sightlines
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2018 State of Facilities in Higher Education

6TH ANNUAL REPORT

Introduction

The 6th State of Facilities in Higher Education continues our annual exploration of the most robust database for higher education facilities data. With comprehensive information about more than 52,000 buildings serving 3.5 million students on 360 campuses, this review continues to provide insights from the most expansive database of higher education data available.

After examining our 2018 data, we are focused on three related stories:

- **A Shaky Foundation** – Many schools continue to expand their footprint, but where are the resources to do this work coming from? What does that mean for higher education's financial outlook?
- **A Controlled Slide** – Despite commitments to focus on facilities stewardship, schools confronted with pressures to invest in educational quality, student quality and maintaining relevance are continuing to place too little money on sustaining existing spaces. Facilities leaders are confronting a controlled slide in conditions and ultimately service.
- **Innovative Resiliency and Efficiency** – Nearly a decade of flat operational budgets have led to staffing reductions, energy budget optimization and—perhaps—a new outlook on capital and technology.

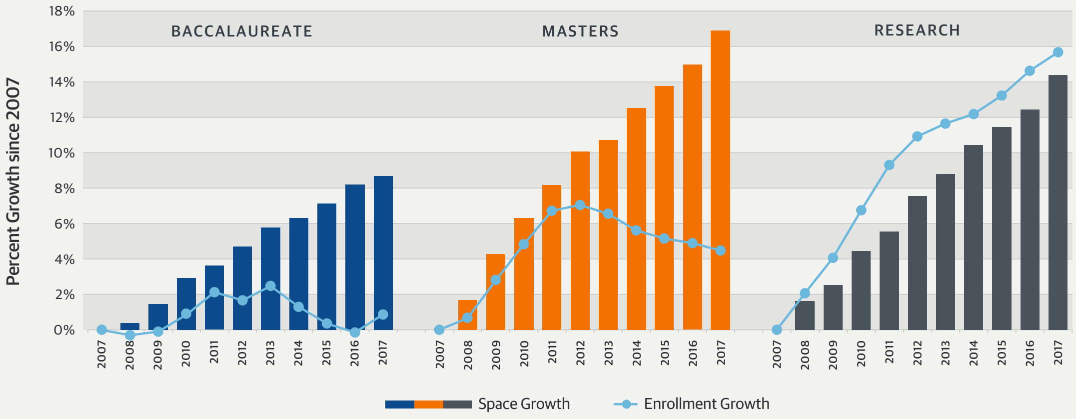
A Shaky Foundation

Campus expansion continues despite declining enrollment

During the post-recession years of 2009-2012, institutions across the country responded to surging enrollments by adding new facilities to expand their programs and amenities. The educational landscape has become increasingly competitive in the years since, and institutions have doubled-down on constructing new facilities. There's an arms race on, and institutions are building new to recruit and retain a greater share of the declining pool of potential students.

It is possible this strategy could pay off for certain institutions, most notably research and highly prestigious institutions, but it will likely leave many institutions with swollen campus footprints and declining tuition revenues.

Space Growth vs. Enrollment Growth



Many **Baccalaureate** institutions are wealthy, more selective liberal arts institutions and can support additional space without needing to add students.

The **Masters** group are typically tuition driven institutions and need to have assets that help with recruitment and retention. However, they may be putting themselves in a dangerous situation by continuing to build and without stabilizing enrollment.

The **Research** institutions have brand name recognition and diverse academic departments and are the major beneficiaries of challenging enrollment trends. They need to continue to expand space to accommodate enrollment growth.

Institutional wealth is out of balance with space

One way institutions can combat the fragility of increasing space per student is by looking beyond tuition and finding alternative financial resources. As an institution increases endowment resources, for instance, it can support more space per student without needing increased tuition revenues. However, the continued trend of increasing average tuition costs is a strong indicator these alternative financial resources are not offsetting the growing costs of campus expansion. This highlights a particularly precarious situation, given the 10-year run in financial assets since the Great Recession.

