

2025 Cultural Facility Benchmarking Program Review

A decorative bar chart at the bottom of the page. It features 25 vertical bars of varying heights, colored in a gradient from dark grey to light grey. A horizontal dashed line is drawn across the chart at approximately the 40% height mark. The bars show a general upward trend from left to right, with some fluctuations.

Program Provides Data & Metrics

The Best Cultural Industry Data for many Performance Metrics

2025 Overview

- 19 Organizations, 263 Buildings, **9 M GSF**, \$5+ B Asset Value
- Serving **2 B annual visitors**, 2 B items in collections
- **\$160 M annual property operating costs** \$258 M total costs

Quantitative and Qualitative Comparisons

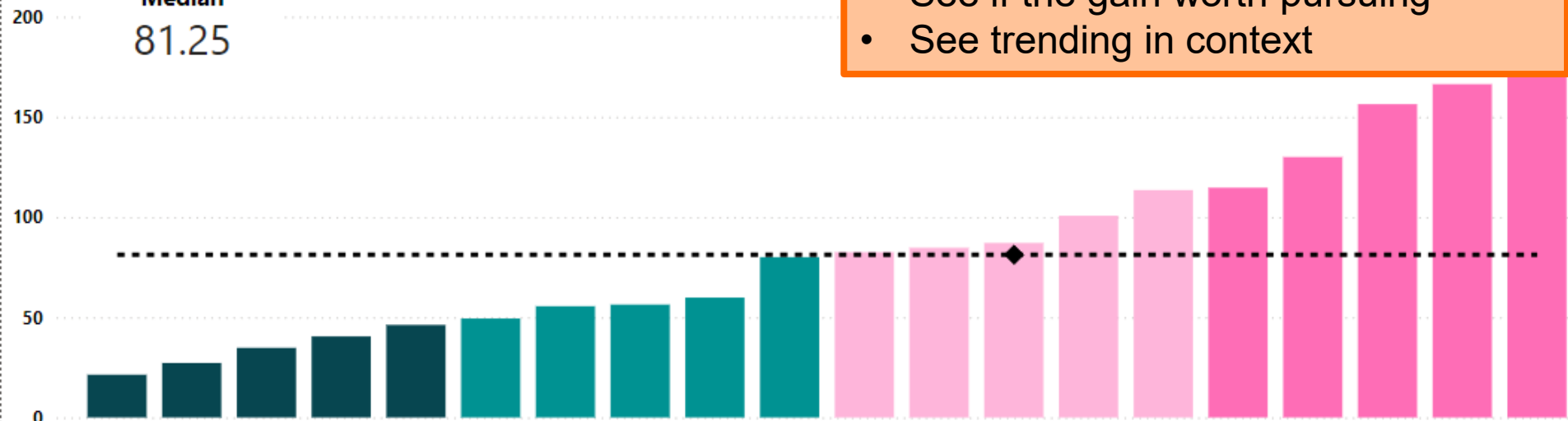
- 700+ data points
- Key quantitative performance metrics
 - 25+ at organization level (staffing & practices)
 - 63+ at property level (size, cost, sustainability performance)
- Qualitative metrics such as degree of use of Practices:
 - Custodial & Maintenance operations
 - Space management
 - Energy, Water, & Waste management

Key Metrics Charts to Facilitate Review

Energy Use Intensity

● Organizations' Value by Quartile ● Median Value ◆ Our Value

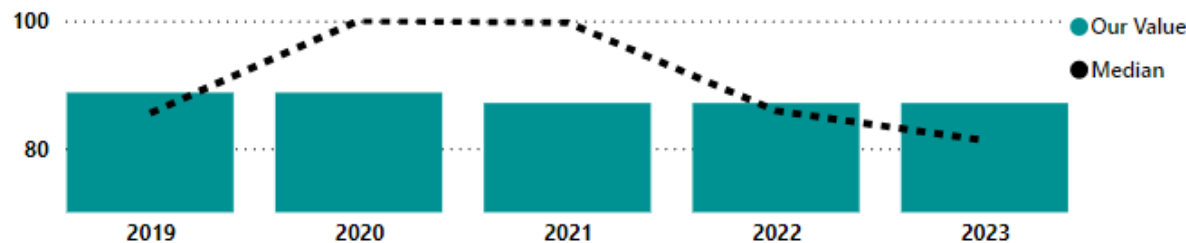
Median
81.25



30 Second Review:

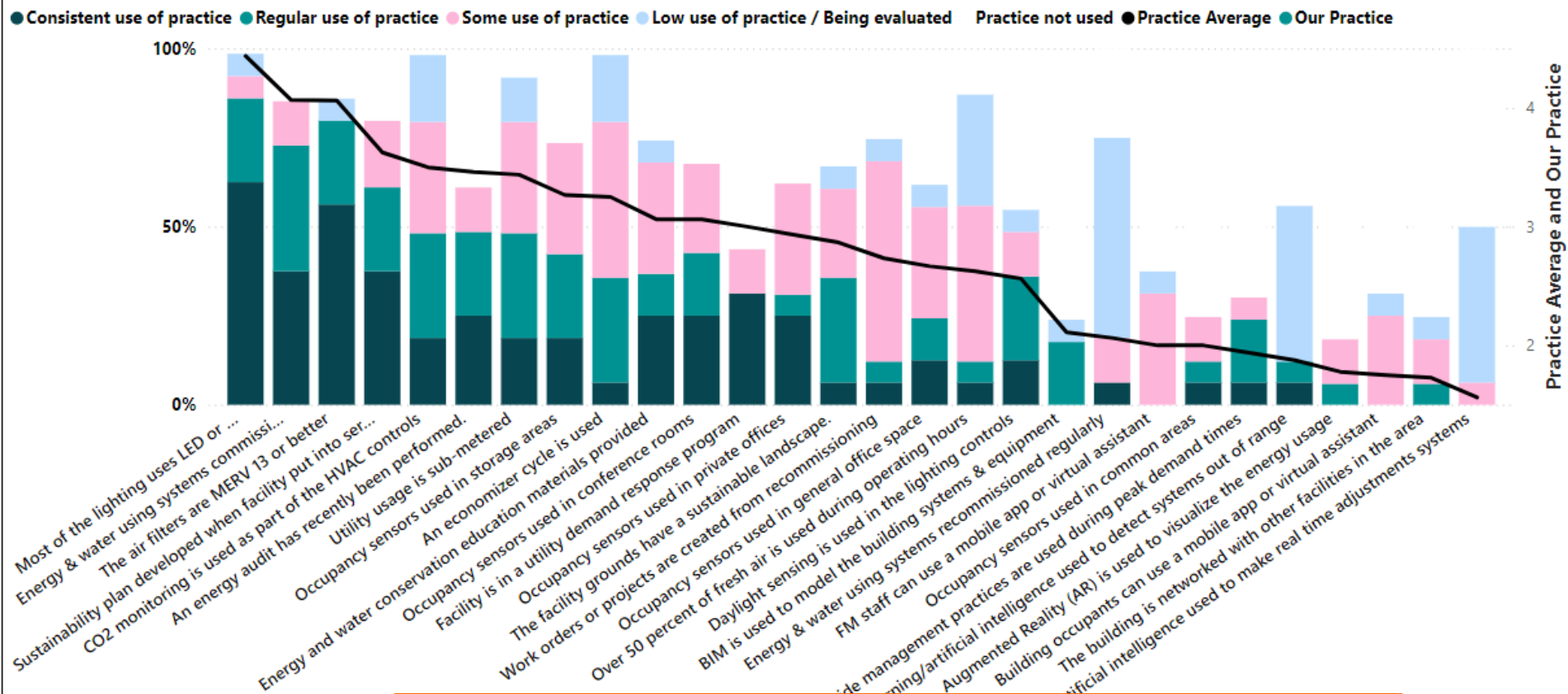
- Select metric of interest
- Assess your performance in context
- See if the gain worth pursuing
- See trending in context

