The University of Alabama in Huntsville

CAMPUS MASTER PLAN

May 24, 2024

Perkins&Will NOLA & VANPEURSEM

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Acknowledgments

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Malcolm Rice, Cheif Information Officer

Christian Reed, AVP Facilities & Operations, Senior Campus Architect

2024 Campus Master Plan Consultant

Team

Nola | VanPeursem Architects, PC

Perkins&Will

Kimley-Horn Associates

Bostick Landscape Architects

RMF Engineering

Pugh Wright McAnally

Parts of this document were adapted or excerpted from the 2010 and 2015 Campus Master Plan, 2019 Executive Plaza Master Plan, and 2028 Strategic Plan documents.

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EXECUTIVE SUMMARY The University of Alabama in Huntsville (UAH) is one of the premier research universities in America, a beacon of innovation and excellence in engineering, computer science, atmospheric science, and space science in the heart of Rocket City, USA.

From its start as a modest commuter university in 1950, UAH is now home to nearly 10,000 students and another 2,000 highly educated members of the university's faculty and staff. UAH offers a challenging, hands-on curriculum with seven (7) colleges, 94 degree programs, 17 research centers, and more than 100 areas of study. As an RI-level research university¹, it anchors the nation's second-largest research park, Cummings Research Park. It also maintains vital partnerships with critical institutions like NASA's Marshall Space Flight Center, Redstone Arsenal, and the Missile Defense Agency, which strengthe ns its research efforts and provides a direct conduit between education and employment opportunities for students.

Purpose of the Master Plan

UAH's Campus Master Plan is a vision for the future of the campus, buildings, and grounds that responds to the university's long-term functional, programmatic, aspirational, and technical needs. The Master Plan provides a roadmap for developing the campus over the next 10 years and beyond.

The master plan aims to embody UAH's strategic goals, culture, and identity - translating the University's objectives into recommendations for the future campus. The master planning team has collaborated closely with UAH to create a customized plan to address UAH's priorities.

Master Planning Process

The 18-month master planning process began in January 2023 and continued through June 2024. The process progressed according to the following four phases, which resulted in an asirational yet achievable vision for the future.

Project Orientation: Visioning and goal setting to establish the high-level aspirations for the master plan.

Analysis & Engagement: Detailed evaluation of the existing and future needs, including extensive engagement with the campus community, existing conditions assessments, and current and future space requirement calculations.

Scenarios & Synthesis: Development of organizing frameworks and iterative design conce workshopping of design concepts that respond to the findings from the analysis and engagement

Implementation: Refinement of the proposed master plan and documentation of the final recommendations.

¹ Carnegie Classification of Institutions of Higher Education®



Inclusive Engagement

A key part of the process was listening and building consensus through deep engagement with the campus community, including students, faculty, staff, researchers, and leadership. The engagement process included:

- A campus-wide survey with 1,558 responses
- Sixty (60) interviews with campus stakeholders, including representatives from leadership, academic affairs, research centers, student affairs, athletics, students, advancement, and the surrounding city and community
- Seven (7) Steering Committee Workshops to identify key priorities and opportunities for the campus, review proposed solutions, and refine the proposed plan. Steering Committee members represented various academic departments, research institutions, and leadership roles.

Long-term Campus Framework + Vision

The master plan is grounded in three big ideas.



Figure 1: Connect Campus and Community Vision Diagram

Connect Campus + Community

Capitalize on UAH's strategic location, including Cummings Research Park, Downtown, and MidCity, to draw people to campus and enhance community engagement with UAH.

Town Center: Create a new area of student housing, retail, student activities, and structured parking to create a destination in the heart of campus along Holmes Avenue

Executive Plaza: Transform the Executive Plaza site into a vibrant mixeduse district to create a college-town experience, elevate satisfaction and retention among students, faculty, and staff, provide enhanced facilities to support enrollment growth, and foster deeper ties within the Huntsville community

Executive Summary



Figure 2: Strengthen Campus Presence Vision Diagram

Strengthen Campus Presence

Develop an outward-facing campus presence that conveys UAH's brand and reflects the quality of the university.

Sparkman Drive Gateway Experience: Enhance sparkman drive through placemaking and identity, improved pedestrian connectivity, and public art.

Holmes Avenue Streetscape Improvements: Strengthen the connection between north and south campus via traffic calming, bike and pedestrian connectivity, enhanced streetscape character, placemaking and identity, and public art

The Commons: Activate the east campus edge as a "threshold space" through a Neighborhood Park with playgrounds, pavilions, hammock groves, amphitheater, and 2.6 miles of walking and biking trails



Activate the Campus

Enliven the campus by creating new areas to encourage social interaction and activity.

Central Student Pavilion: A shaded, central event pavilion for student life, campus, and community events, with diverse seating opportunities to accommodate a variety of activities and uses

Hubs of Activity: Active areas along the greenway, including a Veteran's Memorial Pavilion and outdoor "rooms" for informal gatherings and activities.

Athletics District: Enhancements to Charger Park and development of athletic fields and competition venues to bring new life to the south side of campus.





The UAH Campus

Introduction

Located in the "Rocket City", The University of Alabama in Huntsville (UAH) is one of the nation's premier research universities. One of three University of Alabama System institutions, UAH is a national destination for aerospace engineering, atmospheric science, cybersecurity, and space science. Since the university's founding, UAH has been a hub of innovation. Founded as an extension center, it grew into a research center through the work of Dr. Wernher von Braun. Today, UAH receives significant funding and recognition for its continued advancements in space exploration research and space-related studies.



Figure 5: The Initial Vision for the University of Alabama in Huntsville

Wernher von Braun, right, discusses the master plan for The University of Alabama in Huntsville with Congressman Bob Jones.

Regionally, UAH is centrally located between Nashville, Chattanooga, and Birmingham, a mere two-hour car ride to each city. Closer to home, UAH plays a crucial role in Huntsville's economy and technological advancement. Huntsville recently ranked No. 2 in U.S. News and World Report's "Best Places to Live," with UAH playing a large role in the city's high quality of life and job market indices. Proximity to and strong partnerships with federal agencies and commercial organizations contribute to its ranking as the best public university in Alabama.¹

UAH is now home to nearly 8,500 students and another 2,000 highly educated members of the university's faculty and staff. UAH offers a challenging, hands-on curriculum across seven (7) colleges—Arts, Humanities & Social Sciences, Business, Engineering, Education, Honors, Nursing, and Science—as well as in its Graduate School. Its 94 accredited graduate and undergraduate degree programs, 17 research centers, and more than 100 areas of study provide students with robust academic offerings, complemented by a vibrant campus culture of student-run organizations, Greek life, and Division II NCAA athletics.²

The Carnegie Foundation classifies UAH as an RI-level research institution, indicating very high research activity, and Barron's Profiles of American Colleges rates it as a very competitive academic institution. It serves as a primary anchor for Cummings Research Park, the second-largest research park in the country. It maintains essential partnerships with institutions like HudsonAlpha Institute for Biotechnology, NASA's Marshall Space Flight Center, the Missile Defense Agency, the DIA Missile and Space Intelligence Center, and the U.S. Army Materiel Command, all located on Redstone Arsenal.

2 The University of Alabama in Huntsville Facts and Figures

¹ Brookings Institute

"Opportunity goes where the best people go," he said, "and the best people go where good education goes." -Dr. Wernher von Braun

The university's central location between employment and entertainment hubs like Cummings Research Park and Downtown Huntsville, cultural destinations such as the U.S. Space and Rocket Center, and ongoing development initiatives like Mid City and Bridge Street Town Center provide convenient access to amenities and opportunities that enrich the quality of life for students and faculty.

Today's campus is the culmination of decades of hard work that has resulted in benefits extending far beyond the UAH campus and well into the community at large. UAH is not only an institution of higher learning but also a partner to the city, its business and industry, and its citizens - just as Dr. von Braun foresaw in his 1961 speech to the Alabama legislature.

Mission

The University of Alabama in Huntsville is an internationally recognized, comprehensive research university that produces important discoveries, provides an outstanding education, and serves the workforce needs of Redstone Arsenal, the greater Huntsville area, the state, and beyond. Our mission is to explore, discover, create and transfer knowledge, and to educate students from diverse backgrounds in leadership, innovation, inclusivity, critical thinking and civic responsibility while inspiring a passion for learning.

Vision

The University of Alabama in Huntsville will be recognized as an innovative institution that excels in research and creative activity and student-centered education. UAH graduates will lead in their fields and shape a diverse and inclusive modern society for the greater good.

Values

Pursuing Excellence: Supporting the mission and vision of the university by consistently delivering high-quality teaching, research and creative works, scholarship and service.

Integrity & Respect: Behaving honestly, fairly and ethically to foster a culture of trust, civility, openness and professionalism in all interactions, activities and decision-making.

Diversity & Inclusion:

Cultivating a diverse and inclusive learning, living and working community to celebrate the accomplishments of all groups and individuals.

Continual Improvement:

Promoting creative solutions that overcome obstacles to student, faculty, staff and institutional success, with consistent assessment of achievement.





Top, Bridge Street Town Center: City of Huntsville Bottom, US Sace and Rocket Center: City of Huntsville

Master Planning and Campus Development History

UAH was established in 1949 and designated as an autonomous campus in 1969 as the academic institution sustaining the city's defense and aerospace ecosystem. Today, that mission endures in the University's testbed of research.

In November 1949, Huntsville's leaders learned that The University of Alabama had approved their lengthy campaign to open an extension center in the city. Three months later, the new University of Alabama Huntsville Center began offering 10 freshman-level classes in what became Stone Middle School. Enrollment was 137 students, many of them World War II veterans whose G.I. Bill benefits covered the tuition of \$4 per credit hour.

The Center was an instant success. Within a few months, enrollment almost doubled. Within a few years, city officials procured an 83acre parcel of property on the south side of U.S. 72 and approved the construction of a new building, Morton Hall, to accommodate the Center's growth. When the new hall was completed in 1961, the demand for a highly trained workforce to sustain the city's aerospace and defense industries had again exceeded the Center's growth rate.

Seeking a more permanent solution, a committee headed by renowned rocket scientist Dr. Wernher von Braun traveled to the state capital that following summer to request a \$3 million bond to establish a research institute. Both houses of the Alabama legislature passed the bill, which enabled Huntsville and Madison County to purchase an additional 200 acres of land and build the proposed research institute. Spragins Hall and Madison Hall followed quickly, earning the Center a promotion to "branch campus" status. It wasn't until 1969, with the addition of Wilson Hall, the University Center, and the Salmon Library, that The Board of Trustees of The University of Alabama System made UAH an autonomous campus.

In March 1970, Dr. Benjamin Graves was appointed UAH's first president, and a few months later, the new university celebrated its first official graduation. With few extracurricular amenities, the school catered to local commuting students and focused on core competencies. The campus continued to expand during the 1970s with the construction of Roberts Hall and the Early Learning Center. In 1975, the campus completed its first master plan. At the time, the campus was concentrated north of Holmes Avenue, except for the University Research Institute (now Von Braun Hall) and the Graduate Services Building located south of Holmes.

The 1980s saw the campus's second master plan, which proposed new parking, pedestrian facilities, additions, and new facilities such as a recreation center and student housing. Bevill Center, Southeast Campus Housing, and the Engineering Building were built in the 1980s, and another master plan was completed in 1988. Enrollment more than doubled between 1970 and 1980, eventually surpassing 6,000.

For the next 20 years, various university presidents grew the academic base of the institution. Dr. John Wright capitalized on the university's ties to Huntsville's business and technology communities. He established research centers in optics, microgravity, robotics, and space plasma, introducing specialized degrees that advanced knowledge at the national level. Dr. Louis Padulo added the Material Science Building, Optics Building, and Central Campus Residence Hall in the eighties. Then, in 1991, Dr. Frank Franz was appointed and redoubled efforts to enhance the student experience at the university. With this new energy,



Figure 8: UAH Campus HIstory

the university began evolving from a commuter school to a complete university, led by the planning completed in 2005 and 2010, continuing the Board of Trustees' required timeline of developing a plan every five years.

During the 2000s, state-of-the-art facilities strengthened the university's research status and attracted students. The Business Administration Building and Shelby Center supported academics. The increased enrollment led to a need for new housing, which was supplied at North Campus Residence Hall and Frank Franz Hall, named for the university's fourth president. New facilities at the University Fitness Center and Fraternity/Sorority Row supported extracurricular amenities to create a more well-rounded student experience.

Dr. Robert Altenkirch, named president in 2011, continued the transition from commuter to complete university. He strengthened UAH's position as a research pioneer in several key fields, elevating the university's reputation as a national research institution. In 2015, Dr. Altenkirch led a campus master plan developed by Nola | VanPeursem Architects that envisioned a vibrant 21st-century campus of world-class research facilities, shared public spaces, and a robust student-centered campus. Dr. Altenkirch led the expansion and renovation of Morton Hall and Nursing Building and new facilities at Charger Village, Charger Union, Student Services building, and the Invention to Innovation Center. He also set forth the vision and investments in the central Greenway, known as Altenkirch Lawn.

Campus-wide endeavors led to record growth in student enrollment, prompting Dr. Altenkirch to purchase the 58-acre Executive Plaza office park. He envisioned Executive Plaza as a mixed-use district that would address some of the institution's rapid growth needs while delivering a distinct experience for students, faculty, and the city. This was memorialized in the 2019 Executive Plaza Master Plan, completed by Perkins&Will. Dr. Darren Dawson was appointed as UAH's ninth president in 2019. During his tenure, he focused on student life while pursuing the bold goals of Executive Plaza. Dr. Dawson shepherded the university through the COVID-19 pandemic, overseeing the rapid transition to online operations. In 2020, enrollment reached 10,000, though the pandemic precipitated a drop in enrollment in the following years.

In 2021, Dr. Charles L. Karr was appointed interim president after a highly successful 16-year tenure as Dean of the College of Engineering for The University of Alabama (Tuscaloosa). On September 16, 2022, The University of Alabama System Board of Trustees unanimously named Dr. Karr, president of UAH.

"It's the university climate that brings the business," said Dr. von Braun in a presentation to the Alabama legislature. "It's not water, or real estate, or labor, or cheap taxes that bring industry to a state or city. It's brainpower."

Today, nearly 75% of UAH's student population hails from the state of Alabama, a marked difference from the other two schools in the University of Alabama system. Engineering remains the largest college by enrollment (34.6%), followed by Science (19.8%) and Business (16.0%). Enrollment continues to be a nationwide concern for universities, as declining graduation and birth rates mean universities are fighting for smaller pools of students each year. UAH's established reputation, however, continues to attract the best and brightest minds from Alabama and beyond.

