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# JULY/AUGUST 2014 Volume 30 • Number 4



## APPA at 100 LOOKING BACK, MOVING FORWARD

#### **Past Presidents Review APPA's Progress and Service** *By Ruth E. Thaler-Carter*

From James Marks of the University of Michigan (1915-16) to Glenn Smith of Bryn Mawr College (2013-14), APPA's presidents have led the association through a century of social, technological, and economic change. Several past presidents reflect on the growth of APPA over the years, and their accomplishments in our journey to our second hundred years.

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#### A Century of Campus Planning—Past, Present, and Future

By Mark Crawford

Throughout the nineteenth century, higher-education institutions became increasingly steeped in tradition and resistant to change, until World War II, which forced colleges and universities to face some huge challenges.

#### Caring for Historic Buildings—Preserving a Heritage, Renovating for the Future

By Anita Blumenthal

APPA member institutions are home to hundreds of buildings of historic and cultural value on the local, state, and national levels. But preserving this heritage is not a straightforward matter.

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#### An FPI Salary Analysis: Six-Year Salary Trends for Facilities Professionals

#### By Ernest R. Hunter Sr., P.E.

Salaries typically make up the largest percent of the facilities management operating budget, suggesting that facilities professionals should devote just as much effort, study, analysis, and debate to employee compensation policies, practices, and trends as to the technical challenges of the profession.

A Sampling of Past APPA Publications

Selected by Steve Glazner

From 1926 until the early 1950s, APPA's publications consisted only of a proceedings of the annual conference—mostly meeting minutes and papers presented on current campus projects. See a small gallery of some of APPA's publications from the past 60 years.

# <u>columns</u>

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## 2014 REX DILLOW AWARD FOR OUTSTANDING ARTICLE GOES TO RICHARD L. MCDERMOTT

#### AS WE CELEBRATE APPA'S

centennial anniversary, another honor we mark is our announcement of the winner of APPA's annual Rex Dillow Award for Outstanding Article in *Facilities Manager*. This year I am pleased to share that Richard L. McDermott of the University of Texas



Health Science Center,

Houston, is the 2014 award recipient for his article, "Alright Already! Let's Stop Answering the Wrong Question About Deferred Maintenance."

Published in the March/April 2014 issue, Rich's article discusses the assumptions and decision-making consequences that arise from the "simple" question: "What is your deferred maintenance backlog?" Rich provides a clear and logical perspective that facilities officers can take to educate their campus administrators on what questions to ask, and how to understand the answers you provide. The article was selected by the Information and Research Committee from seven eligible articles published in the six issues of *Facilities Manager* within the past year. Congratulations to Rich on his accomplishment.



\*\*\*\*\*

Due to several editing and proofreading errors, numerous typographical errors were published in the Membership Matters column of the May/June issue of *Facilities Manager*. The article, "How You Can Help APPA Partner With HBCUs," was written by Chris Ziolkowski of Embry-Riddle Aeronautical University and the SRAPPA rep to APPA's Membership Committee. We have posted the corrected article in our online formats at *www.appa.org/facilitiesmanager*. We apologize to Chris and our readers for these errors. (**5**)

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#### Coming in Sept/Oct 2014

- Profile of President Randolph Hare
- Future of Academic Housing
- APPA 2014 Conference Highlights
- 2014 Thought Leaders Report, Part 1



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POSTMASTER: Send address changes to **Facilities Manager**, 1643 Prince Street, Alexandria, VA 22314-2818.

#### 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. Founded in 1914, 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.* 

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# Discover the new generation of high-performance LED lighting technology from Ephesus.

The new generation of high-performance LED lighting technology that we created at Ephesus has become a real "game-changer" in the world of sports lighting.

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The Arena Series success was proof positive that LED sports lighting had come of age and held promise for the future. That promise is being kept by Ephesus with the introduction of our new, breakthrough LED solution for stadiums and outdoor sports venues.

The new Ephesus Stadium series is a masterpiece of LED engineering innovation that far outshines all competitors. The Stadium 1000 generates an awesome 117,000 lumens, making Ephesus the single brightest light in sports lighting today... and for the foreseeable future.

LIGHTING SOLUTIONS THAT OUTSHINE ALL OTHERS. EPhesus

#### By Anita Dosik

#### **AWARD WINNERS**

### 2014 AWARD FOR EXCELLENCE IN FACILITIES MANAGEMENT

- Philadelphia University
- Soka University of America
- University of New Mexico
- University of North Carolina at Charlotte
- University of Michigan

#### 2014 SUSTAINABILITY AWARD

- Black Hills State University
- North Carolina State University
- Penn State University
- San Mateo County Community College
  District

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- University of California Los Angeles
   (UCLA)
- University of Rochester

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growth

help professional help

#### 2014 EFFECTIVE AND INNOVATIVE PRACTICES AWARD

facilities

 California State University San Bernardino

"Most-Open Valve Heating & Cooling Strategy in Design and Practice"

- Saint Louis University "Strategic Planning and Culture Change Practice, Improving Waste Management, and In-House Construction Program"
- University of California Berkeley
   "Providing Financial Incentives to Promote
   Energy Conservation by Building Occupants"
- University of Pennsylvania
   "Innovation using Lean Processes at the University of Pennsylvania's O&M Department"
- Xavier University of Louisiana
   "Pervious Pavement and Solar PV Panel
   Parking Lots: Storm Water Management
   and an Alternative Energy Resource"

#### 2014 MERITORIOUS SERVICE AWARD

- Marion Bracy, Xavier University of Louisiana (SRAPPA)
- Don Guckert, University of Iowa (MAPPA)
- Tom Harkenrider, Soka University of America (PCAPPA)
- Jay Klingel, University of Virginia (SRAPPA)

#### **2014 PACESETTER AWARD**

- Jerry Carlson, Butler University (MAPPA)
- Andrew P. Christ, New Jersey Institute of Technology (ERAPPA)
- **Dan Park**, Whitman College (PCAPPA)
- Steve Peary, University of Vermont (ERAPPA)
- Dana Peterson, University of New Hampshire (ERAPPA)

#### APPA U: TRAINING + NETWORKING = CAREER SUCCESS

Can one week change the trajectory of your career? Yes it can! Whether updating technical knowledge or building leadership skills to be a more effective manager, we all have things to learn.

Join other education facilities professionals from around the globe at APPA U. Combining APPA's highly regarded Institute for Facilities Management and Leadership Academy, APPA U delivers quality professional training in an environment that encourages professional networking and collaboration with other education facilities professionals.

> September 7-11, 2014 Orlando, FL January 18-22, 2015, Tampa, FL

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### **EVENTS**

#### **APPA'S EDUCATIONAL OPPORTUNITIES**

#### **DRIVE-IN WORKSHOPS:**

The Drive-In Workshop is designed to support staff education needs at a time when resources are difficult to come by for employee technical training. This four-hour program is designed purposely to allow local professionals to drive in mid-morning for several short sessions, advance their understanding of the latest facilities technologies, network with peers, and get back to their work or home quickly and conveniently with little travel costs, if any.

July 30, 2014 ......University of Colorado Denver, Aurora, CO August 7, 2014 ......University of Texas, Austin, TX October 9, 2014......Cleveland State University, Cleveland, OH

For more information about APPA's Drive-In Workshops, please contact Corey Newman at *corey@appa.org*.

#### APPA U:

September 7 - 11, 2014 Orlando, FL January 18-22, 2015 Tampa, FL

APPA U combines APPA's Leadership Academy and the Institute for Facilities Management in one location twice a year. The next APPA U will take place in Orlando, Florida on September 7-11. For more information, please see the APPA website at *http://www.appa.org/training*.

#### The Leadership Academy:

The purpose of the Leadership Academy is to enhance and further develop leadership throughout the educational enterprise. The Leadership Academy provides opportunities for professionals to increase their awareness of industry issues, to learn the skills necessary to handle today's changes, and to discover the leadership potential within each of us.

The Leadership Academy has been developed for, and focuses on, the educational institution's administrative professionals. These include: facilities staff, procurement agents, business/finance professionals, and auxiliary services professionals. The program is designed in tracks, with each track emphasizing a different perspective and type of leadership skill.

Upon completing the week-long session, students receive a certificate of completion designating their core area of study and 3.0 continuing education units (CEUs).

#### The Institute for Facilities Management:

The Institute is offered twice a year, and runs Sunday through Thursday evening. The Institute curriculum is composed of four core areas:

- General Administration & Management
- Maintenance & Operations
- Energy, Utilities & Environmental Stewardship
- Planning, Design & Construction

Institute students select one core area to be the focus of their classes for that week. Morning classes consist of required courses, centering on the core area selected. Afternoon classes will be electives chosen by the student and may be a combination from any of the four core areas.

#### APPA EVENTS

Jul 20, 2014 Senior Facilities Officers Summit, San Diego, CA Jul 20, 2014 Emerging Professionals Summit, San Diego, CA Jul 21-23, 2014 APPA 2014: Centennial Celebration & Annual Conference, San Diego, CA

Jul 30, 2014 Drive-In Workshop, University of Colorado Denver, Aurora, CO

Aug 7, 2014 Drive-In Workshop, University of Texas, Austin, TX

Sept 7-11, 2014 APPA U: Institute for Facilities Management and Leadership Academy, Orlando, FL

Sept 22-26, 2014 Supervisor's Toolkit, Florida Institute of Technology Sept 39-Oct 3, 2014 Supervisor's Toolkit, Louisiana State University Oct 20-24, 2014 Supervisor's Toolkit, University of Richmond Nov 3-7, 2014 Supervisor's Toolkit, University of Tennessee

Jan 18-22, 2015 APPA U: Institute for Facilities Management and Leadership Academy, *Tampa*, *FL* 

#### **REGIONAL EVENTS**

Sep 16-20, 2014 MAPPA 2014 Conference, West Lafayette, IN Sep 21-24, 2014 ERAPPA 2014 Conference, Atlantic City, NJ Sep 22-24, 2014 RMA 2014 Conference, Santa Fe, NM Oct 4-7, 2014 SRAPPA 2014 Conference, Huntington, WV Oct 4-8, 2014 PCAPPA 2014 Conference, Vancouver, BC, Canada Oct 11-15, 2014 CAPPA 2014 Conference, El Paso, TX

For more information or to submit your organization's event, visit www.appa.org/calendar.

Upon completing the week-long session, students receive a certificate of completion designating their core area of study and 3.0 continuing education units (CEUs).

For more information about APPA U, please contact Suzanne Healy at *suzanne@appa.org*.

### SUPERVISOR'S TOOLKIT: NUTS AND BOLTS OF FACILITIES SUPERVISION

The Supervisor's Toolkit has been specifically designed to meet the needs of the facilities management professional. It is a structured, open-ended, and pragmatic approach to developing supervisors. It is not so much a training program as a development process, designed to help supervisors realize both personal and professional growth. The program is designed for a full week of training.

September 22-26, 2014 (register by September 12) – Florida Institute of Technology

September 29 - October 3, 2014 (register by September 22) -Louisiana State University

October 20-24, 2014 (register by October 10 – University of Richmond

November 3-7, 2014 (register by October 27)–University of Tennessee

For more information about APPA U and the Supervisor's Toolkit, please contact Corey Newman at *corey@appa.org*.



#### 2015 AWARD NOMINATIONS AND APPLICATIONS DUE NOVEMBER 30, 2014!

Nominations and applications are now being taken for APPA's 2015 institutional and individual awards:

- Award for Excellence
- Sustainability Award
- Effective and Innovative Practices
   Award
- APPA Fellow
- Meritorious Service Award
- Pacesetter Award

Awards nominations submitted after November 30, 2014 will be held and considered in the 2016 award cycle.

To find out details and particulars about each award, visit http://www.appa.org/ membershipawards/index.cfm or contact Christina Hills at christina@appa.org.

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**APPA CONGRATULATES EFP & CEFP RECIPIENTS** 

The following professionals have successfully completed the requirements for APPA's CEFP and EFP credentials, from April 15, to June 15, 2014. Congratulations on their personal accomplishments.



#### **CEFP RECIPIENTS**

David Beurer, University of Michigan/ Ann Arbor

Kristin Brancheau, University of Michigan/ Ann Arbor

Claudio Brun Del Re, University of Ottawa

Robert Carter, University of Guelph

David Gray, *Middle Tennessee State University* Tony Ichsan, *Sonoma County Junior College* 

District/Santa Rosa Junior College

- Gerald Kennedy, University of Michigan/ Ann Arbor
- Viron Lynch, Weber State University
- Kevin Morgan, University of Michigan/ Ann Arbor
- Mark Scott, University of Michigan/Ann Arbor
- Steven Snyder, University of Michigan/ Ann Arbor

#### **APPA'S FACILITIES MANAGEMENT EVALUATION PROGRAM (FMEP)**

The quality of an educational organization's facilities has a major impact on attracting and keeping students. But how do the many people who depend on your facilities define quality? How do your facilities meet their expectations? And how do they measure up against other campuses?

APPA's Facilities Management Evaluation Program (FMEP) helps you turn these questions into a powerful catalyst for improving how you manage your facilities. Modeled after the Baldrige National Quality Program Criteria for Performance Excellence, the FMEP criteria provide a framework for continuous improvement. This customized evaluation gives you the feedback and actions you need to transform your educational facilities program into one worthy of international recognition for quality.

The FMEP is not a cookie-cutter process. Each FMEP is customized and tailored to the specific institution for which it is conducted. The evaluation team is handpicked so that each institution is evaluated by a select group of peers from campuses sharing similar educational, financial, and physical characteristics.

If you are interested in:

- Achieving continuous quality improvement
- Exceeding customer expectations
- Improving your understanding of facilities issues
- And changing your organization's responsiveness to the demands it faces...



Consider the APPA FMEP! For more information, visit www.http://appa.org/fmep/ or contact Holly Judd at holly@appa.org. 1 6

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# **Critical Issues in the New Normal**

By E. Lander Medlin

he megatrends identified in Bill Daigneau's seminal *Facilities Manager* article "Megatrends & Myths" [November/December 2006] puts today's critical facilities issues for educational facilities professionals in perspective. These five important megatrends continue to drive the future and fundamentally influence the functions and processes of higher education.

- Changing student demographics— Diversity amongst those seeking postsecondary education has changed significantly from the previous generation's student pool. The ramifications of these shifts are many and varied, and include an increasing mix of adult learners.
- Access and efficiency—Given a choice between putting higher education out of the financial reach of large portions of the population and finding more efficient ways to deliver higher education, the latter (achieving greater cost efficiencies) will continue to prevail." An emphasis on operational efficiencies remains important; however, a focus on "effectiveness" is likely to become even more critical in the years ahead.
- Technology—IT has made possible the shift from the traditional teaching paradigm to a learning paradigm. However, the appetite for technology upgrades and replacements is rapidly outpacing our ability to pay for them. In addition, MOOCs (massive open online courses) is impacting the very nature of teaching and learning, as well as our entire educational delivery system.
- Accountability—Federal governments have increasingly inserted themselves

into the management and delivery of higher education and education in general. Performance outcomes must be identified, substantiated, and justified by all stakeholder groups in order to receive even minimal funding for programs and services and ensure compliance with neverending rules and regulations. Furthermore, public opinion is waning given the rapid rise in the cost of a degree along with the perception of its value in getting a job shortly thereafter. A focus on the value proposition by colleges and universities will be a critical component of how we market ourselves, make change happen, and move forward into this new reality.

