

Facilities Management Evaluation Program



THE UNIVERSITY OF CHICAGO

Facilities Services Department

November 26-30, 2018

Final Report



The Facilities Management Evaluation Program is a service of
APPA: Leadership in Educational Facilities

APPA: Leadership in Educational Facilities is an international association dedicated to the development of leadership and professional management applicable to the planning, design, construction, maintenance, and operation of the facilities required for quality teaching, research, and public service.

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The appraisal of the institution is made in relationship to the criteria and guidelines of APPA's Facilities Management Evaluation Program (FMEP). The evaluation report comments on the strengths of the institution and, when appropriate, offers suggestions and recommendations for improvements of performance. The report constitutes no endorsement or denial of endorsement, of the institution by APPA or by the members of the evaluation team. This document was created for the exclusive use of the institution named. All contents are confidential.

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Introduction

APPA: Leadership in Educational Facilities conducted a facilities management evaluation for the University of Chicago at the request of the Facilities Services organization. Using criteria and processes developed as part of APPA's Facilities Management Evaluation Program (FMEP), a review team assembled by APPA examined the Facilities Services Department at the University of Chicago in the following areas:

- Leadership
- Facilities Strategic and Operational Planning
- Customer Focus
- Assessment and Information Analysis
- Development and Management of Human Resources
- Process Management
- Performance Results
- Other Considerations – Sustainability and Utilities

The review process and outcomes are intended to provide feedback that Facilities Services will use to track progress toward their goal of becoming a national leader in higher education facilities management as well as achieving the APPA Award for Excellence. The review team was impressed by the quality of the Facilities Services organization and believes the organization has the capability of achieving their goal as well as their vision.

The report reflects the observations and recommendations of a team of senior facilities management professionals who visited the University of Chicago, located in Chicago, Illinois, November 26 to November 30 2018, to conduct an evaluation of the facilities organization. The review was conducted at the request of James McConnell, associate vice president for Facilities Services. The review was structured in accordance with the Facilities Management Evaluation Program of APPA: Leadership in Educational Facilities. Facilities professionals with specific expertise relevant to this FMEP were selected for the evaluation team based on their experience in the management of comparable facilities organizations. The review team was comprised of the following members:

Ruthann Manlet
Associate Director, Facilities Management
University of Minnesota
APPA President Elect

Gary Reynolds
Associate Vice Chancellor - Retired
Campus Planning and Facility Management
University of Colorado, Colorado Springs
APPA Past President

Jay Klingel
Director, Operations and Maintenance - Retired
University of Virginia

Steve Kraal
Senior Associate Vice President - Retired
Campus Planning and Facility Management
The University of Texas at Austin

The onsite review process proved to be very comprehensive and thorough. The FMEP team conducted 50 interviews involving 67 Facilities Services staff including principal administrators, staff at various levels as well as 15 of the primary clients. A comprehensive list of individuals interviewed is included in the appendix at the end of this report.

The review team members' knowledge and experience as successful practitioners of university facilities management and university administration have guided the observations and recommendations found in this report. The team's knowledge and experience were combined with the results of an extensive interview process as noted above, detailed document reviews, and studied comparisons.

The observations and recommendations included in this report are not intended as criticism, but rather to assist the Facilities Services organization to build on current levels of service to better meet the needs of the institution it serves. The review team was very impressed with the magnitude of effort expended by the entire organization to become a national leader in higher education facility management. The recommendations contained within this report in no way take away from the hard work and dedication of individuals in the department who daily meet the needs of the institution as well as move the Facilities Services organization toward their ultimate goals.

Acknowledgments

A successful FMEP effort relies on a tremendous amount of time and positive participation from the host institution. It was obvious from the effort devoted and the work done in advance of the onsite visit that the University of Chicago would be fully engaged during the review. The FMEP Team wishes to thank everyone from the University of Chicago for the wonderful hospitality and the professional manner in which we were welcomed and treated throughout our stay. The staff seemed genuinely enthused in sharing time for interviews and providing insight to the organization. Our time on campus was well

planned, and it was apparent that the purpose of our visit was well communicated to Facilities Service staff as well as the Facilities Services clients we interviewed.

We would like to extend a special thanks to Lindsay Wagner and Myriam Weaver for their extraordinary effort in coordinating the self-review document, providing invaluable information and preparing a schedule that allowed us to maximize our time with the right mix and number of interviews. Lindsay and Myriam were also instrumental in getting us from place to place and responding to our last-minute schedule change requests.

The FMEP review team commends Jim McConnell and the entire Facilities Services senior leadership team for the courage to open the curtains of their organization to the review process. We would also like to acknowledge the contributions of the women and men of the Facilities Services staff who so freely shared their time and honest opinions. And our review could not have been complete without the support of, and opportunity to meet with, Executive Vice President David Fithian.

Finally, the review team would like to extend our thanks for the opportunity for each of us to learn more about the University of Chicago. The university has a rich history, from the famed Alonzo Stagg to the beginnings of nuclear energy to a law lecturer who became president of the United States. We found a beautiful campus, in an urban park setting, cared for by a staff of committed professionals and from front-line staff who shared several stories of the university's history. In that alone we learned both a great deal from you and a great deal about your organization.

Executive Summary

During the briefing at the end of the site visit, the review team shared our observation that Facilities Services has many of the characteristics of high performing organizations. We ask that you keep this in mind as you consider a report that contains approximately 70 recommendations, some of which have been at least partially implemented. We also make many observations of instances where we believe Facilities Services is already successful. At times organizations can become too focused on their need to improve and lose sight of what makes them successful. We believe it is important that Facilities Services find an effective balance of the two ends of this continuum.

As we have compiled our report, the review team has identified four broad categories or themes that we believe put our report into a larger context and that we hope will focus attention on bigger issues as well as on individual recommendations. These are themes are:

- engaging with other facilities organizations,
- data management,
- interpersonal and/or organizational communication, and
- developing metrics for going forward.

The team has identified and called out a number of areas in which we believe Facilities Services would benefit from engaging with other organizations. For example, the university is in the beginning stages of implementing a Responsibility Centered Management (RCM) budgeting model, which can be a challenging and complex process. A number of organizations have already gone through this effort and time spent with them will help you identify what can be successful and what to avoid, as well as what impact this will have on the overall organization. Other examples where benchmarking with other organizations would help are chilled water optimization, preventative maintenance programs, work scheduling, as well as training and safety programs.

Data management is a second broad theme that the review team has identified. The report notes that facility services organizations are moving into a new paradigm, one in which decisions and operations are data driven. This will create the need, possibly the demand, to transform data into “wisdom” and this will pose new challenges as well as opportunities. These changes will not only be organizational, they will also impact staff. For example, staff in a wide range of areas will increasingly require, possibly demand, to have the skills necessary to analyze data and effectively communicate it to a wide audience.

A third theme the review team has identified is interpersonal and organizational communication. As the cultural and organizational landscape changes, the issues and challenges associated with how we communicate become more significant. One way of addressing these issues is developing skills and understanding within the organization

related to emotional and organizational intelligence. As noted in the Vision 2020 review, “Communication and collaboration provide the social lubrication essential for a successful and sustainable organization.”

The final theme that the review team identified is the development of metrics associated with organizational performance. Much of the current metric development seems to be focused on the short term, achievement of the APPA Award for Excellence. We would encourage metrics that serve as an infrastructure for measuring where the organization needs to be in the future. Metrics should be based on issues such as where facilities management is going and, more importantly, where the institution will be in the future. It may sound trite, but there is a reason the windshield is significantly larger than the rear view mirror. Facilities Services has a goal of becoming a national leader in higher education facilities management and a key element in achieving this is a clear vision of the future and developing the metrics that chart the way forward.

This report is divided into two parts, the first part addresses the Vision 2020 strategic plan and the second part uses the APPA Award for Excellence criteria as a basis for the FMEP content and recommendations.

Review of Facilities Services Vision 2020



One of the most significant aspects of our visit was learning about the breadth and depth of the Facilities Services Vision 2020 plan. The FMEP review process would not be complete without a review of this document. This summary provides a review of the plan as well as the general themes and recommendations that the FMEP team observed and compiled during the Facilities Services review process. The body of the report, following this summary, reviews each of the individual criteria, detailing observations by the FMEP team as well as appropriate suggestions and recommendations for Facilities Services consideration.

The Vision 2020 plan consists of mission, vision, and values statements supported by five themes, with each theme comprised of three objectives. It was developed and is lead from within the organization by a broad range of Facilities Services staff with input from external clients. The Vision 2020 plan has strong support from Jim McConnell and his leadership team, with individual members of the leadership team taking ownership for implementation of the plan.

As previously noted, the Facilities Services vision is to be a national leader in higher education facilities management. Their mission is to create and sustain environments to advance the standard of excellence set by the university. With these aspirations in mind, the FMEP team has identified issues that may place this mission at risk.

- Facility Services has experienced significant budget reductions that have resulted in a 22 percent reduction in staff.

- The university has increased square footage by 8 percent and has renovated a significant amount of space. This new and renovated space has increased technology requirements as well as the skill level required of staff to maintain the facilities.
- Almost half of the existing space, about 45 percent, is in buildings 70 years or older. These buildings have increasing maintenance and operational requirements.
- The Facilities Services staff age profile, like much of higher education facilities, is not in favor of the organization. Over the next 10 years, significant institutional knowledge and commitment to the university will be retiring.

