

# State of Facilities in Higher Education

**Exploring Facilities Relevance in a Changing Environment**



**8<sup>th</sup> Edition**

**GORDIAN®**

# Table of Contents

<b>Foreword .....</b>	<b>3</b>
<b>Executive Summary .....</b>	<b>4</b>
<b>Part One: Context .....</b>	<b>5</b>
<b>Part Two: Reality .....</b>	<b>9</b>
<b>Part Three: Future .....</b>	<b>14</b>
<b>Summary .....</b>	<b>21</b>
<b>About Gordian .....</b>	<b>22</b>
<b>About APPA .....</b>	<b>22</b>



# Foreward

Publishing this document last year, as the pandemic was making itself known in North America, it was unclear where higher education – let alone the entire nation – would be headed. We were frankly cautious to contextualize our report, as its scheduled publication date arrived while we were all preparing to confront what felt like an unprecedented challenge. (If only we had known then how many challenges we would actually face through the remainder of 2020.) Even so, we were confident in one thing: the danger of making facilities decisions that are inconsistent with financial capacity would only be amplified.

As we present this latest version in 2021, we find that our assertions were validated. Moreover, we are prepared now to say that higher education is not only confronting its history of questionable facilities investment decisions, but also confronting transformation on a scale that makes the reimagining of facilities construction, allocation and sustainment an imperative - plain and simple.

For this year's State of Facilities report, we have partnered with APPA to bring greater detail and context to the publication. This partnership has allowed us to draw from our collective repositories of data and research. More so, it has enabled us to better understand the approaches leaders are taking to guide their institutions out of the most challenging health and financial hardships of the last century, if not ever.



# Executive Summary

By any measure, the past year has been extraordinary across the globe. And in a year with so many troubles, higher education in North America has faced its own particular challenges: hurried closures, empty dormitories and widespread furloughs, to name a few. For those stewarding our institutions' facilities, the long months since January 2020 have been a whirlwind of short-term reactions, many of which will bear longer-term strategic consequences for some time.

As we begin now to recover from the last year's events, while simultaneously continuing our march forward, we have come to understand the current state-of-affairs within the framework of three connected stories:

**The Context:** What we knew to be true in the time leading up to this past year has proven not only to still be true, but it has played out as an ever-more urgent set of issues weighing down institutions who, now more than ever, need to be nimble.

**The Reality:** The scale of financial, employment and social transformations over the past 12 months forced expedited decisions, and those responses may now be accelerating schools toward futures of either great opportunity or calamity. Many of those decisions were demonstrations of terrific success and leadership. Some were made outside of institutions' control. But the fact is we don't yet know which decisions will prove providential and which will carry burdensome aftershocks.

**The Future:** In order to thrive – or just survive – going forward, there will need to be a profoundly deep assessment of the way higher education works. And, by extension, this means that facilities strategies being employed on campuses must be reconsidered or reimaged. The pandemic, economic, racial justice and climate crises facing all of us are just part of the cocktail of challenges shaping the future of higher education. Moving campuses successfully forward will require a revisitation of space, the realignment of investment, connecting building health with smart technologies and reimagining the very organizations used to serve higher education.

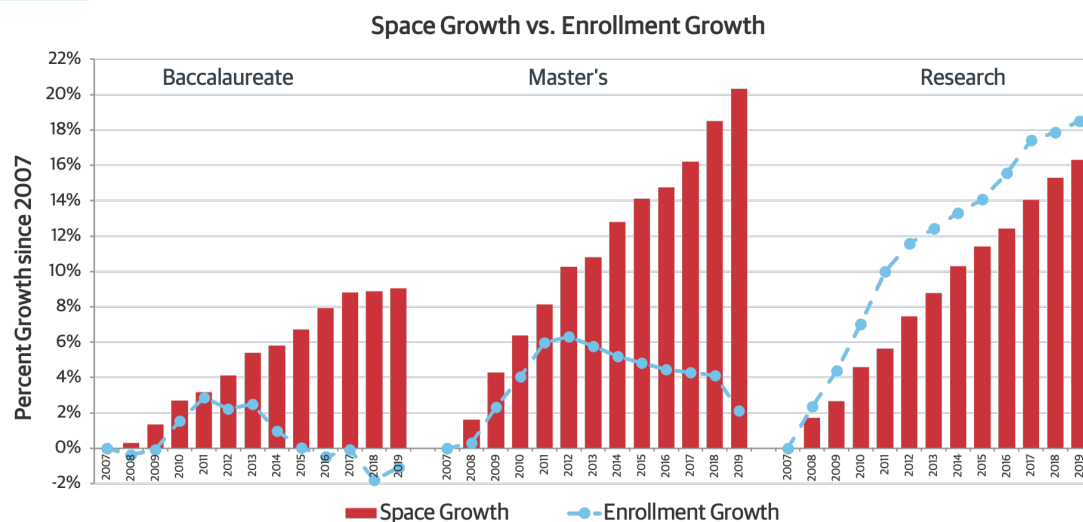
Last year, we began exploring the idea that the state of facilities of a given institution is a measure of the overall health of that institution. The same can be said of the higher education industry. In this time when it is clearer than ever that the health of one part of a community has a direct impact on the overall community's health, it is fitting to continue our exploration of the ways in which facilities (operational, spatial, capital) health is a marker for and a driver of institutional health.

We must also reconsider the very notion of community moving forward. The idea of an academic community has been under transformation for decades. As far back as 2002, only 27% of students in the United States were considered traditional college students (high school grad, straight to college, still living at home) according to the National Center for Educational Statistics (NCES) and the National Student Clearinghouse Research Center (NSCRS). In combination with the birthrate drop coming in 2026 and the population declines of Northeastern and Rustbelt states, higher education is transforming before our eyes. The ideas that created the traditional college campus are no longer the drivers of what it should look like going forward. The pandemic has forced schools to re-evaluate what it takes to create and serve their community. Facilities leaders will need to play a larger role, and the pandemic has created the agency for them to do so.

# Part One: The Context

It is always difficult to make compelling reading material out of the long-term view of enrollment, space, staffing and investment trends within higher education. Especially with 2020 so full of challenges and change, it is tempting to merely focus on the present. But this year, more than any before it, the long view offers insights for stewards of facilities that must not be overlooked. Understanding the conditions campuses were facing as they were thrust into a whole new educational model in March of 2020 is crucial to selecting the best next steps beyond the pandemic. Overall trends identified in past years were holding steady through 2019, and their implications warrant a brief revisitation.

