APPA THOUGHT LEADERS SERIES 2014

# LEVERAGING FACILITIES FOR INSTITUTIONAL SUCCESS

APPA
LEADERSHIP IN EDUCATIONAL FACILITIES

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CFaR | Center for Facilities Research

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# Leveraging Facilities for Institutional Success

## Section I: Executive summary

Higher education isn't where it wants to be. North American colleges and universities struggle to focus on their mission of educating students and advancing knowledge in the face of distractions such as slashed budgets, ballooning costs, and increased state and federal scrutiny. Expectations are growing at the same time resources are dwindling.

This is all the more frustrating because institutions have worked incredibly hard under difficult circumstances. Faculty, staff, and administrators have committed themselves to the painful process of reform during a period of economic hardship. Institutions from the smallest liberal arts college to the largest land-grant state universities—as well as urban community colleges, elite art schools, and advanced research institutes—have responded to the call for change. Considering the unprecedented circumstances of the Great Recession and its aftermath, they've accomplished a great deal, and their thoughtful, creative responses must be commended.

But the pressure isn't letting up. The demands keep growing. And colleges and universities must continue to adapt to their new reality.

APPA constructed the 2014 Thought Leaders symposium to examine the gap between where higher education wants to be and where it actually finds itself. Participants first examined the goals of colleges and universities. Rather than envisioning some imaginary ideal institution, they sought to identify the key characteristics of successful campuses. Then they looked at what institutions are actually achieving – the disagreeable reality of unsustainable funding models, unsuccessful students, and poorly utilized resources.

Participants discussed how to bridge the gap between the goal and the reality. They proposed and evaluated numerous ways colleges and universities could position themselves for a successful future. True to APPA's role as leader of the higher education facilities community, the group considered the challenge from a facilities point of view alongside other institutional perspectives. The result is a list of strategies that can be adapted for individual campuses and combined to make real strides in tackling persistent higher education challenges.

The most important take-away from the 2014 symposium is this: **higher education facilities can help colleges and universities achieve their goals**. Facilities are more than a passive backdrop. They can contribute in meaningful, measurable ways to the mission of the institution. Successful campuses will be those that leverage their facilities assets and operations to maximize their potential.

## Optimal versus actual higher education outcomes

Colleges and universities are failing to meet several critical goals for the future.

- Instead of **student success** they have frequently **inconsistent educational** outcomes.
- Instead of **high rates of recruitment and retention** they often have **poor recruitment and retention**.
- Instead of **affordable tuition and fees** many have limited access and **lack of affordability**.
- Instead of a **financially sustainable business plan** they have a **cumbersome and unsustainable business model**.
- Instead of **responsible use of space and other resources** they regularly experience **ineffective policies toward space management and utilization**.
- Instead of a **clear mission and focus** some suffer from **lack of focus and an unclear mission**.
- Instead of an **environmentally sustainable campus** they sometimes experience **failure to prioritize environmental sustainability**.

To bridge the gap and move the institution closer to its goals, colleges and universities need to adopt the following strategies:

- *Increase emphasis on student success.* Understand what gets in the way of a successful education and systematically tackle these barriers.
- *Improve affordability.* Employ a variety of strategies to cut costs, increase funding, and improve access for students, including streamlined degree programs, simplified approaches to tuition and discounting, and locked-in tuition prices.
- *Focus on the mission of the institution.* Instead of being all things to all people, focus on what the campus does best.
- *Allocate resources based on institutional priorities.* Align the use of resources with the mission of the college or university.
- *Increase reliance on data and business analytics to support decisions.* Identify the strategic questions that can be answered with data and use business intelligence systems to make smarter decisions.
- *Prioritize environmental sustainability.* Keep sustainability as a goal even as multiple issues compete for attention.

## The facilities contribution to optimal outcomes

Facilities assets and operations can advance institutional goals in sometimes unexpected ways. The built environment may seem like it would have little effect on student learning, when in fact well-designed classrooms support new teaching strategies such as problem-based and team learning. Other ways facilities help colleges and universities achieve their goals include the following:

- *Higher rates of recruitment and retention.* The campus plays a major role in creating positive impressions and building student engagement.
- *More affordable tuition and fees.* Efficient facilities operations can significantly reduce costs for the institution.
- *Contribute to clear mission and focus.* Strategic facilities planning enables the built environment to support the institution's mission.
- *Responsible use of space and other resources.* Effective space management makes the most of the institution's single-greatest sunk cost.
- *Environmentally sustainable campus.* Rightsizing the campus and minimizing operational impacts is required to improve institutional sustainability.

To maximize their contribution to the institution, facilities organizations should adopt the following strategies:

1. **Understand how facilities affect student success and employ best practices for student recruitment and retention.** Facilities organizations can significantly contribute to student success through smart strategies and creative use of buildings and grounds. Facilities influence student success more than most administrators realize. Smart institutions recognize the value of the built environment in attracting, retaining, and teaching students; they invest in making their campus more student-friendly.

2. **Use total cost of ownership (TCO) as a guiding principle for all facilities decisions.** Employing TCO enables institutions to make better investments in buildings and systems. Discussion about the costs of facilities is usually divided into the same two categories that show up on balance sheets: initial construction costs and ongoing maintenance, operations, and renewal costs. What's missing is an understanding that the two costs are related. In fact, facilities can cost twice as much to maintain and renew as they do to build. TCO takes this fundamental fact into account by calculating and communicating the lifetime costs of a facility.
3. **Make better use of campus space.** Colleges and universities can cut costs and improve efficiency by maximizing the use of their space. Underutilized space is a wasted resource. Colleges and universities should be finding every opportunity to maximize the utilization of resources, and that means taking seriously the problem of space.
4. **Expand data collection and analysis to support decisions to cut costs and increase efficiency.** By increasing the amount of data they collect and providing new tools to analyze that data, institutions can strengthen their decision-making processes. Business analytics has enormous potential for institutions seeking to make their operational decisions more data-driven. Higher education has lagged behind other industries in adopting business intelligence systems, but well-designed analytics systems have the potential to help institutions measure progress on strategic and tactical goals, support decision making, provide rapid feedback on ongoing efforts, and validate or discredit assumptions.
5. **Use the campus as a classroom to expand awareness of sustainability and facilities best practices.** Facilities organizations can develop innovative ways to use the built environment as a teaching tool and directly involve students with sustainability and efficiency efforts. Facilities staff typically have only limited interaction with students, and most students have no idea what goes into keeping the campus running. Yet facilities play an important role in the educational experience, and a peek behind the curtain at facilities operations can give students greater insight into issues of sustainability and energy use and raise awareness of facilities throughout the institution.

## The Thought Leaders process

The issues discussed in this Thought Leaders report are the result of an intensive process that draws on the wisdom and insight of higher education experts from the United States and Canada. At a two-day symposium, higher education experts both in facilities management and in operations from finance to HR meet to analyze issues, discuss the effect of these issues on the built environment, and propose strategies to prepare for the future. The yearly Thought Leaders report summarizes the discussions at the symposium as well as provides additional context about major trends.

The purpose of the report is both to inform and to prompt discussion. Senior campus facilities officers use this report as a resource both within their own departments and with their counterparts in space management, IT, finance, HR, student services, and administration. Past Thought Leaders reports have focused on the rising cost of higher education, space management and utilization, workplace demographics, the role of technology, and energy and sustainability.

## Harnessing every available resource for the institution

Higher education has settled uncomfortably into the knowledge that the tight budgets and increased demands on their institutions aren't going away. All the quick fixes have been exhausted. Campuses must figure out how to succeed in this new normal.

One strategy that deserves more attention is to dig deep and make the most of existing resources. Colleges and universities have invested billions in their buildings, grounds and infrastructure. They continue to spend millions to operate, maintain, and renew their facilities.

The campus should be considered as valuable to the institution as its endowment. In fact, the campus is a sort of physical endowment, an investment that provides ongoing returns to the college or university. No institution would squander its financial endowment; careful administration ensures the resource is preserved and managed to benefit future generations. The same should be true of facilities. Colleges and universities should leverage their facilities investment for the maximum return for the institution.

# Section II:
# *Challenges for higher education institutions*

## What will determine success?

Participants at the Thought Leaders symposium began with this goal in mind, and they set the parameters that will determine success in higher education.

In the future, successful colleges and universities will demonstrate the following:

***Student success.*** No matter what else they seek to accomplish, the primary goal of colleges and universities is to educate their students. Symposium participants agreed a good education should be both broad and deep; it should provide specific skills and information in a chosen area of study as well as more generalized knowledge to be a well-rounded member of society.

Symposium participants emphasized goals such as "students leave the institution prepared for their careers," "students show good citizenship and leadership," and "students are critical thinkers."

Similarly, the American Federation of Teachers proposes that student success has three elements: knowledge, intellectual ability, and professional/technical skills. Knowledge includes both an appropriate level of knowledge in a selected area of study and exposure to knowledge of the physical and natural world, cultural and intercultural knowledge, civic knowledge and engagement, and ethics. Intellectual abilities encompass critical thinking, problem solving, independent learning, analysis of information, and synthesis.



**Data Point:**
**Best practices in retention**

***Effective retention strategies by institution type***

| Four-year private | Four-year public | Two-year public |
|---|---|---|
| 1. Academic support programs or services | 1. Honors programs for academically advanced students | 1. Tutoring |
| 2. Programs designed specifically for first-year students | 2. Programs designed specifically for first-year students | 2. Academic support programs or services |
| 3. Giving students practical work experiences in their intended major to apply their learning | 3. Academic support programs or services | 3. Honors programs for academically advanced students |
| 4. Honors programs for academically advanced students | 4. Providing supplementary instruction | 4. Mandatory advising by professional staff, one-on-one |
| 5. Tutoring | 5. Learning communities | 5. Giving students practical work experiences in their intended major to apply their learning |

*—Noel-Levitz, "2013 Student Retention and College Completion Practices Report for Four-Year and Two-Year Institutions," Noel-Levitz Benchmark Reports, 2013.*

Professional and technical skills include skills for specific areas of study as well as abilities such as written and oral communication, information literacy, and teamwork.

***High rates of recruitment and retention.*** Retention is receiving increased attention in higher education, with several states adopting performance-based funding systems that allocate some degree of funding based on performance indicators, including course completion and time-to-graduation. Institutions have also recognized that it's far more cost-effective to retain existing students than to recruit new ones.

The most effective strategies for improving retention are related to academic goals, academic-related skills, and academic self-confidence. These strategies include high-quality academic advising, tutoring, and academic support programs. Successful institutions focus their efforts on programs for first-year students, since students are more likely to drop out of higher education during their first year than any other time. Programs designed for first-year students were identified as the second-most-important strategy for retention by a survey of four-year private institutions by educational consulting firm Noel-Levitz, right behind academic support programs and services.

Recruitment is an essential factor in institutional success. Smart colleges and universities will rely on data-driven marketing to appeal to students most likely to enroll. They'll focus on strategies that have proven successful, such as campus visits and open house events, rather than those with low rates of success, such as billboard and bus ads and radio promotions.

***Affordable tuition and fees.*** Higher education affordability is tied to economic prosperity. A college degree provides greater economic security for individuals as well as entire nations. When access to higher education is constrained by ballooning costs, fewer people can reach the middle class, and the entire economy suffers. The situation will only become more extreme as the information and creative sectors of the economy grow; three-quarters of the fastest-growing occupations require education and training beyond a high school diploma. Without a degree, many young adults will be shut out of the future.

Successful institutions will find creative, sustainable ways to ensure that a college education is within reach of every student, without the burden of crippling debt. Participants at the Thought Leaders symposium called for "higher education access to all those who want to go."