Context





Enrollments by College

Figure 9: Campus Enrollment



Figure 11: Enrollment by College

Master Plan Purpose and Goals

The master plan aims to embody The University of Alabama in Huntsville's strategic priorities as outlined in the 12-year 2035 Strategic Plan led by Dr. Karr. The Strategic Plan's mission to embrace the City of Huntsville's growth, strengthen the connection between industry, government, and academia, and propel UAH into the future is the foundation of this vision.

The institution is guided by four mission-driven strategic priorities:

- Education
- Research
- Engagement
- > Environment

The consultant team collaborated closely with UAH's executive committee, steering committee, administration, staff, and students to create a process and plan that builds on the university's foundation of successes and puts its core values into action. By improving the campusbuilt environment, UAH can continue accelerating growth, achievement, and innovation.

While physical space is the focus of this plan, crafting the vision for UAH's campus environment must consider more than that: it should embody the commitment to innovation, excellence, and student-centered education. From building new state-of-the-art academic and research spaces to creating a more resilient and walkable campus landscape, every decision in this plan is guided by the goal of remaining relevant in a rapidly changing world.



Figure 12: Shaded open spaces on campus

At the core of this planning process is a systematic, data-driven, and stakeholder-centered approach that provides the university with decision-making tools to guide the translation of its objectives into tangible outcomes for the campus's future. By aligning the physical environment and strategic priorities, we pave the way for a future where UAH thrives as a beacon of knowledge, inclusivity, and innovation for all.



Education

The university will excel in education, focusing on a student-centered experience that affords broad learning and specific career training, encouraging local and global community engagement, and creating today's intellectual labor force and tomorrow's leaders.

As a top-tier educational institution, it is no surprise that one key strategic priority is education. Across its eight colleges, UAH continues to deliver a challenging, hands-on curriculum designed to prepare students for leadership roles. The institution must remain relevant and innovative in its program and facility offerings to continue this mission.

The university's commitment to transforming undergraduate and graduate learning, academic excellence, and career development is evident in the strategic plan's comprehensive strategies. These include embracing recruitment and support practices for diverse students and enhancing student academic and campus life engagement. Investments in human capital and campus facilities will support these initiatives. Empowering innovative faculty and staff responses to student needs will continue to propel UAH into the future.

Research

The university will be a leader in research, scholarship, and creative achievement, and the university's research expenditures, faculty research productivity, and graduate programs will be consistently categorized among the nation's best public universities.

At UAH, education extends beyond the classroom, allowing students to apply their knowledge and skills to real-world challenges through internships, research projects, and experiential learning opportunities. A continued effort to integrate education and its 17 research institutions cultivates a culture of innovation, creativity, and academic excellence, empowering students to become leaders in their fields and make meaningful contributions to society.

The strategic plan aims to induce transformational changes and progress in research, scholarship, and creative work. Through its continued and expanded partnerships at the local, state, and federal levels, UAH will remain internationally competitive, producing trailblazing research, cultivating a diverse workforce, and broadening its capabilities to address societal, economic, and technological challenges.

Master Plan Relevance

This strategic priority is incorporated into the master plan through various interventions, from **retrofitting and renovating existing facilities** like the Conference Training Center, the Business Services Building, and the Business Administration Building to proposing new facilities to support the university's diverse offerings. Most importantly, short, medium, and long-term projects were outlined in alignment with programs and realistic capital investment opportunities.

Master Plan Relevance

UAH can elevate and expand its local and global identity by strengthening connections to the greater Huntsville community, maximizing research and office opportunities at **"Executive Plaza"** and creating a vibrant mixed-use academic support hub at **"Town Center"**. On campus, the master plan proposes near-term upgrades and improvements to existing research facilities, such as the Johnson Research Center and Shelby Center for Science and Technology, while making room for new research facilities as campus growth and advancement call for them.

Engagement

The university will actively pursue, promote, and facilitate engagement with university stakeholders to ensure our common success and to be the focal point of innovation for education, workforce development, and economic development.

Since its founding, UAH has been a partnership-focused institution, creating and maintaining a culture of engagement that extends off campus. UAH actively cultivates relationships that enrich educational experiences, drive research innovation, and contribute to community development.

The strategic plan emphasizes the university's continued commitment to fostering a diverse, inclusive, and equitable environment where every student, faculty member, researcher, and staff member feels welcome, valued, and supported. This is emphasized by the campus master plan's strategies to integrate inclusive excellence into all aspects of the university, improve recruitment and retention of underrepresented groups, and implement assessment processes to ensure strategic goals are met.

Master Plan Relevance

The master plan incorporates the strategic priority of engagement in its approach to the process, its proposals, and its implementation. An **"Inclusive Engagement"** process helped steer the planning team toward the ultimate framework and vision, and a series of **tools and resources**, such as a Master Plan Dashboard, Space Policy Recommendations, and a Space Planning Database will guide the vision from plan to reality. Proposed projects such as the **"Holmes Avenue Streetscape Improvements"** and **"Sparkman Drive Gateway Enhancements"** also illustrate the commitment to engagement, as these projects will strengthen the university's relationship and engagement with its surrounding neighbors.

Environment

The university will establish a welcoming, inclusive, accessible, and supportive learning environment in which all members of the campus community feel a sense of safety, trust, and belonging.

The campus's 500+ acres are characterized by a blend of aging, modern facilities, and ample green spaces. From historic facilities such as Morton Hall to new campus destinations such as Charger Union, the campus maintains its connection to its rich history while evolving with the everchanging landscape of higher education. The campus landscape evolved with the establishment and enhancement of the central greenway, now the campus's primary organizing and most recognizable feature.

The strategic plan outlines strategies for fostering a welcoming campus environment that will create more opportunities for knowledge sharing, skill building, and active engagement between students, faculty, researchers, and partners. Investments in human capital and campus facilities are prioritized to support this vision, ensuring the physical environment aligns with the university's commitment to excellence and innovation through optimizing underutilized existing spaces and providing new indoor and outdoor learning environments. The strategic plan and campus master plan share the same vision for a vibrant campus atmosphere.

Master Plan Relevance

The campus master plan translate s the strategic plan priorities into place-based strategies and frameworks through a series of big ideas to strengthen the campus's connection to its neighbors and activate the campus proper. Destinations like **"The Commons"** and **"Athletics District"** will welcome community members to the campus to recreate. At the same time, spaces like the **"Central Student Pavilion and Recreational Groves"** and **"Veterans Memorial Plaza"** will provide more spaces for gathering and celebration for students, faculty, and staff.

Master Planning Process

The 2024 UAH Campus Master Plan commenced in March of 2023. The process was developed in close collaboration with the UAH Campus Architect and Executive Committee to represent the diverse perspectives and backgrounds of the UAH campus experience.

A steering committee of faculty, staff, and researchers from the University's seven colleges guided the consultant team throughout the process. The steering committee included representatives from the University's eight colleges, research institutions, student affairs, and athletics. The diverse backgrounds, departments, and tenures provided



Figure 14: Steering Committee Workshop

a well-rounded set of perspectives to guide the plan and represented all aspects of the university community.

The committee met periodically to review insights and feedback and participate in the visioning process for the campus's future. The steering committee met seven times in February 2023, May 2023, August 2023, October 2023, December 2023, February 2024, and April 2024.

The Executive Committee also reviewed progress at key decision-making points in the process. Their feedback, insights, and guidance helped the process and resulting plan maintain alignment with the UAH Strategic Plan and its ongoing priorities and goals. The high level of engagement across the university reflected its values of transparency and inclusivity.

The team was driven by quantitative and qualitative data at all stages of the process. The initial campus assessment included a GIS-based analysis of the campus's physical environment and incorporated students, research, faculty, and staff viewpoints via a Maptionnaire survey and stakeholder focus groups. The synthesis of this data led the planning team to five key priorities, which served as the framework on which the team built the campus vision:

- Image and Identity
- Sense of Place
- Connectivity
- > Campus Organization
- > Environmental Health and Resilience

Context

Inclusive Engagement

UAH aims to complete a new master plan every five years. Each planning process is an opportunity to reflect on previous successes, identify areas of improvement, and work with stakeholders to set the course for the next decade. Considering the pandemic and changing learning landscape, it was evident that this engagement process would be much different than in previous years. As such, the consultant team designed a process to engage students, faculty, staff, and researchers both inperson and remotely, ensuring that regardless of their location, available time, or level of interest, they could engage with the process to the desired degree.

Engagement opportunities in the 2024 Campus Master Plan included:

- A campus-wide survey via Maptionnaire garnered 1,558 responses – 955 from UAH students and 603 from UAH faculty, staff, and researchers.
- Sixty (60) interviews with campus stakeholders, including representatives from leadership, academic affairs, research centers, student affairs, athletics, students, advancement, and the surrounding city and community.
- Seven (7) Steering Committee Workshops that included presentations of analysis and engagement progress and visioning exercises to extract key priorities and opportunities for the campus. Steering Committee members represented various academic departments, research institutions, and leadership roles.



Figure 15: Student Feedback: Maptionnaire Survey Demographics

Data-Driven Approach

Creating a robust master plan for the campus involved diving deep into the data about infrastructure, spatial organization, climate, and campus experience. The consultant team gathered geospatial, architectural, programmatic, and statistical data to inform the process and develop evidence-based recommendations. The data-driven process was used to assess the campus's physical characteristics and analyze the results of student and stakeholder engagement. This approach revealed valuable insights for discourse and decision-making.

Geospatial Analysis and Visualization

Geospatial analysis was pivotal in analyzing and visualizing the built environment's conditions, needs, and opportunities. Using a GIS-based approach, integrated data-driven tools generated insights about everything from climate and urban heat island vulnerabilities to student circulation patterns. The consultant team used publicly available data from the City of Huntsville's Open Data Platform, Esri's Living Atlas layers, and the data from the survey's collaborative mapping platform. Synthesizing this data provided a place-based and people-centered approach to better understanding how the campus functions daily.

Visualizations such as heat maps and choropleth maps revealed insights into the campus environment, allowing the team to identify hot spots for pedestrian-vehicular conflicts, prominent gathering spaces, and parking habits. Revelations of shared experiences led directly to actionable strategies . For example, heat maps of the campus survey revealed pedestrian safety opportunities at Holmes Avenue and Charger Union, which led to the **"Holmes Avenue Streetscape Improvements"** you will see in the following pages. These insights led to many strategies related to activating the greenway and campus environment.



Figure 16: Greenway Safety Hotspot Map, Maptionnaire



The analysis also emphasized the greenway, with students noting it is their primary route of travel between classes and facilities and is one of their favorite places on campus despite their noted lack of gathering spaces.These insights led to many strategies related to activating the greenway and campus environment, starting on page X.

Geospatial data provided by the City of Huntsville, University, and obtained via open source platforms provide insight into the campus environment and allowed for detail geospatial analytics of elements such as the pedestrian and bike circulation systems.

Figure 17: Pedestrian and Bike Circualtion Network

De-segregated data by demographics also revealed insights about campus users. For example, safety concerns and hot spots differed for men and women on campus. Women experienced safety concerns related to lighting on the edges of campus. At the same time, men noted safety concerns related to pedestrian-vehicular conflicts in more central locations like Holmes Avenue and John Wright Drive. This comprehensive and integrated approach to physical data and user experience feedback underscores UAH's commitment to leveraging data-driven tools for informed decision-making in enhancing its campus environment.

Space Needs Assessment

Effective utilization of campus facilities is paramount to UAH's future success. The master planning team assessed the campus's spatial requirements to ascertain whether the current space aligns with the present and future needs.

The space needs assessment estimates the square footage needs based on enrollment, staffing, utilization, and program requirements. This study evaluated all space utilized for UAH's operations on its main campus, including facilities west of Sparkman Drive. This quantitative analysis utilized input such as student and employee headcounts or full-time equivalents (FTEs) and weekly contact hours in classrooms or laboratories. This assessment elucidates the disparity between calculated need and actual space supply by category, aiding in informed decisions regarding future space allocation and campus initiatives.

Campus space is measured in Assignable Square Feet (ASF), representing the available area between walls, excluding corridors, stairs, and mechanical spaces. The campus planning team organized and quantified UAHs' ASF according to the nine categories and related subcategories outlined in the latest Facilities Inventory and Classification Manual (FICM) by the National Center for Educational Statistics (NECS).





Additionally, occupancy types were verified, all spaces were photodocumented, and building floor plans were updated to match current conditions where discrepancies were noted. Once documentation was completed, the UAH facilities staff verified the information. The space inventory database is a working document that UAH can update over time and continue to utilize for space management and planning.

According to the space needs assessment, current enrollment indicates a surplus of classroom, office, and general-use facilities. Enrollment trends project 14% student and 3% faculty growth over five (5) years (10,000 students, 1,983 faculty) and 37% student and 7% faculty growth over 10 years (12,000 students, 2,074 faculty). The space assessment indicates room to support this growth within the existing classroom and office spaces, but UAH will need to consider additional study, athletics, and support facilities. Overall, a 6% increase, or 85,000 ASF (127,500 GSF) of non-residential space, will be needed over 10 years.

The University of Alabama in Huntsville: Campus Master Plan

The space needs assessment is based on 5 and 10-year enrollment projections from Academic Affairs.



The space needs assessment is broken down into the standard space categories from the FICM manual.

100: Classrooms	General-purpose instructional and support spaces
200: Laboratory	Specialized instructional spaces: labs, studios, computer & research labs
300: Office	Academic/administrative offices and support spaces
400: Study/Library	Traditional library space and related study spaces
500: Special Use	Athletic, media, demonstration, field house, greenhouse, animal facilities
600: General Use	Assembly, exhibition, dining, merchandising, lounge, meeting, day care, recreation
700: Support	Shops, storage, mailroom, printing service spaces
800: Health Care	Examination rooms, nurse station, waiting area
900: Residential	Housing for students, faculty, staff, visitors
000: Unclassified	Inactive, unassigned, unfinished, or renovation areas





Context

Classroom Utilization

Classroom Utilization (Daytime Courses)

The study included a detailed evaluation of classroom utilization based on the course schedule.

Key metrics included the hourly utilization rate, which indicates how many hours each room is scheduled per week, and the fill rate, which indicates how filled the rooms are when they are in use. Hourly utilization and fill rate are charted against each other for each room to understand if the rooms are being used efficiently and if there is need for additonal classroom space.

The study also evaluated how many rooms are in use during each hour throughout the week. This assessment showed that any given time, there are unscheduled classrooms.