Through 2019, trends in space and enrollment growth continued unabated. Enrollment at all but the most successful research schools has not warranted the ongoing maintenance and, in many cases, expansion of campus spaces across the industry. While research institutions as a group have been able to keep space growth trends below enrollment trends, other measures reveal there is still much to be done before these schools are positioned to sufficiently care for their property. Three trends discussed last year remain important markers.



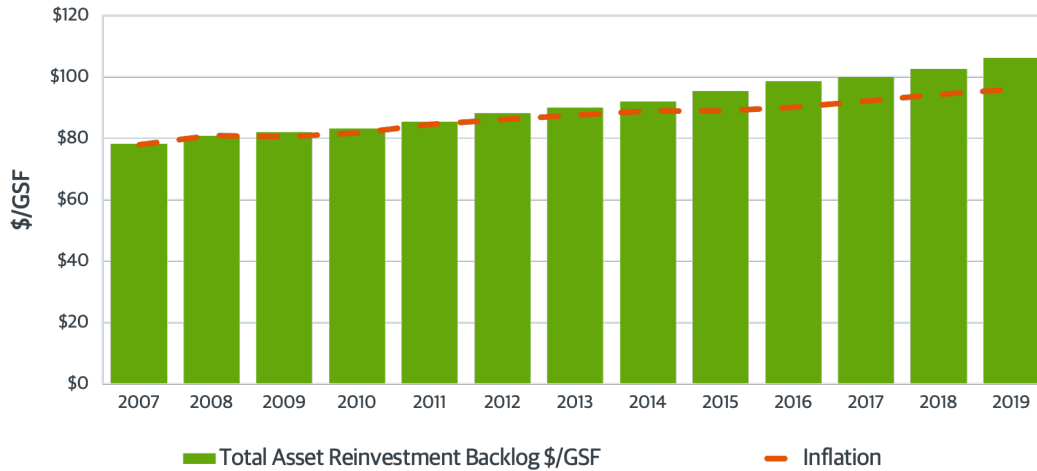
## 1. Facilities Renewal Backlogs

Backlogs of asset renewal need in Gordian's extensive database are now easily eclipsing the \$100/gsf mark. They continued to grow several more percentage points through 2019 and are now up to \$106/gsf, a 35% increase since 2007. This is no longer an unfamiliar trend, but one that takes on expanding urgency as we move forward in a post pandemic world.

It is an essential data point because:

**1. Degrading conditions on campus** represent disincentives to new students looking for value from their tuition investment. They also present performance challenges, require even greater resources to continue operations and, in the worst-case scenarios, could bring real safety risks.

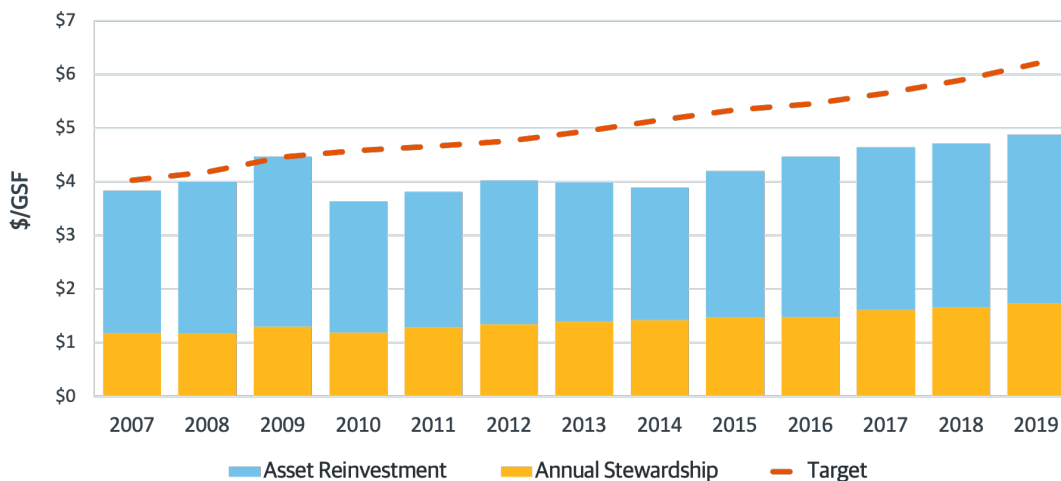
Facilities Renewal Backlog (\$/GSF)



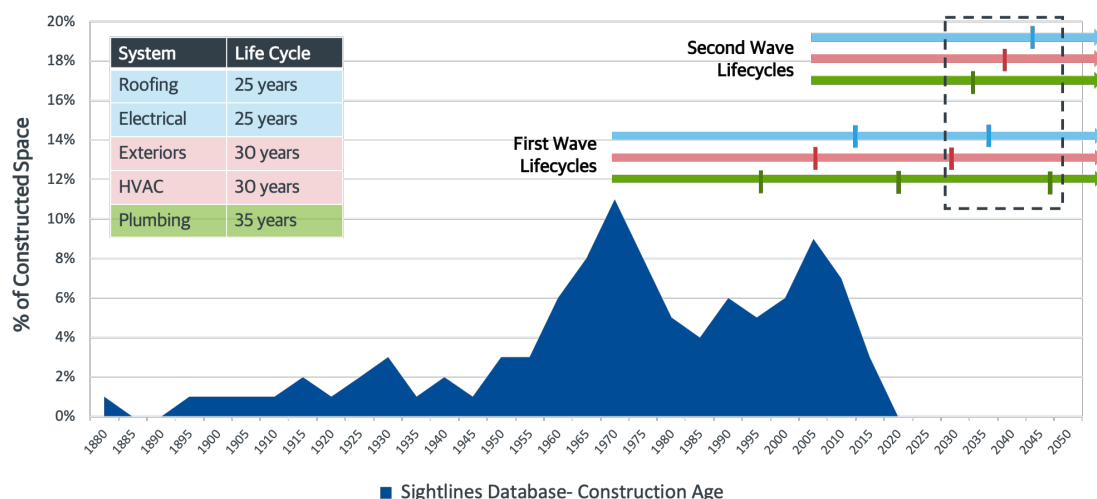
**2. Institutions redirecting dollars** to keep the doors open amid the pandemic have almost always dipped into institutional facilities renewal budgets. Because of this, renewal need will accelerate upward in the near term.