Trend: Our Value vs. Median



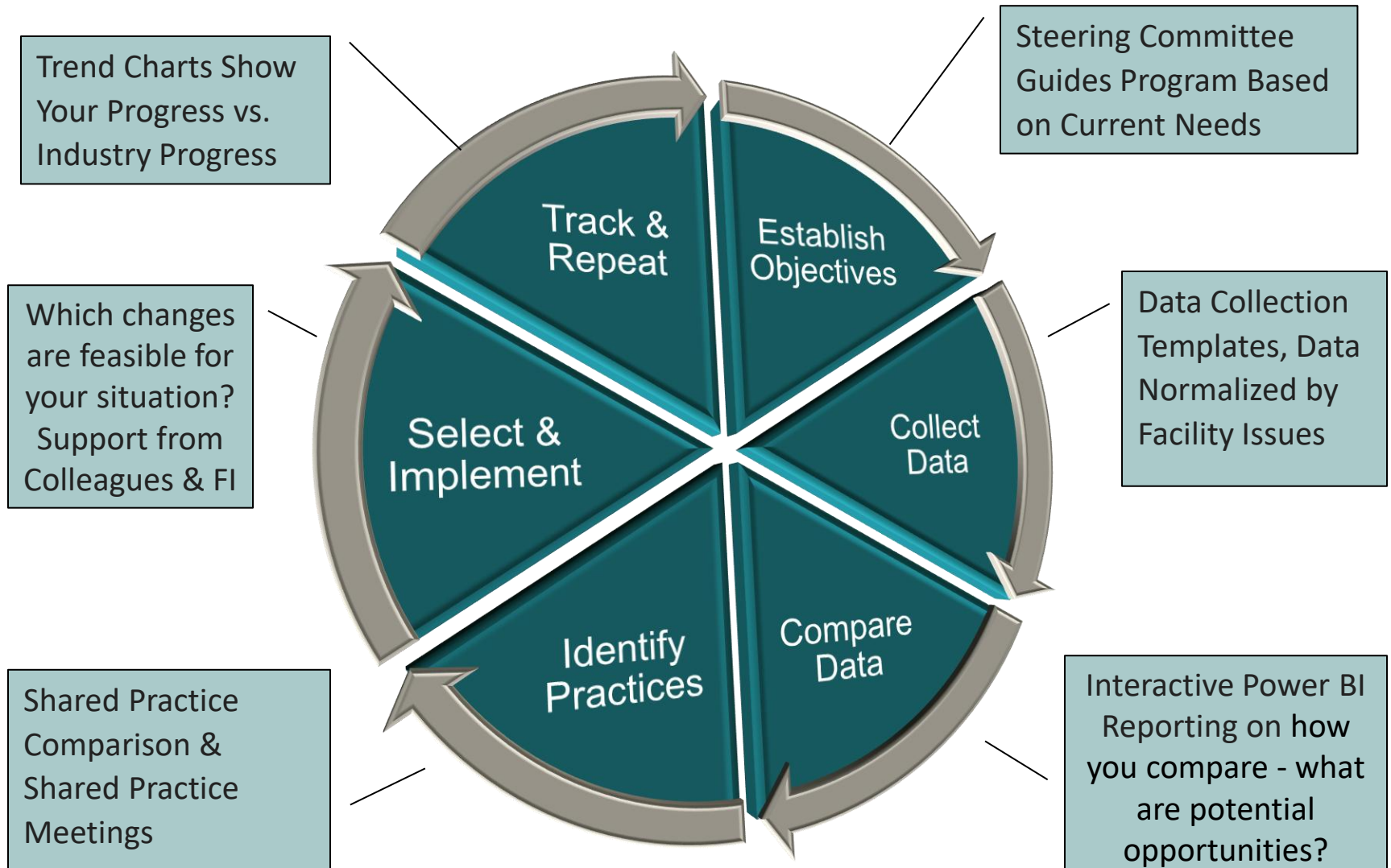
Comparison of Practice Adoption Levels

Conservation Practices Used



Identify alternative practices and technology commonly used by others for quicker, easier, incremental improvements - or those not yet commonly used.