The study suggested that there is sufficient capacity within the existing classrooms to support the existing programs and the projected growth. While there may be a need to renovate and replace existing classrooms, there should not be a need to add new classroom square footage unless the existing course delivery model changes.



Average hourly utilization: 47% (target is typically 65-80%) Average fill rate: 52% (target is typically 60-70%) 120% Low Use / High Use / High **Eill** High Fill 100% Average Fill Rate 209 Low Use / High Use / Low Fill Low Fill 0% 20% 40% 60% 67% 80% 100% 120% Hours of Room Use per Week

Classroom Utilization: Rooms in Use by Day and Time

Total Room Count: 105, Peak Room Utilization Count: 87 (Tuesday)



The University of Alabama in Huntsville: Campus Master Plan

Building Scorecard

The team evaluated each facility's condition, systems, accessibility, and adaptability and developed an overall score based on a weighted average. These overarching categories summarize the twelve criteria evaluated for each building, established via site visits, document reviews, and conversations with UAH facilities staff. These visits and evaluations were conducted in close coordination with UAH facilities staff.

Data is collected by reviewing existing documentation and by physically walking through each building, taking geo-tagged photos, and recording field observations with mobile phone and tablet-based apps. In addition to traditional conditions-assessment categories, such as exterior and interior systems, accessibility, and energy performance, the evaluations include a high-level assessment of each building's overall suitability how well it supports its purpose, what it contributes to the campus, and whether it has the potential to be repurposed.

The assessment's resulting scores, ranging from 0% to 100%, are represented as a "report card" for each building. This will help the Campus Architect and facilities staff make informed decisions about building management, renovations, and replacements. This process informs nearterm and long-term priorities to create sustainable strategies for efficient space utilization, adaptation and reuse strategies, and recommendations to optimize the overall portfolio.

Scorecard Criteria

Conditions

- High-level conditions assessment from observations
- using FICM definitions
- Roof & envelope condition

Systems

- System type and ease of
- connecting to a central plant
 - System conditions based on age, performance, and physical state
- of the equipment (1-5 scale)
- LEED certification
-

Overall Score: Average of the above

Accessibility

- Elevators
- Accessible entries
-
- Interior elevation changes
- Accessible bathrooms

Adaptability/Suitability

- Functional adaptability based on ceiling heights, building dimensions, and structural grid
- Suitability for current use based on current layout and configuration
- · Overall qualitative assessment






Introduction

While this plan focuses on improving the university's physical environment—its buildings, landscape, and infrastructure—its impact reaches beyond that. A campus's built space is a tangible manifestation of the institution's mission, vision, and values. It is an identifiable "home" that shapes students' experiences during their transformative college years., and influences how the outside community interacts with the university and its faculty, staff, and students. Beyond mere classroom spaces and extracurricular activities, a successful campus environment creates a sense of belonging and pride for the entire campus community.

Thoughtfully planned learning and research facilities, collaborative study spaces, and comfortable living spaces create an atmosphere conducive to learning, living, and growing for young adults. The built environment is also pivotal in shaping research advancement and progress. Modern, cutting-edge facilities and resources support academic success and empower faculty, students, and researchers to push the boundaries of knowledge and innovation.

A well-designed campus enhances work satisfaction and productivity for faculty and staff. Comfortable workspaces with reliable technology and modern amenities contribute to job satisfaction, employee engagement, and retention. Facilities tailored to support teaching, research, and administrative functions increase efficiency and effectiveness, ultimately contributing to academic achievement and institutional excellence.

The built environment is not a backdrop but a critical component of the university's success. It shapes the academic experience, fosters community, and serves as the main stage for learning, research, and invention. Investing in improving and maintaining a vibrant, functional physical campus demonstrates UAH's commitment to student success, institutional excellence, partnerships, and societal impact.

A campus's built space is a tangible manifestation of the institution's mission, vision, and values.



Figure 20: Campus For All



Figure 21: Proposed Master Plan

Campus Framework + Vision

The Vision

Guided by three foundational principles—Connect Community and Campus, Strengthen Campus Presence, and Activate the Campus the campus master plan embodies the essence of the University of Alabama in Huntsville through its spirit of innovation, bold imagination, and pragmatic realism. These principles serve as the guideposts that will direct the institution toward its reimagined future. From grand, transformative ideas to functional campus-wide frameworks, this plan prioritizes space optimization, supports growth, and promotes physical, environmental, and financial resiliency.

A robust data-driven analysis and campus engagement process culminated in the three principles and resulting strategies that follow. Throughout the process, UAH students, faculty, staff, and researchers expressed their appreciation of the campus while acknowledging the challenges and constraints they face today and those that lie ahead. Complemented by stakeholder feedback, the comprehensive campus assessment illuminated opportunities for long-term transformation. By aligning campus buildings, landscapes, and infrastructure with current needs and planning for adaptability to accommodate future needs, UAH will become a more resilient institution and is poised to continue as a leader in pioneering research and exceptional education.

While this vision's realization won't unfold overnight, this plan sows the seeds for a bright future. Change takes time, especially when it involves reshaping institutional culture, but amidst these challenges, UAH is poised for success.



Figure 22: Connect Campus and Community Vision Diagram

Connect Campus + Community

Capitalize on UAH's strategic location, including Cummings Research Park, Downtown, and MidCity, to draw people to campus and enhance community engagement with UAH.

Town Center: Create a new area of student housing, retail, student activities, and structured parking to create a destination in the heart of campus along Holmes Avenue

Executive Plaza: Transform the Executive Plaza site into a vibrant mixeduse district to create a college-town experience, elevate satisfaction and retention among students, faculty, and staff, provide enhanced facilities to support enrollment growth, and foster deeper ties within the Huntsville community



Figure 23: Strengthen Campus Presence Vision Diagram

Strengthen Campus Presence

Develop an outward-facing campus presence that conveys UAH's brand and reflects the quality of the university.

Sparkman Drive Gateway Experience: Enhance sparkman drive through placemaking and identity, improved pedestrian connectivity, and public art.

Holmes Avenue Streetscape Improvements: Strengthen the connection between north and south campus via traffic calming, bike and pedestrian connectivity, enhanced streetscape character, placemaking and identity, and public art

The Commons: Activate the east campus edge as a "threshold space" through a Neighborhood Park with playgrounds, pavilions, hammock groves, amphitheater, and 2.6 miles of walking and biking trails

Figure 24: Activate the Greenway Vision Diagram

Activate the Campus

Enliven the campus by creating new areas to encourage social interaction and activity.

Central Student Pavilion: A shaded, central event pavilion for student life, campus, and community events, with diverse seating opportunities to accommodate a variety of activities and uses

Hubs of Activity: Active areas along the greenway, including a Veteran's Memorial Pavilion and outdoor "rooms" for informal gatherings and activities.

Athletics District: Enhancements to Charger Park and development of athletic fields and competition venues to bring new life to the south side of campus.

Connect Campus + Community

Overview

The proximity of research, innovation, and educational destinations is critical to the success of UAH and the City of Huntsville. Its impact extends far beyond Huntsville. The university contributes to more than \$615 million in economic impact for the state of Alabama, creating and sustaining more than 9,600 jobs.¹ As such, the plan must continue strengthening the physical, economic, and experiential connections between university, city, and state institutions.

UAH is the cornerstone of Cummings Research Park, and its vital partnerships with institutions such as HudsonAlpha Institute for Biotechnology, NASA's Marshall Space Flight Center, the Missile Defense Agency, the DIA Missile and Space Intelligence Center, Redstone Arsenal, and the U.S. Army Materiel Command foster a culture of innovation and collaboration. Strategically situated between MidCity, Bridge Street Town Center, Redstone Gateway, the Jordan/Bob Wallace shopping area, and downtown, it's a central hub, connecting diverse destinations and economic centers.



Figure 25: Campus Experience Input from Students, Faculty and Staff, and Researchers (Maptionnaire)

Establish Campus as a Community Anchor or Events, Entertainment, and Research on Display

From a connectivity perspective, UAH is primely positioned. It is, however, a crucial void where mixed-use opportunities for students to work, shop, live, and recreate are notably absent. Both the Executive Plaza site and the proposed Town Center present a potential solution to fill this gap; campus stakeholders realized that there is also an opportunity to focus on and invest in the campus proper. With ample acreage to support expansion, growth, and development, the campus can create a hub of activity that would strengthen the greenway and provide more directly accessible value to students. Considering new facilities like a convention center or a multi-purpose event space would fill a gap for the campus and the greater community, as the consultant team heard a desire for a large-scale entertainment/event venue. Stakeholders noted that not only does graduation have to occur off-campus because the current facilities offer limited capacity, but space constraints and quality limit the types of programs, events, and speakers they can offer or attract to campus. There is "just no place to put them."

1

University of Alabama in Huntsville Economic Impact Study, 2019

Our ability to host large events is limited

Turning annun

internet

de de

Holmes Avenue

#1 thing missing on campus is a home for the students, a downtown

> We need more space geared towards community

What we heard...

niversity Drive

Holmes

.59

00

Provide More Diverse Facilities, Services, and Offerings for the Campus Community

The Student Services Building may mark the "official" gateway to campus, but we learned throughout the process that Charger Union is truly the heart of the campus. Charger Union is students' primary food, study space, and socialization destination. As we envision the future of UAH, there is an opportunity to enhance the campus "front door" as a signature space.

While there is a desire to keep students on or near campus, they cannot get reliable, consistent access to their essential needs. This results in students leaving campus to seek out grocery shopping at Jordan Lane and Bob Wallace Avenue, entertainment at MidCity, or dining at Bridge Street Town Center. Charger Café in the Conference Training Center (CTC) invites and attracts the larger community weekly with the beloved "Fried Chicken Wednesday." Still, dining options are limited outside of traditional class-time hours. Stakeholders noted that students don't have spaces like cafes, coffee shops, or even quick pick-up sandwich shops for after-school or weekend needs.



Although the Student Services Building marks as the gateway to campus, Charger Union is more active and favorable. Consider how to enhance the campus "front door" as a signature space.





Figure 28: Student Feedback: Where do you collaborate and eat? (Maptionnaire)

Diversify and Expand Housing Opportunities

The City of Huntsville is adding, on average, 400-plus people per day.² New development is exploding across the city, as nearly 5,500 new residential units are planned for 2023.³ Huntsville attracts working, educated professionals because it is home to many high-paying jobs in growing industries. It offers an affordable cost of living, a quality school system, and a strong sense of community.

These new residential opportunities, however, are geared toward higher incomes, larger households, or home buyers and are not designed for student populations with limited incomes who live alone or with rooms and rent. While clusters of apartments are available north, east, and southwest of campus, many of these are public housing developments, and survey results indicate that off-campus students live northwest of campus in 35806, 35758, and 35816 ZIP codes (**Figure 30**).



Figure 29: Apartment Community Hubs (City of Huntsville GIS, Google Maps API)



Figure 30: Student Feedback: Where do you live, zip code)? (Maptionnaire)

² Matthews Real Estate Services

³ City of

Most students live off campus (69%). While 85% indicate satisfaction with on-campus opportunities, those who live off campus indicate a higher degree of satisfaction, with more than 40% rating it "very" satisfactory compared to an average of 12.5% rating it "very" satisfactory for oncampus opportunities (**Figure 31**). At the time of the campus survey, while cost is a factor for choosing to live on or off campus, improvements such as private amenities, full kitchens, more options, "apartment-style" dorms, and more campus food options would attract students to oncampus opportunities. It is important, however, to note that at the time, 48% indicated that "nothing" would make them consider on-campus opportunities, though these responses may likely have come from upperclass students who typically move off campus as they advance in their college careers (**Figure 32**).



66% living on campus, 34% living off campus (25% with family, 9% with peers/alone)

Figure 31: Student Feedback: Undergraduate Student Satisfaction with on and offcampus housing opportunities (Maptionnaire)

private amenities independence commute expenses pets cleaner cheaper scholarships scholarships social aspects on campus social aspects on campus proximity full kitchen roommates social aspects on campus Over 25% of respondents who live off-campus said they would live on campus if the housing was cheaper.

48% of respondents who reside offcampus said they would not consider moving to campus.

Figure 32: Student Feedback: What would you attract to live on campus? (Maptionnaire)

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A. COM

South States

BIG IDEA #1

Executive Plaza

Executive Plaza is a strategic addition to the University of Alabama in Huntsville's educational and research ecosystem. Located on the northwest corner of campus, it benefits from high visibility from Sparkman Drive and University Drive and proximity to the core campus. University Drive provides direct access from Executive Plaza to Mid-City and Downtown.

The site is a prime opportunity for a vibrant and dynamic "research-livestudy" neighborhood, including student housing, commercial office space, retail and entertainment outlets, and UAH-owned research facilities. Future phases of Executive Plaza may also present opportunities for hospitality, gathering spaces, athletic venues, and other amenities to address the University and City's ever-evolving needs. Creative ownership and transaction structures will be integral to Executive Plaza's success. The site seeks to create a unique atmosphere that inspires discovery and collaboration between UAH and Huntsville's continually growing industries. Its preliminary multi-phase implementation strategy plans to start with a mixed-use development that anchors Sparkman Drive and creates a direct physical connection to campus across this corridor. The connection from North Park will draw students from the north campus to Executive Plaza through a vibrant entry plaza activated by ground-floor retail and entertainment uses. Residential uses will line a large central park that preserves mature shade trees, landscapes, and stormwater features, creating a place for future residents to recreate and socialize.

The remaining preliminary Phase I portion of the site will include additional residential development, commercial office space, research, and a retail corridor that provides direct vehicular and pedestrian access to University Drive. Structured parking is strategically located to support office workers, retail patrons, and researchers, and surface lots will



Figure 34: Exective Plaza Rendering, Entry Plaza



Figure 33: Exective Plaza Rendering, Residential Roof Deck



provide parking for residents. Through these initiatives, Executive Plaza aims to enhance campus connectivity, strengthen UAH's presence, and contribute to Huntsville's economic and intellectual vibrancy.

Phase 1 Program

- Student Housing: 400 beds of apartment-style housing for UAH non-first-year students
- Commercial Office: 100,000 GSF of build-to-suit commercial office space
- Retail/Entertainment: 35,000 GSF of ground floor retail/entertainment
- UAH Collaborative Research Facility: 100,000 GSF of UAH-owned research space
- Parking and Infrastructure: Approximately 1,000parking spaces and roadways to support new uses
- Park and Public Space: 6.6 acres of park and open space, 4.4 acres of wooded buffer, minor wetland restoration, and an entry plaza

The University of Alabama in Huntsville: Campus Master Plan



The development of Executive Plaza will set UAH apart from its peers and competitors. By creating a college-town experience, UAH will elevate satisfaction and retention among students, faculty, and staff, provide enhanced facilities to support enrollment growth and foster deeper ties within the Huntsville community.



