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Saying Goodbye To the Smart and Sustainable Campuses Conference

After 11 conferences from November 2005 to March 2017, the Smart and Sustainable Campuses Conference (SSCC) has come to an end and will not be produced hereafter. The coordinators at the University of Maryland Sustainability Office, under the tremendous leadership of Scott Lupin and Aynsley Toews, informed the program development committee of the decision a few months ago.

APPA was one of the founding organizations of the conference—along with the University of Maryland, the U.S. EPA, NACUBO, SCUP, and others—and only UMD and APPA have been part of the conference throughout its duration. APPA contributed to the program planning and selection of conference presentations, and provided a valuable connection to the attendees from the campus facilities side of the house.

It was our job not only to make those connections between the facilities and energy organization and the sustainability, academic, and student stakeholders, but also to help our own APPA members break out of their silos and biases and embrace—or at least understand and provide assistance to—the important issues related to sustainability and environmental stewardship. Many of you helped support SSCC over the years by attending the conference or supporting your staff members to attend. Many of you also contributed articles to *Facilities Manager*, presentations to APPA, regional, or chapter conferences, and submitted best sustainability practices to APPA's Sustainability Award or the Effective and Innovative Practices Award.

We appreciate all your support and assistance, and we want it to continue and grow. We urge you to continue supporting AASHE (the Association for the Advancement of Sustainability in Higher Education), Campus Sustainability Day, RecycleMania, the Green School listserv, the Climate Leadership Commitment, the APPA/NACUBO Key Facilities Metrics survey, and your local communities' efforts to save energy and money, reduce the carbon footprint, create greater efficiencies, and develop student leaders for the future.

Sustainability and environmental stewardship are not a fad that is on the wane. Think about what has been integrated into the fabric of our daily lives—through education, politics, business, and more—that wasn't there a dozen years ago. There's more still to do.

KENTUCKY BECOMES NEWEST CHAPTER
WELCOME BLUEGRASS APPA!

On November 3, Northern Kentucky University hosted a meeting of about three dozen facilities professionals from institutions across the state to network and discuss the creation of a Kentucky chapter of APPA. By the end of the day, SRAPPA Immediate Past President Dan Wooten, Tennessee State University, had sworn in the new **Bluegrass APPA** Board of Directors. Congratulations to the new Bluegrass chapter!

President: **Chris Charnegie**, *NKU*; Vice President: **Bill Moulton**, *NKU*; Secretary: **Paul Gannoe**, *EKU;* Treasurer: **Tim Clark**, *UKY*; Vice President for Education: **Jim Parker**, *NKU*; Business Partner Liaison: **Jeremy Saline**, *ASSA Abloy*

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2017 Thought Leaders Series: *Transforming Facilities to Achieve Student Success*

The 2017 Thought Leaders report focuses on *Transforming Facilities to Achieve Student Success*. The report makes the case that student success starts with retention and graduation, but it can expand to include factors from personal career goals to social responsibility. A key message from the report is that through strategic investment in their facilities, colleges and universities can support student success, position their campus for the future, and serve as good stewards of campus assets. The report also stresses that the process must reflect the mission and vision of the campus, thus making the greatest impact possible on the college or university's goals.

All Thought Leaders reports are free, thanks to the generosity of sponsors Jacobs and Johnson Controls, and may be downloaded from the APPA Bookstore or at *www.appa.org/research/cfar/tls.cfm.*
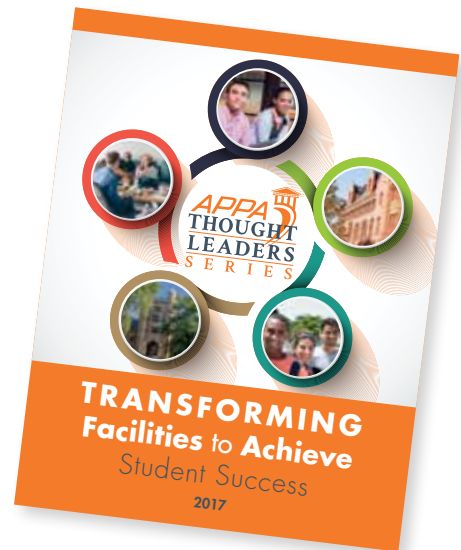
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By offering both APPA's highly regarded Institute for Facilities Management and Leadership Academy, APPA U delivers quality professional training in an environment that encourages professional networking and collaboration with other educational facilities professionals—in one location. This approach allows for less travel, easier registration, greater sharing of information, and an excellent opportunity for Institute and Academy attendees to network with each other throughout the week. Both the Institute and Academy are four-track programs held at APPA U twice every year.

Be sure to sign up for the next APPA U in Portland, January 21-25, 2018!

SAVE THE DATE

**APPA 2018
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Washington, DC
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Mark your calendar to attend next year's meeting and exposition. You won't want to miss this exciting gathering of fellow facilities professionals and exceptional speakers!

APPA Events

APPAinfo is Your Networking Link

Join or Start a Conversation with APPA's Discussion List

APPAinfo is an email discussion list for educational facilities professionals, where you can find the answers to many of your everyday problems simply by posting a question to your peers. How should your school handle graffiti and vandalism? How can you creatively deal with customer service issues? What strategies are you using to tell the facilities story to your senior campus administrators? The possible discussion topics are endless. Just ask!

APPAinfo focuses on all campus facilities issues, regardless of size or type of school or organization. The APPAinfo discussion list (1,040+ strong) seeks to broaden your resource base by making it easier to interact with and respond to the needs of facilities professionals.

For more information, contact Steve Glazner at *steve@appa.org* or simply visit *http://www.appa.org/discussionlists/index.cfm* to subscribe.

What Does "APPA" Stand For?

As you can see from the list below, APPA has had several names over its 103 years of existence.

APPA was the acronym used for the Association of Physical Plant Administrators from the late 1960s through the early 1990s. Today, the association is known as "APPA – Leadership in Educational Facilities," and is most easily recognized and referred to as simply "APPA."

1914
Association of Superintendents of Buildings and Grounds of Universities and Colleges

1948
Association of Physical Plant Administrators of Universities and Colleges

1954
National Association of Physical Plant Administrators of Universities and Colleges (NAPPA)

1969
Association of Physical Plant Administrators (APPA)

1991
APPA: The Association of Higher Education Facilities Officers

2007
APPA – Leadership in Educational Facilities

The Future: Change, Collaboration, and Lifelong Learning

By E. Lander Medlin

At the outset I am not, nor do I pretend to be, a "futurist." However, I am a student of futurists such as Ray Kurzweil, Daniel Burris, Jack Uldrich, and especially now the unlikely Thomas Friedman, concerning the topic of change. His recent book, *Thank You for Being Late: An Optimist's Guide to Thriving in the Age of Accelerations*, has import on the topic of change and serves as a platform to inform my thinking on the other two themes of collaboration and lifelong learning.

Why care about change and where it is coming from? Understanding and knowing why things are happening as they are helps us frame our future with respect to collaboration and our learning needs. In *Thank You for Being Late*, Friedman states that we are living in the midst of a few game changers he calls "the age of accelerations" where three driving forces are now in play.

- *Technology* – quoting Moore's Law, where computing speed and power is doubling every 18 to24 months. Hence, 90 percent of the world's data was created in the past two years!
- *Globalization* (of markets and media) – where NOT just people are connected, EVERYTHING is connected. Hence, anyone can impact everyone anytime!
- *Environment* (climate change and biodiversity loss) – where people are NO longer just part of nature; they are now a force of, in, and on nature. Hence, we might just shift the planet from friend to foe!

DISLOCATION VS. DISRUPTION

It gets worse as all three are changing simultaneously, interdependently, and exponentially (not linearly). As a matter of fact, humans think, act, and adapt from a "linear" mindset where distance, time, and velocity move in a straight-through line. Furthermore, the exponential rate and pace of growth and change is quite different, and with hugely different consequences, indeed, transforming almost every aspect of modern life. The impact is one of dislocation, not to be confused with disruption, whereas humans cannot fathom how to adapt. Yet, we have no choice! The world is being uncomfortably changed. Living and working in this age of accelerations has shifted, is shifting, and will shift every aspect of the higher education landscape. None of us are excluded.

This is all occurring against the backdrop of an array of pressures and challenges confronting the 21st-century education environment and contributing to its volatility. Among the most prominent challenges are skepticism over the value of a college degree, higher expectations for institutional performance, student unrest, intense competition for students and resources, political divisions, and this new wave of technological change that is altering everything we know about the education environment.

SO WHAT CAN WE DO?

The 2017 Thought Leaders Series (TLS) monograph, *Transforming Facilities to Achieve Student Success*, connects us nicely to the importance of not just optimizing facilities function, but optimizing purpose. This gives greater clarity to the role of facilities in this changing environment and how important it is for facilities to clearly and cleanly align with the institution's goals and objectives. Again, the monograph provides greater detail on this role and much, much more.

Nonetheless, we cannot do any of this in a vacuum. It requires us to work not just cooperatively, but in collaboration with others. Collaboration is so important and, if truly understood, can change the very nature of how we relate to and communicate with one another. Indeed it's the way we *see* and engage others, as people who have needs, wants, fears, insecurities, and hopes…just like we do. A person of worth and value; one that matters. Further to the point, you *feel seen* by them. It's this way of *seeing* that captures the essence of collaboration.

To achieve true collaboration you must change your mindset ("mindset" being defined as a set of beliefs or a way of thinking that determines one's behavior, outlook, and mental attitude). It's how you view the world and other people in it—the lens through which you *see* your work, your relationships, the world. And this mindset is either an inward or outward mindset. Both are explained in greater detail in the TLS monograph, and is worth the read. Suffice it to say, choosing an outward mindset, you know others' needs, desires, motivations, and can make better, more collaborative decisions. You are now able to focus on the collective mission with increased perspectives, buy-in and shared ownership, opportunities for innovation, and an intentionality that brings greater value.

It's about learning to *see* beyond ourselves which fosters results we could have never imagined. Understand, the biggest lever for change is not a change in self-belief, but a fundamental change in the way you *see* and regard your connections with and obligations to others! When people collaborate…results follow!

THE FUTURE AND THE MOTIVATIONAL DIVIDE

So why a focus on lifelong learning? The changes in play today have brought about this need both institutionally and individually. Yep, average is officially over! Let me explain. When I graduated from college, I had to find a job; my girls have to *invent* theirs. I attended college to learn skills for life and lifelong learning was a hobby; my girls attended college to learn skills for their first job, and lifelong learning for them is a *necessity* for every job thereafter! Thriving in today's workplace is best described by the co-founder of LinkedIn, Reid Hoffman, who calls it "investing in the start-up of YOU." You can't just show up. You need a plan to succeed. Therefore, self-motivation is more important than ever.

Why? Because in the next decade, the digital divide will largely disappear and when that happens, only one divide will matter—the motivational divide. The future will belong to those willing to leverage technology and tools, new skills and attitudes to find, hold, and advance in jobs that require more knowledge and education, enhanced communication, and effective collaboration.

Otherwise, Einstein's definition of insanity will hold true, "Keep doing what you're doing and expect different results." Recognizing change, learning to *see* beyond ourselves, and engaging in continuous, lifelong learning will enhance your place in the workforce and within your institution. ⑤

Lander Medlin is APPA's executive vice president and can be reached at *lander@appa.org*.

The Professional Affairs Committee Charge

By Dan Bollman, Vice President APPA Professional Affairs Committee

As I begin my term as APPA Vice President for Professional Affairs, I'm heartened by the knowledge that the Professional Affairs Committee is filled with intelligent, dedicated, and driven facilities professionals who are committed to making our profession the best it can be. My job of presiding over this outstanding group is much easier because of the groundwork for outstanding achievement that has already been put in place by those who have gone before me. I will not enumerate on prior accomplishments; rather I'd like to briefly lay out our goals for the next couple of years.

OUR CHARGE

The charge of the APPA Professional Affairs Committee as directed by you, our members, through the leadership of APPA, is as follows:

The Professional Affairs Committee (PAC) has a key role in developing, recommending, and executing best practices within the educational facilities environment. It is a launch platform for vetting of ideas, information, and tools to sustain and enhance organizational and leadership responsibilities. Further, it is responsible for recognition of "institutional" excellence by considering applications for such institutional awards as the Award for Excellence in Facilities management (AFE), the Effective and Innovative Practices (E&I) Award, and the Sustainability Award, as well as recognition of "individual" services and achievement by considering applications for such individual awards as the Meritorious Service Award, the APPA Fellow Award, and the Pacesetter Award.

This charge translates into two primary sets of responsibilities.

First, we will administer and uphold the integrity of the awards and recognition program. We will continue to use the awards and recognition program as a venue to recognize our members for their leadership, engagement, and collaboration. By focusing on these behaviors, the program will not only support APPA's strategic plan but also create opportunities to share our collective knowledge through positive examples of best practices, devoted service, and innovation. This involves not only carefully reviewing award submissions, but also reviewing and updating the current awards to make sure they remain fair and relevant in our changing profession.

The second PAC responsibility is more loosely defined: PAC is the incubator for new ideas and programs that will support APPA and help to advance the profession. To this end, any number of ideas and initiatives can be vetted through PAC and brought forward for approval by APPA leadership. This happens only after PAC has had a chance to validate the benefits, kick the tires so to speak, and come up with a viable framework for moving the new idea forward. We begin this year by focusing on a few key initiatives.

Military Transitions:

We would like to encourage the transition of military professionals who are exiting the service and

may be interested in a career in educational facilities. Because of the military's emphasis on leadership, work ethic, teamwork, and skills development, it becomes an ideal feeder pool for those exiting the service and looking at higher education as an option.

PAC's role will be to assemble a subcommittee and foster relationships with the Society of American Military Engineers, the U.S. Navy Civil Engineer Corps, and other military organizations to share information, develop relationships, and create a knowledge-sharing environment that fosters an easy transition for those who are interested in transitioning.

If implemented effectively, this will create a win-win-win situation: Higher education will gain the benefit of outstanding, leadership-oriented professionals, APPA will solidify its membership through the infusion of new career-oriented professionals, and a broader pool of individuals whom we serve will gain an opportunity to take advantage of all the benefits that APPA has to offer.

Partner with Construction Owners Association of America (COAA):

A second priority will be to explore the benefits of partnering with the Construction Owners Association of America. COAA is a professional organization that focuses on capital project planning, design, and construction. They have excellent innovative course content in construction management and related topics. PAC will assist APPA in creating a partnership with COAA to share course content and identify opportunities for further collaboration.

Best Practices:

PAC has a history in developing and promoting best practices within APPA. PAC will continue to look for opportunities to capture and share best practices with our memberships. This will include developing a format for publishing prior Effective and Innovative Practices Award submissions.

Mentoring:

APPA's Mentoring Program under the leadership of John Morris is quickly becoming a premier benefit of APPA membership. PAC is committed to supporting this program by assisting the Mentoring Committee in developing ways to effectively market the program to ensure it remains viable and useful for all members.

MOST IMPORTANTLY

Finally, and most importantly, we are here to support APPA's leadership and APPA's members. Our goal is to continue to provide outstanding service to our members through the development of new ideas in support of APPA's Strategic Plan. The list of activities in which PAC can engage will continue to grow as opportunities to support APPA's membership are identified.

We are here to serve you and would love to hear your thoughts and ideas. Please feel free to contact a PAC representative today and share your ideas on how we can provide a better offering to you. 🖊

Dan Bollman is associate vice president for strategic infrastructure planning and facilities at Michigan State University, East Lansing, MI, and of APPA's Vice President for Professional Affairs. He can be reached at *dbollman@ipf.msu.edu.*

APPA Is a Fellowship of Professionals That Feels Like Home to the Soul

By Brian Wilcox, CEFP, CCM

"As iron sharpens iron, so one person sharpens another." (Proverbs 27:7)

I am one of the many who landed in higher education facilities management later in my career. Having spent 24 years in the private construction management industry, I had a substantial understanding of what delivering excellence in construction management services entailed. It was gained through a number of memorable experiences, both good and bad, and by outstanding training and much repetition. My professional development was guided by those who selflessly gave through superb coaching, cultivation, instruction, and in some cases internment while the fruit of excellence was ignited. I, like several others, worked alongside exceptional professionals who helped us find the road to excellence along the way.

The shared experiences we have with our colleagues at APPA are, without any doubt, invaluable to our growth, and this fellowship provides unmatched joy in our journey. Yet some might ask, "What can membership in a professional organization like APPA give me that my organization doesn't already impart internally?" If I might, I would like to share a little of my story to illustrate how I answered this important question for myself a few years ago.

When I started in educational facilities management—again later in my career—I most assuredly did not yet understand what providing excellence in the varied areas of educational facilities management entails. I didn't have the first clue. Having a background in the similar field of construction management gave me skills that do translate to this field, but those skills need guidance to be most effective for a work group and for an institution. I was a seasoned professional with no direct educational institution context to draw upon.

MY HOPE FOR A SOURCE OF SUPPORT

What I did hope for was that *somewhere* there had to be a source of guidance, quality training, and inspiration coming from those who had gone before me. There had to be a place where I could discover, along with exceptional professionals in this field both current and former, *how* to perform educational facilities management services with distinction and enjoy the ride while doing it! I needed to find those who could show me *how and what* to measure in our performance of these services and *where* to find the best resources in this field. What I found was this: APPA is defined by those longings.

APPA membership has met my needs so well over the past seven years! Its numerous resources have shown me how to navigate the multitude of complexities I face day in and day out. And the meaningful interaction and fellowship I have found in APPA with exceptional colleagues who are walking the same path is priceless.