• Green and lean—Sustainability remains the watchword for colleges and universities. Environmental degradation and protection concerns across the globe have heightened engagement and continue to gain traction. Longterm sustainability practices are the new delivery paradigm.

The global recession capped off a period of continued financial constraints and other issues:

- declines in state support
- a plummet in the value of endowments
- technology expansion
- dramatic student demographic shifts
- demands of workplace demographic shifts to ensure qualified staff to deliver facilities services
- a renewed focus on educational performance standards
- interference from regulatory bodies/ agencies

- competition from for-profit institutions/organizations
- a rise in student enrollments in targeted geographic areas

Certainly, the context of today's environment is critically important and reflective of the fact that education is not immune to the effects of an uncertain and rapidly changing global marketplace.

The critical facilities issues we face have been documented in detail in the last eight issues of our Thought Leaders Series monographs. They are fully accessible via APPA's website (*www.appa. org/research/cfar/tls.cfm*). However, given the dramatic changes of today's global marketplace and corresponding climate, the following critical issues represent the top shelf for educational facilities professionals at this time.

#### ADDRESSING ENERGY MANAGEMENT CHALLENGES

Higher education institutions must find new and innovative ways to adapt to rising energy costs and develop strategies that reduce the risk of energy price volatility. Facilities can't fix energy challenges alone—the entire campus must be mobilized to conserve electricity and embrace green solutions and green technologies. We must work with federal and state agencies to reduce the burden of regulations that hamper or impede utilization of some fossil fuels and allow for greater incentives to the application of renewable energy sources.

#### ENGAGING IN ENVIRONMENTAL SUSTAIN-ABILITY/STEWARDSHIP

Higher education in particular must adjust to the reality of sustainability as a permanent way of doing business. In doing so, colleges and universities can and should make measurable progress toward environmental sustainability and energy efficiency. Colleges and universities must develop a vision of sustainability that drives decision making, and facilities professionals must seek a prominent leadership role in their institutions' sustainability efforts.

#### DEALING WITH DECLINING RESOURCES

Colleges and universities need creative and effective strategies to do better with less. We can only expect flat or reduced funding for years to come. Managing with less will mean identifying organizational structure changes that improve services and confront shifting expectations. Facilities departments must develop long-term strategies incorporating total cost of ownership principles to help their organization become more efficient and financially viable.

#### MANAGING THE EXISTING BUILT ENVIRON-MENT DESPITE THE INCREASED NEED FOR RENEWAL, RENOVATIONS, AND REPAIRS

Senior facilities officers must take steps to ensure existing campus buildings and infrastructure are aligned with the mission of the institution. As the college or university changes, the campus needs to change as well-a daunting task, since dormitories and classroom buildings cannot be transformed overnight. Yet, the costs of neglected buildings, programs, and systems can snowball. Institutions should seek out areas where investment is not being made, understand what is happening and why, and seek to reprioritize when investment is needed. Educational administrators and national, state, and local leaders need to consider the backlog of renewal and renovation projects, and upgrade costly and inefficient structures.

#### UNDERSTANDING THE CHALLENGES POSED BY INCREASINGLY COMPLEX BUILDINGS

Building systems continue to be even

more sophisticated. Institutions should assess the costs and benefits of "smart" buildings and develop strategies for managing them going forward.

#### MANAGING THE IMPACT OF CHANGING TECHNOLOGIES ON EDUCATION AND INFRASTRUCTURE

Colleges and universities must continue to address the shifting impacts of technology on campuses, as well as plan for disaster management and facilities integration. Colleges and universities need to do a better job gathering and analyzing their data to make solid and consistent business decisions.

### MANAGING RISING LABOR COSTS AND WORKFORCE DEMOGRAPHIC REALITIES

The largest portion of the facilities annual operating budget is labor costs. Colleges and universities need strategies to negotiate with unions, find qualified workers, and remain flexible in a challenging labor market. Additionally, educational institutions must fully appreciate the demographics of their workforce and how they are likely to change, and take active steps to prepare for an increasingly diverse workforce. Higher education human resource policies and procedures need to become more flexible in order to adjust to a changing workforce.

#### LIMITING THE RISING COSTS OF CODE COM-PLIANCE AND UNFUNDED MANDATES

Numerous standards and codes impact higher education, and institutions should ensure they understand the costs and take steps to keep these expenses from skyrocketing. Different types of campuses face different types of federal, state, and local mandates, but these directives all create rising expenses.

### ADDRESSING CAMPUS SAFETY, SECURITY, AND EMERGENCY PREPAREDNESS

Colleges and universities must take ongoing steps to prepare educational institutions for a growing list of threats. The role of campus facilities departments is critical in managing emergencies when they occur, and to prevent security threats before they happen. This requires an established campus emergency operations plan and a defined role for every administrator and staff member within the institution.

#### BUILDING CAMPUS-WIDE UNDERSTANDING OF THE RATINGS "ARMS RACE"

Take a rigorous approach to this issue so the institution can make an informed choice about how important rankings and recruitment should or should not be in its decision-making and recruitment strategy.

#### BETTER UTILIZE AND MANAGE SPACE

Empty classrooms, offices, and labs cost money. An effective space management system not only increases efficiency, it also helps the institution make better decisions going forward. Smart strategic plans give individual departments and institutions a framework for decision making, even in tough, unpredictable times. Colleges and universities need to better manage their space to make more responsible and energy-conscious use of their built environment. On many campuses, there is a disconnect between faculty, facilities, and space planning and management that causes friction and reduces efficiency.

The education sector will continue to experience unprecedented change. Recovery remains slow across the globe. These remain tough times. However, the choices we take and the investment decisions we make in the short term will have a major impact in the future.

It remains abundantly clear that leadership and change management skills are a necessary part of the educational facilities professional's skill set as we seek a long-term resolution for these issues. Collaboration will be key at all levels with all stakeholders.

APPA remains committed to assist its members in addressing these issues and more over the NEXT 100 years! (5)

Lander Medlin is APPA's executive vice president, *lander@appa.org*.

# **Choose APPA**

By Lisa Potter, CEFP

s facilities professionals, our daily lives are incredibly hectic given the work and personal responsibilities and challenges we face every day. Memberships with professional development organizations such as APPA can assist us and give guidance in our work lives (and our personal lives).

APPA membership offers numerous benefits that can increase our effectiveness, efficiencies, and professional development. They keep us up to date with the latest trends and information in our facilities and physical plant field through *Facilities Manager* magazine and the *www.appa.org* website.

APPA also provides educational and networking opportunities with our peers at APPA U, APPA's annual conference, Drive-In Workshops, Supervisor's Toolkit training and regional conferences, just to name a few. All of these events help us broaden our knowledge, extend our networks, and help us "sharp the saw," as Stephen Covey characterized it.

#### **GETTING OUT OF YOUR BOX**

From my own experience, APPA has provided me with a unique opportunity to guide me and enhance my career. APPA helped me grow as an individual and as a leader by teaching me how to work through my introverted persona. It helped me get out of my box; I am now involved with Rocky Mountain APPA (RMA) as a board member. I co-chaired and hosted the RMA 2013 conference, and I am a qualified trainer for APPA's credentialing program—with a number of classes under my belt. What can APPA do for you, and why choose APPA over other organizations?

APPA offers some specialized opportunities that other organizations do not provide:



Facilities Management Evaluation Program (FMEP): A team of our peers will come to your institution to review and evaluate your department's programs and resources. Their mission is to:

- Identify and confirm needed resources for your facilities organization
- Place your organization on track to achieve continuous quality improvement
- Identify a path toward excellence for your entire facilities team
- Establish a strategic planning tool
- Help you find ways to exceed customer expectations

Then you can either make the necessary improvements or determine if your organization is ready to apply for APPA's Award for Excellence in Facilities Management.

Award for Excellence: Apply for this prestigious award and be recognized for your team's efforts, hard work, and dedication toward effectiveness in our field.

**Credentialing Program**: Be recognized for your own accomplishments by becoming certified. This achievement demonstrates your commitment to professional development as well as your time and understanding of our field. Become an Educational Facilities Professional (EFP) or Certified Educational Facilities Professional (CEFP).

**APPA U**: Two main programs are offered twice a year:

• Institute for Facilities Management: A four-track curriculum to help you understand and learn more about each of the following cores: Administration and Management; Maintenance and Operations; Planning, Design and Construction; and Energy and Utilities.

• Leadership Academy: Enhance and further your leadership capabilities through a four-track curriculum: Individual Effectiveness, Interpersonal Effectiveness, Managerial Effectiveness, and Organizational Effectiveness skills.

**Networking**: Expand your peer networking to national and international levels. Ask each other questions and provide answers to others via APPA's discussion list, APPAinfo. Give advice, obtain advice. Support and help each other out on tough issues and concerns in our field. Why reinvent the wheel? I'm sure others have come across the same issue and may be able to offer some great solutions. Learn from their efforts and mistakes and build upon what they are able to provide, and then share the best practices.

Annual Conferences and Regional Conferences: As a member you can attend these annual events at the discounted membership rates. Annual conferences offer professional development sessions as well as an opportunity to meet and exchange information with our business partners.

#### **GET INVOLVED AND SHARE**

Renew your membership now and take the opportunity to add additional associates to your membership at no additional fee. Here is your chance to get others involved in APPA—use this as another tool to work with for your succession plans. Support your staff; support your colleagues; support APPA by getting others involved in the association. Take charge of your career or the professional development of your staff. Reach out to other institutions in your state that are not members and share your experiences to get them interested in joining too. Get more involved with APPA or regional chapters by joining a committee or getting a board member position. Become a Toolkit trainer or a CEFP/EFP trainer. Support a local Drive-In Workshop. Just get involved!

Expand your knowledge and involvement. Share what APPA has to offer—it is an experience you will not forget. (5)

Lisa Potter is associate director facilities operations at University of Colorado Boulder. She can be reached at *lisa.potter@ colorado.edu*.

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# **Artificial Boundaries Limit Success**

By Joe Whitefield

hat are the dimensions of an American football field? Most people familiar with the sport will say 100 yards. Some with even add to two end zones at 10 yards each for a total of 120 yards. But those are only part of the answer. After all, the field is a rectangle. How wide is it? The answer is 53.33 yards from sideline to sideline. If you knew that without looking it up, give yourself a hand.

To the average fan, the width of the field may not seem very important—we all know you score points by moving up the field and into the end zone. To the players and coaches, however, these sideline boundaries are crucial. Many plays are designed to go wide to find the space to advance the ball forward. Successful teams employ strategies that use the entire field.

In facilities management, there are many boundaries that affect performance. Some are true limits that are real and definable (budgets, contracts, project scopes, organizational/managerial authority). Others are perceived and less definable (work environment, traditions, personnel attitudes). Many of the real boundaries are process oriented and structural in nature.

Conversely, many of the perceived boundaries are personal in nature. The perceived boundaries are the focus of this article. Many of us may be limiting our success by adhering to artificial boundaries—in essence, not using the entire field.

One boundary that should be examined is the empowerment of your employees. Are there employees in your organization who are demotivated, disengaged, or just not hitting on all cylinders? If so, they may be in compliance mode—they are working, but producing the minimum acceptable results. If this mode persists, it can become contagious. Over time, it can become the recognized culture of the organization. To combat this condition, consider the following steps to reset the environment and start empowerment.

#### IMPROVING COMMUNICATIONS

Spend some time with employees to understand their issues and identify their skills, talents, and unique qualities. They may have more ability and potential than your know or they realize. Like a good coach or mentor, work with them to identify and move beyond any artificial boundaries that are limiting their perceptions and engagement. This requires high-level communication. To that end, listen more than you speak. And always hear what is being said, and what is not being said. The goal should be removing obstacles to understanding. A few tips on the subject from author Michael Kerr include:

• *Never assume you're on the same page* no one is a mind reader. Limit misinterpretations with clear and specific instructions and information on the front end.

- *Watch your tone*—most workplace conflicts are due to how people say things, not what they say.
- Use the right body language—your posture, gestures, and facial expressions support or contradict your message in a similar manner to your tone.

#### **ENCOURAGE EMPLOYEES TO STRETCH**

If you can identify an underutilized skill or talent, there is a real opportunity to help employees break the compliance mode and become higher performing, more motivated contributors. Be prepared to invest some resources in developing the skill.

An investment sends the signal that the employee is important and implies there will be an expectation to apply the new or improved skills for the good of the organization and the institution. This expectation is really an invitation for the employee to stretch personally and professionally, and is the beginning of empowerment. Done effectively, it can instill confidence and trust—leading to sustained improvement and excellence in place of compliance.

Management consultant Carol Kinsey Goman offers this perspective: "If you help people develop the confidence that they have marketable skills, then they can choose whether they're going to stay with your organization or leave. When they choose to stay, you get commitment. If people feel 'I'm staying with this organization because I have no other options,' you will get compliance. But you're never going to make it to the top with compliant employees. You need their commitment."

In short, there are numerous boundaries that inhibit creativity and productivity for some of our organizations. Some are real and immovable, and some are not. Empowering employees is a key first step to begin to move, even eliminate, some boundaries that restrict our success. Breaking through the compliance-oriented culture by addressing poor work place attitudes can elevate the performance and status of the organization. The process is typically individual in nature and done person by person. With genuine leadership, positive effects can become contagious, drawing others into the flow. From there, engaged, committed, creative employees can discover new methods and paths to success. Then it can truly be said that we are using the entire field. (

Joe Whitefield is executive director of facilities services at Middle Tennessee University, Murfreesboro, TN. He can be reached at *joe.whitefield@mtsu.edu*.



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# Past Presidents

### **Review APPA's Progress and Service**

Ask any Past APPA President about his or her experience in that role, its value for their career, and the importance of APPA to the profession of facilities management, and you will hear a recurring theme: Presidential accomplishments focus on moving the association and profession forward, and being involved in APPA yields both professional improvement and personal enrichment.

To help celebrate APPA's milestone centennial year, several past presidents reflect on their accomplishments and experiences, and provide a strong foundation for the future.

Past presidents June 2014. From left: David Gray, Gary Reynolds, Brooks Baker, Doug Christensen, Maggie Kinnaman, Polly Pinney, Jack Colby, and Bill Elvey.

#### **PROUD ACHIEVEMENTS**

Every APPA president has at least one important project that represents the highlight of their administration; some recall

several with pride. Put all of those accomplishments together and you have both a history of APPA and a blueprint for a successful association that puts member needs and development first.

Don Mackel makes a distinction between the "most important" and the "most rewarding" impact of his 1992 APPA presidency. The most-rewarding contribution was the culmination of many previous years' work in bringing Australia and New Zealand more formally into the association. What he found most important was "carrying out a mandate from predecessors Bill Middleton and Jack Hug to continue and refine the association's long-range strategic planning process, which has borne huge fruit in a difficult time for APPA and higher education institutions," he said. "My administration developed a plan to deal with carrying out the wonderful work that Bill and Jack produced in their terms-a leap in sophistication for APPA. It was my and my predecessor Joe Estill's job to keep all the plates spinning and ensure that new services aligned with the plan."

Mackel, who was at the University of New Mexico at the time, also takes pride in having seen APPA revamp its annual meeting to become increasingly focused on educational resources and enhance its relationship with business partners as a partnership that has benefited both over the years. An expanded training program also stands out for Mackel.