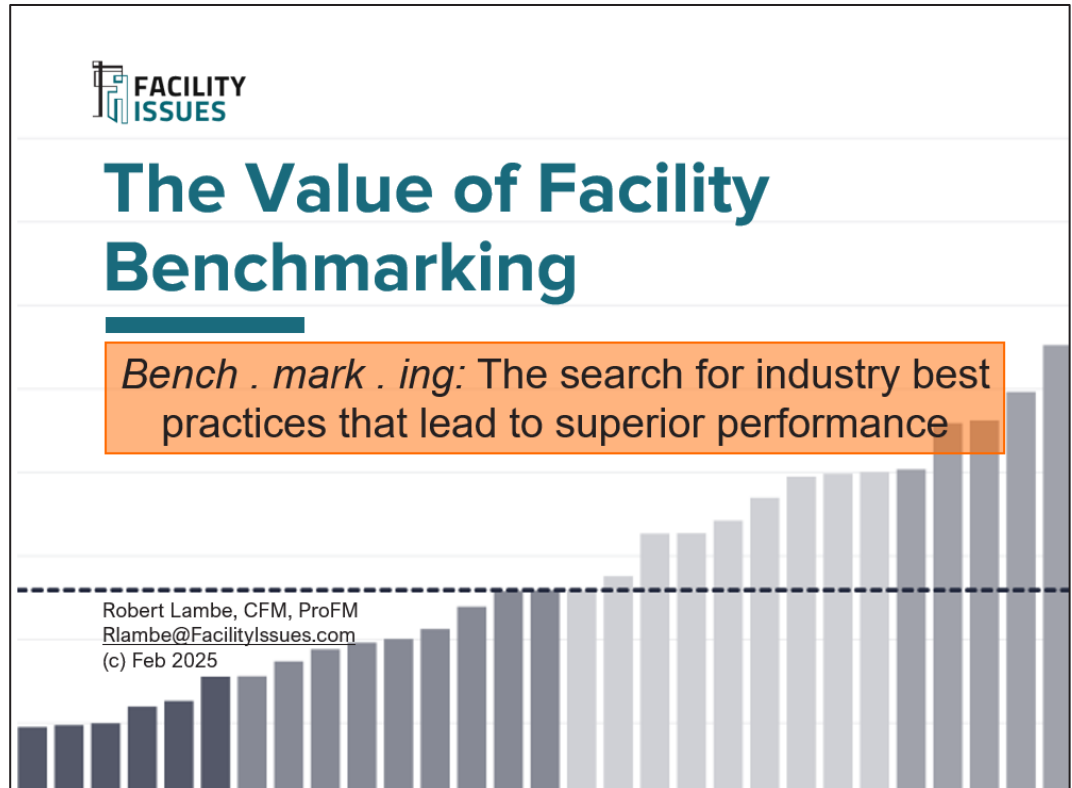
Complete Benchmarking Process



New Reference Guide

Tips on getting value from each part of the process

- Identify key information
- Focus on most relevant data
- Create action plan based on your situation



Download: <https://facilityissues.com/get-value-from-benchmarking/>

Example Action Matrix: Performance vs. Objectives

Action Plan: Specific actions (policy change, investment of \$, effort...)

- to achieve desired performance improvement (or address identified deficiency) over specified time period.

Want to be →				
Are ↓		Leader	Competitive	Not Priority
	Leader	Document & Celebrate	Document & Celebrate	Evaluate Resource Allocation
	Competitive	Incremental Improvements & Evaluate	Document & Celebrate	Manage by Exception
	Struggling	Evaluate Radical Changes	Incremental Improvements & Evaluate	Manage by Exception

You are Invited
Monthly Shared Practice Meetings / Surveys

	2025 Monthly Shared Practice & Networking Topics	
Jan	No meeting	
Feb	Getting Value from Facility Benchmarking	Topics you would like in 2026?
Mar	The Range of Services Your Department Provides	
Apr	Special Event Preparation at Cultural Facilities	
May	Live Help Session on Your Data Assembly Questions	
Jun	Min/Max: Exploring the Relationship Between Energy and T/RH Parameters	
Jul	Lessons Learned from an Energy AI System Pilot	
Aug	Grounds and Outdoor Spaces	
Sep 23	Annual Workshop Town Hall Session	
Oct	Training Cultural FM for Climate Smart, High Perf. Buildings	
Nov	Emerging Issues for Cultural Facility Management	

Calendar: <https://facilityissues.com/cultural/schedule/>

June Shared Practice Meeting:

MIN/MAX: The Relationship Between Energy, Carbon, and T/RH Parameters in Collecting Institutions

What are the benefits of broadening T/RH parameters beyond the status quo of 70°F/ 50% RH (24°C/ 50% RH), particularly energy savings, in a time of high inflation, a stressed economy, and a deteriorating global climate system?

Thanks to...



Environment
& Culture
Partners



INSTITUTE of
Museum and Library
SERVICES

June Shared Practice Survey: Temperature & Humidity Control Objectives

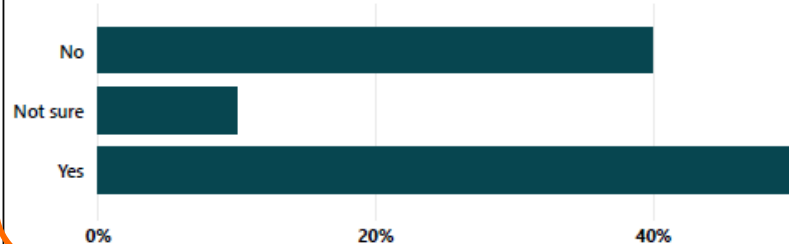


This report contains the results of a "Shared Practice Survey" on [Temperature and Humidity Control Objectives](#) and reflects the answers based on voluntary participation.

6/20/25

Use of this report is subject to the [terms of use](#).

Collection Settings Strictly at 70F/50% RH, 24/7



How T/RH for Collections is Monitored

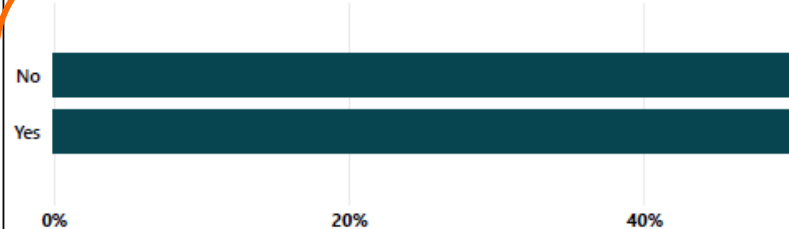
Many Institutions already testing expanded parameters

We primarily monitor and manage from the BMS. Thermostats record data on BMS Through BAS Controls with over 10,000 points as well as trent data. We monitor temperature in the space and RH at on the AHU Return Air side.

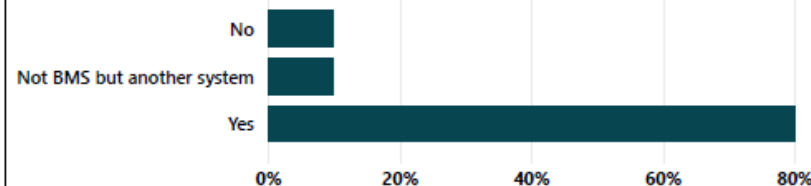
Organization

Brandywine Conservancy & Museum of Art
Carnegie Museums of Pittsburgh
Getty
Glenstone Museum
Ingenium Canada
Museum of the Shenandoah Valley
National Gallery of Art
The Sixth Floor Museum at Dealey Plaza
Winterthur Museum, Garden & Library

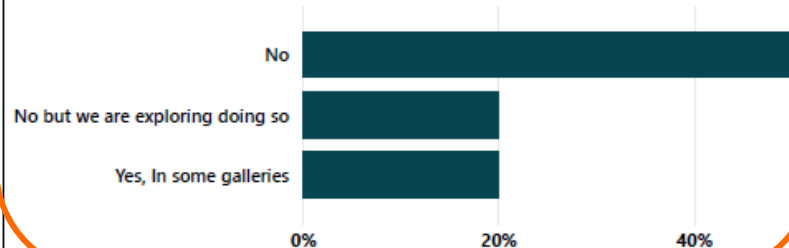
Familiar with the Bizot Green Protocol



Align Monitoring Data with insights from BMS



Use Bizot protocols



Bizot Green Protocol not well known or adopted

Green Protocol in test areas. We use floating setpoints, but have developed our own protocols.

on Monitoring

county does not share their information with us. I rely on the BMS to manage and report on T/RH. Prior to 2022, there was frequent comparison between HOBO readings and the BMS. Our collections folks have not shared HOBO readings with me. I'm not getting any push from them to make any adjustments. We have a new CEO. I suspect he will be very open to a more sustainable policy.