***Financially sustainable business plan.*** Successful institutions will rely on an operating and funding model that is sustainable over the long term. The elements of this model remain unclear and will likely vary from institution to institution. However, it seems likely that major changes will be needed at many colleges and universities. Those institutions that will thrive going forward will be those that find ways to significantly cut costs and increase income over the long term.

### Data Point:
### Rethinking the higher education business model

#### *When the bag of tricks is empty*

"[Higher education business officers] have been using a set of strategies to try to do what they already do better, but they've exhausted the bag of tricks they've been using to try to keep it all together. There's not another rabbit in there. They get that the business model isn't working, but they don't quite see the bridge to the next model. And they seem to have some concern that maybe there isn't a bridge."

*—Richard Staisloff, founder of educational consulting firm RPK Group, quoted in "CFO Survey Reveals Doubts about Financial Sustainability,"* Inside Higher Ed, *July 12, 2013.*

***Responsible use of space and other resources.*** Successful institutions will take nothing for granted. Every resource will be conserved and shepherded for the benefit of the institution. This will mean reevaluating long-term practices and policies—including unwritten policies—that have governed how colleges and universities use their space. Space will no longer be an abused resource

at successful institutions. Institutions will track the use of space and make data-driven decisions that take into account both costs and institutional priorities.

Other resources will be as carefully managed. Successful campuses will collect data on all aspects of their operations and rely on business intelligence technology to make informed, cost-effective decisions.

***Clear mission and focus.*** Thought Leaders participants called for institutions to "demonstrate effective/meaningful concentration on the institution's core mission." Individual institutions need to evaluate their strengths, consider their core constituencies, and hone their mission. It's as important for colleges to *stop* doing some things as it is for them to *start* doing others. For example, adding new majors that support the core mission is far easier than eliminating majors that distract from it, but this unpleasant task is critical to sharpen the focus of the college or university.

This process is paying off for savvy institutions such as Unity College, a private school in Maine with about 550 students. When Mitchell Thomashow became president of the college in 2006, he felt the institution had too many vague, undefined majors. In an intensive process, the college developed a unifying vision of itself as a leader in sustainability and science-based liberal arts education; it organized its academic departments into five centers with 18 well-defined majors. Thomashow said about the process, "We had to clarify our strengths and amplify them. We couldn't offer everything." Today, Unity is widely recognized as a leader in sustainable higher education and is highly ranked in national surveys.

***Environmentally sustainable campus and practices.*** Colleges and universities have made enormous strides in how they think about sustainability; it is now a core principle on most campuses. Successful colleges and universities will continue to strive toward greater sustainability that encompasses every aspect of the campus. Mitchell Thomashow's recent book *The Nine Elements of a Sustainable Campus* describes sustainability as "a cultural process linked to the habits of everyday life. At its core, sustainability addresses how people live, think, and behave." Thomashow calls for a profound shift in how institutions make decisions every day. Successful colleges and universities will make this shift not only for the financial benefits but also to fulfill their leadership mission within the global community.



## Data Point:
## Clarifying the institution's mission

### *Finding focus*

"Institutions need to evaluate everything—both in the short and long term—and reunite efforts to focus more directly on our core educational missions. We need to take a good, hard look at where our colleges and universities are headed, what central values we hold most dear, and then very purposefully connect all of the programs, practices, and initiatives back to the educational mission. ... We need to be bold, be honest, and, most importantly, involve the entire institution—all stakeholders—in this analysis."

*—Leo Higdon, president of Connecticut College, quoted in "Building a Strong Future for Higher Education: Strategies for Tough Economic Times," Association of American Colleges and Universities, 2007.*

## Data Point:

| Optimal outcomes for higher education |
|---|
| Student success |
| High rates of recruiting and retention |
| Affordable tuition and fees |
| Financially sustainable business plan |
| Responsible use of space and other resources |
| Clear mission and focus |
| Environmentally sustainable campus |

## What are we actually achieving?

The optimal outcomes described above are a long way from what colleges and universities are experiencing today:

***Inconsistent educational outcomes.*** Some students get an excellent education and leave higher education prepared for the future, but many others do not. In a 2013 survey of about 700 U.S. employers by the public radio program *Marketplace*, in cooperation with *The Chronicle of Higher Education*, nearly a third said colleges and universities are doing a "fair" to "poor" job of producing "successful employees." Despite high unemployment figures, more than half of employers said they had trouble finding qualified candidates for job openings. They specifically cited communication skills, problem solving, and decision making as lacking in recent graduates. "It's not a matter of technical skill but of knowing how to think," said David E. Boyes, president of Sine Nomine Associates, a tech consulting firm, in an interview with *Marketplace*.

***Poor recruitment and retention.*** Retention is receiving attention across higher education for good reason. According to ongoing research by ACT, in 2013 only 65.8 percent of students entering college continued to their second year; the figure is lower, only 55 percent, for two-year public institutions. However, this data is actually somewhat misleading, since it only applies to students attending full-time. Four out of ten public college students attend part-time, and research by Complete College America shows that only a quarter of part-time students graduate within an eight-year period. Low-income students and students of color especially struggle to get a diploma. And while half of students seeking an associate degree require remediation, fewer than 10 percent of remedial students graduate with a two-year diploma in three years.

Recruiting is a necessary expense for institutions, but it can be a costly one, especially for private colleges. While they may be able to bear the expense more than public institutions, a cost of $2,433 per new student is a heavy burden. (In contrast, four-year public institutions spend $457 and community colleges $123 per student on average, according to educational consulting firm Noel-Levitz.) It's especially important to consider recruiting costs alongside retention figures, since every student lost must be replaced, thus generating new recruiting expenses. No wonder a survey of higher education chief financial officers (CFOs) by *Inside Higher Ed* found that 92 percent ranked "retaining current students" among their top-five revenue-producing strategies.

***Limited access and lack of affordability.*** The rate of annual tuition increases has slowed, at least at public insti-



### Data Point:
### Higher education retention

***The crisis in minority and low-income graduation rates***

| | Full-time students | | Part-time students | |
|---|---|---|---|---|
| | 2-year associate's in 3 years | 4-year bachelor's in 6 years | 2-year associate's in 3 years | 4-year bachelor's in 6 years |
| **African-American** | 7.5 percent | 39.9 percent | 2.1 percent | 14.5 percent |
| **Hispanic** | 11.1 percent | 46.5 percent | 2.6 percent | 16.7 percent |
| **Older student (25+ at entry)** | 14.4 percent | 27.0 percent | 4.6 percent | 10.6 percent |
| **Low-income (Pell Grant recipient)** | 11.8 percent | 45.2 percent | 4.3 percent | 17.3 percent |

—Time is the Enemy, *Complete College America, September 2011.*

tutions—the College Board reports a 2.9 percent increase in in-state tuition and fees at public four-year institutions in 2013-2014, the smallest percentage increase in more than 30 years. However, grant aid did *not* increase, so many students are still paying more per year. Furthermore, real incomes remained flat or declined for most Americans, so a college education is less affordable for most families.

The results are well known: crippling levels of student-loan debt, which now totals more than $1 trillion and far outpaces wage growth for college graduates. Research by the Consumer Financial Protection Bureau reveals that this debt is significantly impacting the economy by limiting borrowers' ability to buy homes or cars, save for retirement, or start new businesses. The average college student graduated in 2012 owing $29,400; less than a decade ago, in 2004, debt averaged less than $19,000.

The concern is that rising tuition and high-debt burdens will limit access to higher education. In fact, enrollment declined slightly overall in 2014—by 0.8 percent from the previous spring—although the decline was greatest in four-year for-profits, skewing the numbers downward. (Enrollment actually increased on both public and private four-year campuses, according to the National Student Clearinghouse Research Center.) Economists believe this decline is the result of the improving economy and that, so far, high tuition has not put a brake on the demand for high education. However, students and families are finding their choices limited. Many are making more cost-conscious decisions when choosing institutions, selecting lower-cost public schools over small to mid-sized private colleges that depend on tuition dollars. While still able to get a degree, they might not be able to attend the college or university that best fits their needs and aspirations. If current trends continue, low-income students could find the cost of higher education beyond their resources and find themselves shut out of their best chance for moving to the middle class.

***Unsustainable funding model.*** Most analysts of higher education agree that the numbers don't add up. Institutions can't go on raising tuition at rates outpacing inflation, states can't keep slashing higher education funding, and students can't keep taking on massive amounts of debt. The model is untenable. Higher education CFOs agree—in a survey by *Inside Higher Ed* and Gallup, nearly a third of CFOs at private institutions expressed lack of confidence in the viability of their business model over ten years. While most agreed that elite private universities and wealthy liberal arts colleges had good long-term prospects, CFOs lacked confidence in the financial sustainability of non-flagship public universities, for-profit colleges, and non-elite private colleges.

## Data Point: The financially unsustainable university

### *An unclear financial future*

"If you are the president of a college or university that is not among the elites and does not have an endowment in the billions, chances are cash is becoming increasingly scarce—unless you're among the most innovative. The reason is simple: Approximately one-third of all colleges and universities have financial statements that are significantly weaker than they were several years ago…

"In the past, colleges and universities tackled this problem by passing on additional costs to students and their families, or by getting more support from state and federal sources. Because those parties had the ability and the willingness to pay, they did. But the recession has left families with stagnant incomes, substantially reduced home equity, smaller nest eggs, and anxiety about job security. Regardless of whether or not families are willing to pay, they are no longer able to foot the ever-increasing bill, and state and federal sources can no longer make up the difference."

—*Jeff Denneen and Tom Dretler, "The Financially Sustainable University,"* Bain Brief, *Bain & Company, July 6, 2012.*

***Poor use of space and other resources.*** Campuses have a poor record of managing their space; in fact, some fail to treat space as a valuable resource. Traditional space practices, such as hoarding offices, labs, and classrooms, have real financial and operational consequences for campuses. The university pays to heat and cool offices that are rarely occupied; the institution builds new classrooms not realizing how many rooms sit empty. Most campuses are still pressed for space between 9:00 a.m. and 2:00 p.m. Monday through Friday, September through May, but are echoing and vacant any other time.

Other resources can also be abused when they aren't adequately tracked and managed. Data is the critical factor, as in the old management adage, "You can't manage what you can't measure." However, major barriers still stand in the way of adapting cutting-edge business intelligence for higher education, including stand-alone data silos, custom legacy systems, and lack of understanding of the requirements and benefits.



***Lack of focus and unclear mission.*** Thought Leaders participants expressed deep frustration with the lack of focus on their campuses. "The mission is weakly defined," stated one participant. "We try to be everything to everyone," said another. When campuses lack a clear, distinctive mission, they risk losing their way. Different constituencies have different priorities. Some faculty want the institution to focus primarily on the task of educating students; others seek support for research. Parents want solid preparation for their kids' future careers; students want great housing, a cool gym, and reliable Wi-Fi everywhere. Alumni want the football team to win. Governments look to institutions for everything from economic development to urban renewal.

What's clear is that few universities have the resources to do everything—to support a classics department, a technology incubator, a law school, an architecture program, a teaching hospital, an archeological field school, and a winning football team. A few flagship institutions will continue to be comprehensive; the rest must narrow their focus.

***Failure to prioritize environmental sustainability.*** Sustainability has made enormous strides on campuses. But now it can be a victim of its own success. Sustainability now seems old hat and uninteresting; faculty and staff can have "green fatigue." A second challenge is that the low-hanging fruit has all been picked, and the next steps in greening the campus will be more costly and more painful. However, failing to take a leadership role in sustainability will have long-lasting consequences for institutions and for society. Colleges and universities are uniquely positioned to develop sustainability best practices that can be applied in other economic sectors. Failing to capitalize on previous investments and make further progress would be to squander a unique opportunity.