BIG IDEA #2

Town Center

Town Center represents a significant opportunity to enhance the vibrancy of the UAH campus while providing much-needed amenities and services to the larger community. It is envisioned as a transformative hub, established to enhance the student experience through mixed-use development that provides essential services, amenities, and gathering spaces while reinforcing the university's identity and sense of place.

Town Center will reflect the university's mission, celebrate its history, and create a vibrant, welcoming atmosphere through architectural interventions, signage, banners, and large installations. Improvements to Holmes Avenue, outlined in more detail in Strengthening Campus Presence, will improve pedestrian safety and strengthen the connection between the north and south halves of campus.

The development will include an estimated 1,200 beds of new student housing implemented across multiple phases. The residential options will be designed to accommodate the diverse needs and preferences of the ever-evolving student population. Some typologies that may be considered for this development include suite-style housing, which consists of multiple bedrooms connected by a shared living space and bathrooms. This typology provides more privacy and independence than traditional dorms while fostering community living. Other options may be apartment-style housing, single rooms, or living-learning communities, which combine students with similar academic interests, majors, or identities to integrate academic and social experiences. In addition to housing, Town Center will offer ground-floor retail uses to provide the services, entertainment spaces, and food and beverage options that students, faculty, staff, and researchers desire. These uses will be enhanced through an active, pedestrian-scale public realm with gathering spaces, plazas, seating, and landscape elements to draw students to the space.

More than 14,000 square feet of multi-purpose space will anchor the greenway and provide much-needed support for student activities and programs. Finally, UAH will have an indoor facility for large social gatherings, community-wide events, and campus recreational activities. Structured parking will provide over 1,000 spaces within four (4) stories, ensuring convenient access for residents, visitors, and employees.



Town Center Program:

- Student Housing: approximately 1,200-bed residential buildings for UAH students
- Ground Floor Potential Retail: 62,000 GSF of space for retail or relocation of existing services along Holmes Avenue.
- Student Amenities: 14,000 GSF of multi-purpose space for student uses anchoring the greenway
- Structured Parking: 1,097 parking spaces in four (4) stories



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Located strategically at the eastern gateway into campus along Holmes Avenue, Town Center will strengthen the heart of campus, anchoring Charger Union and the Library.







The University of Alabama in Huntsville: Campus Master Plan

BIG IDEA #3

Athletics District

Anchoring the southern end of the greenway, the Athletics District will be an exciting venue for athletic excellence and school spirit. At the heart of this district will be a dynamic, state-of-the-art track and field complex, complete with a new 20,000-square-foot field house. The facility will house field sports locker rooms, equipped with all the amenities athletes need for pre- and post-game preparation proximate to their competition venues. Additionally, the new facility will free up space within Spragins Hall to be repurposed for court sports, administrative, multi-purpose, and storage space.

Charger Park will be enhanced for baseball and softball programs with new locker rooms, upgraded dugouts and media boxes, and improved spectator areas to accommodate larger crowds and great views. Charger Promenade will connect Charger Park to the Field House and beyond to The Commons, a new community park space. The promenade will feature a wide pathway flanked with shade trees, seating, and branded elements like streetlights and banners proudly displaying university colors, creating a unique experience for spectators and visitors. Charger Promenade will come alive on game days with buzzing conversation, fields of blue and white, and the excitement of students, alumni, and spectators.



Figure 37: Yale University Tsai Lacrosse Field House

Case Study: Yale University Field House

New Haven, Connecticut

Situated southwest of the Yale Bowl and adjacent to Reese Stadium, this state-of-the-art facility caters to the men's and women's lacrosse and soccer teams. It features an array of amenities such as athletic medicine and sports performance areas, strength and conditioning weight rooms, locker rooms, offices, and a hydrotherapy room equipped with hot and cool tubs.

Completed in April 2021, the field house represents a pioneering initiative at Yale, emitting zero carbon emissions through its electric heating and cooling system. With its seamless integration of cuttingedge design, sustainability, and functionality, the Tsai Lacrosse Field House stands as a testament to Yale's commitment to excellence in athletics and environmental stewardship.



Strengthen Campus Presence

Overview

In addition to fostering stronger economic and experiential connections to the neighboring community, UAH can strengthen its presence along its perimeter corridors and emphasize its identity as a leading research institution and community asset. Signage, wayfinding, and brand interventions would enhance the campus experience and reinforce UAH's role as a cultural and intellectual epicenter of the Huntsville community.

Enhance Visitor's Sense of Arrival

Despite its location on University Drive, a busy east-west artery with more than 46,000 cars per day, and Sparkman Drive (21,000plus average daily traffic), UAH has a quiet, subdued presence along its edges. With generous setbacks between the corridors and buildings, varied topography, and buffers of trees and landscape, the campus is unassuming, identified primarily by signage, entry drives, and intermittent views into campus facilities. Some facilities, such as Student Services Building (SSB) and Shelby Center for Science and Technology (SST), are visible from Sparkman Drive, and North Residence Hall and Frank Franz Hall signal to University Drive passersby that they've reached campus.

The campus has a strong physical presence in the local community.



Figure 39: Campus Experience Input from Students, Faculty and Staff, and Researchers (Maptionnaire)

The City of Huntsville has prioritized various mobility improvements that directly impact the campus. Huntsville plans a Bus Rapid Transit route along University Drive to serve the fourth-highest ridership in the transit system. This improved transit route will provide direct access to the campus and Executive Plaza. New streetscape-improvement projects are in progress for Sparkman Drive and Holmes Avenue, providing an opportunity for partnership and collaboration so these projects respond to both community and campus needs.

Throughout the process, stakeholders emphasized the need to promote UAH's story and brand through its campus environment. The desire to display structures like the moon buggy in the landscape to give visual clues about the diversity of program offerings at UAH shows the campus community's pride in what they've done and continue to do.



Figure 40: Existing Vehicular Network and Traffic Counts (City of Huntsville, Madison County)

Celebrate the history and connections to space race more visibly

Landmarks and wayfinding would be helpful

Tanina an

Display the moon buggies, concrete canoes, and engineering projects for more people to see

minimi

West of Sparkman doesn't feel like part of the campus

What we heard...

Holmes Avenue

iversity Drive

Holmes

Integrate Campus Edges Through Public Realm Improvements

The campus boasts two major bike routes, five primary entry points, and 18 miles of pedestrian and bike routes. Like vehicular access, major pedestrian and bike access points are along Sparkman Drive, University Drive, and Holmes Avenue.

Addressing pedestrian safety along the campus perimeter is paramount to physically integrating the university into its context. During the planning process, a variety of opportunities were revealed relating to safety matters crossing Sparkman Drive, where students and faculty park west of campus and must cross to access campus proper. With high speeds and multiple lands, Sparkman Drive poses significant risks for pedestrians and cyclists; survey responses note as much. While this section outlines specific streetscape interventions for addressing these risks, other master plan strategies, such as Executive Plaza, present additional opportunities to improve pedestrian connectivity and safety across Sparkman Drive.

The Holmes Avenue mid-block pedestrian crossing is another major hot spot for safety. While signage, lighting, and crosswalks exist, students still identify this intersection as an opportunity for improvement. This intersection is a critical connection between north and south campus and is a primary access point to the heart of the campus, Charger Union. With traffic volumes upwards of 7,000 cars per day, calming mechanisms such as on-street parking, street trees, narrow lanes, and raised pedestrian crossings can be used to improve pedestrian safety.



occur around road intersections and parking lots and the Intersections at Holmes Avenue and Sparkman Drive have a higher volume of pedestrianvehicular conflicts.

Figure 42: Student Feedback: Pedestrian conflicts with vehicles (heat map) and



Pedestrian cirulcation through Campus (blue). (Maptionnaire)

Most conflicts occur around road intersections and parking lots and Holmes Avenue intersection was most reported by the students as a conflict node.

Figure 43: Student Feedback: Bike conflicts with vehicles (heat map) and Bike cirulcation through Campus (blue). (Maptionnaire)



Similarly, other areas of pedestrian and vehicular conflicts exist in the north, near the residence halls and parking entry drive, and between the University Fitness Center (UFC) and Intermodal Facility (IMF) . In the north, these conflicts are likely between on-campus students traveling south for classes and activities running into conflict with commuters parking in lot G9. For those near UFC and IMF, conflicts are likely between students from South Campus Housing, Greek Row, or off-campus residents from the east neighborhood running into conflict with commuters parking at IMF.

The University of Alabama in Huntsville: Campus Master Plan

BIG IDEA #1

Sparkman Drive Gateway Enhancements

Sparkman Drive is the main corridor where many visitors and new students first enter UAH; it acts as a "gateway" to campus. This provides an opportunity to welcome people along the corridor and develop a strong presence along the road. It can help invite community members onto campus and strengthen UAH's relationship with its surrounding communities. Additionally, improvements to the corridor will create a safer and more pleasant walking and biking experience for those traveling outside of a vehicle.

The Sparkman Drive corridor stretches from I-565 to University Drive. Planned improvements include traffic-calming measures such as street trees, narrower traffic lanes, and enhanced pedestrian crossings. Additionally, emphasis should be placed on adding UAH-branded elements along the road.

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12'	12'	10'	12'	12'	12'	x'	12'
2	4'			36'			

90' (Right Of Way)

Sparkman is not pedestrian friendly... Holmes creates a division

Figure 44: Sparkman Drive Proposed Cross-Section



BIG IDEA #2

Holmes Avenue Streetscape Improvements

Running east-west, Holmes Avenue splits the campus into north and south halves. Current infrastructure is largely geared towards vehicular travel, creating a disjointed pedestrian and cyclist experience. Current traffic conditions indicate the road is overbuilt, creating the opportunity to enhance connectivity for multimodal travelers and strengthen the connection between the north and south ends of campus. Reallocating the existing right-of-way to other modes of transportation and nonvehicular uses can reduce traffic speeds along the corridor and create safer multimodal crossings.

Improvements to the corridor include removing a vehicular travel lane in each direction and reallocating the space to bike lanes and on-street parking. Additionally, the crosswalk at Charger Union will be widened and raised for safer multimodal crossings. Street trees will be planted along the medians and on the sidewalk adjacent to the roadway to help reduce travel speed and create a more pleasant pedestrian experience. Enhanced branding along the corridor will strengthen the relationship between the north and south campuses.



Figure 46: Branded Architectural Elements



Figure 45: Improved Pedestraian Crossing and Specialty Paving



124'

Make it safer to cross Holmes Ave. Every student here has a near miss story of almost getting hit by a car there.

Bike lanes along Holmes would be very nice.



Figure 47: Holmes Avenue Proposed Cross-Section

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The University of Alabama in Huntsville: Campus Master Plan

BIG IDEA #3

John Wright Drive Streetscape Improvements

John Wright Drive is a circulator road encompassing the campus core between Holmes Avenue and I-565. It provides vehicular connectivity to core academic, athletic, and residential functions. Based on campus observations, vehicular volumes are low, which indicates that this corridor may be overbuilt. Current infrastructure includes one through lane in each direction with a middle turn lane.

The road acts as an unofficial border around the campus and separates the linear park along Sparkman Drive from the rest of campus. As a key circulator road, John Wright Drive can be leveraged to provide multimodal connectivity and additional on-street parking as campus development continues and existing parking is removed. Enhancing multimodal infrastructure will connect Fraternity/Sorority Row housing, dormitories along John Wright Drive, and the athletic commons to the campus core. Providing additional multimodal connectivity can reduce congestion along the internal greenway of campus, which can lower the potential for pedestrian and cyclist conflicts.

Improvements to the corridor include reducing the travel-lane widths to slow vehicular traffic, adding on-street parking between Knowledge Drive and the existing Material Science Building (MSB), and creating bike lanes or a multi-use trail, also known as Charger Promenade in the Athletics District, between the MSB and Holmes Avenue.





Wider sidewalks would be helpful in places because of the heavy bike presence

There is little bike path that passes [Charger Union] and allows you to get to greek row. the parking garage is the only way once you past (sic) [Charger Union]. There should be a back pavement that allows pedestrians and bikers to bypass the parking garage [IMF] and not get hit by cars



It would be nice if there was a bike-accessible path the other way around Optics to the West side of MSB.

I would love to see bike specific lanes on some of the roads around campus. The University of Alabama in Huntsville: Campus Master Plan

BIG IDEA #4

The Commons

The Commons is envisioned as an active recreational destination along the campus's western edge, attracting students and community members alike. Its location along Sparkman Drive will make it an awe-inspiring entry to the campus, setting the stage for current and future students and employees.

The park will feature meandering, looping paths for walking and running, shade trees, and lush landscaping that lines the edge of the expanded water feature. One can imagine The Commons as the new home for events like the multiple 5k/10k runs hosted annually on campus, physical education classes, or daily recreation.

Various amenities will cater to diverse needs, from play to socializing to studying. Children's laughter will fill the playground, visible from the campus's main entrance at Knowledge Drive and Ben Graves Drive. Shelters will house opportunities for student-organization picnics, study groups, or quiet respites away from the bustle of the greenway. Hammock groves and a labyrinth between Knowledge Drive and Holmes Avenue will provide amenities for both groups or solo visitors, and the existing discgolf course will remain.

On the north, an outdoor performance venue, framed with concrete terrace seating and anchored by a sprawling central lawn, will provide a venue for music, theater, and cultural events to come to life. Located proximate to a large lot and a future parking structure, it is envisioned as a space that will continue to bridge the gap between campus and the larger Huntsville community. Its visibility and welcoming presence along Sparkman Drive invites the exploration and excitement of the university's academic, cultural, research, and recreational opportunities.



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John Wright Drive

Sparkman Drive

We need something around the lake where students can gather

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Knonw

viedge Drive

I love eating food by the pond, going on a walk by the creek, playing rugby on the open fields.





Technology Drive

N←

Activate the Campus

Overview

The Greenway is a beloved campus destination, embodying campus leadership's visioning, planning, and foresight. It symbolizes the monumental success achieved through their dedication and forwardthinking approach in previous campus plans. It's become a cornerstone of campus identity, creating a positive first impression for visitors and prospective students and providing a venue for resident and campuslife events.

