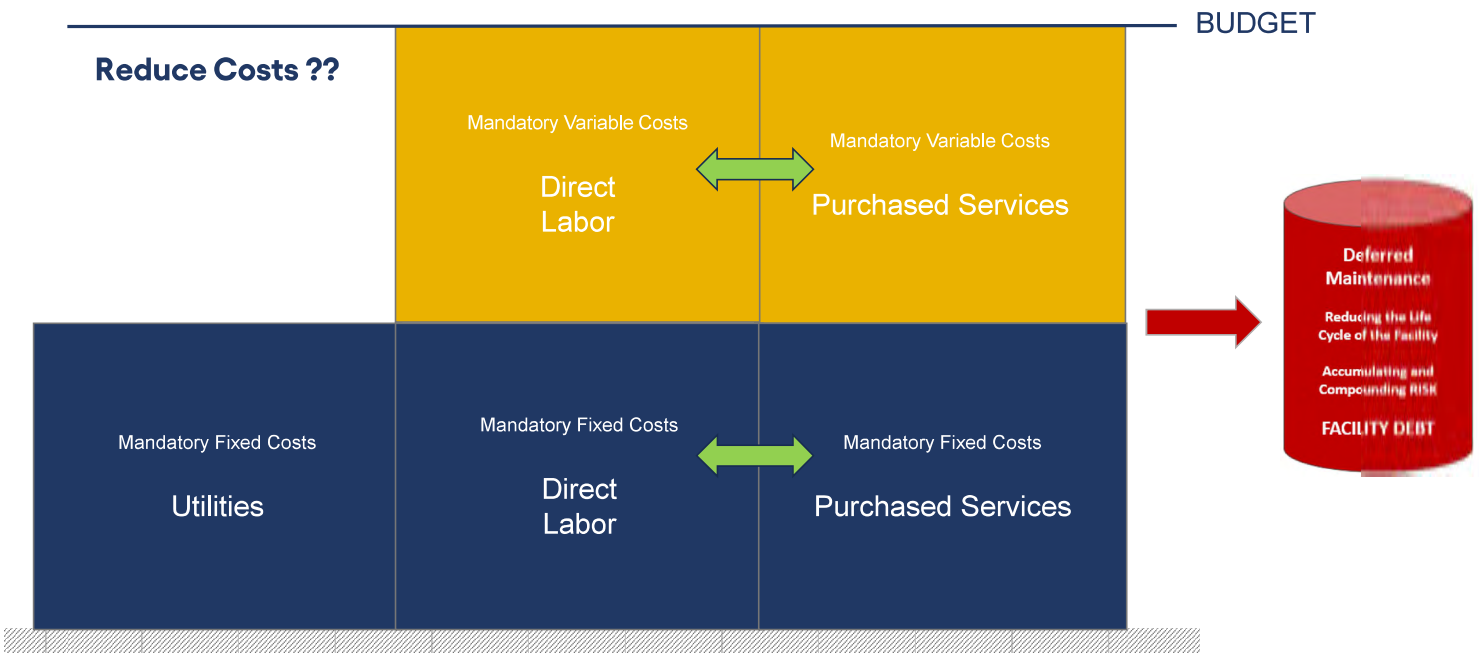
Deferred Maintenance Defined



AKA
Deferred Investment

- Infrastructure assets that have exceeded industry expected useful life based on age and/or condition.
- These assets are not in imminent failure mode, but indicate an accumulation of risk, and should be evaluated carefully for renovation and/or replacement.
- Communicating the objective reality of deferred maintenance is not to be feared. It is a continuous reality in any facility.

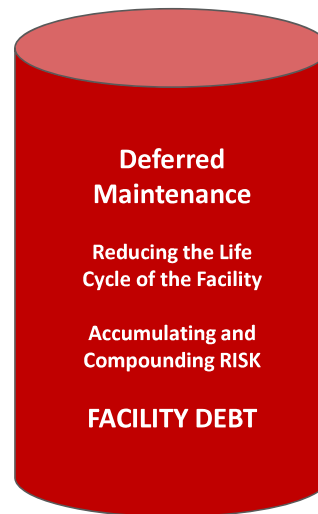




A New Bucket - Decarbonization



Vs.