### Data Point:

| Optimal outcomes for higher education | Actual outcomes today |
|---|---|
| Student success | Inconsistent educational outcomes |
| High rates of recruiting and retention | Poor recruitment and retention |
| Affordable tuition and fees | Limited access and lack of affordability |
| Financially sustainable business plan | Unsustainable funding model |
| Responsible use of space and other resources | Poor use of space and other resources |
| Clear mission and focus | Lack of focus and unclear mission |
| Environmentally sustainable campus | Failure to prioritize environmental sustainability |

## What's getting in the way of success from *within* the institution?

If the real outcomes on campuses are so far from the optimal outcomes, what's generating the actual rather than desired results? In particular, what factors *within the institution's control* are hindering progress?

**Inflexible and entrenched teaching methods.** The "sage on a stage" model of education persists,

despite ample evidence it doesn't serve students. For all the new emphasis on undergraduate teaching and learning, institutions are taking few steps to improve teaching and student engagement, or else the measures they adopt are considered ineffective. "Development of faculty skills in instruction, advising, and other student interaction" was identified as one of the most *ineffective strategies* for improving student success and degree completion in a 2013 survey by Noel-Levitz. Equally ineffective were mentoring programs for new or adjunct faculty to improve their teaching skills.

**Ineffective retention strategies.** Despite the increased focus on retention, many institutions are still sorting out their strategies; a survey by Noel-Levitz revealed lack of agreement among faculty, staff, and administrators on the most basic retention issues, goals, concerns, and strategies. Less than a third of respondents reported having a current, written plan for student retention and college completion that they considered of good quality. Other findings show that retention data either isn't being collected or isn't shared across the campus.

**Outdated space policies.** Many institutions have reformed their space allocation and management policies, with some taking a cue from community colleges, who have led the way in making the most out of limited space. Others, however, continue to cling to practices almost guaranteed to result in inefficient use of space and unnecessary costs. For example, allowing departments to "own" space without any policies, guidelines, costs, or even opportunities to hand the space back to the institution if it is unused creates a situation where departments are allowed to be as dictatorial with space as they like. If the university builds new classrooms while existing classrooms sit vacant, space policies need immediate revision.

**Unclear, unaligned mission.** Most colleges and universities today have a mission statement. All too often, however, this mission statement is a lofty phrase that has little to do with the day-to-day operations of the campus. If a major percentage of the budget, or a sizable proportion of staff, is devoted to tasks not mentioned in the institutional mission, one or the other needs to be adjusted. In their report "The Financially Sustainable University," Jeff Denneen and Tom Dretler with Bain & Company wrote:

> The healthiest organizations—from Fortune 500 companies to start-ups to academic institutions—

## Data Point:
## Innovation in freshmen retention

### *A community college keeps incoming students on track*

Guttman Community College, the newest college in the City University of New York system, opened in 2012 with a new approach to retention. It would require incoming students adhere to a strict first-year program designed to improve student engagement and retention. First-year students must participate in a summer bridge program, must enroll full-time, and must take a required slate of classes. Students are placed in learning communities that are divided into cohorts of students; these students attend all of their classes together.

The system is rigorous, restrictive—and effective. The first-year retention rate was nearly 75 percent, a significant improvement from the 57 percent rate seen at comparable schools.

Other innovative elements of Guttman's program include "student-success advocates," staff that provide academic and social support, working alongside professors in the classroom. Students also have a network of peer mentors. Instructional teams meet weekly to discuss student progress and identify faltering students.

Guttman's program is the first of its kind at a community college. Its founders believe the approach has the potential to significantly improve graduation rates and better prepare students for jobs or further study.

—*Excerpted from Seth Zweifler, "A New Community College Keeps Students on Track with Structure,"* The Chronicle of Higher Education, *May 27, 2014.*

> operate with a discipline that allows them to stay true to their core business. The core is where high-performing institutions invest the most and generate the greatest returns. It is the area where they are clearest about the value they add. It is the domain where they are the most differentiated and the place from which they derive their identity. In short, the core is the strategic anchor for the focused company or the focused university.

Too many campuses lack a clear core. Alternatively, they've articulated a core but have failed to align their assets and operations with that core. If sizable portions of the budget are going to side efforts, the institution is diluting its impact. This is a hard fact for many colleges and universities—it's hard to close down a program begun with high hopes, to lay off hardworking staff, or to hurt and offend alumni with enthusiasm for a particular sport. But if that program, department, or sport is dragging down the institution, sometimes the survival of the institution necessitates hard choices.



## Data Point:
## The financially unsustainable university

### *An unclear financial future*

"The worst-case scenario for an institution is to be relatively expensive and completely undifferentiated. Who will pay $40,000 per year to go to a school that is completely undistinguished on any dimension?"

—*Jeff Denneen and Tom Dretler, "The Financially Sustainable University,"* Bain Brief, *Bain & Company, July 6, 2012.*

**The arms race.** Competition is a good thing—until it isn't. Many critics agree that the rating systems that rank colleges and universities are hurting institutions rather than helping them. Colleges determined to increase their standing can game the system by dramatically increasing the pool of applicants just to reject most of them and increase their "selectivity" rating—how does this indicate improved quality? (Not to mention that the process increases the very real costs of recruiting and then rejecting all those applicants.) Even more critically, colleges and universities that spend more money rank higher than those that spend less, perversely incentivizing institutions to aim for higher expenses rather than increased efficiency. A 2009 report by the Center for College Affordability and Productivity noted:

> Judging a school by its expenditures per students actually provides disincentives for cutting costs and keeping tuition down. In the *U.S. News* ranking, if two colleges provide the same academic quality but one does it while spending less, all other factors being equal this school would actually receive a lower ranking than the school that provided the same quality at greater cost to its students (and to taxpayers, if the school is public).

**Aversion to risk.** When a participant at the Thought Leaders symposium proposed that higher education is averse to change, it prompted a fascinating discussion and decision by the group that the real aversion is to risk rather than change. The costs of many institutional risks are so high that many faculty and administrators fear to make them. As Clayton Christensen and Henry J. Eyring note in a recent article, "No risk-averse department chair can think seriously about cutting courses or degree programs. Even if such a proposal could be pushed through the curriculum committee, the only reward to the chair would be collegial ostracism." Similarly, an athletic director has few rewards for dropping a popular sport, nor does a president refusing a donor's offer of a new building. Institutions do not reward risky but potentially highly rewarding decisions—especially when those decisions are unpopular.

**Multiple challenges distract from sustainability efforts.** With so many priorities jostling for attention, institutions can let their focus slip away from sustainability targets. Sustainability is at the stage where progress means continuing to push forward on hard-to-attain goals. It's easy to lose ground when you're not paying close attention.

## What's getting in the way of success from *outside* the institution?

Other factors *outside the institution's control* are also blocking progress.

**Underprepared students.** Different measures of college-readiness agree that many students aren't up to the challenge of rigorous courses. The College Board reports that just less than half of the students who took the SAT in 2013 are ready to succeed in college. Only 43 percent of test-takers scored 1550 out of a possible 2400; research shows that students who score less than 1550 are more likely to average a C or below their first year of college and less likely to complete their degree within four years. Meanwhile, roughly 60 percent of the 6.5 million students who enroll in community colleges require remedial classes. Underprepared students take longer to graduate and many drop out altogether.

**Changing demographics.** The traditional college student—18 to 23 years old, attending a residential campus—is increasingly a minority. The classroom of 2020 will be far more diverse than today; enrollment is projected to increase by 25 percent each for African-American and Asian students and 46 percent for Hispanic students. Students will also be older; the greatest enrollment increases will come from students 25 to 34 years old (21 percent) or 35 and up (16 percent). Part-time enrollment will grow faster than full-time enrollment. Institutions need to be prepared for the nontraditional student to become traditional.

**Declining resources.** State funding for higher education continues well below pre-recession levels, according to the Center on Budget and Policy Priorities. On average, funding has risen by 7 percent, or roughly $450 per student, but this is still 23 percent less than state institutions received in 2008. (Eight U.S. states actually continued to cut allocations for higher education in 2013.) Returns on endowments have risen along with the economy, but private institutions with small endowments can take no comfort in this fact. A large segment of the higher education sector is increasingly dependent on tuition, and tuition revenue was stagnant in FY 2013. A third of private and public institutions project that net tuition revenues will grow by less than 2 percent or decline, according to a survey by Moody's Investors Service. Many tuition-dependent institutions find themselves in a destructive spiral of discounting in order to land the "right" students—usually the most academically promising—so the stated price is only paid by a handful of new

### Data Point:
### Changing demographics and private institutions

#### *Will residential private campuses be hardest hit?*

"Demographic changes may be particularly challenging for some residential private colleges outside of major metropolitan areas. Some of these institutions are largely white and full of traditional college-age students at a time when demographers predict enrollment growth for part-time students, minority students, and students from urban areas. 'Historically these are not institutions that have been... visible in the minority community,' said Richard Kneedler, former president of Franklin & Marshall College. 'It means when their base shrinks it's really a challenge.'

"The president of Johnson C. Smith University, a historically black college in North Carolina, has similar worries.

"'Watch this space,' said President Ronald Carter, 'see how predominantly white institutions will struggle if there are fewer white Americans to fill their seats. Will they fill them with international students? How many minority students can they really afford with gap funding?'

"Carter said American higher ed needs to negotiate the demographic shift carefully. Minority students are generally coming with less money than white students, so colleges that are trying to plug their enrollment losses with minorities are going to have to find some way to help the students pay."

—*Ry Rivard, "Private Distress,"* Inside Higher Ed, *December 9, 2013.*

enrollees. Every dollar discounted is a dollar that isn't collected and used for education purposes.

**Rising costs.** The cost to run the average campus has gone up, in part due to the same factors that have driven up costs for businesses. The cost of health benefits, for example, has risen over the past decade for all organizations. Cost increases specific to higher education include a sizable increase in administrative staff. The higher education workforce grew by 28 percent between 2002 and 2014, with the most significant growth in administrative positions such as HR benefits administrators, admissions staff, IT analysts, and counselors, according to the Delta Cost Project. Certainly, the increase in administrative staff is not necessarily negative; many of the new employees provide critical student services, deal with regulatory mandates, and raise and manage funds from a wide variety of sources. The point is that institutions need to understand and adjust to the larger slice of the pie going to administration. (Faculty salaries, on the other hand, have remained flat since 2002, smashing the theory that high salaries are pushing up tuition.)

Research institutions have seen some of the greatest cost increases; a study of spending at Virginia's public colleges and universities found that colleges and universities have expanded the scope and size of institution-sponsored research. Research spending grew at Virginia's six research institutions by 62 percent. Construction of instructional and research space has also pushed up higher education costs. For example, a detailed analysis of nonacademic services and costs in Virginia found that, on average, 7 percent of the price of higher education to students was to pay for institutional debt service, primarily on nonacademic capital projects.



## Data Point:
## Changing expectations

### *Preparing students for the right jobs*

As expectations about higher education shift and evolve, a college education is no longer seen as an end in itself; instead, a degree has a clear purpose: to prepare students for employment. As this attitude has spread, policymakers have begun to insist that colleges and universities equip students not just for *any* jobs but for the *right* jobs—the careers that will benefit individuals and the economy the most.

A 2011 report by the National Governors Association makes this point strongly:

> Recognizing that universities and colleges are critical to their state's growth and economic prosperity, many governors and state policymakers have been considering how best to get more students to both enter college and get college degrees. . . .
>
> Recently, however, a growing number of governors and state policymakers have come to recognize that higher education, including community colleges, four-year colleges, and research universities, cannot help drive economic growth in their states unless students' academic success is linked to the needs of the marketplace. Thus, some governors and state policymakers are beginning to move beyond their focus on getting more students to get "degrees" to asking: "Degrees for what jobs?"

