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# FACILITIES manager

JUL/AUG 2012

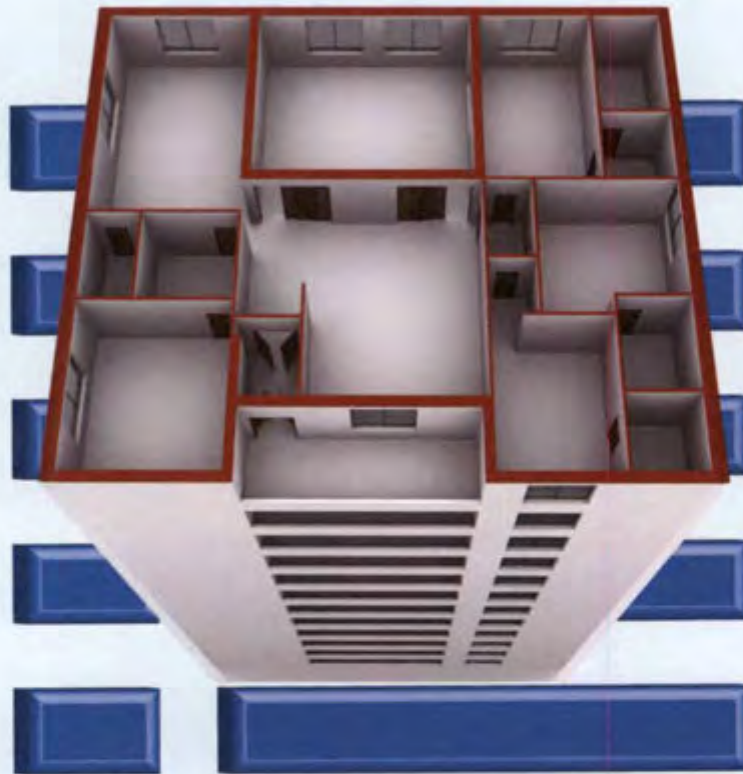
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in Facilities Management  
Creating a Shared Context  
Why Standards Matter

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*By Victoria C. Drummond, AICP, LEED AP*

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*By Donald J. Guckert, APPA Fellow, and Jeri Ripley King*

How do you succinctly communicate the breadth, complexity, and forward-thinking approaches that are necessary for facilities management organizations to operate in today's complex and ever-changing environment? Recently, the University of Iowa's Department of Facilities Management was asked to do just that.

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### Why Standards Matter

*By Michael A. Anthony, P.E., Derry Caleb, and Stanley G. Mitchell*

When standards are absent, we soon notice. We care when products turn out to be of poor quality, are unreliable, or dangerous because of counterfeiting. Alternatively, when we place phone calls seamlessly across latitudes and time zones, we also notice. But did we know that it's possible because of transnational communication protocols formed in 1865 that are still in use today?







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## CANNON WINS 2012 REX DILLOW AWARD FOR OUTSTANDING ARTICLE; A 30-YEAR REFLECTION

It is a pleasure to note that John Cannon, associate director for planning and operations at College of the Holy Cross in Worcester, Massachusetts, has been selected the recipient of APPA's 2012 Rex Dillow Award for Outstanding Article in *Facilities Manager* magazine.

John's article, "Exceeding Expectations," discusses how the phenomenon of creating and fulfilling expectations in any service industry, particularly facilities, can have an impact on the happiness of your customers and staff. A first-time author for *Facilities Manager*, John also shares several steps that leaders and managers can use to adjust expectations in an effective and "planful" way:

1. Utilize technology
2. Create service standards
3. Enhance customer interaction
4. Resolve problems immediately
5. Promote your department
6. Educate your staff
7. Improve communications

"Exceeding Expectations," which appeared in the September/October 2011 issue, was selected by the Information and Research Committee from 14 eligible articles.

Many congratulations to John Cannon for receiving the 2012 Rex Dillow Award; we look forward to more articles from him in the future.

Speaking of Rex Dillow, it struck me recently that he was possibly the first APPA member I had met shortly after I had joined APPA 30 years ago, in June 1982. He was on the Professional Affairs Committee and came to the APPA office for a meeting. While an APPA member, Rex was instrumental in promoting and



John Cannon

improving the Institute for Facilities Management and served as editor-in-chief on the first two editions of the *Facilities Management* manual. He's now long-retired and living in Arkansas, but he still enjoys hearing about APPA and the annual winner of the award that bears his name.

When reflecting just a bit on my tenure at APPA, the prominent memories are meeting and working with so many tremendous members—all the committee and task force members I've worked with on so many projects and publications; the many writers, researchers, subject matter experts, and peer reviewers who have contributed so much to the educational facilities body of knowledge; and all the great people of SRAPPA who have been so welcoming and supportive of me as I've served as their APPA staff liaison. In addition, all my colleagues on the APPA staff are great to work with, and it all comes back to our service to APPA and its fantastic members.

I can't promise another 30 years, but we're always looking forward to what happens next. ☺

### Coming in Sep/Oct 2012

- Profile of President Mary Vosevich
- APPA 2012 Conference Highlights
- Bill Elvey, APPA Fellow
- Thought Leaders Report, Part 1

## FACILITIES manager

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### About APPA

APPA promotes leadership in educational facilities for professionals seeking to build their careers, transform their institutions, and elevate the value and recognition of facilities in education. APPA provides members the opportunity to explore trends, issues, and best practices in educational facilities through research, publications, professional development, and credentialing. Formerly the Association of Physical Plant Administrators, APPA is the association of choice for 5,200 educational facilities professionals at more than 1,500 learning institutions throughout the United States, Canada, and abroad. For more information, visit us at [www.appa.org](http://www.appa.org).

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# facilities digest

By Anita Dosik



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Join us this September for a week-long professional development experience that is unlike any other for the educational facilities professional. APPA U is designed with you in mind and delivered by experts in our community! Enjoy the convenience of both the APPA Institute for Facilities Management and the Leadership Academy at one location. And the networking opportunities are unsurpassed.

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**NOTE:** Travel into Vancouver, Canada will require a passport. We encourage you to obtain your documentation as soon as possible by visiting the U.S. Department of State site at [http://travel.state.gov/passport/passport\\_1738.html](http://travel.state.gov/passport/passport_1738.html).

### 2012 APPA AWARD RECIPIENTS ANNOUNCED

#### 2012 AWARD FOR EXCELLENCE

- Harrisburg Area Community College
- Pima Community College
- University of Colorado Boulder

#### 2012 SUSTAINABILITY AWARD

##### Public Institutions:

- University of British Columbia
- University of California Irvine\*\*

##### Private Institutions:

- American University\*\*
- Emory University

##### Small Colleges and Universities

##### Institutions:

- University of Prince Edward Island

*\*\*Due to the large number of Sustainability Award submissions for our inaugural year, the Professional Affairs Committee recommended that two additional institutions also receive APPA's Sustainability Award in the public and private school categories.*

#### 2012 EFFECTIVE AND INNOVATIVE PRACTICES AWARD

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- **University of Iowa**  
*The University of Iowa Energy Control Center*
- **University of North Carolina at Charlotte**  
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- **University of Texas at Austin**  
*Warm Up Program for Custodial Services*
- **Western Michigan University**  
*Steam Trap Management Program*

#### 2012 APPA FELLOW

- **William M. Elvey**  
*University of Texas at Dallas*

#### 2012 MERITORIOUS SERVICE AWARD

- **Mark Hunter**  
*California Polytechnic State University*
- **Tony Ichan**  
*Sonoma County Junior College District/  
Santa Rosa Junior College*
- **Brian Worley**  
*Claremont McKenna College*

#### 2012 PACESETTER AWARD

- **Brandon Baswell**  
*Michigan State University*
- **Bob Cornero**  
*Monmouth University*
- **Richard Davis**  
*Evergreen State College*
- **Chris Eagan**  
*University of Lethbridge*
- **Lynne Finn**  
*South Dakota State University*
- **David Handwork**  
*Arkansas State University*
- **Sue-Anna Miller**  
*University of Oklahoma*

#### REX DILLOW AWARD FOR OUTSTANDING ARTICLE

- **John Cannon**  
*College of the Holy Cross*



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## AUDE CONFERENCE 2012

By David Gray, APPA President 2011-2012

APPA International is a party to three international strategic alliances: Association of University Directors of Estates (AUDE), the Tertiary Education Facilities Management Association of Australasia (TEFMA), and the Higher Education Facilities Management Association of Southern Africa (HEFMA).

In April of this year, I attended the AUDE conference at the Loughborough University in Leicestershire, United Kingdom. I would like to thank the APPA Board of Directors for allowing me to represent them and all of our members. AUDE's Immediate Past Chairman, Derry Caleb, and Chairman Mark Swindlehurst were outstanding hosts; thank you gentlemen. Andrew Burgess, director at Loughborough University, showcased his university as host of the AUDE conference, while also providing a venue for the training camps for teams from Great Britain and Japan preparing for the Summer Olympic Games in London. He deserves a medal for this!

In addition, there were representatives from TEFMA and HEFMA in attendance as well. As we shared experiences, I was reminded of Thomas Sowell's saying, "There are no solutions; only trade-offs." We are all dealing with this fact in some way each day as we serve our institutions. AUDE certainly has with first-time tuition and now rising tuition, inadequate resources for post-graduate work and grants, etc. On a lighter note, in a discussion about aging facilities it was revealed that Cambridge University's administration building was built in 1360—now that redefines old.



Jul 16 APPA SFO Summit, Denver, CO

Jul 17-19 APPA 2012 Annual Conference, Denver, CO

Jul 20 EFP Prep Course, Denver, CO

Sep 23-27 APPA U: Institute for Facilities Management & Leadership Academy, Vancouver, BC, Canada

Jan 13-17, 2013 APPA U: Institute for Facilities Management & Leadership Academy, Tampa, FL

## REGION/CHAPTER EVENTS

Jul 17-19 PCAPPA 2012 Annual Conference, Denver, CO

Sep 16-19 RMA 2012 Annual Conference, Sheridan, WY

Sep 30-Oct 2 ERAPPA 2012 Annual Conference, Philadelphia, PA

Oct 13-17 MAPPA 2012 Annual Conference, Minneapolis, MN

Oct 14-16 SRAPPA 2012 Annual Conference, Lexington, VA

Oct 14-17 CAPPA 2012 Annual Conference, Dallas-Fort Worth, TX

## OTHER EVENTS

Aug 12-17 Fueling Our Future with Efficiency, Pacific Grove, CA

Aug 13-14 PGMS Summer Regional Seminar and Site Visit, Portland, OR

Oct 24 Campus Sustainability Day

Oct 24-27 PGMS School Grounds Management & GIE+EXPO, Louisville, KY

For more information or to submit your organization's event, visit [www.appa.org/calendar](http://www.appa.org/calendar).

## APPAINFO: YOUR NETWORKING LINK

APPAINFO is an e-mail discussion list for educational facilities professionals where you can find the answers to many of your everyday problems simply by posing a question to your peers – 1,100 of them!

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Subscribers can post their questions and responses to [appainfo@umich.edu](mailto:appainfo@umich.edu). To subscribe to the APPAINFO discussion list, go to [www.appa.org/discussionlists/index.cfm](http://www.appa.org/discussionlists/index.cfm).

Contact Steve Glazner at [steve@appa.org](mailto:steve@appa.org) if you have any questions.





## APPA CERTIFICATION: THE KEY TO EMPLOYEE DEVELOPMENT

By Ted Weidner

In 2006, the APPA Board of Directors identified the need for a certification program for its members in order to improve recognition of facility officers and employees. A separate Certification Board was created and two levels of exams—the EFP (Educational Facilities Professional, created in 2007) and the CEFP (Certified Educational Facilities Professional, created in 2009)—were developed. In order to earn the EFP designation, no required amount of education or work experience is necessary. APPA provides a rule of thumb of two to four years of work experience depending on the level of education received. One must qualify to sit for the CEFP exam through a combination of education and/or professional experience. Individuals who have been in facilities for 20+ years would automatically qualify to sit for the CEFP exam.



### Developing the Program

In order to make it easier to take and pass either of the two exams, the Certification Board developed a Credentialing Prep Course available at APPA U. I've taught three prep courses and have benefited from the interaction with students in the class. I've received great personal satisfaction when students have taken and passed the exam the following day, or shortly thereafter. I like to think that I was able to impart some confidence in the student's test-taking abilities. I haven't taught anything that wasn't already covered at APPA U (APPA's Institute for Facilities Management and Leadership Academy training) because the prep class is based mostly on interactive discussions between the students. But I remain disappointed. Why?

