

2019 UNIVERSITY MASTER PLAN

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL



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INTRODUCTION

The University of North Carolina at Chapel Hill is an extraordinary and diverse community of learners. Well into its third century as the nation's first public university, Carolina continues to serve the public through its vision to be a center of research, scholarship, and creativity that empowers the next generation of leaders to solve the world's most complex problems.

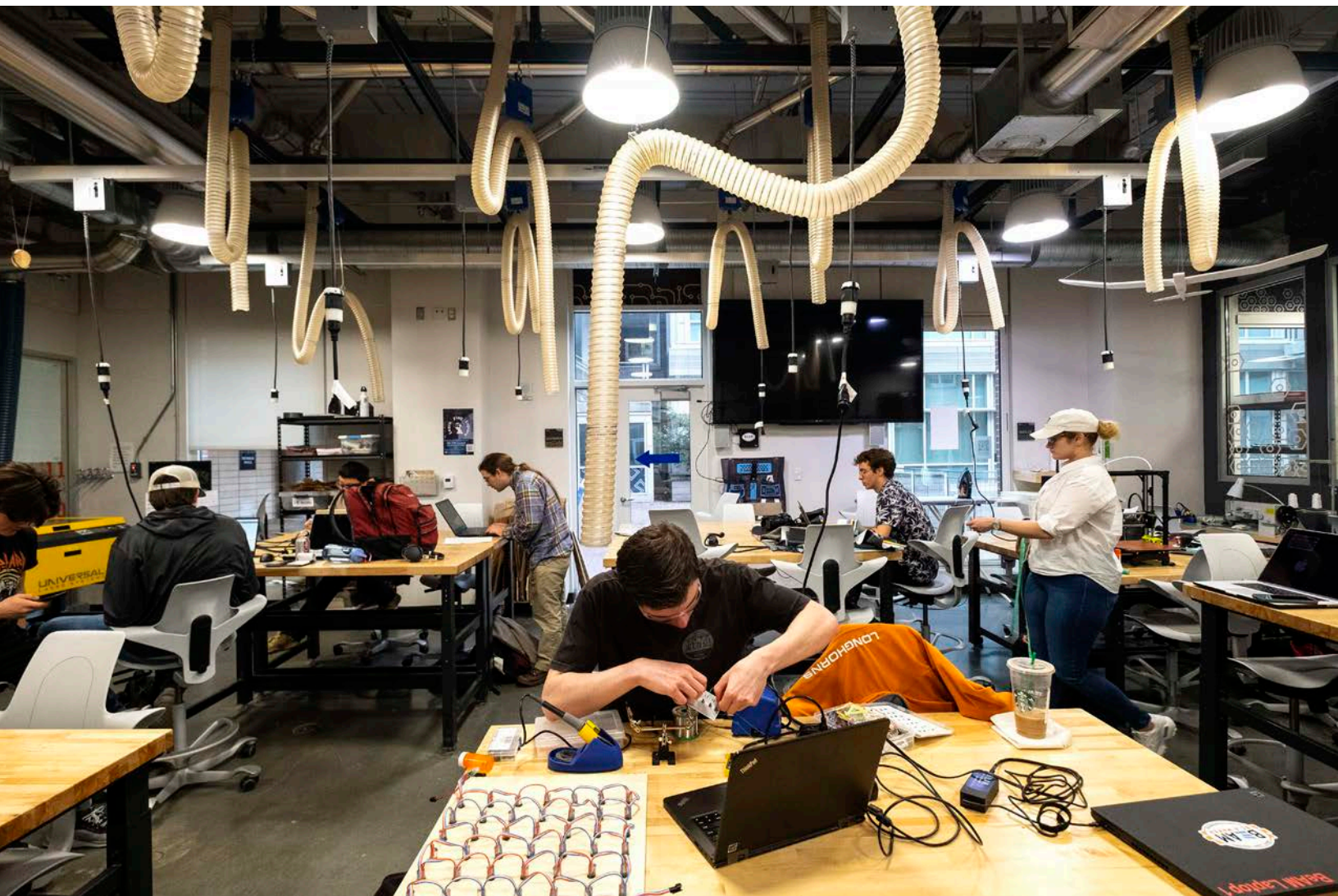
The scale, mix of buildings and open space, materials, landscape palette, and views compose the enduring qualities unique to Carolina's campus. The character of the physical campus has always mattered: it reflects shared values, a continued commitment to the future, and a need for careful planning and stewardship of resources. Developed to advance the University's strategic priorities between 2015 and 2018, the 2019 University Master Plan shapes what and how we build.

WHAT IS A MASTER PLAN?

The University of North Carolina at Chapel Hill's 2019 Master Plan is a shared vision for physical development that will guide decision making. Informing investments on all University landholdings over a 15-year horizon, the plan advances and coordinates near and long-term projects consistent with the University's strategic framework. Planning is an ongoing process, and the plan is a flexible framework that responds to current needs. At key moments in the University's evolution, comprehensive planning processes have looked at the campus holistically and set the direction for physical development. The last such plan was completed in 2001 and has been updated several times.

Like previous plans, the 2019 Master Plan remains ambitious and predicated on anticipating what's next. The plan calls for aspirational, bold actions that respond to the world's complex challenges and changes in higher education. The plan also calls for operational shifts, responding to a sustained period of constrained resources that requires a sharp focus on achieving greater efficiencies, effectiveness, and sustainability. Within the plan are technical recommendations for campus infrastructure including site capacity, ecology, transportation, and parking.





BEAM Makerspace

ALIGNING THE PHYSICAL CAMPUS WITH STRATEGIC PRIORITIES

A shared vision for the physical campus outlined in the 2019 University Master Plan closely aligns with the University's strategic priorities that provide a framework to guide decision making and investments to meet changing needs. The University's strategic framework builds on existing strengths, upholds an ongoing commitment to the public, and fosters a culture of innovation and creativity. The University's ongoing commitment to the public strives to remove

barriers to a great education, provide education that facilitates democracy by developing citizen-leaders, and lead informed discussion to share expertise for the benefit of North Carolina and beyond. The University's culture of innovation prioritizes foundational research and creative practice to provide personalized, experiential, data-driven learning that translates research into mature ideas with commercial and societal uses.

PHYSICAL IMPLICATIONS OF STRATEGIC PRIORITIES

Achieving the University's strategic vision will require changes to the physical campus. The strategic framework is defined by a series of initiatives, described below, in various stages of development. The physical implications of these initiatives have shaped the Master Plan and will continue to influence planning and implementation moving forward.

The Great Convergence: How can we bring people together?

The great convergence initiative recognizes that landmark discoveries happen when outstanding research intersects and even creates new disciplines. Integrating academic, career preparatory, and personal learning experiences produce able, passionate, and resilient graduates. Students, faculty, and staff are steered toward “creative collisions.” The plan recognizes the preeminent value today of ubiquitous creativity and art, technological capacity, resources for innovation, and encouragement of holistic physical and mental health of the entire campus community.

Physical planning implications:

- Enable ready access to campus assets through connectivity and clustering of resources and opportunities to create dynamic, mixed-use environments.
- Prioritize research that brings together scholars from different disciplines and schools and flexibly deploy adaptable spaces for them to collaborate rather than fixed, single-use spaces.
- Make new investments in applied physical, biomedical, and computational sciences and increase translational and commercialization activity centered in the innovation office.
- Create clusters of innovation spaces throughout the campus, including in Campus South following the demolition of Odum Village.



Genome Sciences Building

The New Graduate: What innovative spaces will be needed for student success?

The New Graduate initiative recognizes the need to accommodate more nontraditional students, increase residential graduate students, and provide integrated and personalized student services alongside modest, steady undergraduate growth. The University Master Plan anticipates innovative spaces these populations will need to succeed.

Physical planning implications:

- Maintain a commitment to the undergraduate student residential experience and provide appropriate facilities for an increased population of residential graduate students.
- Respond to changes in the composition of the student body and associated impacts to housing, dining, instructional space, student space, and administrative support.
- Establish spaces to support the needs of an increasing nontraditional student population and associated staff.



Arts Everywhere installation

Modernizing Student Support

Continue to provide integrated, personalized, and student-centered support services to students from all backgrounds.

Physical planning implications:

- Plan for student-centered support hubs in key areas on campus.
- Increase integration and accessibility of advising and resources to meeting basic needs such as safety and wellness.

Arts Everywhere

Central to the Arts Everywhere initiative is the concept that every space can be a creative space. Collaboration between departments with different perspectives can promote art learning and creative expression and realize opportunities to infuse creativity and arts, using the entirety of campus as a canvas.

Physical planning implications:

- Plan for visible and accessible art and arts experiences.
- Utilize art as an integral part of solutions to campus challenges.
- Incorporate art into new buildings, building renovations, and campus open spaces.



Three Zeros Day

Three Zeros Environmental Initiative

The Three Zeros Environmental Initiative adopted in 2016 refers to a goal of net zero greenhouse gas emissions, net zero water, and net zero waste. Physical planning, design, operations, and research all play a role in stewardship of campus resources, and the University has well-established guidelines and resources that have made the campus more sustainable. Further investments and innovations will be needed to realize the Three Zeros goals. The 2019 Master Plan reflects the University's sustainability goals and illustrates opportunities to use the campus as a living laboratory.

Physical planning implications:

- Plan for energy and water efficiency in new and renovated buildings.
- Approach the Mason Farm and Carolina North Tracts as high-performance districts for energy and water.
- Continue to incorporate stormwater management techniques across campus.
- Incorporate waste reduction measures.

Culture of Innovation

A culture of innovation reaches to the operational level in all University functions and facilities to support long-term integrity and strength of innovation at Carolina. The 2019 Master Plan has been developed in this spirit and envisions a campus that enables the Carolina community to innovate in all areas.

Evolving Ideas

The plan recognizes additional strategic initiatives that are currently in development. The physical planning implications of developing initiatives will be clarified and integrated as those ideas evolve. Physical expressions of the University's international reach, for example, are likely as part of an expanding University commitment to global issues. The University is also exploring strategic opportunities to improve the employee experience in a variety of ways, such as providing professional development and quality workplaces, as well as supporting child and elder care needs. The Carolina Whole Health initiative that addresses health disparities in rural areas may also have future physical planning implications.



Draft Master Plan public meeting at the Frank Porter Graham Student Union

A LEGACY OF PLANNING: 2001 and 2006 Campus Master Plans

Carolina has a rich history of successful master planning. Within the last two decades, the 2001 Master Plan envisioned and implemented many major building projects. A 2006 Master Plan update reaffirmed the guiding principles underlying the rigorous building plan initiated by the 2001 Plan and made adjustments to accommodate evolving needs.

The 2001 Master Plan called for significant expansion of Main Campus facilities, utilizing many available building sites and defining associated open spaces. On Campus North, the Science Complex (including Caudill Laboratories and Chapman Hall) and Kenan Music Building (part of the Arts Common) were implemented following the Master Plan. The 2001 and 2006 plans also sought to export the qualities of McCorkle and Polk Place to Campus South to ensure that the campuses were both physically and psychologically connected.

On Campus South, enrollment growth created a need for nine new undergraduate residence halls and nine graduate student apartment buildings, which created an opportunity to transform this area. The new student housing development was supported by the Rams Head Center: a mix of student amenities and a green roof atop a 700-space parking deck created a crucial link in the pedestrian route between Campus South and North. The Student Academic Services Building consolidated student services and further extended pedestrian connectivity.