The report encourages states to "set clear expectations for higher education's role in economic development," "encourage employers' input in higher education," and "emphasize performance as an essential factor in funding." Measures of success should include students' employment after graduation.

It's not clear how far this trend will go. (Will states penalize institutions that graduate too many English majors?) What is completely clear is that institutions must be ready to respond to the changing expectations of policymakers and prepared to answer when asked which jobs their students will be prepared for.

**Changing expectations.** Students, parents, businesses, and governments ask more of higher education than ever before. A recent presentation by Georgia Tech president Bud Petersen noted three ways in which expectations for colleges and universities have changed. First, institutions are expected to "ensure that graduates are both employable and prepared to adapt and lead in an ever-changing world." Ensuring employability is a far higher standard that providing learning. A generation or two ago, colleges and universities focused on providing an education; now they are asked to almost guarantee a job for graduates. Furthermore, the value of a degree is measured in terms of future income potential, not in terms of what the student has learned or experienced.

Second, institutions are expected to promote economic development in their communities. Petersen specifically discussed how Georgia Tech moves research from the lab to the consumer via start-up support, business incubators, and technology transfer, but an institution doesn't have to be a research university to be asked to promote the economy of its region.

Finally, institutions are expected to provide an education "to the world," in Petersen's terms—but at least to a far more diverse group of students. For most of the twentieth century, higher education was reserved for a fairly elite group of students, and institutions could count on them to be prepared for college-level work. Today, a larger proportion of the population than ever before attends college, and the institution as a whole hasn't yet adapted to the arrival of the new normal—that is, students that are minority, low-income, part-time, older, and the first generation to attend higher education. These new expectations remain bewildering for some in higher education, and institutions often struggle to adjust to the new reality.



## Data Point:

| Optimal outcomes for higher education | Actual outcomes today | Barriers to success |
|---|---|---|
| Student success | Inconsistent educational outcomes | Inflexible and entrenched teaching methods |
| | | Underprepared students |
| | | Changing demographics |
| High rates of recruiting and retention | Poor recruitment and retention | Ineffective retention strategies |
| Affordable tuition and fees | Limited access and lack of affordability | The arms race |
| | | Aversion to risk |
| Financially sustainable business plan | Unsustainable funding model | Declining resources |
| | | Rising costs |
| Responsible use of space and other resources | Poor use of space and other resources | Outdated space policies |
| Clear mission and focus | Lack of focus and unclear mission | Unclear, unaligned mission |
| | | Changing expectations |
| Environmentally sustainable campus | Failure to prioritize environmental sustainability | Multiple challenges and issues distracting from sustainability efforts |

# Section III: Strategies for improving institutional outcomes

Closing the gap between the desired outcomes and the current situation means confronting some of the most intractable problems in higher education. Solving these challenges will take time, persistence, and readiness to take risks, but institutions unwilling to innovate face an uncertain future.

## 1. Increase emphasis on student success.



**The issue:** When students thrive, the institution thrives; when they fail, so does the institution. Colleges and universities need to prioritize student success and seriously consider when, why, and how students stumble. A new focus on success will improve retention rates as well as better prepare students for their futures.

### Strategies for success:

First, colleges and universities need to understand what limits success. According to a report by the American Federation of Teachers based on intensive focus groups with students, the biggest obstacles to success are as follows:

- **Lacking enough money and financial aid to go to school.** This is a larger concern for community college students than for those at four-year institutions, but nevertheless can affect students on any campus.
- **Receiving inadequate academic guidance and advising.** Students often don't understand academic requirements; they don't know how to set academic goals or execute coursework to meet these goals.
- **Lacking highly developed "soft skills."** Without strong reading and math abilities, study and time management skills, and adequate self-discipline and motivation, students can fail to advance through college-level coursework.
- **Inability to find time and "balance."** Coursework is only one of many roles for today's students, who often have jobs and family responsibilities.

Colleges and universities can't solve all of these problems for students, but they can do the following:

- **Create accessible and friendly financial aid offices.** Students can use all the help they can get navigating financial aid.
- **Adopt best practices for academic guidance and advising.** Academic advising is traditionally a low-priority activity on campus, but institutions are recognizing the value of effective advising and investing in improving their advising process.
- **Require orientation programs.** Students who attend summer orientation programs report learning better study and time-management skills, developing supportive peer and mentor relationships, and understanding expectations for coursework.
- **Normalize asking for help.** Students often don't realize how much help is available to them. Faculty need to encourage students to ask questions, come to office hours, use tutoring centers, and generally take advantage of the support network already in place.
- **Simplify course selection.** Students are often overwhelmed by the variety of courses available and unclear about what they should and shouldn't take. They end up signing up for classes they don't need, delaying their time to graduation and increasing their costs. Research shows that limiting course selection and laying out a clear list of requirements is an effective retention strategy.
- **Create shorter, more flexible pathways to degrees.** On the other hand, course schedules should be as flexible as possible. Institutions should offer night classes, compressed courses, mini-terms, and summer courses. Aim for motivated students to complete a degree within three years.

Participants at the Thought Leaders symposium were clear on the importance of student success for higher education. All decisions at the institution, one participant urged, should be made based on whether or not the decision promotes student success.

## Questions for institutional dialogue:

- How does our institution define student success? How do we measure the success of our students?

### Data Point:
### Improving student success

***Creating relationships with "intrusive" advising***

When advisors at Zane State University need to talk to a student, they mean it. If polite invitations to chat are ignored by students identified as at-risk of dropping out, advisors will start sending more forceful e-mails; then letters; then show up in class and ask students to meet in person.

Retention rates rose under this new "intrusive advising" process, according to a report by the Center for Community College Student Engagement. Sometimes referred to more politely as "proactive advising," the approach calls for early intervention at the first sign of difficulty. Intrusive advisors also help students identify their strengths and weaknesses, point them to academic support services (and check to see if they're being used), and emphasize the importance of meeting deadlines and attending class. The most effective advisors are able to be intrusive without being rude by building relationships with students.

At-risk students are frequently in crisis, even if the crisis is only in their self-confidence, and are often in no position to go to a stranger and admit they're struggling. Intrusive advising creates a relationship between the student and a representative of the institution who cares enough to show up at their class to ask how things are going.

- What sort of systems are in place to monitor student progress? What happens if a student is at risk of failure? Is this system effective?
- What is our advising process? Do we have data that shows how well the process works? Does the process need to be revised to meet the needs of today's students?
- How do we help students acquire "soft skills" such as time-management and study skills? Should these programs be expanded, better promoted, or made mandatory?
- Are we making it as easy as possible for students to get the classes they need to get to a diploma? Do we need to offer classes at different times? On different schedules?
- How can we help students develop personal connections on campus?

## 2. Improve affordability.

**The issue:** The higher education affordability crisis is a complex problem with multiple causes, and it will require a complex solution. Easy answers do a disservice to sincere college and university leaders seeking real strategies. The institutions that succeed will be those who strategize their approaches, build consensus with different constituencies, and clearly communicate their goals.

## Strategies for success:

The following strategies can be considered a starting point for institutions looking to cut costs and increase revenues.

- **Stabilize state funding.** Higher education needs to engage in a frank conversation with elected officials and policymakers on the value of colleges and universities to the state and the level at which the state should fund postsecondary education. Commitments need to be made that will allow administrators to plan for funding going forward. In return, state institutions can point to gains in productivity as well as ongoing productivity efforts to demonstrate their commitment to keeping down the cost of each degree produced. Colleges and universities need to acknowledge that

the cost of education is *not* fixed—despite previous claims to the contrary. Some funding will come not from students or the state but be squeezed out of existing operations by improving efficiency.

- **Focus on retaining existing students.** Retention is a financial issue, since serving the students you already have costs less than bringing new students onto campus.
- **Clarify tuition by reducing discounting.** Institutions have dramatically raised tuition at the same time they've also increased the practice of discounting—aid from the institution—so that the net price of a year of instruction is on average 45 percent less than the sticker price. Many colleges and universities plan to raise revenue in coming years by reducing discount rates (51 percent of private institution CFOs noted this as a strategy in the *Inside Higher Ed* survey), but critics charge that discounting strategies have "hit a wall," according to TIAA-CREF. A more sustainable approach is needed, and colleges and universities should revise stated tuitions close to the average discounted rate.
- **Develop new revenue streams.** Institutions should look to new programs—such as online courses and international campuses—to tap new markets and new sources of income. The challenge is to develop these programs in cost-effective ways that don't dilute the institution's core mission and that are economically sustainable. Careful cost-benefit analysis and customer surveying needs to take place to make sure programs will have users and earn back more than they cost.

At the same time, colleges and universities need to put in place policies and practices that improve affordability for students:

- **Lock in tuition prices.** Guaranteeing tuition rates for four years allows students to better plan their total costs.
- **Reduce time-to-graduation.** Getting students out of school faster by providing accelerated classes, offering a comprehensive summer schedule, ensuring required courses are available, and streamlining requirements allows students to maximize their investment in higher education and start their careers sooner.
- **Ease the transfer process.** Students move between institutions for multiple reasons, including financial ones. Spending even a single year at a low-tuition, in-state college or university can significantly reduce costs, but right now this process is fraught with anxiety, since schools have varying degree requirements, often require repetition of completed courses, and limit the number of transferable credits. Making transfers less painful could increase accessibility for many students.

## Questions for institutional dialogue:

- How do we define affordability for our institution?
- How sustainable is the institution's financial model? What is our level of debt? Of discounting? If the model isn't sustainable, what needs to change?
- What programs are in place to retain existing students? How well are they working? What needs to be improved? Who is responsible for this task, and do they have the authority to be effective?
- What is our current rate of discounting? Do we need to adjust our stated tuition to better reflect the real price of a degree?
- How do we identify and evaluate new funding sources?

### Data Point:
### High tuition, high discounts

#### *The untenable discounting situation*

"Schools wanted a high tuition on the assumption that families would say that if they're charging that high tuition, they must be right up there with the Ivys. So schools would set a high tuition, then discount it. But when the schools in your peer group all have discounts, it becomes an untenable competition for students, with everyone having to increase their discounts."

—*David L. Warren, president of the National Association of Independent Colleges and Universities, quoted in Tamar Lewin, "Getting out of the Discount Game, Small Colleges Lower the Price,"* The New York Times, *December 28, 2013.*

- How can we adjust our policies to speed up time-to-graduation? To ease transfers?

## 3. Focus on the mission of the institution.

**The issue:** Many colleges and universities have tried to be all things to all people. They lack a core identity and mission that distinguishes them from other institutions. Narrowing the focus of the institution on a clearly defined and agreed-upon mission allows the college or university to start eliminating programs and staff that don't support that mission. The result is not only reduced costs by prioritizing facility investments, but also a strong identity and driving sense of purpose.