Diane Kerby, 1993 president while at Berea College, where she is now head of alumni relations, is modest about her ground-breaking role as the first woman to lead APPA. "You get your five minutes of fame, then you have to do the work," she said. "It was kind of a novelty to be first, but it shows how progressive the association was." She is glad to see more women enter the profession and the association over the years, and to have played a part in their increasing opportunities.

Kerby is equally modest about her activities as president. "Whatever I may have accomplished was not just me," she said. "Many people were involved in moving the association forward in terms of education and professional development." Under her leadership, APPA added to its long-range plan with a focus on "the importance of diversity, not just in

gender, ethnicity, and race, but also of types of institutions-it had been about 20 years since the president was from a small college."

Creating a focus on developing leaders is **Doug Christensen**'s legacy as 1995 president, when he was at Brigham Young University, through pioneering APPA's Leadership Academy. He met with

> his predecessor, Charlie Jenkins, and "we found that we had great managers in APPA, but few leaders. The Leadership Academy moved APPA toward being more balanced."

> Christensen's presidency was also when APPA developed its first formal vision statement and realigned its mission statement. He also led the move to quantify cost aspects of facilities management, leading to the Total Cost of Ownership (TCO) concept and research, which he calls "a critical piece" of the association and the profession. "We look at ourselves as 'just maintaining stuff,' but we have to turn the corner toward being seen as much more of value to our institutions," he said, and TCO is an important part of this process.

Dorsey Jacobs, 1988 president when he was at West Virginia University, takes pride in having extended APPA's international reach by bringing Australia into the association. "Energy was another big thing-mine was the first institution to bring natural gas vehicles and buy natural gas on the open market," two innovations that served as examples to the APPA membership, he said.

Pete van der Have, then at the University of Utah, became APPA president in 1997 "in an unusual way," he recalled. "I ran and barely lost the election, but the winning candidate had the bad luck of passing away before taking office. I am the only person not elected as APPA president by popular vote."

Van der Have's goal as president was to make the organization more relevant to more people. "It was very white and very male," he said. "It was not warm to vendors. 'Extend an open hand' was my motto. The association is more diverse now."

It's hard for Maggie Kinnaman, retired from the University of Maryland Baltimore, to choose between three significant achievements of her 1999 presidency. She's been involved the longest with the Facilities Performance Indicators, the nowannual benchmarking survey for which she formed the task force that created the Strategic Assessment Model (SAM). "I'm still working on it," she said. "I do the data scrubbing behind the scenes."

Kinnaman also ranks serving as co-chair of

APPA's Center for Facilities Research (CFaR) as one of her top three achievements, along with serving as editor-in-chief of the





Diane Kerby



Doug Christensen





digital Body of Knowledge (BOK), which is "the core of all our credentialing activity."

For **Gary Reynolds**, now at the University of Colorado Colorado Springs (UCCS) and at Colorado College when he was APPA president in 2001, "The most important achievement was creation of our Center for Facilities Research....At the time," Reynolds said, "we had no real method for coordinating the pieces of knowledge that we were developing. I thought it would be a good service for APPA to provide that mechanism."

Encouraging changes in the APPA membership is how **Phil Cox**, president in 2002 while at Cornell University, sees his legacy—one that reflects the focus of Diane Kerby's presidency. "My theme as president was about the diversity of the membership, and we did see some changes," he recalled. "We began allowing people to hold office who hadn't before because they weren't at higher education organizations, such as the Smithsonian Institution. We changed the bylaws for broader guidelines."



Pete van der Have



Maggie Kinnaman

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Cox's sense of the value of opening up the membership was enhanced by his opportunities as president to visit international organizations that partner with APPA. "I was struck by the contrast—their annual meetings only had one person from each institution," he said. "It seemed elitist. I feel good about having seen our membership broadened."

The current APPA Standards and Codes Council began as the Code Advocacy Task Force initiative during **Brooks Baker**'s tenure and stands out as his most-important contribution to APPA as 2003 president. "Great leadership from Kevin Folsom and now John Bernhards has made the effort vital to the association," he noted.

While the theme of **Ed Rice**'s 2004 presidency was "getting to the grassroots," he likes to say that "I succeeded by staying out of everybody's way." More seriously, Rice carried out his administration's theme by "traveling a lot, asking questions, and getting to know people." Rice recently retired from a long career at Kansas State University.

Jack Colby, APPA's 2005 president while at

North Carolina State University, considers one of his lasting achievements to be "completely reworking APPA's strategic plan, from looking back historically to looking ahead to what we could do for members," he said. "I determined that I wanted to establish a professional certification program. My legacy is that I put a program together and chaired it for seven years, and now it's part of the APPA fabric."

The ongoing Thought Leaders Series (TLS), now an integral part of CFaR and the Senior Facilities Officers Summit at annual conferences, is another important legacy of Colby's presidency. "When we began to look forward, I realized that we needed a way to look at our industry and how to prepare for the future," Colby said. For the past ten years, APPA has published monographs based on TLS research that are being used on campuses to prepare members of the profession and their institutions for the future of higher education, "and get to the table with decision makers." Making the TLS part of the SFO Summit each year is an ideal way to show colleagues how to use the information in their jobs, he said.

Expanding APPA's reach farther into

the international arena stands out for **Chris Ahoy**, 2006 president while at Iowa State University. "The most important achievement during my presidency internationally was to reconnect with facilities associations around the world and establish new ones," he said. "I started the conversation as President-Elect about having Mexico APPA, with the initial contact in 2003."

During Ahoy's presidency, APPA also established its Singapore chapter and signed a memorandum of agreement for a strategic alliance with HEFMA, "bringing these higher education facilities associations' working relationship closer to each other through APPA's Global Partners in Learning," he said. HEFMA is the Higher Education Facilities Management Association of Southern Africa.

Ahoy also takes pride in having written a book for APPA called *Leadership in Educational Facilities Administration* while president. On the domestic side, Ahoy initiated the establishment of a liaison for regional chapters through a voting task force, to review and start a dialogue with regional partners. He invited representatives from all regions for discussion.

As APPA's 2007 president, **Alan Bigger**, then at Earlham College, sees his primary contribution as following through on a series of strategic planning initiatives. "I talked about carpe diem—seize the day—in my inaugural speech," he recalled. "APPA was in transition and taking on huge challenges, such as certification and new marketing initiatives. Keeping a steady hand and passing pieces of the work on to others to keep it going was vital."

"Causing members to consider what their jobs, their careers would be like without APPA—without the support, tools, services, publications, and professional development offerings that APPA provides today" is how **Glenn Smith** of Bryn Mawr College sees as the greatest accomplishment of his 2013-14 presidential year. "During this 100th anniversary year, we have had the opportunity to reflect upon APPA and how it has grown and continued to provide better support over the years," he said. "It has been important for the entire APPA membership to reflect upon and to validate APPA's role and importance."

Smith also takes pride in seeing the Integrated Institutional Membership and—continuing the Ahoy presidency's earlier initiative—Mexican member institutions becoming a reality this year.

#### **GROWTH, EXPERTISE, AND FRIENDSHIPS**

Learning from colleagues to build institutions is an

inval presi "T been tiver emy, my l bett

Jack Colby



Alan Bigger

invaluable element of APPA membership for past presidents.

"The greatest personal experience for me has been the opportunity to teach the Individual Effectiveness Skills course at APPA's Leadership Academy," said Smith. "The experience has touched my life and made me a better person, better spouse, better parent, and now, better grandparent."

Like fellow past presidents, Dorsey Jacobs values having worked well with members on sharing information. "We were able to copy from and learn from our partners, which was unusual, because institutions often wouldn't share," he said. "As a result, we were able to create better facilities operations and better institutions. When I would come back from any APPA meeting, it would be with a notebook *full* of ideas." Being involved in APPA meant that "both the individual member and the institution saved time, money, and effort—you didn't have to reinvent the wheel, and you learned new techniques to share."

Gary Reynolds also cherishes "the connections



Being involved in APPA meant that "both the individual member and the institution saved time, money, and effort—you didn't have to reinvent the wheel, and you learned new techniques to share."

with peers at other institutions, both professional and personal, which translate professionally to my ability to contact others and get answers, and, on a personal level, great friendships," he said. "As president, I had the ability to visit other regions and countries and see how colleagues are doing things, which was valuable since we are all set up in different ways with different structures and a wider perspective on facilities management."

Ed Rice sees APPA membership as "enriching our education and our knowledge, both for ourselves and our institutions. You never know how what you do or say will influence people," he said.

Becoming president was an immensely rewarding personal experience for Chris Ahoy. "I was the first Chinese to become APPA president, which gave my family a big boost," he said.

#### INVALUABLE RESOURCES AND CONNECTIONS

Past presidents agree wholeheartedly that APPA membership in general, and serving as president in particular, has been invaluable throughout their careers.

For Smith, "Educational facilities was a second career after serving in the U.S. Navy; APPA became the portal through which I gained knowledge and made vital connections—in fact, it was APPA's Job Express that helped me land the facilities director's job at Bryn Mawr College. APPA also afforded me different leadership opportunities and

experiences, which ultimately influenced my leadership approach at Bryn Mawr. At each step along the way, I met evermore-incredible people and gained ever-greater conviction of the value of APPA membership."

"Membership is an opportunity to travel and meet people across regions, and understand the issues they are facing every day," said Jack Colby. "You see the diversity of how colleagues handle issues—it makes you much stronger than what you would see individually. It's tremendously rewarding."

Because today's facilities management job is "too big to do alone, you need to multiply yourself," Colby said. "It's also true that you can't know everything. APPA is unique in that people are so willing to share their experiences so that we all can benefit from those experiences." For Alan Bigger, "APPA membership enables you to grow in and understand all aspects of facilities management, which leads to greater promotability, greater marketability, and greater success for the individual and the institution." He also value APPA's education and "world-class training resources," and the contacts that last a lifetime.

"The greatest value for members is the same as it has been for me: APPA provides a venue to access information or, if you need something APPA doesn't have, to find it," said Reynolds. "The connectivity to members and other institutions, and the information resources, have been great."

For Jacobs, "Communication is where it's at—sharing information and learning from each other." He also valued access to business partners and providers found through APPA.

In a column he writes for another magazine in facilities

management, Pete van der Have often rings the praises of APPA for its formal education programs, meetings, and conferences, especially in terms of networking. "You get as much from schmoozing with your peers as you do in formal conference sessions," he said.

Doug Christensen sees the benefit of APPA membership as a way for members to develop leadership skills they might not be able to reach at their institutions. "When you're in an institution, you don't always get to be a leader," he said. Being president also was a "wonderful opportunity to meet everyone in APPA," he added. "I stretched a lot, grew a lot, and became more confident in what I knew to be true."

Institutions that do not belong to APPA lose out in many ways, Christensen noted. "It was obvious when an institution was not part of APPA—they missed out on opportunities to get better and reach their potential through this outside source of ideas."

For Phil Cox, "The benefits of membership were so vast. On a personal level, professional development, because I could see so much of what APPA does and be a trainer. It allowed me to exercise and

hone some leadership skills, which gave an added dimension to the presidential experience—that was perhaps the most beneficial. It was terrific to be leading such an organization in a different way from my job."

Cox also found the informal networking aspects of membership to be invaluable. "I met so many people from our profession," he said. "There wasn't a problem that someone else hadn't already had or solved. You could pick up the phone and call and talk to others—it's a very powerful thing. It gives people a greater source of confidence in what they're doing." The greatest value of membership is as "*the* premier source of professional development," he added. "That is number one."

The lasting friendships made through APPA membership are also a recurring theme among past presidents. "I know that, if I



Ed Rice



Gary Reynolds

go to various parts of the country or other countries, there are people I can reconnect with," Cox said.

For Maggie Kinnaman, moving from the regional level of APPA to the international as president and serving on boards for

25 years "forced me to do something I wasn't particularly comfortable with: public speaking. My husband said he couldn't believe the transformation. It helped me grow and be able to share important messages."

Diane Kerby found that "the prestige as president of an international association certainly helped me professionally," she said. "The college president and boards were impressed, so it was a big professional boost." Added Kerby, "I went from the business office to becoming vice president for facilities, and my foundation from APPA was a factor in my success."

The friendships made through APPA also helped her professionally by providing a strong network to call on for information "at the drop of a hat" from "very supportive people....I value my time spent in the association," Kerby said. "It was one of *the* most valuable experiences professionally and personally." She is not alone: van der Have remains involved with APPA because of "the social aspect—I like the people in APPA, and I like to keep busy."

For Rice, being involved in APPA "reconfirmed my con-

fidence that we were on the right track" in his facilities department at Kansas State University. Regarding his personal development, Rice said, "I'm somewhat introverted, and being president helped me become more extroverted."

APPA membership puts facilities professionals in place for greater credibility, access to decision making, and status at their institutions, said Brooks Baker. "APPA provided us with opportunities to be the spokesperson for those who guide the planning, design, construction, and plant

operations of our largest physical assets in higher education, which enhanced communications with my executive level leadership at my institution by enhancing my view of the 'big picture' across all higher education," he said. "Peer recognition, such as being elected APPA president, creates a groundwork for professional respect not often found in longterm employment."



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In Baker's eyes, "The greatest value of APPA membership breaks down to education and networking. Without the benefit of the educational opportunities available through APPA, no senior facilities officer can perform at their highest capabilities. The institutions benefit from the information gained through the technical and leadership training opportunities that abound in APPA."

Glenn Smith's experience brings much of this into perspective: "APPA helps each individual member raise the bar of excellence [in responding] to the state of constant change in our business, driven by technology, economic forces, globalization and shifting demographics, and the need for us to be constantly changing and improving," he said. "APPA prepares its members to be more effective leaders, anticipating and driving change."

By exploring the issues affecting all of higher education, Smith said, "APPA positions facilities management professionals to play a greater leadership role on their campuses and provides us with an influential voice at the decision-making table." Thanks to

APPA resources, "our members are also able to make better, more-effective decisions on a daily basis, avoiding costs that come with delayed maintenance and repairs, building failures, utility interruptions, contract litigation, and injuries"—decisions that "can save our institutions millions of dollars a year."

#### **PLANNING FOR APPA'S FUTURE**

Thanks to their impact on the services and identity of the association, past presidents have a special perspective on where APPA might focus for the near future and its next 100 years.

Ahoy would like to see APPA "continue to develop facilities managers for the 21<sup>st</sup> century, efforts in credentialing, and developing the Body of Knowledge and the Facilities Management Evaluation Program for an evidence-driven management practice that is fact-based, data-driven, data-informed, and knowledge-based."

"APPA has done a very good job of looking to the future and trying to focus on where the profession is going, through various services and programs, certification, and looking at the demographics," said

Reynolds. In the years ahead, "APPA should be aware of where higher education is going in general as pedagogy changes and sees more online activity, on campus as well as off, and should keep its service in alignment with those changes."

Jacobs would like to see APPA continue to "keep up with fantastic speakers" at conferences and other events; focus on bringing younger people into the association; and consider ways to merge with construction, design, and related aspects of the profession. "APPA needs to adapt asset management as its goal for the future, using the TCO principles so we have a seat at the table with decision-makers and we don't look like we're just money-hungry," he said. "We have to take over the asset role. We need leaders to take risks and make change."