### Making it Convenient—Is it Enough?

Over the last four years, 270 people have taken the EFP exam. Many did not take the prep course because they felt sufficiently confident following APPA U to pass the exam. However, there have been folks who are either less sure of themselves or who want some extra coaching. A total of 213 people have taken the prep course, but far fewer have taken the exam. In an attempt to make the exam more convenient and to overcome some pre-test jitters, the test was made available online and locally administered (at the local campus test center and with a qualified proctor). The highest ratio of people taking the prep course and then the exam was 90 percent in January 2011 when the exam followed the course the next day. The worst case was 16

percent following a regional meeting where the prep course was offered but the exam was taken online. Most other prep courses have resulted in 45 to 70 percent of students taking the exam afterwards. Why is this?

Sadly, as APPA attempted to make the test more accessible and user friendly, the percentage of prep course attendees taking the test dropped. It would appear that as we made the test more convenient to administer and complete, we also lost potential test-takers in the process.

### What Does it All Mean?

For APPA, it means a program that had some significant start-up costs isn't recovering the costs as quickly as was envisioned. For members, there are a lot fewer EFPs and CEFPs in the industry (those of us with the certification are more valuable). For supervisors and the departments who have paid for APPA U and/or the prep course, the department's resources are not being used as effectively as had been planned.

Every employee should have three levels of development goals appearing in their annual review. The first, and highest, addresses regulatory training that is required to keep the employee in the job; the second addresses employee development within the organization (a great way to do succession planning); and the third highlights personal development goals that do not necessarily benefit the organization. APPA U, the prep course, and the credentialing exam all fall in the second category. Unless you've made it a condition of employment, the responsibility to get the training and certification falls equally on the employee and supervisor.


### How Should You Proceed?

If you're a supervisor who approves an employee's attendance at the prep course, you must make sure the employee takes the exam. Set clear deadlines and expectations. Encourage your employee to take the exam as soon after the prep course as is practical. Assist them by giving them time to study and set clear timeframes/expectations for completing the exam—the sooner the better. Just because APPA U and the prep course fall in the second employee development category doesn't mean training is unimportant. On the contrary, they are important because they strengthen the organization, increase sustainability of the organization and the institution, and ensure continuity of operations by moving employees up the ladder. Check with your employees who have completed APPA U and/or the prep course. Make sure they take the EFP or CEFP exam and strengthen your organization and campus for the future.

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# Achieving Synergy Through the APPA/Regional Relationship Task Force

By E. Lander Medlin

**D**uring the spring of 2010, the International APPA Board of Directors and the regional associations of APPA agreed to jointly convene a task force. This task force would define and identify joint International APPA-regional association goals with regard to mission and roles; program content and delivery; and overall leadership development. The summary charge of the task force was both comprehensive and complex, consisting of the following:

- Determine individual member needs (chapter, regional, and international) and who presently satisfies those needs
- Identify areas of overlap in meeting various members/constituent groups' needs
- Develop SWOT analysis of current situation
- Investigate current best practices of engagement and participation
- Define/redefine roles of International APPA, regions, chapters, and their requirements, to avoid competition and/or duplication of services
- Explore alternative delivery models to meet member needs
- Determine feasibility of offering one membership package

The complexity of the charge generated numerous questions and challenges. However, broad-based constituency input from the regional boards' SWOT analyses and a member-based survey generated the following critical few elements:

- Engagement
- Alignment
- Roles & Services

- Competition (and duplication)
- Communications (and marketing)

We recognized that these critical few elements will require an intense focus of time and effort by all concerned. The APPA Board of Directors recognized the importance of each of the elements and included them specifically in APPA's new strategic plan.

## PHASE 1

The task force (Phase 1) produced the following recommendations:

- Provide centralized website management.
- Develop broad-based communications and marketing plans.
- Recognize the emerging theme of "WE ARE APPA."
- Study feasibility of regions utilizing APPA's conference registration 'app' (database/system).
- Establish a guideline for a roles and responsibilities "matrix."
- Include the matrix in membership packets.
- Provide briefing at Fall 2011 regional conferences.
- Consider the feasibility of an integrated/exclusive membership (i.e., APPA membership affords the institution regional and/or state membership and vice versa.)

Although many of these recommendations are already being implemented, it was clear to the APPA Board that even further work needed to be done to formally address implementation of

the recommendations in more specific, actionable terms.

## PHASE 2

Therefore, a newly formed task force (Phase 2) was established to provide a detailed implementation/action plan for the recommendations from Phase 1 of the task force's final report (delivered to the Board on July 14, 2011). The particular emphasis of this task force (Phase 2) is noted in the following charges:

Review the recommendations as presented and determine additional actions(s) required for implementation.

- Consider the feasibility of an integrated membership.
  - Better define the roles and responsibilities 'matrix' in "actionable" terms.
  - Relate the various activities and services of International APPA, regions, and chapters to the APPA Journey (i.e., the various pathways individuals take as they grow and develop in the profession by virtue of their engagement in International APPA, the regions, and chapters).
- The goals remained similar noted as follows:

- Promote/ create synergy between International APPA, the regions, and chapters.
- Keep International APPA and its regions/chapters as the "associations of choice" for all educational facilities professionals.
- Discuss structure that encourages participation and provides support for all membership categories.



- Maintain and further enhance opportunities for relationships with business partners.
- Align the regional leadership and international APPA activities to promote leadership, succession planning, and the value of ongoing efforts of the APPA staff and volunteer leaders.

#### FINAL REPORT

A final report of Phase 2 of this important work was provided to the APPA Board of Directors at its meeting on July 15, 2012 in Denver. The deliverables were targeted as:


- Provide "actionable" guidelines for roles and responsibilities for International APPA, the regions, and chapters.
- Prepare a statement of impacts on International APPA, the regions and chapters' membership dues (to include business partners and other stakeholders as appropriate.)

- Document with an implementation action plan.

Examples of just a few of the actions identified so far are:

- Continue to develop and promote the APPA Drive-In Workshops within the regions and chapters.
- Continue to deliver the Supervisor's Toolkit training program while also increasing the number of deliveries, attendees, and trainers.
- Continue to expand APPA's credentialing program.
- Continue to develop the Community College, HBCU, and K-12 initiatives.
- Identify institutional leaders to develop and foster new state and local APPA-affiliated associations.
- Identify a number of options for delivering an integrated membership dues billing approach.
- Appoint a task group of interested business partners to explore and make

recommendations of how to build on the relationships with International APPA, the regions, and the local chapters.

By all accounts, both task forces have done stellar work, and provided International APPA and the regions (and potentially the chapters) with an implementation roadmap, further delineating the actionable items; metrics; timelines; liaisons; responsible party(s); links to the APPA strategic plan; and lines of accountability for their execution. We thank all of them profusely for the significant amount of time and effort they put into both project phases. All of this work will be shared in greater detail with the regional boards and chapters during the fall 2012 annual meeting season. 

Lander Medlin is APPA's executive vice president; she can be reached at [lander@appa.org](mailto:lander@appa.org).

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## Your Personal APPA Experience

By James Harrod

**I**t was 1990. The San Francisco 49ers were Super Bowl champions; we were watching Macaulay Culkin in *Home Alone*; and at the time of the APPA annual conference (in Ottawa, Ontario, Canada), the New Kids on the Block had the number one hit. It was also my first APPA conference. I was excited to be attending the event, but probably for a different reason than most. I was ten years old, and the pool at the hotel looked pretty cool.

## APPA IS THERE FOR SUPPORT

Over the years I have had the opportunity to meet many individuals involved with the organization who have played an important part in shaping my career. Along with career guidance, everyone that I have met at APPA has been more than willing to share their experiences when it comes to life in plant operations.

We have chosen a career where people are more than happy to contact you when something is wrong, but we rarely hear from them when the waters are calm. So when it gets tough, we have to remember that there is a pretty good chance that a fellow member has faced the same problem that we currently face at our institutions. And fellow members can help ease anxiety at times of great stress. One member provided me with the following "thoughts":

of the week" (the article was in the local paper and is from an unknown author. It is hanging above my kitchen sink and I read it nearly every day):

**The Benefit Of Obstacles**

A wise philosopher once commented that an eagle's only obstacle to flying with speed and ease is the air. Yet, if the air was withdrawn and the proud bird were to fly in a vacuum, it would fall instantly to the ground, unable to fly at all. The main obstacle that a powerboat has to overcome is the water against the propeller, yet if it were not for this same resistance, the boat would not move at all. The same law, that obstacles are conditions of success, holds true in human life. A life free of all obstacles and difficulties would reduce all possibilities and powers to zero. Obstacles wake us up and lead us to use our abilities. Exertion gives us new power. So, out of our own difficulties new strength is born. What possibilities and powers are waiting in your obstacles? To achieve success means looking the obstacles that wake up the powers within you.

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Area covered in mustard gas


## APPA IS THERE FOR STRATEGIZING

Members help drive one another to accomplish new and innovative practices, Practices that I have employed to help streamline workflow at my current institution. The practice or procedure

may need to be tweaked for use in your personal setting—however, it can provide the big picture, which may be all the motivation necessary to achieve implementation. I, for one, look forward to upcoming events to discuss what is on the horizon for fellow members and their institutions.

Now, back to why I was at an APPA event when I was ten years old. See, my father was involved with APPA and spoke highly of the organization while I was growing up. So, early in my career, when I was given the chance to attend the APPA Institute for Facilities Management program, I jumped at it.

## YOUR OWN APPA EXPERIENCE

Everyone will have their own experience with membership and a story about how they were introduced to APPA. It may have been at a regional event, it may have been an avenue for continuing education, or maybe your boss just informed you that you were going. Regardless of how one is introduced to APPA, once you are part of the group, there is one thing you need to remember: you are part of a team. A team is there for you when you struggle, congratulates you when you succeed, and adds motivation to everyday life. 

James Harrod is maintenance and operations manager at the University of Wisconsin Hospital and Clinics, Madison, WI. He can be reached at [jharrod@uwhealth.org](mailto:jharrod@uwhealth.org). This is his first article for *Facilities Manager*.



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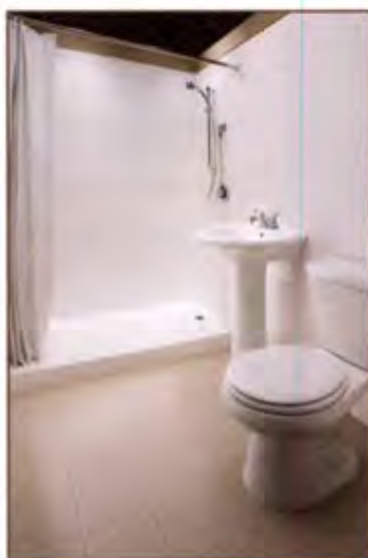
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# Aim High in Leading

## Taking a Longer and Wider View

By Joe Whitefield

**A**im high in steering." That was the first principle taught to me in driver's education class many, many years ago. While I do not remember anything else about the course, that phrase has always stuck with me. I still apply the principle to my driving today. I've even used it when teaching my children how to drive a car.

The basic premise in aiming high is that you should look as far down the road as possible when driving a vehicle. This provides many benefits—some obvious and some not. By looking ahead you have increased anticipation of impending conditions such as directional changes in the road, brake lights ahead, oncoming traffic, and so forth.

In addition to seeing the conditions ahead, aiming high also has the benefit of *widening* your view. This allows you, by using your peripheral vision, to see conditions that are beside you—such as improper handling of other vehicles or children or objects darting across the road. In short, there is a greater perspective that is gained from aiming high instead of looking only a few feet in front of the vehicle. Aiming high leads to better decision making and better driving.



LIKE THE DRIVER OF A CAR WITH PASSENGERS, MANAGERS AT ALL LEVELS HAVE A RESPONSIBILITY TO DRIVE ON THE RIGHT ROAD, AT THE PROPER SPEED, WHILE SAFELY NAVIGATING THE PERILS THAT CAN CAUSE WRECKS.

For experienced drivers this seems elementary. We do it without thinking. And yet, how easy it is to become distracted, change the focal point to something other than the road, and suffer an accident or near miss. Having a full view that is both far and wide is essential to reaching a destination successfully. Aiming high does this for us.

This principle could just as easily apply to leading an organization as it does to driving. All organizations are on a road heading toward some destination. Like the driver of a car with passengers, managers at all levels have a responsibility to drive on the right road, at the proper speed, while safely navigating the perils that can cause wrecks. Managers should strive to take a long view when making decisions.

### SEEING WHAT'S AHEAD

When planning, how far ahead should an organization look? As far as possible, focusing on what can be seen clearly. The sightlines are typically defined by either a time period (one month, one year, five years) or by a series of projects or events (new facilities, renovations). In either case, excel in looking beyond the immediate frame of reference.

