Optimizing Our Facilities Operations...

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Largest Capital Investment

School buildings are often the largest capital investment in the community.

Maintaining them properly is vital
- Cleanliness
- Safety
- Curb Appeal
- Attitudes

A lot of perceptions are made about a district by the condition of the buildings and grounds.
Cost of a High School

Approximately $350 per square foot

250,000 square foot school

$87,500,000

As far from the classroom as possible??
• Where do we start?
  • Understand where we are
    • Have we measured?

• How is our department perceived by staff and community?
  • Perceptions are often realities

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MSU braces for worst as funding cuts likely
University eliminating 250 jobs in anticipation of budget fallout

MATTHEW MILLER • MRMILLER@LJ.COM • SEPTEMBER 20, 2019 • FROM LANSING STATE JOURNAL

National Association of Manufacturers

Custodial Jobs Cut

MSU already eliminated 18 custodial positions this summer. It also announced that it wouldn't be cleaning the offices of professors and staff any longer, though departments could still choose to pay for the service.

"Logic tells you that there's some number of support personnel that you can't go below and still be able to operate a university," Poston said. "We're trying to find what that point is."
• “Benchmarking will become more widespread and emphasized. Like in most other fields, the ability to use instinct and intuition will not be appreciated as much as it was in the past”
  
  Joe Samson, professor of architecture and facility management, Ferris State University
  
  Buildings Magazine January, 2011

• Benchmarking

  • “Remember to get beyond the metrics in benchmarking; the reason there is a difference is the important factor.”

  David C. Cotts, Facility Management Handbook, 3rd Ed
Sources for Benchmarks

- MSBO’s Benchmarking Survey
- APPA Guidelines
- ISSA

2014 MSBO Facilities Benchmarking

- 14 years – 10 surveys
  - 111 districts reported (403 over time)
- 22 Key measures
- District Size – Regions
- Year to Year
- Self calculating worksheet
Highlights

- Custodial Contracting

- 16.1% (24 districts) – 2009
- 28.2% (31 districts) – 2011
- 43.4% (47 districts) – 2013

- Mackinaw Center 2011 – 31.5% (173 of 550 districts)
- Mackinaw Center 2015 – 52.2% (248 of 545 districts)
- Mackinaw Center 2017 – 52.6% (248 of 540 districts)

- 6.6% had contracted in 2003
Impact of Cuts Made 2000-2013

• Maintenance - % of Total Expenditures
  • 7.83% to 6.32% reduction of 19.28%

• Maintenance Expenditures per Sq Ft
  • $3.43 to 3.22 decrease of 6.12%

Square Footage per (00-14)

Custodial: (23,303 → 33,843)
Maint: (132,000 → 200,973)
Supervisory: (360,000 → 639,547)
Salaries per Sq Foot (decreased)

- Total Buildings and Grounds: -23.81%
  - Custodial: -22.31%
  - Skilled Trades: -20.00%
  - Supervisory: -26.67%

Conclusions?

- Quantitative

Efficiencies Implemented:
  - Sub contracting?
  - Equipment?
  - Work order tracking?
Quantitative vs Qualitative

• Do benchmarks represent optimum?

• Objectives?
  • Preservation of resources

• Cleanliness/Healthy environment

Influencing Custodial Productivity

• Schedules
  • Alternate Day Cleaning
  • Team Cleaning

• Service Levels
  • Task Lists
  • Frequency

• Shifts
  • Days
  • Start times
  • T-S
- Equipment
- Training
- Inspections/expectations
- Age of building

- Type of instruction
- Type of flooring
- Setups
- Maintenance performed
- Grounds duties performed
Influencing Maintenance Productivity

• Maintenance Productivity
  • Preventive Maintenance
  • Work Order System
    • Using it – Capture good data: description, time, materials, etc.
    • Analyze history – types of w.o.’s, disciplines, pm’s

• Accountability
  • Excessive time in shop in morning?
  • Non “wrench” time
  • Two person crews
  • Driving for supplies?
  • Time to complete standard work orders

• Shifts
  • Second
  • T-S

• Skilled Trades
  • Licensed
  • General Utility
  • Cross Trained
APPA Quality Levels

Maintenance
1. Showpiece Facility
2. Comprehensive Stewardship
3. Managed Care
4. Reactive Management
5. Crisis Response

Custodial
1. Orderly spotlessness
2. Ordinary Tidiness
3. Casual Inattention
4. Moderate Dinginess
5. Unkempt Neglect