Adding to the urgency is the fact that catching up is going to get even harder than it already has been. In 2019, increases in need were met with flat funding for renewal dollars. This means the investment shortfall has grown to 25%. Large as it is, that gap may look appealing in years to come as funding is reduced while capital renewal need continues its inexorable march forward.

Existing Space Capital Investment vs. Target

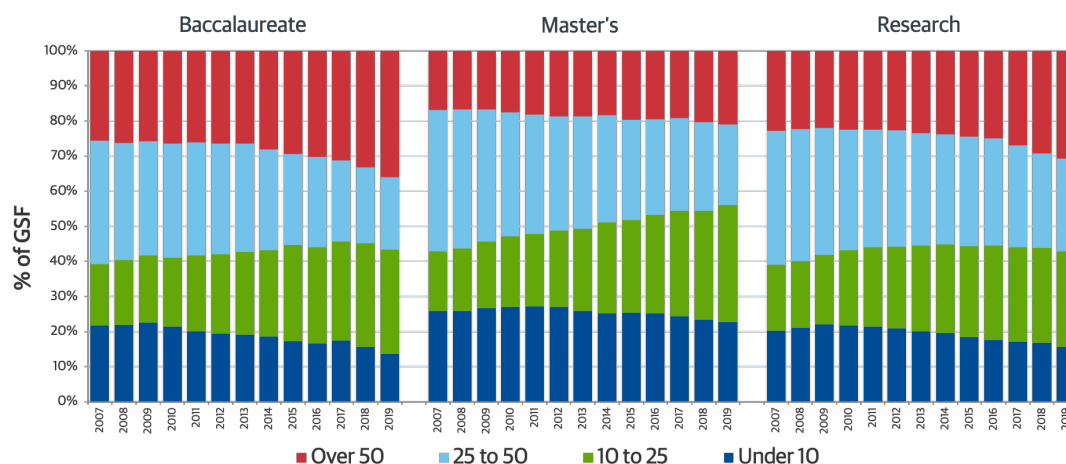


## 2. Compounding Lifecycle Needs



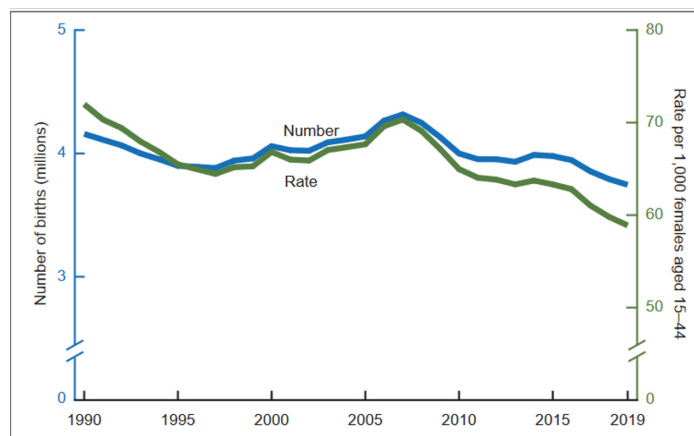
We have been closely tracking the progress of facilities built during both historic large waves of campus construction. These two waves initiate cycles of ongoing need based on the lifecycles of the systems within those buildings. Schools are now one year closer to the first round of major needs resulting from the most recent major spike in construction, as past cycles come due at the same time. This layering of waves presents a monumental challenge for campuses, and it's coming in less than five years. Unfortunately, this reality of aging properties never pauses. It presses forward through all unexpected complications, even a pandemic.

Tracking the renovation age of buildings in our database reveals a potentially confusing reality. Despite the fact that campuses are building more space, the percentages of buildings that haven't been renovated in 10-25 years or more than 50 years continue to grow. Investments in new construction don't slow the pace at which existing facilities need investment. In fact, those investments add to the challenge. Those two growing groups of need coincide with the lifecycle pressure from the two waves of construction mentioned above.



### 3. Students and Revenue

The Centers for Disease Control and Prevention (CDC) reported that birthrates fell again in 2019, with the 2% reduction from 2018 bringing another record low for the nation. The ongoing general population trend does not bode well in the zero-sum battle for students and their tuition dollars. Anyone operating a campus in 2020 is well aware of the challenges placed on institutional budgets by having fewer students. Rather than an anomaly, fiscal 2021 is a signal to each institution of the challenges it is likely to face as the demographic cliff looms.

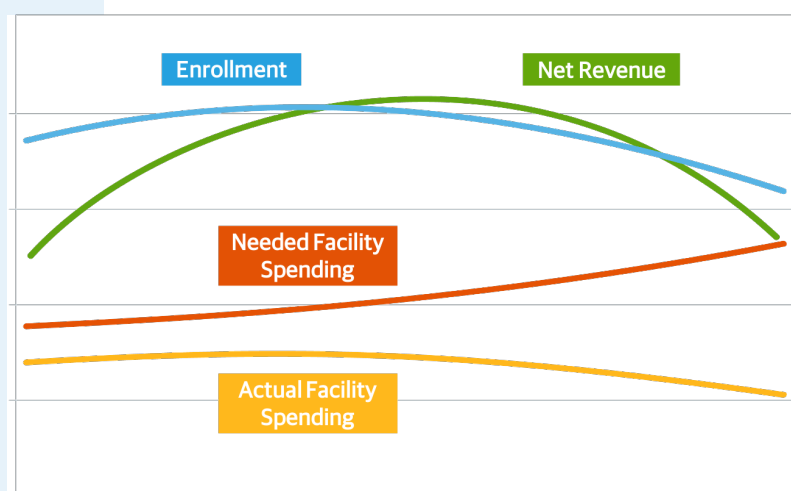


SOURCE: NCHS, National Vital Statistics System, Natality.

This reality is not affecting all institutions equally, with large research and highly selective institutions continuing to buck the national enrollment trend. Nonetheless, these trends continue to map tuition from traditional-age students as an unlikely source of new revenue until at least the late 2030s. Additionally, the economic crunch currently felt by the wider U.S. population means that non-traditional adult learners cannot be counted on to fill the gap as they have during past recessions.

With enrollment projected to drop, net revenues will follow and facility spending will fall in an echo of revenue reductions. The only upward trend would be in a growing backlog of need, as facilities continue their battle with age and wear.

This past year saw the predicted progression of all those trends, though it also presented the sudden opportunity to explore the implications for these challenges in real time. It has been a sobering confirmation of the challenges facing higher education and its facilities organizations, while producing some surprising turns, as well.