MIN/MAX: Preliminary Findings

Themes: Buildings

Systems and Equipment

• Dataloggers

- Critical indicator of a room's suitability for collections.
- Alert to drastic fluctuations in T/RH

• HVAC

- HVAC condition and age may impact broadened parameters.
- Centralized HVAC may limit broadened parameters.

Envelope Conditions

- Awareness of building design and existing conditions to support changes to broaden parameters.

Themes: Operations

Events

- Large indoor events can have a significant impact on maintaining space conditions

Communications (internal)

- Changes to setpoints may impact staff comfort. Communications with staff about the museum's goals for broadened parameters or energy efficiency may provide:
 - support healthy discussion for realistic changes,
 - awareness-building,
 - and whole team buy in.

Buildings

- Equipment & systems
 - Dataloggers
 - HVAC
- Envelope conditions
 - Building use areas

Operations

- Events (esp. large ones)
- Communications
 - Setpoints

Staff

- Capacity & Background
- Unity
 - Agreement on practices and shared vision between departments and all levels of leadership and staff for this work can foster a collaborative and trusting environment where decision-making becomes more efficient and effective.

July Shared Practice Meeting:

Lessons Learned from Energy AI Systems Pilot

What benefit might an Energy AI system offer for Cultural Facilities?

Feedback from testing the Ento.ai cloud energy management system:

- Tested by Brendan Robinson, Director of Facilities
- Sponsored by Facility Issues

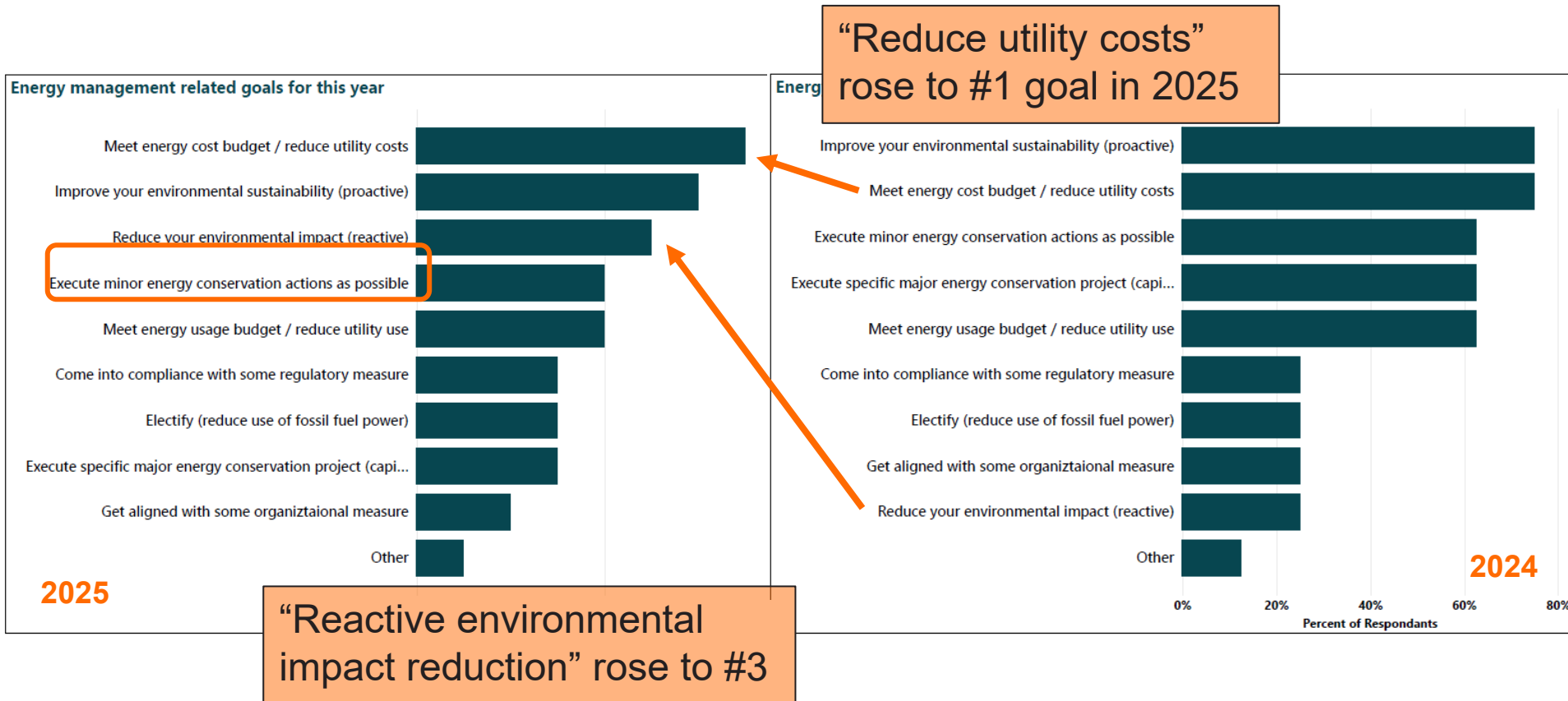
Thanks to...