For capital projects, this means better programming and design processes. Beautiful buildings that are unnecessarily costly to operate and maintain are dysfunctional by design. Every facilities professional can relate to this problem. Functional and operational issues are lost when design and construction deadlines are pressing. The long view requires that building performance be a

**C** Completion  
**O** Organization  
**I** Innovation  
**N** Being Nice



main driver from the beginning.

For organizational initiatives, this means better communication. What is your current status? What is your desired status? What is the process and timeline for reaching the desired status? These things must be clearly visible to and properly understood by everyone involved so they can actively participate

in the process driving organizational change. More than knowing what is going on; people must know why it matters. The long view, well communicated, promotes the future benefits of the initiative making the current difficulties palatable.

#### SEEING WHAT'S AROUND


The broader view plays a critical role

in decision making by bringing peripheral issues into sight so they can be accounted for and properly addressed. So many negative things can happen to an organization that is blindsided. Their key is to not get blindsided.

Organizations can be negatively impacted by numerous problems such as resource and time constraints, personnel issues, regulatory issues, customer and stakeholder issues, and weather. When unaccounted for, these issues can cause many problems for projects and initiatives, some minor and some major. Like many industries, educational facilities are facing the prospect of considerable turnover of personnel due to the projected flood of baby boomer retirements.

Short-term employment can lead to various forms of short-sighted management and leadership. The finish line for some may be within a few years or at the end of a particular project. Like every challenge, this can be managed by strong leadership whereby the long view is employed as much as possible. By aiming high in leadership, facilities managers can set the standard by modeling the process and expecting it from others.

Effective managers and leaders excel in making good decisions. Among other things, that requires both good information and good judgment. Decisions are based on the resources and information available at the time of the decision. Aiming high in leading provides a perspective that improves the information leading to better decisions and outcomes. Facilities managers should continuously look up and around to see things coming from all directions in order to make the necessary adjustments to keep the projects safely on the right road. Aiming high provides the wider view necessary to account for the conditions and issues that would cause problems and lead to wrecks.

*Safe driving to all.* 

Joe Whitefield is executive director of facilities services at Middle Tennessee University, Murfreesboro, TN. He can be reached at [joe.whitefield@mtsu.edu](mailto:joe.whitefield@mtsu.edu).

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A close-up photograph of two hands holding white puzzle pieces against a dark background. The puzzle pieces are interlocking, and the hands are positioned as if they are about to fit a piece into place. The lighting is soft, highlighting the texture of the skin and the edges of the puzzle pieces.

# Does **PDC** Belong in **Facilities Management**





By Alan Dessoiff

**W**hether planning, design, and construction of buildings should be part of facilities management, with its traditional operations and maintenance functions, or separated from it, has been a divisive question on many campuses for a long time. Now, although it isn't happening everywhere, facilities managers at a number of institutions, public and private, large and small, see a growing impetus to combine the two under the oversight of a single senior administrative officer. The consensus is that that is how facilities management works best.

While separation of the functions sometimes works well, it also can cause frictions between the different departments and personnel responsible for undertaking them, leading to expensive inefficiencies and bruised relationships. Accordingly, facilities managers are hailing initiatives to bring them together under a single leader, usually but not always at the vice presidential level, with responsibility to make sure they collaborate in the best interests of their institution.

Still, the issue is "fraught with controversy," says **Harvey H. Kaiser**, a longtime APPA member, formerly an administrator at Syracuse University and now president of his own consulting firm that works with schools worldwide on facilities management and other issues. Kaiser also co-authored the APPA book, *Strategic Capital Development: The New Model for Campus Investment*.

To some people, he says, "It's a no-brainer. They belong in the same organizational structure, at equal levels, reporting to the same person. But others are defensive about design and construction. They feel it should report separately to someone else and even be in separate buildings, if possible."

Then again, if the functions are separate, Kaiser says, there is a risk that "you'll find the designers going off without any understanding of the campus infrastructure and ignorant of many of the operational aspects—whether what they are doing is feasible, appropriate, or disruptive of the campus."

"I'm sure you can be effectively organized either way, but my opinion is that the best model is a combined operation of capital projects and facilities management," asserts **Mary S. Vosevich**, director of physical plant at the University of New Mexico and APPA's President as of mid-July. "That way, you are working toward the same goals and can find the right balance between the different issues that plague educational facilities, like deferred maintenance and building renewal." At UNM, Vosevich's physical plant department, the office of capital projects, and the department of planning and campus development are parts of the division of institutional support services, headed by an associate vice president.

"It works best if you have somebody looking at the entire forest, not just some of the trees. I'm a big believer in the chief facilities officer," declares APPA Fellow **William A. Daigneau**, who holds that position at the University of Texas MD Anderson Cancer Center where, he says, "everyone who has some hand in the creation or management of space on our campus sits around my table. I have cradle-to-grave responsibility."

"I strongly support an organizational structure that combines the main-

ment?



[To some people] "it's a no-brainer. They belong in the same organizational structure, at equal levels, reporting to the same person. But others are more defensive about design and construction."

—Harvey Kaiser



tenance, planning, design, and construction staff under one leader," agrees **Joyce Topshe**, associate vice president for facilities at Wesleyan (Conn.) University, who has worked in both types of organizations at three institutions. She says three staff reorganizations since she joined Wesleyan have resulted in a combined team with benefits that now include better communication between maintenance and construction management staffs and efficiencies in administrative support, budget management, software systems, staffing, equipment, office facilities, vehicles and training programs, as well as "cohesive strategic planning, priority setting, and management of the team."

**James O. Roberts**, vice president for business, treasurer, and corporate secretary at Campbell University, says the design and construction component has been part of facilities management at all four institutions where he has worked. "My experience has always been that the overall institution wins. You have the people at the table who can cover the issues to allow the design and construction process to seamlessly integrate into the university's systems and work to meet the needs of the building's occupants," he explains.

"I like to believe that the inclusion of the planning, design, and construction group in the same department as plant operations is a very good thing," states **Steven C. Thweatt**, associate vice president for planning, design, and construction at Emory University, where he and an associate vice president of facilities management serve under the Office of the Vice President.

How good it can be is being demonstrated now at Emory, where construction is underway on a new freshman residence hall and a research building. In a key move, front-line facilities management personnel who will have to operate and maintain the buildings later regularly walk through the construction sites with construction managers and suggest changes that will be worthwhile for the university in the years ahead.



"It works best if you have somebody looking at the entire forest, not just some of the trees. I'm a big believer in the chief facilities officer."

—Bill Daigneau

"I'm sure you can be effective organized either way, but my opinion is that the best model is a combined operation of capital projects and facilities management."

—Mary Vosrvich



"We have retooled the way we involve the trade shops so they can see the construction while it's ongoing, not at the end," says

Thweatt. "When you see something for the first time at the end, when it's all spit-and-polish new, and the keys are given to you, there is a temptation to criticize things you might not like so much. But if you can walk around while it is being built and say, 'Hey, if you did it this way instead of that way, it would be better,' we can make those changes right on the spot."

"We have changed many things that just weren't noticed in the plans," he continues, like moving a filter to improve access to it that maintenance personnel might need later. "The construction people don't pay attention to stuff like that in the beginning because they never have to come back and do maintenance, and your design teams typically are not responsive because they never have maintained anything. So while something looks great on paper, when we put it in place we can see issues developing and know we need to make corrections."

"At that point, it's relatively inexpensive to do those things. We make the changes that are affordable and make sense functionally, and there is huge appreciation on both sides when that happens," Thweatt says. "We expect that when these projects are completed, we will have very few people walking around and criticizing things because everybody will feel some sense of ownership in the way they were completed."

Similarly, in advance of some of its big construction projects, MD Anderson puts some trade personnel in a class to train them in how a project is managed, then involves them in physically inspecting construction while it is underway. "You can't just send inexperienced people out there to take a look if they don't know how project management works," Daigneau explains, "but if they go through



this class, they are like qualified construction inspectors by the time they hit a project."

Although they might not do it the way Emory and MD Anderson do, facilities managers at other institutions agree that it makes sense for several reasons to combine all the functions of facilities management. "They're just more effective that way," says Vosevich of UNM. "As much as we would like to believe we have similar goals even if we are separated, I don't think that's the case. When organizations are not combined, there is more work to do. You have to spend more time making your case for things."

"To me, it comes down to alignment, and whether everybody is after the same thing. Organizational structure can enable the alignment that is necessary," maintains **Donald J. Guckert**, associate vice president and director of facilities management at the University of Iowa. He oversees more than 600 employees who coordinate campus master planning, manage design and construction, maintain and clean buildings and grounds, and provide utilities and energy management. An APPA Fellow, Guckert also is dean of the PDC track at the APPA Institute for Facilities Management.

Guckert and other administrators cite two key issues that often stand in the way of bringing the major components of facilities management together and improving collaboration between the personnel who manage them.

One is cost of ownership of a new building. "There is good reason for difficulty in a complete and total merger of these two units. Their ultimate goals are different," says Thweatt. "For the most part, project managers don't care that much about maintenance, and the maintenance people don't care that much about what a building looks like. They don't ignore it, but it's not their primary concern."

Adds Vosevich: "The capital projects folks who have a building for maybe a

**"I strongly support an organizational structure that combines the maintenance, planning, design, and construction staff under one leader."**

*—Joyce Topshe*



couple of years don't have the ownership mentality of the facilities management side, which will have it for the next 50 to 100 years." She says that "from the twinkle-in-the-eye" of a new project, her department is involved in its design, but "there still is something lacking in that relationship. It's more efficient when it falls under one umbrella."

Guckert suggests that the primary interest of the academic department that might occupy a new building isn't necessarily saving money in its construction and maintenance. "They want image. They don't want better mechanical systems in the basement and other things that are less attractive," he says. "If it's a question of putting your money into an additional classroom or lab, or increasing the energy efficiency of the building, the dean is going to want the classroom or laboratory, and if you have a project management staff outside the operational staff, they're going to be motivated to satisfy the dean."

On the other hand, if the two sides are more closely aligned, "they will take an institutional view and make good, solid institutional decisions," says Guckert, like putting money into the mechanical systems to save money in operating costs over the life of a building. But he acknowledges that some managers "don't see the value of putting money into building systems versus having nicer rooms for the students. These are trade-offs, which make it difficult. If you decide to do one thing, you can't do the other."

#### **A CULTURAL DIVIDE**

There also is a cultural issue that can develop, Guckert says, when "you have architects and engineers with degrees and maintenance folks who usually are blue collar. That creates a natural divide, and it takes a lot of effort to merge those cultures."

Kaiser calls it a "personality" issue. Emphasizing that

**"My experience has always been that the overall institution wins. You have the people at the table who can cover issues to allow the design and construction process to seamlessly integrate into the university's systems and work to meet the needs of the building's occupants."**

*—Jim Roberts*



**"I like to believe that the inclusion of the planning, design, and construction group in the same department as plant operations is a good thing."**

*—Steve Thweatt*



"To me, it comes down to alignment, and whether everybody is after the same thing. Organizational structure can enable the alignment that is necessary."

—Don Guckert



"I'm being polite about it," he says it can develop when senior design and construction managers involved in a project "think of the maintenance people as a bunch of oil-can people without an 8<sup>th</sup> grade education, who can't be in the room if you're talking serious stuff." Designers, in particular, take an "elitist" approach, he says. "They'll get it built, turn it over to the maintenance people, and that's the last they'll ever know or care

about it," says Kaiser. "I've heard people say that the planning and design side of things is a lot more glamorous than what we do on the maintenance side," says Vosevich.

"The 'us and them' or 'those

other people' mode is an easy trap to fall into. It's like *Upstairs, Downstairs*," says Thweatt, referring to the popular former British television series about an upscale English family and their servants.

Divisive attitudes "will continue to fester" unless senior officers responsible for different functions make clear that "some of these games that people play will not be tolerated. Whoever these people report to should be intolerant of any lack of teamwork," says Daigneau.

The cultural divide can be addressed by "forcing people to talk to each other," says Kaiser. "On a regular basis, they should meet face-to-face in a room with their senior reporting persons and exchange what they have to say on progress and problems. It's counter-productive to have these two areas reporting to different senior officers and not talking to each other." Major research universities largely "have sorted this out," Kaiser says, understanding that "the two departments function at an equal level, under a senior officer, and meet regularly to exchange information."

It's happening at smaller, liberal arts institutions as well. At Wesleyan, decision-making "is much more of a team effort" than it was when she arrived, Topshe says. She describes how a group representing both maintenance and construction staffs meets annually to prioritize an \$8 million budget for major campus maintenance projects. "Everyone in the group has an opportunity to speak on behalf of their priorities," and a scoring system is used to determine the order of priorities, Topshe reports.