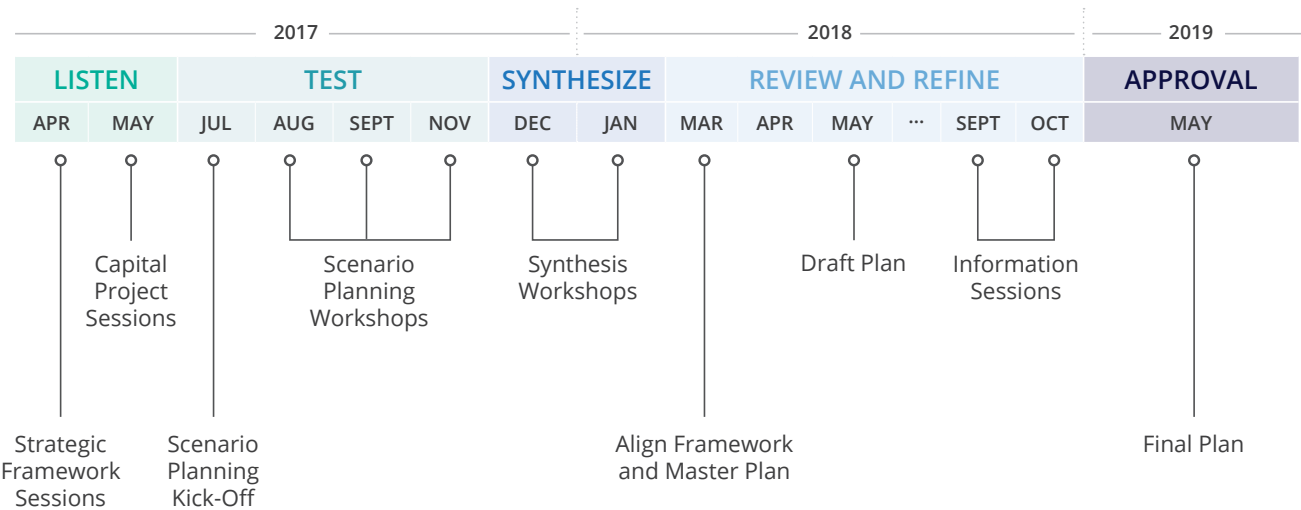


Rams Head Center

PROCESS

The 2019 University Master Plan was developed through a five-phase process, with facilitated, interactive workshops led by a core team of Facilities Planning staff. The process was not strictly linear, as some activities overlapped between phases. The findings and conclusions from each phase impacted the next as ideas developed and advanced toward implementation.

A Steering Committee consisting of trustees and University leaders along with a Strategic Framework Liaison Group provided feedback and guidance throughout the process. The planning team convened focus groups at different points throughout the process to integrate the perspectives of many campus stakeholders including students, faculty, and those with topical expertise.



Listen

Broad engagement with the University community helped define the key drivers of the plan. These included programmatic as well as physical planning drivers. Program drivers are the mission-driven activities that create needs for space, including academic and research, arts and performance, innovation and entrepreneurship, student life, athletics, and health care. Physical planning drivers are characteristics of the campus setting that influence future opportunities and include workplace, sustainability, infrastructure, landscape, mobility, transportation and safety, and real estate. At the outset of the process, the planning team invited campus stakeholders and topic area experts to discuss each driver in depth. Open forums provided opportunities for the campus community to give input on the University's physical setting.

During this listening phase, the planning team collected information foundational to physical planning to gain a holistic understanding of the built and natural systems that define the campus. Previously completed and ongoing studies, strategic plans, and initiatives were

analyzed. Campus space and associated usage were collected and assessed against metrics based on past and present conditions at UNC-Chapel Hill and peer institution benchmarking.

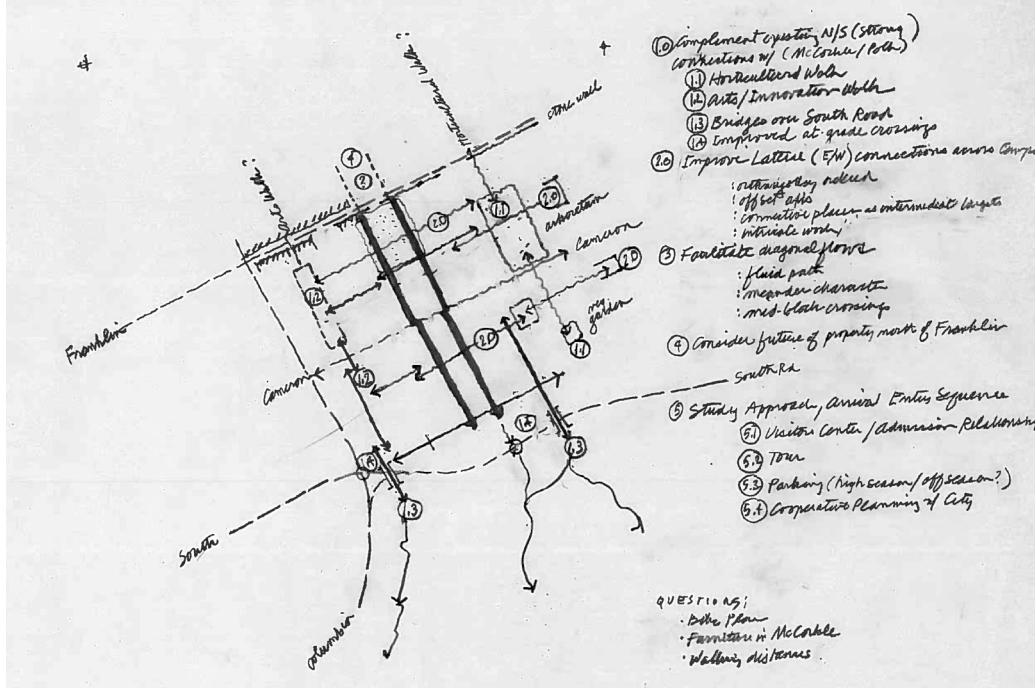
Additional strategic framework listening sessions focused on defining the Carolina experience, added a cultural overlay to the physical and programmatic planning framework, and clarified near-term University priorities.

Crosscutting themes that emerged from strategic and campus planning discussions include:

- Preserving and enhancing the beauty of campus.
- Making the campus feel smaller after years of rapid expansion and growth and maintaining proximity.
- Focusing on renewal as needed to address disparities and increase efficiency.
- Reevaluating long-held assumptions about land use for University landholdings.



Preplanning workshops and outreach in the Listen phase



Sketch of campus entry points and open spaces in the Test phase

Test

Information collected and analyzed in the Listen phase was utilized to test a range of approaches in each campus area to accomplish conceptual objectives. Three interactive scenario planning workshops, each focusing on a distinct area of campus, explored responsible capacity and varying approaches to integrating priority projects into a coordinated framework. These on-site workshops included tours of opportunity sites, presentations of initial concepts to test key strategic questions, discussion of pros and cons of each approach, and a working session to refine concepts. In addition to building renovation and new construction, each workshop considered improvements to natural systems and landscapes, transportation systems, and other infrastructure. The Strategic Framework Liaison Group participated and guided the outcome of scenario planning workshops to ensure the scenarios tested aligned with strategic initiatives and input from the Listen phase.

Synthesize

Interactive sessions refined scenario planning studies and clarified emerging big ideas. A holistic evaluation of the entire campus revisited areas needing additional study. The planning team combined the most promising ideas into one preferred plan that best serves the entire University community and assigned preliminary phasing categories to projects in the preferred plan.

Review and Refine

A Draft Plan established initial campuswide planning recommendations and guidelines aligning with the University's strategic framework. Based on feedback from stakeholders and the Executive Steering Committee, concepts and projects were further refined and near-term opportunities were identified. Public meetings were held to share the Draft Plan with community members and stakeholders and solicit feedback.

Approval

The planning team further refined the Draft Plan based on feedback from public meetings and finalized for approval by the University Board of Trustees and presented to the Chancellor's Buildings and Grounds Committee. Final approval by the Board of Trustees is anticipated in May of 2019.

PLANNING PRINCIPLES

Society and higher education continue to evolve, and UNC-Chapel Hill must develop new strategies to address complex opportunities and challenges. New strategies must consider innovation as a fundamental component of planning for the physical campus. For the Master Plan to guide and sustain implementation, it must articulate shared core values and planning principles that inform future actions. To guide the next era of campus development decisions, five Planning Principles will serve as benchmarks to ensure implementation decisions are consistent with the intent of the plan. The principles apply broadly to each of the University's diverse landholdings, but they will influence University decisions differently at each location depending on context.



1

USE LAND STRATEGICALLY

The University's landholdings, which include Main Campus, Carolina North, and Mason Farm Tract, are assets to be used strategically. Over time, each parcel will have a role to play in realizing the University's mission and vision. The Main Campus, however, is finite and especially precious. Each remaining development opportunity will optimize site capacity consistent with its context.

2

SHAPE A COMPELLING CAMPUS EXPERIENCE

Learning and innovation happen everywhere; the student life and social space strategy is a critical component of the intellectual environment. Student housing and amenities should provide an age-appropriate experience that builds strong communities and supports continued growth and maturation over time. Resources and social spaces facilitate community: some will be centralized to create critical mass while others will be dispersed to support specialization.



3

CREATE A SUSTAINABLE ENVIRONMENT

Land, natural assets, space, energy, water, funding, and time are valued resources. Each landholding is unique and will be evaluated individually to take best advantage of its unique character. Strategic reinvestments in the existing campus will increase efficiency, utilization, and sharing to ensure a sustainable future.

4

MAKE A SAFE AND CONNECTED CAMPUS

The built environment is a powerful tool to connect people to one another. The proximity of spaces to learn, live, and gather amidst a unifying campus landscape will fuel Carolina's distinctive intellectual climate. Providing safe access to the campus for all modes of travel will facilitate productivity and collaboration.

5

LOOK OUTWARD

UNC-Chapel Hill is of and for the public. Its community encompasses students, faculty, staff, patients, partners, spectators, and guests. The campus will be broadly welcoming and connected to its surroundings, embracing partnerships to expand and accelerate the University's impact on North Carolina and beyond.





KEY DRIVERS

Program Drivers and Physical Drivers

The 2019 University Master Plan process began with a comprehensive campus assessment. Campuswide space metrics suggested areas needing investment, and additional targeted studies of key program drivers identified opportunities. Physical planning drivers reflect the understanding of and vision for the campus developed by the University over generations of development. Program and physical drivers are the foundation of the plan.

PROGRAM DRIVERS

SPACE UTILIZATION AND METRICS SUMMARY

The space assessment addresses 10 million net assignable square feet (NASF) of built space on campus. It incorporates data about people, courses, research activity, building condition, and space use from a variety of University resources and provides a snapshot of space quantity, quality, and utilization at a specific moment in time. The data was collected and analyzed during the initial listening phase of the planning process, and it was documented in an interactive visualization tool, Space Analytics and Modeling Interactive (SAMI™) that allows users to consider the use of space campuswide or for a specific department or space type.

The findings are organized by space type, establishing one or more target space metrics in each category based on past and present conditions at UNC-Chapel Hill, the University's vision for the future,

and benchmarking of peer institutions. In addition to specific findings by space type, the assessment establishes forward-looking metrics and focuses on trends that apply across the various schools and colleges. These metrics were revisited and refined throughout the process of developing the Master Plan as scenario planning exercises provided an opportunity to test the application of various metrics in specific areas.

Some university programs and initiatives require a blend of space types that are not effectively captured through traditional analysis frameworks. Innovation and entrepreneurship efforts, for example, require office, research, teaching and collaboration spaces that are housed in departments across the University. The planning process included programmatic studies in these areas to supplement the space assessment.



SAMI™ Integrated Planning Tool Interface



CAMPUS SPACE BY USE

- | | | |
|--|--|---|
| ■ Classroom | ■ Athletics | ■ Student Housing |
| ■ Class Laboratory | ▨ Field | ■ Student Spaces (Assembly, Exhibition, Lounge, Merchandising/Retail, Recreation, Media Production, etc.) |
| ■ Research Laboratory | | |
| ■ Dining / Food Facilities | | |

*Circle sized by total space use in NASF

Overview of Findings
Across Space Types

Overall, physical campus space has not kept up with the increasing pace of change in higher education, particularly in the areas of learning and teaching, study, and workplace environments, where greater adaptability is needed and greater efficiency is possible.

Drivers of space utilization vary between the various schools and colleges. Many findings, however, are shared across units and space types.

