Doing More with Less: Facilities Management Solutions for Improving Operational Effectiveness on a Limited Budget
Higher education institutions have faced a new set of challenges in recent years. The traditional university and college experience is changing, as are perceptions about the value of this path. Suddenly these institutions are competing not only with one another but also with online education and direct entry to the workforce. This, coupled with an unsteady economy, has led to uncertainty around enrollment—which in turn has had a direct impact on campus facilities.

With enrollment leveling or declining, many campuses are seeing a drop in tuition revenue. In addition, few state governments are increasing capital funding for campus construction at public institutions. The result is that there is less money available for facilities, whether for new construction, major updates or ongoing maintenance.

No matter how critical these needs are, the fact is these facilities challenges are often out of mind for financial decision makers. As a result, facilities managers across the country are seeking new strategies for making the case for facilities needs and securing funds for these necessary activities.

This role of funding champion is not an easy fit for all facilities professionals. To win their share of funding in the ongoing competition with financial aid and faculty salaries, these professionals have had to communicate in a new language, based on data and a learned financial vocabulary. And because funding is uncertain, facilities managers are forced to examine the effectiveness of every dollar they spend to make sure they get the most value.

These are challenges to which many facilities management departments are rising. In the following three chapters, you will meet three schools that forced their facilities departments to do more with less. Through the use of verifiable data, each of these facilities departments were able to successfully create new spaces, reduce maintenance backlogs, meet changing expectations, and achieve higher levels of efficiency—all without the need to increase funding.
Higher education campuses may each face unique challenges, but accurately predicting space needs is common to most of these institutions. Many colleges and universities watched enrollment surge between 2007 and 2012 only to level out, if not decline, from 2013 onward. Due to this plateau, decision makers at higher education institutions have become more reluctant to turn to new construction as their first solution to facility challenges, particularly when funding is through tuition revenue that may or may not be stable over the long term.

That’s why, when faced by strong demands from the faculty to increase academic space, the administration at one mid-sized university in the Northwest first decided to take a step back and assess the situation. Before agreeing to commit millions of dollars to the construction of a new academic building, the university wanted to first determine if it could reimagine its existing campus design and put the current teaching space to better use.

To make an unbiased decision, university decision makers knew that they needed data that either supported the faculty’s argument or could help create an alternative working arrangement that would meet the evolving faculty needs.
A Three-Pronged Space Investigation

To determine whether the existing academic space could be better arranged to meet changing academic needs, the university began an investigation that sought to address three questions:

1. Do the current teaching space configurations align with the school’s program?

2. How effectively are the existing teaching spaces being utilized today?

3. What are the comparative conditions of those teaching spaces?

To best answer these questions, the university turned to an independent third-party that could gather this data through a four-step discovery process.

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The first step of the process was to conduct interviews with faculty and students. Through these interviews, the team was able to better understand the changing expectations for classrooms, and identify where the existing space configurations fell short. This insight helped the team pinpoint more practicable classroom designs, layout and requirements that met new student needs and desires.

Next, the team conducted field assessments of each classroom and a thorough inventory of all of their components, from desk styles to technology. The team also performed a higher-level analysis of how the existing space was currently being used, breaking down precisely the activities performed in each room. Finally, all of this information was compared with a broad review of course scheduling to determine if adjustments to timing could free up some of the existing space for new uses.
This multi-tiered approach to space analysis paid off. The team learned that the majority of classes were being held in rooms much larger than was needed, as determined by enrollment trends and the expressed preferences of faculty and students. More importantly, this thorough data collection did more than outline the problem. It also offered a pathway to improvement.

**From Discovery to Renovation Process**

To better align the room inventory with enrollment and faculty preferences, the university decided to cap more classes at 20 students. With this limit set, the university was able to renovate existing teaching spaces to accommodate the smaller class sizes and multiply the amount of available teaching space.

The data gathered during the discovery process continued to prove helpful as the university began its renovations. The condition analysis served as a framework that allowed the school to prioritize projects. Those areas with the highest backlogs of needs were renovated first, with work spread out over time in order to maximize the budget.

With more space for teaching, the university had to take a second look at its scheduling process. This became an opportunity to align block scheduling with faculty preferences by holding more classes at peak times.

**Building in New Efficiency**

The result of this discovery process was a 30-percent improvement in the university’s use of its existing space. This proved to be plenty to meet faculty’s demands and eliminate the need to spend significantly on a new facility. More than that, it proved an opportunity to create a more effective teaching and working environment that could continue to attract bright minds.