Facility organizations are by nature lean and operate as close to the “bone” as possible. To do otherwise takes resources that could and should be directed to teaching and research. However, based on our review, the FMEP team believes that the current fiscal environment for Facilities Services creates a situation where the organization is into the “bone” and puts the success of their mission and the institution at risk.

An organization is only as successful as its employees, and one of the five themes in the Vision 2020 plan is “Invest in Employee Success.” This investment is essential given the technology requirements of new buildings, changing codes for life safety, building operation, integration of data management, and sustainability. The FMEP team consistently heard from Facilities Services staff that they were open to, and needed additional training. In the review of this area, the FMEP team makes the following observations.

- The training program would be more effective if it had a stronger central support system.
- Facilities Services should take advantage of the willingness of higher education facility management organizations to share information and also should visit other institutions.
- Facilities Services should establish formal training plans, provide additional resources for training activities, and establish metrics that monitor the success of these training efforts.
- Employees expressed that while they generally have the tools and equipment they require, training in technical areas was sometimes lacking.

The FMEP recognizes the challenges facing Facilities Services in this area and the good work that has been done. The concern is that these efforts are not keeping pace with the growing need.

Another theme is “Impact and Engage Community.” The review team found a number of instances and the staff consistently provided examples of the Facilities Services organization actively pursuing the objectives in this area. Some of the activities within this objective will assist in the continued long-term success of the Facilities Services organization, particularly promoting hiring from the local community and increasing internship and apprenticeship opportunities.

A third theme is “Embody Sustainability.” This area will become increasingly significant if the organization is to become a national leader in higher education facilities management. The team was impressed with the realistic perspective regarding the current status of sustainability efforts and the sophistication of the reports produced. Critical issues such as establishing the base year and establishing geographical boundaries for the GHG inventory and water consumption are well done with a focus on maintaining consistency, reliability, and validity. The current effort has produced benchmark data that will allow the success of the sustainability effort to be clearly demonstrated. The issue with the development of a comprehensive sustainability program is that while technical aspects are often the easiest, affecting real cultural change can be much more challenging. During our visit, the FMEP team noted some possible roadblocks to creating this change.

- Transparency is a crucial element of success in this area. It was noted that some reports provided to the team were labeled “private” or “confidential.” The University of Chicago has a good story to tell, and it is getting better; we encourage more openness.
- Students are a primary driver of these efforts on campus, and we encourage more effort to get students involved. Student internships in this area would provide both opportunity for students and a way of increasing the workforce associated with sustainability.
- Knowledge is a very positive way to motivate people to change their behavior. For example, the Water Use Profile report has excellent metrics on water use by building and building type. On many campuses this report would be made public and updated at least annually and would help drive water use behaviors.

Sustainability is also an area in which the University of Chicago could benefit from the experiences of other campuses with more mature programs in terms of learning about the benefits and potential pitfalls of proposed programs.

A fourth theme is “Promote Communication and Collaboration.” The review team perceives this to be one of Facilities Services biggest challenges. We were amazed at the accolades from campus clients regarding quality of their service: it can be captured in three words “Professional, Responsive, Collaborative.” We were somewhat dismayed to find that this philosophy was not widespread within Facilities Services. This situation may be linked to a bias for action contained within all facility organizations; it may be an unintended consequence of the very results-oriented Vision 2020 plan, or a part of the Facilities Services culture. The FMEP team recommends that Facilities Services develop an internal client service philosophy that mirrors the approach to external clients. Communication and collaboration provide the social lubrication essential for a successful and sustainable organization. In this area the FMEP team offers the following suggestions.

- In addition to the existing employee satisfaction survey, create an opportunity for staff to assess collaboration and communication with others in units within the Facilities Services organization.

- Develop and monitor metrics related to communication and collaboration within the Facilities Services organization.
- Provide, and possibly make mandatory, for all employees to train in basic communication skills, including active listening.

The final theme of the Vision 2020 plan is “Foster Stewardship and Organizational Performance.” As noted above, when the FMEP team was interviewing Facilities Services clients we were amazed at their positive response. Clients were able to provide specific examples of very positive experiences. They felt Facilities Services staff listened and understood their needs and were flexible and collaborative when solving problems.

Facilities Services has a robust IT infrastructure, and there are solid backbone software packages capable of taking on additional functionality. A consistent challenge within facility management organizations is the ability to maximize the use of the existing software. The implementation of the Tableau software will greatly enhance the ability to integrate and visualize existing data within different software systems. The FMEP team was also very impressed with the collaboration between financial analysts and the operational supervisors regarding monthly budgets. We consider this a benchmark practice. In this area, the review team has two suggestions.

- Adopt the practices developed by the APPA Facilities Informatics Work Group as described in the Informatics Maturity Technical Matrix Report.
- Move forward in a comprehensive manner with the implementation of total cost of ownership program.

The Facilities Services organization is, as is the case with all higher education facilities, moving into a new paradigm. This paradigm is one in which decisions and operations will be increasingly based on “big data.” This will create new challenges and opportunities for the organization requiring new skill sets for existing staff and very likely new roles within the organization. Becoming successful within this new paradigm is critical to achieving the Facilities Services vision of becoming a national leader in higher education facilities management, as well as achieving the APPA Award for Excellence.

Evaluation Report and Recommendations

1.0 LEADERSHIP

The facilities organization's senior leaders should set direction and establish client focus, clear and visible values, and high expectations in line with campus mission, vision, and core values. Leaders inspire the people in the organization and create an environment that stimulates personal growth. They encourage involvement, development and learning, innovation and creativity.

1.1 Leadership roles and responsibilities are clearly defined.

The Facilities Services Department is divided into four logical, functional areas: planning, capital projects, operations, and business administration. Organizational charts are available both on paper and online. The responsibilities of the senior leadership team (SLT) of Facilities Services are clearly defined and are available online.

1.2 The leadership system is understood by and communicated among all levels. The leadership system includes mechanisms for the leaders to conduct self-examination, receive feedback, and make improvements.

Conversations with the Facilities Services staff indicate that they are familiar with the organizational structure and the responsibilities of the SLT. The campus is divided into two zones and a central shop with the responsibilities of the zones and the central shop clearly defined.

While the SLT meets with the Facilities Services staff on a formal and regular basis, there was no indication of a formal system of self-examination and feedback.

The SLT holds biannual meetings for all staff. During these meetings the SLT introduces any changes to the leadership system.

Recommendation 1A

Incorporate a 360-degree self-examination and feedback process for all members of the SLT and consider implementing this process for their direct reports.

1.3 The organization has clearly outlined its mission, vision, and values statements with those of the campus and regularly communicates these to employees, clients, suppliers, and other stakeholders.

The university does not have its own mission, vision, and values statement; however, Facilities Services has developed their own mission, vision, and values statement. These documents have been incorporated into the Vision 2020 strategic plan that has been clearly shared with Facilities Services staff. In addition, Facilities Services has developed service level agreements (SLAs) that clearly state the mission and vision of the Facilities Services Department.

1.4 Facilities management leaders spend time on a regular basis with their customers and front-line staff.

The Facilities Services SLT meets biannually through all hands on decks meetings. In addition, the Operations leadership meets regularly with their clients. The Planning and Capital Project Departments meet on a regular basis with their clients. The Business Administration Department meets on a monthly basis with their internal clients, such as the project managers and zone managers. The zone managers, within Operations, are in constant communication with their zone clients.

While there are formal processes for interaction with Facilities Services staff and clients, there seems to be minimal informal personal interaction.

Recommendation 1B

The SLT should consider spending additional time developing interpersonal relationships with the front-line staff and their clients. This is important given the geographical separation of the location of the SLT from the main campus.

1.5 Performance measures at each level of the organization are clearly defined.

The Vision 2020 plan is a well-defined and well-structured plan that clearly defines performance measures for accomplishment of the Vision 2020 strategic plan. Each of the SLT members has ownership of performance measures for their areas. For example, the Business Administration area works closely with all departments within Facilities Services to assure budget control. The Capital Projects area works closely with the Business Administration division to ensure project budgets are met. In addition, the Operations organization has a focus on the development of their preventive maintenance (PM) program. Clearly defined performance measures for the PM program have been set and are understood by the Operations staff. A number of key performance indicators (KPIs) have been developed for the organization and at various levels within the organization. However, there is a need to further refine the KPIs at the front-line level. For example, the utility staff members feel that they have been doing PM, though perhaps undocumented, that has resulted in excellent availability and uptime of steam and chilled water production. It is felt by the staff that these figures would be more indicative of performance.

Recommendation 1C

As the organization moves forward beyond the Award for Excellence, work closely with the staff to refine the KPIs to ensure that they remain relevant and are focused on the long-term vision of the organization.

1.6 Senior leaders establish and reinforce an environment where shared values support self-direction, innovation, and decentralized decision making.

The SLT, through the Vision 2020 strategic plan, has established and reinforced an environment of shared values. It is recognized that the current SLT has been charged with making changes within the Facilities Services Department. This has required a certain amount of centralized decision making and organizational changes. Facilities Services has also endured significant budget reductions requiring tough decisions from the SLT. These budget reductions have placed the Facilities Services Department in a difficult situation, requiring close monitoring by the SLT to assure that the department can meet its obligations. While it is understood that this top-down oversight is necessary during these challenging times, the SLT will need to consider moving toward a more self-directed and decentralized decision-making process to ensure that the department will continue to move forward in the future.

