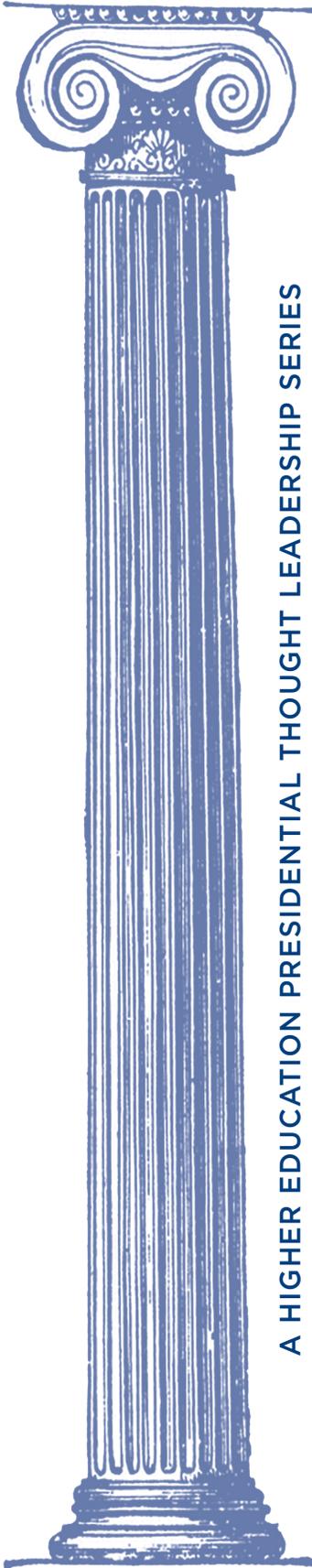
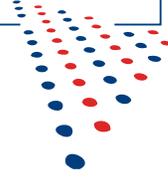


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Innovative Concepts to Achieve Campus Transformation

CHAPTER

7

**Campus Transformation through
Physical Transformation**

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Campus Transformation through Physical Transformation

Dr. James P. Clements: President of Clemson University

The phrase “disruption” has become part of the higher education lexicon in recent years—reflecting the dramatic changes in technology, student demographics, and societal expectations all institutions face. We sometimes forget that we’ve been here before. Half a century ago, Clemson University—and most institutions of higher education across the nation—faced an urgent need to respond to rapid social, economic, and technological change stemming from forces such as desegregation, the space race, and the arrival of Baby Boomers in numbers never before seen on college campuses.

These “disruptions” helped transform Clemson College from an all-white, all-male military institution into a university for all students across South Carolina and the world, and they set the stage for Clemson to become the nationally ranked research university it is today.

Providing a foundation for that transformation was an unprecedented construction boom that set the stage for the next 50 years. During the 1950s, the amount of square footage added exceeded everything that had been constructed prior to that time—starting with the home of founder Thomas Green Clemson, which still sits in the middle of campus.

At least 25 projects were completed between 1965 and 1970, adding dormitories, athletics facilities, and classroom buildings still in use today—which, of course, means they are all over half a century old and in need of replacement or significant renovation.

For that reason—and many others—we find ourselves in the early stages of what will be the largest era of construction in Clemson’s history, adding square footage that will exceed the previous era by more than a third.

Construction fences, cranes, and re-routed traffic are unmistakable signs of a major physical transformation that will dramatically change the look and operation of the university. More than a dozen projects are currently under way or in the planning phase as part of *Building Futures*—a capital improvement plan to position Clemson for the next 50 years.

“*Building Futures—is about having advanced and sustainable facilities to prepare us for whatever comes next—facilities that foster innovative teaching and learning, support advanced research and technology transfer, improve productivity and efficiency, and protect our rich physical and natural assets.*”



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Building Futures is about having advanced and sustainable facilities to prepare us for whatever comes next—facilities that foster innovative teaching and learning, support advanced research and technology transfer, improve productivity and efficiency, and protect our rich physical and natural assets. At its core, the plan is about ensuring that Clemson can compete at the highest levels and win—whether we’re competing for top students, faculty, and staff, big research grants or athletics championships.

So much physical construction may seem at odds with the popular notion that online education and MOOC’s will render place-based education obsolete. But in fact, new and reimagined facilities are essential to support modern teaching, learning, and research (not to mention meet the expectations of Millennials and their parents). And the timing is perfect, thanks to a combination of low interest rates, favorable construction climate, and Clemson’s strong bond rating and debt capacity.

The following examples—ranging from new and improved to still in the idea stage—demonstrate how facilities can foster academic innovation, faculty productivity, and student success.

Watt Family Innovation Center

In spring 2016, the Watt Family Innovation Center will be open for business—and we do mean “business.” The \$30 million, 70,000-square-foot innovation incubator made possible in part by a gift from the Watt family of Kennesaw, Ga., will connect students, industry partners, and state-of-the-art information technology to take ideas from concept to marketplace. Belonging to no college or department, the Watt Center will encourage interdisciplinary, creative, team-focused collaboration to solve real problems—precisely the kind of environment students can expect when they enter the workforce.

Flexible walls, raised floors, sensors, and a command center will make Watt smarter than smart. It will be a world class high-tech learning facility where students and faculty can explore the interface of new technologies and learning, experiment with integration of these technologies, publish and share their results, and then start over as new technologies emerge. I predict that it will become a national model—and a mandatory stop on campus tours for prospective students!

