



Facilities Management Performance Assessment - Using APPA Facilities Performance Indicators

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Agenda

- Why use facilities management performance metrics?
- What is the APPA Facilities Performance Indicators (FPI) Survey?
- Participating in the FPI
- Facilities management performance measurement evolution
- Using the FPI (3 case studies)
- Questions



Institutional Activities Management

- Financial Endowment 
- Academic Mission 
- Real Estate and Facilities Portfolio Management





What are the Facilities Performance Indicators (FPI)?

- Portfolio of Key Facilities Measures
- Measures Cost & Quality of Service Delivery
- Address Questions Essential to Effectively Performing Our Roles
- What is the cost of delivering our services?
- What level of quality are our services?
- How are our costs changing?
- How do our costs compare to institutions like ours?

FPI Data Segments

APPA Region	Carnegie	Public Private	Enrollment	Building Age
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FPI Survey Completion: Express Form? Auxiliaries? Data Sources!

Express vs. Full versions?

102 vs. 450 questions

Full version gives greater detail of space, contracted services, personnel expenditures, energy data+

Include auxiliaries or exclude auxiliaries?

Understand the definitions

Find the data sources – or, who has access to it

Call an APPA FPI Advisor



Barriers to Participating in the FPI Survey

- Number of survey questions seems overwhelming;
- Don't know where to find the information to complete the survey;
- Understanding what to do with the data;
- Credibility of the data from other institutions.



FPI Solutions

- Survey has **algorithms** embedded to help validate input and flag outliers
- APPA provides **tools** to help with the data and simplify presentations
- Additional **resources** available



Performance Management Evolution

1. First Generation:

Question:

Are we spending enough on our facilities portfolio?

Measures Considered:

Cost comparisons against averages and benchmarks



Performance Management Evolution

2. Second Generation:

Question:

Are we getting full value from the resources committed to sustaining our facilities portfolio?

Measures Considered:

*Comparisons against identified best practices;
Lean management process analysis*



Performance Management Evolution

3. Third Generation:

Question:

Is our institutional facilities portfolio appropriate for the delivery of the mission?

Measures Considered:

Intensity of space usage; technology analysis



3 Case Studies

Three case studies demonstrating how to use PPA Facilities Performance Indicators

1. What is the **state of the funding** for facilities management at a specific institution?
2. Will an **investment in facilities management information systems (FMIS)** yield improvements in facilities management productivity?
3. Can we **afford to invest in improving customer service** at our institution?



Case Study 1

Key Question:

What is the state of funding for facilities management at a specific institution?



Custodial Service (Staffing) Level

Level 1 – Orderly Spotlessness

Level 1 establishes cleaning at the highest level. It was developed for the corporate suite, the donated building, or the historical focal point. This is show-quality cleaning for that prime facility.

- Floors and base moldings shine and/or are bright and clean; colors are fresh. There is no buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints.
- Washroom and shower tile and fixtures gleam and are odor-free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

Level 2 – Ordinary Tidiness

Level 2 is the base upon which this study is established. This is the level at which cleaning should be maintained. Lower levels for washrooms, changing/locker rooms, and similar type facilities are not acceptable.

- Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls, but there can be up to two days worth of dirt, dust, stains, or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges, and fingerprints are noticeable with close observation.
- Washroom and shower tile and fixtures gleam and are odor-free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

Level 3 – Casual Inattention

This level reflects the first budget cut, or some other staffing-related problem. It is a lowering of normal expectations. While not totally acceptable, it has yet to reach an unacceptable level of cleanliness.

- Floors are swept clean, but upon close observation dust, dirt, and stains, as well as a buildup of dirt, dust, and/or floor finish in corners and along walls, can be seen.
- There are dull spots and/or matted carpet in walking lanes, and streaks and splashes on base molding.
- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges, and fingerprints.
- Lamps all work and all fixtures are clean.
- Trash containers and pencil sharpeners are empty, clean, and odor-free.

Level 4 – Moderate Dinginess

Level 4 reflects the second budget cut, or some other significant staffing-related problem. Areas are becoming unacceptable. People beginning to accept an environment lacking normal cleanliness. In fact, the facility begins to constantly look like it requires a good "spring cleaning."

- Floors are swept clean, but are dull. Colors are dingy, and there is an obvious buildup of dust, dirt, and/or floor finish in corners and along walls. Molding is dull and contains streaks and splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints, and marks that will be difficult to remove.

Level 5 – Unkempt Neglect

This is the final and lowest level. The trucking industry would call this "just-in-time cleaning." The facility is always dirty, with cleaning accomplished at an unacceptable level.