Of course, not all space challenges can be solved through creative renovation. In some cases, new construction is the best solution, and its funding must be addressed with creativity, as we’ll see in the next chapter.
With today’s flattening enrollment trends, more higher education institutions are approaching new construction projects with caution. However, these large projects can’t be altogether avoided. After all, the majority of buildings on most campuses were constructed before 1975, and many of these are in dire need of renovation, if not full replacement, to meet shifting needs while providing the comfort and performance expected by students and faculty.

More of those colleges and universities that are committing to major construction are doing so with an eye to the long-term operations budget. Savvy facilities managers and school administrators understand that limited facilities budgets must address not only the cost of new construction but the additional maintenance that will be needed to cover a new facility. Many schools are using cost reductions to fund new projects.

When this small private college in the Northeast committed to a $200 million investment in construction over the course of a decade, it did so with the intent of keeping operating resources at their existing level. The facilities department had to approach this challenge strategically to ensure it would have the funding to effectively manage its assets over the long-term.
A Strategy for Supporting the Facilities Budget

To stretch the existing facilities budget to accommodate a growing number of assets, it fell to the facilities management team to find ways to slow maintenance deferral and keep up the new spaces without need for any additional funds.

Ultimately, the college was able to grow its annual stewardship funding 160 percent in ten years.

To achieve this goal, the facilities management team knew that it needed to focus on supporting and protecting the existing facilities budgets. Data was the answer to this challenge. By gathering data about the existing facilities, the department could ensure resources would be in place for routinely recurring keep-up investments.

This data was collected through a blend of benchmarking of peer institutions and a thorough analysis on the current performance of facilities across campus. The resulting information helped the facilities management team make a compelling case for putting changes in place that would ultimately streamline operations, reduce backlog and prolong lifecycles.

The early analysis process ultimately led to three recommendations:

1. Benchmarking revealed that the college’s energy consumption was high compared to similar institutions. Lowering these expenditures could provide the cost reductions needed to fund maintenance and improvements.

2. Increasing the spending on planned and cycle maintenance programs would slow the rate of deferral.

3. The greatest impact could be made by focusing first on larger renovations and catching up with deferral in older facilities.
Because facility management had verifiable, third-party gathered information on hand, it was able to make a clear and compelling case for the value of keeping up with facility maintenance. By using data to demonstrate how assets across the institution compared across the board and with peer institutions, the department was able to secure the support it needed from the board of trustees. And with this support, facilities leaders were able to better leverage operating savings and secure new appropriations to incrementally increase their ability to steward existing assets.

**A Pathway for Prioritization**

This data not only helped secure crucial buy-in from key financial decision-makers, but it also created a pathway for prioritizing its large-scale improvements.

The first target for improvements was a number system and infrastructure upgrades related to energy consumption. The resulting improvements ultimately were able to achieve a 35 percent reduction in utility consumption per square foot. This also reduced greenhouse gas emissions, a sustainability initiative that boosted the college’s reputation. Moreover, by reducing energy expenditures, the college was able to free up capital to fund stewardship and decrease its deferred maintenance accumulation.

In addition, strategic investments in older facilities allowed the college to drive down the average age of its buildings. At the start of this upgrade process, 60 percent of the campus buildings had a renovation age over 25 years and only 18 percent of these facilities were newer than 10 years. In time, the percentage of buildings over 25 years old since their last renovation was reduced to 47 percent; 30 percent of these buildings were less than a decade old.

**A Focus on Improvement**

Ultimately, the college was able to grow its annual stewardship funding 160 percent in ten years. This funding helped stabilize the backlog demands. With backlog growth slowed, there were fewer unplanned emergency repairs and capital dollars could be directed to projects that genuinely improved the campus.
Aging educational buildings are being dealt with across the country: more than 35 percent of the campus space currently in use was constructed for enrolling Baby Boomers. Often these buildings were built quickly, with little expectation that they’d be forced to perform for the length of time that they have, and less thought still given to their ongoing operational costs. Because oil was plentiful and inexpensive during this time, there was little attention given to energy efficiency. The result is that today’s facilities managers often find themselves holding significant deferred maintenance problems at bay with a limited budget meant for managing ongoing preventive maintenance rather than emergency repairs and major upgrades.

It was just this challenge being faced by a large Midwestern university. Nearly half of this public research university was built in the 1960s, and it was beginning to show significant wear and tear. Maintenance had been deferred across campus, worsening the performance of a number of buildings.

The administration knew that some significant upgrades were needed. But maintenance was a challenge to address for a number of reasons, including the scale of the problem and the limited budget. What’s more, the university housed parts of its facilities management department in various areas across campus, which led to inconsistency in preventive maintenance programs.
Ultimately, it was determined that the best way to solve these problems was to centralize the facilities department. University decision makers determined that this single step could have a huge impact: lower costs, unified facilities standards, the creation of more consistent preventive maintenance programs, and more efficient use of staffing and resources.