The “Business” of Facility Management



**Facility
Leader**



CFO



The C-Suite...

They Don't Get It!

But, Why?



What is a Cost Center?

- *“A cost center is a function within an organization that **does not directly add to profit but still costs money to operate, such as the accounting, HR, or IT departments.**”*

Source: <https://www.investopedia.com/terms/c/cost-center.asp>



What is a Cost Center?

- *“The main use of a cost center is **to track actual expenses for comparison to budget.**”*

Source: <https://www.investopedia.com/terms/c/cost-center.asp>



What is a Cost Center?

- ***“The manager for a cost center is **only** responsible for keeping costs in line with budget and does not bear any responsibility regarding revenue or investment decisions.”***

Source: <https://www.investopedia.com/terms/c/cost-center.asp>



What is a Cost Center?

- ***“A cost center indirectly contributes to a company’s profit via operational excellence, customer service, and enhanced product value.”***

Source: <https://www.investopedia.com/terms/c/cost-center.asp>



“Price is what you pay, value is what you get.”

Warren Buffet

**Cost Center
Discussion**



**Value Center
Discussion???**



3 Stories....

- ACHE Congress 2023 – The Business Benefit of ESG
- Example Hospital – Fire Extinguisher Discharge
- Diesel Fuel Preservation – Struggle for Budget



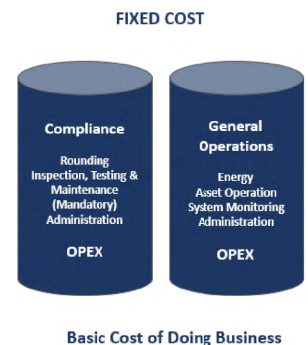
Creating a Value Chain

XYZ Major Health System - Diesel Fuel Value Chain			
Health System Macro Data	22,300,000 SQFT - 29 Accredited Hospitals + Non-Acute		
Number of Fuel Tanks	114 of All Sizes, Shapes and Capacities		
Total Amount of Fuel	426632	gallons	Value Multiplier (ROI?)
Fuel Treatment @ \$0.13 Per Gallong All In	\$ 55,462	\$0.002 per SQFT	NA
Replacement Cost of Fuel at \$4/gallon	\$ 1,706,528	\$0.077 per SQFT	39
Total Replacment Cost of Assets Utilizing Fuel	\$ 67,043,186	\$3.06 per SQFT	1530
Total Liability/Revenue Impact	?????	\$\$\$\$ per SQFT	Infinite



Utilities + Compliance – Optional?

- NFPA 10, 55, 72, 80, 99, 110, 101A, 70 Article 517, 241, etc.
- ASHRAE 170, 188P, etc.
- ASSE 6030, 6035, 6040, etc.
- Other State and Local AHJ Requirements, etc.



Challenge Questions

Does your non-facility leadership understand the work that you do?

Does your non-facility leadership understand **the value of** the work that you do?

Sales??



32

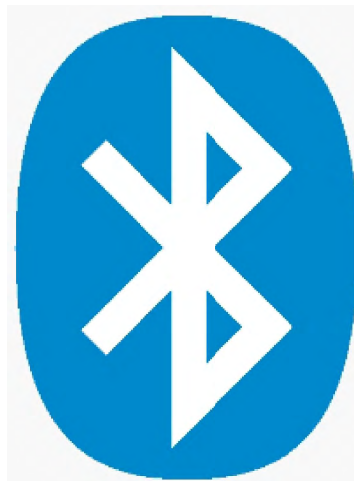


Feature Advantage Benefit

Educate Your Customer



Example



Creating a VALUE Chain

What is it?