### Strategies for success:

- **Identify and increase distinctiveness.** Institutions that can point to a key strength and then build on that strength are like consumer brands that can point to a unique benefit; they can differentiate themselves from the rest of the pack. Distinctiveness attracts new students, draws donors, motivates faculty and staff, and creates a sense of camaraderie on campus.
- **Reduce administrative staff.** CFOs surveyed by *Inside Higher Ed* identified this strategy as one of the most important to reduce costs for the following year, but cutting staff can do more than simply balance the budget. Administrative bureaucracies also bog down the institution, reduce efficiency, and limit interaction between students and senior administrators.
- **Eliminate unnecessary academic programs.** Underperforming, unnecessary academic programs distract from the goals of the institution and suck money away from essential operations. As painful as the program prioritization process might be, the step was the second-most agreed-upon strategy for reducing costs identified by higher education CFOs in the *Inside Higher Ed* survey.
- **Share programs with other institutions.** Colleges and universities like the idea of their faculty teaching their students, but it doesn't always have to be that way. Institutions can share faculty and programs resources when they are too much for one campus to manage alone or fall outside of one institution's mission. This strategy is particularly appropriate for state institutions within systems; the use of the assets of the whole system to serve students on each campus is an underutilized strategy.
- **Outsource business functions.** The college campus is expected to operate top-notch dining, residential, sports, and IT units even though these are not the institution's core functions. Businesses and nonprofits moved away from this model years ago—outsourcing is a mainstay of most modern businesses. Higher education needs to consider handing operations such as food service, housing, recreation, healthcare, IT, and custodial services to firms that can deliver better services at lower prices.

### Questions for institutional dialogue:

- What type of institution are we? What do we do best? What programs are in the highest demand? Where do we deliver the most value?
- Does our stated mission really reflect who we are?
- Who are our students? What kinds of students constitute the market available to us? What kind of students are we best equipped to serve? Does our vision of our ideal student line up with reality?

**Data Point:**
**Reducing administrative staff**

***The case for cutting staff positions***

"Administrative staff at colleges has grown in both absolute number and relative to student enrollments…Expenditures on education and related expenses are increasingly allocated to administrative and support services and less so to instruction, with expenditures on the former already outnumbering that of the latter in some sectors and approaching parity in the remainder.

"Administrative and support staffs in higher education should be reduced in order to lower the costs of providing a college education, to improve employee productivity, and to refocus the mission of colleges to the production and dissemination of knowledge."

—*"25 Ways to Reduce the Cost of College," Center for College Affordability and Productivity, September 2010.*

**Data Point:**

| Optimal outcomes for higher education | Actual outcomes today | Barriers to success | Strategies for bridging the gap |
|---|---|---|---|
| Student success | Inconsistent educational outcomes | Inflexible and entrenched teaching methods | Increase emphasis on student success |
| | | Underprepared students | |
| | | Changing demographics | |
| High rates of recruiting and retention | Poor recruitment and retention | Ineffective retention strategies | |
| Affordable tuition and fees | Limited access and lack of affordability | The arms race | Improve affordability |
| | | Aversion to risk | |
| Financially sustainable business plan | Unsustainable funding model | Declining resources | |
| | | Rising costs | |
| Responsible use of space and other resources | Poor use of space and other resources | Outdated space policies | Allocate resources based on institutional priorities |
| | | | Increase reliance on data and business analytics to support decisions |
| Clear mission and focus | Lack of focus and unclear mission | Unclear, unaligned mission | Focus on the mission of the institution |
| | | Changing expectations | |
| Environmentally sustainable campus | Failure to prioritize environmental sustainability | Multiple challenges and issues distracting from sustainability efforts | Prioritize environmental sustainability |



- What is the current level of administrative staffing? Do these staff serve the mission of the institution? How we do determine which staff positions can be eliminated?
- How do we evaluate programs/offerings to ensure they align with our mission? How do we create a process to shutter programs that offer little value?
- What is our institution's attitude toward outsourcing? What do we outsource now, and how well does that process work? What other operations could be outsourced? What would be required to make outsourcing an accepted alternative at our institution?
- How do we ensure new programs align with our mission?
- Do we have opportunities for either expanding markets or reducing costs that can be explored if the institution embraces new delivery models (online, competency-based, etc.)?

## 4. Allocate resources based on institutional priorities.

**The issue:** Higher education frequently allocates resources without making a case for the expense. Budgets and space assignments are a matter of standard operating procedure even when that procedure no longer makes educational or financial sense. Institutions need processes for determining the optimal allocation of resources, including space, capital funding, faculty, staff, and money. These processes should be driven by the college or university's mission and priorities and incorporate analysis of return on investment.

Colleges and universities can start improvements by looking seriously at the utilization of existing resources and assets, including facilities (how many classrooms are empty how often?); faculty (how many credit hours are taught by faculty members in different departments?); and programs (how many students have graduated in each of the last five year years?). Understanding the current state of affairs can point the institution toward areas where resources can be used more effectively.

## Strategies for success:

The single-most important strategy for colleges and universities is to adopt the principle that resources are allocated to achieve the institution's mission. From that principle flows specific steps that colleges and universities can take to align resource use and campus goals.

- **Adopt a budgeting strategy that ties resources to mission.** Colleges and universities employ a wide variety of budget models, some of which do a better job than others of aligning resources and goals. Simply adjusting budgets up or down by percentage increments, for example, has no connection to institutional planning. Budgets need to be strategic, integrated across the institution, and aligned with agreed-upon priorities. For example, the Resource Allocation Mapping model requires projects and departments to prioritize expenses based on an assessment that encompasses the mission and strategic plan, the financial performance of the project/department, internal competencies (can the institution accomplish this task and do it well?), and market trends (are others doing it?). Programs are ranked from most important (Drives the Enterprise) to least (Drains Resources) and funded accordingly.
- **Allocate space as carefully and strategically as any other resource.** Institutions have a track record of treating space like an entitlement, a free possession of departments and programs, rather than a limited, expense-generating resource. Colleges and universities should understand and communicate both the value and the cost of space.
- **Use return-on-investment (ROI) to drive resource deployment.** Measuring ROI in higher education is complicated—it's not a simple matter of how much money was made in a new factory. At some research institutions, ROI can be relatively straightforward for lab spaces; universities can calculate the amount of grant money per square foot of lab space. For classrooms, teaching labs, offices, and libraries, the equation is more complicated. Can the institution tie improved student learning to upgraded classrooms? Can administrative productivity gains be linked to an integrated, easy-to-use financial software system? Despite the difficulties, colleges and universities see a benefit to analyzing the return on institutional investments, even if they are more qualitative than quantitative.

## Questions for institutional dialogue:

- What is the current budgeting model at the institution? Does it explicitly tie the college or university's mission to budget line items? How do departments or programs make the case that their expenditures support broader priorities?
- Do individual departments or programs "own" their space, or is it controlled at the college or institutional level?
- Is space allocation explicitly tied to the university's mission and goals? If not, how would the space allocation process need to change to align space use with institutional priorities?
- Are the users of space aware of the costs of that space? If awareness is low, how can the institution communicate the expenses associated with space?

### Data Point:
### Space allocation

#### *Changing the culture of space*

"We need to make it clear that space is not owned by a department; it is allocated to a need or an activity, to contribute to that activity's success. We need to set the expectation that as activities shift in priority, space reallocation will be necessary."

*—Phil Rouble, associate director of facilities planning & sustainability at Algonquin Colleges, quoted in "Changing the Culture of Space Allocation," Higher Ed Impact,* Academic Impressions, *December 8, 2011.*

- What sort of qualitative or quantitative measures can be used to measure the ROIs in facilities, operations, and administration? Can these measures be linked to the institutional mission and strategic plan?

## 5. Increase reliance on data and business analytics to support decisions and improve teaching and learning.

**The issue:** Colleges and universities should take advantage of every tool available to improve the performance of the institution, yet many have hesitated when it comes to business analytics and data-driven decision making. Other campuses have found success employing analytics to allocate resources, manage finances, and serve students. Institutions should make strategic investments in analytics and promote a culture of data-driven decision making.



At the same time, colleges and universities need to build on their investment in course management software by digging deeper into their data for insights on students and faculty. Programs can already alert faculty if a student's engagement with a course suddenly declines (as measured by a marked decrease in online participation, for example). As systems develop they will be able to customize learning modules to best fit students' learning styles, identify gaps in the mastery of material, and provide feedback on how to better present material.

### Strategies for success:

- **Identify strategic questions that can be answered with data.** Research by EDUCAUSE shows that business analytics systems work best when they are developed to answer specific questions. Institutions should start by identifying strategic business problems and developing questions for the system to answer.
- **Start where you are, with the data you have.** Institutions often believe that their data won't support analytics; in fact, business intelligence requires neither perfect data nor the perfect data culture. Campuses can begin with what they have and improve their data going forward.
- **Invest in people over tools.** Analytics are as much about people as programs. Without staff who understand the data, the tools, the strategic problem, and the institution, analytics will simply be costly software systems.
- **Employ analytics across the institution.** The most common use of analytics today is in enrollment management, finance and budgeting, and student progress. However, analytics systems can be used to support any activity that generates large quantities of data, including human resources, facilities, procurement, and research administration.
- **Incorporate analytics into student success efforts.** Data analysis has particular promise in student performance, recruitment, and retention. Take advantage of the data already available from existing course management systems to track student success and look for patterns.
- **Use student data to test the effectiveness of teaching and learning strategies.** It's sometimes hard to know what works in teaching—there are too many variables, especially in a single classroom. However, learning management systems allow for strategies to be tested across large numbers of learners and offer almost instant feedback. For example, course software systems can provide a different experience—such as different study materials, homework, or quizzes—to different students. For example, half the students in one section of an introductory science course could receive experience A and half experience B, allowing faculty to quickly see which approach is the most successful.

### Questions for institutional dialogue:

- What are the highest priority strategic questions confronting the institution? How can data and analytics help provide an answer?
- What data is the institution already collecting? Who is responsible for this data? What is the quality of the data? What processes can be put in place to improve the quality of data going forward?
- What is the level of institutional commitment to analytics? Is the institution ready to invest in both systems and people? Who will be responsible for analytics systems? How will the systems be managed?
- What data is available in our existing course management software? How can we better take advantage of the insights hidden in that data?

**Data Point:**
**Data and analytics**

***Benefits of analytics for higher education***

Institutions can potentially achieve significant benefits from analytics, according to a survey by EDUCAUSE of the organization's members and members of the Association for Institutional Research. Respondents agreed the following areas would see a large or major benefit from analytics; they are listed in order of their ranking by respondents:

- Understanding student demographics and behaviors
- Optimizing use of resources
- Recruiting students
- Helping students learn more effectively/graduate
- Creating data transparency/sharing/federation
- Demonstrating higher education's effectiveness/efficiency
- Improving administrative services
- Containing/lowering costs of education
- Improving faculty performance
- Reducing administrative costs

—*Jacqueline Bischsel.* Analytics in Higher Education: Benefits, Barriers, Progress, and Recommendations, *EDUCAUSE Center for Applied Research, August 2012.*

- What sort of questions about teaching and learning could we answer with creative use of learning software?

## 6. Prioritize environmental sustainability.

**The issue:** Issues of affordability, budgeting, and student success can easily distract colleges and universities from the goal of sustainability. But the environment isn't going to wait until the economy improves and institutions reform their financial operations. Sustainability must be tackled in the middle of everything else. A deep, lasting commitment to a green campus will have lasting benefits for the institution and the climate.

### Strategies for success:

A model for the sustainable college or university was recently proposed by Mitchell Thomashow in his new book *The Nine Elements of a Sustainable Campus*. Mitchell divides his nine elements into three categories (infrastructure, community, and learning), and suggests strategies for each. These include the following:

#### Infrastructure

- **Energy:** Strive for zero-carbon energy use by adopting a mix of tactics, including renewable energy sources, rigorous conservation, and offsets. Track energy usage on a detailed level (by room, if possible) and make clear the connection between daily behaviors such as thermostat settings and institutional energy costs.
- **Materials:** Employ sustainable materials with a minimal ecological footprint in both buildings and operations.
- **Food:** Consider energy costs when sourcing foods and communicate these costs to students. Support local and organic farmers and look for opportunities to grow food on campus.