It currently serves as students' primary thoroughfare between classes and activities. Both students and faculty desire to use the greenway for studying and socializing, but its notable lack of shade tempers this desire, which can be particularly uncomfortable in a climate like Huntsville's. The greenway's prominence reflects the university's dedication to cultivating a dynamic campus environment, yet it remains ripe for improvement to accommodate increased growth, shifting student demographics, and evolving preferences across generations.



Areas along the greenway seem to be more favorable for social and proximity reasons.

Figure 49: Student Feedback: Favorite Outdoor Space (Maptionnaire)



It is less enjoyable due to lack of shade and parking lots which make it hot. Students also noted a lack of places to stop and stay for long periods of time, and typically use it for functional reasons like getting to and from class or activities.

Figure 50: Student Feedback: Most Uncomfortable Outdoor Space (Maptionnaire)



Invest Strategically to Create Intentional Outdoor Hubs of Activity

Student feedback indicates overwhelming preferences for outdoor areas that offer diverse social activities conveniently located near campus buildings. From pocket parks near academic facilities for studying to plazas and parklets near residential halls or large open spaces near community facilities like Charger Union, students desire more activation on campus. There was also a notable request for more shade along the greenway, which is understandable now when the trees are young, but they will continue to mature and enhance the experience over the years. More immediate improvements, however, could be in the form of shade structures and pergolas. While Charger Union stands out as a signature space on campus, there is an opportunity and desire to introduce additional nodes and signature spaces, particularly around these buildings, to foster a sense of community.

Similarly, faculty, staff, and researchers expressed the need for small outdoor gathering spaces and the activation of building edges. This would increase perceptions of safety and improve campus culture and student life. Many respondents highlighted the lack of student traditions, which could be created by implementing a more engaging public realm that helps cultivate traditions and enhance vibrancy.

Expansion of the north greenway and de-emphasizing surface parking (while still providing ample parking for campus users) can enrich the campus environment, improve circulation and safety, and continue the mission of the campus leaders whose foresight led to this cherished amenity.



The campus is mostly active along the greenway, except for SSB, garage and VBH

Figure 53: Student Feedback: Where can we find you most often through the day? (Maptionnaire)



Figure 52: Fweedback: What are your favorite out door spaces? (Maptionnaire)


The University of Alabama in Huntsville: Campus Master Plan

BIG IDEA #1

Central Student Pavilion and Recreational Groves

Located on the central campus plaza between the Student Services Building and Charger Village, the Central Student Pavilion will provide a dynamic gathering space to enrich student experiences and foster more meaningful connections. Feedback from students, faculty, and staff revealed that while the greenway has been a successful development, there remains a lack of places to stop and gather. Places to pause, reflect, and connect are important to supporting vibrant campus activities and experiences. This pavilion will act as a place of collaboration to meet up with friends and enjoy the shade on hot days. Over time, students will form memories and traditions in the pavilion.

The space will accommodate various activities and events, such as performances, graduations, workshops, or cultural celebrations. From academic lectures to outdoor concerts, the pavilion provides a stage for student-led initiatives, campus-wide events, and community programs. Flexible, movable seating, ample open space, an interactive water feature, and enhanced landscaping will attract current students and create a memorable first impression for prospective ones. As a new greenway focal point, the pavilion will showcase the dynamic energy and creativity of the student community, inspiring future students to imagine themselves as integral members of the campus culture.



Figure 54: University of Texas at Dallas

Case Study: University of Texas at Dallas Entry

Dallas, Texas

The plan for UT Dallas by Peter Walker Partners involved reforesting the main entrance along University Parkway to create an impactful entry experience for visitors. Planted with over 5,000 trees and native plants, the mall features rectilinear ponds and walkways lined with magnolias.

The space is distinguished by a pavilion-sized trellis punctuating a central plaza that connects the McDermott Library and Student Union. Additionally, a new entrance, featuring a crescent stand of oak trees, welcomes visitors to the transformed campus. Special features upon completion included a circular pool with a columnar fog system, a series of 33 needlepoint holly hedgerows along Campbell Road, and a wide variety of trees including magnolias, bur oaks, and Caddo maples.



The University of Alabama in Huntsville: Campus Master Plan





Campus Framework + Vision

In addition to the Central Student Pavilion, small pockets of recreational amenities will dot the greenway, providing small, more intimate spaces for students to interact. Amenities such as ping-pong, seating, and swings foster community, while lighting, branded banners, and lush landscape create an exciting sense of place.



The University of Alabama in Huntsville: Campus Master Plan

BIG IDEA #2

Veterans Memorial Plaza

Veterans Memorial Plaza will honor brave local men and women who have served the nation with courage and distinction. It will provide a space of remembrance for Huntsville veterans and those with direct ties to the university community. It will be designed to display UAH's rich history of collaboration with federal, state, and local governments, civic organizations, the military, and space institutions.

Unlike the bustling activity at the Central Student Pavilion, Veterans Memorial Plaza offers a tranquil retreat, inviting visitors to pause and reflect.







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With seating, shade trees, and sculptural elements, the space's thoughtful design will invite students, faculty, and visitors to find solace and inspiration as they contemplate the profound impact of service and sacrifice.



Campus-Wide Frameworks

The campus-wide frameworks outlined in the following pages address significant needs and opportunities related to mobility, connectivity, landscape,



Campus Framework + Vision

Connectivity, Mobility, and Parking

UAH aims to enhance connectivity, inclusivity, and sustainability through mobility initiatives. By creating efficient and accessible pathways, the university seeks to ensure students, faculty, and visitors can seamlessly navigate the campus from one end to the other. Additionally, UAH intends to foster a sense of community by welcoming members of the surrounding area to explore the campus and engage in its activities. Infrastructure can be leveraged to encourage visitors to spend more time on campus.

The university also recognizes the high number of pedestrians and cyclists traveling on campus and the importance of promoting sustainable transportation options. UAH strives to create a safe and enjoyable environment for individuals using these modes of transportation. Overall, mobility on UAH's campus can be leveraged to connect the ends of campus, welcome the community, and provide a pleasant and safe experience for alternative modes of transportation.

Vehicular Network

UAH is bounded by University Drive to the north, Sparkman Drive to the west, and I-565 to the south. To the east, there is a residential neighborhood that borders the campus. These roads are heavily utilized by vehicular traffic, as shown in **Figure 57**.

Sparkman Drive acts as the "gateway" to campus, running parallel to the linear park and providing connections to the Admissions Office. Circulation is mainly served by John Wright Drive, which acts as a vehicular ring through the campus, and Holmes Avenue, which bisects the campus, running east to west.



Figure 57: Vehicular Network and Traffic Volumes (City of Huntsville)



Students primarily park at the Intermodal Facility (IMF), likely due to its central location on campus. Other key parking spaces for students are the north lots, likely beause of their proximity to residence halls, and the lot by BAB.

Figure 58: Student Feedback: Where do you park on campus? (Maptionnaire)

Pedestrian and Bike Network

Within the campus core, there are over 18 miles of heavily utilized pedestrian paths. Biking is particularly popular on campus, with many students riding to class and storing their bikes at their residence halls. There are over 1,000 bike racks on campus. Based on survey responses, the north-south greenway in the core of campus is heavily trafficked, with a key pedestrian/cyclist crossing at Holmes Avenue.

Parking

Currently, there are 7,500 parking spaces on campus. During peak demand (10 AM on weekdays), about 65% of the spaces are full. This equates to 4,890 spaces occupied and 2,610 spaces available.

Approximately 69% of campus parking spaces are dedicated to meeting the needs of commuters, faculty, and staff. Commuters identified that they park at the Intermodal Parking Facility (IMF), Lot G5, Lot G9, and Lot T40. This corresponds to higher demand on the main campus, with peak utilization at 100%, 81%, 100%, and 73%, respectively. Residential parking equals 21% of spaces on campus. Lots W23 and W24, surrounding Greek housing, and other residence halls are over 90% utilized during peak demand.

However, there are also underutilized parking facilities on campus, specifically on the south and east sides. Aside from residential parking next to Greek housing and the IMF, parking facilities south of Holmes Avenue average approximately 50% occupied during peak hours . Lots W27, W28, and W30 are less than 25% occupied and designated as "Commuter & F/S." Additionally, a large section of parking in front of the University Fitness Center (UFC) is dedicated as Fitness Center parking only. These parking lots are underutilized and present an opportunity to evaluate permit allocation and ensure that permit types match the demand in the area.



The greenway is the primary pedestrian and bike path through campus, and recent enhancements have strengthened this pedestrian spine.

Figure 60: Pedestrian and Bike Network (City of Huntsville, University of Alabama in Huntsville)



North lots, IMF, and Fraternity/Sorority Row lots are utilized at a much higher level than those located on south campus or west of Sparkman Drive, so while parking is sufficient from a sheer number of spaces perspective, not all of the lots are located in the more opportune or convenient place.



Figure 59: Parking Utilization Analysis



Figure 62: Parking Availability Analysis and Parking Counts by Permit Type (University of Alabama in Huntsville)

Just over 1/3 of the campus is impervious surfaces, primarily in the form of roadways, surface parking lots, and buildings.



 $N \leftarrow$



UAH needs to de-emphasize oncampus parking: Parking is not going to help campus realize what we need to be

Figure 61: Heat Island Effect

West of Sparkman Drive has ample parking, with all parking lots except B50 less than 75% occupied. These areas have less demand because of their distance from the main campus. Lots B52, T42, and T43 are all less than 25% utilized, indicating excess supply compared to demand west of Sparkman Drive.

Based on current behaviors, parking is underutilized at a campus level. There are high-demand areas. However, most lots have ample space to accommodate increased demand or decreased supply. As UAH continues to grow its population and building footprints, the parking supply and utilization should be monitored to determine whether additional spaces are required or if the existing supply is sufficient.

Framework Strategy

Vehicular Network, including Service and Loading: The long-term vision for the campus vehicular network includes realigning the circulator roads and entry drives, enhanced connections to Sparkman Drive, and adjusting service and loading drives to accommodate new facilities and renovations to the campus open spaces.

Once the Early Learning Center is demolished, John Wright Drive will be realigned to continue straight from Holmes Avenue to University Drive rather than curve to the west through parking lots as it is currently constructed. Ben Graves will be realigned to curve around the amphitheater in The Commons, and its primary curb cut/access point will be shifted to be directly perpendicular to the Executive Plaza entry drive. This will increase safety and connectivity between the Executive Plaza site and the main campus. Finally, a new curb cut on Sparkman will provide a direct connection between Holmes Avenue NW for drivers and cyclists and enhance connectivity to Executive Plaza, Mid City, and Cummings Research Park. A new intersection, centrally located in campus, will also provide another opportunity for large-scale branding and wayfinding to highlight the campus presence. **Pedestrian and Bike Network:** The master plan aims to increase pedestrian connectivity across campus, specifically east-west connections. Improvements such as the Charger Promenade will strengthen the connection between The Commons and Charger Park on the south, and North Park improvements will add multi-use trail connections between the north campus and Executive Plaza.

The expansion of the northern greenway, flanked by new academic and research buildings, will continue to enhance the campus's "central spine" and strengthen the greenway's role as its central organizing feature. Shade trees, open lawns, landscape enhancements, and seating will create a welcoming atmosphere for students, faculty, staff, and researchers.



Campus Framework + Vision

Parking: Based on the expected phasing of this plan and predicted faculty, staff, and student growth, the following section discusses the projected impacts on parking supply and demand.

Phase 1 Change in Parking Supply

Parking coming completely offline includes lots W34, W20, G4, and G17. Partial removal of lots K1, G6, W28, W29, and W30 is expected to occur as well. A parking lot is planned to be added south of the Engineering building (ENG) and a garage is planned at the intersection of Holmes Avenue and John Wright Drive to support the Town Center development. On-street parking should be added to John Wright Drive to help with traffic calming as well as provide additional parking. Changes in parking supply is shown in **Figure 64**.

Based on expected population growth and the changes in demand, expected parking demand is shown in **Figure 65**.

Lot	Space Change
G4	- 10
G6	- 10
G17	- 170
К1	- 20
W20	- 80
W28	- 215
W30	- 50
W34	- 210
ENG Lot	+ 120
Town Center Garage	+ 1,100
On-Street Parking	+ 310
Total Change in Parking Supply	+ 770



Figure 64: Phase 1 Parking Changes



Figure 65: Phase 1 Parking Comparison



Phase 2 Change in Parking Supply

Parking supply changes in Phase 2 include the complete removal of lots G10, G12, and W28 and partial removal of lots G11, W27, and W29. New parking includes a surface lot along John Wright Drive, north of Holmes Avenue, to support the tennis courts. Parking supply changes are shown in **Figure 66**.

Based on predicted growth rates and loss of the highly utilized lots on the north side of campus, parking demand north of Holmes Avenue will be very high. In turn, it is expected that the Town Center Garage will be highly utilized, as it will accommodate the majority of displaced parkers. UAH should consider implementing travel demand management policies to encourage alternative modes of transportation and a "park once and walk" experience. The parking lots west of Sparkman Drive can be leveraged as overflow parking.

Lot	Space Change
G10	- 115
Gll	- 145
G12	- 80
W27	- 30
W28	- 70
W29	- 150
Tennis Court Lot	+ 55
Total Change in Parking Supply	- 385

Figure 66: Phase 2 Parking Changes



Figure 67: Phase 2 Parking Comparison



Phase 3 changes in parking include complete removal of lots G5, G9, G13, G16, W29, W30, and ELC. Partial removal of Lot G11 will also occur.

Figure 68 shows the expected demand for parking facilities based on growth and change in parking supply in 15 years. All parking on the main campus (east of Sparkman Drive) will be highly utilized. The North Campus Garage will be able to accommodate the majority of the displaced parkers in lots G5 and G9 – G16. UAH should continue to consider travel demand management policies to encourage alternative modes of transportation and a "park once and walk" experience. Again, the parking lots west of Sparkman Drive can be leveraged as overflow parking.

Lot	Space Change
G5	- 465
G9	- 365
G11	- 35
G13	- 120
G16	- 185
W29	- 90
W30	- 140
Football Lot – East	+ 110
Football Lot – West	+ 160
North Campus Garage	+ 1,370
Total Change in Parking Supply	+ 155



Figure 68: Phase 3 Parking Changes



Figure 69: Phase 3 Parking Comparison

Landscape and Open Space

The university's leadership, facilities department, and landscape and grounds staff have created a unique and contemporary campus.

Magnificent mature oaks, specimen trees at the lakes, and the Altenkirch Lawn give the campus a sense of charm and unification. The continued planting of a diverse tree palette makes it easy to see how the school earned a Tree Campus designation, and the grounds continue to be one of the most prominent assets of this growing campus.