1.7 Informed of current trends and practices in the industry.

The SLT individuals are well versed in the trends and practices of their areas. The associate vice president has assembled an excellent leadership team. However, the SLT consists of members who have come from outside higher education. There are many trends and practices in the higher education industry that the SLT may not be familiar with. For example, the Utilities Department as a goal of optimizing chilled water production. The University of Texas at Austin is considered an expert in this process. Another example is responsibility budget management where Iowa State University and the University of Minnesota have had this budget model implemented for many years.

Recommendation 1D

Identify and visit leading institutions of higher education that have benchmark programs in areas identified by the SLT that the Facilities Services organization could learn from and improve.

1.8 A succession plan is in place to ensure continuity of leadership.

There does not seem to be a formal succession plan in place. In discussions with various individuals, it was apparent that there was some informal succession planning. It is recognized that, under the current staffing and budgetary constraints, the creation of positions that would support succession planning is difficult. However, as resources allow,

it would be in the best interest of the organization to develop a more formal succession plan.

2.0 FACILITIES STRATEGIC AND OPERATIONAL PLANNING

Strategic and operational planning consists of the planning process, the identification of goals and actions necessary to achieve success, and the deployment of those actions to align the work of the organization. The successful facilities organization should anticipate many factors in its strategic planning efforts: changing client expectations, business and partnering opportunities, technological developments, evolving regulatory requirements, and societal expectations, to name but a few.

2.1 A strategic plan exists that includes the goals and objectives of the department.

The FMEP team was impressed with the level of effort and commitment that was directed to the strategic planning effort. As described in the section of this report titled, Review of Facilities Services Vision 2020, the organization has completed a strategic plan titled Vision 2020.

This comprehensive document provides core themes as well as objectives and measures. In addition, the SLT reviews the strategic plan on a regular basis and there is a process in place for monitoring and recording progress.

It was also clear to the FMEP team that this plan has been effectively and clearly communicated to Facilities Services staff as well as to the university as a whole. There are also regular updates on the progress of the plan that includes progress on objectives and measures.

2.2 The strategic plan was developed with participation from internal and external stakeholders, approved by the administration, and effectively communicated.

It was clear to the FMEP team, based on written material as well as from our interview process, that there has been a broad range of participation in the strategic planning process. The strategic plan was developed with participation by all levels of Facilities Services staff as well as external stakeholders. The development process included an 18-member working committee, made up of a wide range of Facilities Services staff that manages the strategic plan. The SLT serves as the steering committee.

2.3 Client needs and expectations serve as major drivers for setting strategic direction.

It is clear to the FMEP team that client needs and expectations were and are a significant part of the development of the Facilities Services strategic direction. The strategic plan is partially based on SWOT analyses that included clients. In addition, Facilities Services has

also implemented a KPI that measures client satisfaction on three scales.

2.4 Goals and key performance measures are understood by all and periodically reviewed.

As indicated previously, the strategic plan provides clear themes, objectives, and measures that are consistently reviewed and communicated. There is a system for assessing progress on measures and this information is communicated to Facilities Services staff; key performance measures are in place and are regularly reviewed.

Recommendation 2A

Establish processes and procedures that evaluate current performance measures to ensure that they are valid and reliable measures of organizational performance.

2.5 Performance measures at each level of the organization are used to meet goals.

The Facilities Services organization has made a good start at identifying performance measures and this progress needs to continue. There are also surveys provided to clients after the completion of each work order that measure their satisfaction based on ease, timeliness, and professionalism.

The FMEP team identified performance measures associated with the maintenance and utility operations; however, we did not find that performance measures were in use to measure organizational effectiveness and efficiency or with project delivery, landscape, or custodial.

Recommendation 2B

Continue development of performance measures, with a focus on measuring organizational effectiveness and efficiency.

2.6 A budget is developed, with input from staff, that reflects historic expenditures, an analysis of needs, effective allocation of available resources to support the organization's goals and objectives, and seeks new and innovative measures to leverage resources.

The FMEP team was impressed with an operational budget process we found to be robust and collaborative. Each operational unit meets monthly with a financial analyst from the business unit at which time the monthly budget is reviewed and exceptions noted and recorded. Development of the annual operating budget is also a collaborative effort between the operations and business units.

2.7 Standards have been defined for overall operational performance, built environment, and landscape.

There are clearly defined standards regarding building operations found in the Building

Inspection form and the SLA. The central/trade shops have standards in place regarding maintenance and construction. However, the FMEP team often heard that these standards were not translated into practice in capital projects. There are landscape standards found in the campus master plan; however, the FMEP team was not able to determine how well these standards are applied. Further information is found in criterion 6.6.

2.8 A campus master plan is in place, current, and utilized for decision making.

The university has in place a well-defined master plan and a process for utilizing these standards is in place. There is a clear understanding of these standards by both Facilities Services and clients.

2.9 The operational units participate in the development of the construction program and are active participants in the acceptance of completed projects.

The FMEP team did not find that Capital Projects and Operations were well aligned in this area. When there was an indication of participation by both units, it seemed to be based on the individuals involved in specific projects rather than the result of an organizational process.

It did not appear to the FMEP team that there was a clean handoff between a capital project manager and the zone or central shops. This was validated by comments from a number of individuals in the maintenance and operations area. This appeared to be particularly true for warranty work. Problems associated with unresolved warranty resulted in client pressure on the zone or central shops that caused them to use shop resources to address a capital project issue.

It is important that the staff in the zone and central shops participate during the design, start up, and commissioning of a new facility. While it is understood that reduced staffing levels have an impact on the zone or central shop staff, it is critical to the long-term success of projects that a process be established to ensure both groups collaborate. This participation goes beyond just providing a good product and is also an important means of creating partnerships and ownership within the Facilities Services Department.

Recommendation 2C

The informal committee that has been established to create a partnership between these two groups should be formalized and charged with the creation of a process that ensures that the zone or central shop staff members participate in the design and capital construction process.

Recommendation 2D

The project manager assigned to a capital project should be made responsible for oversight of the warranty at the end of a capital construction project. The project

manager should be the only contact for the project client and Facilities Services staff during the warranty period.

Recommendation 2E

Require that general contractors have a web-based warranty tracking system. This will allow the project manager and the clients of the construction project to easily see whether a warranty issue is being addressed and if it is being resolved.

2.10 Strategies and processes are in place to ensure continuity of functions in the event of staff turnover or other disruption.

The FMEP team was provided with a succession-planning template. However, during the course of our interviews it did not appear that there was significant succession planning occurring at multiple levels of the organization. It is clear that the impact of budget reductions has had a significant impact on staffing.

The FMEP team believes that staffing level reductions are placing the ability of the Facilities Services organization to meet the basic service requirements of the institution at risk. It was also apparent to the FMEP team that staffing levels have been reduced to a level that puts the organization and the institution at risk to sustain operations during significant disruption for any length of time.

Recommendation 2F

Implement a process to identify and prioritize critical roles and responsibilities as well as prudent reinvestment in these positions.

2.11 Emergency response plans are in place, current, and communicated to facilities employees and the campus community as required.

The Facilities Services organization has a key role in campus emergency planning. The communication plans for emergency response are well organized and provided through multiple channels.

3.0 CUSTOMER FOCUS

Customer focus is a key component of effective facilities management. Various stakeholders (faculty, students, staff, and other administrative departments) must feel their needs are heard, understood, and acted upon. Various tools must be in place to ensure customer communication, assess and assimilate what is said, and implement procedures to act on expressed needs.

Facilities Services reviews its client service program to ensure that the services they deliver are meeting client requirements. The new SLAs and the RCM budgeting model will impact how they maintain service levels at the current staffing levels.

3.1 Surveys, tools, and other methods are used to identify client requirements, expectations, and satisfaction levels.

The FMEP review team was very impressed by the level of satisfaction expressed by the clients we interviewed. We consistently heard that clients were engaged regarding their requirements and expectations and that there was regular and frequent communication.

Facilities Services routinely measures client satisfaction through their point of service process. Once work orders are completed, MAXIMO automatically sends a survey that allows clients to rate the ease of the interaction requesting service, the timeliness of the service delivery, the quality of the work performed, and the professionalism of the staff engaged in the work. Results are tracked and shared with responsible Facilities Services units on a regular basis. In the event of negative feedback, Facilities Services follows up to seek resolution with the client and to take steps to improve service delivery.

The customer engagement discussion is a formal process in which a maintenance director and/or zone manager meets with a client on a biannual basis to review a prescribed list of agenda items and to address any client issues. Agenda items should include items such as SLAs, KPIs, and any significant projects.

As the university moves forward with plans to implement an RCM budget, the communications efforts established by Facilities Services will pay dividends in navigating the significant changes in the budgeting and accounting process for the delivery of their services. A cornerstone of RCM models is the transparency of financial information across all levels, and Facilities Services appears postured to provide appropriate levels of information. Frequent and open communications will be critical to Facilities Services success as the university moves into the RCM budget model.

3.2 The roles, responsibilities, and services provided by the facilities department are well defined, communicated, and understood within the department and by all communities served.

Facilities Services has developed and maintains a professional website that provides a combination of dynamic and static client interaction. Clients have the ability to request services, track the status of their requests, and comment on their satisfaction for services provided. The website provides information on the breadth of the department's services, its staff and organization, and major projects, as well as organizational and individual accomplishments.