Figure 7. Maintenance Level Matrix

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Showpiece Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service</td>
<td>Able to respond to virtually any type of service</td>
<td>Able to respond to virtually any type of service, immediate response.</td>
</tr>
<tr>
<td>and Response Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Proud of facilities, have a high level of trust</td>
<td>Proud of facilities, have a high level of trust for the facilities organization.</td>
</tr>
<tr>
<td></td>
<td>for the facilities organization.</td>
<td></td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>versus Corrective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance Mix</td>
<td>All recommended preventive maintenance (PM) is</td>
<td>All recommended preventive maintenance (PM) is scheduled and performed on time.</td>
</tr>
<tr>
<td></td>
<td>scheduled and performed on time. Reactive</td>
<td>Reactive maintenance (e.g., spot relamping and adjusting door closers) is</td>
</tr>
<tr>
<td></td>
<td>maintenance (e.g., spot relamping and adjusting</td>
<td>minimized to the unavoidable or economical. Emergencies (e.g., storms or power</td>
</tr>
<tr>
<td></td>
<td>door closers) is minimized to the unavoidable or</td>
<td>outages) are very infrequent and handled efficiently.</td>
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<tr>
<td></td>
<td>efficiently.</td>
<td></td>
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</table>
Other Measurements?

- Springfield Public Schools, Springfield, MO committed to a quality improvement program where they measure several items:

  - The following few slides come from a report by their quality department

  - We may not have the resources to tackle this, but there might be ideas to think about as far as department performance and how we measure and communicate.
Benchmarking and Data Collection

✓ In May of 2003, a Quality Assurance Department was established (Continues)
✓ Data collection has been taking place ever since
✓ These measurements were deemed critical to our success:
  ✓ Responsiveness
  ✓ Communication
  ✓ Quality of maintenance work
  ✓ Quality of grounds work
  ✓ Value provided to the District

Springfield MO Quality Measurement

Efficiency Metrics

Productivity Shift-to-Shift Comparison

1st Shift 2nd Shift
2nd Shift is 27% more productive than 1st.

Productivity

2002 2003 2004 2005
0.1 0.12 0.14 0.16 0.18 0.2 0.22 0.24
W/O completed per Production Hour

0.24 0.2 0.18 0.16 0.14 0.12
Efficiency Metrics

In 2003, we had literally 100+ emergencies a month. In our run chart for 2005-2006, it runs less than 20.

**Emergency Work Orders**
**Requiring Immediate Action**

<table>
<thead>
<tr>
<th>Month</th>
<th>Emergencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>10</td>
</tr>
<tr>
<td>Aug</td>
<td>10</td>
</tr>
<tr>
<td>Sept</td>
<td>18</td>
</tr>
<tr>
<td>Oct</td>
<td>15</td>
</tr>
<tr>
<td>Nov</td>
<td>9</td>
</tr>
<tr>
<td>Dec</td>
<td>11</td>
</tr>
</tbody>
</table>

- **Efficiency Metrics**
- **On-The-Job Injury (OJI) Reduction**
- **Building Services OJI Lost Time & Cost**
Presenting the Situation

The following slides were developed by Pearl River School District, a school district in New York State.

They demonstrate a good way of communicating the scope of the facilities operations.

• District Buildings are utilized 17 Hrs. a day, 350 days a year
  • District Square Footage - 500,000
    • Average Home 1,800 – 2,200 Sq. Ft.
    • Divide 394,734 by 2,000 = 250 Homes
• 250 Homes cleaned by 15 Custodial Staff = 16.7 Homes Per Staff Member Daily

• 250 Homes maintained by 3 Maintenance Staff = 83 Homes Maintained Daily Per Staff Member

• District Students and Staff 3,063 (Does not include approx. 500 Daily Visitors, Parents, Seniors, Visiting Teams, Adult Ed. Classes or outside use by the Community)

Showing Our Value

• Needed Improvements in the Practice of Facility Management*

  • FM as business function

  • New Work Methods

  • Customer Orientation (how do they access our services?)

• Response

• Better Tools and Benchmarks

• Reinstitute Energy Management

• Seek a Differentiator

• Public Relations
Marketing Your Facilities Department

If you don’t tell management about your successes, they’ll only notice when something goes wrong …

All facilities groups – no matter what industry – have direct performance and financial impact on expense control/profitability, productivity, staff welfare, and delivery of products and services. Unfortunately, many senior managers don’t understand or appreciate the importance of facilities management until something goes wrong.

Bill Bancroft, Buildings Magazine Nov 2009

• Questions?
Finally
It is imperative that FM professionals commit themselves to
asking the appropriate questions and putting in place the
tools with which to demonstrate the value of their decisions.
Why?

Because in the future, those who don't
add value won't matter; and those who
don't matter won't survive.

"Tough Choices and the Road Less Traveled",
Today's Facility Manager, June 2004, Tim Springer

Thanks!

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References

- *Custodial Staffing Guidelines for Educational Facilities* – APPA
- *Maintenance Staffing Guidelines for Educational Facilities* – APPA
- *540 Cleaning Times Calculator & Book Combo* – www.ISSA.com
- *MSBO Benchmarking Report* – www.msbo.org, support services - facilities page