Many institutions have above average space per student and below average wealth per student. Any negative return on endowment assets could force these institutions to raise tuition, increase debt or implement austerity measures at a time when they can least afford it. It is crucial for institutions to square their campus growth ambitions with their financial realities to make certain they can afford the long term costs associated with maintaining their existing institutional assets and today's ongoing expansion. Their survival may depend on it.

Follow the (borrowed) money

Campuses continue to expand. Capital investment into existing facilities have reached an 11-year high. Yet enrollment revenues, endowment support and state funding for higher education are decreasing. How are institutions doing it?

The steady rise in debt at colleges and universities for the last 30 years provides insight into where a significant portion of the funding is coming from. Driven in recent years by ultra-low interest rates, it is unclear how long the debt trend will continue and whether institutions are prepared for the future burdens of this debt.

An avalanche of capital needs is imminent

It is often said "demographics are destiny," and that truth holds for campus facilities as well. When a building is built tells us with good accuracy when that building will demand increased investment levels. Based on the age of higher ed facilities, an avalanche of investment needs is rumbling.

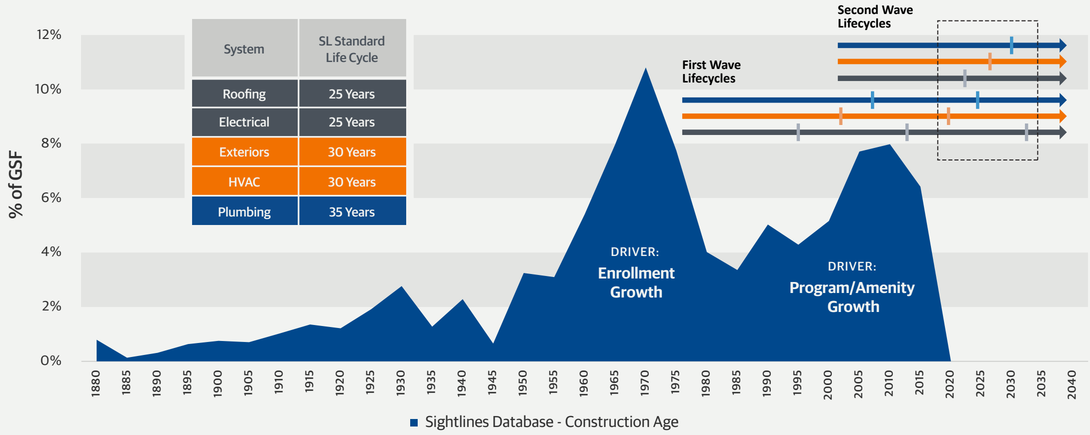
TOTAL DEBT FUNDING
is over $41 Billion, an 8x increase since 1987. 9% of college budgets go to servicing debt, outpacing tuition funding.

https://www.theatlantic.com/education/archive/2017/10/why-colleges-are-borrowing-billions/542352/

Higher education has seen two major waves of building construction over the last 125 years, one from 1950-1975 and one from 2000 to present day. This 'demographic' profile tell us that within the next 10 years, these two cohorts of buildings will both be demanding high levels of capital investment at the same time. This means the largest demand for capital investment that higher education has ever seen is bearing down on us, whether or not the resources to meet that demand exist.

Waves of Construction Drive Capital Needs

System	SL Standard Life Cycle
Roofing	25 Years
Electrical	25 Years
Exteriors	30 Years
HVAC	30 Years
Plumbing	35 Years



The largest demand for capital investment that higher education has ever seen is bearing down on us.