For example, right on cue, while I was writing this article, an email invitation to join the monthly APPA webinar series came to my inbox:

"This panel discussion will bring together 3 key members of APPA to discuss major floods that have taken place on their campuses over the last several years and the process they followed for remediation, restoration and recovery along with all the proper insurance paperwork that needed to be completed."

Once again, APPA has found yet another way to help its members perform better at their institutions through another direct knowledge transfer, making their offering available to all members. All you have to do is opt in!

It is my view that if you look at any higher education facilities management staff operating without APPA's organizational frameworks and its many proven strategies and measures, you will likely find an organization adrift without a rudder; open to any voice regardless of competency, albeit well-meaning. To put it simply, APPA has the tools for success that lead us to ask the right questions.

SEEING OURSELVES GLOBALLY

What is your annual facility operating expenditure? What is the average age of your campus buildings and how should that information inform you as to where to allocate resources and when? What is your campus's facility condition index (FCI)? How should you complete the APPA Facilities Performance Indicators (FPI) survey? And when collecting the data for the FCI, do you format it to feed directly into the FPI? What performance should be measured by your managers and to what end? Are the metrics aligned with your institution? Are they aligned with your peer institutions and with the industry as a whole? Are you tapping into space data that is already being collected by your institution to align measured assets? These are the kinds of global questions APPA helps you to answer.

APPA venues and resources bring the right questions to the table and help us to see globally. Moreover, APPA drills down into the strategies that work and the myriad of tasks that make the difference between an average institution and a pacesetter institution. And we as members all have the privilege of sharing in this exceptional knowledge transfer.

But APPA says, "Let's not stop there! How about taking this knowledge base that we have, drawing upon the strengths of our outstanding members, and transforming our industry?" So we start, for instance, a task force to develop an American National Standards Institute (ANSI) standard. Or the National Fire Protection Association (NFPA) taps into our resources to improve standards and codes related to educational facilities management, having a direct impact on the improvement of life safety for our students and colleagues. Now that's excellence!

APPA MAKES A DIFFERENCE

What has become a pleasure for me is to find in APPA a large group of professionals that do not set out for mediocrity or the status quo. They are making a difference in the lives of people and institutions. And without APPA, we in the educational facilities management industry are adrift without a rudder.

I recommend to everyone without reservation that they join APPA quickly and get involved. Remember that membership in APPA helps everyone in the member institution who takes the initiative to look closely at all that is available to them through this great organization.

The more that people within your institution begin to utilize APPA's abundant resources, the more improvements you will see there, until critical mass takes hold for real organizational change. APPA is truly remarkable! 🗨

Brian Wilcox is director, facility management & project services, at the University of Memphis. He can be reached at *bkwilcox@memphis.edu*.

Exploring the Benefits of a Strong
INTERNSHIP

PROGRAM

BY JOSH LOGAN, BS, AND NANCY HOSTETLER, BS, CEFP, COSM

As baby boomers continue to retire in hordes, the demand for highly skilled workers has steadily risen. Businesses and organizations are tasked with filling an increasing number of vacancies while maintaining or improving production. As a result, many companies have begun to utilize interns. The benefits of an internship program are widely known; they enable businesses to mold future employees by developing their skills and instilling values that define an organization's mission, all while fulfilling short-term labor needs. In the dynamic field of facilities management, a strong internship program can be the key to securing future success.

The Facilities Management Department internship program at the University of Colorado Anschutz Medical Campus (CU Anschutz) has been partnering with local universities and vocational schools for over a decade. With over 200 employees in a variety of fields, the department maintains a campus responsible for millions of dollars in research, in addition to supporting facilities projects, managing building operations, providing a safe physical environment, and enhancing the quality of life of a diverse campus culture. The internship program provides a working environment that allows students to experience practical applications and apply their studies in the professional world. The program has also facilitated university recruitment of a diverse group of highly skilled workers. When it comes to attracting the best and brightest employees, a strong internship program can give any organization a competitive edge.

WHY IS AN INTERNSHIP PROGRAM SO IMPORTANT?

The internship program was originally created to address skilled-personnel issues facing the Facilities Management (FM) department. With a wide range of positions to fill, from accountants to project managers to HVAC technicians, the department often faced a lack of prospective experienced applicants in key fields. Due to increased economic growth and a higher demand for skilled workers, traditional recruiting methods were becoming insufficient. By teaming up with local higher educational institutions, the department was able to tap into an immense pool of candidates from the area's finest trade schools, vocational schools, community colleges, and universities. This concept, known as "growing your own workforce," ensures sustainable workforce development by utilizing the talent and education of local students.

The ability to recruit and transition local students from their education programs to full-time employees has been extremely beneficial. In addition to lowering the costs and scope of the hiring process, students can provide a fresh perspective and are often trained with the latest technology and methods. By mentoring and nurturing interns, the department can ingrain appropriate habits, values, policy, and culture that reflect the organization's mission.

CU ANSCHUTZ MEDICAL CAMPUS FACILITIES MANAGEMENT DEPARTMENT INTERNSHIP PROGRAM

The internship program has brought in new team members from a range of fields, such as health and safety, mechanical and trades, and project management, to name a few. The program works with Pickens Technical College, Spartan College, Ecotech Institute, Emily Griffith Technical College, Lincoln Tech, Red Rocks Community College, the University of Colorado Denver, and Metropolitan State University of Denver to recruit candidates. Students must be enrolled in an accredited program and be within six months of graduating. Additionally, the student must maintain a certain grade point average (GPA) and complete a formal interview and hiring process with the department.

Once accepted into the internship program, the student is assigned a mentor from the FM department who provides insight, guidance, and consistency throughout the internship. Interns work in an area related to their classroom studies and are also rotated to the trades groups as well as the building zones, which includes different types of buildings (research, academic, clinical, and administrative). The rotation with trades and zones provides interns exposure to other facets of the department as well as a more comprehensive understanding of the organization and how it interconnects. Throughout the program, the intern is required to complete numerous technical- and safety-related trainings and successfully complete an extensive, specialized personnel qualification manual in order to be eligible for a full-time position.

The success of the facilities internship program at CU Anschutz, or any internship program, is predicated mainly on its design. In order to recruit the strongest applicants, the program must provide benefits and resources that are the most appealing to the student. Whether it is advanced on-the-job training, a good salary, professional relationships, hands-on work related to their field of study, or involvement in an organization with a reputation for consistently producing full-time workers from student interns, a better program will often result in better applicants. By working closely with advisors and instructors from local schools, the internship program at CU Anschutz has established a reputation for providing students with one of the best real-world work experiences available as they transition into their careers.

DESIGNING A SUCCESSFUL INTERNSHIP PROGRAM

When first designing an internship program, it is important to identify what positions and skill sets are needed the most. This can be accomplished by surveying managers and supervisors within the organization. In addition, it can be beneficial to identify areas or positions that may be improved by changing the culture. Interns are, in general, younger and more responsive to learning and accepting new policies, procedures, guidelines, and standards than seasoned employees. The next step is to develop a list of accredited local higher education institutions with which to partner, based on their degree programs and the needs of the organization. Involving current employees who are alumni of local schools is an optimal method for establishing this initial connection. Once a connection is established, a liaison should be assigned from within the company to work directly with the

schools to develop a strong relationship. Once needs are identified and academic connections are forged, the program itself must be formulated to meet the desires of the organization and appeal to potential student applicants.

Developing requirements for acceptance into the internship program should be your next step. These requirements should include criteria such as GPA, relevant coursework, technical skills, and length of time until graduation, to name a few. To ensure selecting the finest applicants, it is wise to require candidates to commit to a formal hiring process, which includes submitting a resume and completing an interview with a minimum of three selection committee members. Next, the organization must develop the requirements for completing the program.

These requirements should be based specifically on the positional duties that are intended to be filled. It can also be beneficial to rotate the intern through different departments, to gain a more comprehensive understanding of how the company operates. Since the intern's highest priority is their formal schooling, the workplace schedule should accommodate the intern's school schedule. The internship program should follow a timeline for completing various steps of training and work experience. Assigning a mentor from within the organization is also recommended to provide guidance to the intern, and to set an example of how leaders operate and set the tone in the company. The final step of the internship process should involve either a test or formal review to determine if the intern should be eligible for a full-time position. Once the internship program has launched, it is also important to perform routine audits of the program itself, in order to fine-tune the process and address concerns.

Funding an internship program can be challenging. Many organizations, including the FM department at CU Anschutz, use funds from vacant positions to support their internship programs. This is an excellent means to provide funding, as it also communicates which positions need to be filled and how many positions are vacant.

From left to right: Tony Preisner, Mike Duan, and Henry Choi – Utility Plant Operators

BENEFITS OF A STRONG INTERNSHIP PROGRAM

A good internship program benefits both the student and the organization in a variety of ways. As previously mentioned, internship programs grant businesses and organizations the luxury of grooming future employees, satisfying short-term labor needs, and filling positions with skills that are hard to come by in a tight labor market, all while saving money during the recruiting process. In addition to these benefits, companies also have the ability to "screen" interns before committing to them as full-time hires. With an entire semester or summer to become acquainted with the intern, an organization has more time to evaluate if they are a good fit for the potential work group as well as the organization. Another advantage for businesses is low-cost labor; interns are generally a less-expensive resource. They are often expected to perform job duties as if they were regular employees as well as follow the company's policies and procedures.

By providing interns with mentors, an organization is also motivating its seasoned employees to embrace leadership roles, which can improve morale and create more leaders within a business. Additionally, it gives the seasoned employee an opportunity to teach an eager and receptive student and later, to view the student's success as part of their own success. Lastly, a strong internship program also helps to establish rapport with the local community. By hiring locally, organizations can establish themselves as community leaders.

The list of benefits for student interns is long as well. In addition to real-world work exposure, the intern finally gets a chance to apply their knowledge in a setting outside of the classroom. An internship also provides valuable opportunities to practice communication, develop work relationships, and improve teamwork skills. By gaining industry knowledge and experience firsthand, interns enhance their resumes, establish a network of professional contacts and references, and become more marketable. Many companies also require work experience in addition to education, which an internship can fulfill. Most importantly, an internship is a great way to gain permanent employment and start one's career.

The FM internship program at CU Anschutz has been extremely successful in hiring and retaining interns in several areas. The Central Utility Plant (CUP) provides steam and chilled water to the entire campus. Due to the specialized skills required and a lack of qualified potential candidates, the CUP was struggling to fill vacant positions. Through the internship program, the department was able to hire and train three interns that became full-time CUP employees. Henry Choi, Mike Duan,

and Tony Preisner were accepted into the internship program in 2013. Despite coming from an HVAC background, these interns were selected by the department to become utility plant operators, mainly due to the hard work, enthusiasm, and intelligence displayed during their internships. After being hired on full-time, each of these employees went on to gain a Stationary Engineer License, which enabled them to become utility plant operators. "I wouldn't have made such a speedy and smooth transition to a new career without the internship program," commented Duan. "It helped to change my life for the better."

OPPORTUNITIES FOR EXPANSION

As the FM department at CU Anschutz continues to expand, internship opportunities are expanding as well. As technology keeps evolving in the fields of engineering, energy management, computer-aided drafting, geographic information systems, architecture, and resource conservation, the desire to stay ahead of the curve goes hand-in-hand with recruiting applicants trained in the most current, cutting-edge methods and applications. Additionally, areas such as business management, HR, finance, and IT support will always require a steady flow of applicants. Seasonal work groups such as grounds maintenance and landscaping benefit from supplemental help using interns as well.

The FM internship program is constantly seeking to improve itself. Through year-round auditing and refinement of the program, the department aspires to sustain an internship program that continues to appeal to and attract the best applicants.

CONCLUSION

An internship program is an excellent solution to address issues facing both today's workload and tomorrow's workforce. By utilizing interns, businesses can achieve multiple goals simultaneously, such as meeting short-term labor needs and developing a highly qualified and relatively young workforce, all while saving the company money. However, an organization's ability to recruit the best interns is dependent on the strength of its internship program. By investing time and effort in building and maintaining a successful internship program, a company can reap the benefits of a sustainable workforce. Regarding facilities management in particular, a strong internship program is an excellent tool when it comes to securing the organization's future success.

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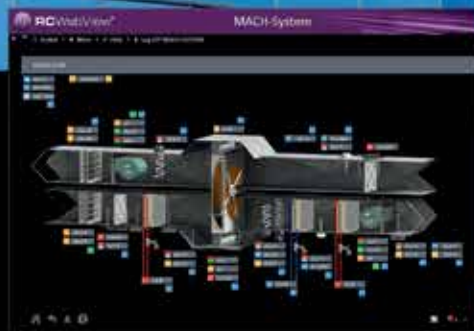
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Before: A view of the west CAPLA Building entrance area showing pre-existing conditions. (Photo by Chris Trumble, Professor, College of Architecture Planning, and Landscape Architecture, University of Arizona)

Creating Value Through Student En

The end result, an attractive shaded space at the conjunction of several footpaths. (Photo by Mark Marikos, Program Coordinator, Facilities Management, University of Arizona)

The University of Arizona Facilities Management Department (UAFM) recently had the opportunity to directly contribute to the student educational experience by lending our knowledge and skills during a collaborative project with the university's College of Architecture, Planning, and Landscape Architecture (CAPLA). CAPLA invited UAFM to interact with a Design Studio class on a recent student design–build project, an improvement of the west approach to the College's building. The area, though adjacent to a major pedestrian thoroughfare and bike path, was a "bleak and barren" landscape of brick, concrete, and gravel that was heated by the afternoon sun and gave no hint of the creativity and imagination practiced within the building's walls. The scale of the proposed project, and the fact that it comprised a permanent campus structure, made

Completed project from approximately the same perspective as the Before pic. (Photo by Mark Marikos)

gagement
By Mark Marikos

UAFM's participation critical to its successful integration into the campus's landscape.

A few years ago, the University of Arizona (UA) instituted the "100% Engagement Initiative," a commitment to offer every student the opportunity for extracurricular experience related to their field of study before they graduate. The Student Engagement website states:

"The 100% Engagement Initiative at the University of Arizona is based on our recognition that experiences beyond the classroom provide a framework for our students to enrich their professional and personal growth, and the importance of those experiences is reflected by an Engaged Learning Notation on our students' transcripts."

CAPLA has long taught courses with that aim. Design Studio classes offer students practical experience including not just design activities, but hands-on experience actually building something they have designed. The class offers them an opportunity to experience real-world situations, including all of the challenges that arise when translating drawings into actual structures. According to Professor Robert Miller, UA School of Architecture director,

"Design/build is a way of teaching architecture that not only gives students a better understanding of practice by having to deal with actual construction, but makes them better designers by allowing their designs to change in response to fabrication discoveries."

THE REALITY FACTOR

The goal is to create better designers that are able to include practical constraints in their designs. CAPLA professor Christopher Trumble describes it this way: "Reality introduces conditions, constraints and opportunities comprising people, materials, fabrication processes, environmental conditions, gravity, and use." Of the student experience he goes on to say: "Participating students have a better understanding how design ideas are challenged, shaped, destroyed, survive, and thrive in the translation to reality."

UAFM had already been involved with CAPLA students, giving regular tours of building and HVAC plant utility systems as part of their course on environmental control systems, so they were aware of our commitment to help them educate future architects and planners on the practicalities of building and campus-wide utility system function and maintenance.

The joint project's centerpiece is an innovative structure known as a "gridshell," an arched dome entirely supported by a grid-work of structural elements that is loosely assembled at grade, and then raised from the center to form a dome with a three-dimensional catenary surface. Once raised, the grid elements are permanently bound to each other so that the structure retains its shape when the temporary support is removed. The CAPLA Gridshell uses half-inch steel rods as the structural elements, has a finished footprint diameter of about 40 ft., and a height of about 15.5 ft. Serving as a shade pavilion, it creates an attractive multipurpose outdoor meeting space. (Note: Shade is a precious commodity in Southern Arizona!)

Professor Miller explains the larger context of the project,

"The UA Gridshell is one of four gridshell projects being built in North America under the auspices of 'Thinking While Doing: Connecting Insight to Innovations in the Construction Sector,' a Partnership Grant totaling $2,483,150 from the Social Sciences and Humanities Research Council of Canada. Thus, this structure not only contributes to our campus, but is part of an international research project. As a set, each gridshell offers a unique response to climate, location, and purpose, and each has been delivered under the singular design/build pedagogy of the host school.

What makes our gridshell, the 'Pentapus,' unique, is more

than its setting and situation; it is singular in its having been taught, not only by Architecture faculty, but by many experts and craftspersons from UA Facilities Management."

In addition to the Gridshell, the project included a complete renovation of the CAPLA west entrance landscape and hardscape, preserving an existing large olive tree as the central landscape element. The design opened the area for handicapped access and reincorporated "donor bricks" from a demolished wall. Broken concrete from the wall was used to line a formerly paved drainage channel through the area, decreasing runoff velocity and increasing infiltration. Additional plantings enriched the previously barren landscape.

Assistant Vice President for Facilities Management Christopher Kopach saw participation as an opportunity for UAFM to demonstrate our commitment to the university's educational mission, particularly student engagement. He also recognized the positive effect on employee morale and the infusion of new ideas that had resulted when UAFM employees worked alongside students in the past, including several campus water-harvesting projects.

During the first large concrete pour, UAFM staff worked alongside the students, teaching them proper technique for placing and finishing concrete. During the second pour, students performed most of the labor with supervision by UAFM staff. During the third pour, the students worked with minimal supervision by UAFM staff. (Photo by Mark Marikos)

ENGAGEMENT FOR ALL

UAFM's role involved employees from several shops working alongside the students and the professor in almost all phases of the construction project. Regular meetings were held at the site to plan and schedule execution of the various phases, and to discuss expected and unexpected challenges. The project design was reviewed by the university's Risk Management Services (RMS) and Planning, Design and Construction (PDC) departments, as well as by UAFM leadership.