The physical proximity of departments to each other also helps. Relationships improved at UNM when the capital projects office moved into the physical plant building, says Vosevich. "Now, our folks can walk back-and-forth across the hall and collaborate on projects. It simplifies the interaction. It's not that there were sour relationships before, just different agendas. When you start working in the same building, you get to know each other better."

"If you are forced to live in the same house, the sibling rivalry is more manageable. It's not perfect, but there is a lot less friction," concludes Thweatt. ☐

Alan Dessoiff is a freelance writer and editor based in Bethesda, MD, and a longtime contributor to *Facilities Manager*. He can be reached at [adedit@verizon.net](mailto:adedit@verizon.net).

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Missouri State University is an urban campus in Springfield covering 235 acres, with 62 buildings comprising some 5.5 million square feet. System wide enrollment in 2011 was 22,866, student-to-faculty ratio is approximately 19:1, and includes more than 1300 students from other countries. Maintaining a campus of this size falls upon Patrick Zacha, Assistant Director of Facilities Management for Maintenance and his staff of seventy-five. Included among the many responsibilities is that of a 5500 ton capacity chilled water loop throughout campus served by multiple chiller locations. Ben Boslaugh, Utilities Manager, is tasked with keeping the diverse customers comfortable in the sometimes hot and humid climate of southwest Missouri.



In 2006 a study of the chilled water loop showed the absence of any air elimination or dirt separation equipment. The water being circulated showed to be the consistency of molasses and included a mixture of clay, microbiological particles, and outdated glycol. Thermal conductivity was poor resulting in inefficient distribution. At a CAPPa conference in the fall of 2007, Zacha and Boslaugh were exposed to the Spirovent® high efficiency separators manufactured by Spirotherm, Inc. in Glendale Heights, IL. Initially skeptical, they wanted to give it some thought. Seeing it again the following spring at the MoAPPA conference, they invited Rick Summers of Summers Associates from Olathe, Kansas to stop by campus and have a look at their system. Summers is the local representative for Spirotherm and had already established a solid reputation on campus.

The first Spirovent separator was installed later that year in the Cherry Street plant and had an immediate impact. The chiller evaporator tubes, which had previously needed to be cleaned three times a year, stayed clean for 18 months and beyond. Work orders for venting and gurgling noises in the pipes have all but been eliminated. Since that initial installation, twenty-five more Spirovents have been installed with four more in the shop waiting to be added. Several more buildings

have been identified and will be included in future maintenance projects. Zacha stated "prior association with Rick Summers, checking references with other schools, and relationships established with the factory have made this very worthwhile for MSU."

Temple Hall used to require 1200 GPM at a 5°F ΔT and since the addition of the Spirovent and pressure independent valves it now requires 675 GPM and achieves a 14°F ΔT on a day when the outside temperature is 98°F. Pummill Hall has 10" rated coils producing 14°F to 16°F ΔT, with all of these benefits resulting in less pumps running. Boslaugh adds that "better quality water has resulted in improved heat transfer."



*Spirovent Air / Dirt Separator  
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Bob Eckels, CAPPa President and Director of Facilities Management at Missouri State states: "The installation of a Chilled Water Loop at Missouri State University has transformed the delivery of cooling to our buildings. The introduction of Spirotherm dirt and air separators into this system has greatly enhanced the heat transfer which in turn is creating more energy savings through reduced run time of our chillers. We are very pleased with the Spirotherm product."

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# Making Room for Planners in





By Victoria C. Drummond, AICP, LEED AP

**N**ot long ago universities, colleges, and schools identified the management of facilities as the Physical Plant Office. Albeit, the services provided by the physical plant office included complex and highly technical functions, they were mainly focused on keeping building systems operating and the campus looking good. As important as these activities are to an institution's continuance, the physical plant name was prejudged. Even so, the title was practical and it mirrored the industry's leading professional development organization, known at one time as the Association of Physical Plant Administrators of Universities and Colleges (APPA).

#### PHYSICAL PLANT EVOLUTION

In 1991, APPA underwent a significant re-branding effort and although the organization retained the recognizable "APPA," it redefined its focus as *The Association of Higher Education Facilities Officers*. Recently (2007), APPA more completely integrated its mission with the use of *Leadership in Educational Facilities* as a new tagline, and retaining only "APPA" as its official name. Over the years, APPA's professional development of its membership broadened to include educational programs for facilities professions not within physical plant operations previously. Following the rebranding trend, institutions could organize its campus functions under a broader services model.

In the literal sense, an institution's campus is the physical plant; however, renaming the unit performing physical plant operations and services as "facilities management" or "facilities services" dispelled perceptions and operational limitations. It also opened the door to service expansion and specialization in ways not previously considered because as perceptions changed, so did expectations.

Organizing as university services made it possible to channel budget and staff into specifically focused units such as Facilities Services (FS) and Facilities Planning, Design and Construction (FPDC). While Facilities Services could focus on campus operations and maintenance; the FPDC unit would address facilities planning, architectural services, and project management. These two well-defined service operations could target-manage the monetary and intrinsic value of the spaces in and between buildings. It also allowed for service expansion, such as including space management.

#### FACILITIES SERVICES PROVIDING SPACE MANAGEMENT

The significance of whether institutions describe their services office as the physical plant or something else became noteworthy as I searched university websites to find which department conducted space management functions.

In early spring 2011, I used the APPAinfo listserv tool and petitioned the APPA members to respond to a two-question voluntary survey (see sidebar). As is often the case when asking open-ended survey questions, the responses revealed an unexpected connection. Instead of just discovering whether institutions have a specific department responsible for space management duties, the responses also presented a correlation between having a university planner (also called campus planner or facilities planner) and the use of facilities rather than physical plant in the office title.



The following two-question survey was delivered to APPA member institutions via the APPAinfo discussion list, requesting voluntary input regarding their space management operations:

1. Do you have a planning team in the Facilities Services, Facilities Management, or Facilities Planning, Design & Construction Department (something similar) that manages the facilities inventory database, conducts space studies and utilization reports, is the clearinghouse for space requests, and evaluates the condition of facilities to inform capital planning as part of their job responsibilities?
2. Or are these functions handled by a separate department devoted exclusively to Space Management, Capital Planning, and Real Estate? If so, what is the name of the department and who does it report to: VP Facilities Operations, VP Administration and Finance, Provost's Office, or something else?

### Conclusions: 2011 Space Management Survey – APPAinfo List Respondents:

1. Most respondent institutions do not use "Physical Plant" in the department title that provides space management services; and most use "Facilities" as part of their department title.
2. Most respondent institutions situate space management services within the Facilities Department; and the Facilities Department is within Administration and Finance.
3. More than half of respondent institutions' departments that conduct space management services include the word "Planning" in their department title.
4. Most respondent institutions' Facilities Departments are conducting a full range of space management functions including space inventory, utilization, management, and planning.
5. Many respondent institutions' Facilities Departments have a specialized planning position(s) providing space management services.
6. Half of the respondent institutions identified using a specific committee to review/advise/and make recommendations regarding space allocation decisions; and these committees often included the provost.
7. A majority of respondent institutions (that provided a response to the decision-making process), indicated the final decision regarding space allocations was made by the president/chancellor, via a recommendation from an advisory committee.

### SURVEY RESULTS

It is a fact that some universities and colleges have replaced the office name of *physical plant* with *facilities services* or *facilities management*; however, it is more intriguing that departments referencing "facilities" have a greater occurrence of also having a planner on staff. Approximately 83 percent of the survey respondents that indicated they have space inventory or space management responsibilities also had *facilities* as part of their department title. Of those, 60 percent also include the word *planning* in their department or office title.

A majority of respondents that provided space management also indicated the service was within the *Facilities Services* or *Facilities Management* department; and more than 50 percent of those indicated the responsibility was associated with a planner position. Many of the respondent institutions that offered their process for making space management decisions indicated they do so with a designated committee that includes the Provost; and that the space inventory data are managed in *facilities services* or similarly titled department.

These percentages are based on respondent input, and although all respondent input was used, the sample size was small compared to the membership queried. In the interest of balancing assumptions derived from these conclusions, I also used an Internet search engine to cull a reference list. The resulting list of institutions that in the past or currently refer to a department as the physical plant was lengthy; therefore, I randomly selected a number of listings equal to the number of APPA respondents to the survey.

The Internet results showed that some private and public colleges and universities continue to use physical plant as an office or department; none of these randomly selected institutions using physical plant as a department had a university planner or identified space management in their physical plant operations. Interestingly, some used both physical plant and facilities management, which may indicate that for some institutions the physical plant reference hasn't been replaced and possibly the buildings operations remained in the physical plant office and facilities services encompassed all other services.

These survey results relate to a recent article by William A. Daigneau in *Facilities Manager*, "Planning, Design, and Construction in the BOK" (September/October 2011), in which the updated digital edition of APPA's Body of Knowledge (BOK) was summarized. The article refers to the completed APPA BOK, which provides overview impressions of emerging trends and responsibilities for facilities management. The APPA BOK, other literature, and this simple survey suggests that the task of managing space on campus is being offered within departments that include facilities as part of the office title.

### CHAMPION OF SPACE MANAGEMENT

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*cont. on p.31*





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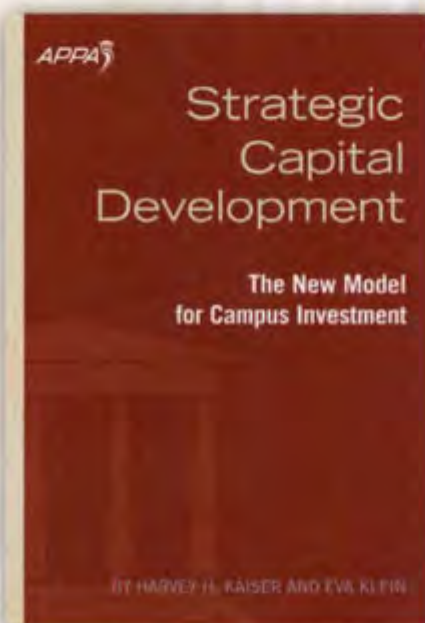
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# Strategic Capital Development: The New Model for Campus Investment

By Harvey H. Kaiser and Eva Klein



**Member price: \$70**

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ISBN 1-890956-55-4

Published April, 2010



Harvey H. Kaiser



Eva Klein

## **APPA's landmark book, Strategic Capital Development: The New Model for Campus Investment,**

presents a bold approach for planning capital investments from a strategic and long-range perspective. The authors combine their extensive higher education experience, and their specific work of the last decade to improve capital planning and decision-making, to make a case for a new model in which they seek to balance idealism with pragmatism. They define stewardship principles necessary to create and sustain a physical plant that is responsive to institutional strategies and functions; remains attractive to faculty and students; and optimizes available resources.

## **The book is organized into three parts:**

**Part 1**—provides a summary of how capital planning and funding practices in higher education have evolved from the late 1940s to the present—including case studies of relatively more effective planning models.

**Part 2**—makes the authors' case for why change is needed, based on examination of environment/context factors, and articulates six key principles for 21st century facilities stewardship—the foundation for the model.

**Part 3**—provides the proposed model, based on the observations and conclusions in Parts 1 and 2. Following the model overview, Part 3 provides practical, hands-on, how-to details of methodologies and data requirements, along with illustrations of many of these elements.



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assigning square footage—it deals with a lot of sensitive perceptions. Most frequently it is perceived that there isn't enough space, when in reality, what the institution lacks is suitable space. Determining suitability requires assessment metrics such as quantity, quality, functionality, accessibility, and operational cost effectiveness<sup>2</sup>. Maintaining space to meet these metrics requires invested renewal and scheduled modernization to prevent the low utilization that often occurs when spaces become deficient.

Determining space suitability is part of effective space management. As a valuable asset, managing space requires comprehensive and integrated data that are continuously and accurately updated and organized space by one of its major functions. Space management's major functions can be grouped as:

1. Space Administration (policy; allocation procedures)
2. Space Inventory (suitability—count, category, condition, configuration, and adjacencies; spatial representation; special places; annual audit)
3. Space Planning (standards; ratios and trends; pedagogy; capital renewal)
4. Space Utilization (metrics; optimize; best use; efficiencies)

Managing space needs to be championed. These functions can be dispersed to various committees, departments, and individuals; but collectively—the constant participant within all four functions should be a university or campus planner. As staff, the planner will understand the constraints and vision for development of the campus particularity through implementing (or developing) a campus master plan. A campus planner involved in space management can infuse the well-vetted master planning principles and strategic vision into space management. At the very least, a campus planner on staff can effectively relate long-term, land-use, and urban development principles, community involvement techniques, and trends that the institution may incorporate in comprehensive approaches to managing space.