The FMEP team was quite impressed with the effort by Facilities Services in developing SLAs that provide a structured and detailed description of the types and levels of services provided. The SLAs are negotiated and customized for each client and provide a basis for client expectations. In addition, a recharge matrix chart has been developed to identify funding responsibility for various types of work. In discussions with clients, the team found the SLAs to be well received, and that clients appreciate the ability to refer to a document clarifying Facilities Services responsibilities.

Facilities Services staff are aware of the SLAs and are working toward including them in their service delivery to assure compliance with expectations.

Recommendation 3A

It is recommended that Facilities Services and their clients refer to these SLAs for all services requested and develop a plan to update them annually.

3.3 Levels of service are set to exceed client expectation and are defined in terms that can be understood by the administration, building users, and facilities staff.

As mentioned above, the SLAs have been created to define the department's service levels, and the negotiations in the development and proposed annual updates provide the opportunity for clients to express changing expectations. Clients indicated that Facilities Services generally understood their needs and expectations, although there was some concern cited that Facilities Services could better understand their 24/7 service needs. There was also some concern expressed that as the university increases its number of night classes whether Facilities Services will be in a position to adapt to these needs for increases in service.

Recommendation 3B

The university is continuing to increase the use of the facilities through weekend and night class activities. Facilities Services should meet with the clients that are creating these demands on the facilities and determine a course of action that will provide the resources necessary that will allow the department to provide adequate services during these "non-traditional" times.

3.4 The communities served know how to obtain, monitor progress, and evaluate the services offered.

In discussions with clients, the FMEP team found them to be aware of accessing services and information through the Facilities Services website and that clients also seemed to be familiar with and appreciative of their SLAs. We also found that clients described Facilities Services as an open organization and that they were comfortable contacting staff directly to address and resolve issues. Each major university unit has a "building manager" who

serves as the focal point for interacting with Facilities Services. More information regarding building managers is found in criterion 7.6.

3.5 Client feedback is used to build positive relationships, drive processes, and effect improvements.

The combination of client relations initiatives undertaken such as SLAs, client engagement discussions, and point of service surveys are but some of the examples of how seriously Facilities Services places importance in client relationships. Building managers indicated their appreciation with effective communication and positive interactions with their Facilities Services counterparts.

Recommendation 3C

Create a building managers network by scheduling informational meetings with the full group of building managers on a quarterly or biannual basis to deliver news of Facilities Services, provide opportunities to meet the SLT, recap the capital program, alert them to upcoming traffic/service issues created by construction, share success stories, and other topics of interest to the building managers. The synergy created by the network will enhance communications and demonstrate the appreciation Facilities Services has for the building managers.

3.6 Campus users have a clear understanding and positive view of the services provided by the facilities organization.

It is the consensus of the FMEP team that clients do in fact have a clear understanding and positive view of services provided. We believe this is due to the process of a continual feedback loop via client surveys and KPIs that have created a culture of client service. Clients recognize the efforts of continuous improvement undertaken by Facilities Services and are active in the Vision 2020 strategic planning process. This ongoing communication process among and between all stakeholders is key in resolving current issues and will serve them well in the future.

4.0 ASSESSMENT AND INFORMATION AND ANALYSIS

Information and analysis are used to evaluate performance and drive future performance improvements. Of interest are the types of tools used (for example, peer comparative data clarified and validated through benchmarking), and how the tools are used to enhance organizational performance. Various aspects of information include facilities inspections/audits, financial/expenditure reports, utility data, and other relevant measures and indicators.

The three primary software packages, MAXIMO, ArchiBus, and eBuilding provide Facilities Services a robust data collection and management tool set. Implementation of the

Tableau software will increase the ability of Facilities Services to more fully utilize the data that the organization has available.

4.1 A systematic process is in place for identifying and prioritizing performance indicators, comparative information, and benchmarking studies for the most critical areas.

There are KPIs primarily focused on preventative and corrective maintenance identified for the maintenance and utilities operations. The work order system automatically generates a client satisfaction survey that collects data related to ease of use, professionalism, timeliness, and quality.

Recommendation 4A

Develop and implement performance metrics for other critical areas of Facilities Services operations such as custodial, landscape, and project management.

Recommendation 4B

Determine how much value clients place on each of the metrics used to measure client service so that Facilities Services can begin to evaluate their contribution to organizational success.

Recommendation 4C

Evaluate the use of the balanced scorecard to ensure that KPIs have been developed in all relevant areas of Facilities Services operations.

4.2 Benchmarking results, comparisons, and performance indicators are tracked and used to drive action within the organization.

The Facilities Services organization utilizes Sightlines to benchmark various aspects of the University of Chicago facilities and Facilities Services operations with peer institutions. These benchmarks include capital requirements and operations, as well as financial comparisons. Facilities Services also utilizes VFA to provide comprehensive building assessment services that include projections of future renewal requirements.

It was clear to the review team that Facilities Services and the Provost Office uses the VFA data in a very collaborative manner for decision making. It was not as clearly established how the VFA data is utilized to move the organization forward.

Recommendation 4D

Facilities Services should identify how Sightlines data is utilized in Facilities Services decision making.

4.3 The department ensures that data and information are communicated and accessible to all appropriate users. The required data and information have all the characteristics

users need, such as reliability, accuracy, timeliness, and appropriate levels of security and confidentiality.

Each key application system within Facilities Services is represented by a steering committee that provides business objectives, priorities, and coordinates enhancements, upgrades, and optimizations for the internal Facilities Services-ITS team. This process helps ensure that Facilities Services operational and fiscal requirements are the primary driver of information technology. As noted previously, ITS will be implementing Tableau software that will make integration as well as visualization of multiple sets of data much more possible.

As noted in the Vision 2020 review, the Facilities Services organization is moving into a new paradigm, one where decisions and operations are data driven; this will create new challenges and opportunities. The review team makes the following recommendations to help maximize the opportunities and minimize the challenges. This new paradigm will require staff in the operational areas to have the skills necessary to analyze data and effectively communicate it to a wide audience.

Recommendation 4E

Create a system that will move the organization through the process of data transformation Data > Information > Knowledge > Wisdom, utilizing the data management framework described in the APPA Facilities Informatics Maturity Matrix Technical Report:

(<https://www.appa.org/documents/20160630APPAFacilitiesInformaticsMaturityMatrixTechnicalReport.pdf>).

Recommendation 4F

Implement a "data and metrics" group, comprised of operational and IT staff to provide advisory and audit guidance on the reliability and validity of data and to help determine which metrics and KPIs are most beneficial to the department. This group can also establish processes that maximize the analysis of existing data and minimize the collection of additional data until there is a demonstrated need.

4.4 An effective facilities inspection or audit program is in place that provides a regular appraisal of facilities conditions, identifies maintenance and repair needs, and quantifies facilities maintenance resource requirements.

As noted previously, Facilities Services has a very robust process for evaluating, identifying and quantifying facility requirements. They have recently shifted from ISSSES to VFA and the process of transition between these two systems is being managed in a manner that will maintain the integrity of the existing data. More detail on this issue can be found in criterion 7.2.

4.5 An expenditure report is available to managers on a regular basis and is used to effectively evaluate and control expenditures in assigned subunits.

As noted previously in criterion 2.6, Facilities Services has a very effective process in place to provide financial and expenditure data within operating units.

4.6 An effective system of measuring and recording utility data is in place and is used to establish trends, minimize costs, promote energy conservation, and encourage environmental preservation.

Facilities Services is implementing EnergyCAP software to track utility data and has shared the metrics that are proposed with the FMEP team. Facilities Services also has a variety of building automation systems (BAS) to manage energy use in the buildings.

4.7 The organization has a process to ensure that hardware and software systems are user-friendly, reliable, up to date, and meet the needs of all users.

Each key application system within Facilities Services is represented by a steering committee. The steering committees provide business objectives, priorities, and coordinate enhancements, upgrades, and optimizations for the internal Facilities Services-ITS team.

5.0 DEVELOPMENT AND MANAGEMENT OF HUMAN RESOURCES

An organization's success depends increasingly on the knowledge, skills, innovative creativity, and motivation of its employees and partners. This section addresses the ways in which the facilities organization ensures an environment of continued learning through communication, policies, recognition, training, professional development opportunities, and other methods.

5.1 Staff positions are properly classified and allocated in adequate numbers to meet the standards for the targeted level of service.

Facilities Services determines the requirements of each job position through the job evaluation process. This process includes Facilities Services Human Resources (HR), the hiring manager, and unit leadership. Front-line employees are often the best sources of information regarding specific tasks and what it takes to complete these tasks; however, they are not included in determining the job classifications. Several positions appear to be only "one-deep" which may be a result of the significant budget cuts.

Recommendation 5A

Develop a focus group to include current staff in discussions regarding changes to current job descriptions and requirements.

5.2 Training programs provide for new employee orientation and technical skills enhancement for all staff.

Facilities Services has an interview process for getting information from new employees as well as the hiring manager regarding the success of the on-boarding process. It is not clear how this information is used or incorporated in determining the value of the training programs used.

Recommendation 5B

Facilities Services should use the information gathered in the interview process and develop data driven decisions that accurately reflect the roles and responsibilities of all positions in the department.

5.3 An effective communication system exists within the department to ensure that each employee knows his or her role in the department, the role of related areas, and the overall role of the department.