Created by Bryan Harvey



# Part Two: The Reality

The March 11, 2020 declaration of a pandemic by the World Health Organization accelerated a chain of events already unfolding worldwide. That acceleration brought stunning change to higher education. In a matter of weeks, the staid and predictable environs of colleges and universities were propelled into technology-driven remote teaching and learning. What many had said couldn't be done in 10 years was accomplished in 10 days. "March madness" took on an entirely new meaning.

Physical campuses and the towns around them were suddenly devoid of the energy that typically characterizes collegiate communities. Gathering, a word central to the character of higher education, became a term fraught with risk. Facilities organizations built to care for a dynamic campus found themselves caring for a machine far outsized for its purpose. This, in turn, led to important opportunities and new obstacles for facilities organizations.

## Increased Facilities Relevance

Senior facilities leaders are routinely connected to the decision-making process in a campus community. Overseeing the third largest node of campus expense after salaries and financial aid, their work touches literally everyone who works on campus. Yet, the role is not often considered central to campus decision making and strategy.

But in a flash last spring, many of these leaders found themselves to be the only senior administrators physically on campus, suddenly at the center of decision-making conversations. Pandemic response committees, often led by senior facilities officers, quickly focused on making physical and digital updates to ensure the health, safety, productivity and general welfare of the community. Coordinating the likes of classroom seating arrangements, public space cleaning, building ventilation, waste removal and drive-through student arrival processes, all while balancing myriad concerns about health, demonstrated leadership skills beyond the written job descriptions of facility officers.

**"Fifteen years ago, facility leaders were begging to have a seat at the senior leader table. In many institutions, due to COVID, technology and data, many have found themselves sitting at the head of the table."**

Jim Jackson – University of Nebraska, Lincoln

Resultantly, the prominence of facilities leaders grew significantly. Doors were opened on conversations about the long-term implications of budget allocations and reductions, staffing changes, mechanical system improvements and capital investment strategies. Facilities leaders tasked to plan tremendous changes in campus operations allowed onsite activity to safely resume. Competencies normally employed for facilities issues brought newly realized value to the entire institution.

Even more striking than the rise in relevance of facilities leaders is the increased recognition of essential workers. College campuses, like much of the world, now regard and respect the work of facilities workers in new ways. Operation and care of ventilation systems have become crucial to maintaining healthy environments. Cleaning professionals, often unsung community members, are more critical than ever. Budget challenges previously put maintenance services in the cross hairs of reduction. Not this time. Previous crisis planning focused on weather-related recovery competencies or highly technical, failure-related skills. But the sustained challenges of a pandemic have put facilities cleanliness and system operations at the center of crisis plans.

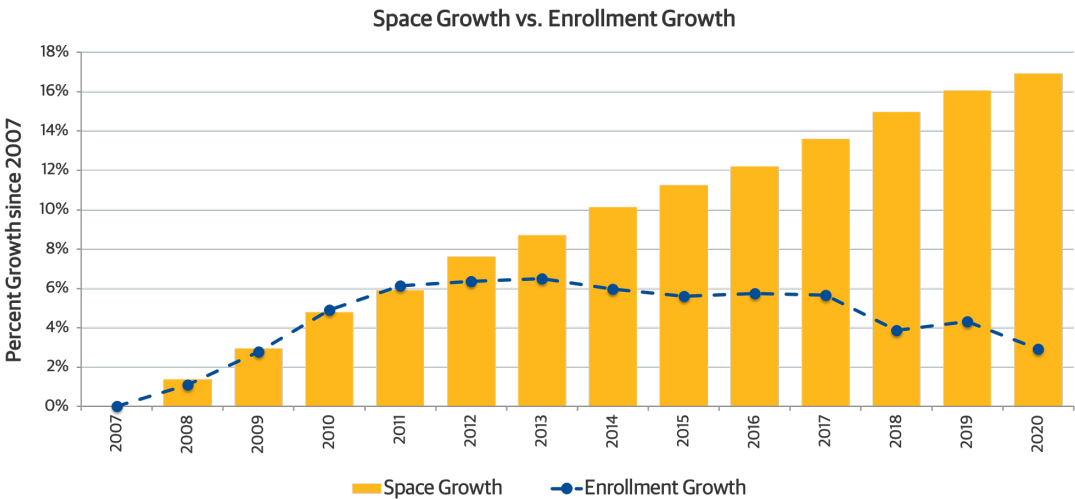
Now, the challenge for facilities leaders is to remain relevant, both as individuals and as organizations, once the pandemic is in our past. Importantly, chief finance officers have been taking note of the value that facilities leaders can bring to their campuses. The strengths (and weaknesses) of people across campus are exposed when responding to urgent issues and in close collaboration. Finance officers who have gained confidence in their facilities leaders will be interested in continuing or even expanding their responsibilities. Institutions that have lacked strong facility leaders now realize the value of such leadership and will be looking for it, be it developed internally or found elsewhere.

**“We’ve learned a lot from our fall semester. Through our extensive testing and tracing, we saw no evidence of classroom spread [of COVID-19]. I think we may have traced some 6000-plus students. Not in any of the cases did we see evidence of classroom spread.”**

President Eli Capiluto, University of Kentucky, from “Here and Now,” NPR/WBUR, January 27, 2021.

## Space Reimagined

Trends in space usage are often very localized, predicated on a particular school’s demographic or programmatic needs: A reflection of unique traditions or expectations for the student experience linked, in so many cases, to the established culture of the organization.



*Our preliminary data indicates no notable change in space trends through the end of fiscal 2020. Total space across our databases is up 16% since 2007, with enrollment up just 2%.*

But this year has brought a uniquely shared experience that challenged the culture of higher education as a whole. Nearly every campus has seen some reduction in campus space utilization. Staff who could stay home were asked to do so. Classes, even when in-person learning has been preferred, were conducted partly or entirely virtually. Dining facilities saw reduced or suspended activity. Large gathering and event spaces were used to promote social distancing or as coronavirus testing centers. Residential facilities were intentionally underutilized through reducing occupancy or limiting access to social spaces. Outdoor spaces were a rare bright spot when weather has allowed.

While some of these areas will return to full utilization at a post-COVID time, planners have begun raising the questions of what kinds of spaces will be needed in the future and why, like, “Will large lecture classrooms be required on campuses where online presentation is being perfected?” and, “What kinds of gatherings will still require large inflexible spaces?” Trust in the productivity of remote workers has also skyrocketed during the necessary experiment. So much so that many leaders now question the need to return groups of workers who don't routinely interact with students to campus. How much office space will be required for employees that can now spend much of their time off campus? As schools begin chipping away at large gathering spaces and onsite offices, it raises the question of whether there is simply too much space across the board to support a smaller campus population.