From Mackel's perspective, adhering to the strategic planning process is vital to APPA's future. "I have tremendous respect for strategic planning," he said. "APPA has to continue to go back and ask itself what it wants to be. This is terribly important, because APPA, like any institution, has limited resources and has to look at how they are best used."

Long-time colleagues will not be surprised to know that Christensen would like to see APPA change its name to something like Asset Management Professionals "to show the meaning of our actual role and enhance our opportunity to have a seat at the [institutional] table. We have to say we are more important than just facilities management. That would be a whole new shot in the arm. We have all the information; we just have to learn how to use it."

With higher education facilities facing challenges in funding and proving their value to their institutions, "facilities plays a

role, certainly in energy and sustainability, leveraging technology in distance learning, state-of-the-art classrooms, and effective use of resources." APPA should help members find ways to be more efficient and innovative, said Kerby. "The human/leadership side—training people for ownership, seeing the bigger picture, and recognizing the value of facilities in the education process—are important for APPA to keep in the forefront."

The association also must realize that "many of our organizations still have to focus on basic functions," said Colby. "We have to think of the paradigm in universities as facilities being seen as money pits and leverage our role as part of the institutional mission." For the association and the profession to flourish in the future, APPA must help its members gain that seat at the decision-making table, he said.

It's encouraging to hear that past presidents think APPA is doing things right these days. "APPA ought to keep doing what we're doing," said Cox. "It has been very nimble in changing itself to adapt to the needs of higher education and key into the

needs of the members. I hope APPA's focus continues to be on members and their changing needs, such as technology. APPA has done well to exploit technology to benefit members."

Van der Have has found that "it's interesting to look at campus life from the physical plant administration perspective. I've told my staff that we are in the business of supporting people. APPA is doing a good job of getting that word out to campuses."

APPA should "continue to offer its fine education programs, nurture new people, and keep old hands involved who think they know it all, because we can't do it alone," said Rice. "We never do know it all."



Chris Ahoy

Phil Cox



To Bigger, "APPA is positioning itself for the future. The association has become much more focused on the necessity of looking at the environment and considering sustainability. APPA has the leadership to stay abreast of those issues." He urged current leaders to "address code advocacy *before* it happens rather than after, so we don't get slapped with code we don't want."

Kinnaman agrees: "APPA should be moving in the direction I see it moving—giving access to research and tools to each of

our institutions' members, so they can influence decision makers, both academicians and vice presidents," she said. "We have to get on their radar screens, and that's what APPA is doing."

It's encouraging to see so many past leaders with a positive perspective on APPA's current offerings and future prospects. "Saying 'more of the same' is an easy out, but makes a lot of sense," said Baker. "Enhancing awareness among members of the educational offerings through more intensive marketing efforts may be a worthwhile next step.

As the president most closely involved in APPA's centennial, Glenn Smith has a special perspective on its future. "APPA needs to stay focused on those core deliverables that help its members continually raise the bar of excellence—to continually improve those products and services," he said.

Taking the long view, "APPA's real success over the years has been staying focused on people—the people sharing common problems in their daily efforts to care for their campuses, and ultimately the people those campuses support, the students," said Smith. "If APPA can help our members stay focused on what is best for our students and directly influence decisions related to physical support for those students, APPA will have an important role to play for the *next* 100 years."

It is probably safe to assume that APPA's other past presidents would share similar perspectives on their accomplishments and the lasting value of belonging to and becoming heavily involved in APPA. Between the fresh insights of new leaders and the contributions of past presidents, APPA is clearly in a great position to reach new heights in its new century.  $\Im$ 

Ruth Thaler-Carter (*www.writerruth.com*) is a long-time contributor to the APPA magazine and writer of the annual conference onsite newsletter for the past several years. She is based in Rochester, NY.

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# A CENTURY OF CAMPUS PLANNING PAST, PRESENT, AND FUTURE

**For** most of its history, higher education in America was an experience that only the elite could enjoy. As a result, throughout the 19th century, higher education institutions became increasingly steeped in tradition and resistant to change. Things stayed about the same until World War II, which forced colleges and universities to face some huge challenges. For example, in 1944 the G.I. Bill enabled more than two million returning veterans to enter the higher education system.

"Higher education became more accessible and was no longer entirely the domain of the elite or the upper echelon," says **Persis C. Rickes**, president and principal with Rickes Associates, a higher education planning firm in Attleboro, Massachusetts. "Instead, it became the golden ticket to achieving the American Dream." The nation's higher education system was greatly challenged by this surge of students in response, many institutions expanded facilities quickly, cheaply, and with minimal planning.

"Universities that had catered to a relatively small population, with a fixed curriculum that had been taught the same for 100 years, were suddenly forced to adapt to a larger and more varied student body, including married students," adds **Fred Mayer**, retired university planner for the University of Michigan. "Dorms had to be built. There was also a dramatic increase in the amount of research being done on campus—a result of the war effort—so research facilities had to be built to accommodate this expanding role."

Social, cultural, and socio-economic changes soon followed. *Brown vs. Board of Education* eliminated segregated educational institutions in 1954, opening doors that were previously closed to disenfranchised groups. "The feminization of higher education, starting in the 1980s, also contributed to the great enrollment expansion of higher education," adds **Ira Fink**, president of Ira Fink and Associates, a university planning consulting firm in Emeryville, California.

In the early 1960s the typical college student was white and male—today the majority of college students are female. "Projected enrollment patterns are also tied to increasing numbers of non-white students—populations that have historically been underserved by higher education," says **Michael Haggans**, an independent scholar and architect studying the impacts of digital technology on higher education.

All these changes resulted in the physical expansion of facilities at many existing colleges and universities, as well as the creation of many entirely new institutions. The Higher Education Act of 1964 opened access to higher education even further, especially through its endorsement of community colleges. "Although the first community college was established in 1901, the Carnegie Commission in 1964 called for the establishment of community colleges that were within easy access of all," states Rickes. "The consequence is that almost half of today's higher education students are enrolled in community colleges."

#### WHEN BIGGER WAS BETTER

In general, over the last 100 years, campuses have grown fairly slowly.

"It is likely that the change in total amount of space on campuses, when added together, might average one to two percent per year," says Fink. "It could take 50 to 100 years to build what already exists. Most campuses spend as much rehabilitating and renovating as they do on new buildings. Facilities on campuses have long life spans."

However, with the wave of students funded by the G.I. Bill, followed by the influx of students during the 1950s through 1970s, class sizes expanded, larger residence halls were required, and the physical size of the campus grew dramatically. "All these changes produced much of the physical environment we see today—bigger was consistently seen as better," says Haggans.

Higher education institutions today—especially research universities—continue to build bigger and more impressive buildings. Obsolete or run-down buildings won't attract top faculty, the best students, or research money. "Universities must be up to date on technology and have plenty of research space, with the latest equipment, in order to compete successfully for research grants and to carry out that work," says Mayer.

Other campus construction is driven by the fact that existing buildings can no longer support the way faculty and students work together. "Colleges and universities need to provide appropriate facilities for changing technology, pedagogy, and instrumentation," says **Arthur J. Lidsky**, president of Dober Lidsky Mathey, a campus-planning firm in Belmont, Massachusetts. "Many campuses are also serious about supporting sustainability and creating a carbon-neutral campus. Theoretically the addition of new square feet then requires the demolition of a comparable amount of square feet."

This trend of developing new facilities is often at the expense of fixing up the buildings that campuses already have. As a result, "many schools are faced with terrible deferred maintenance costs that must be addressed, if these campus buildings are able to be really functional in a 21st century learning environment," says **Rod Rose**, a retired University

of California administrator and former consultant with Heery International. "There has been almost a complete lack of interest on the part of private donors to pay for fixing up buildings. They would much rather have their names on new buildings and public funds for both new facilities and renovations are increasingly difficult to obtain."

This is a reflection of what Haggans calls "mission creep.... During the last quarter of the 20th century, the mission of many institutions expanded to include economic development, community arts facilities, high-profile, television-revenue-fueled sports programs, evolving healthcare enterprises, research parks, and expansive research programs and related patent production programs," says Haggans. "These developments diminished the relative importance of teaching and learning to the ecology of the university."

New construction, however, may be reaching a tipping point—especially if its purpose is to outshine competing univer-

#### Milestones in Campus and Facilities Planning

1860s: Morrill Act of the 1862 (Land-Grant School Act)

**1890s:** Columbian Exposition (showed America how beautiful and functional a planned campus can be)

1940s: World War II and the G.I. Bill

**1940s–1950s:** Colorado and California create space guidelines in an attempt to control and optimize campus space

**1950s:** Creation of the Western Interstate Commission of Higher Education (WICHE)

**1950s:** Brown vs. Board of Education eliminated segregated educational institutions

**1960s:** Richard P. Dober published his landmark book, *Campus Planning* 

**1960s:** Higher Education Act of 1964 (created more access to higher education)

**1970s-present:** Widespread use of cars on campus (traffic and parking have enormous impacts on the campus environment)

**1990s–present:** Widespread adoption of the Internet and distance learning

sities. "A continued spiral of one-upsmanship is simply unsustainable, given the backlash against the escalating cost of higher education, as well as the challenge confronting institutions to service growing debt," says Rickes. "Ironically, more students does not necessarily mean more income to support that debt; frequently, the tuition discount rate rises as well, resulting in a decrease in operating funds."

#### DIGITAL TECHNOLOGY—A DOUBLE-EDGED SWORD

The Internet is an incredible research and communication tool that has radically changed the way students can access education, and how professors teach. Its widespread acceptance, combined with the many ways it can enhance the student experience, definitely impacts the planning process. If campuses want to remain relevant and increase enrollment, they must integrate this technology, and the learning possibilities it represents, into their short- and long-term planning.

"This transformation that is now underway is the most disruptive event we have had over the past 100 years," says Haggans. "Some argue that it is as transformational as the printing press. Until quite recently, virtually all higher education was based in place and time. Books were printed. Classes were face to face. Interactions among students and faculty were synchronous. Libraries were filled with books."

This, however, is rapidly changing. The challenge for campuscentered institutions is to quickly evolve to an effective balance of place, while expanding their digital presence. Seeking this balance will be a key goal for campus planning in the decade ahead.

Facilities managers must adjust to the way technology devices like personal computers, browsers, laptops, tablets, smartphones, and other devices impact the student learning experience.

"In addition to changing the way professors teach and students learn, these technologies are changing the types of facilities necessary to accommodate this new style of education," says Lidsky. "Look at how classrooms are changing as active learning is recognized as an effective way to engage students. Look at how libraries are changing as they become less a warehouse for books and more of a contemporary resource for collaborative learning."

The impact of massive open online courses (MOOCs) continues to grow and be in flux. Some experts think they will have negative impacts on the physical campus; others feel online courses can be blended with face-to-face interaction in the class-room to create a form of hybrid education.

Rose leans toward the former. "The one driver that will crush the traditional higher education concepts—as well as campus planning itself—is the attractiveness of online, on-demand, higher education," he says. "MOOCs provide access to some of the best university professors and learning resources that are available, and are accessible to far more students than can come to any given campus. MOOCs will also bring the cost of higher education down and make it available to more students."

Physical campuses are important assets to their host communities.

#### **MOVING FORWARD**

In the immediate and longer-term future, facility planning must account for resource-related issues including energy, sustainability, water, and waste. "Maintaining the physical building and building support infrastructure, coupled with factors such as changing societal needs, diminishing or static financial resources, a global economy, and shifts in public and government policy, will govern this agenda for the next few decades."

Historic preservation will become increasingly important. Buildings constructed by prominent architects are now architectural landmarks that need to be preserved, yet usable for new and changing programs. "Even though it is more efficient to tear them down and rebuild, these buildings need to be kept functioning but are difficult to retrofit, especially for science purposes," says Mayer.

Sustainability is another key issue—energy conservation, preserving open space, and managing stormwater runoff. The LEED movement is also expanding. "The American College & University Presidents' Climate Commitment now has over 680 signatures of college and university presidents who have made a commitment to reduce energy consumption and seek carbon neutrality," says Lidsky.

Physical campuses are important assets to their host communities. However, the relationship between campus and community can be challenging at times. "As a university expands, it can create friction with the community," says Mayer. "Key issues are property taxes, transportation, parking, and competition for housing. The challenge for planners is to integrate the city and the campus in a positive way."

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Rose agrees. "Colleges and universities can be an essential part of sustainable communities by optimizing the utilization of their facilities for multiple uses whenever possible—for example, public use of their recreational and athletic facilities, performing arts centers, parking, etc.," says Rose. "It is also important that they open both their academic and facilities resources to their communities so they can be an essential factor in economic development. The institutions that do this best will survive and excel in the future."

A key strategy for the future is to build or renovate facilities so that they are multi-disciplinary and easily adaptable for flexible uses. Gone are the days when an entire building could be built to serve the needs of only a single discipline. Campus planners must adhere to a set of design criteria that ensures that a wide variety of disciplines can move in or out of a given space, with minimal costs for remodeling. Thoughtful and clear-eyed space planning and utilization will become even more critical

to the institution's investment in its built environment.

Funding agencies and foundations are increasingly likely to support collaborative and interdisciplinary research programs. "We will continue to see institutions creating centers and institutes as a way to bring faculty from different disciplines and departments together to address common research problems," says Lidsky.

Corporations are also creating partnerships and collaborations with universities to carry out basic research. They are often willing to finance state-of-the-art facilities, where faculty members can work side by side with private-sector scientists on research programs of mutual interest. For example, Pfizer recently established a \$100-million, state-of-the-art laboratory at Harvard University's Beth Israel Deaconess Medical Center.

Going forward, most experts agree the pace of change will accelerate dramatically. Financial challenges, both capital and operational, will be the key drivers of facility planning in the future.

"Alternatives to the traditional higher education pipeline, such as badges and 'unbundling,' will lead to a reconceptualization of what it means to obtain a degree," notes Rickes. "While the residential collegiate experience will remain viable for some institutions, many others will be challenged to explore ways to reposition themselves in order to remain competitive, doing more with less." (5)

Mark Crawford is a freelance writer based in Madison, WI. He can be reached at *mark*. *crawford@charter.net*. Special thanks to Terry Calhoun and Claire Turcotte of the Society for College and University Planning for their assistance with this article.

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**By Anita Blumenthal** 

# CARING FOR HISTORIC BUILDINGS Preserving a Heritage, Renovating for the Future

**APPA** of buildings of historic and cultural value on the local, state, and national levels. But preserving this heritage is not a straightforward matter. It is filled with questions, such as how to understand what is truly valuable and how best to renovate these structures, not only for heritage preservation but also for safety and accessibility and for continued service to the evolving needs of the institution.

"We don't preserve just to preserve," declares Larry Zitzow, director of facilities management at the **University of North Dakota**, Grand Forks. "We preserve what has continued meaning, value, and purpose."

"We are responsible for stewardship of buildings that are truly historic," says Scott Bitikofer, director of facilities management at **Rollins College**, Winter Park, Florida, "but also we are responsible to provide continuous service to society and to make education affordable. We can't be frivolous to preserve everything at all costs. We have to find a balance to serve multiple constituencies well. We can be sensitive to historic facilities without being chained to them. We need to find a balance between preserving the best of the old and not be so constrained we are precluded from successfully fulfilling our core mission."