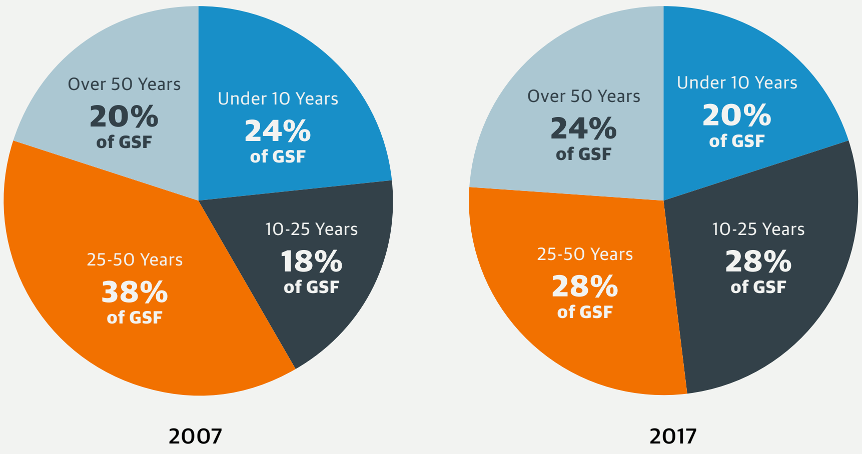
A Controlled Slide

Managing campus age profile is a balancing act

Campus age profile can be a good proxy for risk. Have too much older space (over 25 years), and you risk facilities failures and inadequate space for academic programs. Have too much younger space (under 25 years), and you risk overspending in the near term and creating a significant problem in the future as all that space becomes old simultaneously.

The optimal approach is to create a balanced profile through new construction and renovations that align with the institution's strategic direction and its academic priorities. Over the last 10 years, the primary approach to creating balance has come from adding young space, but recent data suggest this strategy is waning as the amount of older space, particularly in the over 50-year-old category, is starting to accelerate.

Age Profile Distribution

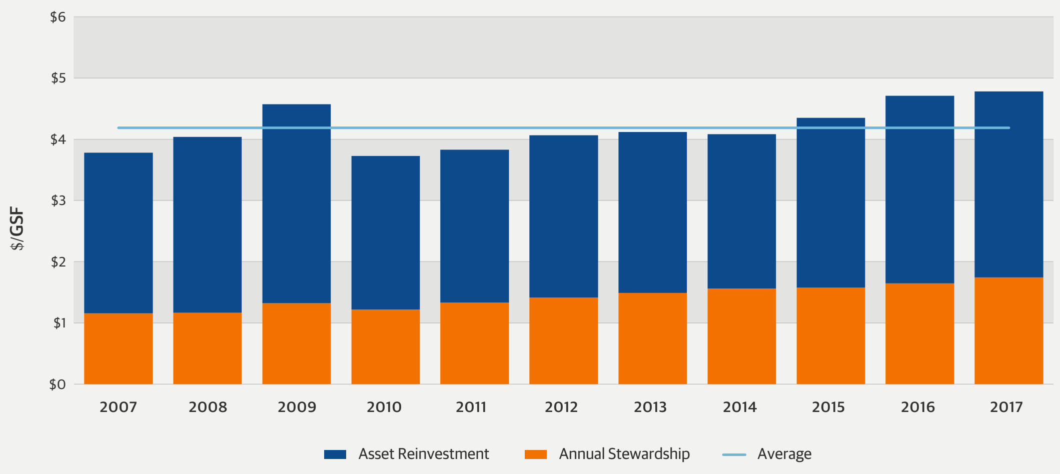


A record year for capital investment

Capital investment in existing properties has finally returned to—and even eclipsed—pre-recession levels. In addition, a larger share of this funding is coming from recurring capital sources, as annual stewardship funds have increased 50 percent from 2007 to 2017. These funds represent a long-term commitment to addressing building renovation needs. Still, the positive trends in capital investment levels and mix of funding are not keeping pace with growing project lists.