Glenstone

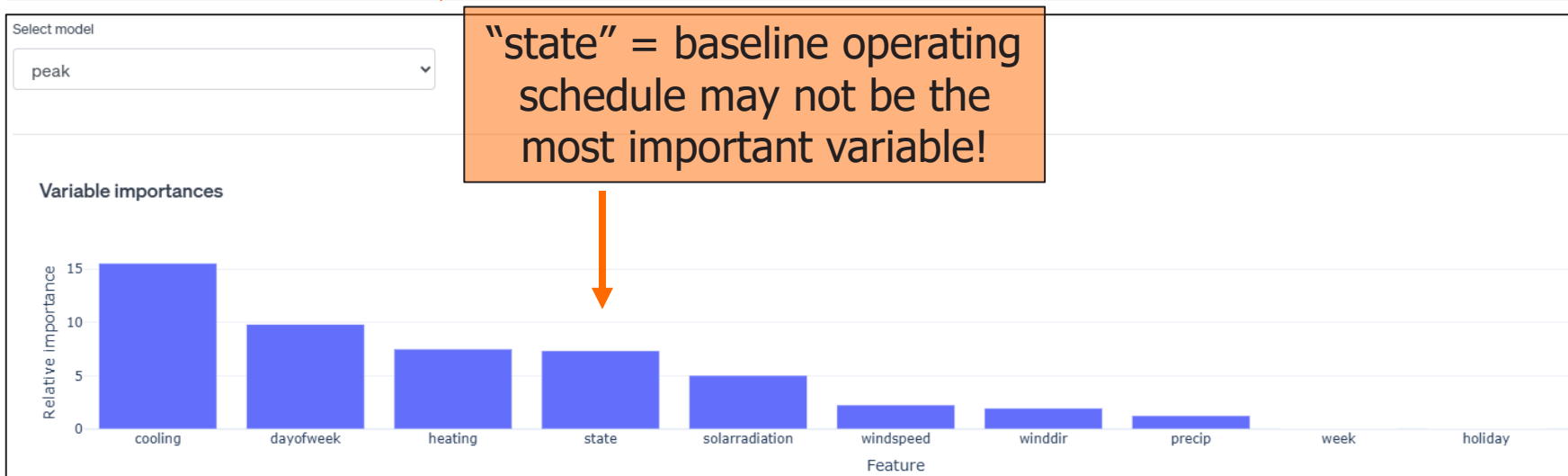
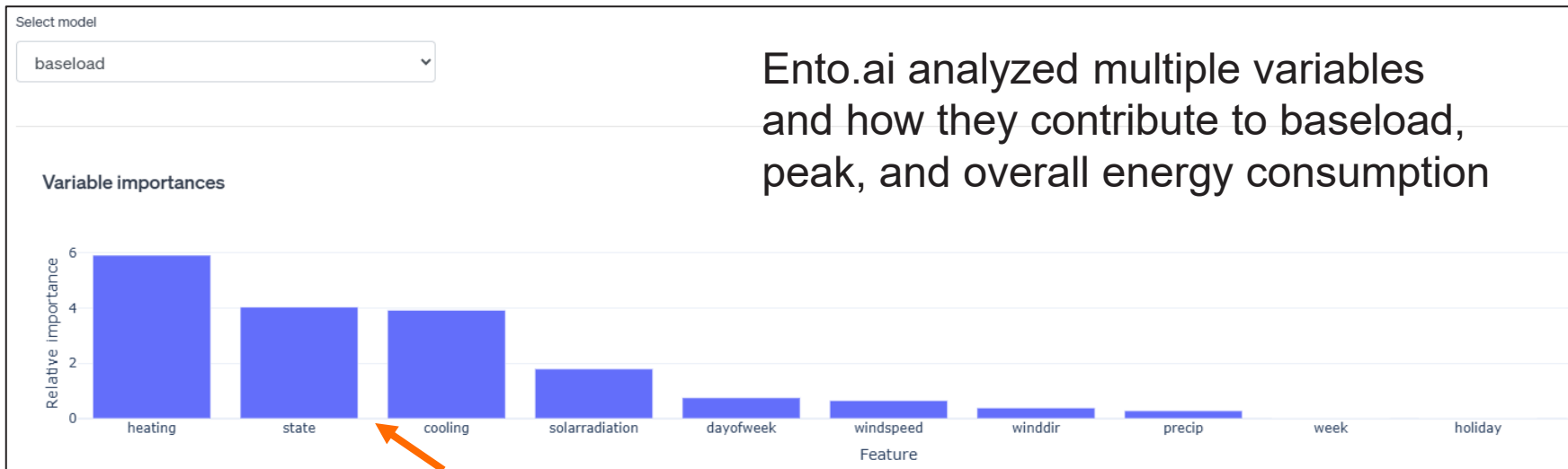


July Shared Practice Survey: Energy Management Activities

Repeated a survey on energy management activities from last year



July Shared Practice Meeting: Lessons Learned from Energy AI Systems Pilot



July Shared Practice Meeting:

Lessons Learned from Energy AI Systems Pilot

Pros

- Ease of startup
- Accuracy of data
- Valuable analytic insights
- Internal Benchmarking

Cons

- Challenging to understand and use the interface
- External benchmarking lacks detail