Grounds and Labor Shop equipment operators assisted students with demolition of existing landscape and hardscape features, roughing out the final grades, and crane work involved in lifting the grid into its designed shape. Landscapers from the shop provided guidance on preservation of the central olive tree, and assisted in other landscape aspects, and Grounds Shop irrigators

assisted with design and implementation of the final irrigation system. The Electrical Shop provided temporary electrical feeds to power construction equipment (welders, concrete compactors, jackhammers, temporary lighting, and various power tools) and permanent feeds for new lighting and irrigation controls. The Plumbing Shop helped in various capacities, including repair of an unmapped sewer line through the area.

There were three major concrete pours to form foundations for the Gridshell structure and retaining walls. In the first pour, Mason Shop employees worked alongside students, showing them how to place, compact, and finish the concrete, and how to resolve issues with forms, reinforcement bars, and timing of the various steps. In the second pour, the students took the lead while Mason Shop employees were present to help resolve any issues that arose. By the third pour, only UAFM's assistant director of maintenance shops was there to observe the students and dispatch help if it were needed.

While CAPLA maintains a well-equipped, well-staffed, student-centered materials lab (construction shop) with welders and various metal-working tools, the scale of this project and safety considerations required that several students receive intensive instruction to obtain welder certification. Besides more than 4,000 welds required to tie together the Gridshell structural elements, there were numerous welding/cutting tasks to create guardrails, sheet-steel landscape retention walls, and the construction tower and forms used to raise and shape the Gridshell.

UAFM Metals Technology Shop welder James Parker had taught welding for 13 years for the UA welder's union. When first approached about training the CAPLA students, Parker was reluctant, as it had been several years since he taught. However, once he began, he found them to be eager and enthusiastic learners. He spent several hours a week with the students, showing them proper technique and giving them practice exercises to hone their skills. It was amazing to watch the relationship of mutual respect and admiration that developed between Parker and the students. They described him as "an excellent instructor," and he bragged about their ability to quickly master their craft. Parker's pride and confidence in the students was well placed. Within 30 days, all six students passed their certification exams—on the first attempt!

Like James, other UAFM employees who worked with the students enjoyed the opportunity to share their knowledge and skills, and were energized by their youthful enthusiasm. (Note the smiles in the photograph on the next page.) As we have also seen in our apprenticeship program, mentors generally get as much or more out of the relationship than those being mentored, including a boost in confidence, a sense of significance, and job satisfaction. Pouring oneself into the life of another almost always enriches us, many times in unanticipated ways.

CHALLENGES AND BENEFITS

While no collaborative project of this scope comes without significant challenges, the benefits to both organizations far

outweighed any difficulties encountered. Being an "experimental" student project, it caused schedules to slip as unforeseen challenges arose. Originally intended as a two-semester project (one semester in design and one in construction), it took longer than planned, and was finished over the following two semesters, after several of the original student leaders graduated.

Delays were introduced by unanticipated events, including unknown buried utilities, a storm that washed out part of the site and carried mud into a pedestrian overpass, and an unsuccessful first attempt to lift the Gridshell. But these incidents actually increased the educational value of the exercise, introducing "reality" as described by Professor Trumble above. And our involvement in the project also motivated the students to step up and go the extra mile to minimize disruptions to the university's and UAFM's operations. Throughout, UAFM remained available to advise and assist as needed and the project was finished in the fourth semester.

As the pictures show, the Gridshell is an iconic structure that blends well into that part of campus. It doesn't look like a recent construction site, but looks as if it has always been there, a testimony to the value of collaboration between a university and its facilities staff.

A significant side benefit of the project is the connection that developed between CAPLA and UAFM. Our workers have "rock-star" status with the College because of the enthusiasm and dedication they showed during the project. CAPLA faculty and staff recognize the tremendous educational value contributed by UAFM employees during the project, which has opened the door for future collaborations. And hopefully, the project has created a class or two of architects who will see FM organizations as a valuable resource during their careers in the industry.

On his blog, Professor Trumble describes his perspective on the value that UAFM brought to the project:

"The benefits of our current and prospective collaborations with UAFM to CAPLA students, faculty, staff, and college as a whole are substantial. FM has been incredibly generous in its contribution of support, expertise, labor, equipment, and supervision. Having experienced projects comparable to this one but without FM's involvement, I can say that the educational efficacy, which was already great, has been augmented exponentially. By sharing their knowledge and resources they are not only looking out for the interests of the university from a facilities standpoint, they are making an incredible direct contribution to the education of 16 architecture students who will in turn become better practicing architects, mentors, teachers, and civic leaders."

Summarizing UAFM's experience, AVP Kopach says:

"The overall collaboration between our UAFM Department, CAPLA, and the students was outstanding. It allowed our facilities staff to shine by sharing the wealth of knowledge they have in their respective trades. It was a truly engaging student experience, 'harnessing and transferring knowledge' of our facilities staff to the students —a job to be proud of by all. Well done!"

All six welding students passed their certification exams on the first attempt. Here they are shown holding the coupons they welded for the exam. Their instructor, James Parker, was justifiably proud of their success. (Photo by Mark Marikos)

SIGNIFICANT TAKEWAYS

One takeaway is that what to many may appear to be a high-risk collaboration may actually prove to be a very good investment. UAFM increased its credibility and value not just within CAPLA, but in the wider academic community, as we were seen supporting the university's teaching mission and students, becoming 100 percent engaged in its 100% Engagement Initiative.

But the most significant effect of our involvement is the investment made in these students' education. At a project appreciation gathering, Professor Miller spoke about the advantage these students will have in the workforce because of their increased understanding of facilities management concerns and function. He goes on to say,

"Many a morning would I arrive at 6:30 a.m. to see students already on site, being coached and instructed by FM personnel on everything from concrete cutting to welding to formwork to plumbing to wiring. The experts from FM were not only more knowledgeable in their respective crafts than Architecture faculty could ever be, but were exemplary teachers: patient, precise, and generous with their knowledge. There could be no better way to train emerging architects than to teach them, firsthand, how to learn from, and work with, craftspersons and contractors.

Every school of architecture housed at a university has a facilities department as a potential ally. The UA is the only place of which I am aware that has facilities leaders who are sufficiently wise and generous as to include the teaching of architecture in its purview."

And who knows when one of those new architects, involved in the design of a building, will pause for a moment in his or her work to think about the impact of their design on the constructability, maintainability, and functionality of that building. 🖋

Mark Marikos is program coordinator for facilities management at the University of Arizona, Tucson, AZ; he can be reached at *marikosm@email.arizona.edu.* This is his first article for *Facilities Manager.*

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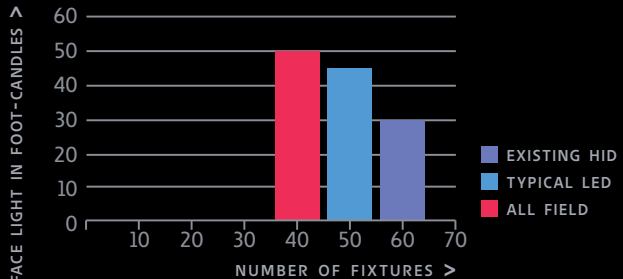
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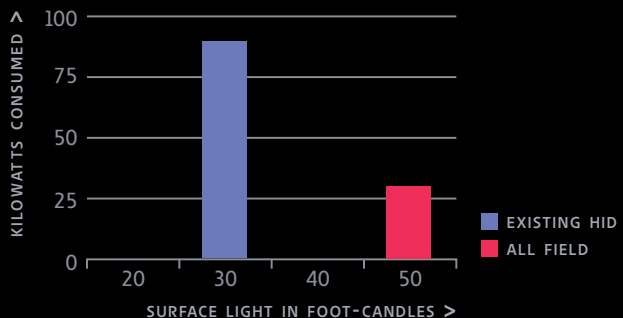
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and
BE SEEN

Thoughts on Leadership

By Gary L. Reynolds, APPA Fellow

As I wrap up a 36-year career in higher education facilities management (FM), I have begun to reflect upon my survival during the sometimes turbulent times of the past three-plus decades. Certainly with the changing expectations in FM for accountability, sustainability, budget reductions, human resource issues, political correctness, and more, it seems a wonder that I've lasted this long. So what have I done to survive these interesting times? How has the campus view of the department been positively transformed? What are some of the things that have guided me? How could I summarize them in simple terms? It struck me that "See and Be Seen" is an apt description. Let me explain.

To set the stage, let me first offer a few thoughts on "pathfinding." Stephen Covey's books *Seven Habits of Highly Effective People* and *Principle-Centered Leadership* have been influential in shaping my management philosophy. As a leader, I have used his ideas to help us find the right path for the organization, then aligned the department with that path, and modeled the behavior that reinforces it, while empowering the staff with ownership of the path.

For me, pathfinding meant doing an assessment that helped me see the department's strengths and weaknesses as they related to the university's expectations of the facilities department. This analysis set the direction of the path. Next we identified the specifics of the path. In other words, alignment was obtained with new systems, changes to processes, new equipment, new staff skills and new communication processes, to name a few things. With alignment underway, the desired behaviors were modeled by championing for and installing a new, user-friendly work order system, purchasing safety equipment, streamlining the design and construction processes, funding training opportunities for the staff, and personally modeling communication with our "customers."

As we worked toward our "end in mind," we examined our progress to determine what mid-course changes were needed and, in most cases, adjusted the systems, provided additional staff training, and modified our communication processes. Sometimes it took courage to ease a person out of the organization that could not adapt, and to change the hiring criteria to get the skills that we needed. As I saw the staff gaining confidence in the direction of the department, I started to let go and trust the staff to stay on the path we had set together.

SEE, FOCUS, MOVE

All that being said, in order to lead an organization, it is necessary to see the important issues, to focus, and to move forward along the path to success. It is easy in this day and age to become bogged down in the minutiae of our business problems, such as no-value-added paperwork, unproductive meetings, and meaningless emails. These things can block our view of what's really important. So how can we know what is so important that we need to see it, and what should we be seen doing about it?

The answer is to see the principles that are driving your "ship," and to be seen making your decisions based on those principles. For me, fairness and consistency have been my two main driving principles. These principles are built on integrity, trustworthiness, the Golden Rule, maintaining evenness in demeanor, and meeting commitments. You only get where you are going if you do what it takes to get there—that means "put first things first" and letting your key principles guide you to those first things. If your decisions are principle-based, you will never be caught trying to explain one decision over another. A principle-based path is one that organically integrates your principles with your observations and experiences, and translates them into a cohesive and consistent set of decisions. Principle-based decisions create the consistency that is fundamental to being seen as trustworthy. Being seen as trustworthy leads to trust, which leads to empowerment within and outside the organization. You will get powerful, sustainable results from principle-based decisions.

The leader needs to grasp the institution's vision and mission, understand the leadership's challenges, and see the underlying principles guiding them. To help do that, meet with the leadership for a casual, relationship-building conversation. Sometimes the best understanding of issues comes while eating a hotdog alongside a member of the university leadership at a basketball game. Also, read the local paper, student newspaper, and the local business journal. Be seen extrapolating from them and providing organizational guidance from them. Try to see beyond just the institutional level, and be seen guiding the department through the eyes of the institution's board, community and state-level organizations, and other groups.

Perhaps most importantly, see the issues before your supervisor sees them. This level of insight requires a deep understanding of the issues and what is important. During meetings with your supervisor listen carefully. See and reflect upon what is *not* being said. As your supervisor develops trust with you, he or she will share concerns that are not necessarily for public consumption, providing greater insight into what is truly important to them.

BE TUNED IN

While it is essential to be tuned into the leadership of your institution and to those that can have an impact on your organization, it is even more essential to be tuned into your own department and staff. See the staff doing good things, and then be seen acknowledging their good work. See the uniqueness in each individual, and be seen uniquely addressing it in that individual. Be seen caring and

listening, truly listening with empathy to what they are experiencing, and work to understand what motivates them—and conversely, what turns them off. Public praise for one may be an embarrassment to another. As the vice president for people at Southwest Airlines noted at an APPA presentation I attended a number of years ago, "Treating everyone the same is not the same as treating everyone fairly." This thought is fundamental to my guiding principle of fairness. Also, remember to "be loyal to the absent." Disloyalty to the absent—those who aren't present to defend themselves against your criticism—is a cancer that will eat at the organization.

See the staff putting in their time, and be seen putting in your time. Adjust your schedule so that you overlap with all staff. That may mean coming in early and staying late. In other words, spend time with the staff. You need to be seen at university events, supporting the university by attending sporting events, recognition ceremonies, commencements, etc. As Stephen Covey noted, "What you do has far greater impact than what you say." If you are not out and about, you will not be seen modeling the behaviors you'd like to

see in your staff. Albert Schweitzer noted, "Example is not the main thing in influencing others. It is the only thing."

One of my favorite sayings is, "Hire for character, train for skills." When interviewing, ask the questions that will help you see the character of the candidate, and then be seen hiring the type of people that will fit the organization's culture. For example, ask them how they might handle a difficult situation. See if they answer with confidence and provide support for their position or just provide the standard rote response. Body language and tone will tell you more than just the words they use. Training and mentoring can overcome any knowledge shortcomings, but if you think you are going to change the fundamental character of a person after you've hired them, you have another thing coming. In other words, the staff you get depends upon the effort you put into hiring them.

See the needs of the staff, and be seen providing the professional development and training they need. See what you need to do to improve yourself, and be seen improving

yourself. As Jack Welch, former CEO of General Electric, summarizes, "Before you are a leader, success is all about growing yourself. When you become a leader, success is all about growing others." Remaining insular to the constantly changing environment around you will only lead to stagnation and failure. By supporting staff improvement, you will invigorate the staff as they will see that you value them by investing in them. As Covey notes, the staff need to "sharpen the saw." In Seven Habits vernacular, this is "Quadrant II" work, the process of putting things that will have the most positive impact first.

See the needs of the customer, and be seen meeting the customer's needs. The success of a great organization is its customer service culture. In the FM business we have many masters, including policies, regulations, laws, codes, and budgets we must balance while resolving issues. Many times our customers bring us their problem in the form of their solution. And often we tell them it won't work because it does not meet code or policy. Instead, try asking, "Why?" several times, to really see what the customer wants. Often, we try to solve a problem before completely comprehending its cause or the customer's true desired outcome. After all,

"Treating everyone the same is not the same as treating everyone fairly."

a person buying a ¼-in. drill bit is not really buying a ¼-in. drill bit; they are buying a ¼-in. hole. In the words of Covey, find the "third alternative." Be seen modeling this behavior of helping the customer, not denying the customer. Henry Ford noted, "Don't find fault—find a remedy."

See the strengths in your organization, and be seen building on them. Play to those strengths, and the impact of the weaknesses will lessen. See where you have influence, work in your "Circle of Influence," and find success with those issues. Hard work and success with the issues in your control will cause your circle of influence to expand, and then you will have the opportunity to take on other issues.

See the weaknesses in the organization that are causing dysfunction, and be seen addressing them. As Howard Putnam, the former CEO of Southwest Airlines, once noted, "Turbulence is inevitable; misery is optional." There is nothing more malignant in an organization than the misery of an obvious weakness seen by all, while the staff sees that nothing is being done about it. While these challenges are inevitable in all of our organizations, and addressing these challenges may sometimes be difficult, the issues

cannot be ignored. Also, as I've learned, many times, failure is not usually the result of personal failure but failure of the system. See the difference, and be seen applying the right correction for the circumstance. As W. Edwards Deming noted, "Confusing common causes with special causes will only make things worse." If you do see something as a personal failure, provide corrective guidance, but never be seen correcting the person responsible in public.

See the processes that support the department and staff, and be seen improving those processes, or adding or deleting them. Solid processes that support the staff are the foundation of an excellent operation. See if the ones you keep need improvement. See which processes are needed and which ones may be discarded. Sometimes your entire system and the processes that support it need to be changed. As Howard Putnam once noted, "Some people play the game, while others change the way the game is played." See the right things to do (play the game), and be seen doing the right things (change the game if necessary).

HUMBLE COLLABORATION

Perhaps most important of all, *see the things you don't see.* Be seen acknowledging that you don't know it all. Be humble. If you are truly humble, you will instinctively work from a collaborative mind set, because you know you need the knowledge and skills of the whole team for your department to succeed. If you try to fake it, the staff and your customers will see right through you. I like John Wooden's comment on teamwork: "It takes 10 hands to score a basket." In the end, the ability to meet the needs of an enterprise as large as a university is far bigger than one person. Be seen collaborating, breaking down silos, asking for help when it's needed, and following the Golden Rule.

So what does "See and Be Seen" mean? That's for you to define! While I've shared some examples of what I've done, it will take your own unique interpretation of what it means for you and your organization. What are the key principles and core values that form the basis for your leadership? What does your analysis of the department's strength and weaknesses tell you? Is the department in alignment with the university's mission? Do you have the courage to see the reality, seek the truth, and

see what is really going on? Then be seen taking action to deal with the reality you see. The approach I've shared here has helped me and our organization to meet our ultimate goal (our group purpose) of ensuring that the university's facilities are never the reason learning does not happen.

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This was not meant to be a treatise on leadership, but just a summary of a few ideas that have helped me along the way. Thank you for letting me share my thoughts with you; hopefully you will find some nugget in these ramblings that will help you and your organization. 🔟

Gary Reynolds retires in January 2018 as the associate vice chancellor for campus planning and facilities management at the University of Colorado – Colorado Springs. His long career in educational facilities included stints at Colorado College and Iowa State University, and he served APPA as President, Vice President for Educational Programs, long-time faculty member at the Institute for Facilities Management, and co-founder and co-director of APPA's Center for Facilities Research. He can be reached at *glrcolo@gmail.com*.