Freeman Hall

Industrial engineering students who have been scattered across campus will have a unified home in a 24,000-square-foot addition to Freeman Hall, originally built in 1926. The new wing, which blends seamlessly with Clemson’s core engineering “zone,” is also designed to encourage collaboration, develop leaders, and spark big ideas.

Graduate students formerly crammed into windowless rooms spread randomly across two floors will have open, sunlit work spaces directly across the hall from faculty mentors in the Freeman Addition. A new ground floor auditorium will accommodate undergraduate classes that have had to meet wherever large rooms were available, allowing more frequent interaction with their faculty and graduate student colleagues.

Large collaborative spaces in the Freeman Addition will provide a learning environment that fosters the creative thinking skills industrial engineers need in critical fields such as manufacturing and health care. Industrial engineers are in high demand among domestic manufacturers seeking to compete in a global economy, and the new facility can help Clemson meet those workforce and leadership needs.



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Douthit Hills

Once home to a line of small, 50's-era duplexes, an area known as Douthit Hills is being transformed into a residential village for students that will change a main gateway to the campus. Seven residential buildings and a contemporary student center will rise on 80 acres that stretches from the academic core to the edge of campus, telling students and visitors they've arrived at one of the nation's top schools.

The facilities will provide more on-campus housing options for upperclassmen and a living-learning center for students enrolled in a highly successful transfer program called Bridge to Clemson. Through a collaboration with nearby Tri-County Technical College, Bridge offers an alternate path to a Clemson degree for about 600 students per year, who are currently housed in private apartment complexes. Bringing the Bridge students to campus will give them a richer academic environment and provide a more seamless transition to Clemson.

Advanced Technological Education Center

Public-private collaborative programs focused on advanced manufacturing and engineering will have a new home with room to grow when the 24,000-square-foot Advanced Technological Education Center opens in 2017. Clemson's Center for Workforce Development will occupy approximately one third of the facility, while the rest will provide flexible workspaces for complementary programs.

Students and faculty will work side by side with industry partners to develop new digital learning tools and curricula to address workforce preparedness in aviation, automotive, and other advanced manufacturing sectors.

Coming soon?

A comprehensive strategic planning process is nearing completion, and one expected outcome is a prioritized list of up to five major academic and research capital projects that would further enhance quality and break down academic silos.

Some interesting ideas are emerging, such as revitalized agriculture and engineering precincts, a cultural and design center, and a new academic core to include a Discovery and Inquiry Center, an "Orange" center for community engagement and equity, and instructional space for multi-disciplinary courses. While all those ideas need much more discussion and vetting, and solid business plans, they have the potential to further transform Clemson's educational experience for generations to come.

While we're growing, we're also working to create a stronger culture of stewardship to ensure ongoing maintenance and care of new facilities, repurposing of older historic buildings, and preservation of green space and the stunning tree canopy that is a Clemson hallmark.

And as part of our commitment to sustainability, all new construction and major renovations will incorporate the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) rating system, with a standing goal of meeting LEED silver certification or higher.

Construction fences will come and go across campus like curtains on a stage, each lifting to reveal another piece of Clemson's next act. As the signs say, please pardon our progress. The results will be worth the wait.

Prepared by Anna Simon and Cathy Sams



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Dr. James P. Clements became Clemson University's 15th president in 2013. He is also a Professor in the School of Computing, College of Engineering and Science at Clemson. Under his leadership, Clemson has reached several milestones—the largest campus development initiative the University has seen since the mid-1960s; a record number of student applications with the strongest academic profile in University history; and a record-breaking year in fundraising, with nearly \$170 million raised in private gifts.

Clements is a nationally recognized leader in higher education who serves as Chair of the Board of Directors for the Association of Public and Land-Grant Universities, North America's oldest higher education association. Annually, APLU's 235 member institutions enroll 4.7 million undergraduates and 1.3 million graduate students, award 1.1 million degrees, and conduct \$41 billion in university-based research. He represents APLU as a member of the American Council on Education (ACE) board and serves on the executive committee of the APLU's Commission on Innovation, Competitiveness, and Economic Prosperity.

Clements is Chair of the ACE Commission on Leadership; co-chairs the U.S. Department of Commerce's National Advisory Council on Innovation and Entrepreneurship (NACIE); is a member of the Business Higher Education Forum; serves as academic co-chair of the Automotive Sector of the Council on Competitiveness-Energy and Manufacturing Competitiveness Partnership (EMCP); and is national co-chair of APLU's Energy Forum. He has served on the U.S. Commerce Department's Innovation Advisory Board, where he was the only university president in the country to serve in that role.

He holds a B.S. in Computer Science and an M.S. and Ph.D. in Operations Analysis from the University of Maryland Baltimore County, as well as an M.S. in Computer Science from Johns Hopkins University. He has published and/or presented more than 75 papers in the fields of computer science, higher education, information technology, project management, and strategic planning. He also served as principal investigator or co-PI on more than \$15 million in research grants. Before he came to Clemson, Clements served as the president of West Virginia University for nearly five years.

Prior to WVU, Clements served as Provost and Vice President for Academic Affairs, Vice President for Economic and Community Outreach, and the Robert W. Deutsch Distinguished Professor of Information Technology at Towson University, the second largest university in the University System of Maryland. He led the Center for Applied Information Technology, which was a strategic, entrepreneurial initiative for the university, chaired Towson's Department of Computer and Information Sciences. His *Successful Project Management* book is now in its 6th edition and is published in multiple languages and used in numerous countries.