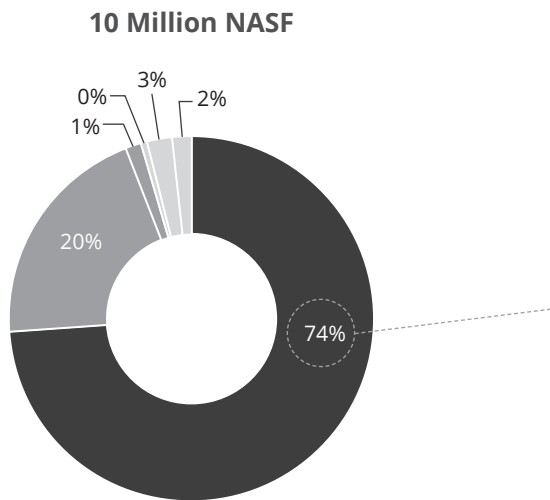
Facility condition data reveals that there is a disparity in space quality from building to building, and 42% of space is located within

buildings flagged as having “severe” condition issues by University condition assessments. Renovations to address condition issues are important opportunities to modernize space, but they must be forward-thinking to anticipate future changes and allow for flexibility.

The space utilization assessment found strategic opportunities to share or consolidate space to address deficiencies and promote collaboration and access to resources. To capitalize on these opportunities, improvements in reporting, management, and operation of space use will be needed.

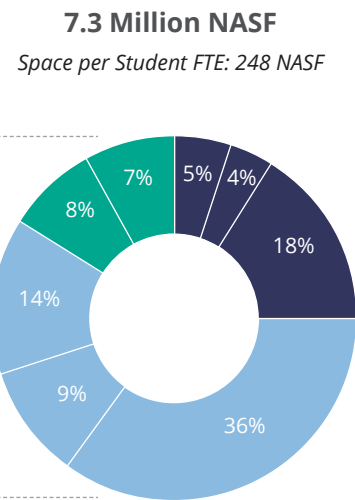
SPACE OVERVIEW

TOTAL NET ASSIGNABLE SQUARE FEET (NASF)



NASF in Space Assessment	7,327,626
Housing	2,006,150
Conference Center Space	135,640
Hospital	49,743
Inactive/Conversion	278,079
Parking Garages/Airport	156,959

NON-RESIDENTIAL NET ASSIGNABLE SQUARE FEET (NASF)



Classrooms	345,297
Instructional Labs	283,390
Research Space	1,303,398
Offices	2,616,783
Library & Study Space	686,097
Other Space	1,018,360
Athletics	566,210
Student Space	508,091

SPACE ASSESSMENT SUMMARY

DATA INPUT				CONDITION				
UTILIZATION		OTHER		NON-RESIDENTIAL SPACE	NASF	% TOTAL	% SEVERE	
Classroom		Library & Study		Classroom	345,297	5%	37%	
Weekly student contact hours	297,933	Print Collection	7,079,095	Instructional Lab	283,390	4%	48%	
Class Laboratories		Study Seats	7,292	Research	1,303,398	18%	12%	
Weekly student contact hours	24,816			Office	2,616,783	36%	23%	
PEOPLE				Library & Study	686,097	9%	41%	
Undergraduate Student FTE		20,464		Assembly & Exhibit	274,374	4%	24%	
Graduate Student FTE		6,514		Other Space	743,986	10%	15%	
Professional FTE		2,559		Athletics	566,210	8%	10%	
TOTAL STUDENT FTE		29,537		Recreation	229,265	3%	3%	
Administrative/Staff FTE		8,271		Student-Centered Space	278,826	4%	13%	
Faculty FTE		3,655		TOTAL NASF	7,327,626	100%		

SPACE METRICS

METRIC	TARGET	ACTUAL UNC 2015	
Classroom			
Weekly Room Hours	35	24	Over 20% of Space in Buildings Rated Severe
Percent of Seats Filled	65%	70%	Metric Indicates Opportunity for Efficiency
NASF/Seat	25	20	Metric Indicates Need
Research Lab			
R&D Expenditures per T/TT Faculty	TBD	\$389,580	
R&D Expenditures per NASF	TBD	\$683	
NASF per T/TT Faculty	TBD	583	
NASF per \$100K in R&D Expenditure	TBD	146	
Office			
Average NASF Per Office	120	165	
Average NASF Per Seat	100	104	
Percent Service Space	18-21%	21%	
Percent Conference Space	20%	12%	
Library & Study			
Study Seats as Percent of Students	25%	23%	
NASF per Study Seat	30-35	21	
Percent of Library Service Space	15%	17%	
Recreation			
Total Acres of Fields and Courts	27-38	8.4	
Total Dedicated Indoor Recreation	261-287,000	229,265	
Student Space			
NASF Per Student	10	8	

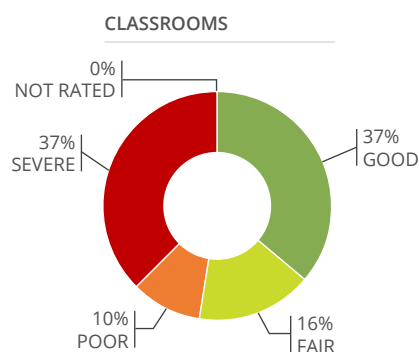
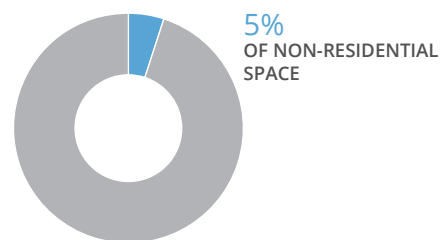
Classrooms

345,297 NASF

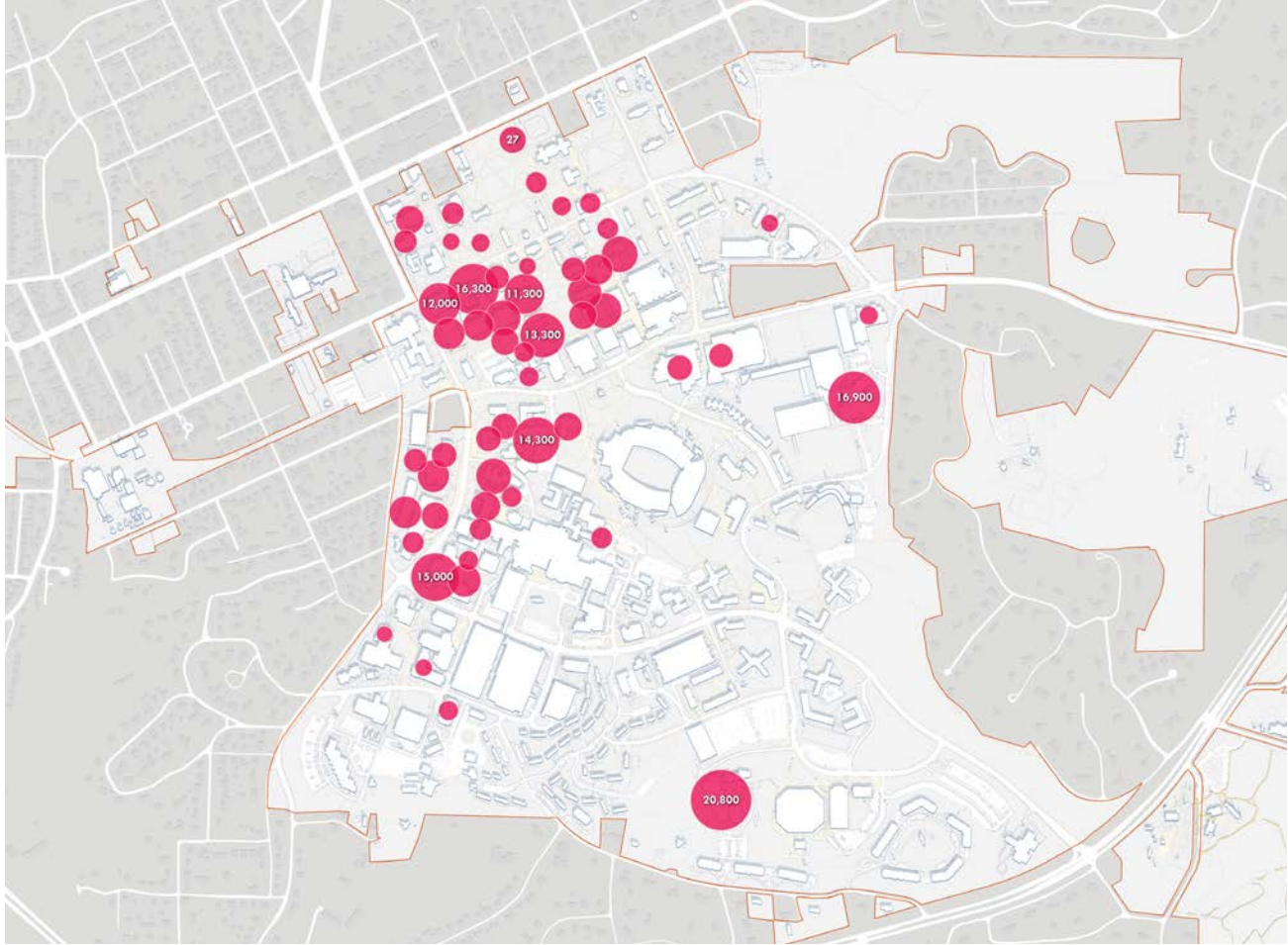
Classrooms are a small portion of the University's space inventory, but they have significant impacts on instruction, which is central to Carolina's mission.

Centrally scheduled classrooms are approaching state targets for utilization and percent of seats filled; however, opportunities may exist to schedule additional courses in some professional school classrooms. Classroom space metrics recognize that classrooms serve other important purposes, like hosting student meetings and events, that offset shortages in other space categories but that nonteaching uses are difficult to document and assess.

Classroom spaces are one of the space types most impacted by building condition issues as many of them are located in older Campus North buildings. Moreover, in most classroom size categories, low square footage per seat limits the quality and flexibility of the learning environment. These classrooms need rightsizing to support collaborative learning and teaching, which could in turn increase utilization in underperforming classrooms.



Greenlaw 101 lecture hall, one of the first classrooms renovated to support collaborative learning and teaching.