The Power of One

Reflections on Intention, APPA 2017, and the Emerging Professionals Summit

By Shawna Code, MBA, CEFP

As a facilitator for APPA educational programs and an adjunct professor in a construction management program, "Why APPA?" is a question I hear often in class. Thankfully, I always have an easy answer. Without hesitation, I reply that my favorite thing about APPA are the people who are a part of it. Of course, APPA provides amazing educational offerings, a vast library of research and publications, recognition, certification, and much more that I utilize; but the single APPA resource that has had the greatest impact on my life, both personally and professionally, are its people.

Two valued examples are Chuck and Vicky Scott, who "never met a stranger" and provided me with numerous examples of how to live a wholehearted life—a life of being involved in volunteer work, having a strong work ethic, learning the art of listening, cultivating kindness, and much more. I was excited when Chuck was elected APPA President and knew that he would have a positive impact on the organization.

THE POWER OF ONE WORD

During a conversation over dinner one night, Vicky told me about a book someone had given her called *One Word That Will Change Your Life* (written by Jon Gordon, Dan Britton, and Jimmy Page). Vicky, Chuck, and I had a thought-provoking conversation that night about the concept, and Vicky told me she was going to send me a copy of the book so I could read it myself. Within a week, it arrived at my home, along with a very kind note from Vicky. I read it from cover to cover that very night.

Rather than setting annual resolutions, the authors encourage people to select one word to guide each year of their lives. They believe that one word is easier to manage, easier to remember, and easier to stick to than a list of resolutions. Further, it provides guidance in many areas of our lives, rather than just one. Essentially, it is a simple vision or mission statement. The book details a three-step approach to choosing your one word: "Look In, Look Up, and Look Out."

To "Look In," the authors suggest that readers dig deep into their hearts and put some thought into choosing their word, thinking about who they want to be and in what direction they want their life to go. Once a person thinks they have their word, they should validate it in some way. The authors call this "Looking Up," which to them means praying about the word to ensure that it is the correct word for you. If you are not a religious person, there are many other ways to validate your word, such as meditation, contemplation, or asking a trusted person for input, to name a few. Once you validate your word, then you need to "Look Out," which means you live by that word, keeping it front and center in your life.

I was really excited by the ideas in *One Word*, and I have since paid Vicky's gift forward by purchasing it for many other people and sending it to them. One of the people I shared it with was Lindsay Wagner, and I encouraged her to include the "One Word" concept in the Emerging Professionals Summit she was facilitating at the APPA 2017 Annual Meeting.

THE POWER OF INTENTION

Just like setting a vision statement or a mission statement for an organization, choosing one word to guide your life for the year is really about intention. It is actively choosing your path in life rather than waiting to see what comes your way and reacting to it. It is knowing what you want and strategically doing the necessary work to move toward it.

THE POWER OF ACCOUNTABILITY, AUTHENTICITY, AND VULNERABILITY

A large part of leading an organization with intention or living a life with intent is accountability. By sharing your intentions with others, you immediately gain people who are willing to help you do the necessary work to accomplish your goals, who will cheer you on from the sidelines, and will call you out when you veer off course. Sharing your intent with others, especially if it is personal, takes authenticity and vulnerability. Authenticity is being emotionally honest with yourself and others, and knowing your standards or values. Vulnerability is being willing to communicate your emotions and standards to others, even if you are afraid to do so and regardless of the outcome. In other words, it is being true to yourself with the people around you and being willing to say, "This is who I am, take it or leave it."

Therefore, in the interest of accountability, authenticity, and vulnerability, I am going to share my one word for 2017 with all of you: "Fearless."

Interestingly enough, I initially chose the word "fear," but found that whenever I told anyone my word, I immediately followed with an explanation clarifying that I meant I was going to embrace my fears and do things that scared me. Realizing this led me to contemplate whether it mattered if you picked a word that had a negative connotation or a

positive one; so I asked a few trusted friends for their opinions on the matter, and we all agreed that having a positive word was critical to success. In fact, one of those friends shared a recorded speech by a running coach named Bobby McGee, who related this concept to athletes.

One of the things he said was to be careful of language because it will seep into your internal dialogue. During his speech, he asked the audience to imagine they were training for a race in the mountains and that their internal dialogue was, "I suck at hills." Then, he asked them what would happen if they trained harder and one participant said, "I would suck less." Thus, his point was made: The internal dialogue is still centered on the word "suck." His advice was to reframe the thought and use different language; maybe saying, "I am good at hills, just not good enough yet." This speech reminded me of the famous quote by Henry Ford: "Whether you think you can or you think you can't, you're right."

Armed with this newfound belief, I changed my word from "fear" to "fearless," and instantly it felt right.

With most of 2017 behind us, I will tell you that I have done some unbelievable things in my year of living fearlessly—many of them things I never thought I would ever do. The most important thing I learned is that the more I used my proverbial "fearless muscle," the easier it became to use it. This process of becoming comfortable with being fearless definitely was not a happy, flower-lined path. There were days I cried, days I cursed, days I tumbled, days I thought about quitting, days I struggled, and days I complained.

Right along with those hard times, though, there were also days I jumped for joy, days I celebrated victories, and days I felt pretty darn proud of myself. Just ask my ski instructor, who probably observed all of those emotions from me every single time we skied together. It just so happens that only good things came from putting myself out there in some wild and crazy ways! I have now skied a black diamond run, told people how I really feel about a situation, asked for things I never would have asked for before, tried every single class offered at my gym at least once, and ran across the Golden Gate Bridge during APPA 2017 in San Francisco.

THE POWER OF A CHALLENGE

That run happened this way: I happened to be in San Francisco in May 2017 with a colleague (Weston Woodward, the friend who shared the Bobby McGee speech with me). One morning he told me he was going to run across the Golden Gate Bridge and asked if I wanted to go with him. I am not a runner, so I declined his offer. Then, almost immediately, I regretted it. I

had given in to fear, the fear of not being able to run all the way across the bridge (1.7 miles each way) or making a fool of myself next to someone who happens to be an accomplished athlete. Very quickly, I determined that I had to right this wrong. Knowing I would be back in San Francisco for APPA in July, I decided that I would run across the bridge then. I told quite a few people so they would hold me accountable, and even enlisted a few of them to run it with me.

Fast forward to my flight to San Francisco for APPA 2017, where the voice in my head had plenty of time to try to talk me out of running across the bridge. It told me that surely I would get busy during the conference and not find time to get to the bridge, certainly I had not trained enough, and the bridge was not all that close to the hotel in which we were staying. You name the excuse, and it probably went through my mind during that flight. As soon as the plane landed, I texted Weston to tell him I was wavering and hoped to get some words of encouragement from a trusted friend who has always believed in my ability to do anything I can dream up; he did not answer my text.

I had previously made plans with Viron Lynch to share a cab to the hotel, as our flights arrived in San Francisco within five minutes of each other. As we were traveling from the airport to the hotel, I realized it was now or never—if I did not run across the bridge as my first order of business, I would not do it at all. I told Viron that I was going to check in to my room, change my clothes and shoes, and head back out within 10 minutes, and he was free to go with me if he wanted. Thankfully, he agreed. And I fearlessly ran across that bridge, absolutely hating every single second of it. Once we were on the other side, I realized how proud I felt, and to top it all off, my time was a personal best for me.

Later in the week, I was talking to Mary Vosevich about my bridge experience and she said, "That's great. Now what's your next fearless action?" Her dedication to pushing people to exceed (to "lift while she climbs," if I may borrow the phrase) is remarkable. My answer was that I would write an article for *Facilities Manager* magazine about the experience. On to the next fearless challenge.

THE POWER OF A SMART GROUP OF PEOPLE

I was honored that Lindsay Wagner had asked me to assist her in organizing the Emerging Professionals one-day summit prior to the conference, and happy that we had been able to work the "One Word" concept into our outline for the day. In addition to discussing generational differences and similarities, the "Outward Mindset" philosophy, and diversity and inclusion, we did an exercise where we created One Word for the

facilities management industry. For a portion of the day, the EP group joined the Senior Facilities Officers (SFO) group for some collaborative work.

One of the things we did during this joint session was have the EPs lead each table through the process of coming to consensus on one word for the future of our industry. Some of the words the groups came up with included the following: "collaborate," "connect," and "transform." "Connect" came from the concept of Legos and built from there, while "transform" came from the concept of needing to be essential. Once each table had their word, Lindsay facilitated an exercise with both groups, working toward consensus for the room. Ultimately, the group determined that their One Word for facilities management for the coming year would be "transform."

THE POWER OF A MOTIVATIONAL KEYNOTE ADDRESS

Imagine my delight when during his keynote speech the next day, John Jenson asked those in the room if they were "transformational." I loved seeing that the EP/SFO group had hit on a hot topic, a valid topic. John encouraged us to become transformational by seeking clarity on the following three things: 1) who we are (our brand, which he says we are either polishing or tarnishing by our daily actions); 2) what we do; and 3) our ability to create movement in people. He challenged us to come up with an out-of-the-box description of what we do (such as "I am a landscaper" versus "I am part of a team ensuring there is a visual image telling people that this school has its act together"). He encouraged us to give people a reason to pay attention to facilities.

THE POWER OF A FULL-CIRCLE MOMENT

At the banquet, Chuck Scott gave his last speech as the outgoing APPA President. A key component of his speech was to telling us to "find your one thing." He even showed a clip from *City Slickers* to illustrate this point. I was sitting in the audience, feeling all kinds of wonderful emotions about the

idea of "one" coming full-circle right back to Chuck: from one word to one thing.

A new year is almost upon us, so I leave you with a challenge: Come up with one word for yourself, your organization, and/or the facilities industry to guide you in 2018. I have already picked my one word for the coming year; if you see me at an APPA event, ask me what it is I will be happy to tell you. And, I will be even happier to hear about the kinds of transformations you will experience by having your own one word to guide you. 🖉

Shawna Code is director, facilities management, at Weber State University, Ogden, UT. She can be reached at *srowley@weber.edu.*

APPA 1100 Update—Facilities Terms and Definitions Work Group

By Billie Zidek

APPA is excited to announce that in early 2018, the facilities management (FM) industry will have its first terminology database. The database is built to support the lexicon for the FM industry and will be populated with nationally recognized terms and definitions used for facilities' building or supporting systems and infrastructures. Facilities organizations, businesses, and contractors should find the standard useful when seeking taxonomy and industry-accepted terms and definitions for purposes of preparing requests for proposals, project proposals, statements of work, service level agreements, and more.

In September 2016 the APPA Standards and Codes Council (ASCC) approved the creation of the Facilities Terms and Definitions Work Group (FT&D). A call for participation was sent to APPA members and our distinguished past presidents to become members of this work group. In December 2016 the volunteers met via conference call to form a work plan on reviewing and approving approximately 1,600 terms and definitions that will make up the database. In January 2017 the work group began meeting monthly to review these terms and definitions.

The work group reviews and approves approximately 70 words by ballot and then meets via monthly conference call to come to consensus on the terms and definitions to be included in the database. Glenn Smith, chair of the work group and APPA Past President and Emeritus member, states, "The key element in this process is to identify the terms we commonly use within the education sector and arrive at consensus on the meaning of those terms. This is at times a slow, tedious, and painstaking effort to ensure the terms and definitions are general enough to apply to all situations, sizes, and shapes of institutions, while specific and consistent enough to describe what we do and how we do it. We try to keep in mind the exciting end result—a database, approved by the American National Standards Institute (ANSI), that will be sortable by key areas of interest to all APPA members."

A NEW KIND OF DATABASE

The database is scheduled to go live in early January 2018 on APPA's website, and will become the first database of its kind, starting with approximately 300 terms and definitions and growing each month as the work group continues its review and approval. The database will be sortable by APPA's four core areas: General Administration and Management; Operations and Maintenance; Energy, Utilities, and Environmental Stewardship; and Planning, Design, and Construction. When the database entries are complete, the terms and definitions will go through the ANSI approval process to become an American National Standard (ANS).

APPA was approved as an ANSI Standards Developing Organization in early 2016. The draft

standard *APPA 1100: Facility Management Terms and Definitions* will be the second ANS developed by APPA. To start the ANSI approval process, APPA staff submitted a Project Initiation Notification to ANSI announcing the development of the standard. The draft standard initiative was announced in ANSI's *Standards Action* in the August 18, 2016 issue, and we anticipate that the document will enter the ANSI approval process in late 2018. Once the document is approved as an American National Standard, APPA anticipates putting the document forward as a submission to the International Organization for Standardization (ISO) to become part of an internationally recognized standard.

A GROWING RESOURCE

As the database grows, APPA staff will be working with the National Fire Protection Association to incorporate some of its 16,000 terms and definitions. The Total Cost of Ownership (TCO) Work Group is in the process of adopting *ISO 55000: Asset Management—Overview, Principles and Terminology*; *ISO 15686-11:2014, Buildings and Constructed Assets—Service Life Planning—Part 11: Terminology*; and *ISO/DIS 41001, Facility Management—Management Systems—Requirements with Guidance for Use* as APPA standards. Once approved, the terms and definitions from these documents will be added to the database with the ISO designation. When the initial terms and definitions work is complete, the work group will meet every six months to review and add additional terms and definitions submitted by the industry to be included in the database. The ANSI-approved standard will be reviewed and updated every five years as outlined in APPA's *Development of American National Standards* procedures.

Membership of the FT&D Work Group include, Glenn Smith, APPA Past President and APPA Fellow, chair; John Coggins, Spirotherm; Jack Colby, APPA Past President and APPA Fellow; Phil Cox, APPA Past President and Emeritus member; Kevin Folsom, Trinity Christian Academy; John Harrod, APPA Past President and Emeritus member; J.B. Messer, Community College of Allegheny County; Gary Reynolds, APPA Past President and APPA Fellow; and Lindsay Wagner, doctoral student, Colorado State University. ⑤

Billie Zidek is APPA's standards and codes administrator, and can be reached at *billie@appa.org* or 703-542-3846.

Providence: An APPA U Experience

By Corey Newman

APPA U recently wrapped up in Providence, Rhode Island, showcasing another successful professional development gathering of APPA's Institute for Facilities Management, Leadership Academy, and Graduate Program. Colleagues from around the globe were welcomed to learn, network, and collaborate.

We are grateful for the dedicated faculty who make these offerings such a success. A special note of thanks goes to Institute Deans: **Mary Vosevich**, **Chris Smeds, Lynne Finn**, and **Don Guckert**; our Academy Faculty: **Glenn Smith, Elizabeth Clark, Shawna Code, Lindsay Wagner, Matt Adams, Chris Walsh, Viron Lynch,** and **Ana Thiemer**; and our Graduate Program Faculty: **Chuck Scott** and **Jim Jackson**.

Throughout the week, students had opportunities to interact with experts who shared their knowledge and experience from diverse backgrounds and provided a resource-rich environment for all attendees. Approximately 400 facilities professionals from the United States, Canada, and Lebanon attended.

As the week drew to a close, we celebrated with graduation ceremonies for the class of September 2017 (including 51 new alumni). A big kudos to all of those institutional leaders who supported the professional development of their staff!

The professional development of any individual must be as customizable as the individuals themselves, and APPA is here to help everyone achieve their personal, organizational, and institutional goals.

Please visit *www.appa.org/training* for more on all of APPA's program offerings. Ⓢ

Corey Newman is APPA's associate director of professional development and can be reached at *corey@appa.org.*

Academy Graduates

Photos by Rhonda Hole

ACADEMY GRADUATES

In alphabetical order; not all graduates are pictured

Shaheen Bou Jawdeh, *Lebanese American University*

Steven Brandenburg, *Southern Illinois University Edwardsville*

Barry Christensen, *University of Nebraska - Lincoln*

Andrew Currin, *Duke University*

T J Hanson, *University of Lethbridge*

Paul Hood, *Texas Christian University*

Roy Kerlegan, *US Government*

Tony Kopacz, *San Diego State University*

Joshua Koss, *San Diego State University*

Christian Maughan, *Weber State University*

Ivan Mercado, *Weber State University*

Ellen Newell, *Arizona State University*

Jacob Olson, *University of Nebraska - Lincoln*

Paul Rasmussen, *Concordia College*

Christopher Reyes, *Occidental College*

Herb Richmond, *University of North Carolina at Chapel Hill*

Randall Rimes, *Georgia State University*

Bart Smith, *Brigham Young Unversity*

Eric Waterfall, *Weber State University*

Tom Wienand, *Arizona State University*

INSTITUTE GRADUATES

In alphabetical order; not all graduates are pictured

Christopher S. Bartonlone, *Marquette University*

Dale K. Bennett, *Texas Tech University*

Roger A. Bensyl, *University of Illinois*

Adrian T. Bou Jawdeh, *Lebanese American University*

Douglas R. Cato, *The University of North Carolina/Greensboro*

Belinda R. Dovalina, *University of Texas/San Antonio*

Doug E. Eppley, *Saint Vincent College*

Steven T. Feck, *Miami University*

Dan Fuller, *Utah State University*

Mike T. Gardner, *Michigan State University*

John R. Gleason, *Denver Public School*

E.J. Hool, *Montana State University*

Mark E. Lawrence, *Miami University*

Mario H. Menard, *University of Ottawa*

Mark A. Moon, *University of North Carolina*

Thomas P. Moore, *University of Iowa*

Karen M. Pinkham, *Cañada College*

Romie D. Prince, *University of Maryland*

Cameron D. Ratliff, *University of Virginia*

Adrian C. Reynolds, *University of Pennsylvania*

Jennifer Salyers, *University of Colorado*

Bradley D. Schenkel, *University of Wisconsin/Madison*

Kirsta L. Scranton, *University of Iowa*

Randy J. Stephens, *Montana State University*

Jack R. Ward, *University of Laveran*

Carl L. Whitten, *University of New Hampshire*

Jamieson E. Wickes, *Massachusetts Art Institute*

Rory J. Wieber, *University of Iowa*

Kevin D. Williams, *University of Arizona*

Dale A. Wise, *University of Illinois*

Tammy L. Zeigler, *Pennsylvania State University*

Using APPA as a Transformational Tool

By Matt Adams

While change is a constant in the educational facilities industry, the past has not always prepared our institutions for the dynamics of that change. Nearly all institutions are faced with the necessity of organizational change, yet we mostly have not received formal training in the execution of change in the higher education environment.