A well-cared-for and properly maintained campus landscape adds to the beauty of the entire campus and is critical to recruiting students. Dr. Phillip Waite, associate professor in Landscape Architecture at Washington State University, directed his research toward the effective power of place and how the landscape of a campus affects student recruitment, retention, and learning performance. He found that 62% of high school seniors choose an institution based on the appearance of the campus buildings and grounds. The beauty of this campus indeed serves as an incredible recruitment tool to attract quality faculty and staff, and it contributes to a conducive environment for study, teaching, research, work, entertainment, and recreation.

An urban ecosystem is a place where nature and human habitats overlap. The campus is not a pristine environment, yet the natural elements in the green spaces at UAH, particularly trees and planted areas, provide several important benefits to the natural environment: cooling the urban heat island effect, filtering the air to remove particulates, screening out unwanted noise, supporting urban wildlife, and improving water quality. Trees in urban environments face harsh conditions, including compacted



soils, air pollutants, and barriers to root growth. Through proper tree selection, planting, and management practices that help to remediate urban stresses, trees can live a longer, healthier life and, in turn, improve the quality of the human environment.

The image and identity of the campus's open spaces are defined not only by the landscape but also by site amenities, including signage, lighting, benches, paving, bicycle racks, and a common planting palette. These amenities will help reinforce the campus's identity.

Plants may also be used to reinforce campus identity. Many tall canopy trees, including oaks, American elms, sugar maples, and male ginkgos, are recommended for spatial definition in front yards and for shade in enclosed greens. Medium and small trees, such as Winter King Hawthorne, dawn redwoods, kousa dogwood, and fringe trees, are selected for their ornamental characteristics: fall color, showy flowers, and interesting bark. Limited shrub use of boxwoods, certain hydrangeas, and white blooming azaleas provide mid-range-sized plants to transition from the ground plane to the verticals of buildings and create a Southern plant palette with ties to the older buildings and the more contemporary facilities. Perennials should be used to bring bold color, movement, and texture to those intensively used active spaces within the campus. Such perennials include black-eyed Susan, Becky daisies, salvias, perennial grasses, and other low-maintenance, high-performance plants.

Using a common selection of plants in areas receiving similar types of use establishes a familiar pattern, communicating a degree of privacy and an association with the university. For example, residence-hall yards should be planted with different understory plants from those used on semipublic front lawns, while the canopy tree selection may be the same. The use of annuals should be limited to very small areas at both the major and secondary entrances of the campus. Most public-building entrances, such as the Student Service Building, performance halls, and athletic facilities, should also be considered for annual use. Perhaps more than any other feature, trees planted in the right locations contribute immensely to the quality of the campus environment for pedestrians, bicyclists, cars, and neighbors. Formally planted rows of spreading street trees define and enclose the street space and provide a gentle separation between cars and pedestrians, adding comfort to the pedestrian experience. Trees should be selected, sited, and maintained with care to preserve pedestrian sight lines at intersections. Species that develop higher crowns as the trees mature should be favored. Unfortunately, overhead power lines restrict the number of trees that can be planted beneath them. Smaller native trees should be used to minimize pruning and unsightliness.

Parking areas, both existing and new, should be minimized in visual prominence. When necessary, parking areas should be screened from important public views with plantings, low walls, or both. All these factors contribute to a healthy open space and landscape for the campus.

All of these factors contribute to a healthy open space and landscape for the campus.

Campus Framework + Vision



There is a single existing plant (Central Plant Building) that supplies heating hot water to eight buildings. The remainder of the campus has individual heating systems.

Infrastructure Systems

The following sections are a review of the existing conditions for the heating, cooling, and electrical infrastructure for the University of Alabama in Huntsville (UAH).

Existing Heating Systems

There is a single existing plant (Central Plant Building) that supplies heating hot water to eight buildings. The remainder of the campus has individual heating systems. A site plan indicating how each building is heated is presented in **Figure 73**.

Hot Water Generation

The Central Plant Building contains three boilers (hot water generators) as well as two hear recovery chillers with a total design capacity of 58,000 thousand British Thermal Units per hour (MBH) and a firm capacity of 40,800 MBH. The firm capacity is the total boiler capacity without the largest unit. A floor plan showing the locations within the Central Plant building is presented below in **Figure 71**. Figure 70: Existing Heating Site Plan

EXISTING HEAT RECOVERY CHILLERS



The firm capacity is the total boiler capacity without the largest unit.

Figure 71: Central Plant Building (Heating) (University of Alabama in Huntsville)

A summary of the heating equipment capacities and their ages is presented in **Figure 72**.

Boiler	Year Installed	Age (2024)	Capacity	
Boiler No. 2	2006	18 yrs	12,000 MBH	
Boiler No. 4	2006	18 yrs	20,400 MBH	
Boiler No. 5	2006	18 yrs	20,400 MBH	
Chiller No. 8	2012	12 yrs	2,700 MBH	
Chiller No. 9	2012	12 yrs	2,500 MBH	
	Total Capacity:		58,000 MBH	
	Firm Capacity:	Firm Capacity:		
	Typ. Winter Oper.:		46,000 MBH	

Figure 72: Summary of CPB Heating Equipment

The boilers and heat recovery chillers that are highlighted in red above are the units that the University typically operates during peak winter conditions. The estimated winter peak load is approximately 46,000 MBH. This is beyond the firm capacity of the system. If during a peak condition the University were to lose either Boiler Nos. 4 or 5, then the campus will either need to shed load or not all the buildings will be able to operate at design conditions. Either an additional boiler or replacement of two of the units with larger boilers is required to maintain firm capacity for the site. During peak summer conditions, only the heat recovery units (5,200 MBH) are typically operated.

The average equipment life cycle published by the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) of boilers and chillers is approximately 25 years. Based upon a comparison of the age of the existing boiler units and the published average service life, a capital renewal for the boiler systems should be established. All three boilers will be beyond the average service life in the next seven years. An internal boiler inspection should be completed to determine the actual remaining life. The heat recovery chillers will be beyond the average service life in the next thirteen years.

Individual Heating Systems

Excluding the three boilers in the Central Plant Building, there are individual boiler and heating systems throughout the campus. There are nine facilities that utilize gas boiler for heating, 27 buildings that utilize direct expansion (DX) for heating, as well as seven buildings that use electricity as a heating source. A summary of the units for each building is presented in the Appendix.

Summary of the Existing Heating Systems

The following is a summary of the existing heating system:

- The University should continue to move from steam generated equipment to hot water. This will allow for the potential connection of these hot water systems to existing or new hot water districts.
- The existing heating equipment should be assessed or inspected when they approach the end of their service life (if there is not currently a replacement program in place)
- The installation of an additional boiler or the replacement of two of the boilers with larger boilers are required to maintain firm capacity for the site.







Chilled water is also generated at the Central Plant Building and is supplied to nine buildings for cooling in the southern portion of campus. The remainder of the campus has individual heating systems. A site plan indicating how each building is cooled is presented in **Figure 73**.

Chilled Water Generation

The Central Plant Building houses seven chillers with a total design capacity of 4,240 tons with a firm capacity of 3,040 tons. The firm capacity is the total boiler capacity without the largest unit. A floor plan showing the locations within the Central Plant building is presented in **Figure 74**.

A summary of the cooling equipment capacities and their ages is presented in **Figure 75.**

Boiler	Year Installed	Age (2024)	Capacity
Chiller No. 4	2006	18 yrs	1,200 tons
Chiller No. 5	2006	18 yrs	1,200 tons
Chiller No. 6	2010	14 yrs	800 tons
Chiller No. 7	2010	14 yrs	375 tons
Chiller No. 8*	2012	12 yrs	175 tons
Chiller No. 9*	2012	12 yrs	160 tons
Chiller No. 10	2017	7 yrs	500 tons
	Total Capacity:	•	4,410 tons
	Firm Capacity:	Firm Capacity:	
	Typ. Summer Op	Typ. Summer Oper.:	

Figure 75: Summary of CPB Cooling Equipment



The firm capacity is the total boiler capacity without the largest unit.



The chillers that are highlighted in blue above are the units that the University typically operates during peak summer conditions. The estimated peak load for the chilled water system is estimated to be 2,735 tons. This is less than the firm capacity. During peak winter conditions, Chiller Nos. 8-10 (835 tons) are typically operated.

As stated previously, the average equipment life cycle, published by ASHRAE, of chillers is approximately 25 years. Based upon a comparison of the age of the existing chillers units and the published average service life, a capital renewal for the boiler systems should be established. All of the chillers will approach the end of their average service life between the next seven to 18 years. Internal inspections should be completed (if not already planned) to determine the actual remaining life.

Individual Cooling Systems

Excluding the seven chillers at the Central Plant Building, there are individual cooling systems throughout the campus. There are 13 facilities that utilize individual water-cooled or air-cooled units for cooling, 28 buildings that utilize direct expansion (DX) for cooling, as well as three buildings that use water source heat pumps for cooling. A summary of the units for each building is presented in the Appendix.

Summary of the Existing Chilled Water Systems

The following is a summary of the existing cooling systems:

- The University should continue to design buildings around water source cooling. This will allow for the potential connection of these chilled water systems to existing or new chilled water districts.
- The existing cooling equipment should be assessed or inspected when they approach the end of their service life (if there is not currently a replacement program in place)

Existing Electrical System

All the existing buildings currently have their own dedicated utility connection.

Current Campus Energy Usage Intensity

The University records the monthly natural gas and electric usage for the campus. The energy usage was then divided by the total building area to provide an Energy Usage Intensity (EUI). A summary of the historic campus EUI is presented below in **Figure 76**.



Figure 76: Historical Campus Energy Usage Intensity (EUI)

Institution Name	Stationary Fuels (kbtu/sf/yr)	Electrical (kbtu/sf/yr)	Total (kbtu/sf/yr)
University of Alabama in Huntsville	19	55	74
2018 CBECS°	28	65	93
University Of Montevallo*	65	36	101
Auburn University*	49	53	101
University Of Alabama*	46	54	100
Agnes Scott College*	28	36	64
Georgia Southern University*	20	55	75
Georgia Institute of Technology*	46	66	112
Emory University*	49	56	105
University of Georgia*	57	56	113
Mississippi State University*	40	57	97
University of Mississippi*	50	63	114
Sewanee*	35	31	66
Austin Peay State University*	36	56	92
Tennessee Technological University*	86	48	134
University of Kansas	55	44	99
UMASS Amherst	135	42	177
Yale University	107	60	167
University of Maryland	105	60	165
Temple University	93	80	173

Figure 77: Comparison of Campus EUI to UAH

°2018 Commercial Buildings Energy Consumption Survey (CBECS) data based upon 100 buildings within the following zones:

"East South Central" Census Division (No. 6)

"Warm" Climate Zone (No. 4)

*Represents data that is published online

On average, the University of Alabama in Huntsville total EUI is 74,000 BTU per gross square foot (gsf) per year (74 kbtu/gsf/yr). This was compared to a national database of other facilities and that comparison is summarized below in **Figure 77**.

In general, the campus wide EUI of the University is below what would be considered the average for similar institutions.

The University of Alabama in Huntsville: Campus Master Plan

Future Campus Planning (Heating and Cooling)

Based upon current planning, the future campus growth is broken up into three phases. A site plan showing these phases in relation to the existing heating and cooling systems is presented below in Figure No. 6.

As previously mentioned, a majority of the existing buildings on the south portion of the campus (south of Holmes Avenue in dark green) are currently connected to the Central Plant Building (CPB). As future building projects are realized in proximity to this heating and cooling district, they should evaluated to be connected to it based upon piping capacity within the existing distribution as well as generation capacity at the plant.

With the start of development of the Town Center (North and South of Holmes), the heating and cooling systems could be connected to a new district plant located initially on the north part of campus. As the north campus gets further developed, existing buildings (light green) could be connected to a new northern district heating and cooling system, with little to no building investment. These buildings currently heat and cool them with units that can be converted to a district system.

The buildings in purple are buildings that utilize DX heating and cooling and will not be able to be connected to the district system.

Current plans for a new district plant (light orange) is just north of the Town Center Garage. However, the location of the proposed plant could be located on either side of Holmes Avenue. There also could be an opportunity once the northern district is established, that the two district systems could be interconnected into a single system, with generation points on either end of campus.



Campus Framework + Vision



Figure 78: Future Infrastructure Site Plan

Building Renovation

Through the building scorecard, the consultant team identified recommendations for each building. Based on a combination of their building scorecard results and programmatic needs, each building has been identified for either minor renovation, major renovation, demolition, or as existing to remain.

Buildings to remain as-is

Ten facilities scored above 85%, while 15 scored between 70-84%. Most of these facilities are not identified for any level of renovation.

Insert Color-Coded map of Building Assessment Scores +

Minor Renovation

Buildings with fair ratings that do not require a change of use were identified for minor renovations. These are defined as Level 1 or Level 2 alterations, including upgrades to finishes and systems and reconfigurations that make up less than 50% of the total building area. Those identified for major or minor renovations were rated fair (50-69%) or satisfactory (70-84%).

- Conference Training Center
- Business Administration Building
- Business Services Building
- Johnson Research Center
- Shelby Center for Science and Technology
- Wilson Hall
- University Fitness Center
- Cramer Research Hall
- Olin B. King Technology Hall
- Physical Plant Building
- WLRH Radio Station
- Optics Building
- Materials Science Building

Major Renovation

Buildings with poor scorecard ratings or require significant program change are identified for major renovations.

- Interdisciplinary Center for Cybersecurity (BEV): reconfiguration of Bevill to house the new research center.
- Engineering Building: reconfiguration to backfill after the existing program relocates to the new engineering building.
- M. Louis Salmon Library & Student Center
- Shelbie King Hall



Demolition

3351818181828828181888888888⁸

Most buildings with scorecard evaluations of 50% or below, shown in red in Figure X within the Building Assessment, have been identified for demolition.

- Von Braun Research Hall

- Southeast Campus Housing: replaced by new Town Center housing

- Roberts Hall: program to be replaced in new building

- Early Learning Center: program to be distributed throughout other academic facilities, with childcare component to be potentially relocated to Executive Plaza

- Central Campus Residence Hall: replaced by new Town Center housing
- Central Receiving & Shipping: replaced by new receiving facility

7

- New Construction Campus Infrastructure & Parking
- Renoations Minor

ALTER STREET, STREET, ST.