CLASSROOMS

● Classroom Space

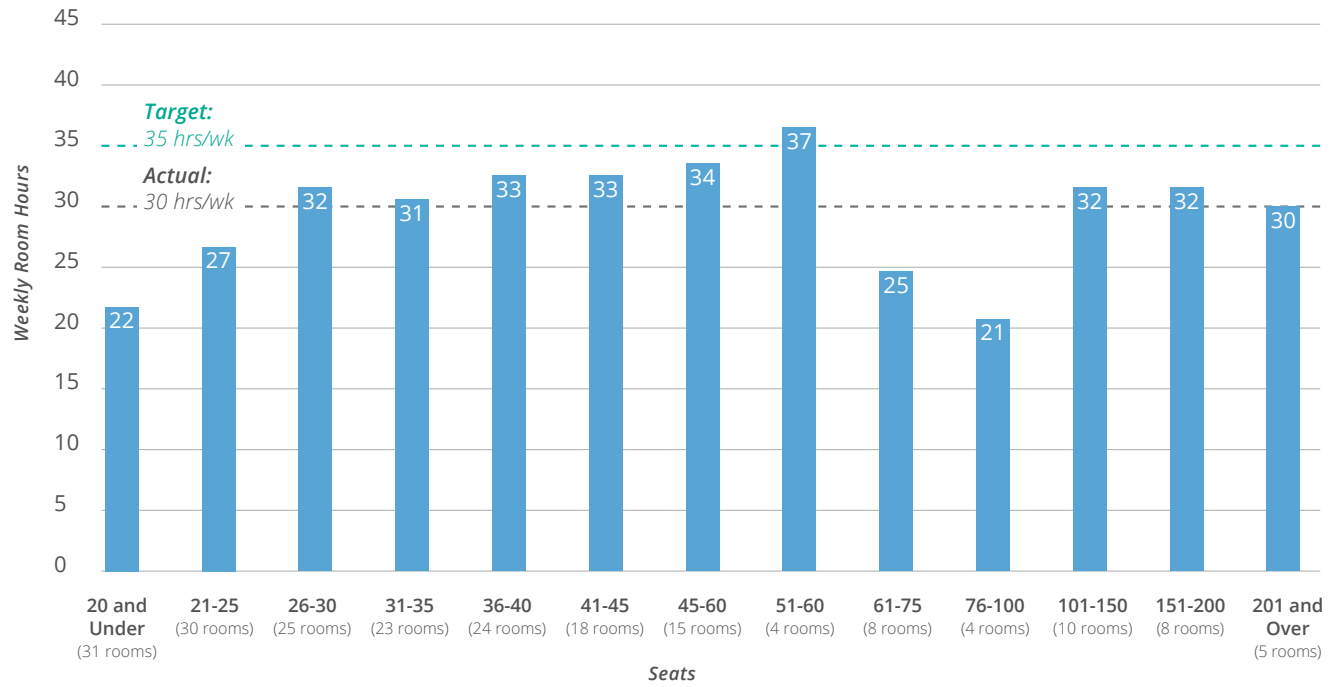
**Circle sized by total classroom NASF in each building*

WEEKLY ROOM HOURS

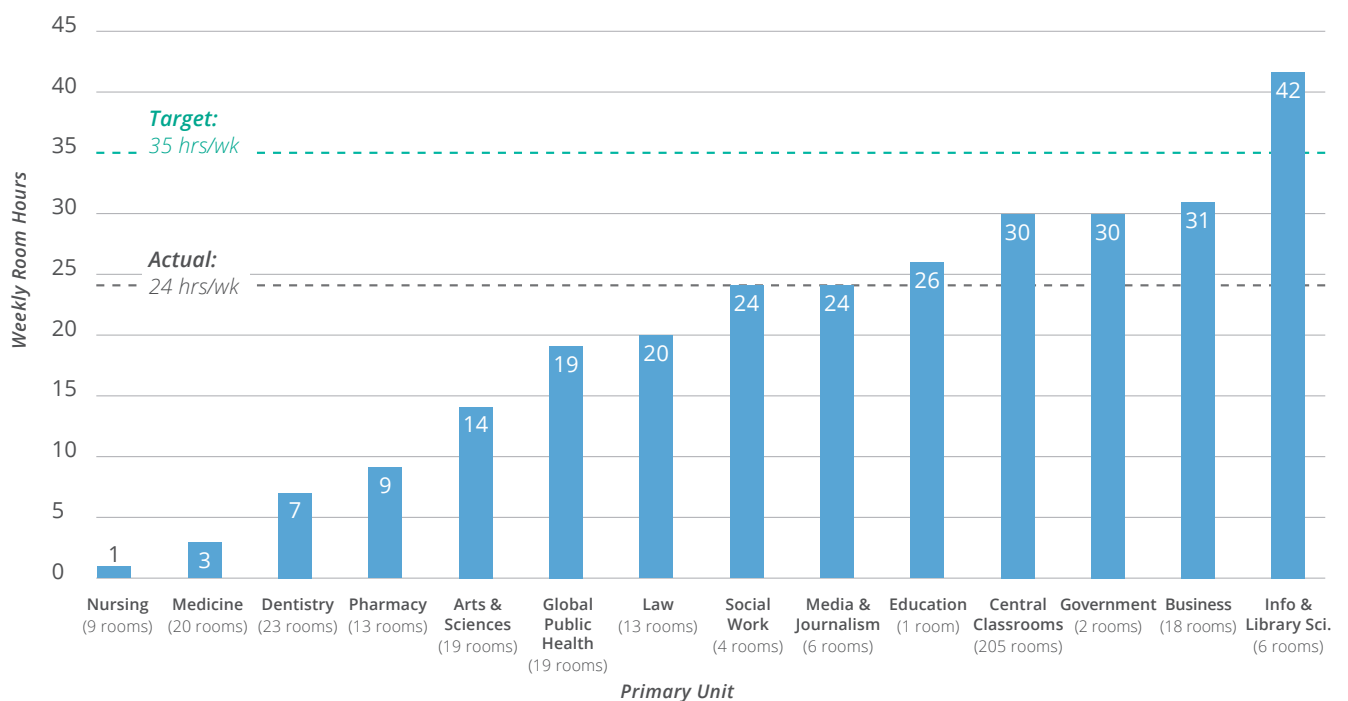
UNC GA Target Metric*: 35 hours/week

*GA Standards apply to academic affairs space only.

Centrally Scheduled Classrooms by Capacity (205 Total Classrooms)



All Classrooms by Primary Unit (358 Total Classrooms)

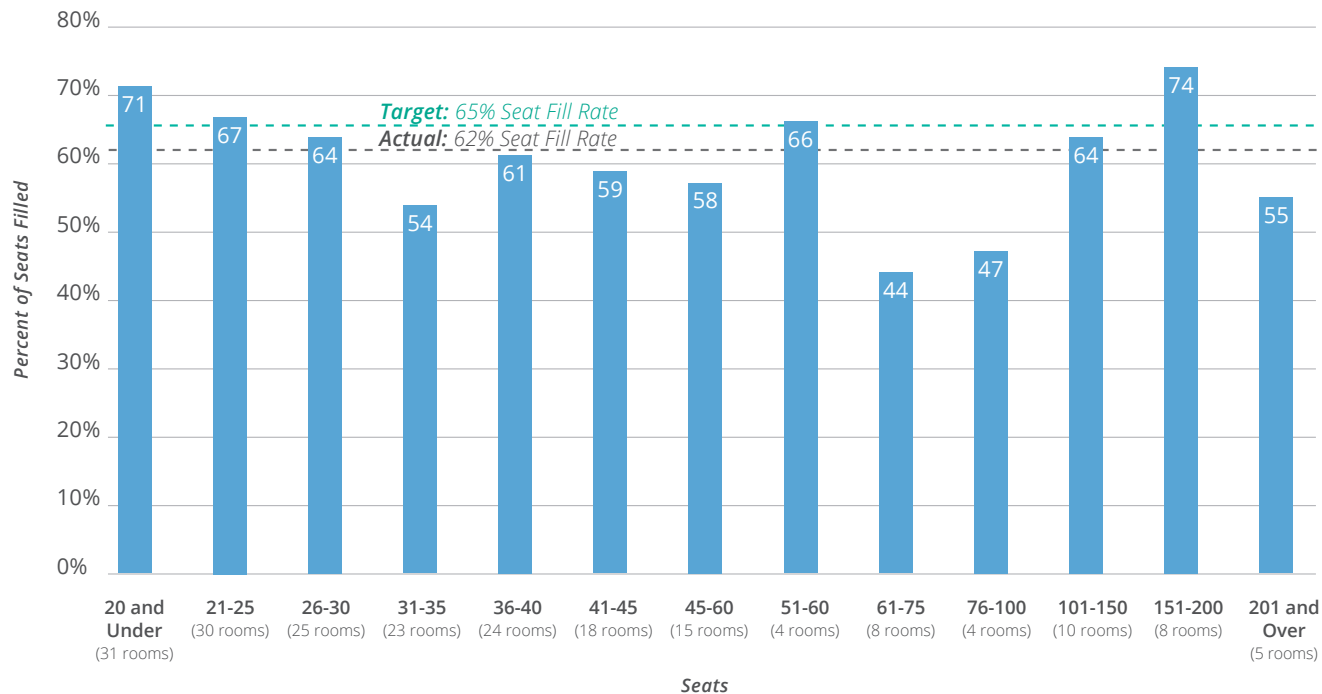


PERCENT OF SEATS FILLED

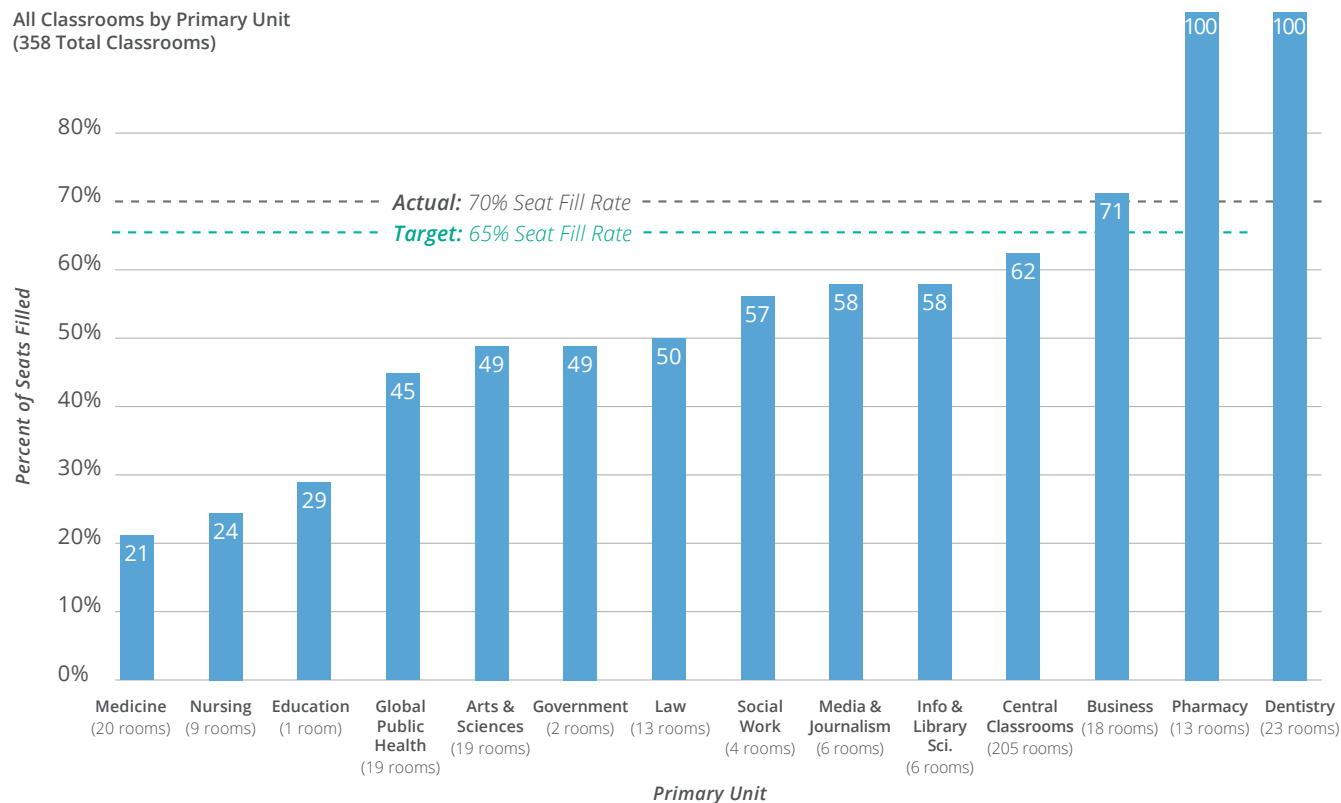
UNC GA Target Metric*: 65% Seat Fill

*GA Standards apply to academic affairs space only.

Centrally Scheduled Classrooms by Capacity
(205 Total Classrooms)



All Classrooms by Primary Unit
(358 Total Classrooms)



Instructional Laboratories

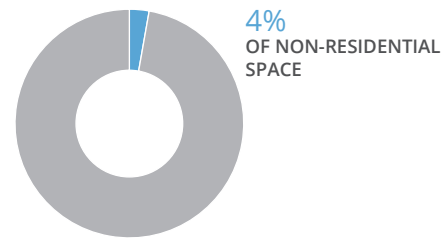
283,390 NASF

Instructional labs are specialized resources that give students hands-on learning opportunities.