APPA has many tools that aid in the breakdown of the change process, making what may seem monumental, achievable. The difficulties often associated with implementing change include:

- availability of resources,
- effective communication of all activities and goals associated with the change,
- creating "buy-in" with staff and customers, and finally,
- effective management tools for the change process.

The associate vice president of facility services for the University of Chicago (UC), Jim McConnell, recently decided on an alternative approach to organizational improvement, and partnered with APPA to assist his staff with transformation.

AN OVERVIEW

The UC Facilities Services Department includes 303 full-time equivalent staff maintaining over 10 million gross sq. ft. The Senior Leadership Team (SLT) began assessing the organization by comparing it to industry best practices as promoted by APPA. This initial review set the stage for a three-year process of transformation. It is the desire of the Facilities Services Department to be "essential" to the university, and to become a preeminent facilities management organization. This includes transformation in the following areas:

- effective use of resources measured by key performance indicators (KPIs)
- strategic planning
- continual process improvement (Plan-Do-Check-Act)
- staff inclusion and buy-in
- two-way communication with customers and staff at all levels
- customer service-driven decision making, and
- efficient utilization of technology.

In addition, the SLT selected guiding principles to

positively influence all decisions and actions taken during the transformation. These principles are as follows:

- need to be essential,
- empowerment,
- systems focus,
- outward mindset, and
- revolutionary data utilization.

The SLT also utilized key tools, best practices, and a partnership with APPA. The content comes from many APPA publications, such as the Body of Knowledge (BOK), *Operational Guidelines for Educational Facilities*, (custodial, grounds, and maintenance), and *Effective and Innovative Practices for the Strategic Facilities Manager*. In addition, the content taught in both the Institute and Leadership Academy of APPA U provides for facilities management tools for this task. From these significant resources, the SLT selected the following key elements of the transformation process, which are the foundations of the APPA Award for Excellence:

- Balanced Scorecard
- prioritization and ownership
- the Hoshin Kanri planning process coupled with the Head-Heart-Hand change management system
- systematic KPI development
- hyper communication
- direct partnership with APPA for research and advancement of industry best practices, self-assessment, and utilization of the APPA Facilities Management Evaluation Program (FMEP).

THE BALANCED SCORECARD AND SEVEN ASSESSMENT AREAS

The process began with APPA's Balanced Scorecard. This taxonomy was created when APPA customized the Malcolm Baldrige Criteria for Performance Excellence to this industry, resulting in the four categories of the Balanced Scorecard:

- financial perspective
- internal perspective
- innovation and learning perspective
- customer perspective.

Embedded within the four categories of the Balanced Scorecard are the seven assessment areas, as specified by APPA:

- leadership
- facilities strategic and operational planning
- customer focus

- assessment and information analysis
- development of management of human resources
- core processes
- performance measurement.

It is important to recognize that these seven areas also form the basic outline of assessment and criteria for both the APPA FMEP and the Award for Excellence. In this way, utilizing APPA's Balanced Scorecard ensures that all organizational transformation activities are highly systematized and aimed at achieving excellence within our industry, as defined and measured by APPA. This is a repeatable rubric that every member can use to start and guide the process of transformation.

A GROUP EFFORT

Starting with the Balanced Scorecard and the seven assessment areas, the University of Chicago worked with several external industry experts and internal staff to perform an initial gap analysis by comparing the current facility services organization characteristics to those specified as ideal by APPA vis-à-vis the FMEP and Award for Excellence.

This gap analysis initially resulted in more than 150 potential recommendations for improvement in each of the seven areas in question. The recommendations were vetted and prioritized, became formal initiatives, and were assigned to one or more members of the SLT. Specific accountability was assigned as well. Each senior leader was expected to execute the changes in partnership with his or her staff according to the framework of the master Hoshin planning table. Hoshin Kanri is a system that literally translates to "plan for change." This system originated in the Far East and has been used successfully in industry for decades.

The University of Chicago has renamed the Hoshin system the "Impact" system to simplify communication within the department. This system is based on the "Plan-Do-Check-Act" total quality management approach of the famous management theorist and engineer W. Edwards Deming. The Hoshin system is widely available online and is easily adapted to the APPA Balanced Scorecard, the seven areas of assessment, and the resulting set of initiatives from a gap analysis.

The SLT meets biweekly using the Hoshin/Impact tools to report progress and create a cadence of accountability. The team established KPIs at the start of the process to allow for the establishment of a baseline set of measurements, later enabling

successful documentation of continual improvement. This is a critical element to an APPA-based transformation. APPA considers utilizing data to direct and improve operational performance as paramount for organizational success.

Consistent with the best practices promoted by APPA in many APPA U courses, effective communication is considered a high priority for the UC team.

In fact, to emphasize this belief, it is referred to as "Hyper Communication." The objectives of hyper communication include a summary of anticipated employee engagement, early and often; setting the tone for a culture that will rethink assumptions and be thoughtful and creative in devising more effective ways to operate; maximizing communications channels that invite and encourage engagement; feedback at all levels of the organization; and demonstration of significantly increased leadership, transparency, and trust.

GOING FORWARD

In addition to using the APPA FMEP, the UC team is committed to go beyond simply participating in APPA events. To do this, the SLT and other team members are encouraged not only to attend, but to also participate in the advancement of industry best practices and the areas of the Balanced Scorecard associated with their technical or management disciplines.

Areas of partnership are reviewed as a part of the impact planning system, and include—but are not limited to—hosting the Drive-In Workshops and the Supervisor's Toolkit; hosting the Leadership Academy on campus; and sponsoring and participating in Center for Facilities Research (CFaR) research projects, regional meetings, chapter meetings, APPA U, vendor Lunch and Learns, *Facilities Manager* magazine, other APPA publications, and the APPA mentoring program.

The goal for the SLT team is to become a champion for one or more areas of best-practice knowledge associated with our industry. This goal requires more than just reading books and taking classes, but actually owning the knowledge and partnering to transform the Facility Services Department. Ⓢ

Matt Adams is president of Adams FM², Atlanta, GA. He can be reached at *matt@adamsfm2.com.*

The BOK Back Story

By Anita Dosik

APPA's Body of Knowledge (BOK) has a long history. Born from the respected and long-running set of APPA print reference books, *Facilities Management: A Manual for Plant Administration*, the BOK is organized into the same four core areas:

1. General Administration and Management
2. Operations and Maintenance
3. Energy, Utilities, and Environmental Stewardship
4. Planning, Design, and Construction

READY, SET, GO!

Although in the works for several years, it wasn't until the fall of 2009 that the digital BOK (pronounced B-O-K) was unveiled for the use of APPA members, and for the benefit of the facilities management profession as a whole. It started with some brand new chapters, and some updated from the print version, while other chapters were still in the process of being written. It was the culmination of many years of work from several APPA members and staff.

At the start, APPA Past President Maggie Kinnaman took the helm as editor-in-chief, given that BOK had been in large part her brainchild. With the assistance of the first BOK content coordinators, dozens of authors, and two staff liaisons, the BOK took its first breath, and has continued to grow, expand, and be used in a variety of ways at APPA. The BOK's content coordinators, authors, editors, and peer reviewers enhance it on an ongoing basis, updating sections and adding new chapters, which are posted as soon as they are peer reviewed and approved for publication.

To be clear, at the beginning, adding and updating chapters in the BOK was no easy task. Each content coordinator entered and updated their chapters themselves online, and the interface for doing that was, well, very "2009-ish" (i.e., cumbersome and time-consuming). Some chapters were so long that the system couldn't handle the size, and they had to be broken up (affectionately referred to as "chunking"). Since then, the BOK has grown and evolved into an easy-to-use system, and is updated by APPA staff (me), leaving the content coordinators free to pursue authors and content.

BOK'S MANY FACES

Accessible to all staff at APPA member institutions, the BOK is a "go-to," digital, living and breathing manual that can be accessed via the APPA website whenever (and wherever) it's needed. It is also the main content for the APPA Certified Educational Facilities Professional (CEFP) certification, and is the foundational text for APPA's Institute for Facilities Management. It is, in fact, the collected wisdom, experience, processes, and knowledge that both inform our members and provide the solid foundation from which continuous improvements and innovative change can occur. Remember that the digital BOK can assist you in your search for professional guidance, best practices, and policies and procedures as you go about supporting the mission and vision of your educational institution.

Following are the names and faces of the people that make the BOK a reality. It is their work and sharing of information that makes it work for all of us. Take a minute to see what information is awaiting you in the BOK. That way, if you run into one of the authors or content coordinators at the next APPA annual conference, regional meeting, or chapter event, you can say hello, and even consider becoming an author yourself!

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Section I-A: Leadership and Administration

- **Change Management** by John Morris, P.E., CEFP
- **Communication** by Robert Hascall and Karen M. Salisbury
- **Customer Service** by Polly Pinney, Past APPA President
- **Leadership** by William Daigneau, APPA Fellow
- **Managing Ethically** by E. Lander Medlin, APPA EVP
- **Organization** by Jack Hug, Past APPA President and APPA Fellow
- **Strategy and Leadership** by Brenda Albright

Section I-B: Human Resources Management

- **Effective Talent Management** by Jennifer Elmer, SPHR
- **Staff Development** by Suzanne Hilleman, MBA, SPHR
- **Strategic Role of Human Resources** by Andrea Balestrieri

Section I-C: Business and Financial Management

- **Financial Analysis and Control** by Mohammad Qayoumi, Ph.D., APPA Fellow
- **Modern Budgeting Issues** by William Gardiner
- **Overview of Accounting Systems** by Burr Millsap

PART 2—OPERATIONS AND MAINTENANCE

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Section II-A: Plant Management

- **Capital Renewal and Deferred Maintenance** by Harvey Kaiser, APPA Fellow
- **Emergency Preparedness and Business Continuity** by John DeLaHunt, MBA, ARM
- **Facilities Condition Assessment** by Harvey Kaiser, APPA Fellow
- **Recapitalization Management** by Douglas Christensen, Past APPA President, and APPA Fellow
- **Work Management** by Mark Webb, EFP

Section II-B: Building Systems

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- **Building Electrical Systems**
- **Building Fire Protection** by John DeLaHunt, MBA, ARM
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PART 3—ENERGY, UTILITIES, AND ENVIRONMENTAL STEWARDSHIP

Content Coordinator: Emmet Boyle, CEFP – University of Regina *emmet.boyle@uregina.ca*

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PART 4—PLANNING, DESIGN, AND CONSTRUCTION

Content Coordinator: Steve Maruszewski, CEFP – Pennsylvania State University *sxm37@psu.edu*

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- **Value Management** by Steven Thweatt

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Book Review Editor: Theodore J. Weidner, Ph.D., P.E., CEFP, AIA

Early in my book review career I received a recommendation for a book to read, which is the first book I will review here. I was happy for the recommendation, because the subject of outsourcing is a long-standing issue for facility officers. They lead a large organization that is usually not the primary focus of their employer, and thus are ripe for outsourcing.

The second book harkens back to ideas developed earlier in my professional career, but not articulated well until now.

They are very different books, but still helpful resources to spur your career success.

VESTED OUTSOURCING: FIVE RULES THAT WILL TRANSFORM OUTSOURCING

Kate Vitasek, with Mike Ledyard and Karl B. Manrodt, Palgrave Macmillan, 2010, 181 pp., hardcover, used, (prices vary)

There are several business books that recommend individuals on opposite sides of a potential deal to think win/win. *7 Habits of Highly Effective People* and *Getting to Yes: Negotiating Agreement Without Giving In* come to mind. Add *Vested Outsourcing* to this list. However, that's not the only thing going for *Vested Outsourcing*.

There are more ways today to acquire contract services than existed a decade or more ago. Rather than just having to select the lowest qualified provider or, in limited cases, negotiate with a sole-source provider, we now have additional tools, including public-private partnerships (PPPs), and best-value, to name a few. But with variety come additional challenges, including understanding the complexities of the method being used, and applying it effectively. *Vested Outsourcing* describes one of the alternate methods available and provides the steps needed to be successful at it.

As with any description of a new system, this one comes with the requisite list of reasons against traditional methods. It isn't necessary to spend a great deal of time analyzing why low-bid purchasing often fails in the facilities area—selecting any low bid comes with risks on both sides of the deal. The "successful" low bidder may have forgotten
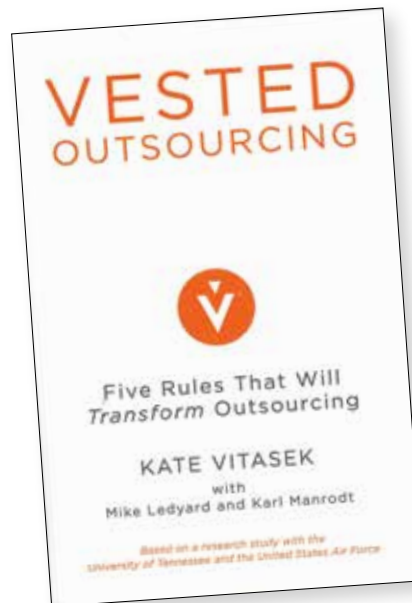
something. A small omission in the bid price may be easily absorbed, but a large one has the potential to bankrupt the company. A bidder with the threat of bankruptcy will do a lot to avoid it, including making significant reductions to "promised" quality or services. The "happy" owner accepting the low bid may reallocate resources saved to other projects and later be surprised by additional unit-price charges, or they may terminate the contract and end up looking for another provider.

In both cases, ill will and the search for the lowest cost, rather than the best value, means that both parties lose, even as they both initially pursued a win/lose result. Why can't users and service providers partner together to solve individual goals through mutual success, (i.e., win/win)?

Vested Outsourcing spells out the approach and criteria necessary to create a win/win situation for service agreements. Each of the five steps to create a win/win agreement is laid out in detail, with various roadmaps detailing how to be successful at each step along the way. All the steps work together by recognizing the use of goals, rather than cost or other less-lofty reasons, allowing different parties to come together and develop mutually beneficial agreements.

The ideals presented in *Vested Outsourcing* are great. The trouble is that it's often too easy to

slip back into shallow thinking, where each party starts thinking win/lose, and eventually slip into a lose/lose situation. As a case in point, the authors are currently assisting the State of Tennessee in implementing a statewide contract for facility services. Based on limited discussions I had with the University of Tennessee, there is too much win/lose thinking in the meetings. Perhaps by the time this column is published, we'll know how the negotiations ended, but I have concerns. It's too easy to retreat from thinking in terms of win/win. If you haven't read *7 Habits* first and lived by it for a while, wait before trying to implement the steps discussed in *Vested Outsourcing.*

I recommend getting *Vested Outsourcing,* however, because it's possible you'll be in a situation like the Tennessee universities mentioned above. It can help you know how to outline your goals, create the right business opportunities, understand how to align your interests with the provider, establish a good contract, and then manage performance so you don't fall back into old habits.

ENERGY MODELING IN ARCHITECTURAL DESIGN

Timothy L. Hemsath and Kaveh Alagheh Bandhosseini, Routledge, 2017, 214 pp., softcover, $59.95.

Is it possible to predict how a building will consume energy before the design is complete? How can we adjust the building design so it consumes less energy and addresses other important elements and user needs better? These are important questions that designers and owners are asking more frequently.

My early learning about climate and building energy consumption (and energy gain) came in basic architectural design courses and then in a more advanced course in passive solar design. It was cutting-edge stuff in the 1970s and served me well in my career. I was surprised at the number of designers who couldn't answer basic energy consumption questions that my professors asked of third- and fourth-year architecture students. I was also frustrated when I pointed out energy consumption concerns; they didn't think it was a big issue—at least until Leadership in Energy and Environmental Design (LEED) and carbon footprint issues became a subject discussed by the mass media.

While designers have gained an understanding of LEED and proudly display their certifications, they still struggle to really understand what the macroclimate is doing to their buildings, beyond what information is generally available from the commercial energy-modeling software used by their mechanical engineer. Unfortunately, those tools often require a lot of design information, and once the project has progressed that far, it's difficult for the designer to throw out the design and start over.

Energy Modeling in Architectural Design attempts to push fundamental building design decisions—those that affect the building's energy footprint—forward into the schematic design phase where the big decisions are made (but usually made with little detailed information). Rather than applying "band-aids," learning from trial and error, or using energy consumption projections, the book outlines tools and methods to approach design so that it is cost-effective and provides high-value results.

The book is logically organized, beginning with the basics. It doesn't shy away from using complex energy data or equations to demonstrate concepts and methodology. It recognizes that internal building conditions can vary widely depending on the location of many energy management components, their interaction with each other, and their effect on occupants.

While facility officers may not be interested in the details presented, they should be aware of this book as a resource for consultants. It will assist in delivering buildings that help lower the total cost of ownership by reducing energy consumption and increasing occupant comfort.