Nevertheless, as George Eckhardt, campus planner at **Colorado College**, Colorado Springs, says, "The significant historic buildings embody the traditions of the college, attract new students, and maintain emotional ties between alums and the institution—an important connection for the economic survival of a college or university."

Definitions of "significant historic buildings" can vary from local to state to national levels. Also, there are official indicators of historic/cultural importance for which campuses may apply. For information on the U.S. National Park Services' National Register of Historic Places, see *http://www.cr.nps.gov/ nr/*; for National Historic Landmarks, see *http://www.nps.gov/ nbl/*. There are also State Preservation Offices, state historical societies—and local preservation groups that who don't wait to be applied to but can be the most vocal groups the campus has to deal with.

Even within this article's sampling of 11 campuses (all have some National Register designations; a few have National Historic Landmarks), there are very different approaches to preservation and renovation. For example, the **University of California, Berkeley** has somewhat streamlined its approach. "We treat [all] eligible buildings (over 50 years old) as if they were on the National Register," says Emily Marthinsen, assistant vice chancellor, physical & environmental planning. "Using consulting preservation experts, we prepare Historic Structures Reports or assessments on all of these buildings when renovation is planned."

Some institutions have master plans for heritage preservation and some do not. Bitikofer says that Rollins has no written policies on historic buildings "because there are such large and diverse considerations...it comes down to judgment, and any policy would become either too restrictive or irrelevant; every situation is unique. We have plenty of buildings we would never contemplate taking down." On the other hand, Eckhardt says that, had Colorado College had a master plan in place a few decades ago, administrators or the board of trustees at the time might not have been able to unilaterally decide to demolish some fine old buildings in favor of new construction. Stephen Maiorisi, vice president of planning design and construction at **Brown University**, Providence, Rhode Island, says that the common steps in approaching older, heritage buildings are 1) identify what in the building you want to preserve, 2) study the original drawings, and 3) assuming the structure is worth saving, determine how it will be preserved/renovated and how it will achieve the levels of safety, compliance, technology, energy efficiency, and other needs required by the institution.

#### **REPURPOSING—A GOOD DEAL**

For the past few years, economic conditions have favored repurposing old buildings. "Unlike ten years ago," Zitzow says, "labor and materials have become so expensive that building new is more costly, so repurposing has become more attractive."

In 2008, when the economy plummeted, Brown looked at its existing stock, rather than build from scratch. Brown converted three projects from new buildings to renovations. They say the results were better than having new buildings, demonstrating that older buildings can have new life. "The best of all solutions," says Michael McCormick, Brown's assistant vice president of facilities management, "is to combine two levels of renovation: match program needs to capital projects." The need was for an archeology center, and there was a fundraising campaign to create one. That funding supplied the means to renew Rhode Island Hall (1849) as the site for the center, which McCormick says had been occupied for over a century with random sets of offices. During the renewal process, they uncovered a grand two-story space, with an arched ceiling and large skylight. When Mencoff Hall (1844) was renovated, they discovered a dome that became a centerpiece of the building.

Old armories and outgrown gymnasiums and libraries are prime structures for repurposing. At **Bowdoin College**, Brunswick, Maine, the Curtis Pool (1928) closed in 1986. Donald Borkowski, director of capital projects, explains that, in 2007, "the interior was gutted right down to structure and put together as a recital hall with world-class acoustics." Even when buildings are not immediately repurposed, they are often being preserved for eventual use, rather than demolished.

#### RHODE ISLAND HALL AND MENCOFF HALL—BROWN UNIVERSITY



Rhode Island Hall Before.



Rhode Island Hall After.



Mencoff Hall Before.



Mencoff Hall After.

#### **RECITAL HALL—BOWDOIN COLLEGE**



Original Curtis Pool Exterior (1928)



Curtis Pool.



In 2007, the pool was repurposed to a Recital Hall.



Finished Recital Hall. ALL PHOTOS USED WITH PERMISSION FROM BOWDOIN COLLEGE





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#### **AUTHENTIC, REPLICATED, OR MATCHING?**

Exteriors age; they can crack, crumble, and suffer from poor previous repairs. How is an institution to approach such major jobs? At the University of Wisconsin Madison, the oldest building, North Hall (1851), "had been incorrectly repaired by masons with an improper mortar mix and a joint profile that was inconsistent with the original technique," explains Historic and Cultural Resources Manager Daniel Einstein. The original

#### FURMAN HALL—OREGON STATE UNIVERSITY



Historical Image of OSU's Furman Hall, 1902.



As the condition of the building deteriorated, a fence was erected to protect passersby from possibly unstable masonry.



The building was renewed with a facade of limestone that recreates the original look.

mortar had been lime putty, but repairs had used Portland cement (a faster curing cement that was not made in the U.S. until the 1870s). The 2011 renovation removed the cement mortar and used lime putty mortar, matching the texture and color of the original. Also, the masons salvaged replacement stones from a building that had used the same original quarry. The university received several awards for its careful attention to historically accurate craftsmanship and materials.

In renovating its chapel (1845-55), Bowdoin was able to locate-two miles down the road-the now-disused granite quarry that the original stone had come from. The lime mortar that bonded the granite façade stones to the inner core had failed, causing the façade to separate and pull away. "In the new construction," says Borkowski, "we reinforced the inner core and mechanically fastened the façade stones to it with over 3,000 anchors."

#### HAMILTON HALL—MONTANA STATE UNIVERSITY



Hamilton Hall, MSU 2012, the renovated main entrance that again resembles the original main entrance, enhanced with code-required railing to the landings.



In 2009, the wood single-pane glass windows were replaced with replica double sash, multi-light dual pane windows, achieving energy improvement and historic preservation. The color of the trim was also researched and returned to its original dark color. This photo shows both the original and replacement windows.
**Oregon State University**, Corvallis, took a different approach to "taking the skin off" of Furman Hall (1902), one of the oldest buildings on campus, says David Dodson, university land use planning manager. The façade had been sandstone, but the grain was such that water had penetrated for years. In fact, there was fencing around the building to keep people away because stones at the top threatened to topple. In renovating the building, he says, "we did not replace the huge 600 lb. stones. Instead, we put in a new structural wall and added a thin façade of limestone that replicated the original sandstone."

At **Montana State University**, Bozeman, an interior and exterior renovation of Mission Revival-style Hamilton Hall (1910) did not seek to replicate the original materials. "Materials do not match exactly," explains Associate University Planner Victoria Drummond. "The new material should respect the original design. And although it is obviously new, it is related to the minds and hands of the original craftsmen," she says. "The intention is to be respectful, show the connection, and be proud of the technologically enhanced materials we have now. For example, the original flooring in many of the early 1900s buildings is Italian terrazzo, which was created by a family of craftsmen 100 years ago. We don't want to try and duplicate it; inste<mark>ad we</mark> preserve it, show respect for it, but also highlight new resources."

At Colorado College, new window systems in two old buildings being renovated will aim to look like the original windows but will use different materials and be far more energy efficient and require less maintenance over their life cycle. Eckhardt admits that this choice will mean that the State Historical Fund will not supply funding, as it has for other projects, but the college's chief thrust is sustainability and reduced carbon footprint.

Some institutions search for authentic processes, materials, or components. Sometimes, contemporaneous materials are available. At **Rutgers University**, New Brunswick, New Jersey, Vice President, Facilities and Capital Planning Antonio Calcado says that he will look for original parts, such as an 1870s staircase, to incorporate into a building of that era. When original parts are not available, Rutgers attempts to craft them using the same materials and processes. To replace a fence dating from the mid-1800s, Rutgers tested the metals and found a firm that would cast the same metals the same way as in the original fence.

The **College of William & Mary**, Williamsburg, Virginia, with three colonial-era buildings, including the original Sir Christopher Wren Building (1695), has the advantage of







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WREN BUILDING—COLLEGE OF WILLIAM & MARY



The Sir Christopher Wren Building at the College of William & Mary in Virginia is the oldest college building in the United States and the oldest of the restored public buildings in Williamsburg. In the course of its history, the Wren Building has been gutted by fire three times—in 1705, 1859, and 1862. Each time the interior of the structure was rebuilt.



Today, the Wren Building, now in its fourth century, continues to be used as an academic building, housing faculty offices on the third floor and classrooms throughout the building.

pairs, and for the Tiffany windows, install protective laminated

glazing. Reeves says that the technology for some of these jobs

involves a combination of chemistry, physics, and engineering. The National Park Service began publishing Technical Briefs

having Colonial Williamsburg at its doorstep. Louise Kale, executive director of the historic campus, explains that they receive expert advice from the Colonial Williamsburg Foundation (e.g., how to waterproof colonial foundations) and can contract with its craftspeople for repair work and for help in finding authentic materials. "Historic preservation," she notes, "is not a cheap date."

Sometimes new technology comes to the rescue. When Kirkpatrick Chapel (1872) at Rutgers was renovated in 1916, it received new stained glass windows, including three created by Louis Comfort Tiffany. Rutgers Architect Elizabeth Reeves says that restoring the windows in the past few years required a qualified preservation architect, a stained glass window consultant, and an expert artisan who could construct the same type of lead caming as the original, along with making many other re-

#### **REPLACEMENT HAS ITS REASONS**

for the treatment of historic materials in 1984.

In some cases, the look of a building can be better preserved if materials are changed—a new material can look more authentic and be more durable than the original. One example is Pinehurst Cottage (1885-86), which is the oldest and the last original building at Rollins College, and which the Florida Trust for Historic Preservation has named one of the architectural treasures of the state. The problem is that the group of New Englanders who envisioned a college in Florida arrived

#### KIRKPATRICK CHAPEL—RUTGERS UNIVERSITY

Kirkpatrick Chapel (1872) at Rutgers received three stained glass windows by Louis Comfort Tiffany during its 1916 renovation.



in 1885 with a New England mindset: They built in wood. Bitikofer explains that there is a responsibility to preserve Pinehurst Cottage despite the fact that, in the Florida climate, "wood rots, it gets termites, and it's not good in hurricanes." The architecture of the rest of the campus is in a more appropriate Spanish Mediterranean style.

A few years ago, Pinehurst was renovated and got new siding—yet again—using the correct cypress boards. "It already looks bad," Bitikofer admits, adding that next time, they hope to replace it with a visually consistent cementicious board with a profile like clapboard. "You have to find the sweet spot between historical and pragmatic," he says.

#### UNCOVERING THE AUTHENTIC

Renovating historic buildings and other structures can reveal everything from charming surprises to stunning treasures. At Brown's Manning Hall (1834), the tops of columns had been covered with monochromatic paint. The paint was removed to reveal brownstone capitals with subtle shadings. When Maiorisi's staff took down Van Wickle Gate (1901) to be restored, it was discovered not to be wrought iron as had been universally thought (and is still listed as such in Wikipedia), but black paint over bronze. It has been uncovered and restored.

"This is the sort of problem to address with training," Mc-Cormick says. "Incrementally incorrect decisions can degrade a campus over time. We want to prevent that."

The renovation and restoration of the Bowdoin College Chapel (1845-55) dealt with a multitude of cover-ups spanning many years. "At one time, there was an old heating coal furnace with a large floor register in the center of the chapel," Borkowski says. "About 150 years of soot came from that, so that you could hardly see the frescoes on the walls." And when the deep blue

#### LEWIS HALL—MONTANA STATE UNIVERSITY



Lewis Hall, MSU, 2014 main entry with new green roof tiles that replaced the metal standing seam roofing installed mid-century, and the restored terra cotta medallions and decorative arch surrounding the main entry.



Lewis Hall, MSU, 2013 during restoration of the terra cotta architectural elements.

ceiling was cleaned, it turned out to have gold stars, invisible for decades. "Some walls were covered with 9 x 9 ceiling tiles, supposedly for acoustics," he says, "and the stained glass windows had been covered with Plexiglas for energy conservation."

Dropped ceilings of acoustical tile (circa 1970 or earlier) were perhaps useful for economical lighting, energy savings, or noise reduction, but they covered up treasures of architecture in large buildings and small—and perhaps still do.

For decades, the reading room at Doe Memorial Library (1911) at the University of California, Berkeley had a dropped ceiling. They opened it up and uncovered a gilded, sculpted, 45-foot-high coffered elliptical barrel-vault ceiling. Berkeley's LeConte Hall (1925), "originally had a large open hall, big skylight, excellent ventilation, and natural light," says Marthinsen, "but it had been covered and become a warren of offices." Now it's an open grad student area, with the skylight uncovered. However, lest we wax too nostalgic about old buildings, she points out that, constructed originally as a physics building, LeConte Hall had no ladies' room because it was assumed that

#### **PINEHURST COTTAGE—ROLLINS COLLEGE**



Pinehurst Cottage, early photo PHOTO COURTESY OF ROLLINS COLLEGE



Pinehurst Cottage Today. Last of the original 1885-86 wooden buildings. PHOTO COURTESY OF SCOTT COOK FOR ROLLINS COLLEGE

women did not study physics-a mistake corrected in the 1950s.

Assuming that acoustical tiles were installed for noise control, Colorado College was careful to preserve the goal as it changed the solution. When they opened up the ceilings at Cutler Hall (1880) and uncovered vaulting arches, they knew that the staff still needed viable offices. So they applied acoustic plaster to muffle sounds.

Studying old photographs has also brought some "Eureka" moments. At Bowdoin, a facilities worker rummaging around in a storeroom under a dining hall found a pendant lighting fixture. An old photograph showed it hanging in the portico at the main entrance of the art museum—now it is back in place.

#### IS NEW TECH A BOON FOR OLD BUILDINGS?

Sometimes, modern technology is not easy to install in historic buildings. As UND's Zitzow says, "The challenge is to get mechanicals into the building so that they do not deface the architecture." But perhaps the higher the tech, the better for older buildings. Bitikofer of Rollins points out that less structured cabling is needed to support wireless access (as it is replacing landlines), so "less clunky installation is needed."

Colorado College is looking at variable refrigerant flow, a fluid system that takes heat from the sunny side to the shady side of the building in winter and vice versa in summer. "It's a system that needs no ductwork," Eckhardt says, "which is very helpful in the case of old buildings that have little room for ductwork. Only smaller ductwork would be needed for fresh air."

#### SAFETY AND COMPLIANCE

With historic buildings, issues of safety and compliance can be more complicated—with solutions more expensive or creative than elsewhere on campus. Sometimes, compliance can be done so finely that it becomes its own work of art. At Colorado College, the oak and metal railing of Cossitt Hall (1914) was beautiful but did not meet standards. So the college's craftsmen placed the steel balustrades at the statutory distance apart and added an

#### CUTLER HALL—COLORADO COLLEGE

Cutler Hall (1880), before, then with ceiling removed and vaulted ceiling revealed, then renovated.









#### COSSITT HALL—COLORADO COLLEGE



**Cossitt Hall Rotunda:** "The oak and steel guard railing around the Cossitt rotunda had to be 42 inches in height to meet code, so we added a similar oak hand rail above the original railing without disturbing the original," explains Campus Planner George Eckhardt. "We also had to infill the vertical metal balusters to meet the 4-inch maximum spacing code, which was done without impacting the original metal balusters."



"Likewise," says Eckhardt, "the connected oak stair hand railing had to be 36 inches above the steps so a continuous hand railing was added above the original oak rail. The continuous connection does not exactly meet code, but maintaining the significant historic contour feature of the oak railing was an important detail."



oak rail above the existing one.