As noted previously, Facilities Services has developed a strong strategic plan, Vision 2020. Meetings are held quarterly to discuss the progress of Vision 2020 metrics. These meetings provide an opportunity for the supervisor and the employee to discuss the impact they make on the department and the overall organization.

5.4 Safety policies and procedures have been established, written, and communicated to all staff.

Facilities Services current safety program focuses on a culture of teamwork among the front-line workers to improve productivity, scheduling effectiveness, and mutual support. The safety liaison position plays a critical role in communicating this information to all staff. The safety culture ensures that employees feel that their issues and concerns are listened to and that they play an active role in maintaining and developing safe working practices.

Recommendation 5C

Monthly safety meetings should include all levels of management and staff and should be conducted in the zone locations. These meetings should focus on concerns and on the development of best practices that are communicated to all stakeholders.

5.5 Accident records are maintained and used to reduce accidents and identify needs for special attention.

Facilities Services maintains sufficient accident records and meets reporting requirements; however, it is not apparent that this data is communicated to the entire staff.

Recommendation 5D

The information from the accident records should be reviewed with the entire staff at the safety meetings to determine trends, set goals, monitor progress, create safety training initiatives, and consider incentive programs.

- 5.6 The organization promotes employee development and professional development through formal education, training, and on-the-job training such as rotational assignments, internships, or job exchange programs.**

Facilities Services is proactive in providing professional development opportunities. They have hosted two sessions of the APPA Leadership Academy for Level I and one session for Level II, and they have hosted the ILAPPA conference along with many opportunities to participate in drive-in workshops. They involve their staff at the international and regional levels of APPA and participate in additional opportunities. Continuous learning and professional development can be enhanced and are necessary to retain quality staff.

Recommendation 5E

Visit other colleges and universities to develop a more formalized training needs assessment program as well as identify programs that will meet the required and desired training needs of the various Facilities Services Departments.

Develop a more formalized training needs assessment program to identify required and desired training needs of the department.

- 5.7. Continue with involvement in job-related and professional organizations and create a culture of promoting from within the organization when possible.**

To facilitate the employees' participation, Facilities Services has made a commitment to provide flexible work options, a period of paid or unpaid leave, and partial or full payment or reimbursement of training expenses. The supervisors and employees work together to develop an individual development plan to prepare the employee for future positions.

Recommendation 5F

Establish a defined career path that encourages interested employees to take the steps that need to be considered for advancement.

- 5.8 Work performance and attendance tracking measures are in place, are understood by staff members, and are used by supervisors to assess performance.**

Supervisors review individual work performance on a semiannual basis. Performance and attendance expectations are reviewed weekly using KPIs that are set up on their individual MAXIMO dashboards. The FMEP team did not have the opportunity to review the data in place to track these measures.

- 5.9 The organization utilizes the annual performance review process and employee engagement surveys to measure and determine employee well-being, employee satisfaction, and employee motivation. Assessment findings are linked to performance results to identify priorities for improving the work environment, employee support climate, and the supervisors' effectiveness (coaching).**

Facilities Services conducts an annual employee satisfaction survey and the results are published in the employee toolkit and are reviewed with employees. The FY2017 survey results played a part in the development of the Vision 2020 themes.

Recommendation 5G

Develop a process to discuss the employee survey results. Provide employees with a safe opportunity to verbalize the concerns raised by and in the surveys. This will be an effective way of acknowledging to employees their questions and concerns are being taken seriously and the appropriate actions are being implemented.

- 5.10 Employee recognition programs are in place for individuals and groups (may include community service).**

Facilities Services has a Spot Award program that is used to recognize employee contributions, which includes the Keller Award, the Safety Spirit Award, and service awards. In addition, the Facilities Services Department participates in various community service programs. However, staff members indicated that they perceive that the employee recognition programs are not available to all staff members and that the awards are not distributed equitably.

Recommendation 5H

Implement focus groups with front-line staff and management to evaluate the awards program data to ensure consistent application throughout Facilities Services.

- 5.11 Processes are in place to determine the effectiveness of recruitment and retention programs and to identify areas for improvement.**

Employment opportunities are posted on various websites; in addition, search firms are utilized when needed. Facilities Services recognizes that the quality of hire has become the most important and, at the same time, the most difficult metric to track. Exit interviews for all employees not terminated or retiring are conducted and that information is shared appropriately with the work unit. The FMEP team did not have the opportunity to review this data.

It is the consensus of the FMEP team that the Facilities Services HR unit is not staffed properly to provide timely, comprehensive HR services to the department. Anecdotal information from operational units suggested that service from the HR unit was slow, and

that the HR manager suggested there is little time for planning or development of training programs.

Recommendation 5I

Develop a plan for staffing an HR unit in Facilities Services capable of addressing day-to-day recruitment and employee relations and also addressing programmatic initiatives such as training, apprenticeships, internships, and employee recognition, etc.

6.0 PROCESS MANAGEMENT

Effective process management addresses how the facilities organization manages key product and service design and delivery processes. Process management includes various systems such as work management, performance standards, estimating systems, planning and design of new facilities, recruitment and retention programs, and other key processes that affect facilities functions.

6.1 Processes are in place to ensure that departmental facilities and equipment are adequate for the provision of effective and efficient services.

The FMEP team found the Cottage Grove shop building to be spacious, clean and organized, and in an effective location. While not actually located on campus, its adjacency to campus creates reasonable access to buildings and grounds. Its collocation with the storeroom provides the opportunity for an effective process for materials management.

Both the Grounds and Landscape Services Division and the custodial contractor have ample and readily accessible space for equipment and supplies. The woodworking, sheet metal, and welding shop equipment are located in a large, open area adjacent to supervisory office space.

There is ample conference space, training areas, lunchroom, and gathering spaces providing front-line staff with excellent areas for collaboration.

The Facilities Services administrative office space is located some distance from campus, and is not conducive to easy interaction with front-line staff. This geographic separation creates an adverse impact on internal communications.

Recommendation 6A

Create better opportunities for Facilities Services administrative staff and the SLT to hold meetings and visit front-line staff at Cottage Grove building, zone space, and other areas in which operational areas conduct their work activities.

6.2 An effective work management system is in place to identify, report, correct, and document substandard conditions and maintenance requirements.

An effective work management system is in place; however, improvements can be made to take better advantage of the computerized maintenance management system (CMMS). MAXIMO is the CMMS used by Facilities Services Operations and provides the basis for developing and reporting KPI data, tracking workload, and reporting work order status. It is a robust system and can meet all of the needs of the department. It has been in place for several years and the technical support staff is active in the MAXIMO users group. The department is purchasing third-party software to support their mobile work order operation.

The storeroom operation is in the Cottage Grove shop building, an excellent location for a streamlined parts and materials operation. However, during interviews with front-line staff it was found that the general stores operation, and materials acquisitions in general, is slow and inefficient. Most problematic is that an effective automated material tracking system is not in use. Facilities Services has recognized this shortcoming and has contracted with a third-party software provider to implement a procurement and general stores application that will integrate with MAXIMO.

Recommendation 6B

Prioritize the effort to implement an automated procurement and general stores application integrating materials data in MAXIMO. Communicate progress and completion timeline with Operations staff.

Work for the Facilities Services Operations units is received through a number of processes. Clients may enter requests directly into the MAXIMO system, some prefer to send emails, and others telephone the call center. The Call Center is responsible for entering, reviewing, authorizing, and assigning work orders received from clients by the Call Center. The maintenance program manager issues preventive maintenance work orders on a monthly basis.

Facilities Services uses a number of reporting techniques to track work, most notably aging reports and PM KPIs. Clients have access to MAXIMO work orders in their respective buildings in order to track status of their requested work.

MAXIMO is used to track and accrue costs for most Operations activities, eBuilder for capital and non-capital projects, EnergyCAP for utilities cost accrual, and Workday for time and payroll purposes. While employees are encouraged to charge 8 hours to MAXIMO work orders for a full workday, it is not required. In fact, in cases of recharge work, some staff are instructed to charge only the time while on jobsite itself – travel, material acquisition, shop prep, or other necessary job-related activities are not charged, thus defaulting incorrectly to the Operations maintenance budget.

Facility conditions are identified through a combination of custodial inspections, building inspections, and the facilities condition assessment (FCA) program. For additional details, see criterion 7.2.

Recommendation 6C

Require Operations staff to charge a full 8 hours for a full day's work to adequately account for true effort allocation. This could also lead to a more effective practice of time and payroll data entry, eliminating the current practice of redundant data entry for time worked.

6.3 Work authorization and scheduling procedures have been established that are consistent with the identified role of each work unit and achieve an equitable distribution of resources.

Work authorization and scheduling for Operations work orders occur through a number of processes.

The Call Center receives requests from clients by telephone, email, and through direct client entry in the MAXIMO work order system. Authorization for routine client requests occurs at the Call Center and work orders are assigned to the appropriate work group for action. Scheduling of this work generally occurs at the shop supervisor level based on priority, age of work order, and availability of resources. Performance expectations are such that service work will be addressed within seven days.

Preventive maintenance work is issued and assigned by the maintenance program manager. Job plans and frequencies for PM work are the result of planning with trades managers, so authorization for PM work is essentially a coordinated process by maintenance leadership. PM work is issued on a monthly basis and scheduled on a daily or weekly basis by the shop supervisor, with the expectation that work will be accomplished within the month of its issuance. PM completion rates are trending at the 90 percent level.

Client funded work is generally authorized by the requesting department.