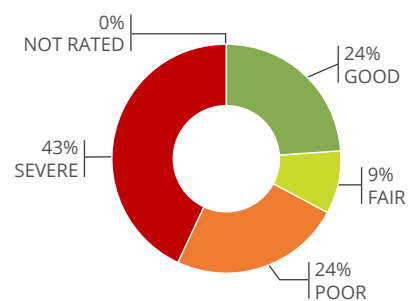
Instructional labs include both class laboratories and open laboratories. The key difference between the two categories is the degree to which the laboratory is regularly scheduled and the amount of scheduled use that is verifiable through the registrar's course data. Metrics for size and utilization of instructional and open lab spaces vary program to program. Interprofessional education could potentially implement more sharing of simulation labs, fundamentals labs, and makerspaces. Opportunities for further efficiencies could be identified more easily by reporting the use of class laboratories to a centralized scheduling system. Like classrooms, instructional laboratory space is heavily impacted by facilities condition issues and could benefit from renovations that improve quality and enable greater integration of active learning. Support and storage space for labs is identified as a critical need.



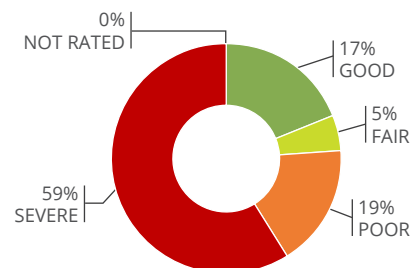
School of Dentistry Simulation Laboratory

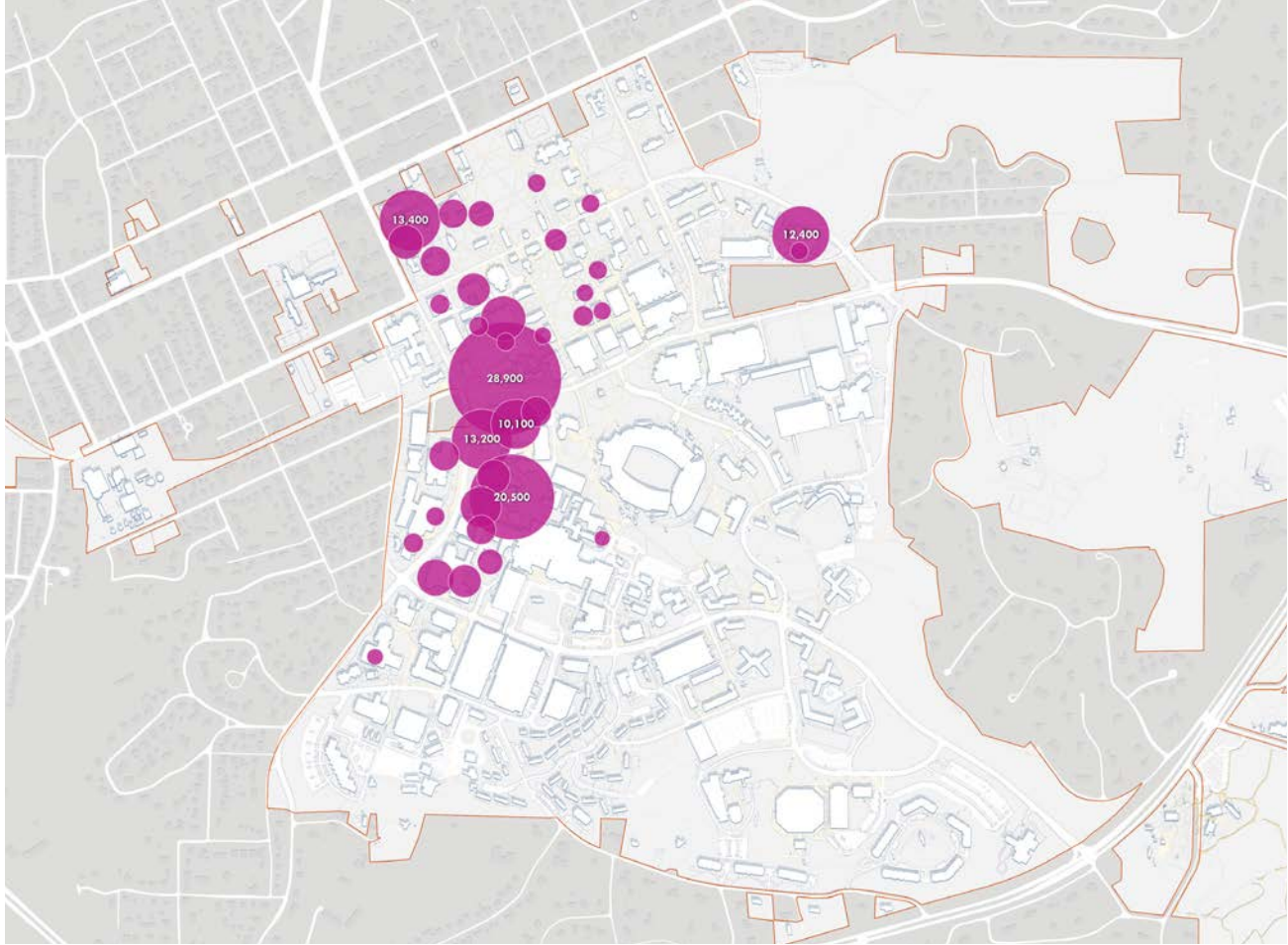


CLASS LABORATORIES



OPEN LABORATORIES

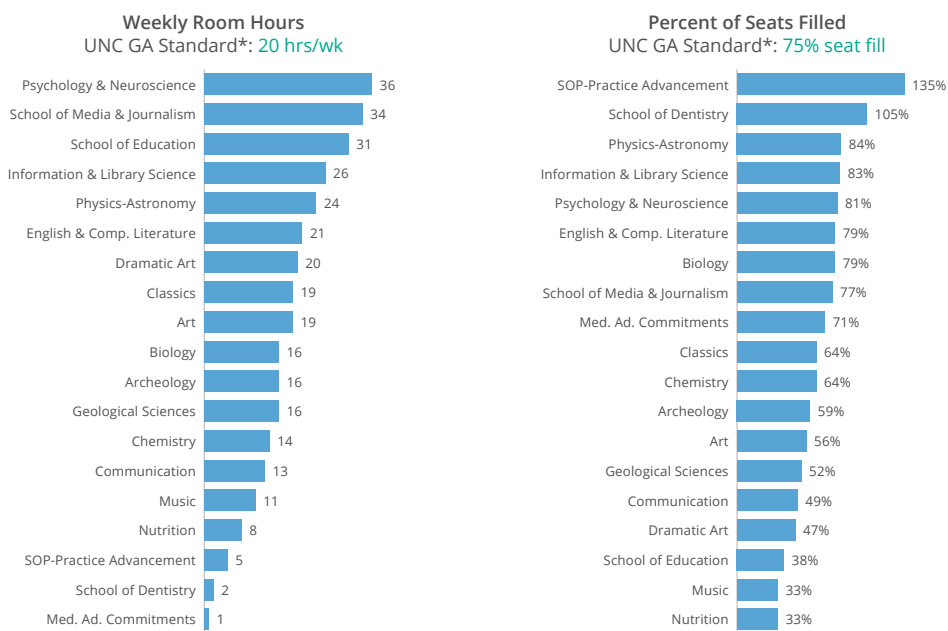




INSTRUCTIONAL LABORATORIES

- Instructional Lab
- *Circle sized by total instructional lab NASF in each building*

CLASS LAB UTILIZATION DATA



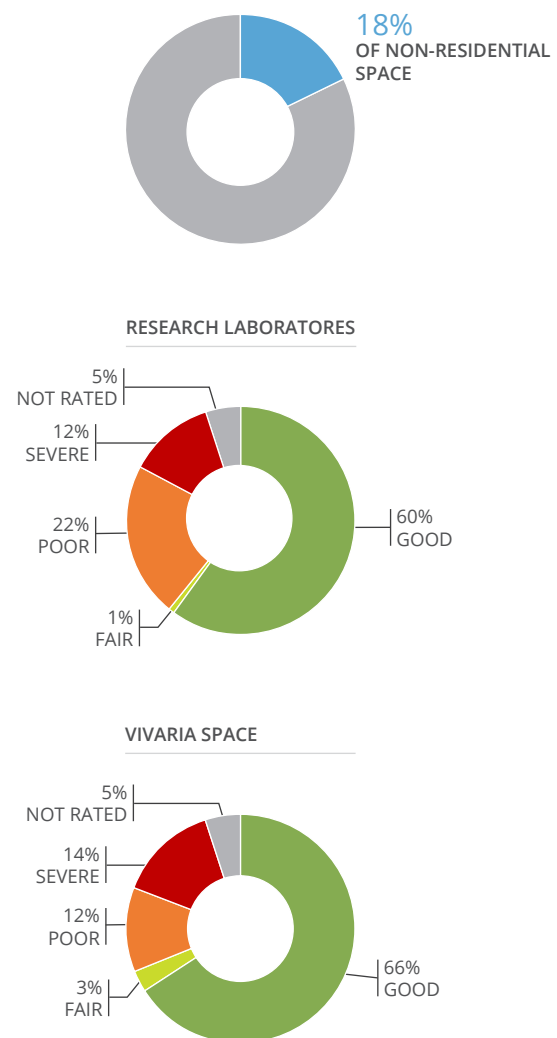
*GA Standards apply to academic affairs space only.

Research Space

1,303,398 NASF

Quality research space supports UNC's culture of innovation. Research activities can be space and energy-intensive and require careful planning for high utilization.

Research space includes not only the research laboratories, but core facilities, and vivaria space. It does not include office only research spaces which is included under the Workplace section as academic and research offices. Significant disparities exist in research space quality that impact recruiting. While there is a nationwide trend towards more dry research, flexibility is preferred as many researchers use a mix of lab types. Flexible lab designs are becoming more common and can increase efficiency; however, efficiency and productivity cannot be easily compared across disciplines. No correlation was found between the amount of space needed to perform research and the research expenditures created from grant-funded research. Where possible, common services and equipment should be shared and not duplicated across disciplines, creating stronger core facilities with a business model. Metrics reinforce the critical need for additional vivarium space, and planned consolidation and reorganization of these campus facilities will address some of the deficiencies.



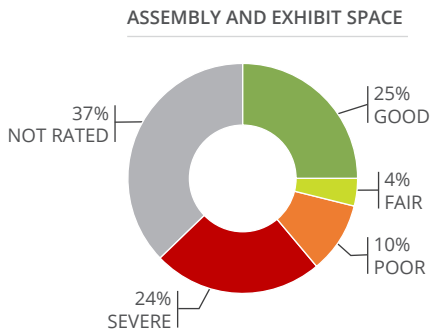
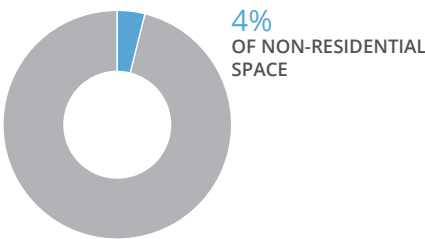
Genome Sciences Building

Assembly and Exhibit Space

274,374 NASF

Events and exhibits enrich campus life and should take place across campus.