Capital Investment in Existing Space

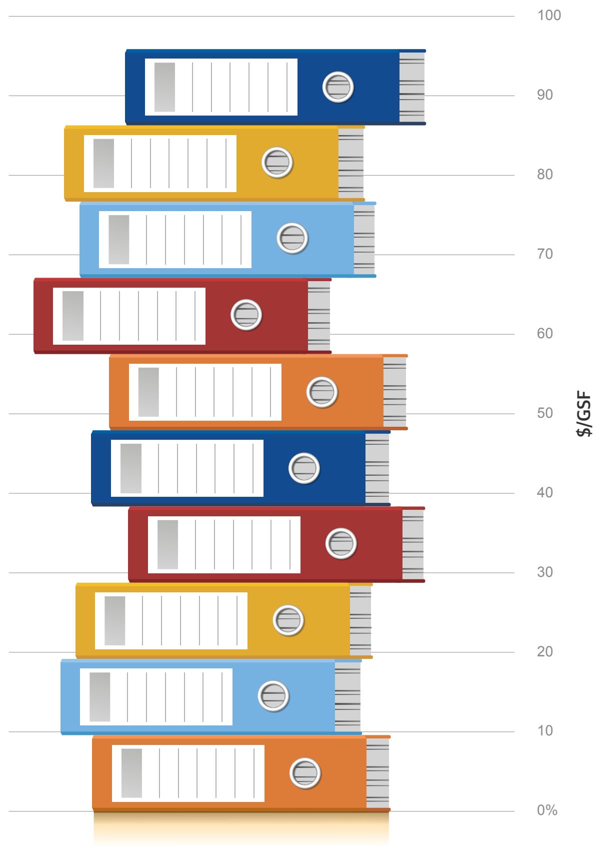
50% GROWTH IN STEWARDSHIP SINCE 2007



There's no stopping the backlog

The shortfall of capital funding persists. Financial need is on the rise as institutions add new spaces and maintain aging ones. Nearly all institutions are being forced to manage an expanding backlog and there is no sign they are up to the task of reducing it. That's the dark reality of the state of facilities, and it impacts campus operations and the experience of its constituents.

Asset Reinvestment Backlog



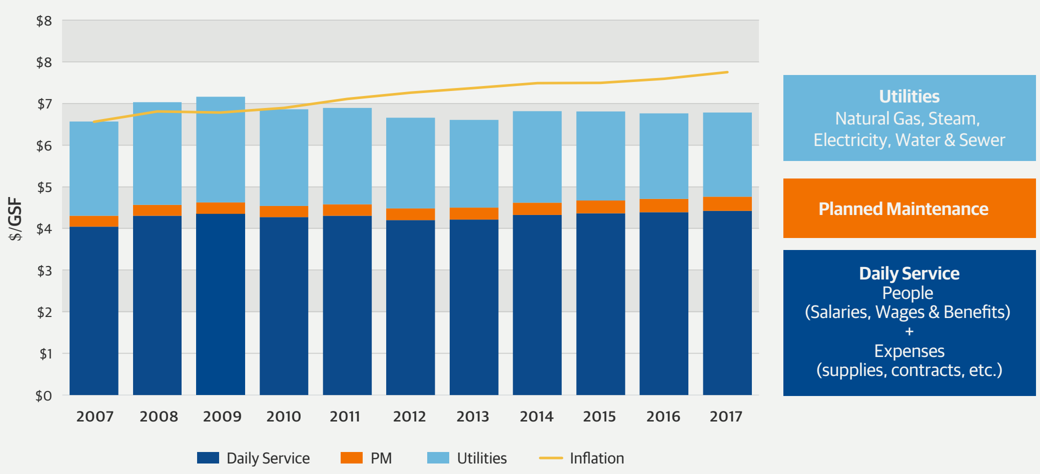
Operational Resiliency

Hidden budget cuts

Since 2010, there has been no growth in the operating budgets facilities organizations have to maintain campuses on a daily basis. Given the cost inflation realized during this same time period, it is clear that facilities organizations are actually feeling the effects of hidden cuts: The same amount of money can yield fewer people/materials/service contracts. Facilities dollars are weakening.

What remains to be seen is how institutions are managing hidden cuts. Are they reducing service levels? Are they finding efficiencies? Are they focusing on value added work like preventative maintenance? Are they managing them at all?