What does it do?

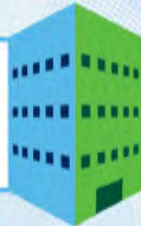
Why is it important?

What is the RISK or IMPACT if it fails?

How does it align with other initiatives?



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Transformation

Enabling a Value Center Perspective



Strategic Asset Management (SAM) involves the management of the maintenance of physical assets of an organization throughout each asset's lifecycle.

People, Process, Technology

AKA: Enterprise Asset Management (EAM)

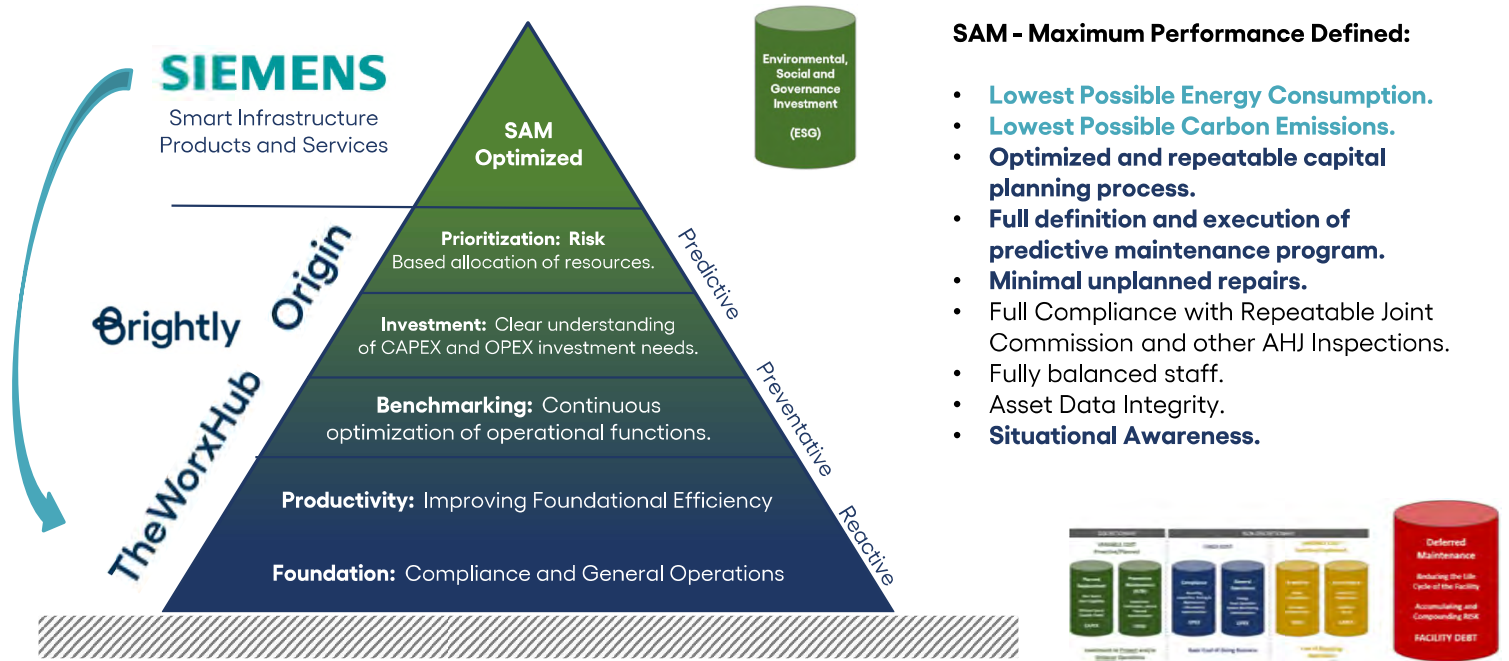
Establish Your Foundation

- **Transparency Leads to Credibility**
 - Deferred maintenance is a strategy. Need to clearly communicate that strategy and educate your non-facility leadership.
 - Leverage the work already being done. Don't start from scratch. Focus on equipment inventory as a starting point.
 - **Understand YOUR buckets.** As best you can. Understanding where the money is going today is the foundation of influencing where it goes tomorrow.
- **“You can't Manage what you can't Measure.”**