#### Community

- **Governance:** Incorporate sustainability into the mission, master plan, and strategic plan of the institution. Build alliances between all levels of administration and look for leaders with the passion and commitment to spearhead sustainability efforts.
- **Investment:** Support green businesses within the local community. Evaluate the institution's portfolio and consider focused investing in enterprises with a strong social and ecological commitment.
- **Wellness:** Provide a healthy workplace. Incorporate health and wellness into the curriculum.

#### Learning

- **Curriculum:** Encourage faculty across the institution to incorporate sustainability into their teaching. Create more sustainability majors.
- **Interpretation:** Communicate sustainability efforts to students, faculty, and visitors to the campus. Tell the story of environmental efforts in campus publications and marketing programs.

- **Aesthetics:** Encourage art students, faculty, and community members to treat the campus as a green canvas. Create architecture and landscape plans that are as sustainable as they are beautiful.

## Questions for institutional dialogue:

- Where does sustainability rank among institutional goals? Has it lost momentum in recent years or remained a priority? How can your college or university keep up its commitment to environmental stewardship going forward?
- Among Thomashow's nine elements, where has your institution made the most progress? Where should it turn its attention?
- Is sustainability part of the institution's mission or vision? How does sustainability align with other elements of the mission? Does the mission need to be revised to incorporate sustainable elements?
- Are there untapped opportunities for developing curricula in a variety of academic areas that utilize the campus as a learning laboratory?



## Data Point:
## Cutting academic programs

### *Hard choices at Pennsylvania colleges and universities*

Several public institutions in Pennsylvania have proposed eliminating academic programs to cut costs while focusing on the core of their academic mission. The move is upsetting students and faculty, who charge that the cuts will diminish institutions, according to an October 2013 article in *The Chronicle of Higher Education* titled "The Liberal Arts Confront Fiscal Reality at Edinboro U."

Edinboro University faces the elimination of dozens of faculty members along with undergraduate programs in German, philosophy, and world languages and cultures. Julie E. Wollman, president of Edinboro, said the cuts are necessary in the face of declining state appropriations and shrinking enrollment; they will allow the university to remain on a sound financial footing. "In some areas, the number of majors is so low—typically, fewer than ten—that they are difficult to sustain," said Wollman, who added that the university needs to "shift the focus to the needs of the region."

Critics charge that the cuts will leave the institution "stunted." They also argue that the role of the university is not to create well-trained employees but to provide a well-rounded education. "What worries me is that we're not building citizens who know how to think, we're training workers," said Jean G. Jones, director of the Edinboro honors program and the faculty union's representative at the school.

# Section IV: Facilities' contributions to institutional goals

## Using facilities to advance institutional priorities

Facilities are more than the stage on which higher education performs. The entire built environment plays a role—often a greater role than members of the academic community realize.

Both facilities themselves and the facilities operation can help institutions achieve their goals and reach optimal outcomes.

**Student success: Facilities create environments that support learning and enable new teaching methods.** Faculty and students pay little attention to classroom space—until it stops working. In fact, sophisticated facilities planning and design can help institutions improve student engagement by supporting evolving teaching methods, including flipped classrooms and problem-based learning. Rooms that allow for the instructor to move around the room easily and enable quick rearrangement of desks to form small groups encourage the teaching styles shown to be most successful for today's students. Planners and architects are looking for cost-effective ways to transform old-fashioned, theater-style lecture halls into spaces that can adapt along with the pedagogy.

**High rates of recruitment and retention: The campus plays a major role in creating positive impressions and building student engagement.** When alumni tell stories of their college or university years, they often mention the places—the quad, the cafeteria, the dorm—that shaped their memories. The significance of these places begins the first time students visit an institution; in a survey by APPA of more than 16,000 students at 46 institutions, 50 percent of respondents agreed with the statement, "When I first saw the campus, I knew this was the right college for me." Two-thirds of respondents claimed the overall quality of campus facilities and the attractiveness of the campus were either "very important" or "essential," and nearly a third of respondents rejected a particular college or university because it lacked facilities they considered important. The campus—the actual, physical campus—is critical to the student experience, and successful institutions will find investment here pays off.

### Data Point:
### Recruiting and the campus

#### *Sending a message*

"We must understand that campus landscapes are a medium of communication. The landscape is continually sending messages to students, faculty, and staff; is it saying what you want it to?"

*—Phil Waite, associate professor of landscape architecture and environmental planning, Utah State University, "Campus Landscaping: Impact on Recruitment and Retention," Society for College and University Planning Webinar, May 7, 2014.*

**Affordable tuition and fees: Efficient facilities operations can significantly reduce costs for the institution.** Best practices in facilities management can increase the overall operating efficiency of the institution, especially when total cost of ownership is adopted as a policy. TCO considers not just up-front costs of buildings and systems but also long-term costs to operate, maintain, upgrade, and replace them. Typically, institutions track these expenses separately, dividing them between capital improvement, maintenance, and recapitalization funds, a practice that costs the institution more over time. TCO provides a data-driven approach that helps colleges and universities understand

## Data Point:

| Optimal outcomes for higher education | Actual outcomes today | Barriers to success | Strategies for bridging the gap | Facilities' contributions to success |
|---|---|---|---|---|
| Student success | Inconsistent educational outcomes | Inflexible and entrenched teaching methods | Increase emphasis on student success | Facilities create environments that support learning and enable new teaching methods |
| | | Underprepared students | | |
| | | Changing demographics | | |
| High rates of recruiting and retention | Poor recruitment and retention | Ineffective retention strategies | | The campus plays a major role in creating positive impressions and building student engagement |
| Affordable tuition and fees | Limited access and lack of affordability | The arms race | Improve affordability | Efficient facilities operations can significantly reduce costs for the institution |
| | | Aversion to risk | | |
| Financially sustainable business plan | Unsustainable funding model | Declining resources | | |
| | | Rising costs | | |
| Responsible use of space and other resources | Poor use of space and other resources | Outdated space policies | Allocate resources based on institutional priorities | Effective space management makes the most of the institution's single-greatest sunk cost |
| | | | Increase reliance on data and business analytics to support decisions | |
| Clear mission and focus | Lack of focus and unclear mission | Unclear, unaligned mission | Focus on the mission of the institution | Strategic master planning enables the built environment to support the institution's mission |
| | | Changing expectations | | |
| Environmentally sustainable campus | Failure to prioritize environmental sustainability | Multiple challenges and issues distracting from sustainability efforts | Prioritize environmental sustainability | The campus is the single-greatest opportunity for improving institutional sustainability |

and manage their facilities investments while providing a model for sustainable business operations to the entire institution.

**Responsible use of space and other resources: Effective space management makes the most of the institution's single-greatest sunk cost.** Colleges and universities are increasingly recognizing the value of their space—and how space has, until now, been squandered. Institutions that fail to responsibly manage their space spend more to operate and maintain their facilities and pour more into new construction. Best practices for space management include aligning space management to the mission of the institution; changing the culture of space so it is perceived as a valuable and shared resource; developing effective policies, processes, and organizational structures to manage space; and implementing a space inventory system to understand resources and identify needs.

**Clear mission and focus: Strategic facilities planning enables the built environment to support the institution's mission.** Facilities need to be aligned with the mission of the college or university through a strategic facilities master plan. Plans include assessment of current facilities and their use along with an analysis of trends facing the campus. (For example, is enrollment expected to rise or decline? By how much?) Then planners engage with the college or university's mission and translate general statements into concrete plans for buildings and grounds. For example, an institution focused on teaching and learning might invest in technology-equipped classrooms. A school capitalizing on its reputation as a tight-knit community and seeking to improve student engagement might build new residence halls. A campus seeking to improve recruiting could strive to improve the first impression the campus makes on visitors. Creative thinking can identify smart ways to fulfill the institution's goal in brick and mortar.



## Data Point:
## Smart space management

### *Aligning space metrics with capital improvement funding*

The University System of Georgia (USG) recently completed a major project to create a common data set of space metrics for use across the entire 31-campus system. The project was motivated by "the belief that improved efficiency in space use represents a significant strategic advantage to the system" and "because of dissatisfaction with traditional space use approaches which have had limited success in helpfully informing either master planning activity or capital allocations."

Better data for capital improvement planning was a major priority of the project. The new system seeks to allow for better comparison of space utilization and productivity between USG institutions, identify deficiencies that could be corrected with reallocation or repurposing of space, determine which capital improvement projects are most necessary, and establish priorities among projects that receive funding.

Among the metrics developed were the classroom metric, which measures classroom size and utilization and identifies both empty seats in a classroom and times when the room itself is vacant. Two other critical metrics are the office metric, which compares employee counts to office station counts, and the social/study metric, which measures the contribution of "soft" spaces such as reading and study rooms, lounges, computer labs, and tutoring rooms.

USG believes the new approach will enable the institution to get more out of their space. The authors of the report describe the program as "the first step towards a better physical environment for learning and research in the state . . . [that] makes a vital contribution to the future of higher education in Georgia."

*—Final Report: USG Space Utilization Initiative, July 2013.*

## Data Point:

| Issue | Current attitude/ approach | Problems with this attitude/approach | Transformation needed | Desired educational outcomes |
|---|---|---|---|---|
| Facilities operating costs | A never-ending burden on the institution, and a growing liability. | Goal becomes minimizing operating costs, not optimizing facilities operations | Investments in maintenance and operations are seen as vital to the mission | • Affordable tuition and fees<br>• Financially sustainable business plan |
| Facility renewal | Continued deferral. a growing liability | Leads to an ever-increasing spiral of costs. Diminishes the value of facility investments | Reduction in the renewal backlog. Eliminate redundant facilities and adopt of alternative funding mechanisms | • Student success.<br>• High rates of recruiting and retention<br>• Responsible use of space and other resources |
| Life-cycle costs and total cost of ownership (TCO) | Costs of buildings and systems only considered up-front | Facilities and systems are costly to operate and maintain | Life-cycle costing and TCO implemented for every capital investment decision | • Affordable tuition and fees<br>• Financially sustainable business plan<br>• Responsible use of space and other resources |
| Space | Cost of space to the institution is unknown to users; space is controlled by departments and programs | Inefficient use of space—some space is wasted and underutilized while other space is over capacity | Space is managed as an institutional asset. Costs are communicated and sometimes shared. Value of investments in space are maximized | • Responsible use of space and other resources<br>• Affordable tuition and fees.<br>• Financially sustainable business plan |
| Outsourcing | In-house staffing is preferred for almost all operations | Rising labor costs; limited labor pool; aging workforce; distraction of attention from primary mission | Services and operations are outsourced when another organization may be able to do the job better for less | • Clear mission and focus<br>• Affordable tuition and fees.<br>• Financially sustainable business plan |
| Technology | Focused on instruction and research; lack of investment in operational analytics | Lack of automation of business processes, increasing administrative burden; lack of data for decision making | Data is tracked and analyzed by business analytics systems. Systems are integrated and widely accessible | • Affordable tuition and fees<br>• Financially sustainable business plan |
| Financial management system | Legacy systems are hard to access; primarily useful for audit record | Limited information available to administrators to manage budgets and control costs | An integrated financial system that allows for better forecasting and management | • Affordable tuition and fees<br>• Financially sustainable business plan<br>• Responsible use of space and other resources |

**Environmentally sustainable campus: The campus provides the single-greatest opportunity for improving institutional sustainability.** The college or university campus generates up to 90 percent of an institution's carbon footprint. Institutions will only become truly sustainable when their built environments are sustainable. Colleges and universities have made enormous strides in sustainability. Leadership in Energy & Environmental Design (LEED) certification is now routine for new buildings, and Green Globes and other programs are being used as well. Higher education energy consumption dropped at an average rate of almost 14 percent between 2008 and 2012. However, challenges remain, especially for existing buildings, which cost far more to operate and maintain than newer buildings. Facilities departments with a strong commitment to sustainable design and operations must continue to explore creative ways to conserve energy, recycle materials, and cut carbon emissions.