**“Asking the question ‘What value does coming to work bring?’, the idea is to come out of this using a lot less space, but doing it in a way that enhances the productivity and enhances the sense of connectedness that may be lacking while we all work remotely.”**

Mike McCormick, AVP of Asset Management and  
University Architect, University of Washington

For facilities professionals, these questions have profound ramifications. Facilities offices aren't sized and organized to maintain, clean and renovate according to student and staff activity. Rather, these offices maintain campus buildings independent of activity level. Basic operations of buildings, sustainment of building integrity and statutorily mandated testing and monitoring demand service levels that are at times inconsistent with reduced occupancy of campus. This was and remains a necessary reality – a glaring demonstration of exposure moving forward if more space is being operated than is necessary to fulfill a school's mission. While a number of facilities organizations found a silver lining and utilized 2020's vacancy windows to complete critical maintenance and deep cleaning, all realized it was a one-time opportunity that couldn't be expected to continue.

The pandemic offers stewards of these assets a clear and extreme example of what an overabundance of space can do to college budgets in the short term. The ongoing growth in the backlog of deferred needs as renewal budgets stay flat or shrink paints a painful image of the implications long term.

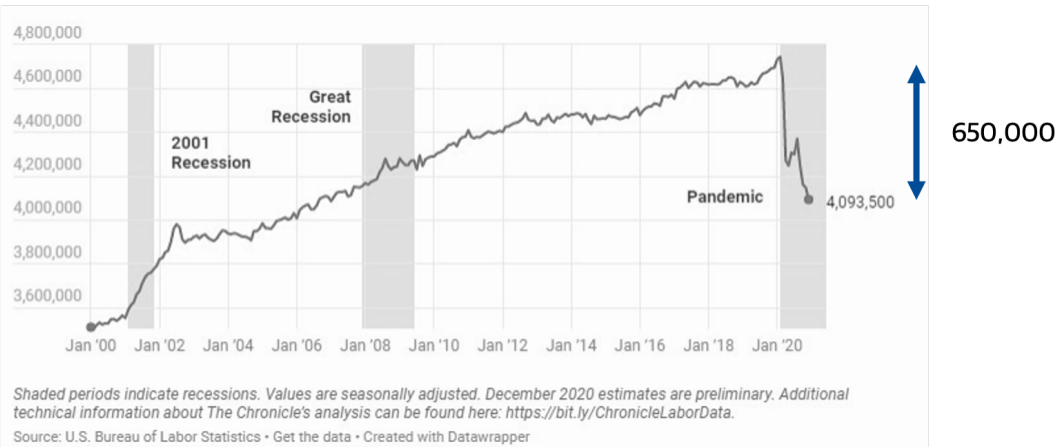
## Financial Compression and Risk

The negative impacts of the pandemic on the overall economy have been staggering. Higher education has certainly not escaped the plunge, and publicly available data offers examples of the extraordinary financial obstacles facing higher education. The American Council on Education projects that the industry is in need of at least upwards of \$180 billion simply to offset revenue losses and COVID-related expenses to maintain safe operations during the pandemic. In the short term, that has meant employing strategies to reduce costs.

With between 50% and 70% of campus expenditures going to employee compensation, the opportunities for addressing budget shortfalls without touching staffing are limited. For the whole of 2020, the industry lost 650,000 jobs. Despite the aforementioned need to keep staff on to clean and maintain campuses, facilities and auxiliary service organizations were full participants in these job loss numbers.

### A Closer Look at the Higher-Ed Work Force Since 2000

Estimated number of workers employed by institutions of higher education



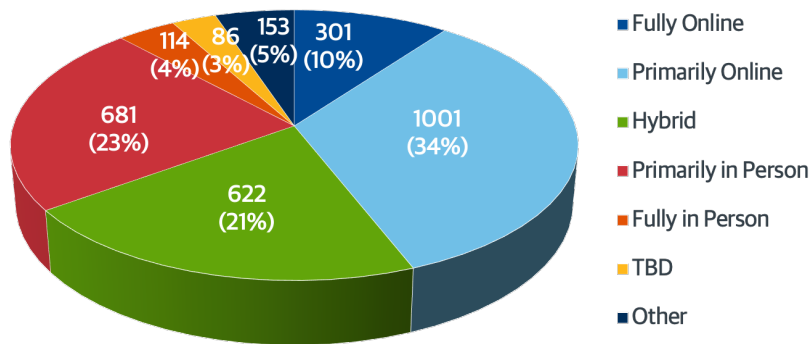
The Chronicle of Higher Education also reported in September 2020 that more than 100 doctoral programs in the humanities and social sciences had suspended admissions, accelerating an existing national crisis for these programs. This change points to a trend in the industry, where schools face a choice between further revenue reductions or shifting emphasis to STEM programs. However, the facilities costs required to support STEM teaching and research are routinely far higher than other programs.

Capital budgets have been similarly impacted, with many campuses halting planning activity and stopping or curtailing active construction projects. Annual allocations to capital renewal have been reduced or eliminated as schools looked to preserve cash to handle near-term pandemic response and future unknown needs. Even if these annual allocations are resumed, the acceleration of deferral cannot be reversed, and the trends will continue to move in the wrong direction. We will be looking for firm data over the next year to understand the scale and full impact of these decisions.

## The Transformation of Community

The notion of an academic community is being refined in real time. Seemingly forever, community has been equated with students strolling along crowded walkways amidst ivy covered buildings, heading to a lecture from a visiting scholar or a raucous stadium. Thousands of these individual experiences form a body of young adults all experiencing the world together through learning, laughing and, at times, revelry. Collegiate communities in the fall of 2020, however, didn't fit that picture.

2020 Fall Semester Reopening Plans



Source: The College Crisis Initiative (C2I) at Davidson College  
<https://collegecrisis.org/>

For the fall semester, 44% of schools were fully or primarily online, and another 21% were operating in hybrid mode. In fact, only 3.8% of surveyed schools reported operating fully in person. The digital experiment of the spring worked so well that it enabled nearly two-thirds of schools to choose an alternative and safe path where students and faculty worked from their homes. Spring 2021 finds most schools continuing in a similar vein.

The digital experiment has worked thus far because schools, their employees and even students have embraced its safety. And because we were able to lean on the reservoir of connectedness built up over years. In fact, for many people, connection between employees and across campus organizations expanded in 2020, because everyone was rewriting the rules together in real time. People had no choice but to collaborate.