- Floors and carpets are dirty and have visible wear and/or pitting. Colors are faded and dingy, and there is a conspicuous buildup of dirt, dust, and/or floor finish in corners and along walls. Base molding is dirty, stained, and streaked. Gum, stains, dirt, dust balls, and trash are broadcast.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges, and fingerprints, as well as damage. It is evident that no maintenance or cleaning is done on these surfaces. More than 5% of lamps are burned out, and fixtures are dirty with dust balls and flies. Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

Custodial

1 **Spotless**

2 **Tidy**

3 **Casual**

4 **Dingy**

5 **Neglect**

Maintenance Service (Staffing) Level

APPA Maintenance Service Levels	1 Showpiece Facility	2 Comprehensive Stewardship	3 Managed Care	4 Reactive Management	5 Crisis Response
Customer Service & Response Time	Able to respond to virtually any service; immediate response.	Response to most service needs, typically in a week.	Services available only by reducing maintenance; response times of one month or less.	Services available only by reducing maintenance; response times of one year or less.	Services not available unless directed from the top administration; none provided except emergencies.
Customer Satisfaction	Proud of facilities. High level of trust for facilities organization.	Satisfied with facilities related services; usually complimentary of staff.	Basic level of care. Able to perform mission duties. Lack of pride in physical environment.	Generally critical of cost, responsiveness, and quality of facilities services.	Consistent customer ridicule, mistrust of facilities services.
PM vs. CM	100%	75 - 100%	50 - 75%	25 - 50%	< 25%
Maintenance Mix	All PM is scheduled and performed on time. Emergencies (e.g. power outages) are infrequent and handled efficiently.	A well developed PM program; PM done less than defined schedule. Occasional emergencies caused by equipment failures, etc.	Reactive maintenance high due to systems failing. High number of emergencies causes reports to upper management.	Worn-out systems require staff to be scheduled to react to failure. PM work consists of simple tasks done inconsistently.	No PM performed due to more pressing problems. Reactive maintenance is a necessity due to worn out systems (e.g. doors won't lock, fans lock up, HVAC systems fail).
Aesthetics, Interior	Like new finishes	Clean, crisp finishes	Average finishes	Dingy finishes	Neglected finishes.
Aesthetics, Exterior	Windows, doors, trim, exterior walls are like new	Watertight, good clean appearance of exterior	Minor leaks and blemishes; average exterior appearance	Somewhat drafty and leaky, rough-looking exterior	Inoperable windows, leaky windows, unpainted, cracked panes, significant air and water penetration, poor appearance overall.
Aesthetics, Lighting	Bright and clean, attractive lighting	Bright and clean attractive lighting	Small percentage of lights out; well lit and clean	Numerous lights out; missing diffusers; secondary areas dark	shadows, bulbs and diffusers missing, cave-like, damaged, hardware missing.
Service Efficiency	Maintenance activities appear highly organized and focused. Service and maintenance calls are responded to immediately	Maintenance activities appear organized and focused. Service and maintenance calls are responded to in a timely manner	Maintenance activities appear to be with direction. Service and maintenance calls are sporadic w/out apparent cause	Maintenance activities are somewhat chaotic and people dependent. Service/maintenance calls are typically not responded to in a timely manner	Maintenance activities appear chaotic and without direction. Equipment and building components are routinely broken and inoperative. Service and maintenance calls are never responded to in a timely manner.
Building Systems Reliability	Breakdown maintenance rare; limited to vandalism and abuse repairs	Breakdown maintenance limited to system components short of MTBF	Building and systems components periodically or often fail	Systems unreliable. Constant need for repair. Backlog repair exceeds resources	Many systems nonfunctional. Repair only instituted for life safety issues.
Operating Budget as % of CRV	> 4.0	3.5 - 4.0	3.0 - 3.5	2.5 - 3.0	< 2.5
Campus Average FCI	< 0.05	0.06 - 0.15	0.15 - 0.29	0.30 - 0.50	>= 0.50

Maintenance

1 **Showpiece**

2 **Stewardship**

3 **Care**

4 **Reactive**

5 **Crisis**



Facilities Custodial Service Levels

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What is the state of funding for facilities management at a specific institution?