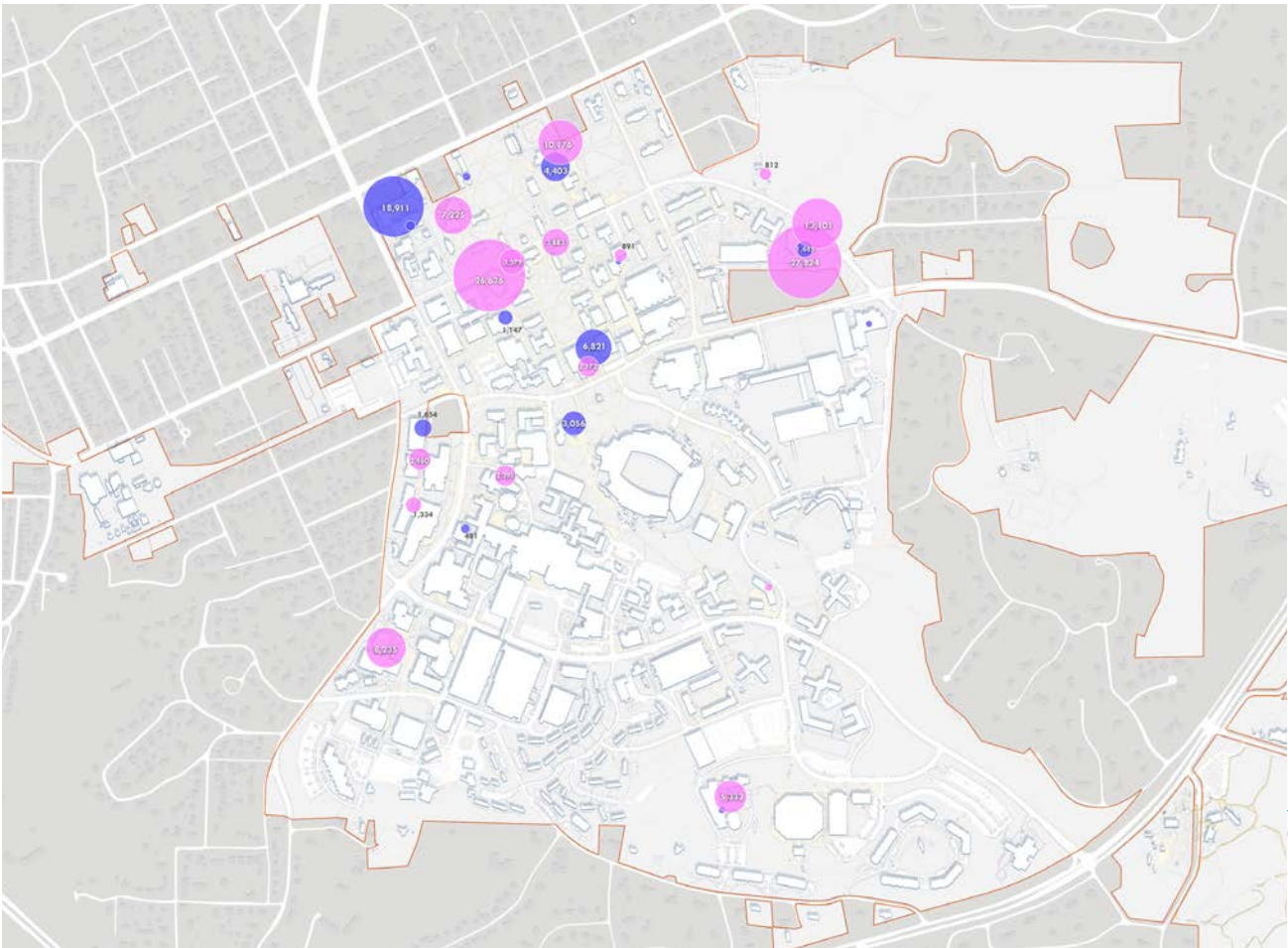
Assembly and exhibit space need is driven not only by academic programs but by University mission. Performance spaces are well utilized and shared, but there is a general need for more performance spaces so all students, not just performing arts majors, can have access. Back of house facilities and other support and storage needs require additional space. Currently, art spaces are concentrated on Campus North and should be integrated across campus in coordination with the Arts Everywhere strategic initiative.



ASSEMBLY AND EXHIBIT SPACE

- Assembly
- Exhibit

*Circle sized by total assembly and exhibit NASF in each building

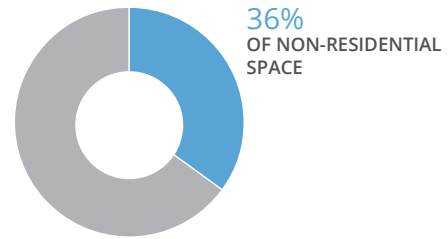


Office Space

2,616,783 NASF

Office space makes up 36% of UNC-Chapel Hill's non-residential space, and efficiencies can have significant impact on space use.

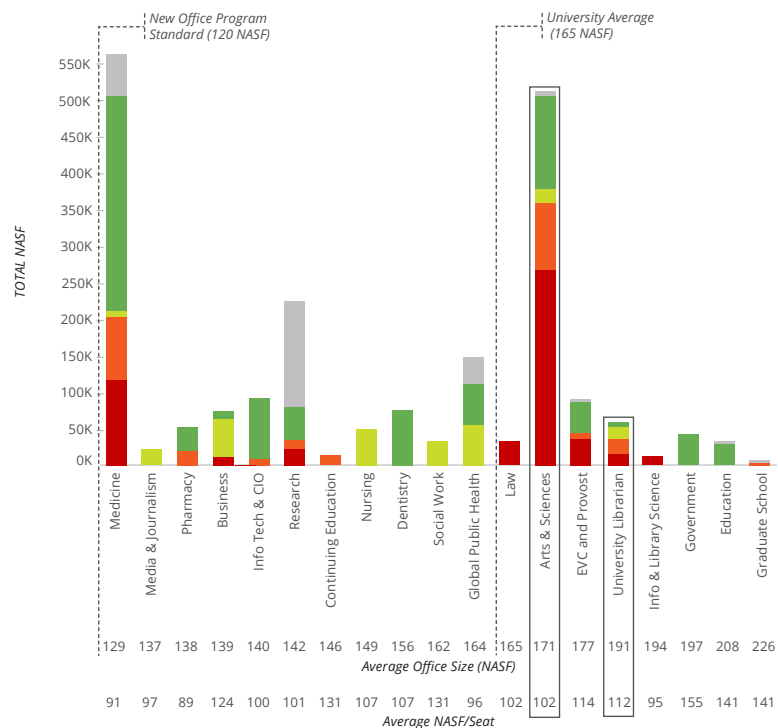
Campuswide, the average existing office size of 165 NASF is above modern office space metrics. This average can vary significantly from building to building, indicating opportunities for better efficiencies as renovations occur. Without renovation, however, units in buildings with larger average office sizes do not have space overages and may feel space constrained. Space metrics indicate a shortage of conference space. Renovation strategies that decrease the space devoted to private work areas, promote equitable daylighting and increase collaboration and meeting space will address these space deficiencies and improve the quality of the workplace. It should be noted that this category includes research offices.

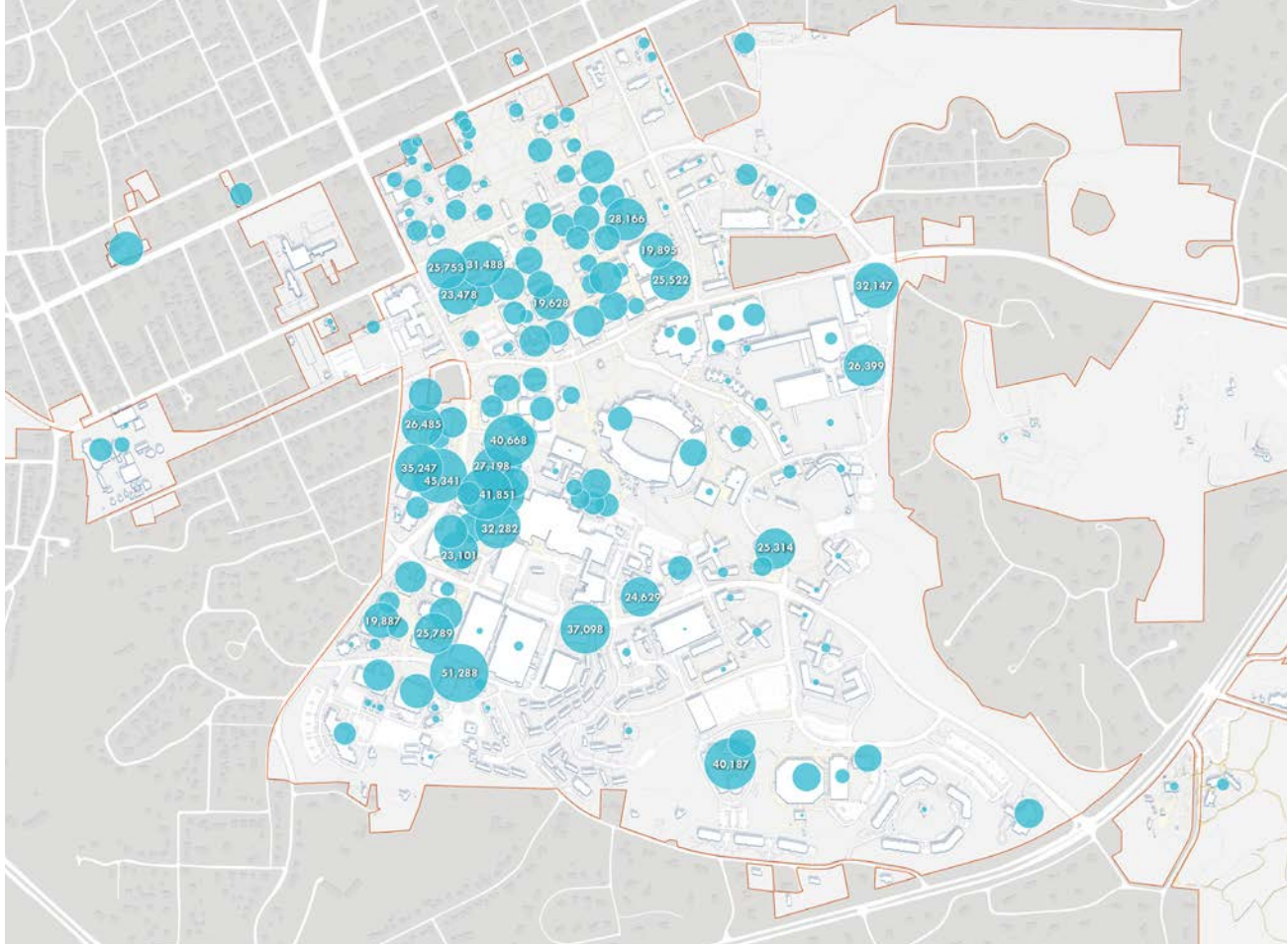


Technology Hotspot, Gillings School of Public Health

FACILITY CONDITION CODE

- No FCI
- Good (<5%)
- Fair (5%-10%)
- Poor (10%-30%)
- Severe (>30%)





OFFICE SPACE

● Office Space

*Circle sized by total office space
NASF in each building

Space metrics indicate a shortage of
conference space.

SERVICE SPACE

Target Metrics:

18-21%
OF TOTAL
OFFICE SPACE

UNC Actual:

21%
OF TOTAL
OFFICE SPACE

CONFERENCE SPACE

Target Metrics:

20%
OF TOTAL
OFFICE SPACE

UNC Actual:

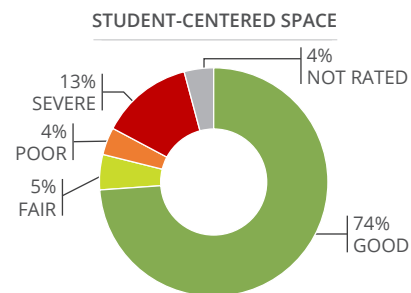
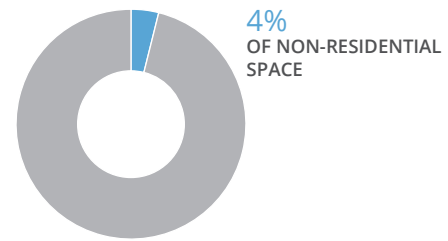
12%
OF TOTAL
OFFICE SPACE

Student-Centered Space

278,826 NASF

Student-centered spaces provide opportunities for connections, collaboration, and learning outside the classroom.