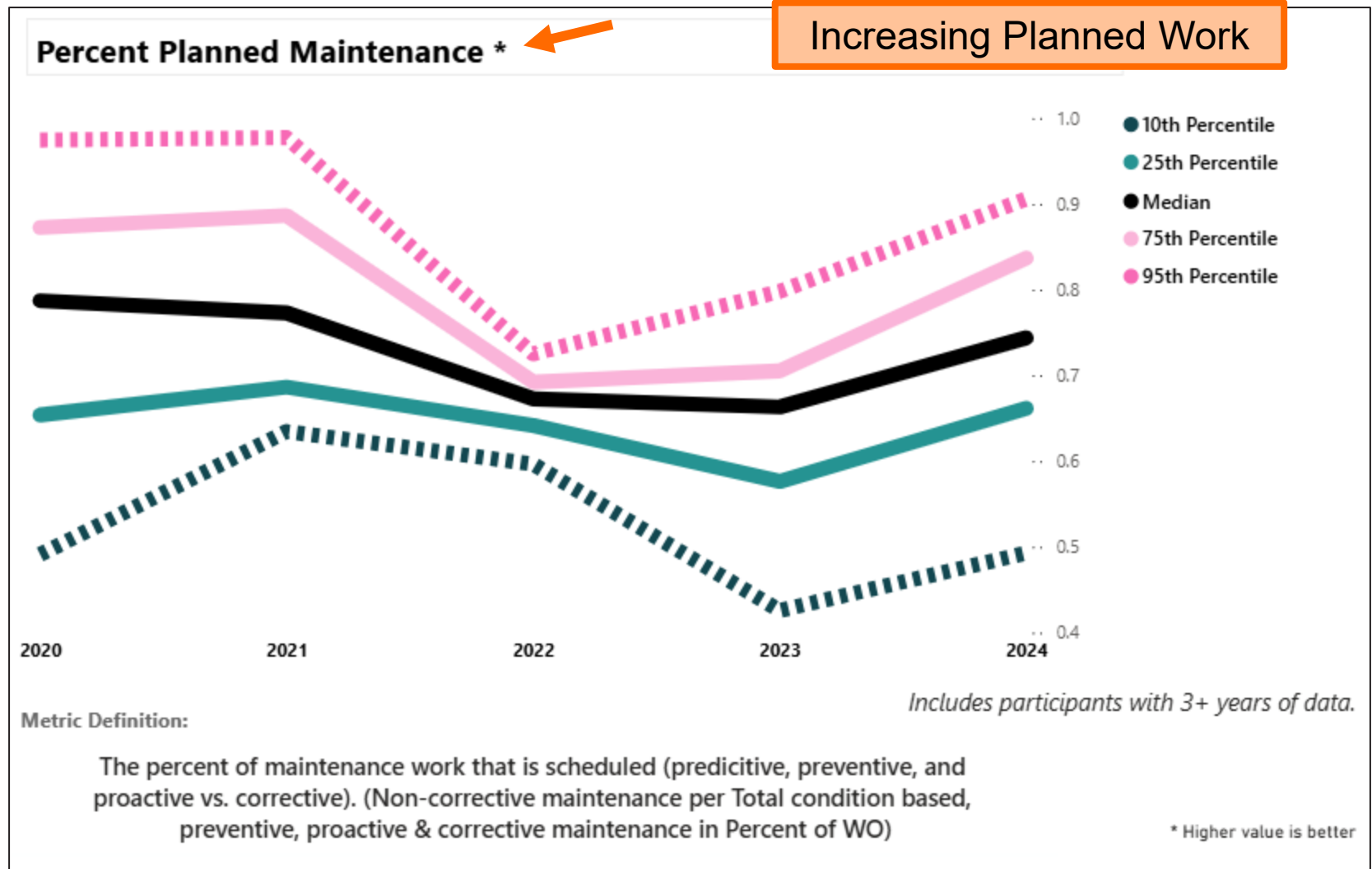
Potential Applications

- Where no submetering available – all you need is utility meter data (15-minute intervals)
- Best if you have some technical support

Contact Robert Lambe for more information

TRENDS WE ARE SEEING IN THE [INCOMPLETE] DATA

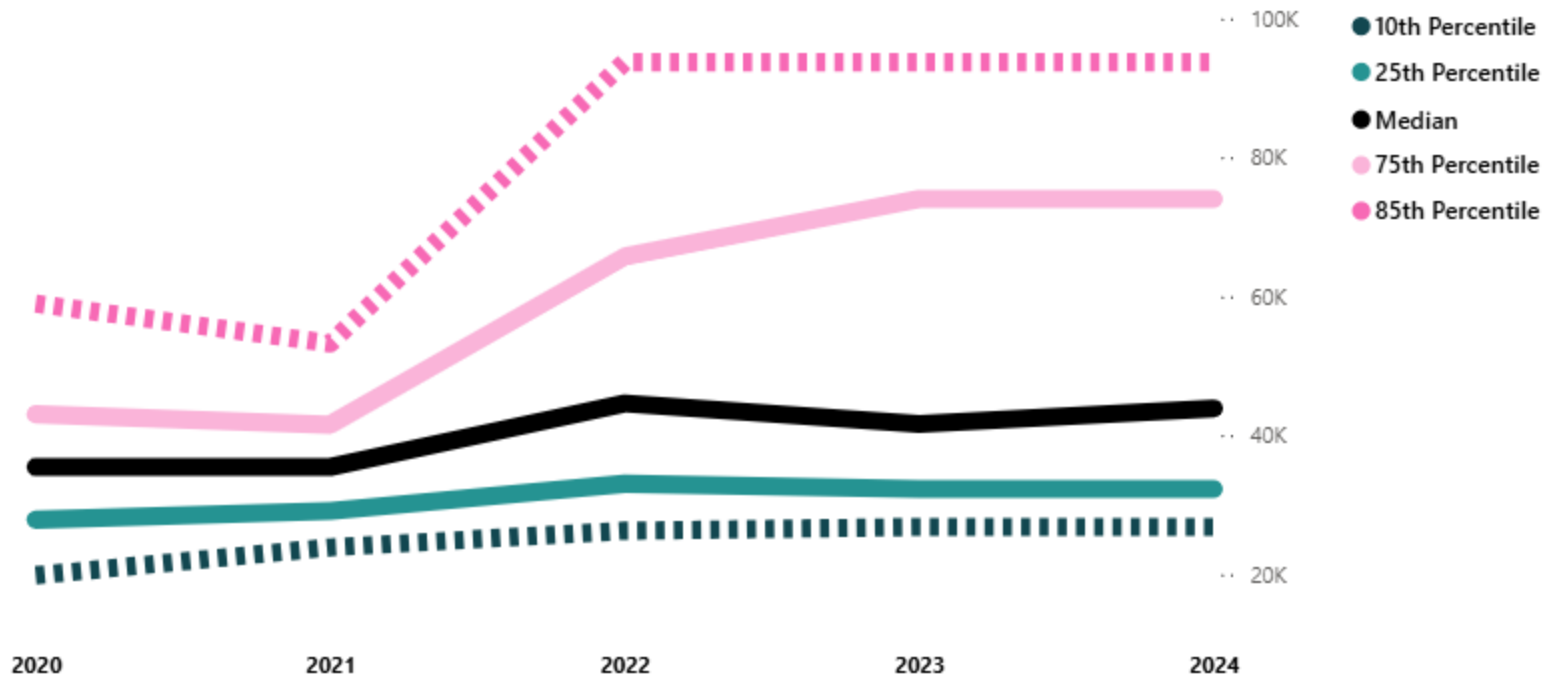
Some Trends in the Data - Planned Maintenance



Some Trends in the Data – Maintenance Staff

Maintaining Staff

Gross Area per Maintenance Worker



Metric Definition:

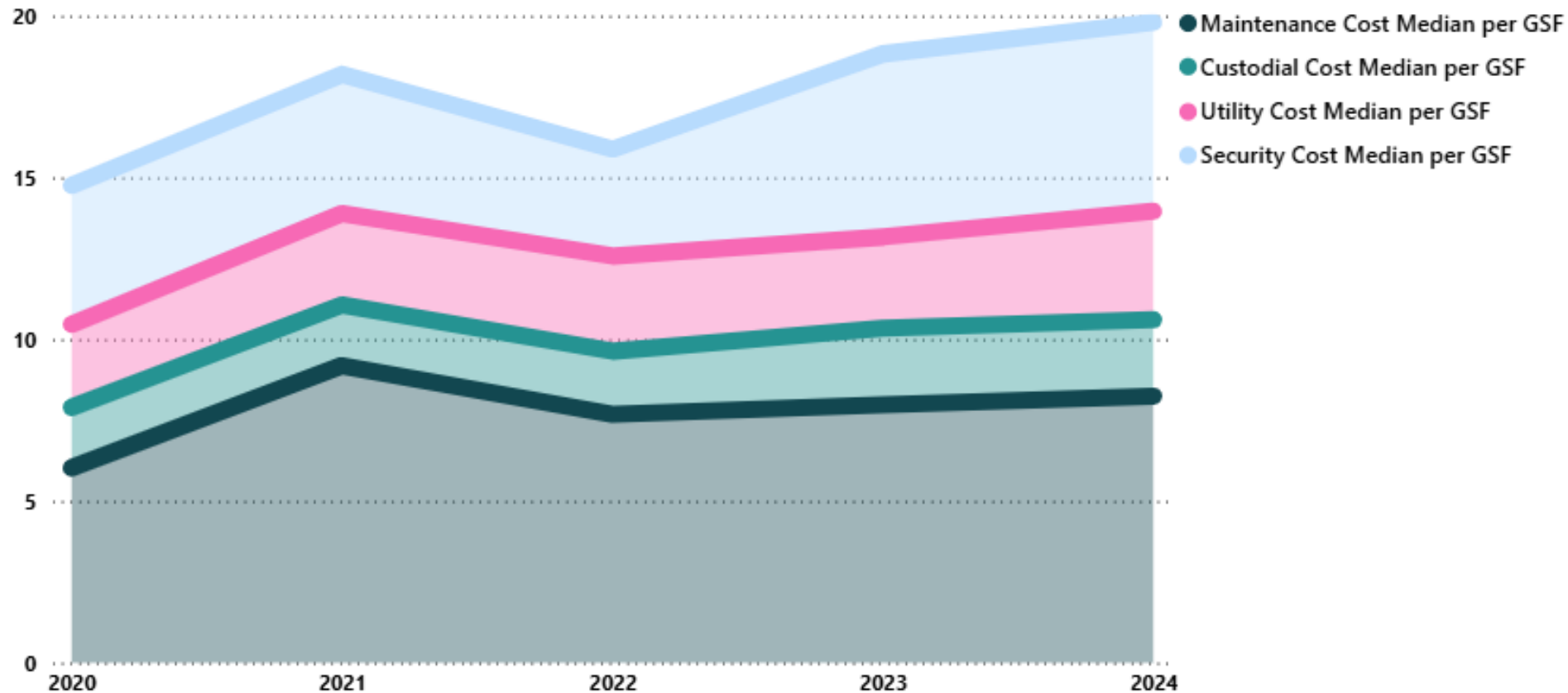
Total gross area per maintenance craft FTE. (Gross Building Area per FM Maintenance FTE in FT2/M2 per FTE)

Includes participants with 3+ years of data.

Some Trends in the Data – O&M Costs

Budgets are flat, but costs are rising.

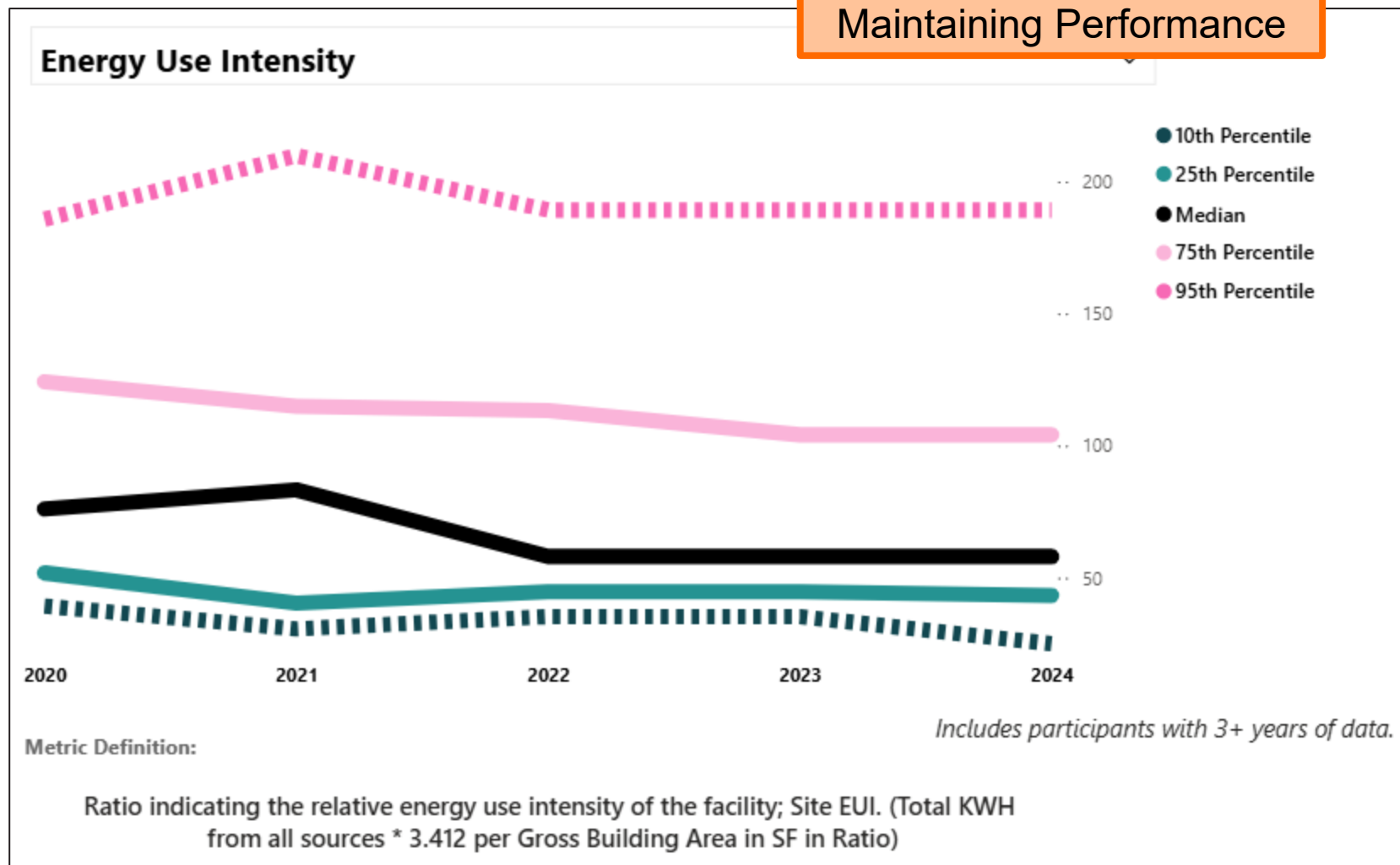
Metric Trend



Includes participants with 3+ years of data.