In some cases, major maintenance activities are authorized by the manager responsible for the respective unit budget, while most significant expense projects are authorized at the Provost Office level.

There is no formal scheduling process established, work in the Operations areas is scheduled by the zone or shop supervisor. This approach appears to be working well and is consistent with many other large facilities organizations. In recent years, facilities organizations have begun to explore the benefits of activating scheduling modules provided by the CMMS.

Recommendation 6D

Investigate opportunities to implement MAXIMO's scheduling module and develop the capability to plan and schedule routine maintenance and client requested work.

6.4 An effective preventive maintenance (PM) program is in place to provide regular inspection and servicing of facilities equipment to assure maximum service life, reliability, and operation.

It is the consensus of the FMEP team that the PM program has the appropriate resources assigned, performance is measured, and goals for improvement are in place.

Facilities Services manages a PM program to extend service life and minimize the unscheduled downtime of systems and components of university facilities. With a considerable inventory of historic facilities and aging systems, the PM program is essential to properly maintaining these facilities.

Facilities Services uses MAXIMO as the CMMS to record job plans, schedule frequencies, generate work orders, and track performance in the PM system. A maintenance program manager position is dedicated to managing the PM program. The program manager works with trades to validate the existing equipment, job plans, and frequencies; develops PM for new facilities; maintains PM estimates for labor forecasting; and develops and publishes metrics reports. The program manager is involved in new facility commissioning, and PM work orders are issued in conjunction with building turnover.

Two primary metrics being tracked are the ratio of PM to corrective work orders and monthly PM completion rates. Both have reasonable aspiration goals and results indicate positive trends in compliance. Currently, PM accounts for about 40 percent of work orders, and completion compliance is averaging almost 90 percent.

There are several systems by which PM work is accomplished and not yet tracked by the PM program. Of note, elevator PM and fire detection and suppression testing are both contracted and not tracked in the system. Roof inspections are typically performed by Facilities Services shops but not scheduled or tracked in the PM system.

Goals for the program include further development of predictive maintenance techniques; adding a kitting component to work orders to improve materials planning; and developing a quality assurance aspect to the program including an annual program audit.

Recommendation 6E

Include elevator, fire systems testing, and roof inspections in the preventive maintenance program.

6.5 An estimating system is used that provides accurate estimates of labor and material requirements in order to plan and schedule the execution of work and to determine the causes of significant deviations between actual costs and estimated costs.

Other than preventive maintenance, there did not appear to be systems in place for estimating and scheduling routine service work. PM job plans have estimated labor costs and are used for scheduling purposes at the zone manager level. It was not apparent that any work was scheduled in the MAXIMO system.

In instances of recharge work funded by user departments, estimates are provided for planning purposes. It is the team's understanding that all recharge work is accomplished on a cost of work basis. However, if the cost of work exceeds the estimate, the client is not responsible. This practice leads to an inflation of estimates to reduce or eliminate risk to Facilities Services. Eventually this could lead to clients looking for other, more competitive sources for their work.

A software program called eBuilder is used to develop and track budgets and schedules for capital projects. eBuilder is also used by the project managers to track design construction costs. The data from eBuilder is then used to compare with the university system's project budget on a monthly basis. Capital projects also utilize a third-party vendor to provide cost estimating services.

Recommendation 6F

Develop the capability to provide fixed price estimates for client funded work that is performed by Operations. This will allow clients to better forecast costs, and it will add a level of professionalism and a sound business approach for Facilities Services.

Consider utilizing the same vendor used by Capital Projects.

6.6 Design guidelines that incorporate such elements as energy consumption, operating costs, environmental concerns, maintainability, sustainability, accessibility, and safety have been prepared, updated and utilized.

Design guidelines have been developed, and there exists a process for review and updating.

The university is currently using LEED as their standard for sustainability and has completed a number of facilities with LEED Silver and Gold certification. A current project nearing completion is expected to attain LEED Platinum. The department has the expertise to ensure that accessibility is a part of the design and construction projects.

The Facilities Services Department indicated that they are working to develop space standards, although it was noted that institutional acceptance has been difficult to obtain. The department should continue to develop space standards. While it may be challenging to have these standards generally accepted on the campus, they will be an important part of

controlling project costs by controlling the square footage and net/gross ratios of the project.

Anecdotal evidence from interviews with front-line supervisors and tradespeople suggest that while there is a well-developed set of design and construction guidelines, they are too often ignored during the actual design process.

Recommendation 6G

Create a quality assurance program to effectively incorporate design and construction guidelines in all projects including an appropriate approval process for instances in which the guidelines are deemed not in the project's best interest.

6.7 The delegation of budgetary responsibilities for management of subunits of the budget is effective in controlling expenditures.

The team found an impressive process for budget control in the Operations area. Each zone manager and area supervisor meet with their respective financial analyst during the budget preparation phase to allocate projected expenses across a detailed chart of accounts. During the year, the manager and/or supervisor meets monthly with the financial analyst to review monthly and YTD expenses and to analyze any significant variances.

The manager and/or supervisor take full ownership and responsibility for budget results in his or her unit. The monthly variance analysis provides opportunities to catch unexpected expenses early, and to take steps to resolve any balances.

7.0 PERFORMANCE RESULTS

The performance of a facilities organization can be assessed through campus appearance, employee satisfaction and motivation, effectiveness of systems operations, customer satisfaction, financial results, and supplier/business partner results. Where feasible, it is helpful to have measurement tools in place to assess performance in these areas.

7.1 The appearance of the buildings and grounds is in keeping with the surrounding community and the stated image of the institution.

The FMEP team was impressed with the overall appearance of the university's buildings and grounds.

We visited the University of Chicago on the heels of an early year major snowstorm, so unfortunately were not able to see the true condition of the grounds. We were, however, able to observe the competent efforts of the grounds staff in clearing walks and steps during the campus tour.

The building exteriors are clean and well maintained, entrances are well kept and litter free. Given its urban setting, the cleanliness and tidiness is even more appreciated.

The campus itself is a botanic garden and straddles the famed Midway Plaisance Park. In discussions with clients, we learned how pleased the university community is with the daily care and upkeep of the university's grounds.

7.2 The condition and cleanliness of facilities are in keeping with the image and standards adopted by the institution as well as activities associated with its mission and programs.

It is the consensus of the FMEP team that the University of Chicago buildings are some of the cleanest we have seen. Facilities Services contracts custodial services for all their buildings. While the current contractor has been on board for over fifteen consecutive years, the current contract period is concluding, and the department is in the process of procuring the next contract.

The contractor performs quality assurance inspections and, in addition, Sightlines conducts inspections providing annual benchmarking information on comparative cleaning quality scores. When compared with their peer group, the Facilities Services custodial program has comparable cleanliness scores despite fewer custodial staff. Finally, in interviews with clients, the FMEP team heard consistent high praise regarding the cleanliness of buildings. Facilities Services is developing a custodial inspection process in which zone managers will inspect buildings periodically and share results with clients at client engagement meetings.

Facilities Services manages an effective facility condition assessment program through which buildings are inspected and evaluated for adequacy of systems and components. Deficiencies are identified and the corresponding work to correct is estimated. The composite facility condition index (ratio of the value of maintenance deficiencies to current replacement value) of the University of Chicago is approximately 8 percent.

The Facilities Services Department contracts with VFA for the inspection and analysis of their facilities. The processes and procedures involved in this effort comply with best practices, facility condition data is up to date, and facilities are regularly inspected and analyzed. This is not be a one-time activity to set the priorities for capital renewal but rather is an ongoing, cyclical process.

A recent trend of operational budget cuts, made even more challenging by capital growth and mandated salary increases, may have an impact on the condition and cleanliness of buildings.

Recommendation 7A

It was not apparent that the utilities infrastructure was included in the facilities condition assessment program. A replacement value and assessment of maintenance

requirements for the infrastructure should be included to develop a more comprehensive program.

7.3 Building systems and infrastructure are maintained and operated at a level of reliability that contributes to the successful implementation of the institution's mission and programs.

The FMEP team was not made aware of current issues related to building or infrastructure systems that adversely impact university operations. From our observations, discussions with clients, and review of information provided by Facilities Services, the consensus of the team is that the maintenance of systems and infrastructure provide an appropriate level of support for university programs.

In recent years a major emphasis has been placed on enhancing the preventive maintenance program; Facilities Services provides 24/7 staff coverage on campus; a central monitoring and control station uses a BAS to detect status of mechanical systems and building set points; and there is redundancy in heating, cooling, and electrical distribution in the event of emergencies. Elevators, fire detection and/or suppression systems, and emergency generators are tested, inspected, and maintained by contracts managed by Facilities Services.

Clients have related an improvement in the department's level of responsiveness and reliability in recent years and that there has been a marked improvement in Facilities Services communications in the event of planned outages.

Steam production at the university is distributed from several plants with the capability of meeting heating demand from one plant. While Facilities Services has recently invested significantly in addressing maintenance issues with the distribution system, and the utility staff feels that the steam distribution and condensate return system are in adequate shape, there are concerns due to the age of this infrastructure.

Recommendation 7B

Since the steam distribution and condensate return system are critical to the operation of the university, it is recommended that a third-party analysis be completed to identify any potential system weaknesses.

Chilled water production is also distributed across several plants. The chilled water system, with its multiple production plants and complex distribution system, is a challenge to manage. It is recognized by the staff that the system is not running optimally.