Sometimes compliance is simple: At Rutgers, there was no way the third floor of an old building could have the statutory two means of egress. So that floor was simply closed to occupancy. Seismic safety is an issue in renovating buildings in many states. A dramatic example is Berkeley's Hearst Memorial Mining Building (see page 42).

### ADA COMPLIANCE: THE ART OF THE RAMP, AND OTHER SOLUTIONS

"The question is," says UW-Madison's Einstein, "how do you provide ADA access in a way that minimizes the effect on the experience of a building? That is, to retain the character of the building so it can tell its original story? Thirty or 40 years ago, you might have poured a concrete ramp up to the front door."

Today, there are subtler—and more expensive—approaches. For example, at Colorado College's Cossitt Hall (1914), the ramp fits in seamlessly, made of the exact volcanic rhyolite stone of the building.

UW-Madison follows a different line of thinking. In the current discussions about a ramp for the Agricultural Dean's



**Cossitt Hall Exterior:** The exterior photos show how well the new ADA access ramp blends in with the exterior stone walls, using the exact same volcanic ash rhyolite stone used in construction the building in 1914.

#### NANCY NICHOLAS HALL—UNIVERSITY OF WISCONSIN



At University of Wisconsin Madison's Nancy Nicholas Hall, a "hyphen" connects the old and new buildings and also creates space. The new building recognizes the design template and is respectful of the old building, but does not replicate it.

Residence (1897), Einstein says, "The ramp is to be located on the least public side of the building and will be compatible but distinctive, yet not distracting. It will speak the vernacular of the building but not be confused with the period of significance of the rest of the building,"

A number of campuses have created a new accessible side or back entrance in their older buildings by taking out a window, raising the grade, and installing a door—a happy solution that might not be possible elsewhere.

At Bowdoin, where the art museum underwent a \$20 million renovation, the ADA problem was that the first floor was well above grade, approached by a sweeping staircase. Although the project architects proposed altering the staircase, the Maine Historic Preservation Commission said it could not alter the view of the building. The solution, Borkowski explains, "was to build a bronze and glass pavilion separated from the building but acting as the new entrance to it." The pavilion contains an elevator and stairs going down, depositing people at the lower level of museum; they can proceed to upper floors from there.

For the colonial buildings at William & Mary, Kale periodically requests variances. "Every step is a negotiation," she says, "with tension between design advocates for the colonial building and code compliance advocates. Tension usually results in compromises." However, Robert J. Avalle Jr., director of operations and maintenance, adds that that the most recent renovation of one of the colonial buildings, the Brafferton (1723), was a huge leap in life safety, with sensitive smoke detection, treated

floors, and their first sprinkler system.

#### ADDING WITHOUT DETRACTING

One of the issues campuses face is how to build additions to historic buildings or new buildings adjacent to them. "Previously," Daniel Einstein says, "incompatible, insensitive build-

#### EDUCATION BUILDING—UNIVERSITY OF NORTH DAKOTA





At the University of North Dakota, the renovated Education Building (1954) is joined seamlessly by the New Education Annex, built with the same materials and reflecting the signature architecture of the university. The project was the first higher education facility in the state to earn the LEED Silver designation. The older building is on the National Register of Historic Places.

#### ART MUSEUM—BOWDOWIN COLLEGE



Creating Access: When the Maine Historic Preservation Commission forbade alteration of the grand main stairway during renovation, Bowdoin built a separate bronze and glass pavilion with elevator and staircase going down to the museum's lower level.

#### DOE MEMORIAL LIBRARY— UNIVERSITY OF CALIFORNIA, BERKELEY



This Classical Revival building was completed in 1911. The gilded, sculpted barrel vault ceiling of the library's reading room was long hidden by a dropped ceiling.

ings were glommed onto the side of the historic one. In the last five or ten years, we have been doing a much better job of recognizing that there are appropriate ways to expand a building that respect the historic building while allowing us to meet our

needs. The challenge for historic preservation," he says, "is creating new spaces with compatible contemporary design." One example of success is UW-Madison's Nancy Nicholas Hall (1913) whose recent renovation and addition was awarded both a LEED Gold designation and a local preservation awards for both rehabilitation and compatible design.

At UND, Larry Zitzow says, "We're one of very few schools that have been successful in preserving the gothic architecture with sandstone along the roof line and sandstone bands around windows and doors We're working to protect that look. In newer buildings, we're using that same look—so the buildings look like they come from the same parents."

At Montana State University, the original front and most elegant entrance of Lewis Hall (1923) has been preserved, with the terra cotta arch and medallions restored in an award-winning program. But it is part of a complex of buildings, including research labs, which need to be connected to one another. Those connections are on other facades.

Admirable as the goals of historic preservation and modern compatibility may be, David Dodson of Oregon State raises a serious issue. Needs on campus vary, and new construction is sometimes needed within a historic district. When the prestigious Linus Pauling Institute wanted to relocate to OSU, Dodson explains, it already had the funding, and the university submitted a plan for Corvallis City approval. (Probably the institution's most famous alumnus, Pauling graduated from OSU, then Oregon Agriculture College, in 1922.) "The Historic Preservation Commission denied the plan," Dodson says. "OSU had to make changes to the building, and it was finally accepted,



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just squeaking through City Council approval. This shows the vulnerability of the process," he says, "and it's a problem for the university's long-term goals and research work."

#### LOSING—OR NOT LOSING—HERITAGE BUILDINGS

Given the age of many historic buildings, deferred maintenance can hasten their demise. Brown's McCormick says that, in order to avoid having historic buildings demolished due to deferred maintenance, they have a scoring system for maintenance that places a little more importance on historic buildings. At Bowdoin, Donald Borkowski says, "Even in a recession, we pulled back on capital projects but never cut major maintenance. In fact, we increased the amount of funding for deferred maintenance."

When old buildings are demolished, the effect can be a civic wakeup call. In the 1950s, when Brown demolished some 18th and 19th century houses, the community responded, forming the Providence Historical Preservation Society, which has been robust ever since. Maiorisi says that, over the last decade, relations with the society have been good. "Even with buildings that do not have to go through an approval process, we consult with the society," he says. "For example, in an ongoing painting program for our houses, we consult with them on colors." Demolition is not often on Brown's agenda. Recently, rather than demolish a fine old house that was blocking other



Original University of North Dakota Science Hall and the North Dakota Bookstore. The Science Hall was demolished in 1999 and the pillars were reused inside the bookstore in 2000.



#### Sliding to Safety

Seismic strengthening is in building renovations on many campuses, but few projects have been as dramatic as that of UC Berkeley's Hearst Memorial Mining Building (1907), a gem of a Beaux Arts building that lies 800 feet west of the Hayward Fault. By 1997, it had become so seismically poor and generally rundown as to be nearly unusable. The \$90.6 million renovation and expansion including a seismic retrofit that cut the granite four-story building free from its foundations, lifted it up, and installed a base isolation system of 134 composite steel and rubber bearings. The 60-million-pound building was lowered onto the isolators, which allow it to move 28 inches in any horizontal direction in an earthquake. (The base isolation technology had been pioneered by Berkeley engineers.) Today, the original exterior and a number of original interior components—such as three dome skylights above herringbone-tiled vaulting—remain intact. The building is home to the Department of Materials Science and Engineering. (source: UC media relations)

http://www.berkeley.edu/news/media/ releases/2002/09/18\_hearst.html



UC Berkeley's Hearst Memorial Mining Building, after renovation.

university plans, they moved it to the edge of the campus at a cost of over \$5 million.

Sometimes, circumstances dictate demolition. At Rollins, a fine Addison Meisner–style dorm built in the 1930s had rooms surrounding a courtyard so that each room had window-door cross ventilation, a boon in the days before air conditioning. However, Scott Bitikofer explains that when air conditioning was installed in the 1970s, the students continued the tradi-

tion of open windows and doors. The high Florida humidity hit the cold air conditioning, and the condensation ran down the walls. Mold became a huge air quality problem and was one of the reasons the building was demolished.

Einstein recounts perhaps the most sadly ironic story of demolition. UW-Madison's old law classroom and library, a Richardsonian Romanesque building, was demolished in 1963, in part because it was not structurally adequate to accommodate the heavy books-the floor could not carry the load. Also, instructional methods had changed and required smaller classrooms. The building was eventually replaced with "a modest rectangular structure," Einstein says. "Today, of course, the original building could have been adapted for other instructional and research uses, especially considering the advent of computer-based resources," he says. Such as virtual law books.

Notable buildings that must be demolished have been documented, and sometimes, architectural components are saved. At North Dakota, Zitzow says that the Science Hall (1901) was taken down in 1999 because the structure was not acceptable for renovation. "But we saved the columns, pediments, and column caps of the front entrance, the only really outstanding components of the building," he says. "We kept them in the yard until the university was building a new bookstore. Now those components are inside the bookstore as a major storefront."

Interest in historic preservation at college and university campuses is greater than ever among students, alumni, and the surrounding communities. "The more we do," Brown's Michael McCormick says, "the more the people can see the outcomes; and they want us to do more."

Anita Blumenthal is a freelance writer based in Potomac, MD. She can be reached at *anitablu@earthlink.net*.

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# Six-Year Salary Trends for Facilities Professionals

[Ed. Note: The following is one of an occasional series of articles and reports that mine data and results found in APPA's annual Facilities Performance Indicators (FPI) report. The salary trends and analysis report will become an annual feature published in the July/August issue of Facilities Manager.]

s facilities professionals we are responsible to our institution for optimally managing resources placed in our charge. Since many of us have technical backgrounds, our personal attention tends to gravitate toward those resources that require technical solutions to their management challenges.

We expend extreme effort to learn all there is to know about the latest leading-edge mechanical systems being considered for the new science building we are about to construct. We conduct exhaustive studies and weeks of

analysis to determine the energy consumption trends and financial payback of the energy conservation projects being pitched by the sustainability committee. Numerous debates will ensue in technical meetings, regarding the merits of central power plants over package power systems when considering expansion to a remote undeveloped site. And we will spend

many hours in management team meetings discussing numerous technical performance indicators and their trends.

All of the above mentioned technical effort, study, analysis, and debate is important and absolutely necessary, because it directly impacts the facilities professional's ability to properly manage tangible and highly valuable institution resources.

#### **BUT WHAT ABOUT THE STAFF?**

While the catchphrase "people are our most important resource" is probably over used, there is no other area where it is more true than the facilities management profession. Without the electricians, for instance, we would find ourselves figuratively and literally in the dark. Such a statement could be made about the people that perform every job in the facilities management organization.

So, people truly are our most important resource. But

Tracking Your Facilities Vital Signs

this resource is supported by other important tangible and intangible resources. The intangibles include but are not limited to proper leadership, high-quality work environments, non-monetary award and recognition programs, training, and motivation activities-just to name a few. Employee compensation, made up of salaries and benefits, is the most tangible and significant resource that facilities professionals must manage. Benefits are usually set at the institution level, and the facilities organization has little direct impact on this resource. Salaries, on the other hand, are typically managed by internal

> facilities management organization policies and practices.

#### SALARIES ARE A BIG TICKET ITEM

Salaries typically make up the largoperating budget. In APPA's Facilities

of \$4,208,404,200, purchased utilities of \$1,899,947,343, and salaries without benefits of \$1,114,456,245. As can be seen from these numbers, salaries represent 26 percent of the annual operating budget excluding purchased utilities.

The sheer magnitude of the salary budget coupled with the significant intangible impact salaries have on employees, suggest that facilities professionals should devote just as much effort, study, analysis, and debate to our employee compensation policies, practices, and trends as we do to the more exciting and comfortable technical challenges of our profession mentioned at the beginning of this article.

Therefore, armed with the realization that acquiring knowledge about employee compensation is critical and necessary, where can you, the facilities professional, turn to for assistance? By participating in, and customizing the data available through APPA's FPI report, we hope to give you



#### Figure 1-a: All APPA Average Salaries

	FY 07	7-08	FY 12	2-13	1
Administration	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Chief Facilities Officer	181	\$127,288	149	\$135,316	1.06
Assoc/ Assist Dirctr	317	\$87,904	233	\$96,539	1.10
Bus/ Budget Mgr	212	\$63,792	175	\$65,222	1.02
Human Resources Mgr	50	\$59,217	56	\$57,101	0.96
Training Officer	44	\$52,942	36	\$57,701	1.09
Telecom Specialist	18	\$43,303	6	\$50,321	1.16
Computer Programmer/Analyst	196	\$54,922	160	\$58,244	1.06
Other Administrative Managers	305	\$59,670	218	\$63,450	1.06
Secretary Clerical	1,142	\$34,743	662	\$36,249	1.04
Other Administration Positions	481	\$46,323	366	\$42,880	0.93

#### Figure 1-b: All APPA Average Salaries

	FY 07	-08	FY 12	-13	
Maintenance Group 1	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Shop Supervisor/ Foreman	986	\$56,675	745	\$57,410	1.01
Carpenter	870	\$43,644	504	\$44,689	1.02
Electrician	1,496	\$46,780	906	\$48,538	1.04
Locksmith	289	\$42,722	242	\$44,344	1.04
Machnist/ Welder	109	\$46,252	87	\$46,715	1.01
AC/ Refrigeration	1,234	\$45,795	909	\$47,701	1.04
Mason	144	\$44,839	71	\$43,338	0.97
Painter	642	\$41,267	394	\$42,456	1.03
Plumber/ Pipefitter	974	\$45,764	665	\$48,646	1.06
Roofer	92	\$39,530	77	\$39,366	1.00

#### Figure 1-c: All APPA Average Salaires

	FY 07	-08	FY 12	-13	
Maintenance Group 2	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Sheetmetal Worker	156	\$50,458	57	\$50,043	0.99
Other Trades Positions	512	\$43,271	514	\$43,328	1.00
Chief Superintendent Maintenance	194	\$75,460	186	\$75,583	1.00
General Zone Maintenance Worker	1,462	\$37,772	1,164	\$39,068	1.03
Elevator Mechanic	66	\$55,188	52	\$68,416	1.24
Vehicle/ Equipment Mechanic	277	\$43,261	152	\$43,577	1.01
Storekeeper/ Expediter	255	\$35,755	211	\$36,179	1.01
Labor/ Trades Worker	540	\$34,565	357	\$38,123	1.10
Other Maintenance Positions	493	\$38,540	319	\$44,401	1.15

the tools necessary to gauge, compare, and, when needed, make a case for salary increases based on salary trends in the industry.

#### JUST THE SALARY

For this article, we will focus on the largest and most tangible component of the compensation equation—salaries *excluding benefits*. Benefits can be just as impactful as salaries on the success of a facilities management organization's compensation program. However, we will focus only on salaries and will leave the subject of benefits for another time.

Since the word "salary" could mean different things to different people, for the purpose of this article we define salary as the annualized amount paid to and individual excluding fringe benefit, as reported in the annual APPA FPI survey and as collected by the U.S. Department of Labor Bureau of Labor Statistics (BLS) Annual Compensation survey.<sup>2</sup> We will explore a method for judging the health of a facilities organization's salary program using the salary data from the APPA FPI report and data collected by the BLS and made available to the public.

A common method of evaluating salaries is to conduct a compensation study. A compensation study can be conducted by in-house staff or outsourced to a firm specializing in such studies. A common method involves collecting salary data from multiple external sources and performing comparative analysis.