As is always the case, understanding initial decisions that have long-term implications will result in better facilities in the future. 🔊
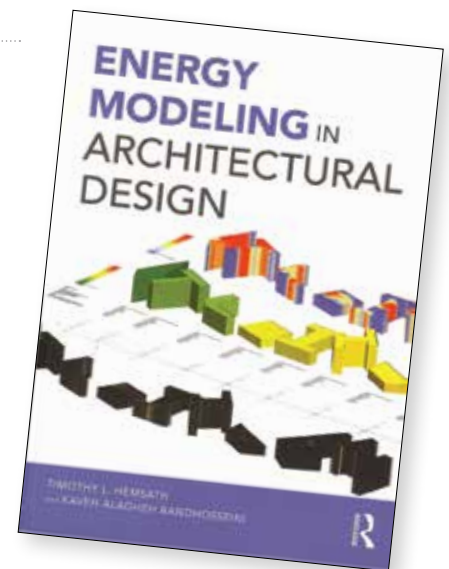
Ted Weidner is an associate professor at Purdue University and consults on facilities management issues primarily for educational organizations. He can be reached at *tjweidne@purdue.edu.* If you would like to write a book review, please contact Ted directly.

Environmental Management Guide for Educational Facilities

Getting in Front of Environmental Compliance

Colleges and universities are environmental leaders in teaching, research, and sustainability. Institutions need to be vigilant to the importance of environmental laws and regulations and to allocate the resources required for compliance. Additionally, environmental compliance has proved to be a moving target.

Since 1996, APPA and CSHEMA, the Campus Safety Health and Environmental Management Association, have collaborated to produce guidance documents to help educational facilities overcome the challenges of environmental compliance.

Contents:

- Elements of an Effective Program for Environmental Management and Compliance
- A Quick Reference Guide for Determining What Regulations May Apply to Your Institution
- Legislative/Regulatory Program Summaries (CAA, CWA, CERCLA, EPCRA, FIFRA, RCRA, SDWA, TSCA, and more)
- Environmental Compliance Resources
- Overview of Subpart K of RCRA
- Federal RCRA UST Management Requirements
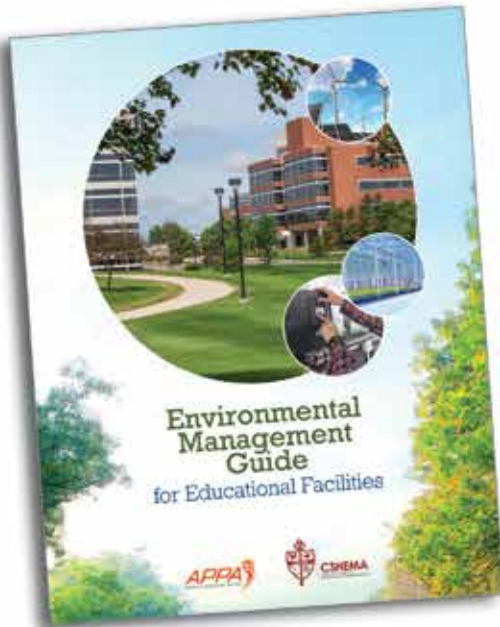
The Building Commissioning Handbook Third Edition

It has been 40 years since the inception of building commissioning (Cx) as a discrete profession. This third edition of *The Building Commissioning Handbook* captures the many changes in the building market that are – and will continue to be – advancing and accelerating the role and value of commissioning. The design, construction, operation, and optimization of increasingly complex building systems and assemblies requires unique and expanding skill sets along with broad and deep knowledge of building science.

Produced by APPA and the Building Commissioning Association, this handbook provides a sequential, phase-based approach to the building commissioning process for all who have a stake in understanding, participating, and delivering properly functioning higher education and other commercial and institutional facilities.

Contents:

Chapter 1. Overview

Chapter 2. Benefits and Costs of Commissioning

Chapter 3. New Construction Commissioning

Chapter 4. Existing Building Commissioning

Chapter 5. Ongoing Commissioning

Chapter 6. Building Enclosure Commissioning

Appendices and Resources
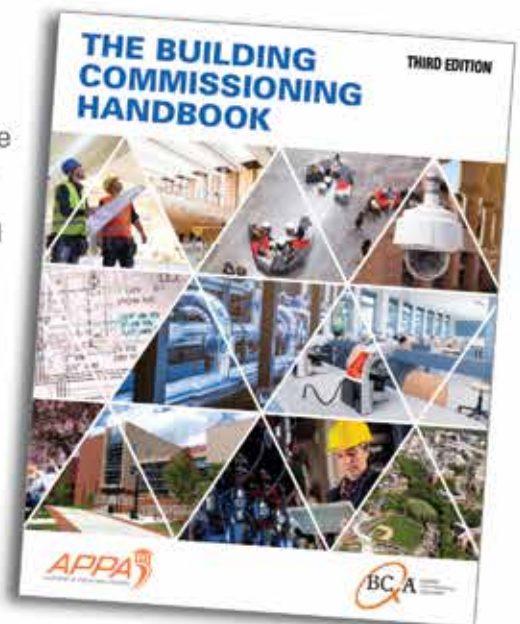
SIEMENS has modernized its Simatic RF300 RFID system by adding three new readers: RF310R, RF340R, and RF350R. They are integrated into the Simatic Step 7 engineering systems and the TIA Portal to make commissioning easy. The new readers offer an additional transponder protocol (air interface) for MOBY E transponders (MIFARE classic, ISO 14443 A) and automatic recognition of various types of transponder (RF300, ISO 15693, MIFARE classic). This makes migration from old systems easier and opens the way for new applications. The compact system is designed for controlling and optimizing the material flow in industrial production. For more information visit Siemens at *www.siemens.com*.

GEM-LOC PREMIER EDGE incorporates a small but critically important accent using Corian to create an aesthetically delightful yet durable edge for laminate countertops. Gem-Loc is not only great for installation on new laminate surfaces such as workstations, laboratories, exam rooms and classrooms, but can even be retrofitted to existing areas. Gem-Loc adds minimal cost to laminate projects while providing the durability of Corian at all high-wear points. No more peeling laminate edges or the maintenance costs associated with them! Gem-Loc will not harbor bacteria and is significantly safer and more durable than traditional laminate edges. For more information on Gem-Loc Premier Edge products visit *www.loticorp.com*.

OVERHEAD DOOR, providers of doors and openers for residential, commercial, industrial, and transportation applications, has introduced EverServe, one of the industry's first standard rolling door systems to feature a springless barrel design with integrated shafts and an extended 500,000 cycle life. EverServe models are ideal for applications exposed to extreme weather, such as parking garages and manufacturing, pharmaceutical, warehouse, and distribution facilities. The three models (610S, 620S, and 625S) provide customers with high cycle performance, improved security, and durability, while delivering a reliable system and minimizing downtime with their ease of serviceability. For additional information on Overhead Door products visit *www.overheaddoor.com*.

VORTEC introduces Spray Nozzles for ultrafine, droplet-sized sprays ideal for evaporative cooling. An alternative to conventional hydraulic and piezoelectric nozzles, spray nozzles atomize the liquid stream with high-velocity compressed air to create a range of 20-200 micron-sized spray droplets, resulting in greater surface coverage than conventional nozzles. Droplet size and production are not dependent on liquid pressure, and the spray nozzles can produce finer drops than hydraulic nozzles. More efficient use of the liquid accelerates air-liquid interaction to give more effective cooling, while the smaller droplets expose more surface area, increasing the evaporation rate. Consistent and effective cooling of surfaces reduces heat distortion of parts. Three types of spray nozzles are available. For further information on Vortec visit *www.vortec.com*.

CASCADES PRO, a manufacturer of towel and tissue products, has introduced two new Cascades Pro Tandem dispensing systems: Cascades Pro Tandem Electronic Hybrid and Double Jumbo Roll Tissue (JRT) dispensers. Both units have been designed to encourage healthier people, businesses, and bottom lines. Both deliver a healthy, clean environment with a hand-towel dispenser that seamlessly adapts to the needs of customers. Three versatile settings—Hidden Towel, Exposed Towel and Motor-Assist—combine to make the Cascades Pro Tandem one of the most adaptable towel-dispensing systems on the market. For more information on Cascades Pro visit *www.cascadespro.com*.

EXPANDED TECHNOLOGIES is pleased to announce a new addition to their line of Floor Savers designed to eliminate noise and floor damage caused by wobble chairs. Wobble Chair Floor Savers are manufactured from soft, flexible material. They adhere quickly and securely to the bottom of the chairs, which are often used in classrooms. For greater design and detailed information on Expanded Technologies visit *www.expandedtechnologies.com*.

New Products listings are provided by the manufacturers and suppliers and selected by the editors for variety and innovation. For more information or to submit a New Products listing, email Gerry Van Treeck at *gvtgvt@earthlink.net*.

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Section 4:
Using Facilities Modernization to Reduce Barriers to Success

One way to think about the role of facilities in supporting student success is to flip the question: How do facilities *hinder* student success?

Poor facilities can absolutely get in the way of student performance. Students won't learn well in a freezing classroom with a failed heating system. They won't rest comfortably in a residence hall with broken toilets. They won't feel a warm glow of community in a student center with buckets positioned to catch rain. To achieve student success, the first charge upon facilities staff is to **address the basics** and the last is to **do no harm**. Nevertheless, many buildings on colleges and university campuses today are doing harm by failing to meet the basics.

Data Point:
Campus modernization
Why up-to-date buildings matter

Effective buildings do not guarantee good programs, but it is very difficult to build good programs without them. . . . Renewal initiatives are essential to provide contemporary educational opportunities for students and competitive research opportunities for our faculty.

Source: Harvey Perlman, chancellor, University of Nebraska-Lincoln, "University of Nebraska Building Renewal Plan Would Invest in Facilities for Quality Education, Competitiveness," University of Nebraska.

A slow-motion campus crisis

The problem of deteriorating campus buildings has its roots in the baby boom. In the 1960s and 1970s, college enrollment rates soared to never-before-seen levels, kick-ing off a building frenzy. Most colleges and universities invested heavily in new construction—in fact, **more than 35 percent of campus buildings today date from this period**. The builders were in a hurry, and so they cut corners—using low-quality materials and rushing construction. They didn't worry about energy use, since power was cheap. And, naturally, their designs suited the teaching styles of the time.

The result? Crumbling structures that cost too much to run and don't meet today's programmatic needs.

Data Point:
Defining student success
Utah State University

Student success is defined differently by each student and their parents, guardians, or families. Some define it as obtaining an undergraduate, graduate, or professional degree, while others consider success as having obtained value-added learning experiences that serve to further propel them within their chosen career or vocation. Still other students define success as the nourishment of their hunger for learning and their development as a well-rounded human being. All these definitions are appropriate and intrinsically right. The Student Affairs Division must be in tune with these definitions of student success and must foster the type of environment that will ensure as many of those definitions of success as possible. However, because of the mission of the institution and finite resources, not every definition can or may be fully served.

If institutions had kept up with maintenance on these buildings, they would at least be in better shape than

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they are today. But colleges and universities have a long history of putting off unglamorous projects such as replacing roofs and updating water systems. New construction continued to attract funding dollars while maintenance backlogs inched up year after year. And so here we are in 2017, with **the backlog for facilities maintenance reaching an average of more than $100 per square foot,** according to survey data gathered in the annual Sightlines *State of Facilities in Higher Education* report of 2016. The figure is slightly lower for private colleges and universities—$88 per square foot—but is higher for public campuses, at $108 per square foot. The total across the United States is a record $30 billion.

What does that backlog look like for campuses? Peeling paint, yes, and scuffed floors—and a stark contrast to the new buildings constructed in the last decade. Buildings sitting side by side on the same campus can have vastly different performance levels; in fact, a single building can present a schizophrenic appearance, depending on how funds were allocated over time. In a 2016 article titled "The Paradox of New Buildings on Campus," *The Atlantic* draws a vivid picture of one such building:

> Akerman Hall is a gateway to the complex that houses the University of Minnesota's Department of Mechanical Engineering. But wandering through it is more like an experience in archeology.
>
> First, there's the former airplane hangar, built in 1948 and renovated five years ago with alumni contributions into a state-of-the-art student lounge, faculty office, and lab. Then come drab cinderblock corridors and classrooms that also date from the 1940s and don't look anywhere near as glamorous. Behind them, however, are more than $5 million of unseen upgrades the

Data Point:
Campus modernization
A historical perspective

The burdensome problems of major maintenance and capital renewal/replacement have troubled higher education since the 1970s. The term *deferred maintenance* emerged in the early 1970s as college and university administrators began to recognize the serious nature of plant problems on their campuses. The deteriorated plant conditions produced by ignoring older facilities during higher education's post–World War II expansion were compounded by the following:

- Poor designs for institutional durability

- Cost cutting that rapidly produced space with inferior construction techniques and innovative materials that showed early failures

- Soaring utility costs

- Inflation-induced reductions in operations and maintenance budgets

- Inadequate funding for capital renewal and major maintenance

- Increased government regulations, resulting in reallocation of resources and further deferral of maintenance

After many years, these factors produced a legacy of deferred capital renewal and the accrual of backlogs for major repairs, replacements, and renovations to facilities and infrastructure. By failing to fund renewal for building subsystems and infrastructure with expired life cycles, higher education began its slide on the slippery slope of failing facilities. Today, the problem is acute for the many institutions that may have as much as 75 percent of their facilities in the range of 30 to 40 years old — and be past a first cycle of major renewal expenditures.

Source: Harvey H. Kaiser, "Capital Renewal and Deferred Maintenance," *Body of Knowledge*, APPA, 2015.

university was forced to make to elevators, sprinklers, fire alarms, and ventilation systems so old the school was buying replacement parts on eBay.

These hallways lead to another handsomely appointed wing for which a dean scraped up some wealthy donors to make the kinds of improvements that are essential to compete for students in a hot field such as engineering.

But just upstairs from that are offices for English faculty with cracked and peeling window frames, sputtering air conditioners poking through walls, and plywood over some of the glass. This floor is still waiting for a badly needed overhaul—but there isn't any money in the budget.

Institutions pay a high price for failing buildings. The structures generally cost more to operate, and even the most bare-bones maintenance of temperamental systems will take longer and cost more. Aging infrastructure dis-

rupts the operations of the campus and can threaten the work of faculty researchers.

Failing buildings and infrastructure also threaten enrollment. Students are **deeply influenced by their first impression of a campus**; multiple surveys of college-bound students point to the campus visit as the most significant factor in choosing an institution. APPA's own research reveals that roughly a quarter of prospective students will reject a college or university if they consider an important facility inadequate, and about 15 percent will reject an institution if an important facility is poorly maintained. ("Important facilities" are generally those related to a student's major.)

Supporting success with facilities modernization

Senior facilities officers understand the problem, and they know how to fix it: Reinvest in failing structures. The problem is finding the dollars. Facilities operating

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Data Point:
Campus modernization
The high cost of failing structures

"Most people think of innovation as requiring shiny new equipment, which it often does, but it also comes with the far more mundane requirement of clean, functional buildings to house it. Years of federal belt-tightening have starved laboratories of funding for routine maintenance, and the deterioration has reached the point that some researchers say the nation's ability to conduct cutting-edge science is being damaged.

"'At the very least, these failures can cause delays in research work and add extra costs,'" a 2015 report on deferred maintenance at public agriculture colleges by the Association of Public Land-grant Universities found. "'At worst, we are entering an era when the condition of facilities will limit our ability

to conduct world-class research that is needed to keep our leadership edge.'

"While the United States has been the envy of the research world, that prowess, at least in some areas, is starting to slip, [experts] say. China now spends 6 percent more on agricultural research than the U.S. does, for example, and other countries are catching up. If the maintenance backlog isn't addressed, domestic researchers could fall even further behind.

"Much of that problem comes down to old buildings."

Source: Jenny Hopkinson, "Innovation vs. the Ants: When Cutting-edge Research Labs Get Old, They Face a New Kind of Challenge: Upkeep Is Expensive, and It's Not Sexy," *Politico*, July 6, 2017.

budgets have inched up since the Great Recession, but they're not keeping pace with inflation or growth of campus square footage. Capital expenditures have also marginally increased, but many haven't yet returned to prerecession levels.

What's a campus to do? Most facilities leaders have adopted a variety of strategies. They're managing operations on a shoestring and increasing efficiency across the board. They're making better use of the functional space on campus and reducing demands on aging, failing buildings. In addition, they're making the case for campus modernization projects that breathe life into existing facilities. That's where this report will turn its focus: **supporting student success through facilities modernization**.

Modernization and revitalization is a program of upgrade and reinvestment in existing facilities and infrastructure. Essentially, modernization resets the clock and gives aging buildings a new lease on life.

It's a process that is critically different in both goals and means from from the deferred maintenance programs of previous decades. Deferred maintenance has gotten a bad reputation on campus because the sums involved are so large and the task never-ending. "**Trustees take a very dim view of deferred maintenance**," said Steven Thweatt, a consultant and invited subject matter expert in campus modernization who spoke at the 2017 Thought Leaders symposium. "And as senior facilities officers, we don't like it either. It implies that we can't keep up with our campuses."

The goal is not to simply rebrand deferred maintenance with a term fewer people will find objectionable. The goal is to change the conversation entirely. Instead of going to chancellors with long lists of maintenance needs, facilities leaders should be discussing institutional goals and how to achieve them through targeted facilities investments. Nevertheless, new terminology is also important. Words matter—how we discuss issues in our industry matters. It is time to embrace language that will engage the entire institution and encompass broad institutional goals.