Some of the best resources on space management are reports and publications offered through APPA, such as the previously mentioned APPA BOK: Body of Knowledge. It provides general philosophies and latest buzzwords on managing space, such as designing space that is flexible and continually adaptable in order to accommodate the changing expectations of students and pedagogy demands<sup>3</sup>. APPA, and other resources, provide information on the complexities, peer-tested outcomes, software, and trends that support the view that effectively managing institutional space begins with managing its major functions. And it is important to note that the 2012 APPA Thought Leaders symposium focused entirely on space management and utilization. That report will be published in September and excerpted in *Facilities Manager*.

The Society for College and University Planning (SCUP) is also a good resource, particularly its premier journal, *Planning for Higher Education*. A SCUP featured approach for an inclusive

space management program is to consider special places—those facilities and spaces that are interwoven into the education experience such as museums, libraries, performing arts and recreation centers, and residence halls. The entire campus is sorted into four core space groups: cultural, institutional, student, and outdoor<sup>4</sup>, in order to capture all student-related spaces and investigate the potential to expand teaching or classroom space without constructing new buildings.

In addition to these professional organizations, experienced planners and consultants also contribute resources, often in the form of feasibility studies. Although these studies propose recommendations specific to one university, they offer new ideas and terminology; and often a strategic place to begin a cultural change is with terminology. An interesting set of terms in one study placed the emphasis of the space assignment on the action of scheduling and less on the controlling entity of the space by using “scheduled pool classrooms” and “scheduled department classrooms”<sup>5</sup>. These terms help defuse the issue of space ownership by emphasizing the activity of scheduling courses into spaces.

#### A PLANNER'S ROLE IN FACILITIES MANAGEMENT

Historically, universities and colleges have had a university architect position, and often that position was also involved in managing space. The advent of a campus planner is a newer concept, but an increasing trend, especially evident in facilities services organized with planning in the department title. Although there are numerous types of planners, a land-use planner has a skill set and experiences that are most transferable to a university campus. A land-use planner focuses on long-range outcomes and incorporates environmental or sustainability principles to urban planning. Universities and colleges are microcosms of their host communities, and are usually significant economic engines of commerce, public transit, and employment providing local leadership.

Land-use planners with experience working for jurisdictional authorities such as city or county governments have knowledge of critical observation and collaboration, data collection and analysis, and the preparation of objective recommendations to achieve equitable and thoughtfully planned transformations of all types of spaces. Often land-use planners mediate opposing entities in order to keep all stakeholders at the table, participating in interest-based solutions. An experienced land-use planner is likely to be familiar with public participation techniques, including mediation or conflict resolution methods and practice in connecting diverse community factions towards participative decisions. These valuable skills are transferable to the university or college arena.

There are skilled space planners who specialize in designing and analyzing spaces; however, a land-use planner's vision may be more long-range offering proposed solutions that may mitigate multiple issues. An advantage of having a land-use




planner in facilities services is the opportunity to weave into the campus fabric land use principles and movements such as New Urbanization, walkable communities, Green Communities, Smart Growth, growth management, and Complete Streets to campus planning; using a toolbox equipped with space use concepts such as densification, proportional open space, brownfield development, historic and cultural preservation, and wayfinding.

While these principles and concepts are usually associated with master planning, they can be substantively scaled to influence space management and produce surprising outcomes. Collectively, these principles and concepts work in concert to achieve placemaking, and being a desired place is fundamental to recruitment and retention goals.

## SUMMARY

The intent of the two-question survey was to find out whether space management was being performed in facilities operations of institutions of higher education. The survey results revealed that institutions that have organized their service units as facilities services/facilities management also appear to be responsible for more planning functions and often included a professional planner position.

It may be that universities and colleges are including land-use planners in facilities service operations in search of new dimensions to effective comprehensive space management—but it begins with making space for a planner. 

## ENDNOTES

- 1 <http://www.appa.org/aboutUs/history.cfm>
- 2 Daigneau, William A., editor. *Planning and Managing the Campus Facilities Portfolio*, APPA and NACUBO, 2003.
- 3 Bilotta, Joe. APPA BOK, Part IV-A: Facilities Planning: *Space Planning and Administration*.
- 4 Rickes, Persis, editor. *Special Planning for Special Spaces: Selected articles from Planning for Higher Education*, SCUP, 1997.
- 5 Ira Fink and Associates, Inc., University Planning Consultants. *The Ohio State University, Instructional Space Feasibility Study, Final Report*, April 2009. <http://registrat.osu.edu/scheduling/spacestudyfinalreport.pdf>

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# Creating a **SHARED CONTEXT**

## for Value-Based Collaboration & Decision Making

BY DONALD J. GUCKERT, APPA FELLOW,  
AND JERI RIPLEY KING

**H**ow do you succinctly communicate the breadth, complexity, and forward-thinking approaches that are necessary for facilities management organizations to operate in today's complex and ever-changing environment? Recently, we were asked to do just that here at the University of Iowa Department of Facilities Management. The assignment was to develop the "physical asset management" portion of a short presentation that would be used to help external audiences understand institutional services.

We were tempted to describe our menu of services and offer overviews of our custodial care, maintenance services, grounds care, utilities production and distribution, energy management, space management, project management, master planning, and other areas.

Depending on the audience, we might add internal support services such as communications, accounting, information technology, human resources, safety, and the other "life support services" critical to the effective operation of a facilities management organization.

The natural tendency in our business, as with most businesses, is to describe our work in a narrow context often bounded by the organization charts that bring structure and order to our worlds. However, this approach would not really capture the



true value that we bring to the institution and it would not reflect the progress that we had made in recent years.

#### ON THE ROAD TO BEST PRACTICES

Like most facilities organizations in the early 2000s, the University of Iowa facilities department had attained an effective level of competency. Each unit was working on the continuous improvement of its service delivery components and honing existing practices. However, we had started to realize that innovation was only going to happen if we could increase our efforts to work across the organizational chart in ways that would enhance each other's performance.

Our long-range planning effort culminated in 2004 with the launching of a series of strategic initiatives that would lead us to break through our business-as-usual approach and adopt, adapt, or create best practices. Each of the ambitious number of goals would succeed or fail based on successful interdisciplinary collaboration. By focusing on the significant steps to the end-results in our annual expectations for the department as a whole, we began to leverage talents, knowledge and resources in ways that softened the boundary lines that historically isolated the services in our business.

Every journey needs a simple aligning element, a North Star, to improve decision-making. In those early years, we identified with "facilities stewardship" as our coordinating beacon. Later we replaced that with the "total cost of ownership" because it offered a practical way to align us to our facilities stewardship responsibilities. The total cost of ownership facilitated greater interdisciplinary collaboration by encouraging questions, stimulating a broader view and providing a decision-making framework from which to work.

Now, with this framework in place, we were given the opportunity to put it all together into one short presentation that would describe physical asset management at our institution.

#### MEET PAM, OUR MODEL

What we needed was a way to organize the activities we wanted to highlight in this presentation. We had identified more than 30 different activities or functions that we perform, such as commissioning, space data management, our energy control center, construction management, capital renewal, chilled water production, etc. It became quickly apparent that we needed to organize these efforts into broader overarching categories. We needed to provide a way to translate what we are doing to why it matters. Rather than leap into a discussion of the services we provide (i.e., custodial or grounds care, project manager services, or utilities distribution), we instead opted to key on the value provided by the service. We gathered these value propositions into a model of Physical Asset Management (PAM) to show at-a-glance how they fit together. (See Figure 1 on page 36.)

We selected terms for the value propositions that would resonate with a general audience. For example, Optimal Building

Operation reflects our value added efforts to clean, maintain, and operate buildings in an optimal manner, both in terms of financial efficiency and functionality. Asset Life Extension moved us away from centering conversations on what has not been done (deferred maintenance) to what can be done (more life out of the asset through reinvestment). Interestingly, Managed Risks & Regulations is allowing us to frame our recommendations for deferred maintenance investments, utilities plant upgrades and redundancies, fire and life safety inspection and testing, and operational emergency preparedness in terms of business continuity and managing the risk of unplanned failure.

This explanation of our value to the institution moves us away from merely stating we manage projects, maintain buildings, and produce utilities; although these are important aspects of our business, they sound more like costs than investments. It is no coincidence that we used financial and business terms in describing our role. Who does not want smart decisions supporting an investment? Can you argue with making the right subsequent investment to extend the life of a producing asset? And, how about optimizing that asset to accommodate better production or more capacity?

PAM is helping us describe our work in different ways than we once did. Instead of drilling into an explanation of our basic services, we are focusing on our value propositions:

- (1) we optimize and configure the physical asset (space) in a financially and functionally effective manner,
- (2) we manage processes to ensure high-value investments in our physical assets,
- (3) we minimize the energy and utilities demands of the asset,
- (4) we optimize, in terms of both function and cost, the operation of the physical asset,
- (5) we make the smart and timely decisions that extend the life of the asset, and
- (6) we manage the institutional risks and regulatory compliance associated with this complex and valued asset.

Of the six major topics identified in our model, perhaps the most surprising and revealing to us was the increasing importance of our risk and regulatory responsibilities. Our day-to-day work requires that we ensure the continuity of our business operations. We must make sure that our decisions truly reflect the institution's tolerance or aversion to risk. By including key administrators in decisions involving the institutional risks associated with deferred maintenance, lack of system redundancies, limited backup power, emerging regulations, and outdated infrastructure, we are finding there is more buy-in for the investments that, in many cases, we felt all along were important.

PAM also makes it clear that a cross-functional and interdisciplinary team effort is required to execute each of these value propositions successfully. The model made it possible for us to see how integrated the various aspects of our business have become. For example, as we exercise our responsibility under the





Figure 1. Physical Asset Management (PAM) Model

Americans with Disability Act (ADA), we are dependent on our efforts in inventorying and assigning space, configuring space, designing facilities, caring and maintaining systems and pathways, and renewing non-compliant space. In pursuing energy efficiency, we are interdependent on our other organizational efforts in making project investments, renewing antiquated systems with newer more efficient ones, and maintaining the optimal level of system performance.

We wanted the model to provide a platform from which we could illustrate the complexities and demonstrate the forward-thinking approaches that we employ to manage facilities in the ever-changing and challenging campus environment. We sought to move the view of our value to the institution away from thinking about each of the services independently to the recognition that integration and collaboration are the keys to demonstrating true value. Like listening to a beautiful symphony, we wanted to focus on the orchestra, not the individual instruments or musicians.

#### PAM IN ACTION

Using High-Value Project Investments as an example, we can see the high dependency on and impact upon the other five value propositions in the Physical Asset Management (PAM) model. These six components need to work in harmony to align with the total cost of ownership and yield sound, institutional decision making. In addition, if we view our worth to the institution in terms of ensuring that our project investments yield high value results, PAM can lead us to think differently about design and construction management.

Design and construction management typically focuses on

project delivery processes and decision making that balance cost, schedule, and quality. But what good is lower cost if it yields higher future costs and liability? Is meeting the schedule better than getting our long-term buildings to function the way we need them? Is highest quality or best value for the money our ultimate goal? Often, higher cost, longer schedules, and quality that is more modest yield higher value to the institution. The key is in balancing the host of often competing needs and reaching an outcome that works for the institution as a whole.

The project manager who guides high-value project investments is one who works to expand the project decision-making framework to include an analysis rooted in the other value propositions:

- Optimal Space Utilization
- Energy Efficient Operation
- Optimal Building Operation
- Asset Life Extension
- Managed Risks & Regulations

We believe that stating these five value propositions as project goals or project owner requirements is an effective way to orient and align the design team to embrace the contributions of those who can help the design team pursue these objectives. For each of these objectives, the project manager needs to seek out partners who will help them make the right—right in the sense of the broadest context practical—decisions for the campus. Certainly not all decisions will satisfy all participants. What project managers need to ensure is a measured consideration of the institutional consequences of a particular decision. They must seek the “inputs” needed for a fully informed decision, and understand how that decision affects the other value propositions.

For example, the input, guidance and directions provided by our maintenance service providers are of critical importance to the design project manager in ensuring a “high-value project investment.” Without this input, the project designer may be designing a facility that will demand unnecessary, additional annual costs or result in problematic system functioning for the life of the building, and thus diminish the value of the investment. In turn, the design project manager needs to make sure the project team delivers a serviceable facility to ensure they do not diminish the goal of optimal building operation.

The birth of a new facility offers by far the most, if not the only, chance to make the right decisions that will forever influence the institution’s financial, operational, functional, risk-management, strategic, and stewardship obligations. When pausing to consider the weight of this responsibility, it appears to be too much to place on the shoulders of the relatively few who make up most project design teams.