Key Performance Metrics (Annual)	Institution 1	All APPA	Research: Very High
Facilities Operating Expense + Paid Utilities (\$/Gross Square Foot)	\$4.98	\$6.91	\$7.46
Facilities Operations Expenses Percent Current Replacement Value (CRV)	.33%	1.61%	1.29%
Facilities Operations Expenses Percent Gross Institutional Expenses (GIE)	1.91%	6.00%	4.03%
Capital Expenditures on Existing Space Percent Current Replacement Value (CRV)	.37%	2.71%	2.17%
Utilities Cost per GSF \$/Gross Square Foot	\$2.66	\$2.02	\$2.97
Utilities Cost per Million BTUs \$/Million BTUs	\$12.46	\$17.86	\$17.25
Utilities BTUs per GSF # BTUs/GSF	213,473	121,361	179,832

Qualitative performance for custodial, building maintenance and grounds is a level 4



Case Study II

Key Question:

Will an investment in facilities management information systems (FMIS) yield improvements in facilities management productivity?



FMIS Enhances Management's Ability to:

**Prioritize
Work**

**Increase
Productivity**

**Improve
Facilities
Cost
Reporting**

**Reduce
Administrative
Overhead**



Creating Business Case – FMIS Management

Resource

- Data from APPA's Facilities Performance Indicators (FPI)

Action

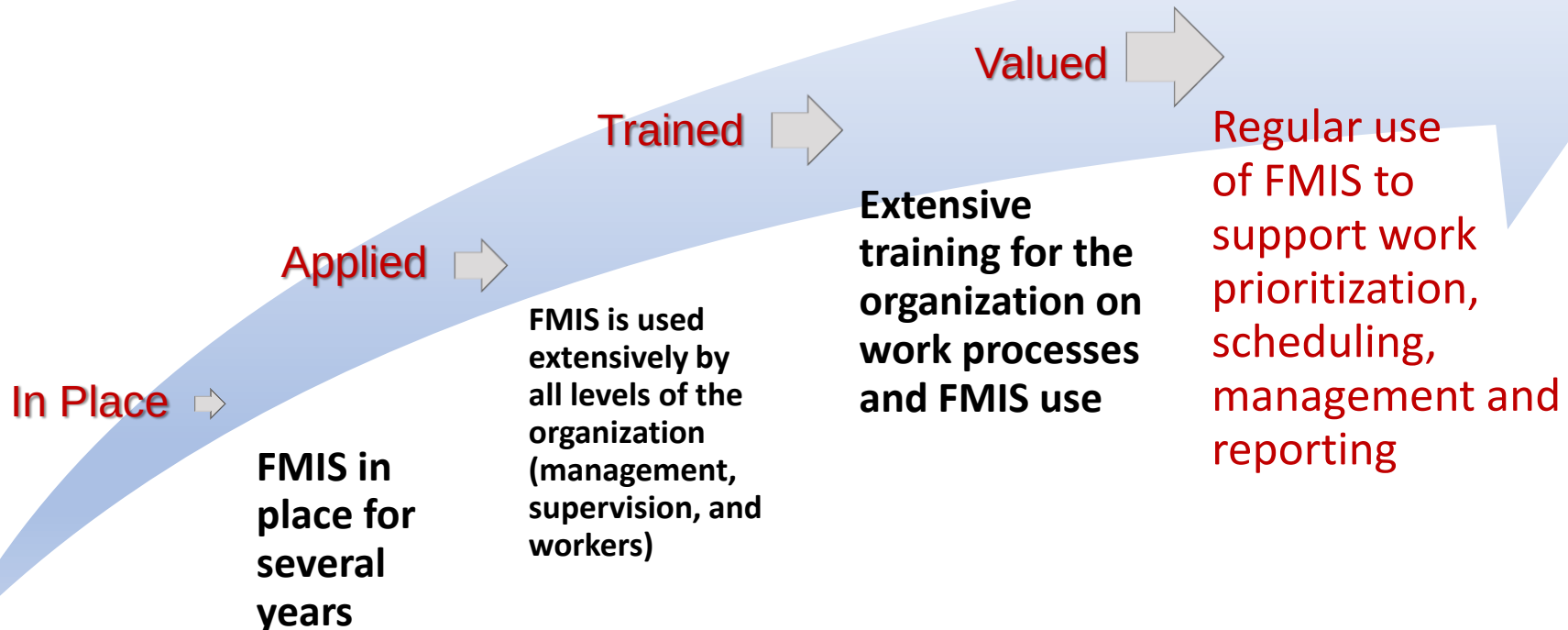
- Compare FPI Data...
- Well deployed FMIS
- Little or no FMIS investment

Objective

- Create a business case demonstrating the benefits of investing in FM information systems