~ Peter Drucker



Hierarchy of SAM Maturity



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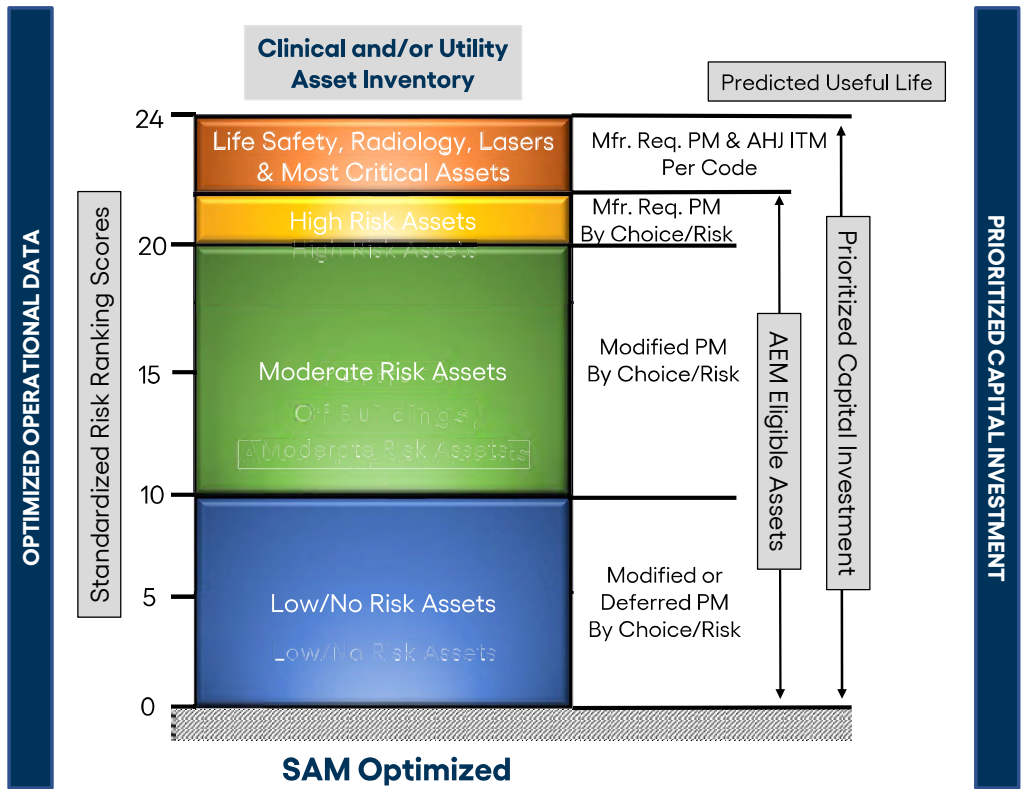
Understand Tolerance for RISK

■ Credibility Leads to Value

- Meet your non-facility leadership where they are, not where you want them to be.
- Deferred maintenance is an indication of RISK. As you communicate that risk, understand how your organization views that risk.
- Managing the facility is not the same as maintaining the facility. Be objective, be transparent, be proactive.
- Align your messaging with mission, vision, values in order to be heard.