Project managers should be organizationally and institutionally supported in managing major decisions that could put business operations at risk (such as eliminating a redundant chiller), or elevate future financial obligations (such as compromising on



energy efficiency). In higher education, if we are going to get it right the first time, it is going to take the involvement of others, and often many, to make the more impactful decisions.


A measure of our success with our increased collaboration and interdependency is that less and less we are finding ourselves questioning the outcomes of completed projects. When we do, we can often trace it to a missed opportunity to engage others in helping to make a project decision that ultimately had institutional consequences.

The more successful projects are led by project managers who effectively utilize and coordinate the collaboration of all of the resources and talents within and external to our facilities organizations with the design professionals to produce high project investment decisions.

#### PUTTING IT ALL TOGETHER

The integration of effort represented by the cluster of value propositions in our physical asset management model creates an appreciation for the complexity of the issues and challenges we face in managing the institution's physical assets. Unlike earlier times, when communication, let alone collaboration, with others outside a particular service unit used to be the all too rare occurrence, we now recognize that we want partners at

our side, in every aspect of our business, working through the critical issues and decisions that provide value to our institution.

The interdependency we have with one another in our organization and others on the campus is a sign of a forward-thinking team that is grappling with major issues that affect the future viability of our institution. By taking a broader view of our responsibilities and opportunities, we have created a shared context around the value we bring to the institution. 

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# Why Standards

*By Michael A. Anthony, P.E., Derry Caleb, and Stanley G. Mitchell*

**When standards are absent, we soon notice. We care when products turn out to be of poor quality, are unreliable, or dangerous because of counterfeiting. When we place phone calls seamlessly across latitudes and time zones, it is because the International Telecommunications Union (ITU), formed in 1865, established transnational communication protocols still in use today. When a computer can be powered at either 120V or 220V outlets at either of 60 or 50 hertz, it is because the International Electrotechnical Commission (IEC), founded in 1906, established agreement among manufacturers of power supplies. More recently, in June 2011, the International Standards Organization (ISO) produced ISO 50001: Energy Management Systems to establish a framework that will likely influence up to 60 percent of the world's energy use<sup>1</sup>.**



# Matter





## One Country, One Vote

Countries where APPA member institutions can inform the vote of national committees

**U.S.:** American National Standards Institute  
**Canada:** Canadian Standards Association  
**Mexico:** Dirección General de Normas  
**UK:** British Standards Institute  
**Germany:** Deutsches Institut für Normung  
**South Africa:** South African Bureau of Standards  
**Australia:** Standards Australia  
**New Zealand:** Standards New Zealand  
**The Netherlands:** Nederlands Normalisatie-instituut  
**Italy:** Ente Nazionale Italiano di Unificazione  
**France:** Association française de normalisation



Figure 1. IEC/ISO/ITU members are national committees. They cannot force nations to comply with their standards. Instead they work to create consensus around particular solutions and argue that participation is more cost effective than not participating. This process resembles decision making at multi-lateral institutions—such as the United Nations or the World Trade Organization. The goal is to produce standards that can serve as a focal point for industry coordination or lead to a bandwagon process among adopters that benefits all nations.

These three sister organizations (IEC, ISO, ITU) are essentially the “United Nations” of national standards developing organizations. They provide the platform for consensus for global technology development for country-specific committees such as the American National Standards Institute and the British Standards Institute (see Figure 1).

The Geneva-based organizations add value to all nations because stakeholders everywhere realize enormous economies of scale when standards are globally developed and deployed. When appropriate, IEC cooperates with ISO (International Organization for Standardization) or ITU (International Telecommunication Union) to ensure that international standards combine all relevant knowledge of experts working in related areas.

Standards developing organizations (SDOs) provide the following benefits for any country:

- SDOs provide a forum for collective decision making and an alternative to standardization through market competition or government regulation.
- SDOs identify promising technical and economic solutions and play an important role in promoting their adoption and diffusion.

- SDOs provide the technical means by which political trade agreements are put in place when divergent national or regional standards create technical barriers to trade.

Standards-writing has been called a “wild mix of politics and economics.” Involvement in the direction of their development requires significant investment in expertise and relationships over a long period of time. The innovation that occurs in every nation is notorious for unpredictable, piecemeal-continuous development that frustrates political agendas. It seems counter-intuitive that getting everyone to do the same thing on a global scale leads to innovation.

However, as Simcoe<sup>3</sup> identifies in his research on the effect of the Internet on standards development, SDOs solve wicked coordination problems “by providing a forum where interested parties can seek a broad consensus before endorsing a particular technology and promoting it as the industry standard.” By positioning their products in relation to a common standard, firms grow the total size of the market, and can focus their innovation efforts in areas where they have a comparative advantage.

Standards are always in-progress, living documents that, by necessity, do not develop in step with each other, much as we



would like them to. They are complex and interdependent, made even more complicated by gaps in local authority, overlapping jurisdictions, or both. They are a Rubik's Cube of core, referenced, and spin-off documents in which a single noun or verb can move hundreds of millions of dollars.

Some of the specific ways standards create value for the educational facilities industry:

- They level the playing field for building industry suppliers and service providers so that resources are available from multiple sources.
- They provide public safety benchmarks for front-line enforcement authorities.
- Bonding agencies that finance building projects can be assured that a facility will conform to life-cycle expectations and can deliver on the promised revenue stream.

The CEO of a diversified multi-national manufacturing company and the executive facilities officer both reckon with standards, but in rather different ways. The CEO has only one or two standards to follow—frequently a product standard. They seek to set the standard for competitive advantage; continually “gaming” the intellectual property space, guarding their innovations in order to recover their research and development costs and to generate profit.

The facilities officer inhabits a rather different world. He or she is bound to a highly networked industry with complex interdependencies and requirements for multi-dimensional consensus. He does not have a cadre of patent attorneys protecting intellectual property though he is protecting the largest public investment any state makes; typically with grim resources. Much of the large electrical, telecommunication and environmental equipment installed in his or her campus is, for example, supplied by multi-national corporations that are at the meetings in world capitals where standards are written.

With gathering pace, as Derry Caleb writes in Sidebar 1, complex equipment that is installed at education facilities is made from parts that originate in manufacturing centers in all corners of the earth. These parts may only meet each other at job sites on our campuses for the first time and they do not always speak the same language. As Stan Mitchell writes in Sidebar 2, significant progress has been made toward solving this and other problems with a new international facilities management standard.

#### THE U.S. PERSPECTIVE

All nations recognize that industry-developed standards are superior to those developed by a central government. All aim to catalyze technological breakthroughs to advance national priori-

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## Sidebar 1 The UK Perspective

Derry Caleb, Director of Estates, Surrey University

It is impossible for a director of estates/facilities or anyone in a delivery and operation role to operate without robust reliable standards that are relevant for today's infrastructure and general business. The role of an estate director includes the management of a vast range of activities from strategic planning, design of capital works, selection of plant and equipment and the operation of these activities and services. There is an expectation by my clients that when they enter buildings and use my services, everything is compliant and safe and that they will leave for home as well as they entered the premises that morning. The equipment used, the design of the buildings, the environmental performance, and the processes by which the business functions meets a certain range of standards.

The value of British and international standards is grossly underestimated. It reduces and in many cases removes from every design and planning activity the need to evaluate from first principles materials, quality, robustness, safety, and elements of design detail. It removes the cost of carrying out such evaluations and removes the risk associated with selection and operation of services. Modern buildings and services rely on the fact that some one has undertaken testing and evaluation in a holistic way delivery of compliant services, components, designs of plant equipment, and services of a range of activities that are a completely different skill set from that of a designer. Many design and build specifications and general contracts are only held together and fully reliant on standards to ensure the delivery is fit for purpose.

What is apparent to a manager is that standards are struggling to keep pace with the complex interactive nature of systems design and communications between FM software, metering systems, business management systems, and building management systems. This new world is best described by the need to review performance and link all manner of systems. Too often systems do not communicate together in areas where they should or the cost of producing interfaces is prohibitive. The globalization of manufacture, marketing, and supply chains means that cross-country standards are essential for the manufacturers, suppliers, users, and clients down the chain.

The use of standards as a barrier to protect companies IP or product has long passed and those that do not embrace the new methods of work and need from within the FM field for integration and communication will not survive in the long term. Suppliers operating closed systems cannot compete in the modern world whilst many have or are moving to more open systems. Recent experience in expanding and developing FM systems across a 200-building estate and multiple suppliers whilst trying to interface hundreds of meters to collect information on energy performance has been time consuming, frustrating, costly, annoying, and ongoing. The life expectancy of software and systems is an ongoing problem, and having sufficient technical staff who can work across multiple systems is challenging.

The FM business is reliant on robust, accurate, and timely information. The need to demonstrate performance is essential and therefore the interface between equipment monitoring, building performance, energy use, life-cycle performance, and staff performance is even more critical. The reliance on performance and quality and performance standards is essential.

ties. In the United States, standards developers such as NFPA, ICC, IEEE, ASME, and about 200 others inform the *single vote* the American National Standards Institute (ANSI) casts on behalf of the United States to the global standards-setting organizations in Geneva.

Recognizing that any industry will gravitate to the most cost-effective standardization structures, the U.S. federal government's National Technology Transfer and Advancement Act (NTTAA) was signed into law in 1995<sup>3</sup>. It is administered by the National Institute of Science and Technology (NIST) and reports to the Secretary of Commerce in the Executive Branch of the U.S. government. The NTTAA promotes the development of new standards by requiring that all federal agencies use privately developed standards before they try writing such standards themselves.

In an open memorandum originating from the Office of Science and Technology dated January 17, 2012, and directed to federal agencies with oversight of industries of strategic importance, stakeholders were reminded of the limits of the NTTAA:

*The vibrancy and effectiveness of the U.S. standards system in enabling innovation depend on continued private sector leadership and engagement. Most standards developed and used in U.S. markets are created with little or no government involvement...*

*... In limited policy areas, however, where a national priority has been identified in statute, regulation, or Administration policy, active engagement or a convening role by the Federal Government may be needed to accelerate standards development and implementation to help spur technological advances and broaden technology adoption.<sup>4</sup>*

In other words, if the U.S. government is not satisfied with the pace or the direction that privately developed consensus documents are taking, it may aggressively "convene" in an industry's open and consensus-driven standards setting process. An example of potential U.S. government intervention would include U.S. Senate bill S.1000, entitled the *Energy Savings and Industrial Competitiveness Act of 2011*. This bill would empower the Secretary of Energy to establish goals of zero-net-energy for new commercial and residential buildings. If S.1000 is signed into law, existing standards vetted through the open process and which the Secretary does not believe will meet federal goals or targets, would be rewritten by the Secretary's office. What's more, if the body responsible for developing the standards does not comply with the Secretary's request (both ASHRAE and the ASHRAE 90.1 standard are specifically referred to within the bill's language), then the Department of Energy would



be empowered to close the process by removing and replacing existing standard(s) with a modified code as established by the Secretary.

Regulatory policy shapes the structure and conduct of all industries and sets in motion major shifts in economic value. The codes and standards that assert regulatory policy hasten trade flows between industries and nations. In many respects, regulation reflects an explicit, formal contract between businesslike enterprises and the society that supports them.

Even in the absence of laws and regulations, informal agreements may call upon our industry to meet specific social responsibilities and to take the measured risks that are essential to innovation. Command of the regulatory processes of the federal government, as well as in the privately developed standards world governed by IEC/ISO/ITU, allows complex industries such as ours to manage risk aggregations and meet the evolving needs of our respective institutions.

#### FORWARD

APPA's Code Advocacy Task Force (CATF) looks for the highest developed stage of technical capability regarding products, processes, and services, based on the relevant consolidated findings of science, technology and experience. It assesses whether the applicable standards are feasible from an overall cost standpoint and within the agreed risk tolerance of the industry. In the U.S. most of these standards are developed by NFPA, ICC, ASHRAE, ASTM, ASME, ASCE, AWWA, and others. (A complete listing is available at the CATF Web page<sup>3</sup>.)

By engaging the committees that write these documents, the CATF manages a large component of the cost structure of our industry. Half-percent savings here; half percent savings there; five to ten times a year across a hundred documents year-after-year—that soon adds up. Averaged over ten years, CATF standards intervention activity has avoided cost on the order of \$100 million per year in the United States. We need to expand and accelerate this trend. Table 1 describes two methods for doing this. At the moment, the Code Advocacy Task Force is implementing Method 2.

Command of the regulatory processes of the federal government, as well as in the privately developed standards world governed by IEC/ISO/ITU, allows complex industries such as ours to manage risk aggregations and meet the evolving needs of our respective institutions.

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## **WHAT DO YOU NEED TO DO NEXT?**

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## **QUESTIONS?**

Feel free to contact the APPA Professional Development Staff at [education@appa.org](mailto:education@appa.org) any time with questions as you prepare to join us this September!