A formal compensation study can be time consuming and costly as it involves formally collecting job description and salary information from willing employers in the local area. So before embarking upon a formal compensation study, it would be wise to take advantage of readily available data in the FPI and BLS databases.

#### **PUTTING FPI DATA TO USE**

One of my first major projects after becoming the physical plant director at the University of Texas at Austin over 12 years ago, was to conduct a comprehensive review of salaries for close to 1,100 employees working in over 200 different job titles. My first step was to compare our salaries to the APPA FPI report. I was able to complete the study for the leadership jobs using only the FPI data and data from several other public sources. The comparative analysis with the FPI report helped to validate the need to hire a firm to conduct a formal compensation study for the non-leadership jobs.

The end result of this effort was that we brought the salary ranges into balance among jobs based on the skill requirements and in line with prevailing salary ranges for our area. Most employees experienced a pay increase since both studies clearly validated that the current salaries were below market. The items put in place as part of the two studies are still serving the facilities department in managing its salary after over ten years in use. For a smaller organization it may be possible to conduct an adequate salary study using just the FPI report and BLS data.

#### **CUSTOMIZING FPI DATA: YOUR FPI EXPERIENCE**

#### WHAT YOU CAN DO

As an APPA member, you have access to all of the data in the FPI. If you are a participant, access to the data is free. If you

don't participate, you can still access the data, run reports, and use the information for a fee (however, you won't see the names of the other participants, just their data).

#### WHAT SALARY DATA IS COLLECTED

There are six modules in the FPI survey representing the six facilities management core functions: Administration, A&E/ Construction, Custodial, Energy/Utilities, Landscape/Grounds, and Maintenance. The survey collects salary data for 52 different jobs, grouped by the core function that they are associated with. Figure 1, shown in several sections, is a list of the 52 jobs and the average salary reported for them in the FY 07-08 and FY 12-13 FPI survey. The "Chg" column indicates how much more or less the FY 12-13 value is compared to FY 07-08. For example for Chief Facilities Officer, the FY 12-13 salary is 6 percent more than FY 07-08. You can use Figure 1 to make a quick comparison of salaries for jobs in your organization with similar job titles. However, you must keep in mind that the averages in Figures 1a-f are for all FPI survey participants including Canadian participants and all APPA regions, and they do not include benefits.



#### Figure 1-d: All APPA Average Salaires

	FY 07	-08	FY 12	-13	
A&E/Construction	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Architect	178	\$79,883	146	\$83,657	1.05
Engineer	251	\$75,409	155	\$79,595	1.06
Facility Planner	160	\$68,130	109	\$68,414	1.00
Construction Manager	246	\$73,123	126	\$78,445	1.07
Estimator/Scheduler	63	\$51,545	51	\$56,338	1.09
Project Coordinator/Manager	485	\$62,502	375	\$63,574	1.02
Other Construction A&E Positions	432	\$48,152	396	\$47,800	0.99

Figure 1-e: All APPA Average Salaires

	FY 07	-08	FY 12	-13	
Custodial	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Custodial Superintendent/Manager	176	\$59,818	159	\$64,994	1.09
Custodial Supervisor/ Foreman	705	\$41,663	651	\$42,948	1.03
Custodial Crew/Team Leader	1,068	\$32,082	905	\$32,672	1.02
Custodian/ Housekeeper	12,475	\$26,113	10,229	\$27,240	1.04
Other Custodial Positions	570	\$30,260	334	\$32,835	1.09





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#### JUST FOR YOU

For a more customized comparison, you can generate the table in Figure 1 for only the participants in your region, as salaries are significantly impacted by regional job markets. Using the online Excel files (once downloaded and formatted,) you can produce the equivalent of Figure 1 for a variety of different groupings and subsets of the FPI dataset, thereby refining the comparison based on characteristics of your institution. For example, if your institution is a mid-size master's degree-granting university located in the Midwest region, then you could use Excel's auto-filter and subtotal features to select other institutions with similar characteristics to create the averages in Figure 1.

Note: At this time, a certain degree of expertise in Excel is needed to produce these reports, but work is being done to make this process easier for users to generate customized reports in the future.

#### **TRENDS IN FM**

Comparing your current salaries with the salaries in Figure 1 will give you a snapshot of how your organization's salaries stack up against FPI salaries for the current year. However, in some instances it is helpful to conduct a trend analysis of your organization salary history compared to trends of other external salary data and related indicators.

The BLS publishes the Consumer Price Index (CPI)<sup>3</sup> and the Employment Cost Index (ECI)<sup>4</sup>. The CPI tracks an element of the cost of living and the CPI tracks the cost to employer of one hour of labor, thereby representing salary trends for various groups of workers.

Figure 2 shows the normalized trend lines for the composite trend for the six FPI job groups. The graph show that all FPI job groups followed a similar trend, except that the Administration group experienced a

sharper increase in FY 08-09 and FY 09-10, but retreated back down in FY 10-11 and ended in FY 12-13 only slight above all other groups. We can also note that the A&E/Construction group took an upper trend along with the other groups for FY 08-09 and FY 09-10, but took a downward turn falling below the base year for FY 10-11 and FY 11-12, ending up in FY 12-13 just slightly above the base year.

Using the same method used by BLS, for each year we generated a composite trend line for the 52 jobs in the FPI that we will refer to as the *FPI All-Jobs Normalized Salary Trend*. This is done by computing the total salary amount reported for each job (average salary times the number of FTEs), summing the results and dividing by the number of FTEs reported in the FPI survey.

#### Figure 1-f: All APPA Average Salaires

C	FY 07	-08	FY 12	-13	1
Landscape/Grounds	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Grounds Superintendent/Manager	123	\$62,945	105	\$66,228	1.05
Grounds Supervisor/ Foreman	258	\$45,599	227	\$46,216	1.01
Grounds Crew/Team Leader	402	\$37,204	331	\$37,640	1.01
Groundskeeper	2,151	\$30,088	1,719	\$31,318	1.04
Other Grounds Positions	510	\$31,710	412	\$34,591	1.09

#### Figure 1-g: APPA Average Salaires

	FY 07	-08	FY 12	-13	
Energy/Utilities	No of Employees	Avg Salary	No of Employees	Avg Salary	Salary Chg
Director of Utilities	48.2	\$92,128	44.7	\$96,197	1.04
Utilities Supervisor/Mgr	183.8	\$64,167	167.8	\$66,458	1.04
Energy Engineer/ Mgr	84.1	\$68,769	77.5	\$72,752	1.06
HVAC Controls Tech	430.6	\$50,021	204.8	\$52,612	1.05
Utilities Operator/ Maint	1,205.2	\$46,221	919.5	\$49,857	1.08
Other Enrgy/ Util Positions	155.0	\$51,624	158.2	\$48,074	0.93

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#### Figure 2: FPI Job Group—Normalized Salary Trend



Figure 3: FPI All—Jobs Trend vs. Indicators



By normalizing this composite trend data we are now able to compare the result with the *CPI* and the *ECI* and other normalized indicators. We also used the BLS *May 2012 National Occupational Employment and Wage Estimates*<sup>5</sup> and identified 93 jobs with similar job title as those in the FPI survey. We created a composite normalized trend line for what we will refer to as *Matching BLS Jobs*.

By comparing the FPI trend lines with the *Matching BLS Jobs* trend lines, we can draw general conclusions about how FPI participants salary trend compare with national trends for matching jobs. As shown in Figure 3, we now have normalized trend lines for three indicators that we can overlay over any of our own data to see how we compare.

A closer look at Figure 3 reveals that the composite salary

#### Figure 4: FPI Job Groups vs. Indicators



Figure 5: A&E Jobs vs. Indicators



trend for all FPI jobs fails to keep pace with the CPI, the ECI, and the 93 *Matching BLS Jobs*. The salary spent per FTE for the 52 FPI jobs is only 4 percent higher in FY 12-13 compared to FY 07-08, while the CPI is 9 percent higher, the ECI is 10 percent higher, and the trend for the *Matching BLS Jobs* is 15 percent higher.

general comparisons made at the very highest level against composite data and therefore should not be used to draw firm conclusions.

However, they can be used as indicators of areas suggesting further "drill down" or additional analysis. For example, Figure 4 overlays the three indicators over the graph from Figure 2, thus drilling down one level to the job group level. This allows

It should be understood that Figure 2 and Figure 3 are

#### **Process Overview**

Starting with six years of salary data from the files downloaded from the FPI report on the APPA website, we also downloaded the employee cost index, consumer price index, and occupational employment and wage data files from the Bureau of Labor Statistics website. We built an Excel data model integrating the data from all those sources. Then, using the same method used by BLS, we created composite indicators to represent groups of jobs.

We normalized the data against the FY 07-08 base year for data compatibility and "apple-to-apple" comparisons. In addition to comparing current average salaries we also reviewed salary trends and compared them with trend for three external salary related indicators.

observations similar to the ones we made above regarding the FPI All-Jobs trend to be made about each job group.

While the comparisons in Figure 4 are one level less general than those in Figure 3, further drill down is still needed in order to make firm judgments about individual jobs.

We can't drill down for each of the 52 FPI jobs in this article. So, for the purpose of illustration, we drilled down for the A&E/ Construction group to determine what is contributing to the composite trend in Figure 4. The trend lines for each job in the A&E group are shown in Figure 5. As can be seen, the other Construction A&E positions and the Facility Planner jobs trend up for FY 08-09 and FY 09-10 but take a sharp downward turn and ends in FY 12-13 below all other jobs and all three indicators. *Note*: The *Matching BLS jobs* are a subset of the 93 jobs with job title similar to the FPI A&E job titles (17 of the 93 *Matching BLS jobs*).

#### CONCLUSION

The APPA FPI report can be customized to your organization. By applying the same methodology outlined in this article,

> facilities professionals can explore the jobs in their institution to aid in making decisions regarding salaries, policies, and practices. (5)

#### ENDNOTES

- 1 Annual Operating Expenditure (AFOE): Total expenditures for activities required for ongoing, routine operations and maintenance of the campus excluding purchased utilities.
- 2 Department of Labor National Compensation Survey: see *http://www.bls.gov/*
- 3 Consumer Price Index (CPI): see http://www.bls.gov/
- 4 Employment Cost Index (ECI):
   see http://www.bls.gov/
- 5 May 2012 National Occupational Employment and Wage Estimates: see http://www.bls.gov/

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# **A Sampling of Past APPA Publications**

From 1926 until the early 1950s, APPA's publications consisted only of a proceedings of the annual conference; no APPA publications are known to exist before 1926. Included in the annual proceedings primarily were meeting minutes, papers presented on current campus projects, and early attempts to collect and compare salaries and facilities costs. Since the first publication of the *APPA Newsletter* in 1951, APPA has published industry news, membership updates, research findings, operational and staffing guidelines, technical papers, and much more via newsletters, magazines, books, monographs, and online formats. Here we've included a small gallery of just a few of APPA's many publications from the past 60 years.

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1955-56



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# Change is Hard, But Practice Can Help

By Matt Adams, P.E.

or most endeavors in business ◀ and personal life, we follow something of a repeatable process to become proficient. For example, in sports we first learn the rules and the basics. This is often followed by lessons or coaching. Then the time comes to try the activity for ourselves, often with other beginners. We practice and learn and then finally when comfortable we engage in a "real" game. If we enjoy the sport we continue to practice, learn, and play-always improving. This is a logical approach to the learned skills of life, and it is universally understood. That said, why wouldn't we adopt this approach in one of the most important, yet least perfected, skills of our careers: Change Management?

It doesn't make sense to learn about change for the first time during a "live fire" exercise with real (or at least perceived) winners and losers, not having learned or trained beforehand. It sounds ridiculous, but this is how most of us engage in change management within our institutions.

#### FROM CONCEPT TO REALITY

APPA supports change from a personal, interpersonal, and organizational perspective in its Leadership Academy. Closely linked to the timeless philosophies of Stephen Covey and other thought leaders, the four tracks of the Academy teach that change within our institutions comes from the bottom up. Unlike old school paradigms where management dictates and enforces change, the individuals effect change by first changing themselves and how they work with their peers. Management's role is more subtle, involving, inspiring, clarifying, guiding, encouraging, and enabling change at the individual level.

To many this concept is not new. However, very few can say that it is actually utilized effectively within our industry. What percentage of our peers perceive their success and happiness at work as heavily influenced (or even controlled) by the institution or managers above them? We don't know the actual percentage, but all would agree it is very high. Maybe too high. This old paradigm is holding back our profession.

As Glenn Smith teaches in the beginning of Track I of the 7 Habits; "Habit # 1 – Be Proactive, I am free to choose and ultimately responsible for my happiness." This concept is important to change management. Change effectively occurs at the individual level within our departments. This concept must be learned in place of the old top-down approach. Once learned, it needs to be practiced over and over again so that our staff and managers can have a new perspective on change, its execution, and most importantly, its impact on each individual.

#### **APPLYING EXERCISES**

These change management exercises come from a hybrid of content from Covey, the Change Management Institute and others. The first exercise is ideal if discussing and learning about change proactively is new to your organization. This exercise demonstrates that our departments are capable of change, have changed in the past, and will in the future.

Give groups of 4 or less a form with three columns, each titled "Change to," and labeled as follows:

- 1. Institution,
- 2. My Department, and
- 3. Me as an individual

Provide images of significant events or technologies. Randomly hand out these pictures to each group and ask them to discuss and write down how change occurred and its effect on each recipient in each column. Ask them to discuss how the change was instituted and if it was conducted effectively. If not, why not.

Suggested pictures include the cellphone, 2008 Recession/budget cuts, Personal Digital Assistant, Campus expansion or contraction, changing of Chancellor or Vice Chancellor, outsourcing of a campus service, and others that are relevant to your team.

It is important to share the results and discuss the realities of change that is forced down from the top (such as budget cuts) and those that came from an individual (such as exploitation of cellphone technology.) What is the difference, and why is change from the bottom up always more effective? The point is that we change all the time, and it's our choice to be proactive and "own"



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Current State	Desired State	Transition
85% success rate at production and delivery.	Improvement to 95% success rate with one-time investment of \$100,000 and maintain 95% rate hereafter.	Sequenced steps to change from current to desired state with details of tasks, resources, and timeline.
85% success rate with delivery truck for each delivery person.	Maintain 85% success rate while eliminating gas vehicles.	Sequenced steps to change from current to desired state with details of tasks, resources, and timeline.
85% success rate and addition of 20 new faculty members at satellite campus.	Maintain 85% success rate without any new full-time staff.	Sequenced steps to change from current to desired state with details of tasks, resources, and timeline.

#### INDIVIDUAL TRANSITION CONNECTION

Transition Tasks	Purpose of Task	Details ( resources, time, technology, processes )	Desired or Future state for each employee
Evaluate new tech- nologies to improve production.	Utilize one-time invest- ment funds to find new technology enabling increased production with current staff.	Send two staff members to tradeshows and have vendors make presenta- tion to staff on campus. Cost: \$5000; duration: 3 months. Produce report on recommended tech- nologies.	Delivery and production staff must participate in selection and recommen- dation of new technolo- gies. They will help define future use of technology and associated training, process changes, and performance metrics.
Procure new technology and implement.	Install and exploit new technology in order to maximize use of one- time investment for in- crease of performance score to 95%.	Procurement includes process mapping, system configuration, extended training, support, and installation.	Delivery and production staff will each partici- pate in training, process trials, and provide active feedback at each stage of implementation.

the change at the individual level or have it forced upon us.