Of course, if you are updating a building with classrooms that will better meet the demands of the 21st century, you'll also fix the leaking roof—but the goal is not maintenance. Of course you'll get new carpet—but the goal isn't surface modernization to bring a building back into style. The goal is to better serve students. To better support faculty. To better serve the needs of the institution. The goal is revitalization of a campus resource so that it can play an essential role in the future of the institution.

Revitalization programs target dollars where they will accomplish the most. **Facilities modernization is highly strategic, prioritizing projects based on both need and impact.** It stretches capital dollars by extending the life span of existing investments and promotes good stewardship of campus resources. Rather than looking back at overdue maintenance logs, it looks ahead to anticipated needs. It is forward-thinking, proactive rather than reactive, and tied directly to the institution's vision of its future.

Making the case for facilities modernization

Pursuing a modernization program is a major undertaking that will require buy-in from a wide range of constituents, Thweatt observed. Senior facilities officers will need to persuade the leaders of the institution to back the plan; state institutions might require the support of the legislature. Convincing so many stakeholders that precious institution dollars should go to modernization is a daunting task.

Strategies that have proven successful include the following:

Demonstrate how facilities modernization will support institutional goals. The key, noted Jay Pearlman, associate vice president of Sightlines, a higher education facilities consulting firm, is to move the discussion away from the needs of buildings. "The conversation regarding what to fund and what not to fund should be done in a context of a greater university strategy, and it should be set from the top down," said Pearlman. "So we're not engaged in a conversation about leaky roofs. We're

engaged in a conversation about how we support facilities to drive the institution forward."

For example, as vice chancellor for administration at the University of Colorado at Boulder, Thweatt helped create a **decision-making framework that tied modernization to campus priorities**. The organization evaluated projects according to the following criteria:

- Alignment with campus strategic goals, the chancellor's priorities, and the university's facilities master plan.
- Potential to provide distance-learning opportunities and/or generate new revenue.
- Impact on academic needs.
- Responsiveness to enrollment needs (current and projected).
- Alignment with future programmatic needs.
- Status of the structure on the campus building facility condition index.

Metrics were developed for each of these factors; for example, impact on academic needs was determined by the number of credit hours of classrooms in each building. While the modernization program sought to revitalize failing space, a new space optimization program was introduced at the same time to better utilize operational space. Combined, the two programs are leveraging the campus's investment in its facilities.

Make the argument clear and simple. Facilities departments deal in data that are unfamiliar to most campus leaders. While it may be vital for the senior facilities officer to know a building's maintenance deficiencies as divided by its current replacement value, this level of detail might be beyond what most stakeholders need. It's best to **make the case for facilities modernization with simple, straightforward data** that everyone can understand.

For example, Daniel King, facilities manager at Auburn University, in a May 2012 article for *Academic Impressions*, recommends a chart that measures campus buildings in terms of academic value (as ranked by the provost) and maintenance and modernization needs (de-

termined by a facility condition index). Campus leaders get a snapshot of the entire campus and can see immediately that the buildings with the highest academic

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Data Point:

Campus modernization

Making the case for modernization

Daniel King of Auburn University uses a simple chart to put the condition of buildings in the context of their academic value.

	Maintenance and Renewal Needs – Low to High	
High academic value, low maintenance and renewal needs High-value buildings that need little operations and maintenance investment	**High academic value, high maintenance and renewal needs** Facilities that are the highest priority for reinvestment	
Low academic value, low maintenance and renewal needs Lower-priority buildings where it is safe to defer renewal	**Low academic value, high maintenance and renewal needs** Facilities that might be good candidates for demolition and replacement	

Academic Value – Low to High (vertical axis label)

Source: Daniel King, "How Do You Make the Case for Funding Maintenance and Renewal for Campus Facilities?" *Academic Impressions*, May 18, 2012.

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value and greatest modernization needs are the highest priority. King advises making the situation as simple as possible for busy campus executives:

If you can rank your facilities within each of these quadrants, you can use such a chart as a tool to convey

a fairly complex situation in a readable manner. They don't want to see 55 charts on 55 buildings and their problems; they can't absorb all that. You need to find a way to quickly tell the story about the institution's renewal and replacement needs.

Promote a culture of stewardship. "Organizations that are effective at managing the physical assets of facilities and infrastructure work within a developed culture of stewardship," wrote Rodney Rose in the executive summary to the APPA publication *Buildings…The Gifts that Keep on Taking: A Framework for Integrated Decision Making.* "The culture is rooted in a deep understanding of how the physical assets provide the environment to achieve the mission and program objectives of the institution."

Cultivating stewardship isn't so much a strategy for promoting a one-time facilities modernization campaign as it is a long-term philosophy inculcated into the institution that **recognizes both the value and the long-term costs of the campus built environment**. Senior facilities officers can't create this culture on their own, but they can take steps to encourage it by promoting the concept of total cost of ownership (TCO) and advancing long-term strategies for facilities management.

Brigham Young University (BYU), for example, maintains 40-year predictions of possible facilities expenditures for existing structures, and when new buildings are presented to BYU leadership, figures are calculated using a 75-year TCO framework that includes estimated maintenance, operating, and replacement costs. The result is a constant awareness of the lasting nature of facilities and a sense of both their costs and their benefits.

Facilities modernization priorities and opportunities

Thought Leaders symposium participants developed the following list of general priorities for colleges and universities when planning modernization programs:

- **Increase the life span of existing buildings.** Modernization should reset the clock on facilities and extend their useful life span at least ten years into the future—if not 30. In other words, even if a building was constructed in 1965 (or 1985, or 1915), after revitalization and modernization, that building is effectively brand new. New internal systems such as lighting, heating/cooling, and power will breathe new life into the structure while reducing operating costs and increasing sustainability.

- **Reduce disruptions.** Spaces should be free from distractions caused by leaking roofs, electrical outages, and too-hot or too-cold temperatures.

- **Expand useful space on campus.** Many campuses have enough space on paper but still feel pinched for classrooms, labs, and offices. Modernization allows institutions to update less-desirable spaces so that the campus can be used to its potential.

- **Increase flexibility.** Facilities modernization should reduce barriers to current pedagogy while building in flexibility that allows for even more change going forward.

- **Meet student and parent expectations.** Families paying tens of thousands of dollars a year for an education don't expect students to rough it in outdated campus housing. Residence halls and dining facilities in particular need to meet current expectations.

- **Improve accessibility.** Most campus buildings today are ADA-compliant, but that doesn't mean that they are truly open to every student. Modernization pres-

Data Point:

Campus modernization

Doing more with what you've got

Cuba Plain, assistant vice president of budget planning and development for the University of Missouri System (UMS), discusses the challenges of aging facilities:

"We want to examine how we're using space on campuses, with a goal of reducing net overall space. If we have less space to manage, we can do a better job of taking care of it. One way to reduce deferred maintenance is to take a building down. If the level of required repair or refurbishing is significant, it's better to tear down the existing facility and build another one that will be more efficient to maintain.

"[A maintenance backlog] impacts the entire university in all its different aspects. For instance, by addressing it, you'll be able to attract and retain students and enhance their academic performance by providing upgraded facilities, which also helps with faculty recruitment. You want to show that you offer competitive facilities.

"We have to be more efficient and effective and do more with less. We've been saying that for 20 years, but now it's come to fruition. Without space, we are not a research institution. Students and faculty need labs and facilities that are up-to-date. We can't just go along with business as usual in terms of facilities."

Source: Apryl Motley, "The Download on Upkeep," *Business Officer*, NACUBO, December 2015.

ents an opportunity for campuses to adopt universal design concepts that make buildings not just accessible but welcoming to all.

■ **Promote collaboration and interaction.** Designers have learned a lot in recent years about how to draw people together. Renewed buildings should include spaces for meetings, cross-discipline collaboration, and student projects along with casual spaces that invite interaction.

■ **Increase safety.** Modernization creates opportunities to integrate new security systems and measures such as key-card access into existing buildings, including labs, offices, and classrooms, not just exterior doors.

■ **Reflect the identity of the institution.** Many colleges and universities have one or two buildings that don't fit with the rest of the campus—a single tan brick building in a sea of red or a failed modernist experiment surrounded by colonial-style structures. Today, institutions have a strong sense of how their visual identity reflects their brand. Modernization programs give colleges and universities a chance to remedy design errors of the past and unify the appearance of facilities.

Embarking on a modernization program will likely be a multiyear effort that requires hard work, commitment, collaboration, patience, and perseverance. But when done with care and driven by the priorities of the institution, modernization can support the success of students and the entire campus community.

Case Study in Facilities Modernization: University of Massachusetts at Amherst

A mix of structures make up the 13-million gross-square-foot, 1400-acre campus of the University of Massachusetts Amherst. Some are historic structures, including one listed on the National Register of Historic Places. Others—many others—were built in the campus boom of the 1960s and 1970s. And by the early 2000s, most of them needed investment. In addition, state funding for this investment has been limited, with the university paying for 70 percent of the cost of renovations and new buildings.

Embarking on a major facilities modernization program required Shane Conklin, associate vice chancellor for facilities & campus services, and the entire facilities department to make creative choices. "We tried to find a balance between replacing really poor spaces that would have a high impact and, at the same time, investing in areas targeted for growth on campus," Conklin says.

Understanding the condition of each building and cost of needed improvements was critical. Equally important was determining campus needs. For example, in the case of the Hills Building, an assessment revealed it would cost less to tear down and replace the building than to renovate it to desired standards; demolition began in summer 2017.

Some buildings were too important historically to demolish, but renovation posed major challenges. The South College building, for example, was constructed in 1886, and bringing it up to code seemed almost impossible. Right next door was a post-World War II building, Bartlett; in poor condition, it would have cost more to renovate than to demolish and start fresh. The solution? Tear down Bartlett and build a new structure attached to South College in its place. "We came up with a 'buddy building' concept," says Conklin. The new addition includes the features South College needs, including modern air handling equipment, elevators, and accessible entrances, while leaving the historic structure intact. "We were able to enable the demolition of a failing building and gut-renovate a historic building that now has a fresh start," says Conklin.

To determine their priorities, the facilities organization drew on studies including an academic space study and a science and engineering study. The academic survey looked at the classrooms available on campus and estimated current and future needs. The science and engineering study identified the deficiencies in research buildings that were preventing the institution from growing desired programs and attracting and retaining top researchers. "One general recommendation was that the deferred maintenance backlog had to be addressed to maintain our competitiveness as a leading research institution," says Conklin.

Increased accessibility was a priority of the modernization program, as was working with UMass researchers. Conklin was able to do both when Facilities worked with engineering professor Aura Ganz and her colleagues in the university's 5G Mobile Evolution Lab to install their PERCEPT navigation system in the Whitmore Administration Building, which houses the university's disability services office. The PERCEPT system allows the blind and visually impaired to navigate unfamiliar environments using their smart phones; RFID tags communicate the user's location to the phone, and the system provides directions that allow an individual to find any location in the building. "We had a unique opportunity to support the great work of our faculty while helping out our students," says Conklin.

The connection between facilities modernization and student success couldn't be more clear at the UMass campus, says Conklin. The institution completed a Student Experience Master Plan last year to better understand the needs of students. "We looked at what should we be doing to help student success? How do we make the campus welcoming and engaging?" Conklin says. Part of the UMass commitment to student success is a planned renovation to a building in the core of the campus. Designed as the student success hub, it will include a variety of services that help students achieve their goals. "We've just started planning on this, and it's pretty cool," says Conklin. "We recognize the importance of being deliberate about student success."

Section 5:
Building Support for Facilities Modernization with Collaboration

Senior facilities officers spearheading a facilities modernization program will need to forge strong relationships with leaders across the campus—from the president's office to deans and department chairs, from the CFO to IT and student services. It's an undertaking that might intimidate the most well-prepared facilities officer, who will be required to walk into conference room after conference room armed not only with data demonstrating the need for modernization but also confidence, enthusiasm, and commitment.

Let's face it, this level of collaboration can be *hard*. When facing a body of campus leaders with their own priorities and agendas, how can facilities leaders build consensus around modernization?

Data Point:
Defining student success
University of South Florida

The University of South Florida will empower students to succeed through educationally purposeful activities, initiatives, and accountability measures that will ensure that students are retained and graduated at higher-than-predicted rates, with higher degrees of satisfaction and minimal financial indebtedness, and are employed or enter graduate, professional, or postdoctoral programs at high rates, having acquired the skills, knowledge, and dispositions to succeed in any of those endeavors they pursue.

Achieving true collaboration

The Arbinger Institute's answer to achieving true collaboration: Change your mindset.

The Arbinger Institute, founded in 1979, is an international consulting and training firm based on research into the social sciences and philosophy. Arbinger focuses on helping organizations and individuals resolve conflicts and improve personal interactions to better achieve their goals.

A key concept for Arbinger is mindset.[2] Mindset is how you view the world and the other people in it; it's the lens through which you see your work and your relationships. Individuals have either an inward mindset or an outward mindset:

■ **Inward mindset:** A focus only on one's individual goals and objectives. People with an inward mindset are blind to what others want or need. They only see others in relation to themselves. Individuals with an inward mindset might work incredibly hard for their organization, but they fail to recognize how their actions are affecting others.

■ **Outward mindset:** An understanding that others have their own goals and needs and a focus on achieving the results of the organization as a whole. People with an outward mindset take the priorities of others into account when considering their own goals; they are aware that they might inadvertently get in the way of another individual or department and seek to limit their harm.

It's key to emphasize that having an inward mindset doesn't make someone a bad person. "It isn't that you woke up wanting to ruin someone else's day," said Andrea Hoban, Arbinger senior consultant/facilitator, who spoke at the 2017 Thought Leaders symposium. "It's that you may not even know that you are making life difficult for other people."

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2 For more information, see the Arbinger Institute publications *Leadership and Self-Deception* and *The Outward Mindset*.

Nor does having an outward mindset mean letting other people walk all over you. "It's not about being soft," noted Hoban. Listening to the concerns of others doesn't require you to do what everyone else wants. It may be you do not have the time or funds to meet their requests, or there is a good reason for saying no. But even if you don't give people what they want, you can show that you hear them and have an honest conversation about what you can and can't do.

Further, an outward mindset does not mean giving up your own priorities—it doesn't make you a doormat. Rather, an outward mindset helps you better achieve your goals in the context of the mission of the organization. Nor is it necessary that everyone at an organization or within a department have an outward mindset. (Although it would be nice.) **Operating outwardly will allow you to work better with others, no matter how inward their mindset,** because you will see them as individuals with needs and goals.

An inward mindset, on the other hand, tends to reduce other people to objects. You might see others as objects that block your path or vehicles that you can manipulated to help you on your way. If they are not useful to you, other people can become simply irrelevant. In any case, you will be blind to their motivations because you are so focused on your own.

An outward mindset creates an environment that furthers collaboration and helps unite individuals around a goal. Collaboration with an outward mindset requires the following steps:

1. **Reach out.** Invite representatives from another campus department to a meeting where the agenda is for them to explain what they do and what problems they have. Your job is to sit there and listen—without defending yourself or your department and without casting blame elsewhere.

2. **Identify the objectives and challenges of others.** Learn how others understand their responsibilities and identify specific ways in which your organization is making it difficult for other people to do their jobs.

Data Point:
Collaboration
How am I a problem for you?

If you want to build better relationships with your colleagues, ask them this simple question: How am I a problem for you?

Key to an outward mindset is being aware that your actions affect others. You can jump-start collaboration and cooperation by reaching out and asking how your actions are creating harm.

It takes courage to ask the question and discipline to listen to the response. You are making yourself vulnerable, but "There's strength in vulnerability," noted Arbinger's Hoban. "If you've had strife with another group, and you walk in there asking how to do better, your intent is so pure they can't attack you."

3. **Adjust to be more helpful.** Start taking concrete steps. Tackle the low-hanging fruit first to get some easy wins that will make everyone happy. If the IT department is frustrated because it needs to be involved earlier in the design process for modernizing buildings, then get them in the room. Be aware that some challenges will require more time and effort. If the entirety of communications between Facilities and IT is broken, it will take sustained effort to build, or rebuild, trust.

4. **Measure what the institution is able to accomplish as a result of your efforts.** Look for metrics that you can use to monitor your progress. Can you find cost savings in streamlined processes? Can you demonstrate that the number of help tickets successfully closed has increased? Are response times improved? Is customer satisfaction on the rise? Measuring results helps you see where you're making a difference.

Hoban works with colleges and universities across the country, and she has seen this sort of collaboration succeed. Higher education, she says, has the advantage

that it is "really focused around mission. **It's wonderful to work with people who are all about their mission of supporting students**." She generally finds that the commitment to mission permeates the institution and motivates staff at all levels. However, she says, "One of the things I find curious about higher education is how siloed their areas of focus are. Everyone is focused on one mission, and yet the view of the world is wrapped around where each individual sits within the organization."

Being deliberate about cultivating an outward mindset and promoting collaboration helps campus leaders see beyond their narrow viewpoints. It helps them "find ways to support one another that they can't see themselves," Hoban said.

Facilities modernization through collaboration

Bringing the focus back to facilities modernization, adopting an outward mindset can jump-start the process of understanding campus needs and building consensus around a modernization program.

Often, facilities department leaders think they know all there is to know about the campus. But that inward focus can put blinders on. Reaching out to the faculty, staff, and students who use the campus can reveal a whole new side to buildings. Building flaws might be having unexpected negative effects unforeseen by facilities directors. Academic deans, residence hall directors, or IT staff might have needs facilities didn't expect.

Data Point:
Student success through collaboration
Collaboration to drive student success

Collaboration spurs innovation because bringing together groups of people who have different ideas, approaches, experiences, and areas of expertise creates a fertile environment for generating new concepts and methods. Sharing insights allows ideas to be refined and improved. Charging a group with developing a promising idea incentivizes the group—not just a single individual—to commit to its success and paves the way for trusted collaboration.