Recommendation 7C

Implement a chilled water optimization program. During interviews we indicated that the University of Texas at Austin had an excellent chilled water optimization program. Consider visiting the University of Texas at Austin to learn more.

A BAS is installed on the campus with approximately 200 buildings connected to the system. Of these 200 buildings, approximately 125 are fully integrated with the BAS. It was noted that there are currently three BAS systems on campus with a fourth to be added shortly. The multiplicity of systems compromises efficiency and requires additional training and proficiency as well as additional parts inventory for four different systems.

Recommendation 7D

Implement a strategy for the gradual elimination of the older BAS systems to reduce the campus to, at most, two systems. Having two systems on campus will reduce operating and maintenance inefficiencies while still allowing competition between two system providers. Negotiate reduced costs for parts and labor with the two system providers to ensure equitable costs and, as part of the contract negotiation, request that the reduced cost contracts also apply to any contractors doing installations for the university.

Recommendation 7E

Analyze utility bills to determine if the power factor penalty is substantial for any one utility bill. If appropriate, consider a life cycle cost analysis to correct the power factor.

7.4 Funding resources are effectively used and are adequate to support a level of facilities maintenance that prevents the deferral of major maintenance and repairs.

The staff at the University of Chicago shared concerns with the FMEP team of operating budget cuts in recent and current years that are impacting the department. The current fiscal period is budgeted for a 2.5 percent budget reduction while at the same time accommodating an average 3 percent salary increase and capital growth requiring increased custodial and maintenance care.

One of the basic fundamentals of a total cost of ownership approach is a funding model for new facilities that identifies ongoing operational costs that is recognized and accepted by the institutional senior leadership. The model is applied in the early planning stages of capital projects, and both capital and ongoing costs are identified in order for the project to proceed.

Facilities Services does a good job of identifying ongoing funding for new facilities through a zero-based budget approach, defining costs through a chart of accounts that is based on the final design. It is the team's understanding that ongoing funding for new facilities is

typically allocated, but the recent budget situation is adversely impacting recent capital projects.

Recommendation 7F

The salary increase and capital growth combine to essentially increase the percentage of the budget reduction. For the near-term, Facilities Services may be able to spread existing resources to provide a reduced level of basic services, but in time, continued levels of reduced financial resources will ultimately have an adverse impact on maintenance efforts and result in an increase in deferred maintenance. Continued budget reductions will not be sustainable for Facilities Services to provide the quality of comprehensive stewardship to adequately support university programs.

Recent budget reductions have resulted in the loss of staff or programs in several areas. Examples include the GIS utilities mapping program, bench strength in HR, and unfilled trades positions.

Discussions with university leadership suggest that operational budgets will stabilize and return to normal levels in the near future. In preparation, Facilities Services should begin strategizing a path toward partnering with university leadership to set goals that will demonstrate the effect of funding adequacy on plant stewardship. Many institutions have been successful using the commonly accepted facility condition index system as a means to assess and set goals for facilities portfolio comparable condition.

Facilities Services should consider developing an approach toward reinvestment rate maintenance budgeting, in which maintenance funding is expressed as a percentage of current replacement value as opposed to a square footage driver. It stands to reason that complex research facilities will have a higher replacement value, thus requiring a more intensive maintenance effort. The complexity of building systems, architectural design, and other drivers of higher building costs will result in a proportionately higher level of routine maintenance and asset renewal.

Recommendation 7G

Begin discussions with the appropriate university leadership to set a course for future goals of comprehensive facilities stewardship. The Facilities Condition Assessment program can project future facilities condition index (FCI) levels based on various maintenance-funding levels. Consider implementing a reinvestment rate maintenance budget approach in which the maintenance budget is based on a percentage of current replacement value.

- 7.5 Staff is highly motivated and productive, taking pride in the accomplishment of their duties.**

Interviews with front-line staff suggest a workforce with a high level of pride in their work and satisfaction in their support of university programs. “An amazing place to work,” “why would I want to work anywhere else?” and “we work with our heads up” are examples of the types of responses we heard.

Facilities Services is to be commended for their efforts to understand staff satisfaction through its annual employee satisfaction survey. Survey results indicate a high level of satisfaction but also provide insight to certain areas Facilities Services that can address to improve morale.

7.6 Customer satisfaction measures ensure that the levels of service are consistent with customer needs and requirements and within the facilities department's capability.

The FMEP team found Facilities Services to be client focused and was impressed with the strategies in proactive client engagement. Interviews with clients of the department indicated a high level of satisfaction with client communication, and several anecdotal examples of how Facilities Services has improved its service delivery.

The campus is divided into two geographic zones and a third for residential properties. The zone managers are in constant contact with their client base. In addition, the staff has developed strong working relationships with the clients in their assigned areas.

Facilities Services uses MAXIMO as a means to assess client satisfaction on individual work orders, measuring client levels of satisfaction in the areas of ease, timeliness, quality, and professionalism. Upon completion of a work order, a survey is sent to the client through MAXIMO soliciting client feedback. Data reflects the highest level of satisfaction in professionalism and the lowest in timeliness.

Recommendation 7H

Conduct an annual client satisfaction survey in the major areas of services provided by the department: maintenance, landscape services, custodial, utilities, and project management. While clients are surveyed on individual work order requests, broader client satisfaction data on these major service categories can provide helpful information to Facilities Services.

The SLA is a document prepared by Facilities Services to describe and negotiate the levels of service provided to a department. Basic levels of service are described giving clients an understanding of budgeted services and frequencies. Clients are able to negotiate higher levels of service at their expense. During interviews, the team found clients to be appreciative of the opportunity to review and understand the basic services through the SLA and of the flexibility of Facilities Services to offer pricing for requested levels of increased services.

Another impressive client interactive approach is the client engagement discussion. During these sessions, held biannually with each major client, Facilities Services provides any departmental updates, reviews KPIs relative to the clients' facilities, and addresses any ongoing issues.

Each major building or, in some cases, department has a building manager assigned to be the liaison with Facilities Services. The building managers are instrumental for the department's success in service delivery. The building manager is the focal communication point between Facilities Services and the building occupants for work order requests, scheduling planned service interruptions, managing the SLA process, and general Facilities Services service issues. The building managers interviewed by the FMEP team were all pleased with the level of service and communication from Facilities Services.

7.7 Managers and supervisors stay in touch with the needs of higher education.

Facilities Services is actively engaged with APPA and NACUBO at the national, regional, and chapter levels and is also a member of the Society of College and University Planners (SCUP). Facilities Services engages Sightlines to provide benchmarking services, providing an understanding of peer practices and metrics.

A number of communication processes are used by the SLT to ensure that the managers and supervisors are aware and stay in touch with the needs of the education enterprise. There is an all hands meeting held biannually, a newsletter is produced and distributed to the staff, managers and supervisors hold biweekly meetings with their staff, and quarterly update meetings are held with the five unions.

A number of peer institutions have been identified for benchmarking purposes, but it was not apparent that staff has visited any of its peers to better understand best practice opportunities.

Recommendation 7I

Develop a plan for key staff to periodically visit peer institutions to review their facilities programs and to learn of potential processes that could benefit University of Chicago Facilities Services.

8.0 OTHER CONSIDERATIONS

8.1 Sustainability

As noted in the Vision 2020 review, the FMEP team was impressed with the realistic perspective regarding the current status of sustainability efforts and the sophistication of the reports produced. Critical issues such as establishing the base year and establishing geographical boundaries for GHG and water consumption are well done with a focus on maintaining consistency, reliability, and validity. The current effort has produced the benchmark data that will allow the success of the sustainability effort to be clearly demonstrated.

The Facilities Services Department has a sustainability plan, and there is a sustainability committee. The strategic goal for the plan is a 20 percent reduction in greenhouse gases by 2025. The department is using the New Hampshire GHG tracking program. There are several employees that are charged to oversee the sustainability plan along with support from various other staff members in the department. The review team found several examples of sustainability efforts on a Facilities Services-wide basis. The Utilities Department, as part of their sustainability plan, has a focus on optimization of chilled water production as well as consolidating steam and chilled water production in one plant whereas in the past they used multiple plants. The Capital Projects Department has overseen a number of projects leading to LEED Silver and Gold projects with the most recent project positioned to attain LEED Platinum.

There is an interesting dichotomy of views as to the support of the university for sustainability. At the Facilities Services leadership level, it was felt there was less interest in sustainability on the part of the student body and faculty. There was a perception that there are very few faculty members that are pursuing research or providing courses in sustainability and that senior leadership within the university has not made sustainability a high priority. On the other hand, the sustainability staff that are working directly with some faculty and students feel that there is a strong interest in to supporting sustainability on the campus.

Transparency is a crucial element of success in this area. It was noted that some reports provided to the team were labeled “private” or “confidential.” The University of Chicago has a good story to tell, and it is getting better; we would encourage more openness. The recommendations provided below are intended to assist the university to improve the overall program. Suggestions for possible sustainability activities or programs are found in the appendix.

Recommendation 8A

Increase membership on the Sustainability Council to include a representative from procurement services and at least one undergraduate and one graduate student.

Recommendation 8B

University staff and faculty, as well as students, would benefit by visiting campuses that have a more mature sustainability program such as:

- *Stanford University*
- *Colorado State University*
- *Rice University*
- *University of Michigan*

Recommendation 8C

Expand comparative groups beyond Ivy+, for example institutions on a national or international basis and specific institutions that the University of Chicago competes with for students and faculty.