- Renovations Major
 - Demolition

101





Master Plan Projects

Project Categories

The following pages organize the proposed strategic projects through time horizons to direct the university's growth and development. The time horizons were developed closely with UAH facilities staff, including the Campus Architect and the Steering and Executive Committees. Shortterm projects are planned for implementation within five (5) years of the plan approval (2024-2029). Medium-term projects are scheduled for implementation within 10 years of the plan approval (2029-2034), and long-term projects would be implemented at some point beyond the 10-year time horizon. The projects have been categorized by their typology as building or site as well as new construction, major or minor renovations, or demolitions.



New Construction

New construction refers to creating entirely new buildings or facilities on campus or at other UAH properties, such as Executive Plaza. These may include academic, research, residential, administrative, or recreational facilities, and their programmatic needs have been determined via stakeholder engagement, space utilization, and building conditions assessments. New construction projects respond to enrollment growth, update outdated infrastructure, and support new or existing academic and research programs. These projects include indoor facilities, plazas, and pedestrian spaces supporting them. This includes implementing pedestrian connectivity improvements, campus gathering spaces like plazas and parks, and streetscape and parking infrastructure.



Campus Infrastructure and Parking

Campus infrastructure and parking improvements include upgrading existing infrastructure and constructing new infrastructure to support existing and expanded facilities, programs, and users. These improvements support the campus's functionality, sustainability, and efficiency while promoting a conducive learning and working environment. Physical components considered as site and campus infrastructure improvements include utilities, transportation networks, parking, storage, landscaping, and environmental sustainability.

Minor Building Renovations

Minor renovations involve making small-scale improvements or updates to existing facilities without significantly altering their overall structure, function, or infrastructure. The purpose of minor renovations is to improve the aesthetics, functionality, or efficiency of the existing building. Typically, minor renovations can occur without major disruption to existing building's functions and use, and they do not require taking a building offline or vacating existing programs. However, some temporary reorganization of programs may need to occur to accommodate construction.





Major Building Renovations

Major renovations include taking a whole building or its significant portions offline to complete extensive repairs, upgrades, or redesigns of the facility's system, exteriors, and/ or interiors. While the building is offline, likely for an extended period, the building will be fully or partially vacant. Major renovations aim to modernize the building, retrofit it to current technological or infrastructure needs, and address building users' evolving needs for learning and working environments.

Demolition

Demolition refers to removing and deconstructing existing facilities as they've reached their end-of-life. Building lifespans differ based on construction materials. maintenance practices, and building use. The consultant team evaluated each building during the building assessment process through the lenses of accessibility, structural integrity, functionality, and infrastructure systems conditions. Additional considerations. such as deferred maintenance costs. environmental concerns, and regulatory compliance, were considered during the phasing process to identify buildings that have reached their endof-life and require demolition instead of major or minor renovations.

Key Metrics by Phase

The following table outlines the overall metrics by phase for facility square-footage, parking counts/spaces, and residential beds.

Institution Name	Phase 1	Phase 2	Phase 3	Total
Core Campus				
Gross Square Footage Construction	454,500	468,680	234,488	1,157,668
Gross Square Footage Demolition	109,440	252,062	11,640	373,142
Net Change Gross SF	345,060	216,618	222,848	784,526
Parking Spaces Added	1,410	55	1,640	3,105
Parking Space Lost	-645	-640	-1375	-2,660
Net Change Parking Spaces	765	-585	265	445
Residential Beds Added	600	600	0	1,200
Residential Beds Reduced/Demolished	-362	-412	0	-674
Net Change Residential Beds	238	188	0	526
Executive Plaza				
Gross SF Construction Executive Plaza	617,000	0	0	617,000
Parking Spaces Executive Plaza	900	0	0	900
Residential Beds Executive Plaza	400	0	0	400

Core Program and Space Utilization Alignment

Based on the Space Needs Assessment, the University's non-residential facilities (i.e., classroom, office, general use, and laboratory facilities) require only a moderate increase to accommodate the 10-year growth projection – just a 6% increase in square footage to accommodate approximately 37% enrollment growth. This moderate increase is based on the university's ability to optimize existing space through a comprehensive space management program. The master plan proposals for new building construction and renovations have been guided by this projection, as well as areas of current deficiencies, market-based demand, and building assessment results (i.e., aging and end-of-life facilities).

The space utilization assessment indicates that 127,000 GSF indoor facilities are needed to support campus programs and users within the first ten years of the plan. This will be accommodated by adding 303,300 GSF of core program facilities, including new academic, research, athletics, and conference space. The new space is offset by the demolition of 186,582 GSF of core program space at Von Braun Research Hall, the Early Learning Center, and Roberts Hall, resulting in a total change of 116,718 GSF, that is in line with the calculated 10-year demand. This does not include exterior/unenclosed athletic space, such as the proposed stadium and track field.

Additional space needs exist for residential facilities based on market demand and aging facility conditions. The master plan proposes 619,880 GSF of new residential space at Town Center and Greek Row. This additional space is offset by the demolition of 174,920 GSF at South Campus Housing and Central Campus Residence Hall, resulting in a net change of 444,960 GSF. This results in a net increase of over 500 beds of student housing on the main campus and transitions the inventory to modern housing offerings that will be more attractive to students than the existing outdated facilities. The residential development at the Executive Plaza would further add 400 beds to the student housing needs.



Figure 80: Space Utilization and Needs Assessment



Figure 82: Building Assessment: Overall Score (Average of Condition + Adaptability + Accessibility + Systems)


Phase 1: Short Term Projects (2024-2029)

Projects identified within the short term are anticipated to be completed within the first five (5) years of the plan implementation. Phase 1 will result in a loss of 109,440 GSF and a gain of 454,500 GSF, resulting in a net change of 345,060 GSF. Underutilized parking will be taken offline with the construction of the Engineering Building and Track and Field Complex. Phase 1 will include an addition of parking garage at the Town center and surface lots that add to a total of 2310 parking spaces and removal of 645 underutilized surface parking spaces resulting in a net increase of 765 spaces after its completion. Phase 1 will also add 600 new residential beds at the Town center and 400 beds at the Executive Plaza to offset the removal of 362 beds (South East Campus Hall and Bevill Center), with a net increase of 638 beds.

Institution Name	Phase 1
Core Campus	
Gross Square Footage Construction	454,500
Gross Square Footage Demolition	109,440
Net Change Gross SF	345,060
Parking Spaces Added	1,410
Parking Space Lost	-645
Net Change Parking Spaces	765
Residential Beds Added	600
Residential Beds Reduced/Demolished	-362
Net Change Residential Beds	238
Executive Plaza	
Gross SF Construction Executive Plaza	617,000
Parking Spaces Executive Plaza	900
Residential Beds Executive Plaza	400

Figure 83: Phase 1 Key Metrics

*Does not include demand from Executive Plaza. Assumes Executive Plaza parks itself

NEW CONSTRUCTION

1. Raymond B. Jones Engineering Building & Auditorium

This project will include modern classroom space capable of supporting contemporary pedagogy, lecture facilities, teaching studios, laboratories, laboratory support space, breakout space for student interaction and collaboration, and administrative support spaces.

2. Town Center Phase 1,

including Pedestrian Improvements and Branding

Town Center Phase 1 will include the development of Residence Halls and a Conference Center west of John Wright Drive, flanking Holmes Avenue. Adding 324,000 SF of residential, ground floor retail, and conference center space will add 600 beds to the university's housing supply. Pedestrian improvements, including plazas, landscaping, seating, and branding, will be incorporated into the site improvements and building architecture. Refer to *Big Idea: Town Center for more details*.

3. Track & Field Complex, including Athletics Practice Field

The proposed track and field complex, including a new soccer and lacrosse practice field, is situated at the end of the greenway. Field events will be held inside the new track oval, and stadium seating will be located on the west side of the complex to provide clear views throughout the venue. All associated infrastructure, including timing systems, sound systems, lighting, and restrooms, will be included, as well as landscape and branding enhancements. While this project will remove some existing surface parking lots, displaced parkers can utilize the new parking structure at Town Center or relocate to other underutilized lots. For more details, refer to *Big Idea: Athletic District*.

4. Executive Plaza - Phase 1, including Park and Streetscape

As part of the multi-phased approach to developing Executive Plaza, Phase 1 will include two residential buildings, a research facility, and an office building. The research facility is situated prominently at the intersection of Sparkman and the entry drive, emphasizing the mission of "research on display." The office building is highly visible from University Drive and Sparkman Drive at its strategic location near the interchange. Infrastructure improvements include a small surface lot, structured parking, and supporting roadways and utilities. The development's central park will also be constructed during Phase 1.

5. North Park

This phase proposes to construct pedestrian trails, passive park amenities, and accessibility improvements between Bevill Center and Morton Hall for the north portion of campus. The landscape within this portion of the campus is heavily forested, and the preservation of mature, healthy shade trees will be a priority. Intentional pedestrian access will also provide students with another on-campus outdoor amenity.

CAMPUS INFRASTRUCTURE AND PARKING

6. Town Center Parking Deck

A new four-story parking garage with 1,200 spaces will be constructed as part of the development to accommodate the new residential, groundfloor retail, and conference center space at the Town Center. For more detail, refer to *Big Idea: Town Center*.

7. Holmes Avenue Streetscape

In partnership with the City of Huntsville, streetscape improvements along Holmes will slow traffic via narrow and reduced traffic lanes, add on-street parking and bike lanes, and support safer pedestrian crossings between the north and south campuses through a wider pedestrian crossing, street trees, and branding improvements. For more detail, refer to Big Idea: Holmes Avenue Streetscape Improvements.

8. North Campus Central Plant

To accommodate new facilities and improve the infrastructure efficiency of existing facilities, a new North Campus Central Plant is located north of the Town Center Parking Structure. This facility will provide much-needed capacity to the campus. All new facilities will be tied to this central plant, and existing facilities such as I2C, the Nursing Building, BAB, and others may be connected to the new Central Plant, if feasible.

9. Spragins Athletics Entry Plaza, Restroom and Parking Renovations

The university has secured board and construction acceptance to improve Spragins Hall exterior and its parking lots including ADA parking access. These improvements also include the creation of an entry plaza that will extend the existing entry plaza to the west, creating a strong pedestrian connection towards the heart of campus. This will also improve accessibility and create a better game day atmosphere coming in and out of the arena. Landscape enhancements include new ornamental trees and plantings.

RENOVATIONS MINOR

10. Business Administration Building Building Rating: Satisfactory (77.2%)

This proposed project at the Business Administration Building, constructed in 1990, will address the much-needed renewal of public restrooms, corridors, and office space. The project also includes modifying existing office suites to accommodate more functional layouts while meeting current departmental needs.

11. Business Services Building

Building Rating: Fair (63.3%)

The Business Services Building requires qualitative upgrades to bring it up to a reasonable level of quality and experience for the activities in the building.

12. Conference Training Center Building Rating: Fair (61.7%)

This move will create updated facilities and locate health services near each other for user convenience. The space vacated at Wilson Hall will be reconfigured to meet the needs of the College of Education, presently housed in Roberts Hall.

13. Johnson Research Center Building Rating: Unsatisfactory (59.5%)

The Business Services Building requires qualitative upgrades to bring it up to a reasonable level of quality and experience for the activities in the building.

RENOVATIONS MAJOR

14. Engineering Building Building Rating: Fair (62.3%)

This project will include a complete renovation of the Engineering Building to provide modern classroom space capable of supporting contemporary pedagogy as well as provide teaching studios, laboratories, research laboratories, laboratory support space, breakout space for student interaction and collaboration, and faculty offices.

15. Interdisciplinary Center for Cybersecurity / Bevill Center Academic and Administration Building Rating: Unsatisfactory (56.7%)

The Bevill Center Academic and Administration Renovation Project includes modifying and renovating 44,670 square feet of vacant space on the first and second floors of the Bevill Center to provide new classroom space for the College of Engineering, new office space for Administrative Offices currently located in Shelbie King Hall, and finish upgrades to the main building lobby.

DEMOLISH

16. Von Braun Research Hall Building Rating: Unsatisfactory (38.9%)

Von Braun is one of the oldest facilities on campus, which is evident by its unsatisfactory rating. It houses multiple research centers including the Research Institute, which will be relocated to the renovated Engineering Building and Olin B. King Technology Hall once the new Raymond B. Jones Engineering Building is complete. Once programs are relocated, the hall will be demolished.

Southeast Campus Housing Building Rating: Unsatisfactory (38%)

Built in 1970, Southeast Campus houses just under 300 residents in nine (9) individual apartment complexes. It is the only suite-style housing typology on campus and primarily serves upperclassmen. With 600 new beds at Town Center Phase 1, UAH can vacate and demolish Southeast Campus Housing. Removing this housing typology will require additional considerations for Town Center residence hall design to accommodate different housing desires for the current and future student population.

Master Plan Implementation



Phase 2: Mid Term Projects (2029-2034)

Projects identified within the mid-term time horizon are anticipated to be completed within five (5) to ten years of the plan implementation. Phase 2 will result in a loss of 252,062 GSF and a gain of 468,680 GSF, a net change of 216,618 GSF. There will be a net loss of 640 parking spaces in this phase, but the work from Phase 1 (+765 net gain) accommodates these lost spaces and parkers.

Phase 2
468,680
252,062
216,618
55
-640
-585
600
-412
188
0
0
0

Figure 84: Phase 2 Key Metrics

NEW CONSTRUCTION

1. M. Louis Salmon Library & Student Center

The Salmon Library & Student Center project will include an expansion that adds a new reception lobby and support space on the north side of the building while modifying and renovating existing space to improve functionality and efficiency of book stacks. The project will also renovate classroom space, expand the student success center, and develop a new student commons area, food service venue, and maker spaces.

2. Track and Field House, including Charger Promenade

Adding the 40,000-square-foot field house to support baseball, softball and other field sports will provide much-needed locker rooms, storage, and support space. The facility's location on the south end of the greenway is proximate to the existing facilities. Once built, the facility will allow indoor space at Spragins to be reallocated to other uses, including but not limited to locker rooms, multi-purpose rooms, and storage for court sports. These improvements will occur concurrently with the addition of Charger Promenade. This east-west greenway enhances connectivity between Charger Park, the new field house, the greenway, and The Commons Park. It will be anchored by a large central plaza featuring athletics programming at the terminus of the greenway. For more details, refer to *Big Idea: Athletic District*.

3. Town Square - Phase 2

Town Square Phase 2 is an expansion of the Phase 1 project east of John Wright Drive. This will include three new Residence Halls and an additional 600 beds. Holmes Streetscape improvements from Phase 1 will support the increase in connectivity and pedestrian safety of these new facilities. For more details, refer to *Big Idea: Town Square*.

