

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

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

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

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

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

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

All these changes resulted in the physical expansion of facilities at many existing colleges and universities, as well as the creation of many entirely new institutions. The Higher Education Act of 1964 opened access to higher education even further, especially through its endorsement of com-

munity colleges. “Although the first community college was established in 1901, the Carnegie Commission in 1964 called for the establishment of community colleges that were within easy access of all,” states Rickes. “The consequence is that almost half of today’s higher education students are enrolled in community colleges.”

#### WHEN BIGGER WAS BETTER

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### Milestones in Campus and Facilities Planning

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

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

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

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

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

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

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

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

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

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



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#### MOVING FORWARD

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

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

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

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



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

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

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

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

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

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

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