Despite great success keeping classrooms and campus spaces extremely safe, students demonstrated unsafe gatherings off campus. Off campus parties, with crowds of students tightly packed, were the most notorious examples of such behavior. Ultimately, these gatherings were an expression of students' desire to see a return to "normal." As Ian Bogost noted for the Atlantic in October of 2020, "The pandemic has made college frail, but it has strengthened Americans' awareness of their attachment to the college experience." Virtual attempts to create togetherness outside of the classroom have taught many of us what digitally-native college students already knew: The virtual world is not yet able to replace in-person experiences. Community continues to be reliant on the physical gatherings of people, which will be an expected element of the collegiate experience for some time to come.

**"A strong community has the ability to strive in an ever-changing climate."**

Jim Jackson, University of Nebraska, Lincoln



# Part Three: The Future

Looking forward, the world seems foggy and more obscure than any time in recent memory. A tremendous amount of potential remains to be understood and harnessed. It's hard to know where to begin considering the future when the present feels so urgent and unknown. For the purposes of this report, we have developed and organized our thoughts about the future around two main concepts:

**The Drivers of Change** – key elements for change in higher education that most readily affect how facilities and other institutional organizations will respond.

**New Insights and Familiar Wisdom** – new directions that must be considered post pandemic and continuing priorities for facilities organizations that are ever clearer.

## The Drivers of Change

Students and their families still expect their school experience to be one of meaningful engagement. More than ever, they also expect there will be a demonstrable return on the investment they are making. Without assurances of both, fall 2020 enrollments (see National Clearinghouse inset) signaled that students were prepared to walk away from educational opportunities until such assurance could be provided.

### Fall 2020 Enrollment (As of Oct. 22, 2021)

**With 76% of colleges reporting data, undergraduate enrollment has been revised downward. Roughly two months into the fall term, undergraduate enrollment is running 4.4% below last year's level and for-profit four-year colleges are now showing slight drops. Graduate enrollment is up 2.9% and overall postsecondary enrollment is down 3.3% compared to the same time last year.**

**The decline in freshman enrollment has been revised upward from last month's reporting of a 16.1% drop, to a still substantial decline of 13.0%. Community colleges are showing the steepest decline (-18.9%), almost 19 times the pre-pandemic loss rate, followed by public four-year colleges (-10.5%) and private nonprofit four-year institutions (-8.5%).**

Covid-19 Stay Informed,  
National Clearinghouse Research Center

The challenges driving change are multi-layered:

### Crises Facing Higher Ed

**Pandemic** – Delivering education safely during a pandemic turned education on its head for the year. The impact was felt everywhere: Financially, pedagogically, from an enrollment standpoint and particularly with regards to the character of community, collaboration and service to learners.

**Economic** – Schools have been struggling to manage increasing costs to provide education in a world stricken by COVID-19. Estimated additional costs to the industry of roughly \$180 billion (offset so far by two federal bills providing a total of \$40 billion) include managing enrollment revenue loss from both domestic and international students, reduced auxiliary enterprises including athletics and reduced state funding, while taking on the additional costs of PPE and other accommodations to provide a safe and productive learning environment. The ongoing challenge of student debt (\$1.5 trillion) provides further disincentive for students to participate in this environment. The marginalized student population of low income and first generation students have been increasingly impacted by pandemic related job losses – themselves and their parents. This further exacerbates retention challenges.

**Racial inequities** – A reckoning with all elements of racial imbalance, bias and hurdles which continue to make the promise of a better life through higher education an unrealized aspiration are met with the real institutional challenges/costs of creating a welcoming environment for students previously unable to access the experience.

**Climate Change** – Schools see opportunities for contributing and leading in a global conversation about climate change. Students seek meaningful engagement and believe an active choice can be made to contribute to a correction in the predicted future for our planet and it's living environment. As APPA notes in their Thought Leaders Series 2019, "To these students, there is a sense of urgency to these environmental issues."

## Evolution in the student experience

- A year of remote learning ignited a desire for fellowship. Students within traditional collegiate communities that were about a shared physical experience clamored to return to that universe. As noted above, freshman who couldn't get that experience were less inclined to enroll. Educational environments with a less defined sense of place saw historic drops in enrollment.

### The College Experience

**But what did families think they were paying for? Classes are still happening, and degrees will still be conferred. Parents and students are miffed because they don't really buy teaching when they pay tuition. Instead, they get something more abstract: the college experience... Without the college experience, a college education alone seems insufficient.... students do go to school for the schooling, of course... But that is just a small part of colleges' purpose....The process - not just the result, a degree - offers access to opportunity, camaraderie, and even matrimony.**

America will Sacrifice Anything for the College Experience, Ian Bogost, The Atlantic, October 20, 2020

- While some work can happen remotely, digital collaboration has resulted in the breakdown of professional and organizational silos to serve students most effectively. This tendency toward collaboration will continue, and it should affect the physical gathering of those organizations in service of learning and research.

- Schools have learned to be flexible in how learning happens. This year spent “going digital” will most certainly change what a future class looks like – in pedagogy, in size, location, composition, perhaps even duration. Movement across campus, components of residential space, physical characteristics of the classroom all will evolve. And in many cases, the sheer volume of classrooms may be reduced, particularly as digital media raises questions about the value of the very large classroom experience. Eliminating just a few of the largest classroom has significant space implications for buildings and campuses.

### **Digital Isolation**

**Lucy Naughton doesn't mind spending lots of time in her dorm room. She just wishes she could do it with other people.**

**Colleges are trying a range of interventions to help new students adjust: ramped up advising, additional check-ins, virtual activities, mental health resources. But even the best support won't change the Zoom fatigue. The isolation. The unfulfilled desire to explore their independence and identities and interests without worrying so much about the rules. The longing for a real college experience.**

**“It's going to be weird to come to college and not have to wear masks and be able to have friends in your room,” she said, hastily adding, “I will really appreciate it.”**

“Meet Covid 19's Freshman Class”, Sarah Brown,  
The Chronicle of Higher Education, November 10, 2020

- As interaction digitizes, the aforementioned desire for physical engagement remains an essential part of the higher ed experience. Time together outside of the classroom, always a critical element of student experiences, will become even more prominent and spaces on campus to support such interaction will grow further in prominence within the campus portfolio.