Senior campus facility officers inherit a long conversation about the degree to which the assets under their stewardship contribute to the primary, academic mission of their institutions. APPA's activism at the international tables where product standards and installation codes are written will provide our industry with the following:

- Members will have the most current information for code and standard education programs
- Reduction in facility management cost associated with penalties levied by enforcement agencies
- Suppliers to the education facilities industry will have a deeper understanding of the educational facilities customer: a chance to innovate more closely around those needs, tighter monitoring of demand and supply chain – all key ingredients in meeting their own financial goals.

The cost of education is a broadening discussion in all nations. Adding to the sensitivities that surround curriculum and faculty, the architecture and condition of campus facilities are cited as cost drivers because new recreation centers, student life complexes, and administration buildings are politically visible. Less visible, however, is the competition among all universities worldwide for research projects that can be conducted anywhere on earth.

The most surprising standard of all may not ever be written but may always lie in the public eye. APPA member institutions are engaged in policy initiatives that require them to confront the cost of value-delivery that is expensive relative to available resources. All levels of government are under pressure to use intergovernmental collaboration to spread the cost of managing educational facilities across wider tax bases; capitalizing economies of scale or economies of skill inherent in some services.

## Sidebar 2 The Global Perspective

*Stan Mitchell, Chairman ISO TC 267 Facilities Management Committee*

The establishment of a new ISO Technical Committee for Facilities Management has recently been announced, and ISO TC 267 will hold its inaugural meeting 21 to 23 November 2012 in Berlin, Germany.

Whilst the full remit of this committee is yet to be determined by the committee itself, the initial work items already communicated include the review of the first two European Standards BS EN 15521-1 'Facility Management - Terms and Definitions' and BS EN 15221-2 'Guidance on How to Prepare Facility Management Agreements.' These standards were developed by the collective efforts of 28 European countries in 2006. The Technical Committee responsible for their creation, CEN TC 348, has agreed that these should now be passed over to the new ISO Committee for further review and publishing as ISO standards.

Whilst at the time of writing the first meeting of this committee has yet to take place, already those countries who have indicated a willingness to participate (as opposed to observer status, of which the United States is one) makes interesting reading and includes Austria, Australia, Canada, China, Czech Republic, Denmark, Finland, France, Germany, India, Japan, Malaysia, Norway, Republic of Korea, Spain, Thailand, and UK.


Most would agree not just an interesting mix of those countries that have already made the commitment to participate but also an indicator regarding the growing awareness and understanding of Facilities Management as a strategic professional discipline as opposed to an outsourced service delivery mechanism as many would have you believe!

Table 1. Two Methods

Comparison of two methods for developing education facilities industry leading practice documents	Advantages	Disadvantages
<b>Method 1:</b> APPA is granted ANSI accreditation and installs standards-developing infrastructure	ANSI-accreditation is understood by all industries and governments. Gain in brand visibility by sponsorship of best practice. Strategic influence of standards on emergent technologies	Costliest. It will take 3 to 12 years for these products to track in public law.
<b>Method 2:</b> Merge APPA leading practice into parts of existing ANSI-accredited documents and a suite of co-logged documents	Lowest cost. Safety and economic concepts are quickest to track in state and local law	Significant coordination of APPA volunteer resources with existing ANSI-SDOs

Code and standard advocacy with like-minded organizations will do more than create new value propositions with new synergies; they will change the logic of our industry's relation to other trade associations and APPA business partners. These organizations—and their supporting memberships—benefit from access to the education facilities market. Selective alliances will transform APPA into a central character—one that is well positioned in a web of relationships and controls the vital links to the value chain of our industry.



Our industry must hasten its effort to write its own rules, or, as the memorandum from the chief technology officer of the United States suggests, we will have them written for us. As the existence of 200-plus national members of the ISO/IEC/ITU indicate, every government on earth recognizes that top-down government intervention has never proven as effective a way to meet their strategic technological goals as simply creating the conditions within which industries may regulate and innovate for themselves. 

#### REFERENCES

1. ISO 5000: [http://www.iso.org/iso/iso\\_50001\\_energy.pdf](http://www.iso.org/iso/iso_50001_energy.pdf)
2. Timothy. Simcoe. Standard Setting Committees: Consensus Governance for Shared Technology Platforms. *American Economic Review*, 102(1): 305-336, February 2012.  
[http://www.iecchallenge.org/papers/pdf\\_iecchallenge/simcoe.pdf](http://www.iecchallenge.org/papers/pdf_iecchallenge/simcoe.pdf)  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=899595](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=899595)
3. Technology Transfer and Advancement Act: <http://standards.gov/>
4. <http://www.whitehouse.gov/innovation/strategy/executive-summary>  
[http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-08\\_1.pdf](http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-08_1.pdf)  
[http://www.whitehouse.gov/omb/circulars\\_a119](http://www.whitehouse.gov/omb/circulars_a119)
5. APPA Code Advocacy Task Force Policy Agenda: <http://www.appa.org/standardspublicpolicyagenda.cfm>
6. British Standards Institute: <http://www.bsigroup.com/en/>

7. Link to more information about ISO/TS/P 223 Facilities Management standard: [http://publicaa.ansi.org/sites/apdl/Documents/News%20and%20Publications/Links%20Within%20Stories/ISO%20TSP%20223%20\(Facilities%20Management\).pdf](http://publicaa.ansi.org/sites/apdl/Documents/News%20and%20Publications/Links%20Within%20Stories/ISO%20TSP%20223%20(Facilities%20Management).pdf)

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# Optimal Staffing for Very Small Campuses

By Matt Adams, P.E.

In the APPA Operational Guidelines Trilogy for Grounds, Custodial, and Maintenance, a wide variety of facilities are covered for our peer group. However, one area that was not fully covered was that of our peers with very small campuses. That group includes those non-profits that have 500,000 gross square feet or less. This peer group includes very small colleges, private schools, churches, and other institutions. In some ways the staffing of these organizations is even more critical than that of their larger colleagues. You can argue that more staff provides more options and flexibility. However, when your staff is less than 20 or even 10, the room for error is almost nil.

## A FULL(ER) SCHEDULE

Just because an institution has a small footprint in no way indicates that the utilization of the facility is light. In fact, the opposite is most often true. Community colleges have classes from 8:00 a.m. until 10:00 p.m. six days each week. Churches have services and special events all weekend, daycare or school during the week, and provide meeting space for a myriad of ministries, clubs, and local organizations.

That all adds up to full utilization on a daily basis, coupled with dramatic peaks for special events. This characteristic demands the cleverest of staffing to support the mission of the institution. All of this is done in the limited budgetary environment where all nonprofits find themselves.

In the past, these institutions either



had to staff to the "peak" loads of the mission, or staff to the "average" load. In this case I am primarily referring to maintenance and custodial services, which are most impacted by the variable demand for services.

The first strategy would meet the demands of the institution, but ultimately fail because of financial inefficiency: the cost was just too high! The patrons, parents, or students would also notice that during normal loads there were staff members leaning on their proverbial brooms with too little to do.

On the other hand, staffing to normal or average workloads saves money but eventually gets the facilities director in hot water in a big way. The most visible time for most plant directors is during special events with high constituent participation—graduation, the big basketball game, or perhaps Easter. If the staff is too thin to adequately support these functions, the department is perceived as ineffectual as opposed to understaffed.

## PEAKS AND VALLEYS

Many small institutions have begun to aggressively apply industry best practices

to solve the service peak-and-valley conundrum. To apply any new practices requires the director to first evaluate the services provided using this simple set of heuristics; 1) What services are technical and require special, often costly trade skills, 2) what services are "high-touch" and involve a great deal of interaction with my customers, and 3) what services are highly variable? Once all services are arrayed into a matrix that places them into a yes or no for each of these criteria the number crunching can begin.

An example of the classification process is HVAC maintenance. Applying our questions to this service reveals that there are two primary activities associated with this service and possibly a third variable service demand in some institutions. Assuming we want to perform a full planned maintenance schedule there is the "technical" work of licensed trade level HVAC work. This work does not have a high-touch characteristic and can be completed in off hours, etc. However, there is a component of high-touch service and that is the response to service calls. This includes responding to hot and cold calls but also some initial first responder light diagnosis.

Finally, there is the variable demand of special events. Very large ceremonies in the dead of winter or heat of summer might require on-call or even onsite HVAC skilled trades for altering the BMS temporarily or being prepared to emergencies.

## BEST PRACTICES FOR ALL

To show how best practices can be applied to this scenario I will use the



real-world example of the Northside First United Church located in Atlanta. The director of maintenance, Tim Miltner, is well versed in our industry's best practices and applies them whenever appropriate. Miltner's goal is the same as everyone else in our industry: do more with less and keep the customers (church members) happy.


His campus is approximately 350,000 GSF. At one time his church maintenance staff totaled six and his annual renewal budget was inconsistent and often zero. Keeping the HVAC example, when the church's HVAC technician retired, his cost to the organization was \$42,000 per year with approximately 28 percent benefits totaling \$53,760 per year. These numbers are not exactly the same due to privacy issues, but accurate enough for this example.

Moving forward, Miltner negotiated a maintenance contract with the vendor

already familiar with the church for \$21,000 per year. This contract provides several key components: 1) full schedule of planned preventive maintenance, 2) responsibility for repair of systems requiring adjustments and light repairs that do not require parts of more than \$250, and 3) the hourly cost and mark-up percentage for parts of discretionary work, corrective repairs, staff for special events, and planned capital renewal. This contract covers the technical and low-touch elements of the service matrix. Now down to a staff of two in-house church employees, these people are the first responders.

So how are the numbers working out for the church? The original budget of \$53,760 has the new maintenance contract coming out of it (\$21,000) leaving \$32,760. Last year the time and material budget for unplanned corrective repairs was just under \$8,000 leaving \$24,760.

If you assume at 60/40 split of material and labor @ \$50 per hour this leaves 297 hours of discretionary trade labor and 9,900 in replacement parts used for planned renewal. Every year peak coverage for special events is deducted from this budget and a significant amount of planned capital renewal is executed.

This same methodology can be applied to each of the service centers—and was in this case. The customers remain happy to see the staff they are accustomed to while the "heavy lifting" is done by a contractor in most cases. Given the limited funding for capital renewal, this strategy has spun off more funds by rationalize the operating expenses. 

Matt Adams is president of FM<sup>2</sup>, Atlanta, GA. He can be reached at [matt@adams-fm2.com](mailto:matt@adams-fm2.com).



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# Building APPA's Body of Knowledge Through CFaR Research

**CFaR** | Center for  
Facilities Research

By Gary L. Reynolds, APPA Fellow, and Maggie Kinnaman, APPA Fellow

**A**s we all know, without growth an organization cannot stay relevant. APPA's strategy to achieve association growth and relevance was to establish CFaR in 2002. CFaR was the brainchild of Gary Reynolds, APPA Fellow and Past APPA President.

Since its inception, CFaR has produced 16 peer reviewed research projects with another six projects currently being worked on. These projects, in combination with APPA's fully searchable, digital Body of Knowledge (BOK), gives members access to the current best thinking related to facilities management within the educational environment.

Here is a list of the 16 completed peer reviewed research projects; affiliations are as of project completion:

- **The Development of an Instrument Measuring Elements of the Outdoor Physical Campus Environment for Student Satisfaction and Perceived Importance**  
Principal Investigator: Erica L. Eckert, Kent State University
- **Relating Accepted Facility Performance Indicators to Organizational Sustainability Performance in Georgia Public Higher Education Facilities**  
Principal Investigator: Gregory K. Adams, University System of Georgia
- **The National Campus Safety and Security Project and Its Impact on Educational Facilities**  
Principal Investigator: William M. Elvey, University of Texas at Dallas
- **Strategic Capital Development: The**

## **New Model for Campus Investment**

Principal Investigators: Harvey H. Kaiser, Harvey H. Kaiser Associates, Inc., and Eva Klein, Eva Klein & Associates, Ltd.

- **The Development and Application of Policy-Based Tools for Green Buildings**  
Principal Investigator: Anthony F. Cupido, P.Eng., McMaster University
- **Mining for Gems Using APPA's 2007 and 2008 Facilities Performance Indicators**  
Principal Investigator: Margaret P. (Maggie) Kinnaman, University of Maryland, Baltimore
- **The Impact of Levels of Cleanliness on the Academic Achievement of Students**  
Principal Investigators: Alan S. Bigger, Earlham College, and Jeffrey L. Campbell, Brigham Young University
- **Buildings...The Gifts That Keep on Taking: A Framework for Integrated Decision-Making**  
Principal Investigators: Douglas K. Christensen, Brigham Young University; Rod Rose, STRATUS-A Heery Company, and Terry W. Ruprecht, University of Illinois, Urbana-Champaign
- **The Impact of Facilities on the Recruitment and Retention of Students**  
Principal Investigators: Gary L. Reynolds, The Colorado College, and David A. Cain, Carter & Burgess
- **Structuring In-House Construction Rates in Colleges and Universities**  
Principal Investigators: Donald J.