Facilities Operating Budget



Budget pressures create staffing reductions

The current pressures on facilities budgets and the looming possibility of future reductions have made institutions shy about increasing their staff. Over time, maintenance and custodial employees have been asked to cover more and more space. To avoid overextending their people, institutions are finding new ways to organize their staff and innovative work processes to increase the efficiency and effectiveness of each employee.

This includes improved work scheduling processes, the use of technology such as building automation, hiring the right trade specialties and strategically using outside service contracts. These initiatives have minimized the sense of service loss the campus community might feel as staffing resources are reduced.

What will future success look like?

Campus growth isn't slowing down. More schools are turning to debt to fund their projects. Backlogs are growing. Staffs are shrinking. That's where we are. That's the State of Facilities. But there are ways to for institutions to navigate the landscape and set themselves up for future success.

Prioritize communication and transparency

Given the resource limitations across higher education, it is very likely facilities services will suffer. In some cases, this might mean emptying a garbage can less frequently, and in others it might mean using a building with aging infrastructure and poor performance. This puts facilities organizations in a bind. They know everything that needs to be done and they know how to do it, but their limitations force them to make difficult decisions.

By proactively engaging campus constituents, facilities organizations can tell their story regarding resource constraints, understand what is most important to their customers and involve the campus community in decisions around resource tradeoffs. This won't make the decisions any easier, but the transparency can create institutional alignment and ultimately increase the general satisfaction with the decisions that are made.

3 Keys to Alignment

1
ADDRESS RISK POTENTIAL

2
DECIDE WHAT YOU WON'T SPEND MONEY ON

3
ALLOCATE FUNDS TO FACILITIES THAT SUPPORT LONG-TERM OBJECTIVES

Transparency creates alignment

USE "PORTFOLIOS" TO CREATE ALIGNMENT

Most campuses cannot stop their backlog from growing. Institutions will have to consider the most effective way to allocate resources across campus. There are three key strategies in this environment:

First, address any 'catastrophic' risk potential. Institutions should begin by identifying all the needs across campus that run the risk of program interruption or reputation harm. These include old and malfunctioning major systems—think central utility equipment and distribution, backup generators, science research exhaust systems, etc. By identifying and prioritizing these needs, institutions can trust the highest risk projects have been addressed.