The challenge for leaders in higher education, then, is to figure out how to incentivize collaborative behavior to drive innovation that meets the needs of the country and of students—namely, by helping more students access opportunities for higher education and attain degrees and skills to advance their own and the nation's economic success. It's time to share what we know about how to serve students

better, so that the beneficial effects of innovation can multiply rapidly across academic cultures, across regions, and across the diverse student populations striving for a college degree at thousands of postsecondary institutions throughout the United States.

This requires a new kind of collaboration that is intentional, self-forming, and based on shared values and goals, bringing together institutions with limited competitive interaction. Most importantly, this new kind of collaboration necessitates thoughtful coordination to bring more value to each institution than is taken from each institution.

Source: Bridget Burns, Michael Crow, and Mark Becker, "Innovating Together: Collaboration as a Driving Force to Improve Student Success," *Fresh from the UIA (University Innovation Alliance)*, March 4, 2015.

Gathering insights from across the campus gives facilities staff a new and powerful source of information that can be combined with metrics in, for example, a facility condition index. Campus leaders will get a clearer understanding of the facility needs when they understand how building failures affect people. At the same time, seeking input from a range of stakeholders will build support for your efforts. The communication process needs to be sustained over time, and facilities needs to communicate back the process it is using to prioritize needs. Making the entire process transparent will reduce frustration, increase trust, and build consensus around the final program outlines.

Participants at the Thought Leaders symposium agreed that the advantages and opportunities of a collaborative process include the following:

- **Increased stakeholder engagement** from all generations and types of campus users (that is, students, faculty, and staff of all ages).
- **Campus-wide agreement on facilities priorities** and how they support the college's or university's mission.
- **Alignment of facility efforts with the student success efforts** of the institution.
- **Strong buy-in** of the program, even during tough patches when construction is inconvenient or bills come due.
- **Shared ownership** of the outcomes.
- **Increased confidence and trust** in the facilities organization as a partner in the goals and mission of the college or university.

Not collaborating, on the other hand, has tremendous costs. Failing to engage stakeholders can mean that the facilities modernization program never gets off the ground. Thought Leaders symposium participants considered the following factors the greatest risks of *not* collaborating:

- Lack of perspective or knowledge outside the facilities sphere.
- Investment in buildings and systems that aren't needed.
- Failure to invest at all if consensus on the process is never achieved.

- Frustration of stakeholders who feel their needs are ignored.
- Blame and finger-pointing when things go wrong.
- Missed opportunities for innovation or progress, which occurs when the people necessary to seize an opportunity are not in sync.
- Distrust between facilities and different stakeholders on campus.

Collaboration **takes the pressure off facilities leaders**, says Peter Zuraw, former assistant vice president of facilities management at Wellesley College. "You're not putting your agenda forward—you're putting the institutional agenda forward." If the buildings selected for renovation and modernization are identified by the facilities department, the facilities department must defend those decisions. But when the priorities for modernization are based on institution goals and have been confirmed at the highest levels, facilities directors don't have to defend those choices because leaders such as the CFO, the president, and the board own those decisions, Zuraw says.

Remaking the facilities organization to be more collaborative

While the Arbinger Institute's ideas are straightforward and easy to understand, fostering collaboration requires effort. Participants at the Thought Leaders symposium considered how internal facilities operations should change to encourage collaboration. They started with simple changes; for example, **restructure meeting agendas to create more opportunities to listen**. The same one or two people shouldn't do all the talking at every meeting. Instead, meetings can be deliberately structured to draw out the insights of others at the table.

Participants believed senior facilities officers should **model outward behavior** for their staff. Organizations take their cues from the top, and if staff see their managers actively listening and responding to the input of others, they will respond. The senior facilities officer can also identify key individuals within the organization who have influence and **help them develop an outward mindset.**

Facilities leaders should **create or reaffirm a common purpose** within their organization. The call should be to work toward fulfilling the mission of the institution. Staff should be encouraged to think outside their own narrow role and immediate task and embrace a wider goal—a goal such as student success.

Finally, senior facilities officers need to **reward staff for working collaboratively.** Individuals should be encouraged to share ways in which they helped others within the organization and should be recognized for moments of joint success. Instances where facilities staff adapt to better serve other departments should be framed as opportunities rather than annoyances.

Ultimately, failure of collaboration and an inward mindset can hurt the mission of the institution: If the relationship between facilities and rest of the institution is dysfunctional, the institution is itself, in some way, dysfunctional.

However, the reverse is also true: A truly collaborative process can help the facilities staff organization advance the college or university by enabling facilities staff to make smart decisions about facilities modernization. Facilities leaders and staff can help students succeed by undertaking modernization in an outward, collaborative way.

Data Point:

Defining student success

Cape Cod Community College

Based on the awareness that student success is unique to every individual, Cape Cod Community College defines student success as a series of stepping stones and milestones, which could include being prepared for college, establishing clear and realistic goals, completing courses, developing the ability to monitor academic progress, earning certificates and degrees, transferring to another institution, acquiring necessary occupational training, and gaining skills useful for future learning.

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Section 6:
Ten Questions to Drive Student Success through Facilities Modernization

How do we support student success with facilities modernization? Participants at the 2017 Thought Leaders symposium developed the following questions to help senior facilities officers think through the issues discussed in this report and strategize their next steps. We encourage facilities departments to consider these questions for themselves and to share them with others within the institution.

Data Point:

Defining student success

University of North Carolina, Chapel Hill

We believe student success includes:

1. Exploring and growing intellectually.

2. Appreciating diverse perspectives as well as developing one's own identity.

3. Developing social and emotional skills.

4. Engaging in meaningful activities, roles, and relationships.

5. Cultivating a sense of purpose or vocation.

1. How does our institution define student success? How can the facilities organization specifically support student success at our college or university?

Student success can be defined in many ways, and it's difficult to know if you're contributing to success if you don't know how your institution defines it. If your organization hasn't formally defined success, facilities can turn to the mission and vision of the organization.

They can supplement that information with goals and priorities expressed by the institution and come up with a working definition of success that will give the facilities organization a sense of where the leaders of the college and university want to go. A good check of this working definition is to present it to different campus leaders and see if they agree with its aims.

2. How does facilities revitalization and modernization contribute to student success?

Senior facilities officers need to assemble a solid argument for facilities modernization in the service of student success. Assembling data is the first step; institutions need metrics that quantify the performance of each building. The experience of other colleges and universities has shown the importance of summarizing information in a way that is easy to understand.

Making the case for infrastructure projects can be particularly challenging. Facilities departments understand the importance of these projects, but hot-water lines and power cables lack natural stakeholders who will lobby for their modernization. It is hard to appreciate if all is working well. It may take significant education and outreach to make clear the need for investment in facilities.

3. How is the facilities organization a *barrier* to supporting student success?

Flipping the question can reveal significant information about where facilities and facilities operations are getting in the way of the institution's mission. Remember that one of the essential calls upon facilities is to "do no harm."

Facilities organizations should ask this question when engaging with stakeholders across campus and document instances in which classes were interrupted, faculty were

Data Point:
Supporting success with campus modernization
Making the case for modernization

Facilities leaders at different campuses were asked by NACUBO's *Business Officer* magazine how they argued the case for facilities modernization investment. Here's what they recommended:

- **Show the damage.** "We're on borrowed time, and we have to provide real, factual, visual explanations," says Sal Chiarelli, physical plant department director at the University of Vermont, Burlington. "I've had my staff bring big chunks of marble and concrete to me or place a piece of corroded pipe on my desk so that people can touch and feel the corrosion. You've got to get the people around you to see the problem." And it needs to be seen as broader than the facilties staff alone.

  Similarly, at the University of California, Irvine, Wendell Brase, vice chancellor of administrative and business services, uses photographs to document failing facilities. "CBOs [chief business officers] may not realize that they see things that others on campus do not, since most people have never been in a mechanical room or utilities tunnel." He notes: "The picture speaks for itself; you don't have to say anything. Images help illustrate problems in areas in which most people are unfamiliar."

- **Present data.** Cuba Plain, assistant vice president, budget and planning, for the University of Missouri System (UMS), has found value in gathering hard data to explain the facilities' problem to constituency groups. "We've changed our communication strategy to be very data-driven," she says. "We focus on demonstrating the most critical needs." In addition, Plain notes that data help in presenting the case for UMS to receive additional state funds: "When we ask the state to fund deferred maintenance, we give them a fact sheet that outlines the ROI for the state and its citizens."

- **Document stakeholders' concerns.** According to Brase, one of the most compelling factors is that of leading researchers who begin to express concern that the research environment on campus isn't stable enough to support their work. "When they start to speak up, it's pretty clear that this is a problem the university must face," he says.

- **Be straightforward.** "We haven't done a good job of communicating the impact of certain decisions," Plain says. "People forget that by not making a decision, you're really making a decision. We have to take action, so we have to be honest about the fact that there are tough choices to make."

Source: Excerpted from Apryl Motley, "The Download on Upkeep," *Business Officer*, NACUBO, December 2015.

forced to deal with a facilities crisis instead of teaching, or student activities were cancelled. A metric such as the number of classroom hours lost to facility failures is a powerful statement to senior campus leadership of the need for modernization.

4. How will investment in modernization support long-term institutional success?

Facilities modernization involves significant financial resources, and the results should justify the cost. Modernization isn't about short-term fixes. It's a way to extend the life span of campus facilities and leverage existing investments.

As such, facilities modernization programs should be based on strategic decisions and draw on the consensus of campus leaders. Modernization should focus on buildings that combine the greatest need with the greatest impact. Senior facilities officers may need help in seeing that impact with the second part of that equation. Facilities must draw on space utilization information while tapping the insights of other campus leaders to get this level of insight.

Modernization programs should also be tied to the institution's long-range plans. If the plan of the college or university is to increase on-campus housing, modernization of residence halls should take a higher priority; if the plan calls for expanded investment in biomedical research, research facilities should rise to the top of the list.

5. Where do we start in making our processes more collaborative? What is our plan for adopting a collaborative approach to facilities revitalization in particular?

Remaking the facilities organization to be more collaborative may seem like an overwhelming task—but you've got to start somewhere. It's essential to make a plan, write it down, and revisit it regularly, especially when a program as critical as campus modernization is on the line.

The call to adopt an outward mindset is deceptively simple: While it is easy to decide to be outward-focused, it is more difficult to maintain that mindset over time. Facilities leaders need to create reminders to engage in outward thinking and provide rewards for collaborative actions. Organizations must be deliberate about structuring their facilities modernization program to incorporate collaboration. Otherwise, it will be all too easy to fall back into outdated ways of thinking and acting.

6. How do we select and engage stakeholders in a collaborative modernization process?

Building support for a modernization program will require the backing of representatives from across the institution. It's worth the time to carefully consider the right players on this team. Facilities officers should draw upon a wide variety of departments and disciplines in making their case. Consider which groups will be able to further *their own* goals through investment in modernization, and be sure to include students as key stakeholders.

Facilities can take the question a step further and consider which individuals within key departments are likely to be open to collaboration. Staff with a history of working cooperatively with facilities should rise to the top

of the list. Equally important when selecting partners is finding those with the right level of responsibility. You want players on your team who can act to further modernization rather than those with good intentions but no authority to make decisions.

> **Data Point:**
> **Defining student success**
> *Nazareth College*
>
> The true measure of student success is how well students are prepared to accomplish their current and future academic, personal, and professional goals through the development of knowledge, a sense of responsibility and self-reliance, and a connection to the college and wider community.

7. How do we prioritize facilities modernization needs?

The criteria used to determine modernization priorities, and making these needs transparent to the university community, will depend on the institution and how it has defined student success. Generally, the top priority isn't necessarily the buildings with the greatest renovation needs but rather the buildings and systems with the greatest potential for fulfilling campus goals.

It's essential that the criteria for prioritizing modernization projects are transparent, so that the entire college or university understands the decision-making process. You may never get everyone to agree on where you're putting your dollars, but at least you can show that the process was fair and even-handed.

8. How do we establish and maintain discipline in the facilities renewal and revitalization process?

Modernization programs are marathons, not sprints. They require sustained effort over years, and at the beginning, the hard work has very little to show for it. It's easy under those circumstances to become distracted by new ideas and proposals. At the same time, we must be flexible as technologies change.

It takes a firm commitment of key leaders to keep modernization programs on track. Keep the underlying problem in your sights. Keep reporting on building needs, keep assessing facility conditions, and keep reminding yourself and other campus staff of the cost of failure.

9. How do we say "no" without alienating those who have partnered in collaboration?

One challenge of seeking input from a wide range of sources is that sometimes you must disappoint your partners and supporters. When you reach out to a campus department to learn about its needs, you raise hopes and expectations that those needs are finally going to be met. Leaders in those departments confide in you—you gain a measure of their trust. However, some projects must take priority over others. Inevitably, you will need to tell a group that has rested its hopes in you that their project didn't make the cut.

Data Point:
Defining student success
California Community Colleges

Acknowledging the varied educational goals of students, the CCC Task Force adopted a set of student success outcome metrics, and recommended that the system define success using the following metrics:

- Percentage of community college students completing their educational goals

- Percentage of community college students earning a certificate or degree, transferring, or achieving transfer-readiness

- Number of students transferring to a four-year institution

- Number of degrees and certificates earned

The only solution is a transparent, data-driven process. You will build credibility for your decisions by making all information freely available, and you need to be prepared to justify every dollar you spend. Be clear upfront about the process, and don't make promises you can't keep. You won't make everyone happy, but with patience, you can justify the trust individuals have placed in you.

10. How do we communicate the risk of using capital dollars for work that does not further modernization?

One irony of facility failures on campus is that new construction has continued at the same time maintenance backlogs have soared. After all, donors like to see their names on gleaming new state-of-the-art buildings; a repaired underground parking garage or updated utility tunnel doesn't have the same cachet.

It will take commitment from the highest levels of the institution and consensus from a broad base of campus leaders to stay the course. Institutions need to make the financial case for modernization to their boards and trustees and secure the continuity of long-term plans so they will survive leadership changes. Institutions can also appeal to the entire college or university community, including alumni, when making a case for reinvestment in existing buildings.

Campus buildings and spaces carry the affection and loyalty of the community, and alumni in particular want future generations of students to share the experience of taking classes in historic buildings or living in iconic residence halls. When a building needs to be demolished, there should be a clear explanation of the "why." Alumni may well have an emotional attachment that should be acknowledged and celebrated, even as the building is removed from campus.

At the same time, institutions need to emphasize the risk of diverting spending away from modernization. Senior facilities officers must make the impact of proposed projects crystal clear. Find ways for campus leaders to compare apples to apples and to highlight the connection between campus goals and capital expenditures.

Case Study in Facilities Modernization: Triton College

Triton College defines itself as an institution dedicated to student success—it says so right in its mission statement. The 100-acre campus, located 14 miles from downtown Chicago, serves nearly 18,000 students with 130 two-year degree and certificate programs.

Triton sought to modernize its facilities with the goal to "promote and support sound educational environments by updating facilities and creating flexible learning spaces that incorporate technology and sustainability." The institution also wanted to develop new education programs based on community and workforce needs and improve recruitment, retention, and graduation.

To prioritize its investments, Triton developed a smart-growth plan that incorporated findings from multiple studies, surveys, and meetings. Five workshops and two campus-wide planning sessions generated 371 specific ideas for campus improvements. At the same time, the facilities organization conducted facilities and infrastructure condition assessments to understand the needs of the campus built environment. Finally, the college outlined future curriculum needs and established guidelines for updated spaces. New classrooms, for example, needed to be flexible, with furniture that could be easily moved to accommodate various teaching styles. The end result was a comprehensive modernization plan driven by the needs of academic and student services that was highly flexible and future-ready.

Triton sold $53 million in bonds to fund its campus renewal projects in 2014, and work has been ongoing ever since. Projects range from cosmetic upgrades to a brand-new athletic complex, from remodeling the college cafeteria, to renovating the Child Development Center Lab School. The Cernan Earth and Space Center, which includes a planetarium and exhibits alongside classrooms and labs, was updated and modernized. Solar panels were creatively mounted on the exterior of the building, with one set of panels painted with a mural of NASA astronaut Eugene Cernan walking on the moon and another set installed to resemble a satellite orbiting the earth.

Triton has earned a reputation as a military-friendly college, and the institution wanted to use facilities modernization to support the success of student veterans. The campus opened its new Veterans Resource Center (VRC) in 2015 with the goal of creating a space on campus for veterans to call their own. VRC houses academic, career, and community services as well as a quiet study area and meeting space for the Student Veterans Club. The overall goal is to help veterans successfully transition to civilian life and to the classroom. "As a military-friendly institution, we are here to support our student veterans' education as well as their professional and personal goals," said Triton College President Mary-Rita Moore at the opening of VRC in 2015. "Our new Veterans Resource Center continues our mission toward all student success."

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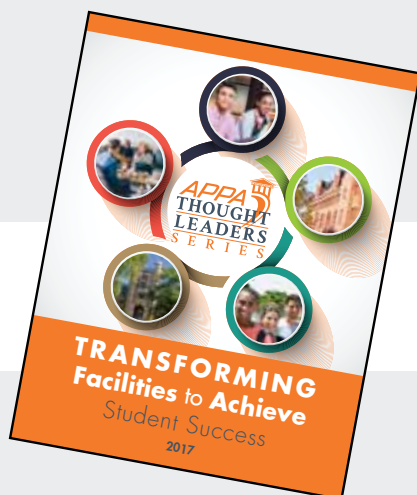
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