Recommendation 8D

The sustainability plan does not address the University's existing and expanding international footprint. Including this element would be innovative as well as providing a University of Chicago signature aspect to the plan.

Recommendation 8E

Take advantage of the impending move to the new budget structure and develop internal utility rates that incentivize energy conservation as well as analyzing current water and electric bills to determine how the current rate structures can be used to incentivize reduced consumption.

Recommendation 8F

The sustainability plan does not address the social equity component of sustainability. The social equity issues can be addressed in a variety of way, such as programs that address the existing workforce as well as activities associated the university's footprint in a major urban area.

Recommendation 8G

The website encourages students to "Look for ways to make sustainable actions a part of your daily routine...;" however, there does not appear to be organized or structured opportunities for students to take those types of actions.

Recommendation 8H

The University of Chicago has made substantial investments in LEED buildings. The actual performance of these buildings will depend on the consumptive behavior of their occupants. It is recommended that effort be expended on "educating" building occupants regarding changes in their behaviors that will complement the operational capability of these new buildings. Additionally, consider installing dashboards in high performance buildings that provide current and historical data on natural resource consumption.

Recommendation 8I

Establish financial systems to support sustainability activities. One possibility is the implementation of a “Green Fee” funded by students that would allow students and faculty to apply for small grants to implement energy conservation measures. In some cases, these may be small pilot projects that could be considered by the Facilities Services Department for implementation on a wider campus basis. The review team learned that funds may be available to establish a revolving fund to implement energy conservation measures to support reducing the university’s environmental footprint.

Recommendation 8J

Introduce the concept of “friendly” competition within comparable facilities to help alter consumer behavior on campus.

Recommendation 8K

Leverage sustainability efforts by taking advantage of current activities that can be linked to sustainability, for example:

- *Using reclaimed water in the Botany Pond with a clear link to the Arboretum.*
- *Mulch used in the Arboretum linked to the use of landscaping waste.*
- *Clearly identifying that the reduction in chilled water and steam use has a dual impact, reduced energy and reduced water consumption as a result of reduced power plant cooling requirements.*

8.2 Utilities

As a result of the production of chilled water and steam, the utility operation is a key driver of the University of Chicago environmental footprint. Consequently, they have a number of aspects of their operation that relate directly to sustainability. The utilities director is a member of the University Sustainability Council and also plays a key role in the Facilities Services sustainability program.

The Utilities Department monitors utility usage each month and re-forecasts utility consumption for the year. This process helps the department to remain on track for its GHG goal. In addition, the university currently uses third-party entities to provide natural gas and electricity. The utility staff works closely with these third-party entities to determine a balance between hedging and spot market purchases.

Recommendation 8L

Engage a consultant to provide a professional evaluation of current natural gas purchasing options.

In addition there are several issues that can impact utility costs related to power and water.

Recommendation 8M

Analyze water use:

- *Ensure that all water use associated with utility operations and landscape are calculated with the base water use used to calculate waste water rates.*
- *Determine the percentage of total water demand associated with the utilities operation.*
- *Evaluate what water consumption levels drive different rates.*
- *Estimate water use for irrigation and assess if that justifies separate irrigation meters.*

Recommendation 8N

Evaluate campus electrical demand:

- *Analyze the utility bills to determine what the power factor penalty is and if appropriate, consider a life cycle cost analysis to correct the power factor.*
- *Determine the differences between on-peak and off-peak demand charges and how off peak charges might be reduced as a result of operational changes or changes in faculty and student consumption patterns.*

Recommendation 8O

Establish internal utility rates that incentivize energy conservation:

- *Develop models for sharing cost savings.*
- *Establish rates for high demand users that motivate reduced consumption.*

Conclusion

The Facilities Services organization is well positioned to achieve its goal of becoming a national leader in higher education facilities management. The department has demonstrated by the development and implementation of the Vision 2020 strategic plan that the staff and leadership have the ability and will to move the organization forward. In addition, Facilities Services has put in place the organizational infrastructure necessary to make this improvement possible. The FMEP review team looks forward to learning of Facilities Services at the University of Chicago as it continues on the path to becoming a preeminent facilities organization.

Appendix

List of FMEP Interview Participants

Facilities Services

Jim McConnell	Associate Vice President
Alicia Berg	Assistant Vice President, Campus Planning + Sustainability
Kerry Galbraith	Executive Director, Capital Project Delivery
Gerry McGillian	Assistant Vice President, Facility Services Operations
Arleta Porter	Executive Director, Finance & Business Services
Mike Affeldt	Foreman (Central Utility Plant)
Kevin Austin	Senior Director
Milissa Batig	Material Control Supervisor
Charles Becker	Service Crew (Grounds)
Brian Bozell	Energy and Utilities Manager
Malcome Braggs	Material Control Coordinator
Dan Carey	Central Utility Plant Manager
Andy Cobb	Zone Manager
Sabrina Colby	Facilities Manager
James Coleman	Zone Manager
Chrishawn Cook	Lead (Grounds)
James Cook	Facilities Information Manager
Brian Cowperthwaite	Senior Director, Facility Services Operations & Maintenance
Jim Culhane	Foreman (North Zone)
Matthew Curtin	Manager, Client Services
Adam D'Ambrosio	Senior Director, Energy Services and Sustainability
Tom Deal	Senior Project Manager
Art Del Muro	Director, Construction Management
Erik Dendekker	Foreman (South Zone)
Salvatore Fricano	Local 134 Chief Steward
Nicole Gall	Gall Occupational Health and Safety Specialist
Camilo Garza	Zone Manager
Josh Garza	Electrician Apprentice
Maya Gharpure	Associate Director, Planning
Bernard Gilespe	Building Engineer (North Zone)
Penny Gomez	Manager, Financial Analysis
Tiffany Grant	Executive Administrator
Troy Gray	Material Control Coordinator
Tyler Harrison	Facilities Manager
Meachie Holman	Work Center Supervisor
Alfredo Izguerra	Energy Engineer
Michael Kekelik	Structural Mechanic Foreman
Mike Kekelik	Foreman (Structural Shop)
Angela Knoble	Project Manager
Karen Lark	Property Manager

Adam Lucido	Maintenance Program Manager
Charlie Maher	Director, Business Applications + Data Management
Jayne McGriffin	Assistant Director, Campus Services & Residential Properties
Antonio Mena	Manager, Capital Planning
Mark Meyers	Assistant Manager, Campus Trades
Herb Mueller	Supervisor, Residential Properties Shop
Angel Murillo	Building Maintenance Worker (Residential)
Ernie Negrete	Electrician
Barry O'Quinn	Senior Manager, Building Envelope & Campus Trades
Brandon Osteman	Building Engineer (South Zone)
Marcus Patterson	BAS Manager
Virginia Payne	Material Control Coordinator
David Petrouskas	Building Engineer (Residential Housing)
Sara Popenhagen	Sustainability Manager
Nate Pritchard	Locksmith
Michael Ross	Senior Project Manager
Brandon Rux	Manager, Ground & Landscape Services
Crystal Smith	Manager, Financial Analysis
Brandon Stone	Foreman (Central Utility Plant)
Kevin Taylor	Assistant Director, Project Management
Carl Thompson	Supervisor, Campus Services
Mike Urbanczyk	Assistant Shop Supervisor
Adrian Velez	Senior Human Resources Manager
Myriam Weaver	Executive Analyst
Benjamin Webb	Building Maintenance Worker (Residential)
Christal Wilson	Manager, Financial Analysis

Clients

David Fithian	Executive Vice President
Blair Archambeau	Associate Provost, Planning
Rachel Betts	Senior Consultant
Stacy Brown	Senior Financial Analyst
John Carey	Library Facilities Manager
Misho Ceko	Chief Operations Officer/Senior Associate Dean
Charna Rachel Epstein	Chief Operating Officer, Urban Education Institute
Mike Hopkins	Professor, Chemistry
Roslyn Johnson	Director, Procurement & Economic Impact
Richard Mason	Assistant Vice President, Campus Life & Associate Dean in the College
Erin McDermott	Director, Athletics & Recreation
Bill Michel	Executive Director
Thomas J. Miles	Dean, Law School
Heather Simms	Associate Director
Nita Yack	Departmental Administrator

Possible Sustainability Programs or Activities

The following are not recommendations but rather suggestions and ideas for your consideration that the review team offers based on their experience with higher education sustainability programs.

- Develop a lighting retrofit program to LED lighting for both internal and external lighting systems.
- Use additional meters to separate irrigation water from domestic water.
- Use rainwater to replenish the Botany Pond.
- Use real-time displays (dashboards) in facilities to encourage competition between occupants.
- Consider an arrangement where composting is brought back to the campus for use in appropriate areas.
- Review steam and chilled water plant use and compare to other universities.
- Consider the installation of a cardboard compactor and place it near a facility that receives large volumes of cardboard.
- Consider the implementation of a Green Office program similar to the Green Labs program.
- Increase opportunities for student involvement in sustainability activities; this could be particularly impactful as the campus moves into the Green Labs concept.
- Visit other universities with significant sustainability programs.
- Consider working with the city to implement a bike share program.
- Consider a solar purchase power agreement.
- Purchasing RECs to help meet the GHG reduction goal. The purchase of RECs can be gradually eliminated as other sources of direct GHG gas reduction are implemented.
- Consider, if available, participating in a community solar program.
- Manufacture and/or build diploma frames from trees harvested on campus.