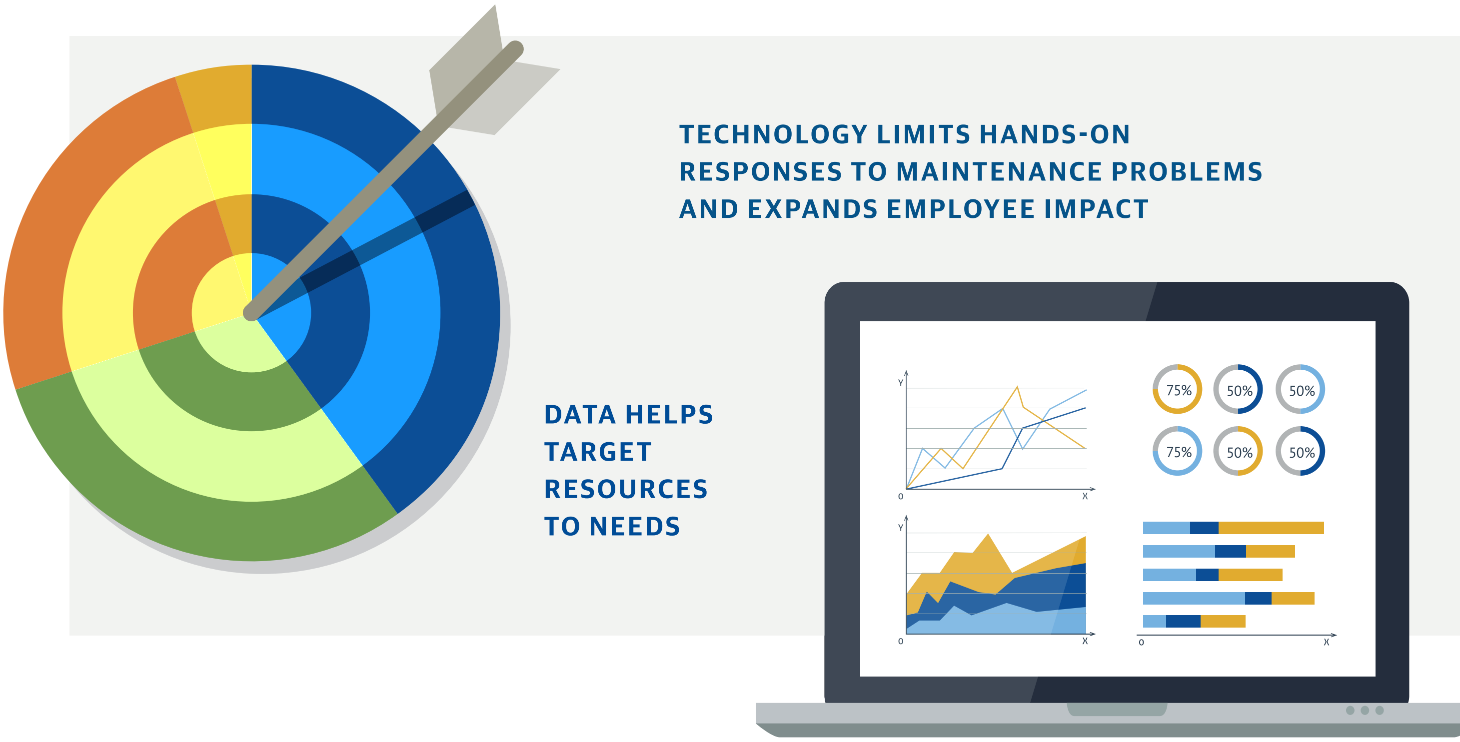
Second, decide what you won't spend money on. We often say, "Don't throw good money after bad buildings." Facilities that have significant needs, don't meet program demands or are non-essential assets can be placed in a transitional portfolio. In a transitional portfolio, no money is invested (aside from emergency repairs) until a long-term decision has been made about that facility. That long-term decision is typically in the form of major renovation, demolition or sale/divestment.

Third, with any remaining funding, institutions should allocate resources to facilities that support the long term strategic priorities of the institutions. This ensures funds are used on buildings that move the institution closer to its objectives or support programs that will be around for the long term. In an environment where institutions have finite resources, the impact of allocating funding to a non-essential asset can be felt for years.

Develop resiliency in facilities operations

Given the reluctance of institutions to allocate resources to operating budgets, using data and technology to improve efficiencies and eliminate the need for incremental operational resources will be critical. This will fortify facilities operations against economic uncertainty and demographic headwinds.

Improving organizational access to work order data, asset inventories and condition assessments can help operators target resources to the areas of campus that need them most. Additionally, technology like building automation, sensing and detection and predictive fault detection can be used to limit the "hands on" maintenance needed to identify, triage and respond to maintenance problems and expand the impact of each employee. While many of these improvements require an initial investment, institutions can begin by targeting new buildings and renovations to test and evaluate the impact of these new technologies. This will help make the case for future investment.



About Sightlines, a Gordian company

Sightlines, a Gordian Company, is a leader in helping colleges and universities better manage their facilities operations and capital investments. Sightlines provides tools for strategic planning, analyzing and benchmarking that generate an independent, reliable comparison of campus performance in these areas against peer institutions.

Using its unique, proprietary Facilities Benchmarking & Analysis process, Sightlines visits each campus annually to collect more than 200 indicators of facilities and financial data and then identifies trends and provides useful analysis and benchmarks. With Sightlines, institutions receive the context and validation they need to make sound, clear, informed and financially credible decisions about campus facilities. As a result, campuses can optimize capital investments, address backlog of deferred maintenance projects, develop a strategy to steward physical assets, improve the effectiveness of facility operations, reduce energy consumption and better serve students, faculty, staff and visitors.

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