■ “Seek First to Understand, then to be Understood”

~ Steven Covey



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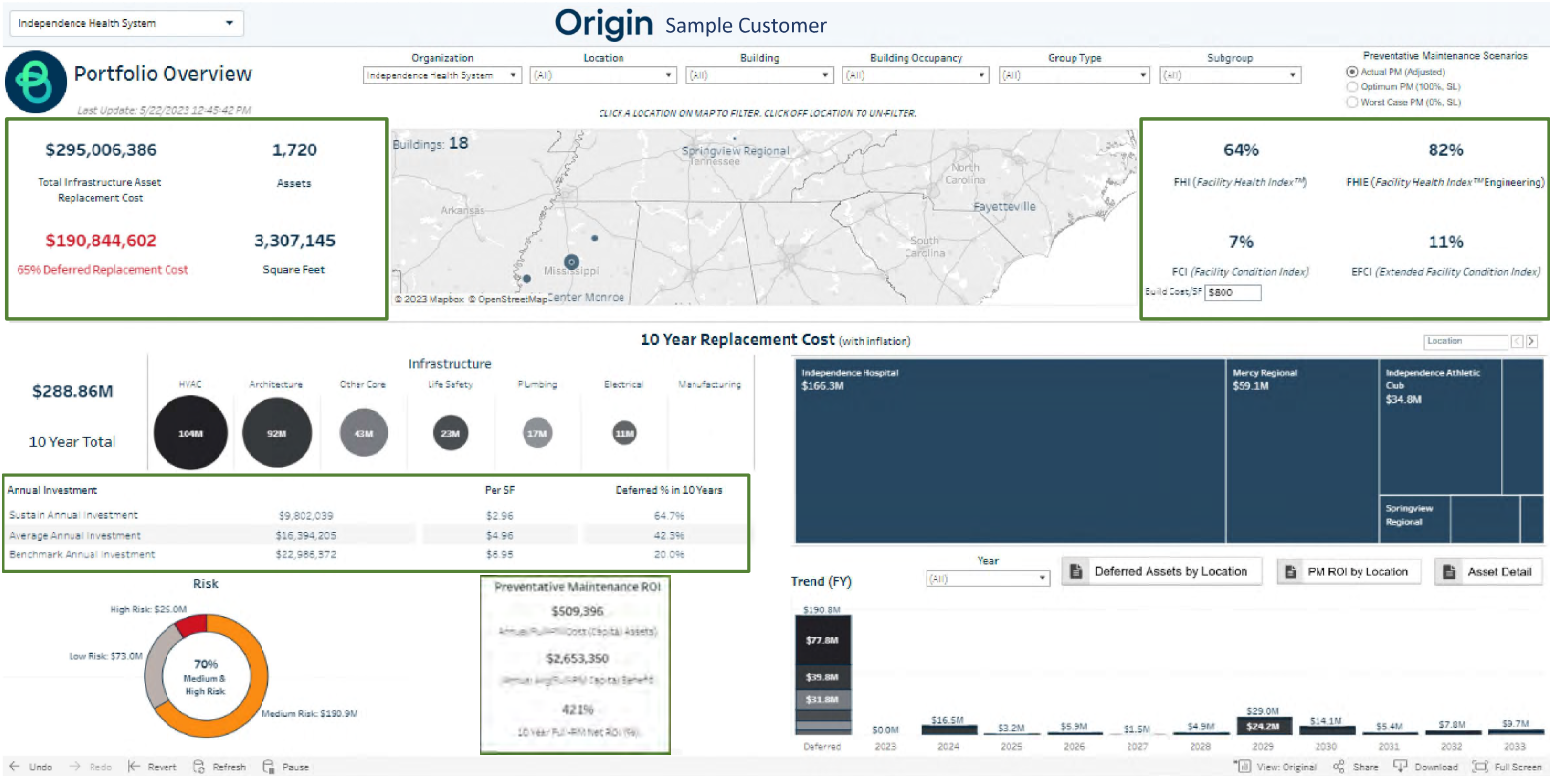
Partner With Your Leadership

Value Leads to Inclusion

- Be a key contributor at the budgeting table by sharing your business plan and cost/value relationship of the services you provide.
- Enable the process of continuous improvement. Use your data objectively to add value to critical leadership decisions.
- Document and communicate your decisions and recommendations - use objective data. Age, Condition, Risk, etc.
- Communicate all options objectively.