4. Academic Facility

A new academic facility will anchor the north greenway to support increased enrollment, allow for more flexibility in program spaces, and continue integrating research and academics. This facility will also include purpose-designed spaces for the music department to relocate in preparation for the demolition of the Roberts Hall.

5. Greek Houses (4) and Landscape Improvements

Adding four (4) new two-story houses to bolster Greek programming will enhance Greek Row, completing the formal oval layout and fostering a strong sense of community. The area's transformation will be anchored by a central park space, fostering engagement and socialization through improved pedestrian connections and a blend of active and passive program elements.

6. Executive Plaza - Phase 2

Phase 2 of Executive Plaza will include additional residential, office, and research uses and ground floor retail in strategic locations. Additional parking decks and infrastructure will support these new uses. For more detail, refer to Big Idea: Executive Plaza.

7. Charger Park Support Facilities and Promenade Extension

Improvements to the baseball and softball locker rooms and new spectator and dugout facilities at Charger Park will improve visitor and player experiences. The extension of the Charger Promenade and a large central plaza will anchor these new facilities. This project will also include changes to the existing parking lot at Charger Park, removing a small portion of the space and adding a drop-off along the promenade. The spaces removed will be supplemented by new parking near Greek Row. For more information, refer to *Big Idea: Athletic District*.

8. Central Student Pavilion

Improvements to the large pavilion and plaza will strengthen the greenway and emphasize the connection between Charger Village and the Student Services Building. For more details, refer to *Big Idea: Central Student Pavilion*.

9. Veteran's Memorial

Located east of the Business Administration Building and Invention to Innovation Center, the Veteran's Memorial will improve accessibility to existing buildings and create a place of respite along the greenway. The project may include new hardscaping, seating, landscape improvements, and a memorial structure. The final site program will be determined during the schematic design process. For more details, refer to *Big Idea: Veteran's Memorial*.

10. The Commons-Phase 1

The first phase of Commons Park will focus on the area between Technology Drive and Knowledge Drive. This portion of the park will anchor Charger Promenade on the west and enhance the entry experience for visitors along Sparkman Drive. The project may include programmatic elements such as looping pedestrian pathways, improvements to the disc golf course, shelters, seating areas, landscape improvements, and a playground. The final site program will be determined during the schematic design process. For more detail, refer to *Big Idea: The Commons.*

11. North Greenway Expansion

The north greenway expansion will remove parking areas on the north side of campus, north of Roberts Hall. The project will replace these spaces with landscape and pedestrian pathways to strengthen the connection between the existing greenway and north campus facilities like Morton and Frank Franz Halls. The north greenway Expansion could be completed with the new Academic Facility or independently as a separate project.

CAMPUS INFRASTRUCTURE AND PARKING

12. Sparkman Drive Streetscape

Improvements along Sparkman Drive include a safer and more pleasant pedestrian experience through wider pathways, street trees, seating areas, and branding enhancements. These branding enhancements will strengthen UAH's presence along the corridor and create a sense of arrival for visitors traveling along the roadway. Narrow traffic lanes and enhanced pedestrian crossings will strengthen east-west connections to draw more pedestrians into campus. Sparkman Drive improvements will be implemented in partnership with the City of Huntsville.

13. Town Center Surface Parking Lot

As part of the Town Center Phase 2 residential buildings, a small surface lot will provide accessible and limited student spaces.

RENOVATIONS MINOR

14. Wilson Hall

Building Rating: Satisfactory (77.6%)

Wilson Hall was constructed in 1969, with an addition in 1975. The building needs significant reconfiguration and renovation to support modern classrooms and teaching techniques. The newly renovated space will create additional teaching spaces and should decrease maintenance and utility costs for the building. Project costs reflect needed abatement of hazardous material, abandoned equipment removal, and older interior finishes replacement.

15. University Fitness Center Building Rating: Satisfactory (75.9%)

University Fitness Center is expected to require some minor renovations in the later phases of the master plan to maintain a reasonable level of quality and user experience.

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16. Olin B. King Technology Hall Building Rating: Satisfactory (70.4%)

Olin B. King Technology Hall is an aging facility that will require minor renovations by the later phases of the master plan in order to maintain a reasonable level of quality and user experience.

17. Cramer Research Hall

Building Rating: Fair (63.9%)

Cramer Research Hall is an aging facility that will require minor renovations by the later phases of the master plan in order to maintain a reasonable level of quality and user experience.

RENOVATIONS MAJOR

18. Shelbie King Hall

Building Rating: Unsatisfactory (58%)

Shelbie King Hall houses multiple offices/departments directly supporting faculty, staff, and students. The reconfiguration and renovation will improve the overall quality of the building, addressing deferred maintenance issues while providing a safer and more visually professional environment for the programs housed in Shelbie King Hall.

DEMOLISH

19. Early Learning Center Building Rating:Unsatisfactory (59.9%)

The Early Learning Center's low systems and adaptability scores led to a fair score, and thus led to the recommendation for demolition. The program is an important offering for UAH, so while the facility will be removed, the program will relocate to another facility, yet to be determined. Relocation opportunities may exist within Town Center, Executive Plaza, or a new Academic Building.

20. Roberts Hall

Building Rating: Unsatisfactory (54.2%)

Roberts Hall will reach the end of its useful life within the next 10 years, and the Campus Master Plan proposes demolishing and replacing the facility with a new facility. Roberts Hall demolition will occur after the new Academic Facility is built.

21. Central Campus Residence Hall Building Rating:Unsatisfactory (54.2%)

With the addition of 600 beds at Town Center in Phase 1 and another 600 in Phase 2, UAH will have the opportunity to vacate and demolish Central Campus Residence Hall, which will reach the end of its useful life in 10 years

Master Plan Implementation



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Technology Dr

- New Construction
- Campus Infrastructure & Parking

Bradford Dr

olmes Ave

- Renoations Minor
- Renovations Major
- Demolition

Phase 3: Long Term Projects (2034+)

Long-term projects are anticipated to be completed beyond the 10-year plan horizon. Phase 3 will result in a loss of 11,640 GSF and a gain of 234,488 GSF, a net change of 222,848 GSF. There will be a net gain of 265 parking spaces that includes a deck next to Conference Training Center with 1640 parking spaces added and 1375 removed in this phase. Housing development is to be determined based on projected needs beyond the 10-year horizon.

Institution Name	Phase 3
Core Campus	
Gross Square Footage Construction	234,488
Gross Square Footage Demolition	11,640
Net Change Gross SF	222,848
Parking Spaces Added	1,640
Parking Space Lost	-1375
Net Change Parking Spaces	265
Residential Beds Added	0
Residential Beds Reduced/Demolished	0
Net Change Residential Beds	0
Executive Plaza	
Gross SF Construction Executive Plaza	0
Parking Spaces Executive Plaza	0
Residential Beds Executive Plaza	0
Figure 85: Phase 3 Key Metrics	

*Does not include demand from Executive Plaza. Assumes Executive Plaza parks itself

NEW CONSTRUCTION

1. Performing Arts Center

To support the goal of connecting the campus to the larger Huntsville community, a performing arts center located on the north side of the campus, with visibility to University Drive, will support existing campus programs and allow for the expansion of community uses and partnerships.

2. Academic Facility Expansion

As enrollment increases and program needs evolve, the plan proposes expanding the Phase 2 Academic Facility, anchoring the north greenway. The building program and total square-footage will be determined based on projected needs beyond the 10-year horizon.

3. Research Facility

A new research facility will anchor the south side of the north greenway, support increased enrollment, and continue progress toward UAH's goal of more closely integrating research and academic programs. Projected needs beyond the 10-year horizon will determine the total squarefootage and programmatic needs for this building.

4. Executive Plaza - Phase 3

Executive Plaza's third and final phases mostly include office and retail uses. It will also include the infrastructure, transportation network, and connectivity required to support the new uses.

5. Commons Park - Phase 2

Phase 2 for Commons Park will include recreational improvements between Knowledge Drive and the north parking lot, as well as natural area improvements to the park area south of Technology Drive. North of Knowledge Drive, the park may include looping trails, hammock groves, shelters, a labyrinth, an improved disc golf course, and an outdoor performance venue. South of Technology Drive, improvements will be more passive, with looping trails, seating areas, and landscape improvements. Parking within the north lot will be removed, relocating parkers to the north garage, and Ben Graves will be realigned.

6. Football Stadium

The campus master plan phasing strategy proposes an option for a new facility, with a long-term goal to expand athletics offerings and add a football program to UAH. Located on the north side of campus, a new football stadium will have high visibility from University Drive, strengthening the university's presence along this corridor. Improvements will include a branded entry plaza for game-day celebrations and a North Parking Deck for needed parking, both planned for Phase 3.

7. Central Receiving Facility

The new Central Receiving Facility will replace the existing facility and be modernized and upgraded to respond to current campus needs.

CAMPUS INFRASTRUCTURE AND PARKING

8. North Campus Parking Deck

To mitigate parking loss due to the removal of surface lots across campus, a new four-story parking deck will provide nearly 1,400 additional spaces. This deck will serve displaced parkers and additional campus visitors, students, faculty, and staff. Its location along Sparkman and near Bevill and Conference Training Center will provide visibility and mitigate traffic congestion on major roadways like Sparkman Drive and University Drive by directing parkers to Ben Graves Drive.

RENOVATIONS MINOR

9. Physical Plant Building Building Rating: Satisfactory (76.6%)

The Physical Plant Building is home to the Department of Facilities and Operations. Its reconfiguration and renovation project aims to address space needs, including additional offices, meeting rooms, training space, and storage. The project will also improve the overall quality of the building while addressing deferred maintenance issues.

10. WLRH Radio Station

Building Rating: Fair (64.8%)

This aging facility will need to be addressed in the later phases of the master plan.

11. Optics Building

Building Rating: Satisfactory (73.5%)

This aging facility will need to be addressed in the later phases of the master plan.

12. Materials Science Building

Building Rating: Fair (63.5%)

This aging facility will need to be addressed in the later phases of the master plan.

13. Shelby Center for Science and Technology

Building Rating: Good (84.7%)

Minor renovations and upgrades.

DEMOLISH

14. Central Receiving & Shipping Building Rating: Unsatisfactory (53.6%)

This building will become obsolete upon construction of the new Central Receiving and Shipping Facility.

Proposed Implementation Tools for Successful Next Steps



Figure 86: Master Plan Dashboard Examples

As UAH begins implementing the Campus Master Plan, the consultant team proposes the development of the following implementation tools to aid in this process and increase the Facilities Department's efficiency, performance, and productivity. These tools will allow for seamless updates to master plan recommendations as enrollments and programs change and projects get completed.

Master Plan Dashboard

A Master Plan Dashboard will provide an interactive platform to evaluate, update, and review real-time information regarding building scorecards and space utilization assessment information. This tool can institutionalize the building scorecard and space utilization processes in the university's daily operations and allow for ongoing updates to the master plan. It increases transparency and provides an opportunity for collaboration amongst facilities staff and between departments.

This tool allows for ongoing assessments and revisions of the master plan, providing clear metrics by which to evaluate the plan's success. The dashboard will empower decision-makers with data-driven insights when planning for and pursuing future facilities and real estate endeavors.

Space Planning Database

Part of the master plan scope was the development of a detailed lineby-line database of all rooms on campus. This was developed through careful review and site tours, and the resulting data was consolidated into a database for ongoing use by the university. Each room is tagged with information on its square-footage, occupancy, and use per the Facilities Inventory Classification Manual (FICM). UAH can use this database in future assessments, using it as the baseline to feed into the master plan dashboard and any facilities management software systems that get implemented in the future.

Space Policy Recommendations

The University of Alabama in Huntsville's physical facilities are a limited resource that should be managed and utilized effectively to promote the highest and best use of space. Therefore, establishing a **Space Policy** is critical to ensuring UAH's long-term sustainability, fiscal responsibility, efficiency, and effectiveness.

All space should be assigned with the **objectives** to accomplish and enrich the university's mission of teaching, research, and service; implement priorities established by the university's leadership as guided by the University's Strategic Plan and Campus Master Plan; promote a safer and healthier environment; achieve operational efficiency; maximize space use and land use; and improve the appearance of the institution. The space utilization study will serve as the foundation of the space policy.

Individual requirements for classrooms, research space, office space, and other spaces should be developed and directed by **guiding principles** and standard metrics that set the tone for how indoor facilities should be managed, operated, and maintained. It is recommended that the following general guiding principles be considered for incorporation in the policy:

- All physical facilities belong to the University and are assigned to a division, college, academic unit, or department for specific uses.
- All space is to be used for the purpose(s) for which it was originally assigned.
- All vice presidents, deans, directors, and department heads with assigned space shall ensure that all space is being utilized efficiently and, in a manner, consistent with the intent associated with the original assignment.
- Space designated and assigned for office, conference room, laboratory, or classroom purposes shall not be used for storage.
- Vacant space should not be used for any other purposes (storage, conference room, etc.) without prior approval.
- Space that is deemed underutilized should be returned to the University.
- Space assignment and utilization should be documented and reviewed annually. Prior justification for space and prior decisions on space should be subject to reconsideration and reprioritization.

In addition to the development and adoption of general guiding principles, it is highly recommended that UAH develop **Office Space Guidelines** that address size and flexible work arrangements including requirements for private office space, hoteling office space, fully remote accommodations, and accommodations for emeritus or retired faculty status. Also, due to the expansion of the University's research enterprise, it is recommended that the Space Policy consider the development of a merit-based system for the assignment of research space. **Research Lab Guidelines** should be developed to ensure that the assignment of all research space on campus is transparent and subject to the same evaluation criteria and standards.

To implement the Space Policy, the University should develop a process for receiving, evaluating, and approving requests for new space and/or modifications to existing space. In support of this effort, it is recommended that UAH create a **Space Advisory Committee** with representatives from all relevant university divisions.

While the Department of Facilities & Operations (F&O), located within the Division of Finance & Administration, are primarily be tasked with the responsibilities for planning, managing, and tracking campus space, there is currently a lack of resources within the department to handle and manage these responsibilities. It is recommended that UAH allocate the necessary resources to hire a dedicated **Space Planning Manager** to lead these responsibilities within F&O that are vital to the long-term sustainability, fiscal responsibility, efficiency, and effectiveness of the physical facilities.

Also, it is recommended that UAH identify **Space Representatives** from each department/college to serve as a point of contact for F&O. Space representatives can assist F&O with verifying and managing the space data for their respective areas.