Analysis of student space found overall shortages. Student spaces are concentrated in Campus North around the Pit, resulting in uneven distribution and access that leave large areas of campus underserved. There is a critical need for additional dining seat capacity in key locations, especially in Lenoir Hall, to meet demand at peak hours. Retail dining supports vibrant community gathering spaces and is frequently requested, but is challenging due to the inherent difficulties that arise in operating small venues. A shortage of meeting spaces was identified across campus, and evidence suggests that students use classrooms after hours to fill the gaps. This category also includes student health; however, student health was excluded from the student-centered space metric. All student health space is in the space quality category of severe.



(Top to Bottom, clockwise) Dining space; Meeting space; Student recreation space; Retail operations space

Library and Study Space

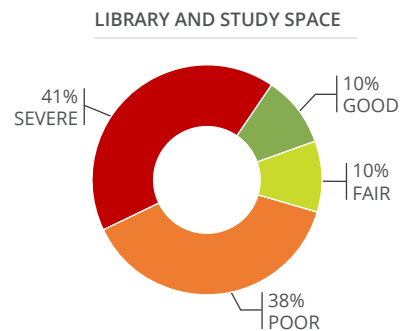
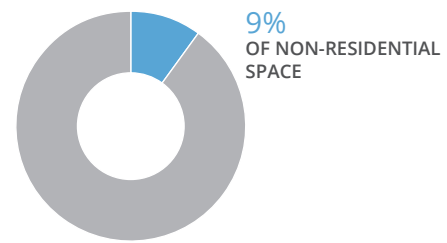
686,097 NASF

Modern university libraries serve as neutral spaces for collaboration and access to shared resources.

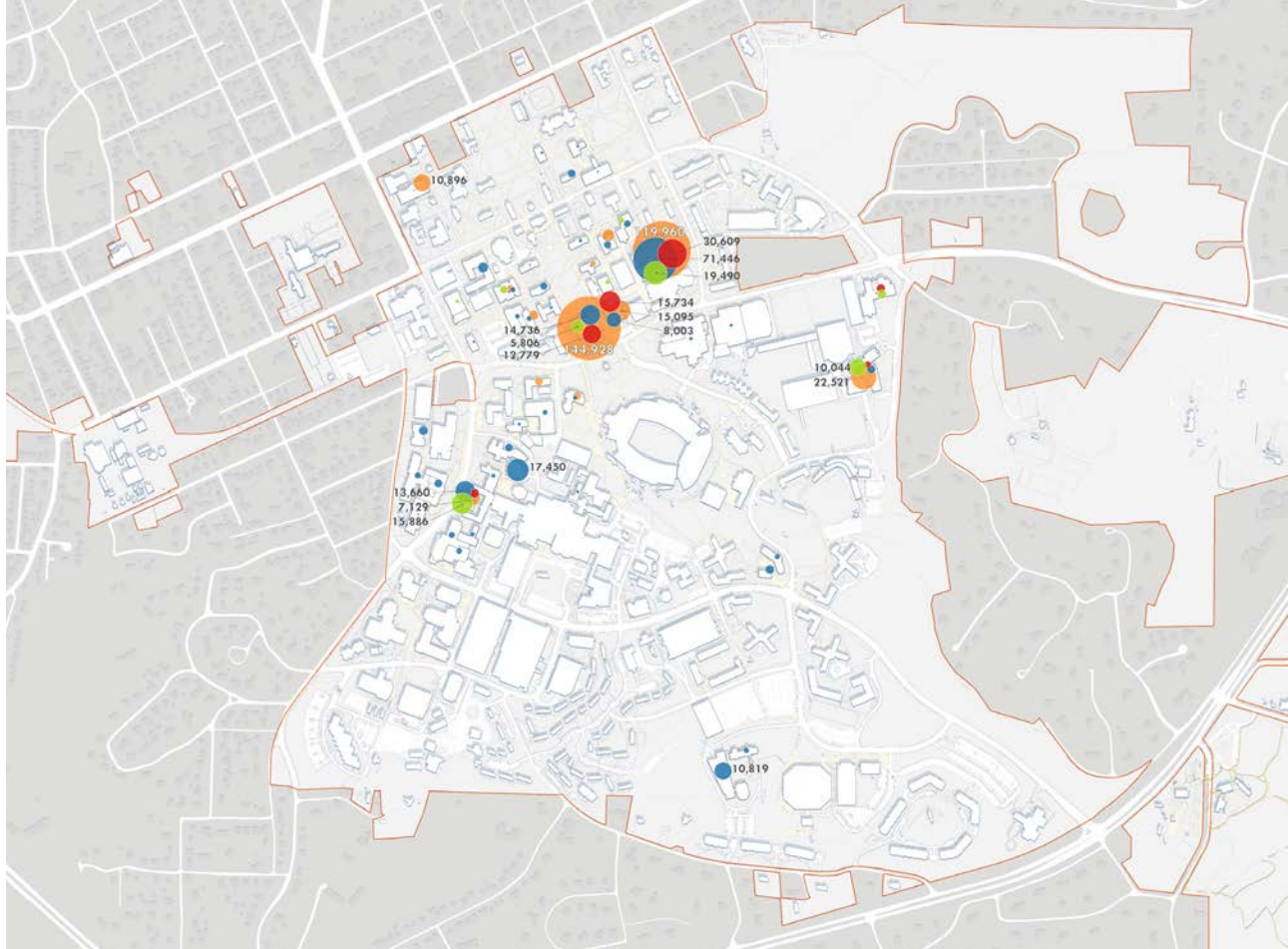
The number of formal study seats on campus is sufficient, however, demand for study space continues to grow, with a particular emphasis on group study. These environments require more space per person to provide flexibility, and some spaces should also support multi-media and teleconferencing.

The assessment shows a need for decentralized study and collaboration spaces throughout campus. This type of space is needed in each academic and research building to support modern pedagogies and research environments. It creates “sticky” space environments where students can work together, students and faculty can meet outside of class times, and faculty can informally meet with each other. Complementing dispersed clusters of general purpose resources, other more specialized resources require a strategic approach to create shared centralized hubs. The campus’ approach to makerspaces, for example, embodies a centralized approach for specialized resources and should continue to be used as the demand for these types of spaces grows.

Embedding specialized libraries within the departments offers advantages, primarily related to proximity of main users. The University has successfully centralized some departmental libraries in the past, but plans to centralize further will need to be carefully considered with buy-in from users. The libraries continue to add book volumes across campus, and compact shelving has been used to expand storage capacity, while minimizing the collection footprint where possible with notable physical limitations in the Law and Davis Libraries. There is a need for decentralized collaboration and study areas that are not contained within any of the formal libraries.



Study Space



LIBRARY AND STUDY SPACE

- Orange: Stacks
- Green: Open Stack Study Room
- Red: Processing Room
- Blue: Study Room

*Circle sized by total library and study space NASF in each building

LIBRARY SPACE

Library Collection:
 Print Volumes: 6,595,007
 Electronic Books: 1,219,945
 AV Materials: 484,088
 Graphic Items: 2,398,151
 Manuscript Items: 26,586,554

Service Space Metric:
 15% of total library space

LIBRARY + STUDY SPACE	NASF	ACTUAL SERVICE AS % OF STUDY + STACK SPACE
Central Study + Stack Space	504,460	
Central Service Space	88,159	17%
Central Library + Study Space	592,619	
Departmental Library + Study Space	93,478	
TOTAL LIBRARY + STUDY SPACE	686,097	

STUDY SPACE

Target Metrics:
 Seats for 25% of total student headcount
 35-39 NASF/Study seat

UNC Actual:
 Seats for 23% of student headcount
 21 NASF/Study seat

STUDY SPACE	NASF	PERCENT OF TOTAL SPACE	NASF PER STUDENT	# OF SEATS	NASF PER SEAT
Central	155,231	67%	4.89	7,292	21
Departmental*	76,386	33%	2.41	Unknown	
TOTAL	231,617		7.30		

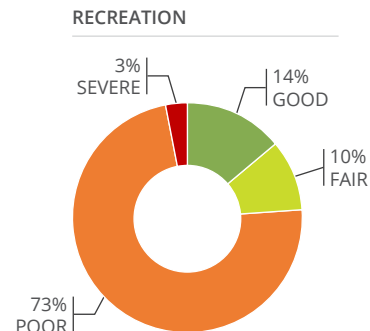
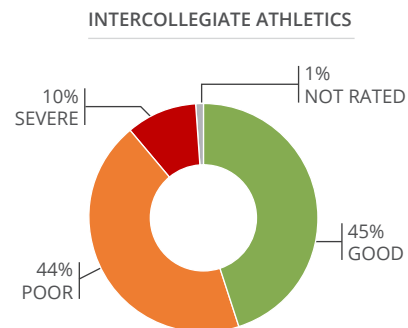
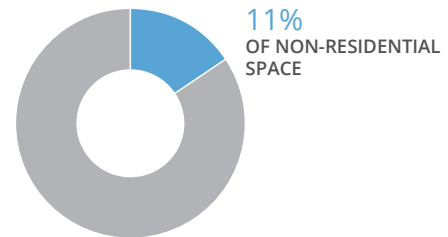
*Includes formal (e.g., the Law Library) and informal (e.g., Geography) departmental study space.

Athletics and Recreation

795,475 NASF

Main Campus athletics and recreation facilities are a distinctive element of the UNC-Chapel Hill student experience. However, the mature campus environment and topography make it challenging to identify large building sites for indoor facilities and large flat areas for courts and fields.

Recreation space metrics articulated in the Recreation Master Plan indicate shortages in both indoor and outdoor space, and the Athletics Department has prioritized projects that will allow UNC to maintain competitiveness for their teams in their master plan. Optimizing facility schedules between Athletics, Campus Recreation, and Exercise and Sport Science throughout the day and year can maximize utilization of the University's current assets.





ATHLETICS AND RECREATION

- Athletic Facilities
- Recreation Facilities
- Shared Facilities
(Athletics or Recreation space with agreements for shared use)