“Give them Options, Not Problems or Ultimatums.”

~ Matt Stiene



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3 Questions

- How much should be invested to properly maintain a facility?
 - Understand your true cost of providing facility services.
- Where should that investment be made in order to maximize the performance of the facility?
 - Create a VALUE chain analysis for individual asset and compliance spend.
- How do we demonstrate good stewardship of precious resources in order to secure ongoing investment?
 - Collaborate with non-facility leadership by demonstrating a command of the financial state of your business.



Questions?



OPERATIONS // BY MARK MOCHEL, MBA, CHFM, PHIP, ACISE

Communicating infrastructure's value

Three steps for aligning facility investments with organizational priorities

The healthcare field has historically underinvested in infrastructure. It is documented last substantiated by increasing age of plant statistics first published by the American Society for Health Care Engineering (ASHE) in the 2017 monograph, "State of U.S. Health Care Facility Infrastructure" (<https://www.ashe.org/facilities/infrastructure/>). The conclusion in 2017 was that "the increase in median average age of plant over nearly three years over the past two decades indicates the hospitals, in general, have struggled to raise the capital needed to keep their facilities up to date." Authored in the pre-COVID-19 era, it provides an excellent baseline from which to discuss infrastructure investment challenges today.



Translating engineering needs into business outcomes is critical when engaging non-facility leadership.

As a parallel statistic, facility condition assessment data collected by Brightly, a Siemens company, from 2016 to the present, suggests that up to approximately 17% of major mechanical, electrical and plumbing assets have exceeded expected useful life. Extrapolated to the national level, unless individual assets have been well-maintained, this metric indicates there may be a significant number of infrastructure assets with an increased probability of failure based on either age, condition or both.

Assets in deferred states are not necessarily a imminent failure mode but otherwise represent an increasing liability for many health care organizations. Just as a car with 150,000 miles on the odometer may be running fine around town, the same vehicle may or may not be suitable for a family trip across the country. Aging infrastructure increases risk, and the potential failure of key assets is critical evidence of key assets in critical condition. Investments can have devastating impacts on health care financial performance. In worst-case scenarios, they can

also negatively impact clinical outcomes and patient care.

Now, in 2023, the lagging negative impacts of the pandemic in combination with other macroeconomic forces have created a perfect storm of conflicting investment priorities. "Normal" pre-COVID-19 infrastructure investment levels already documented as insufficient, were cut further in the early years of the pandemic. Many of those cuts are now becoming permanent. Not even as the infrastructure continues to age, many facility leaders are being asked to harness, accelerate and otherwise maximize facility performance in ways that can only be achieved with significant capital investment.

Boiler room to board room

To justify and execute these transformational investment needs, health care facility leaders across the country must seek to establish stronger business relationships with nonfacility leadership and the C-suite. Now is the time to redefine

Alternative financing considerations

As the world enters a transformational period for health care facilities, it's important to look at alternative financing options. The traditional model of relying on cash, working capital or municipal bonds to finance facility may not be sustainable in the future, given the macroeconomic trends and wealth of individual organizations. Here are some other options to consider:

Revenue financing. Many suppliers of major mechanical, electrical and assets and systems can offer financing for equipment purchase, installation. These financing options may be more competitive than capital through other means.

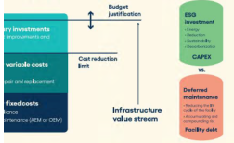
To provide grants/bonds. Many utility providers offer grants, rebates or local incentives for energy reduction projects. Organizations should explore ones for any project that can reduce energy consumption and generate data on investment.

Energy assessed clean energy (PACE) state financing. More than half of U.S. enacted PACE financing, which provides access to capital with repayment not through a tax assessment attached to the property. This funding mechanism provides more options for energy-related projects if supported by a hospital's local government.