Guckert, University of Iowa, and Jeri Ripley King, University of Iowa

- **The Facilities Condition Index as a Measure of the Condition of Public Universities in the United States as Perceived by the End Users**  
Principal Investigator: Robert J. Quirk, California State University, Long Beach
- **Negotiating Win-Win A/E Professional Services Agreements: A Case Study Phase I**  
Principal Investigator: Don Chrusciel, Iowa State University, with Christopher Ahoy, Kelly McCool, and Dean Morton, all Iowa State University
- **Workplace Violence in Higher Education**  
Principal Investigator: Edward D. Rice, Kansas State University
- **The Relationship Between Organizational Climate and Job Satisfaction for Directors of Physical Plants**  
Principal Investigator: Frederic J. Gratto, University of Florida
- **Traversing the Culture Continuum: Organizational Culture and Productivity**  
Principal Investigator: Glenn R. Smith, Bryn Mawr College
- **Implementing the Capital Plan**  
Principal Investigators: William A. Daigneau, University of Texas MD Anderson Cancer Center, and Jack Hug, APPA Member Emeritus and Past President

And here is a list of CFaR peer reviewed research projects in the works:



- **The RMA 14ers Club: A Model for Facilities Mentoring**  
Principal Investigator: John P. Morris, Northern Arizona University
- **Initiating and Sustaining a Culture of Excellence: A Phenomenological Study of the Winners of the Award for Excellence, the Highest Institutional-Level Award Issued by APPA – Leadership in Educational Facilities**  
Principal Investigator: Joseph K. Han, Idaho State University
- **Understanding University Fleet Management and the Potential for Greener Fleets**  
Principal Investigators: Adam Hart and Ashley Fiala, University of North Carolina Chapel Hill
- **Managing Key Human Resource Issues: A Survey of Physical Plant and Facilities Management Officers in Institutions of Higher Education**  
Principal Investigator: Shelley Price, Saint Mary's University
- **Implementation of Total Cost of Ownership (TCO) Principles Into**

#### Higher Education as an Integrated Decision-Making Tool

Principal Investigator: Douglas K. Christensen, APPA Fellow and Past-APPA President

- **The Effect of Facility Condition Index (FCI) on National Science Foundation (NSF)-Funded Research Grants in Higher Education**  
Principal Investigator: Theodore J. Weidner, Ph.D., University of Nebraska Lincoln

In addition to these APPA research projects, another APPA initiative is the Thought Leader Series, an annual retreat that gathers a group of experts to explore the most critical issues facing higher education.

**2012:** Space Management and Utilization (pending publication)

**2011:** Workplace Demographics and Technology: Challenges and Opportunities to the Campus Mission

**2010:** Assessing and Forecasting Facilities in Higher Education

**2009:** The Economy's Influence on Environmental Sustainability and Energy


**2008:** The Challenges of Demographic Changes and Accountability to Campus Facilities

**2007:** Educational Facilities and the Impact of Technology, Expectations, and Competition

**2006:** University Facilities Respond to the Changing Landscape of Higher Education

Taking a comprehensive view of research—and the goals of CFaR to not only create new knowledge but to disseminate that knowledge—means that such things as the annually conducted Facilities Performance Indicators survey and report, articles published in *Facilities Manager*, published books and more than 60 chapters resident in APPA's digital BOK are included in our definition of research. From that perspective, APPA has amassed a huge library of information and research available to APPA members at their fingertips.

For instance, the digital BOK is fully searchable, and CFaR research, articles, and books are available through the searchable library on the APPA website. Collectively it is this huge body of knowledge, information, and wisdom of our members and peers that comprise APPA's knowledge base.

We encourage you to utilize what APPA has developed on your behalf, and we challenge you to conduct your own research and join the list of distinguished CFaR researchers who have helped to make APPA the go-to place for knowledge related to the educational facilities management profession. 

Gary Reynolds is executive director of facilities services at the University of Colorado/Colorado Springs, and can be reached at [greynold@uccs.edu](mailto:greynold@uccs.edu). Maggie Kinnaman is APPA Emeritus Member and Past APPA President and can be reached at [maggiekinnaman@comcast.net](mailto:maggiekinnaman@comcast.net).

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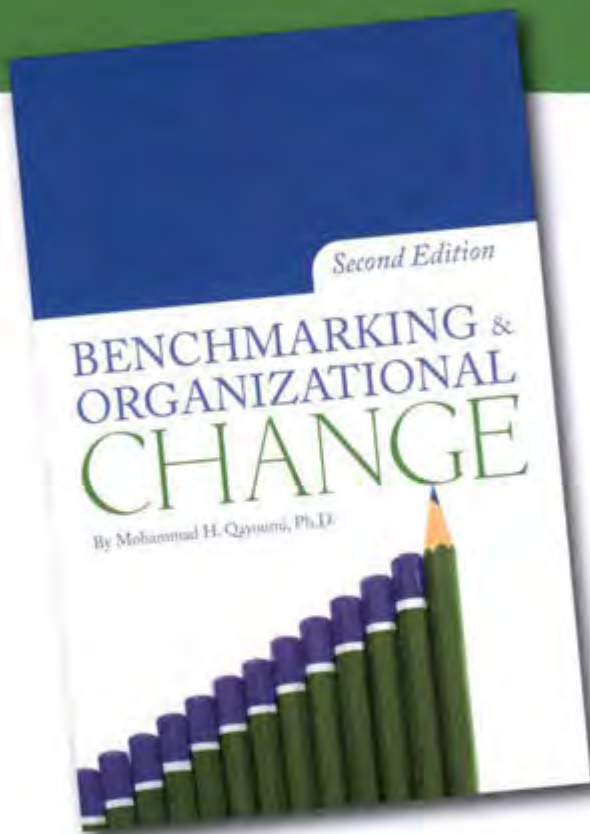
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Book Review Editor: Theodore J. Weidner, Ph.D., P.E., AIA

## My thanks to Joe Whitefield,

executive director, facilities services at Middle Tennessee State University, for his book review contribution. This column encourages the reading of good books and sharing of thoughts. As your summer progresses, pick up one or both of these books to prepare yourself for the restart of the academic year.

### PREDICTING OUTCOMES OF INVESTMENTS IN MAINTENANCE AND REPAIR OF FEDERAL FACILITIES

National Research Council, The National Academies Press, Washington, D.C., 2012, 108 pages, softcover, \$36.

The federal government is the largest property owner/user in the nation, and has a wide variety of facilities. There is an advantage at looking at what the federal government does with various parts of facility management as it applies to higher education, because there are many comparable facilities in the federal portfolio to higher education. So, when I saw the announcement of the pending publication of this book last fall, I ordered it.

This is not an easy read but it's not overly technical—unless you dig into Appendix C. The committee gathered to write this book was impressive: a veritable “who's who” in federal facilities management. The data they had access to, and the outcome of their work encapsulated in the book, is impressive and dense. But it is impressive in its clarity and thoroughness on the subject.

The book is well organized, beginning with an executive summary that outlines the approach used to assess the data from all reporting federal facility groups, and a review of the findings and

recommendations resulting from the report. My initial thought when reading the recommendations was that the report would not be very helpful; many of the recommendations are things that APPA leaders, authors, and members have discussed for years. But, as I read further, the report became more and more impressive.

Once again, this is not an easy read. There is a lot of information packed into a little over 100 pages. There are issues of strategic importance, such as what data to collect and how often to collect or analyze it. There is extensive discussion about assessing facility risks compared to an organizational mission. Sadly, the contents of an analytical “black box” some agencies use to assess facility needs is not revealed. It's often helpful to see what one organization views as its ideal decision-making tool. I found their access to some private facility operations and the tools they used to be particularly informative and helpful. Most important, but difficult for higher education, is the removal of facilities from the portfolio when they lose productivity or don't serve the organizational mission.

The topic of communication about facility issues has its own chapter, of course. If there's one thing a facility officer understands, it's that frequent and varied communication is essential for customer satisfaction.

This is an excellent reference for senior facility officers; it outlines a set of principles to implement and follow for any large organization. There are references to various reports or tools that can be tested or used to help with facility decisions. And while I don't think the title is fully realized by the text, it will be on my reference shelf and I expect it will be used heavily over the coming years to help address my facility needs.

—TW

### LIFE AT THE BOTTOM: THE WORLDVIEW THAT MAKES THE UNDERCLASS

Theodore Dalrymple, Ivan R. Dee, Chicago, 2001, 288 pages, softcover, \$16.95.

A common theme heard today across many communities, including university and college campuses, is the need to “change the culture.” Whether it involves students, employees, or others, this is actually quite difficult and often sets up a clash between those who desire change and those whose behaviors are targeted for change. Focusing on an especially troubled segment of British society, *Life at the Bottom* explores the many facets of this endeavor. It takes a deep look into the paradigms that shape the thoughts and feed the behaviors and decisions of people on both sides of cultural change issues. The lessons here have application for anyone engaged in organizational change management.

As a psychiatrist working in a prison and a hospital in the British slum, Dr. Theodore Dalrymple has treated more than 10,000 patients that are a part of society referred to as the underclass. In *Life at the Bottom*, he describes the ailments of many of his former patients and, more importantly, the prevailing paradigms they hold that keep them perpetually trapped in this difficult way of life.

Not always financially poor, members of the underclass are identified more by their destructive and self-destructive behaviors (violence, neglect, substance abuse, physical abuse, etc.). The reader is introduced to several individuals including young women who are repeated abuse victims. Many of these women hold a view that their particular abusers are less abusive than others would be






and, therefore, are inclined to remain in the abusive relationship indefinitely.

Likewise, the reader meets several men prone to physical violence. Theirs is often a peculiar case where they are convinced they are "victims" of their own impulses—in which case violence is a natural response and should be expected—making the abused somehow responsible for inciting the violence against them. There are several groups within the underclass that are categorized according to similar behaviors. Dalrymple describes individual cases from several groups and summarizes the prevailing paradigms of each. While the specifics vary, several consistent themes emerge.

Another intriguing aspect of this book is the review of the government-sponsored social programs that unwittingly incentivize much of the anti-social behavior they hope to reduce. Being predisposed to poverty as the base cause of social ills,

the government has established numerous welfare oriented programs that provide considerable assistance to many people in society. It is striking to see how certain programs have been structured so as to contribute to the degenerative behavior of the underclass by freeing them from any responsibility to care for themselves. There is even one incredible account whereby former patients who are applying for government housing ask Dr. Dalrymple for reference letters that details their history of anti-social and destructive behaviors to strengthen their case to receive assistance. He notes that he has never received a request for a reference letter for affirming positive character and a sense of responsibility.

Details of individual tragedy are graphic but not too much so. They highlight the conditions and behaviors that inflict so much damage on society and are at the heart of the struggle between personal

responsibility, victimhood, and entitlement. *Life at the Bottom* is an intelligent look at this struggle from the views of both the underclass and those desiring to help them. And the lessons that are produced hold value for other organizations, including higher education, dealing with individuals of all types and issues of all complexities. For many initiatives, simple policy revisions are not enough to produce a desired change. When true cultural change needed, it is a difficult proposition—especially when current behaviors stem from deeply rooted, negative paradigms. Organizations with this understanding should produce better policies, better practices, and better results. 

Joe Whitefield, P.E.

Ted Weidner is assistant vice chancellor of facilities management & planning at the University of Nebraska – Lincoln; he can be reached at [tweidner2@unlnotes.unl.edu](mailto:tweidner2@unlnotes.unl.edu).

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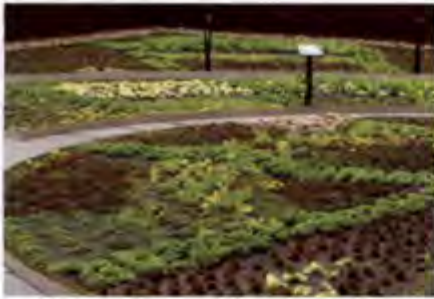
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All images are roofing solutions used in the highly sustainable renovation of Tremco Incorporated.

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**From the Top:** Our vegetated, photovoltaic and white, reflective built-up roofs do more than securely weatherproof your facility. By reflecting heat, converting heat to power or slowing and filtering storm water, they can help facility managers and owners meet their sustainability goals, such as improved energy and water management and lower carbon output. Using recycled content and asbestos-free materials in our roofing systems' construction makes them even friendlier to the environment.

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