A Well-Deployed Facilities Management System





Significant Investment in FMIS vs Not

	Funding	Carnegie	Region	Campus Size (GSF)
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Institutions 1-4 have invested heavily in FMIS

1	Public	Masters	PCAPPA	3.0 million
2	Public	Research	CAPPA	6.8 million
3	Public	Research	CAPPA	13.8 million
4	Private	Research	SRAPPA	5.8 million

Institutions A-D have not yet made significant investments in FMIS

A	Private	Masters	MAPPA	.8 million
B	Private	Baccalaureate	PCAPPA	1.2 million
C	Public	Research	ERAPPA	4.5 million
D	Private	Doctoral	PCAPPA	1.5 million



Significant Investment in FMIS vs Not

Building Maintenance Cost Impact

	Maintenance Service Level	Cost/GSF (dollars)	GSF/Maintenance FTE
1	3 – Care	\$1.42	77,272
2	3 – Care	\$0.73	112,003
3	3 – Care	\$1.09	70,485
4	2 – Stewardship	\$1.70	70,280
A	4 – Reactive	\$2.58	86,097
B	3 – Care	\$1.53	71,176
C	3 – Care	\$1.48	74,360
D	2 – Stewardship	<u>\$2.22</u>	<u>40,346</u>
APPA Average		\$1.57	71,192

Maintenance	
1	Showpiece
2	Stewardship
3	Care
4	Reactive
5	Crisis



Significant Investment in FMIS vs Not

Building Maintenance, Labor, Materials, Service Cost

	Maintenance Service Level	Cost/GSF (\$)	Maintenance Labor Cost	Maint Service & Materials Costs
1	3 – Care	\$1.42	\$0.89	\$0.53
2	3 – Care	\$0.73	N/A	N/A
3	3 – Care	\$1.09	\$0.80	\$0.29
4	2 – Stewardship	\$1.70	N/A	N/A
A	4 – Reactive	\$2.58	\$0.76	\$1.82
B	3 – Care	\$1.53	\$1.11	\$0.42
C	3 – Care	\$1.48	\$0.73	\$0.75
D	2 – Stewardship	<u>\$2.22</u>	<u>\$1.52</u>	<u>\$0.70</u>
APPA Average		\$1.57	\$0.97	\$0.83

Maintenance
1 Showpiece
2 Stewardship
3 Care
4 Reactive
5 Crisis



Significant Investment in FMIS vs Not Custodial Cost Impact

	Custodial Service Level	Cost/GSF (\$)	GSF/Custodial FTE
1	3 – Casual	\$1.23	46,330
2	3 – Casual	\$0.99	49,422
3	2 – Tidiness	\$0.99	40,363
4	2 – Tidiness	\$1.10	30,068
A	3 – Casual	\$2.01	25,113
B	2 – Tidiness	\$1.88	28,287
C	2 – Tidiness	\$1.80	27,153
D	2 – Tidiness	<u>\$1.97</u>	<u>26,657</u>
	APPA Average	\$1.36	32,592

Custodial

1 Spotless

2 Tidy

3 Casual

4 Dingy

5 Neglect



Significant Investment in FMIS vs Not Custodial, Labor, Materials & Services Costs

	Custodial Service Level	Cost/GSF (\$)	Labor Cost/GSF (\$)	Materials/Services Cost /GSF (\$)
1	3 – Casual	\$1.23	\$1.01	\$0.22
2	3 – Casual	\$0.99	N/A	N/A
3	2 – Tidiness	\$0.99	\$0.91	\$0.08
4	2 – Tidiness	\$1.10	N/A	N/A
A	3 – Casual	\$2.01	\$1.82	\$0.19
B	2 – Tidiness	\$1.88	\$1.30	\$0.58
C	2 – Tidiness	\$1.80	\$1.64	\$0.16
D	2 – Tidiness	<u>\$1.97</u>	<u>\$0.79</u>	<u>\$1.18</u>
APPA Average		\$1.36	\$1.24	\$0.12

Custodial
1 Spotless
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Case Study III

Key Question:

Can we afford to invest in improving customer service at our institution?



Can we afford to invest in improving customer service at our institution?

Surveyed Customer Satisfaction Levels	O&M Cost / GSF
Satisfied	\$7.48
Very Satisfied	\$6.41
Extremely Satisfied	\$9.02

Source: APPA FPI database



3 Takeaways

1. **Know the metric:** Each has a different use and offers a different perspective
2. Value and accuracy of performance measurement is greater with **multiple points of view**
3. Measure the **qualitative** as well as the **quantitative** side of the metrics