Interest of Housing and Urban Development Federal Housing Administration (FHA) Section 242 loan financing. The Office of Hospital Facilities Administration (242) loan program, for qualified organizations, it may be possible in FHA-insured, nonresidential, supplemental loan that can be used to fund project projects that specifically "reduce hazards and potential failures infrastructure assets."

Most of the financing mechanisms an organization chooses, having distinct needs, age and risk profiles, and business plans will streamline any procurement request. With data in hand, organizations can reduce on-cost, desirable options for facility infrastructure investments and health care.

Increasing the value of infrastructure investment



Investments using value-based analysis and techniques. Seasoned health care executives, perhaps more accustomed to reviewing income statements, balance sheets or other financial statements, may appreciate this approach and find it more

Increasing infrastructure's value



relatable to other nonfacility projects also to review. There are only two ways to improve the financial performance of a department or business: increase the top line (revenue) or decrease the bottom line (cost) to maintain operations. With facility budgets already reduced to extreme levels, this budget growth or "revenue" concept may provide an opportunity to realign expectations.

As an example, an air handler that serves an operating room is not just a stand-alone asset; it's the heartbeat of a greater and more complex infection control system that is critical to patient care. The air handler, in combination with other key assets (e.g., dampers, diffusers and exhaust fans) provides the necessary air changes, sustains the sterile field and maintains the required temperature. Identify and pressure relationships known to reduce surgical site infections. In that context, the cost-value relationship is much easier to define.

Not every infrastructure asset has such a clear connection to either patient outcomes or business revenue, but even indirect links can be used in the same manner. Roofing, dating and facades, when maintained properly, reduce or prevent water intrusion, also an infection control benefit. Identifying this path is a worthwhile endeavor. In summary, when preparing budget requests, document what the asset is, then define what it does, and provide an objective assessment of risk if it fails. Every asset has a purpose, a cost and a value that can be defined when all three elements are understood.

Step 3: Align the facility business plan to the mission, vision and values of the organization and leverage data to integrate facility needs with other strategic initiatives. Depending on the culture of an organization, facility leaders may or may not be full-included in larger strategic investment decisions. Whether defined as a facility master plan or a strategic infrastructure plan, larger and long-term facility decisions include service line projections, demographic forecasts, reimbursement levels and other financial metrics. When facility needs are framed in this financial perspective, it again may be possible to reduce the value proposition. Most hospital and health systems have aimed humanitarian, community and environmental values that can only

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S. Deferred maintenance

- Breaking the life cycle of the facility
- Accumulating and compounding risk
- Facility debt

This type of open commitment by an organization also represents an opportunity to further link facility operational and capital budgets to larger organizational initiatives and again question the perception that infrastructure investment has no ROI. In this case, ROI will be measured on the national stage as organizations assess these stated goals, or not.

If, in this example, decarbonization is important to the C-suite, then it is appropriate to include that factor when

presenting projects and budgets for approval. It should be presented objectively, professionally and validated with meaningful data at all times.

Collaborative development

For many organizations, the financial challenges imposed by the pandemic have and will likely continue to exacerbate the problem of underinvested infrastructure for years to come. In parallel, facility leaders are being tasked to handle facilities against natural disasters, reduce carbon footprint and reimagine the role of the facility itself in the future of health care.

As aging infrastructure lack of available funding and physical infrastructure transformation are competing and contradictory goals, new investment priorities will be necessary, as will be the planning and budgeting processes used to justify that investment.

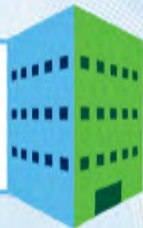
Transformation can only take place through the collaborative development of an objective business plan that can be supported and executed at all levels of the organization, from the boiler room to the board room. **HFM**

Mark Mochel, MBA, CHFM, PHIP, ACISE, is a strategic account executive at Brightly, a Siemens company. He can be reached at mark.mochel@brightlysiemens.com.





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Thank You!