The next change management exercise is more sophisticated and will allow participants to design change in order to address various scenarios in a proactive manner. So that no person in the exercise feels exposed, we use a fictitious department within the facilities department called "Popcorn Delivery" (PD).

This service center performs all of the services required to produce and deliver popcorn to every faculty member on campus each day. The current department is centrally managed, and each morning popcorn is popped and delivered during the day to the faculty. The department has been given a performance score of 85% effectiveness at achieving its goal with current organizational structure, staff, and resources.

There are two forms or templates required to complete each change scenario. First is the Change Definition Page. This page has 3 columns titled

- 1. Current State
- 2. Desired State, and
- 3. Transition

For each exercise, the leader of the exercise prepares the current state and desired state beforehand. Despite the fact that this is a fictitious department, we will use real-world scenarios for the exercise.

Notice that the scenarios are not unlike those actually faced by our leaders and staff. This correlation is important. The next phase of the exercise is the completion of the Individual Transition Detail Connection form. This form reinforces the concept that change is best completed from the individual up.

The direct ability for the individual to impact or be impacted by the change must be fully described and discussed. It is important to note that this is an exercise in which progressive and out-ofthe-box thinking is encouraged (see chart on page 63).

#### **PREPARATION AND PARTICIPATION**

We use a similar exercise in Track III of the Leadership Academy for a Case Study University that requires a great many changes. This is often difficult for the students, because many have not been given a chance to proactively participate in change.

This proves the original premise that asking for significant organizational change without and preparation or practice is impractical. Continued exploration and practice of change management should be a required skill for our current and future facility management teams. (§)

Matt Adams is president of Adams FM<sup>2</sup>, Atlanta, GA. He can be reached at *matt@ adamsfm2.com*.

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# **APPA's Codes Work Group Process Works!** Codes Work Group Evaluates Proposed Cleaning Standards

Richard J. Davis, P.E., JD

he APPA Standards and Codes Council (ASCC) launched its work group concept in late 2013, which is expanding participation in its standards and codes activities. Council work groups bring assurance that the actions of the ASCC reflect the diverse needs and desires of APPA member institutions, and embrace the societal value and purpose of education and the institutional mission. Work Groups are commissioned by majority vote of the ASCC, and are chaired by its members. There are two types of work groups: those established to work on a particular question with a defined completion date, and those managing many related questions on a continuing basis. The former disbands when their assigned work assignment is completed, and the latter exists until the circumstances giving rise to their work change.

#### THE LAUNCH

Within the last four months, I had the good fortune and opportunity to chair the first ASCC Work Group. The experience provides a sound basis to answer whether the work group model functions well and supports the goals of APPA. It does.

The Cleaning Standards Work Group was launched in January of this year and successfully completed its assigned scope of work in April. In that time John Bernhards, associate vice president of APPA, and I arranged a convener's meeting, scheduled multiple meetings with the group, preserved chat conversations made during Web-based meetings, collected e-mail and oral comments, and presented multiple drafts of the Work Group's report and findings for review, comment, and ultimate approval by the Work Group members. The inaugural convener's meeting of the Work Group attracted more than 90 registrants from more than 80 APPA member institutions, thus ensuring diverse input and representation from the membership. The Work Group's final report was presented at the annual meeting of the ASCC in early April, where it was unanimously approved.

The question with which the work group grappled was:

Whether the efforts of the Simon Institute, through a series of steps to have a cleaning system (OS1®) become an American National Standard suitable for adoption into public law, are in the best interest of APPA members?

OS1<sup>®</sup> is a custodial team cleaning method that is trademarked and owned by ManageMen Inc., a privately held corporation in Utah. The Simon Institute, which organizes the Simon Institute Symposium (a gathering of OS1 users) applied for and received approval in late 2013 from the American National Standards Institute (ANSI) to become an ANSI Standards developer.

The Work Group comprised managers and experts in OS1 and those not, as well as both supporters and critics of OS1 among those familiar with the proprietary system. There was overwhelming agreement among Work Group members that the decision of whether to use OS1 or similar "team cleaning" systems or processes on a college or university campus should be made by the institution's management team, and not imposed by government regulation or public law, as proposed by the Simon Institute and endorsed by owners and management of ManageMen Inc. A copy of the Work Group's report and conclusions are available on the APPA web site at www.appa.org.

#### A JOINT APPEAL

Immediately following publication and approval of the Work Group's report, APPA and the International Sanitary Supply Association (ISSA) filed a joint appeal with ANSI, requesting that it rescind its decision allowing the Simon Institute to develop ANSI standards. A key argument in the joint appeal is that the Simon Institute made seemingly minor but significant word changes to its standards development operating procedures during the accreditation approval process, without benefit of review and comment by APPA, ISSA, their respective members, and the public at large. In short, the Simon Institute removed

references to "OS1" in its operating procedures. By doing so, however, it broadened the scope of its proposed activities in a manner that significantly expands the number of materially affected stakeholders. Those stakeholders now include not only "OS1" interested parties but now *all "non-OS1" users*; equipment manufacturers and suppliers whose products are not approved for use in OS1; custodial cleaning consultants who provide team cleaning systems and related products that compete with OS1; and developers of non-OS1 custodial cleaning standards and guidelines.

Another core component of the joint appeal is concern with the Simon Institute's management and control at the time ANSI approved its application to become an ANSI standards developer. In preparing the appeal, the state of Utah's public tax-exempt records division was contacted and asked to confirm, in writing, the identities of the Simon Institute's officers and governing representatives. This inquiry was made only after repeated requests were issued to the Simon Institute-which has publicly stated that it is a 501(c)3 tax-exempt organization-requesting that it divulge the identities of its governing officers or directors. The Simon Institute refused those requests. The public record released in April from the State of Utah reveals that there are five authorized directors, two of whom are owners or officers of ManageMen, Inc. This recent finding substantiates a key conflict of interest concern identified in the Work Group report, which pertains to the control and operation of the Simon Institute.

#### A SUCCESSFUL ENDEAVOR

While the outcome of the joint APPA/ ISSA appeal to ANSI will not be known until September 2014, it is without question that the Cleaning Standard Work Group activity was a complete success. Some factors that contributed to this outcome are:

• Wide and diverse participation of APPA institutional members from

throughout the United States and Canada, along with several equipment industry representatives.

- All Work Group participants disclosed in writing any potential conflicts of interest, to include representatives who self-reported that they received prior compensation from the Simon Institute.
- Members were articulate and knowledgeable. When in disagreement, contrary views were expressed within appropriate bounds of civility and decorum.
- The efforts of John Bernhards in supporting the group were instrumental and necessary for the success of the group.
- The process included many democratic traditions, including polled voting among institutional members.

The success of future work groups and the Council's work group concept will continue to depend on the determination of work group chairs to continually and informally check their processes for fairness; listening and being open to new ideas; presenting drafts and performing tasks that reflect the input of the work group well; displaying and maintaining professionalism in their work and communications; and discouraging divisive comments generally and especially when those comments are not on point with the mission of the work group. (5)

Rich Davis is the facilities engineer at The Evergreen State College in Olympia, WA. He is a mechanical engineer and a licensed attorney in his home state. He is a member of the ASCC and was a member of its predecessor group, the Code Advocacy Task Force. He can be reached at *davisr@ evergreen.edu*.



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# FPI Delivers Executive Bonus Summary Presentation to Participants

By Maggie Kinnaman, APPA Fellow

For the first time, some Facilities Performance Indicators (FPI) survey participants received a newly introduced Executive Bonus Summary Presentation within their Online Presentations Report area. This is our first attempt at delivering a "plug and play" presentation for FPI participants.

Only those participants who completed all sections of survey modules 1, 2, 3, and 5 during the last three survey cycles (fiscal years 2010-11, 2011-12, and 2012-13) received this executive summary presentation. We only need these four modules completed, and once we have three years of trending data in these modules, we can create this customized report for you!

If you were eligible during this most recent survey cycle to receive the executive summary report, you will see access to it in the upper right-hand corner of the home page of the report. It's located immediately below your basic campus information contained in the blue box below the horizontal header bar.

#### **IMMEDIATE REWARDS**

The power and value of this report becomes self-evident immediately. A personal and in-depth analysis of your specific data input over the past three years is conducted and included in the notes section. Also included are charts that show how you compare year-to-year and against an overall average for the particular data point you are viewing. The following seven measures are evaluated:

- Annual Facilities Operating Expenditures as a Percent of Gross Institutional Expenditures
- Adjusted Average Age and Useful Life of Buildings
- Building Aging Ratio
- Needs Index
- Actual Investment Measured Against Minimal and Optimal Investment
- Needs Index Measured Against Actual Investment



• Actual Birth-to-Burial Total Cost of Ownership Dollars per Gross Square Foot per Year of Useful Life

Not only are these measures explained and defined thoroughly, but an explanation is provided as to why this measure is



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important. Equally as important are the qualitative and quantitative aspects already discussed, which serve as a convenient yardstick for the analysis provided over your particular data input. With this report, it becomes easy to assess how well or poorly you are performing in a particular area, and you are given additional information that allows you to understand the "why?" of this.

The overall story that the data tells is important because that's the main reason that you participate in FPI. You want to create a credible database that supports the story that you know to be true for your institution. As we all know, buildings and infrastructure are the largest capital asset on any campus and if well maintained can provide the institution with a strong competitive advantage. We truly have a story to tell and backed up by credible data it becomes very compelling.

#### AN ACTUAL LOOK AT THE REPORT

Let's take a look at an actual Bonus Report prepared for institution X *(see previous page)*.

As you can see, the association of the selected data points and ratios can work

together to tell a story about your institution and its capital assets. This information will certainly help you gain a seat at the campus decision-making table.

So I encourage you to participate in APPA's FPI survey and create a powerful database that supports your institutional reality and can help to educate campus leadership about the reality of capital assets. (3)

Maggie Kinnaman is an APPA Emeritus Member, APPA Fellow, and Past APPA President. She can be reached at maggiekinnaman@comcast.net.

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

### APPA is not just an organization helping us make personal

connections—it's an organization that leverages the knowledge of others to achieve individual, institutional, and societal goals. This issue looks at two publications by APPA that demonstrate the value of the organization and the network of FM officers.

### CRITICAL ISSUES IN FACILITIES MANAGEMENT: ENERGY EFFICIENCIES

by Steve Glazner, editor, APPA, Alexandria, VA, 2014, 66 pp., \$30 (member), \$45 (nonmember), softcover.

The "sleeping giant" in facilities is energy. My experience in educational facilities has shown me that regardless of the other budgetary problems within the institution, the utility bill will always get paid. That's an extreme word, "always." But it's true. Buildings can fall into disrepair, academic programs can be trimmed, positions will (inevitably) be lost, but the utility bill will always get paid. As such, this area can be a gold mine for the facility manager.

*Energy Efficiencies* provides 15 examples and approaches to reducing utility costs for electricity, natural gas, oil, coal, and water. The major theme throughout the examples is the need for data about energy consumption and the importance looking at it from a different perspective. There are dozens of opportunities in every building and at every campus to reduce energy consumption and save money. The challenge is often convincing others why one expenditure is better than another.

No one-size-fits-all solution exists, despite what salesmen may want you to believe. However, I can identify a universally applicable (but widely disliked) solution that is guaranteed to save energy: stop using more energy by constructing new facilities. Just eliminate lots of (big) buildings from campus and



I'll guarantee utility costs will go down. Good luck with that solution; you're sure to upset at least one very influential person.

The contributors to *Energy Efficiencies* don't espouse a "silver bullet" for ener-

gy efficiency. Instead, each contributor describes a situation and an opportunity that arose after the problem was clearly defined. Each contribution demonstrates that each successful project was a success because time was spent to search out the issues in order to discuss them broadly within the organization and/or on campus, reach agreement on the problem, provide a solution, and then focus on completing the solution. It's not about the technical capabilities of the people on campus, it's about their ability to work with others (consultants, constituents, customers, and the data) to find successful solutions.

*Energy Efficiencies* is a good source for examples of successful projects and

improved ways of looking at inevitable expenses. The creative facility manager, who can demonstrate the value of integrated thinking about facility renewal with energy cost reductions, will develop ways to serve the campus better. This book is a needed reference for every FM library.

#### CRITICAL ISSUES IN FACILITIES MANAGEMENT: ENVIRONMENTAL SUSTAINABILITY

Steve Glazner, editor, APPA, Alexandria, VA, 2014, 86 pp. \$30 (member), \$45 (nonmember), softcover.

Facility officers have been all about sustainability for years, beginning before the publication of *The Decaying American Campus* in 1989. But that book focused on taking care of capital assets only and not on the broader areas of environment and society, even though good maintenance of the physical campus contributes to the other areas as well as the economy. Regardless of that perspective, the 14 chapters in Environmental Sustainability comprise yet another excellent resource for facility officers.

Environmental Sustainability demonstrates the importance of integrated thinking and working in order to achieve success. That integration is achieved by listening to the campus community and others, working first to get broad understanding of the issues and consensus of solutions, openness of data and documentation about where the institution is and how it is doing, and maintenance of interest in the program and data.

Environmental Sustainability makes it clear that while top-level commitment is needed to implement sustainability initiatives and succeed, it is also essen-

tial to obtain a grassroots commitment from the entire campus community to develop and continue the success; facility managers cannot achieve sustainability alone.

This volume highlights specific APPA programs. The Energy and Sustainability Assessment Tool (ESAT) and the Sustainability Awards are described in two chapters. These chapters and others demonstrate the importance of data and analytical tools to look at the data from different perspectives and leverage that data into information, knowledge, and wisdom. Similar information is required when using other available tools such as the Green Globes CIEB (Continual Improvement of Existing Building) system, which also recognizes APPA's CEFP credential or LEED-EB's recognition of APPA's Custodial Staffing Guidelines.

There are a couple of highly detailed presentations demonstrating the affordability of sustainable initiatives. While these initiatives may not work in one setting, they clearly demonstrate the importance of integrated thinking to become sustainable. In short, Environmental Sustainability provides many examples of successful initiatives that will help facility officers in performing their increasingly critical role.  $(\mathfrak{P})$ 

Ted Weidner is president of Facility Asset Consulting, Noblesville, IN, and can be reached at ted@weidnerfac.com. If you would like to review a book, please contact Ted directly.

## **Effective and Innovative Practices** for the Strategic Facilities Manager

Edited by Jeri Ripley King

This book offers a sampling of tested-in-the-field practices and frameworks that can help educational facilities managers meet the challenges of today, as well as those in the foreseeable future.

Ever-tightening resources and pressures to work more efficiently and effectively call for a skill set that is able to assess the environment, advance new initiatives that are aligned with institutional goals, and help organizations behave more proactively. Those who can do that, and are able to communicate effectively with their constituencies, are more apt to thrive and help their organizations do the same.

The 16 chapters focus on such topics as:

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### Compiled by Gerry Van Treeck

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ries provides the benefits of a digital control system, including programmable occupancy scheduling and remote temperature monitoring, which can result in increased energy and operational savings. The new thermostats are long-life battery operated and require no additional wiring, resulting in minimum upfront costs and disruptions to the building's structure or occupants. For more information on Johnson Controls, please visit *www.johnsoncontrols.com*.

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