## Data Point:
## Facilities and institutional costs

### *The high price of old buildings*

Older buildings may add charm to a college campus, but they also add costs. According to one, a facilities consulting firm, for buildings between 25 and 50 years old, work orders average $2.35 per square foot, nearly double the $1.40 per square foot for buildings under ten years old. (For buildings older than 50, the cost is $2.20 per square foot.) Maintenance backlogs are also higher for older buildings: $110 backlog per gross square foot for buildings between 25 and 50 years and $160 for buildings older than 50. The backlog for buildings ten years old or less is $20.

Rutgers University plans to demolish numerous old and inefficient buildings and is targeting small structures, which are often disproportionately expensive to heat and cool. The university will remove about 120,000 square feet scattered among old houses, buildings, and trailers and replace them with a new, 175,000-square-foot building that will include new classrooms. The move will save the institution $1.6 million per year in maintenance, custodial services, and energy costs.

"The biggest cost savings at colleges and universities today is in reducing their footprint," says Antonio Calcado, vice president of facilities and capital planning at Rutgers. "Especially at larger colleges and universities, the footprint has just gotten so large, and it costs so much per square foot to just maintain that space."

*—Excerpted from Scott Carlson, "Less is More: Campus Officials Trim Square Feet to Cut Costs,"* The Chronicle of Higher Education, *March 10, 2014.*

## Transforming the facilities organization to meet institutional goals

For the built environment to significantly advance the goals of colleges and universities, both the institution and the facilities organization will need to change their thinking. Facilities must be seen in a more strategic light.

Campus leaders must see that the facilities organization is engaged with the institution's mission and goals. Senior facilities officers must be included in top-level discussions of trends, issues, and challenges facing the campus, and their ideas and suggestions must be welcomed. At the same time, the facilities organization needs to take its role seriously. It needs to broaden its vision and increase its visibility within the institution.

Transformation is necessary in the following operational areas to allow facilities to make the greatest possible contribution to the mission of its institution.

# Section V: Facilities' strategies for improving institutional outcomes

## How the critical issues were identified

The premise of the Thought Leaders symposium is that facilities leaders have much to contribute to the major challenges facing higher education. Five top issues were identified by participants on leveraging campus facility assets to achieve institutional goals. Also identified were critical questions for institutional dialogue. The questions are the heart of the exercise: They are intended to guide facilities managers and university leaders in the discussions at their own institutions. A major goal of the Thought Leaders Series is to help individual colleges and universities assess where they stand and help them develop strategies for the future.



## 1. Understand how facilities affect student success and employ best practices for student recruitment and retention.

**The issue:** Facilities organizations can significantly contribute to student success through better use of buildings and grounds.

### Strategies for success:

Facilities influence student success more than most administrators realize. Leading institutions recognize the value of the built environment in attracting, retaining, and teaching students; they invest in making their campus more student-friendly.

The first step is to identify the goals and shortcomings of the institution. Where are students best being served? Where are they faltering? Is recruitment down or up? What about retention? Is the college or university shifting its teaching methods? Are problem-based classrooms and team learning replacing traditional lectures?

Answering these questions can point facilities departments in the right direction to improve student success. For example, a community college might identify retention as a problem. Research shows that increasing student engagement on campus can help improve retention. Facilities can help increase engagement by expanding the number of casual spaces for student interaction, such as lobbies, lounges, and courtyards. The institution can create warm, welcoming places with good seating, lots of light, and Wi-Fi. (Don't forget to add extra electrical outlets; students are often looking for workspaces where they can also charge laptops or phones.) Investing in casual spaces can be a critical step in increasing student interaction and engagement.

Facilities organizations should also identify aspects of the campus that detract from the mission and goals. Consider the message different facilities are sending. Is a crowded, run-down residence hall sending the signal, "We don't care about your experience here?" Are classrooms with outdated instructional systems diluting the institution's image as a leader in advanced technology?

Finally, organizations need to communicate the value of facilities to the rest of the institution. Many constituencies don't appreciate how much facilities can accomplish. Consider conducting a quick survey with potential students after campus visits asking their impression of the buildings and grounds, or survey students in a variety of different classrooms about their experience. (Could you partner with a statistics, communications, or architecture class to develop and administer the survey, making it a learning experience?) Develop usage metrics that are tied to institutional goals and show how you're targeting these priorities.

## Data Point:

| Optimal outcomes for higher education | Actual outcomes today | Barriers to success | Strategies for bridging the gap | Facilities contributions to success | Facilities strategies for improving institutional outcomes |
|---|---|---|---|---|---|
| Student success | Inconsistent educational outcomes | Inflexible and entrenched teaching methods | Increase emphasis on student success | Facilities create environments that support learning and enable new teaching methods | Understand how facilities affect student success and employ best practices for student recruitment and retention |
| | | Underprepared students | | | |
| | | Changing demographics | | | |
| High rates of recruiting and retention | Poor recruitment and retention | Ineffective retention strategies | | The campus plays a major role in creating positive impressions and building student engagement | |
| Affordable tuition and fees | Limited access and lack of affordability | The arms race | Improve affordability | Efficient facilities operations can significantly reduce costs for the institution | Use total cost of ownership as a guiding principle for all facilities decisions |
| | | Aversion to risk | | | |
| Financially sustainable business plan | Unsustainable funding model | Declining resources | | | |
| | | Rising costs | | | |
| Responsible use of space and other resources | Poor use of space and other resources | Outdated space policies | Allocate resources based on institutional priorities | Smart space management makes the most of the institution's single-greatest sunk cost | Make better use of campus space |
| | | | Increase reliance on data and business analytics to support decisions | | Expand data collection and analysis to cut costs and increase efficiency |
| Clear mission and focus | Lack of focus and unclear mission | Unclear, unaligned mission | Focus on the mission of the institution | Strategic master planning enables the built environment to support the institution's mission | Use the campus as a classroom to expand awareness of sustainability and facilities best practices |
| | | Changing expectations | | | |
| Environmentally sustainable campus | Failure to prioritize environmental sustainability | Multiple challenges and issues distracting from sustainability efforts | Prioritize environmental sustainability | The campus provides the single-greatest opportunity for improving institutional sustainability | |

### Questions for institutional dialogue:

- What elements of the built environment contribute to students selecting this institution? To continuing through graduation? To learning and succeeding?
- Does the facilities department have a mechanism (such as facilities master planning) for aligning institutional trends, mission, and goals with the built environment? Is this process effective?
- Which specific campus goals can be best supported by facilities? Where can facilities make the most cost-effective investments to further these goals?
- Which facilities or aspects of the facilities operation are detracting from institutional goals?
- What metrics can you put in place to better measure the role of facilities? How can you better communicate the value of the built environment? What sort of data would influence senior administrators to back investment in facilities strategies to advance the goals of the college or university?



### Data Point:
### Student success through classroom design

#### *Design considerations for effective learning spaces*

- **Design learning spaces around people.** Keep the focus on the interaction between students and teachers. Don't let technology dictate classroom design.
- **Support multiple types of learning activities.** Design the classroom to support discussion, experiential learning, and project-based activities as well as traditional lectures.
- **Make space flexible.** Allow spaces to be quickly reconfigured, and design the space to be easily renovated as new technology and pedagogy changes.
- **Design for comfort and functionality.** Allow plenty of surface space for laptops and storage space for backpacks and bags. Use windows to bring in natural light, but make it easy to block the light for on-screen presentations.

—*Adapted from Diana Oblinger, "Leading the Transition from Classrooms to Learning Spaces," An NLII White Paper, National Learning Infrastructure Initiative and EDUCAUSE, October 2004.*

## 2. Use total cost of ownership as a guiding principle for all facilities decisions.

**The issue:** Employing TCO enables facilities to make the smartest investments in buildings and systems.

### Strategies for success:

Discussion about the costs of facilities is usually divided into the same two categories that show up on balance sheets: initial construction costs and maintenance and operations costs. What's missing is an understanding that the two costs are related. In fact, facilities can cost twice as much to maintain and renew as they do to build. TCO takes this fundamental fact into account by calculating and communicating the lifetime costs of a facility.

TCO also promotes wise spending that will maximize the value of the investment. The cheapest air conditioning system may look good on the capital improvements budget, but if it costs twice as much to operate, it's not a source of savings. The same goes for the low-cost industrial carpeting that has to be replaced three times more often than its slightly more expensive rival. TCO provides a mechanism for weighing up-front and long-term costs.

Implementing TCO requires commitment from senior administrators and even state support for public institutions. Budgeting policies and procedures must be adapted to allow TCO to work properly. Campuses need to examine what changes would be necessary at their institution to employ TCO. What stands in the way of implementing the process? What sort of support will be needed and from whom? How can the facilities organization achieve buy-in?

TCO has significant sustainability implications and can help institutions maximize their investments in green buildings and systems. Generally, sustainable

building practices incorporate some form of TCO, but applying rigorous life-cycle cost analysis can help ensure new high efficiency systems don't have hidden maintenance or replacement costs that will diminish their impact.

Finally, TCO supports hard decisions, like the choice to demolish rather than maintain outdated buildings. Institutions can end up devoting a major portion of their budget to old facilities that aren't worth maintaining. Sometimes, buildings cost more to operate—usually barely limping along—than they would cost to tear down and build anew. Pouring money into a failing building is a classic case of throwing good money after bad and an example of ways institutions sabotage themselves.

### Questions for institutional dialogue:

- What benefits would TCO offer the institution? Can the facilities organization make a business case for the strategy? Are there examples on campus where TCO would have made a difference in long-term costs?
- Does the institution currently track the life-cycle costs of buildings and systems? Are there measures in place to align capital spending with maintenance and renewal?
- What processes and policies would need to change to implement TCO? Who is responsible for those processes and policies? Who would you need to convince that change is necessary?
- What sort of data would be needed to implement TCO? Is that data available today? What would be necessary to start collecting, distributing, and analyzing that data?
- Do sustainability initiatives on campus include aspects of TCO? How could facilities and sustainability staff combine efforts to make TCO effective for both units?
- Is the institution spending too much maintaining outdated or unneeded buildings? How can you make the case for replacement or demolition?

**Data Point:**
**Facilities and institutional costs**

***The high price of old buildings***

"TCO is the best tool for [colleges and universities] to use to reduce overall maintenance costs and capital costs. It will help them to make better decisions about overall asset management. In general, higher ed over-maintains buildings. You could have replaced them three times for what you were spending to maintain them."

—*Doug Christensen, president of Christensen Facilities Group, LLC, quoted in Apryl Motley, "The Total Package,"* Business Officer Magazine, *November 1, 2013.*

## 3. Make better use of campus space.

**The issue:** Colleges and universities can cut costs and improve efficiency by maximizing the use of their space.

### Strategies for success:

Underutilized space is a wasted resource, and any classroom or lab that sits vacant for half a normal class day is wasted. Colleges and universities should be finding every opportunity to maximize the use of resources, and that means taking seriously the problem of space.

At the heart of the issue is the question, "Who controls space?" Traditionally, individual departments or programs controlled how space was allocated and assigned. They were under no obligation to share space with other units and fought hard to keep what was "theirs" even if they no longer needed it. Many decisions were made automatically, so departments assigned large offices to senior faculty members, even if those faculty had joint appointments and ended up with multiple offices. Space was free, as far as departments were concerned. Light, heat, and plumbing for these spaces didn't come out of their budgets, so it didn't matter if the room sat vacant year-round—it wasn't costing them anything.