**Monitoring Success for Ongoing Planning**

Before diving into this consolidation process, the administration recognized that it wouldn’t be able to celebrate success without a mechanism in place for monitoring the program. A tracking program would ensure that the centralization reaped the expected savings. The university administration also wanted to guarantee that any operational savings would be reinvested back into future facilities maintenance and upgrade projects.

Data was the answer. The university began this department reorganization with a thorough analysis of current needs and by instituting metrics that would allow it to create a pathway for improvement and measure ongoing success.

**Getting the Right Staff in Place**

The next step in this process was to right-size staffing and the budget to meet the needs of the now centralized facilities management department.

Gaining appropriate staffing levels is a challenge for many higher education institutions. In 2015, data showed that each full-time equivalent custodian at public campuses covered more than 36,000 GSF, on average. Facilities leaders across the country report that their staffing levels are stretched like never before. Years of flat operating budgets and the growth in overall square footage has had a significant impact on the level of staffing and the amount of space covered daily.
For this university, the solution was to organize staff into zones that attacked maintenance tasks according to specific needs. This approach helped to save travel time, and ensured work was completed in a timelier manner and at lower costs.

With the right team in place, the university soon saw an up-tick in work orders. This in turn allowed the facilities team to better identify opportunities for planned maintenance that would lower the costs that had escalated due to deferred maintenance.

**The 10-Year Improvement List**

With the appropriate staff in place, the next step was to determine which areas of the campus were most in need of renovation. The facilities management team used third-party collected data to get a clear and accurate assessment of the current state of the campus.

Through a 10-year prediction model, the university was able to prioritize projects based on current needs, 10-year renewal needs, and modernization and infrastructure needs. Predictive modeling helped the university to determine which buildings would best be demolished rather than renovated.

In breaking needs down further, it became clear that nearly half of the projects in want of attention were related to the dated HVAC system. This system prioritization led the university to direct any savings achieved by the consolidation process back into this specific campus improvement.

With a better understanding of existing assets and their needs—in combination with the funds made available through the staffing improvements—the university was able to slog through its costly deferred maintenance and significantly increase its planned maintenance schedule.
Reenergizing the Campus with Proactive Maintenance

This data-driven consolidation process ultimately would demonstrate millions of dollars in savings within the first five years, leading to cumulative improvements that vastly transformed the quality of all departments on campus. Simply by reorganizing facilities functions, the university was able to more than double its investment into facilities and breathe new life into what is now a more competitive, and inviting, campus.
Conclusion

Data is the key to many of the challenges facilities managers at higher education departments face today. While it may have worked in the past to postpone maintenance and ignore growing backlogs, this path no longer is acceptable. The traditional facilities cost center must find new levels of value to fund its mission and support campus goals.

Through a clear understanding of campus needs, facilities managers can better structure their budgets and prioritize investments. Even when faced with steep challenges, facilities managers who clearly understand their campus needs can achieve workarounds that allow them to make a big impact on a limited budget. The task to do more with less demands greater efficiency with the use of existing capital and space in order to lower operational demands.

Despite constraints on facilities operating budgets, data shows that planned maintenance has increased in recent years as campuses are being more proactive in their maintenance. Campus facilities leaders are taking a more intentional and preventive approach to maintaining newer, more complex buildings, particularly those constructed from 1995 to 2015. With more prompt attention to preventive maintenance, more streamlined processes in place, and more effective utilization of every space, facilities managers can provide new levels of value to their institutions.
About Sightlines

Going forward, campuses will need to sustain these efforts—even expand on them. If campus leaders resolve to track, measure, and document their facilities-related performance, they will surely keep their campuses serving students well into the next century.

Sightlines, a Gordian Company, is a leader in helping colleges and universities better manage their facilities operations and capital investments. Sightlines provides tools for strategic planning, analyzing and benchmarking that generate an independent, reliable comparison of campus performance in these areas against peer institutions.

Using its unique, proprietary Facilities Benchmarking & Analysis process, Sightlines visits each campus annually to collect more than 200 indicators of facilities and financial data and then identifies trends and provides useful analysis and benchmarks. With Sightlines, institutions receive the context and validation they need to make sound, clear, informed and financially credible decisions about campus facilities. As a result, campuses can optimize capital investments, address backlog of deferred maintenance projects, develop a strategy to steward physical assets, improve the effectiveness of facility operations, reduce energy consumption and better serve students, faculty, staff, and visitors.