### **Demographics**

- The enrollment drop experienced amidst the pandemic in the fall of 2020 will have significant implications for institutions, and particularly their auxiliary enterprises. The 13% drop in the incoming freshman class will have a ripple effect across the next three to five years.
- Shifts in national population trends and the evolving international presence (or lack thereof) means that students with different experiences, expectations and needs will not just become more frequent but will become the dominant student types. Attention must be paid to what the student of the future is looking for and what he or she requires to be successful. More than ever, programs will change, experiences will change and the campus that supports them will simply need to evolve. APPA's Thought Leaders Series 2020, Preparing for the student of 2024, effectively outlines these potential students' (traditional and non-traditional) values, characteristics and expectations, as well as the facilities implications of that profile.
- The non-traditional student (25+) population is expected to grow in the coming years according to the National Center for Educational Statistics, the non-traditional student and that constituency group will have expanding expectations with regard to services and programs to address their particular needs which are distinct and different from traditional age students.

- The reliance on international students to help bridge the financial gap, as happened during the Great Recession of 2008-09, is no longer a viable option. According to the National Student Clearinghouse Research Center and Nathan Grawe in the Chronicle January 2021, overall undergraduate international student enrollments fell by 15% for the fall of 2020, and new international enrollments declined 43%. This is only the acceleration of the decline from a weakened market that has been underway since 2015-16.

## Community

- As a result of all of the above, the very nature of community is continuing to shift. In-person, virtual and hybrid not just in teaching but in all aspects of our lives. The definition of, and ways to participate in, a community are evolving, and the implications for the built environment for higher education will be significant. It is clear now that all employees don't necessarily have to work on campus to be productive and as such their space needs should change commensurately. A student's attendance in class could look very different in the future and therefore enrollment and physical attendance will continue to disconnect. Crowds of students between classes, which disappeared on many campuses this year, may have receded for an extended period of time.
- The sudden embrace of digital tools for teaching opens up endless interpretations of what an academic community looks like. Some schools will focus on degree granting and job preparation while others will focus on more traditional notions of academic explorations and the life of the mind. Still others may focus on research and their collaborations with government, healthcare and industry, extending the community well beyond the boundaries of the campus. And certainly, some students may still seek the large social hubs where, fairly or unfairly, traditional age students are focusing as much on growing up as their academic work.
- As noted in the APPA TLS 2020 monograph, "connection" is critical. It states, "...For all their constant interaction online, life for gen Z's can sometimes be lonely...while they value technology and social interactions, there's nothing quite like human connection...in part because it seems in short supply."

## New Insights and Familiar Wisdom

Change happened rapidly this year and offered up the potential for change elsewhere in organizations often chastised for their malaise and fealty to tradition. Schools eager to chart their own future will seize on this new-found willingness to tackle long held challenges, with important implications for facilities professionals of all stripes.

## Space Revisited

The past year has been full of conflicting predictions about the way space use will change.

*We need more room as we all spread out in the future.*

*We don't need to be on a campus, at all, ever – we're going online and remote.*

*We will all go back to exactly what we were doing before.*

While none of these prognostications appear entirely correct, an opportunity clearly exists to reimagine campus space. The window is open to embrace digital, distant and trust-based work environments, and we should leap to take advantage of the moment. The data says that we need to use less space because we simply can't care for what we've built. The historical obstacle to rethinking space has been our collective inability to imagine a different way to deliver academic and administrative work. With that hurdle obliterated and short-term economics looking bleak, the time to actively embrace an approach for creating change and embracing new possibilities is upon us. Just as Google, Microsoft and others are focused on creating adaptive learning environments for the classroom, the pandemic has revealed opportunities to rethink and reimagine the workplace environment for employees. This phenomenon in the real estate/commercial marketplace should not go unnoticed nor unexamined as it has application for higher education. Key steps to take now include:

1. Document the real costs of operating campus facilities this fiscal year – include operating expenses and the accrual of deferred needs in a year with altered staffing and reduced capital investment.
2. Confirm which space has been in active use throughout the fiscal year and create priorities for its likely use going forward.
3. Establish institutional clarity about what education will look like on your campus going forward, including what tools and technology will or will not remain in use.
4. Fix excess space demands with real institutional costs and determine what investment/divestment will be appropriate to realize that expectation.
5. Create a coherent narrative, incorporating the expectations of the community and the demands of the facilities, that represents a shared agreement for how to best optimize service to academic aspirations and institutional mission.

## **Investment Alignment**

As those who care for buildings evolve from talking about deferred maintenance to more suitable concepts of capital deferral and appropriately funding capital renewal, the fundamental challenge hasn't changed. Organizations logically and instinctively place priority for constrained resources on people instead of buildings, while continuing to operate more space than they can maintain, even at current staffing levels. The resulting increases in backlogs of work gradually erodes building conditions from unsightly to underperforming, and eventually to risky and malfunctioning. The pandemic has accelerated the movement of cash away from building investment to protect the institution's existence. While defensible in the short term, diverting finances in this way accelerates institutions toward a moment of reckoning with the viability of their building portfolios. If resources are not going to be available for buildings, then new strategies for matching built resources with user expectations will be required to maintain the exceptional space portfolios that academic communities deserve and demand.

Institutions must ask themselves difficult questions regarding risk-based investments.

- What are the facilities-related risks are we managing? Consider continuity of operations, building security, cost avoidance in all aspects of the facility system, health, etc.
- Who is defining institutional risk tolerance?
- How long might your institution tolerate a loss of building system's HVAC, access control, security (physical and cyber), and similar disruptions?



Risk assessment can sometimes lead to fiscal conservatism and regression to the familiar embrace of the status quo. University buildings are particularly effective for inspiring thoughts of the past as they can embody and reflect the traditions and developments of a school throughout its history. The walls are thick with nostalgia. But now is not the time to stand pat. The challenges around us call for an enlightened but informed approach to investment that speaks not to a desire to hold onto the past, but a hunger to support the future of higher education. Finance and facilities leaders must collaborate to:

**"Colleges and Universities need to manage their finances like they are people in their 30's, investing and looking to the future/long term, not getting conservative as though they are preparing to retire."**

Rhonda Gibler, CFO, University of Missouri

1. Develop a deep and data-driven understanding of how money has been spent on the physical plant and acquire a realistic understanding of its present condition.
2. Establish an explicit institutional position on risk responsibility and tolerance.
3. Develop an implementation strategy that reduces risks, enhances value and enables the future.
4. Compose an understandable narrative about the exposures and opportunities across the various campus building portfolios and the most suitable investment strategies to address them.
5. Inform and discuss this story with the entire community to create buy-in from the most senior leadership and the people who will be living through and ultimately benefitting from a disciplined investment strategy.