Colleges and universities are starting to renegotiate space with departments and programs. Recognizing that space is a shared resource, they seek to schedule classes

and assign offices fairly across the entire institution. On some campuses, the institution, not the department, now controls space, and decisions are made by a central space planning office. Other colleges and universities keep some space, or some level of control, at the department level, but have policies that prevent the most wasteful space practices.

Scheduling, for example, presents many opportunities for improvement. Keeping all departments on the same block schedule and spreading courses throughout the day allows the institution to maximize its classroom usage. (While traditional students prefer classes in the middle of day, nontraditional students often welcome early morning, late afternoon, evening, or even weekend classes that give them more flexibility with work schedules, so intensive scheduling can pay off in terms of student satisfaction as well.) Campuses are also seeking to expand summer and mini-term courses that get students into the classrooms year-round. Air conditioning a classroom building so that a handful of faculty can use their offices is not a responsible use of the institution's resources.

A critical step for most institutions is the development of a space inventory system that can be used in scheduling, asset assessment and management, and data tracking. Campuses need to understand exactly how much space they have, what condition it's in, and how it's being used. They also need to understand how much different spaces cost. A chemistry lab is more expensive to run than a history classroom. Some colleges and universities have begun tracking energy use down to the individual office and charging departments for the space they use. Even without going this far, departments need to understand that space costs the university money—it's not a free resource—and that it should be managed responsibly.

## Questions for institutional dialogue:

- How is space controlled and allocated on campus? How would you describe the general attitude toward space? Is it tightly held—even hoarded—or shared as a general resource?
- How does space allocation align with the mission of the institution?
- How is instructional space currently allocated? How efficiently is this space used? What policy changes would be necessary to increase space utilization? Who should be in charge of assigning class spaces and times? What should guide their decision making?
- How is space measured today? For what purpose? Is the space inventory up-to-date and reliable? How could the system be improved to provide for better tracking, projections, and planning?
- How do we track the cost of space? Do departments know how much their space costs? What technical improvements would be necessary to generate this

### Data Point:
### Space utilization

***Making the most of classroom space***

"To make more efficient, cost-effective use of space, institutions are developing strategies to spread out the times that classes are offered during day and evening hours, and to increase the teaching week by scheduling more Friday classes. Conflict can occur, though, between administration and faculty, which traditionally decides both when they want to teach and in what room. Questions regarding governance are being raised with most schools determining that class schedules are not related to academic freedom and should fall within the domain of department chairs and the administration.

"Schools are using a variety of tactics to encourage departments to offer classes during a wider time frame before resorting to taking over class scheduling. Scheduling has implications beyond facilities usage; there are academic ramifications, too. Students are often unable to get the courses they need to graduate because too many of them are offered at the same times. Other strategies to reduce pressure on facilities during peak times include offering more classes online and/or hybrids."

*—Lucie Lapovsky, "The Higher Education Business Model: Innovation and Financial Sustainability," TIAA-CREF Institute, November 2013.*

data? How could it be better communicated? Would the institution support a system that charges departments for their space?

- How can we incentivize better use of space?

## 4. Expand data collection and analysis to cut costs and increase efficiency.

**The issue:** By increasing the amount of data they collect and providing new tools to analyze that data, institutions can strengthen their decision-making processes.

### Strategies for success:

Business analytics has enormous potential for institutions seeking to make their operational decisions more data-driven. Higher education has lagged behind other industries in adopting business intelligence systems, but well-designed analytics systems have the potential to help institutions measure progress on strategic and tactical goals, support decision making, provide rapid feedback on ongoing efforts, and validate or discredit assumptions.

Colleges and universities can target the following goals with business intelligence systems:

- **Clarify costs and their drivers.** Integrated systems can make clear how colleges and universities are spending their money and identify areas for improvement.
- **Provide insight.** Analytics systems can help institutions meet their mission and address such goals as increasing retention and improving learning outcomes.
- **Share knowledge.** Data should be widely available across organizational units, along with tools to understand that data.

According to a recent report by EDUCAUSE and NACUBO, institutions should keep the following in mind when implementing business intelligence:

- **Get all senior leaders onboard.** Without the support of the president, senior leadership team, and governing board, business intelligence efforts will struggle to get off the ground.
- **Capture incremental improvements while pursuing transformative opportunities.** Even if the goal is institution-wide change, it makes sense to start small and celebrate successes along the way to build support and gain experience.
- **Be realistic.** Understand what business intelligence and other systems are actually capable of accomplishing—as well as what is required for success. These systems require significant commitments of time and staff before they save the institution a single dime. Benefits often take the form of cost avoidance rather than direct financial savings; they're more likely to lead to rebalancing of institutional resources rather than a pool of capital. Finally, change is hard, and increasing access to data doesn't affect or address entrenched attitudes or beliefs.
- **Address processes before systems.** Business intelligence systems can't magically solve any problem they encounter. Institutions need to refine their processes first, then find the systems that will support them.

Facilities are among the operational units seeing a real benefit from business intelligence systems for tracking materials, maintenance costs, energy use, and other metrics. New systems provide facilities staff with interactive dashboards that present critical information in charts, meters, and graphs and allow users to drill down to analyze data. When combined with modern building information modeling and smart buildings, staff have powerful tools to manage facilities operations.

### Questions for institutional dialogue:

- What operational data is the institution already collecting? Who is responsible for this data? Where is it stored?
- Which processes and operations would benefit most from greater data accessibility and analysis? What sort of questions do you need answered?
- What is standing in the way of the adoption of business analytics systems? Cost? The accessibility and quality of data? The culture of the institution? How can these barriers be addressed and overcome?
- What data is currently available to the facilities organization? Is this data accessible and understandable? Is data from multiple sources integrated to provide a big picture?
- What would the advantages and costs be of investing in a data analytics system for the facilities organization?

## 5. Use the campus as a classroom to expand awareness of sustainability and facilities best practices.

**The issue:** Facilities organizations can develop innovative ways to use the built environment as a teaching tool and directly involve students with sustainability and efficiency efforts.

### Strategies for success:

Facilities staff typically have only limited interaction with students, and most students have no idea what goes into keeping the campus running. Yet facilities play an important role in the educational experience, and a peek behind the curtain at facilities operations can give students greater insight into issues of sustainability and energy use and raise awareness of facilities throughout the institution.



Treating the campus as a classroom means revealing what is usually hidden. Systems such as photovoltaic panels, green roofs, and constructed wetlands benefit from this approach; out in the open, they are a constant reminder to the campus of the sustainability priorities of the institution. Schools have also revealed mechanical systems normally invisible behind walls or exposed water pipes running through buildings to highlight high-efficiency air conditioning or gray water treatment systems. Creative, well-designed signs should accompany these visible green systems to explain their purpose and results. In fact, signage can play a role during construction as well; construction fences can be covered with signs explaining the elements of the new design and how they will benefit the campus.

Smart building systems can also be exhibited to students, faculty, and visitors on kiosks in building lobbies. Real-time displays of energy and water use, for example, serve as constant reminders that how people use buildings has an effect.

Other institutions have found success bringing students into facilities or sustainability offices as interns. Students benefit from real-world experience in the trenches of a campus and are exposed to a variety of potential careers. Facilities organizations benefit by promoting their field as a career choice and gain insight into student perspectives. At West Virginia University, for example, interns in the Office of Sustainability work on the office website, organize campus events, and participate in studies such as waste audits and public transportation use. Many of the interns plan a career in sustainability.

Expanding the campus as a classroom is an effort that can start small—adding an educational component to the design of a LEED-certified building, for example, or hiring a single intern. To broaden the project, facilities organizations need to form partnerships with faculty. Seek out faculty interested in real-world ways to teach sustainability concepts and work together to develop courses or programs that combine the physical reality of the campus with the academic rigor appropriate to a college or university.

### Data Point:
### The campus as classroom

#### *The building as a living laboratory*

The term "living lab" is thrown around a lot in sustainability, but few buildings take the idea more seriously than the Centre for Interactive Research on Sustainability (CIRS) at the University of British Columbia (UBC). The building is not only a LEED Platinum structure, it is designed to be "net positive" by returning surplus energy to the grid and removing emissions from the atmosphere.

The entire structure operates as a lab where researchers can study users' interactions with the facility to improve performance and maximize the health, happiness, and productivity of inhabitants. Researchers housed in the building include faculty from applied science, psychology, geography, forestry, and business, as well as the UBC Sustainability Initiative. Ongoing research at CIRS includes studies of the thermal and acoustical properties of windows, thermal-slab monitoring, life-cycle costing, and the psychology of recycling. Already, more than a dozen academic papers have been published on work at the building, which opened in 2011.

## Questions for institutional dialogue:

- How can the institution make the infrastructure—especially the green infrastructure—of the campus more visible to students, faculty, and staff?
- Where could well-designed signs explain operations going on behind the scenes?
- Does the campus have building information data that could be displayed to students in certain buildings? How can you use this data to influence the use of the building and promote awareness?
- Do the facilities or sustainability operation currently hire student interns? What would it take to make this happen? (Is funding available? What's the process for advertising and hiring interns? Who would supervise the interns?) What jobs could interns do that would both help the department and give students real-world experience?
- How can facilities partner with faculty? Can you identify faculty members who would be interested in teaming up on educational projects and academic courses?

# CONCLUSION: Embracing and advancing the need for change

It is critically important to recognize the remarkable reforms and innovative efforts that are occurring right now at numerous colleges and universities. Furthermore, we would be remiss if we did not emphasize the diversity of institutions, the variability of their challenges, and the range of examples of creative responses to address these problems for which one size does not and will not ever fit all. Understanding institutional context and culture is a precursor to deriving very different solutions with very different performance levels to achieve successful student outcomes.



Nonetheless, we must embrace the need for change and the challenge of change today. To quote David Ward, emeritus chancellor of the University of Wisconsin Madison, "The real problem of change is the inability to scale change from segmented and disparate efforts to institutional strategies. Secondly, to assume that all changes will mesh with and serve all kinds of institutions is illogical." This does not negate at all the need to face these challenges, but instead to recognize the varying starting points or conditions that we have to change.

We are indeed experiencing a new normal, an environment of rapid change where it's all about less. Yet, as resources have dwindled, expectations have grown. And, although the gap between the optimum and achieved institutional outcomes continues to beleaguer many senior administrators, change is possible and innovation is indeed occurring at a number of our colleges and universities. In fact, some institutions do have effective space management programs, focused mission statements, aligned institutional priorities, data-driven decision-making procedures, and sustainable budget models. The question is why the rest of us don't, and what we can do about it.

Therefore, much of this monograph has focused on strategies to help those institutions bridge the gap between the optimal goals and their current reality to continue tackling the most persistent higher education challenges:

- Inconsistent educational outcomes,
- Poor recruitment and retention efforts,
- Limited access and lack of affordability,
- Unsustainable, cumbersome funding models,
- Entrenched teaching methods,
- Ineffective space management policies,
- Unclear institutional mission,
- Aversion to risk, and
- Lack of environmental sustainability priorities.

By leveraging facility assets and operations to maximum potential, the facilities department and staff can assist their colleges and universities in achieving desired goals and help bridge that gap. Indeed, this places even more pressure on facilities organizations to maximize their contribution to the core goals of the institution to achieve optimal outcomes. This will require a deliberate, albeit strategic focus on these approaches:

- Contributing to student success,
- Using total cost of ownership principles,
- Maximizing space management,
- Expanding data analytics systems, and
- Involving the campus community in sustainability and energy efficiency.

In this way, colleges and universities will be better able to leverage their facilities investment for the maximum return to the institution and focus on their mission of educating students and advancing knowledge.

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