Some Trends in the Data – EUI

Maintaining Performance



MAKING BENCHMARKING EASIER

Automated Helpers?

AI Assistants (Agents) – Have a team of benchmarking assistants:

- Ask the benchmarking data questions (analyst)
- Get assessment of our organization (researcher)
- Draft and discuss recommended actions to consider based on selected priorities or weak performance areas (consultant)
- Get help compiling our data (analyst)
- *What else ?*



Key Issues Being Tested in AI Benchmarking Pilot

Data Security/Quality: Keep benchmarking data private

- Use “middleware” to secure our data

Intellectual Property Protection Our patent-pending Neural Engine and IP Vault provide comprehensive security for institutional content. We implement advanced encryption, secure multi-level file storage, and sophisticated content anonymization—achieving 99.99% multi-tenant isolation and 99.7% unauthorized access prevention.


- Limit some queries to only using our data to avoid internet “noise”


RAG, or Retrieval-Augmented Generation, is a technique that enhances large language models (LLMs) by allowing them to access and incorporate external data sources, improving the accuracy and relevance of their responses.


Ease of Use: Specific assistants for specific purposes


Quality of Results: Assess the sensibility of the results

Facility Issues' AI Benchmarking Pilot


 CI Query Benchmarking Results

 5 minutes ago





Let's start a conversation with the "CI Query Benchmarking Results" assistant !



Welcome! 🖐️

I'm the **Cultural Institution Benchmark Query Assistant**, and I'm here to help you explore and analyze benchmarking data specifically for cultural institutions.

Excerpts from an
Example Session



What I Can Help You With

I can assist you with queries such as:

1. **Regression Analysis:** Provide a "soft" regression analysis of how identified practices and technologies impact performance metrics
2. **Performance Trends:** Assess the industry's performance trends over time
3. **Service Level Summary:** Give you a general overview of the industry's typical service levels
4. **Performance Expectations:** Summarize common performance benchmarks you can expect in the cultural institution industry
5. **Demographics Overview:** Provide insights into the participant group's demographics (both organizations and properties)

Important Notes

1. I work exclusively with Cultural Institution (CI) benchmarking data
2. I maintain strict confidentiality - no specific organization details or identifying information will be shared
3. All insights are presented at an aggregate, industry level

What would you like to explore first? Feel free to ask me any questions about cultural institution benchmarking data, performance metrics, or industry trends!  





Expected Performance Standards for Cultural Institutions



Cost Performance Metrics

Total Cost of Occupancy:

1. Expected range: **\$27-30 per square foot** annually
2. This includes all facility-related costs (maintenance, energy, custodial, etc.)

Operations & Maintenance Costs:

1. Typical performance: **\$15-20 per square foot** for direct O&M costs
2. Energy costs generally represent **25-35%** of total facility costs



Staffing Performance Standards

Maintenance Staffing Ratios:

1. Industry standard: **1 maintenance worker per 50,000-75,000 square feet**
2. Training expectations: **5-8 hours per maintenance worker annually**

Cultural Institutions Performance Trends Analysis

Cost Management Trends

Total Cost of Occupancy Evolution:

1. **Stabilizing trend:** Organizations are achieving more consistent cost performance around **\$27-30 per square foot**
2. **Efficiency improvements:** Better integration of facility management systems leading to reduced administrative overhead
3. **Energy cost optimization:** Institutions implementing energy management programs showing **10-15% reductions** in utility costs

Operational Excellence Trends

Maintenance Strategy Evolution:

1. **Shift toward preventive maintenance:** Industry moving from **50-60%** to **65-75%** preventive work
2. **Technology adoption:** Increased use of CMMS and predictive maintenance tools
3. **Staffing optimization:** More efficient staffing ratios, with institutions achieving better coverage per square foot

Cultural Institutions Service Level Benchmarks

Maintenance Service Levels

Service Level Establishment:

1. **Cross-functional team approach:** Most high-performing institutions establish service levels through collaborative teams
2. **Requirements-based standards:** Service levels typically based on operational requirements rather than historical practices
3. **Documentation standards:** Service levels documented in service contracts or formal SLAs

Industry Movement Toward Formalization

Key Trends Observed:

1. **Shift from informal to formal:** Moving away from "handshake agreements" to documented standards
2. **Performance-based documentation:** Service levels tied to measurable outcomes rather than just activities
3. **Transparency initiatives:** 43.75% of institutions now share service levels with occupants/users
4. **Regular review cycles:** Documented service levels reviewed **annually** or when contracts are rebid

Top 3 Critical Performance Factors

1. Maintenance Strategy & Execution

Why It's Critical:

1. **Preventive vs. Reactive Balance:** High-performing institutions achieve **65-75% preventive maintenance** ratios
2. **Response Time Standards:** Emergency response within **2-4 hours** directly impacts operational continuity
3. **Asset Preservation:** Proper maintenance protects valuable collections and building infrastructure
4. **Cost Control:** Preventive strategies reduce total maintenance costs by **15-25%**

Performance Impact:

1. Institutions with structured maintenance programs show **20-30% lower** total facility costs
2. Better maintenance ratios correlate with higher occupant satisfaction scores
3. Reduced emergency repairs and extended equipment life cycles

How Might AI Improve Benchmarking

Help with the facility benchmarking “wish list” of easier, faster, more useful, etc.

Charts	➡	Conversations
Manual	➡	Semi-Automated
Descriptive	➡	Proactive
Standard	➡	Customized
Cyclical	➡	Instantaneous
Incremental cost	➡	Foundational value (no less expensive but supports other activities?)

Next Steps for AI Benchmarking Pilot

Start Beta Testing 2025 Q4

- Query benchmarking data
- Benchmark my organization
- Provide draft action plan based on my benchmarking

Define Options for 2026 Program

- How to best incorporate?
- Participation options?
- Participation requirements?

Identify & Develop Additional Capabilities

Interested in Participating? <https://facilityissues.com/cultural/ai/>

AI + Benchmarking

Draw on the capabilities of both approaches to gain better insight, make more informed decisions, and drive meaningful improvements

Capabilities of AI

- Rapid data review
- Respond to custom questions
- Automate routine tasks

Value of Benchmarking

- Provides robust data grounded in current, real-world practices
- Allow visibility of source data
- Good charts & graphs

AI reviews data and provides answers in real time)



Benchmarking provides validated data set as part of the foundation

Thank you!

Measurement: A quantitatively expressed reduction of uncertainty based on one or more observations

Douglas W. Hubbard
How to Measure Anything.

Robert Lambe, CFM, ProFM
Rlambe@FacilityIssues.com