## Organizational Change

The pandemic revealed the immense potential for collaboration and the value that was brought to bear by bringing the widest array of institutional players together to solve a problem. While no one is eager (or able) to sustain the 24/7 crisis mode that almost became normal operating mode for much of 2020, new organizational relationships have clearly released potential that cannot be lost. The evolving academic and administrative expectations arising from this extraordinary year will require that this new collaborative environment is sustained. The additional bottom-up insights, the optimization and efficiencies uncovered, the creative energy and improvements in effectiveness revealed amid this crisis all should find a home within institutions going forward.

This will all also place newfound challenges on facilities organizations. The organizations of yesterday are unlikely suited for a new and more dynamic campus with more fluid spaces/space use, shrinking real estate portfolios and greater use of technology. While there will continue to be some spaces and even campuses that are able to operate in 2030 like they did in the past, the majority of operational and capital organizations will need to evolve, responding to enrollment and economic stresses by reconfiguring themselves and the organizations that care for its property and its occupants. Possessing the necessary leadership competencies, finding highly skilled workers and positioning the team to work flexibly to support a changing campus will become increasingly more critical. At a minimum, institutions must:

1. Honestly appraise the leadership skills required in the facilities department to continue acting as a partner to senior leadership. We saw what that looked like at the height of the crisis. What does that look like in more routine times? What skills must leaders possess?

2. Assess the type of work that has been required and is anticipated to be required in the future in order to match hiring practices with the skills of the future.
3. Review work practices and contracts to create the appropriate mix of stability and adaptability for campuses that will require rapid organizational shifts as the nature of education evolves.
4. Reconsider capital priorities and associated teams as the conversations about preservation, innovation and sustainability intersect with campuses that very well may be reimagining fundamental elements of the character, physical and otherwise, of the institution's space and place.

## Healthy and Smart

We have all witnessed that a pandemic places tremendous demands on building systems and impacts the safety and security of the built environment. Short term responses to the coronavirus had the unintended consequence of establishing a new floor for what constitutes a healthy space. Here's the rub: Tactics undertaken in the short term will not prove sustainable long term as they require too much labor and space to be viable. Smart building technologies enable the delivery of so many performance improvements in energy/utilities and maintenance operations in staffing and daily systems. In turn, these improvements yield cost savings, reliability and the health and productivity of occupants. Further, investments in smart building technologies provide an opportunity to blend the addressing of user expectations (and perhaps soon regulatory requirements) with the benefits that can come from optimizing building operations. The finance, facilities and IT teams must forge an implementation strategy to achieve the greatest return on the investments.

APPA has committed to a critically important topic, the **Healthy, Smart Buildings Initiative**, informed by the book "Healthy Buildings: How Indoor Spaces Drive Performance and Productivity", by Joseph Allen and John Macomber and based on several relevant facts:

- **Buildings are central to our lives and livelihoods. We spend 90% of our time in them. Yet the quality of the air we breathe is an afterthought.**
- **The true cost of operating our buildings is the people inside. Making it healthier, then healthier and more productive, translates to a healthier bottom line. It makes good business sense.**
- **Buildings represent the largest consumer of materials (yes, fossil fuels) of all industries on earth. Unfortunately, the focus has been on energy savings and conservation rather than balanced with a human health and productivity perspective.**
- **The convergence of health science, building science and business science are inextricably linked and reveals the greatest untapped business and health opportunity. Yet we're too siloed, even as disciplines, to capture and share relevant data.**
- **Building engineers and facilities managers are the true heroes of our health. People who manage our buildings have a greater impact on our health than doctors.**
- **Quantitative research now shows objectively and in a reproducible way that our cognitive abilities, health productivity, and well-being are directly impacted by decisions in the engineering, operating and running of our buildings.**

# Summary

NACUBO's article from November 2020, "The Value of Higher Education Through a COVID Lens," opens with a statement that grows more consequential by the day: "The COVID-19 pandemic has deepened scrutiny of the value of higher education, renewing questions about the price of a college education and the benefits received for the costs incurred. But crucially — and absent from much of the public discourse — the pandemic and its effects also have reinforced the immense value of higher education to individuals, communities, and society at large."

Higher education is poised to seize an extraordinary opportunity. Confronted with astonishing challenges, the last year has demonstrated the community's ability to innovate and overcome. Pandemic-inspired evolutions in workplace flexibility, teaching modalities and interdepartmental collaboration have empowered school leaders to approach old problems with new creativity. The academic community has never been more dynamic and active in reinventing itself. The long-standing challenges of demographic constraints, financial viability and legitimacy, all combined with a growing backlog of facilities needs essential to supporting academic programs, can now be tackled with an array of new tools.

Albert Einstein once remarked, "If I had an hour to solve a problem, I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions." Higher education has spent a significant amount of time (including in past editions of this report) considering the impending facilities challenges it is facing. Einstein's "hour" is nearly over, and leaders in higher education must use the remaining few minutes to work on the solutions. The future of higher learning may depend on it.

This document has pointed to solution frameworks in space, investment, technology and organizational transformation. These frameworks can be fundamental to helping institutions unified around change tackle today's problems and create a richer and more viable future.

We echo NACUBO's sentiment that we must be able to reflect on this time knowing we took every step possible to invest wisely in the future of higher education. Having come together to innovate through the vast challenges posed by the greatest global health crisis in a century, the time to act in unison tackling the other crises facing higher education is now.





## About Gordian

Gordian is the world's leading provider of facility and construction cost data, software and services for all phases of the building lifecycle. A pioneer of Job Order Contracting (JOC), Gordian's offerings also include our proprietary RSMeans data and Facility Intelligence solutions. From planning to design, procurement, construction and operations, Gordian's solutions help clients maximize efficiency, optimize cost savings and increase building quality.

Learn how Gordian can help you strategically plan, prioritize and manage your campus facilities goals for a richer, more sustainable future at [gordian.com/higher-education](https://gordian.com/higher-education).

### About APPA

APPA ([www.appa.org](https://www.appa.org)) is the gathering place for educational facilities professionals, dedicated to the ongoing evolution of the profession. APPA represents more than 18,000 educational facilities professionals from over 1,300 learning institutions worldwide. APPA's community represents the broadest coalition of educational facilities professionals possible, ensuring a diversity of experiences and situations, and availability of best practices. Our members also include other non-profits, libraries, museums and industry partners.