795,475

TOTAL NASF OF
INDOOR SPACE

566,210

NASF of Athletics Space

229,265

Acres of Recreation Space

32.7

TOTAL ACRES
OF FIELDS/COURTS

17.2

Acres of Athletics only

8.2

Acres of Recreation only

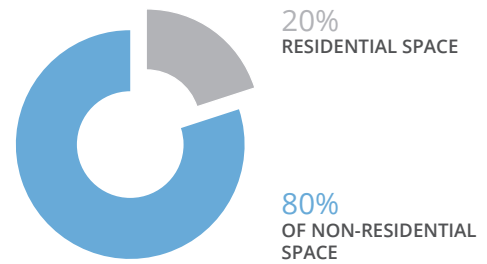
7.3

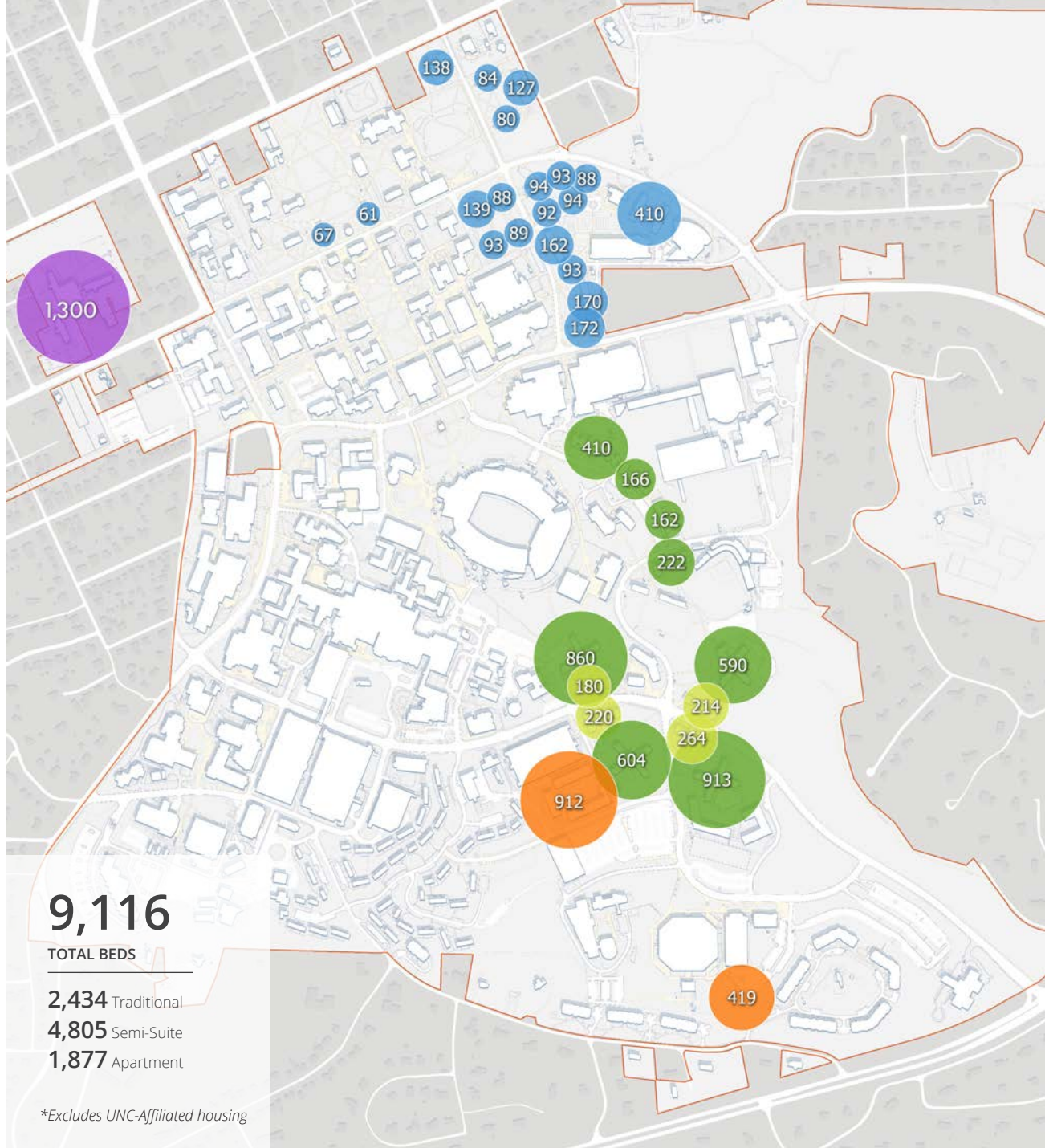
Acres of Shared Athletics and Recreation

Housing

A blend of University mission and policy, market context, and space metrics determines the need for residential space on campus.

The Department of Housing and Residential Education completed a market study and planning exercise in close coordination with the master planning process. This provided an updated understanding of market demand for on-campus housing and refined the vision for the residential experience at Carolina. There is increasing competition from the off-campus market, and to retain students after their first year the University needs to adjust unit mix, offer additional amenities within residence halls and in Campus South neighborhoods, and address deferred maintenance. The space assessment reinforces that several halls have significant condition issues combined with other programmatic deficiencies. Many of the older traditional hall-style buildings present particular challenges despite their attractive location: most upper division students prefer suites or apartments, and the building layout cannot accommodate the desired reconfiguration without decreasing the bed counts below a reasonable threshold for a viable community and hall operation. Lastly, the assessment updates to the University's approach to serving graduate students.





TYPE MIX AND DISTRIBUTION

- Traditional
- Semi-suite (4 room)
- Semi-suite (2 room)
- Apartment
- UNC Affiliated (Semi-suite)

**Circle sized by total beds in each building*

IDENTIFYING OPPORTUNITIES

Space metrics highlight areas that will require University investment in years to come and opportunities to achieve greater utilization and impact in existing space. Preplanning studies explored programmatic needs in greater detail, defined specialized needs, and tested the viability of realizing Strategic Framework visions in existing buildings. These explorations, combined with facilities condition data, informed strategies for renovation and redevelopment of individual buildings.

Innovation and Entrepreneurship

As Carolina's culture of innovation has developed, innovation and entrepreneurship spaces have been primarily located in temporary spaces. The University and Town need clusters of innovation spaces to support ventures in each phase of growth to effectively translate scholarly activity into global impact.

Innovate Carolina, Facilities Services, and Real Estate Operations collaborated during the preplanning process to envision how the University could better support the Town of Chapel Hill's innovation ecosystem through physical space. Review of best practices nationwide affirmed that successful innovation districts are diverse, mixed-use environments that attract and retain talent, support new companies at each stage of growth, connect to neighboring communities, and embed capacity for physical expansion.



The Innovation Pipeline



LEARN

Within core teaching and research, UNC Chapel Hill fosters the creation of new knowledge.



CREATE AND TEST

Individuals and teams explore new ideas and their potential impact on the world.



INCUBATE

A single idea with broad potential impact is investigated.



ACCELERATE

Completion of a focused program builds promising ideas into companies.



GROW

Early stage companies scale their vision, adding new employees and expanding impact.



PARTNER

Mature companies establish mutually beneficial relationships with research universities.

KEY OPPORTUNITY AREAS

Franklin Street Corridor, specifically through strategic redevelopment opportunities around Porthole Alley

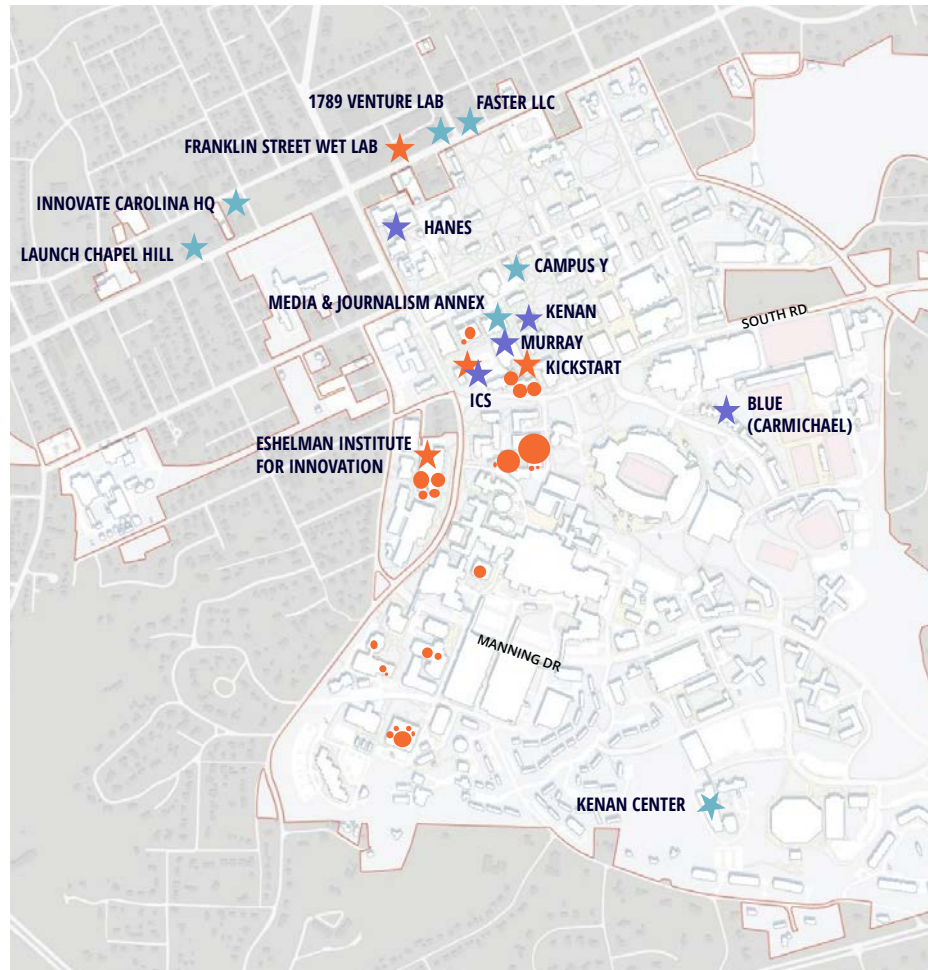
Science Complex, through renovation and infill development

Campus South Hub, as part of mixed-use redevelopment over time

Companies require different support and space at each stage along the innovation pipeline. Within Chapel Hill's ecosystem, incubation and acceleration space is limited, and almost no facilities are targeted at growing companies and corporate partners.

Based on an aspirational number of University-affiliated start-up companies, UNC-Chapel Hill could support nearly 200,000 gross square feet of space for early-stage companies, support services, and amenities within the next 10 years. While the space assessment addresses needs for University programs, this programmatic assessment offers a more in-depth understanding of space needs related to partnership goals.

Initial review of real estate opportunities reinforced that Franklin Street, Campus North, the medical center, and future expansion sites each present different assets to support the innovation ecosystem. The study identified opportunities on three time horizons. The University and Innovate Carolina advanced several immediate opportunities as a direct result of the process. Over the mid term, the study emphasized a focus on creating centralized hubs adjacent to major existing assets to supplement the dispersed ecosystem. In the long term, the study envisioned innovation and entrepreneurship as central components of the program for new redevelopment areas.



EXISTING AND PLANNED INNOVATION SPACES

- ★ Co-working/Support Space
- ★ Makerspace
- WET LAB SPACE
- Facility Use Agreements - 2015
- ★ Other Existing Innovation Space

**Circles sized by assignable square feet. Facility Use Agreement space excludes support space, building service, and circulation.*



Rosenau Hall interactive classroom renovation | Image credit: BHDP Architecture

Classrooms

The Learning Imperative initiative calls out the importance of engaging, hands-on learning experiences. Space metrics highlight condition issues in classroom space and the need for more space per seat to accommodate active learning. The Classroom Committee worked with the planning team to identify specific opportunities for classroom renovations. The Demand Study compared the mix of pooled classrooms to the mix of courses taught. It showed that the University has an overall surplus of classrooms despite deficits in some specific room size categories.

Test Fit Prototypes identified opportunities to take two or more classrooms located next to one another offline, and combine and comprehensively renovate them to create active learning spaces. Gardner Hall in particular has several such opportunities. Targeted classrooms have low utilization and are in size categories with overages.

The prototypes illustrated potential capacity using two teaming strategies that have been successfully piloted on campus:

- Node Chair (used in Greenlaw 101) – Maximum flexibility to accommodate lecture or small group work with a range of team sizes.
- Group Tables (used in Phillips 206 and 208) – Provide more shared work surface and immediate access to technology.

There is a need for large classrooms overall, particularly because these rooms also accommodate University events, and the Classroom Committee noted that the University does not have a large active learning room. These spaces require specific design criteria to achieve proper sightlines and accessibility in a tiered configuration. Flexible configurations that allow for active learning require more space per student. Existing 400-seat classrooms like Carroll 111 could be renovated, but would have fewer seats after renovation.



Existing classroom space with opportunity for renewal

KEY OPPORTUNITY AREAS

Seven UNC-Chapel Hill buildings with severe condition ratings have five or more centrally-scheduled classrooms.

Holistic renovations of entire buildings or a wing could transform:

- Gardner
- Dey
- Bingham

Selective renovations of classroom present an opportunity in:

- Greenlaw
- Hamilton
- Hanes Art Center
- Phillips



CENTRALLY SCHEDULED CLASSROOMS

- Worst Condition (FCI > .7)
- Severe Condition (FCI .3-.7)
- Centrally Scheduled Classroom Buildings with opportunities for renewal

Housing and Student Space

Like many institutions, Carolina houses nearly all of its first-year students. Unlike other flagship public institutions, however, Carolina houses a relatively high percentage of sophomores and upper-division students, which requires the University to offer a compelling, holistic student experience to retain students as on-campus residents. Broadly, this includes appropriate residential units for students in each year of their education and improved dining, recreation, study, and social space to support learning and relationship building outside the classroom.

The Department of Housing and Residential Education developed a strategy to strengthen the position of housing assets both in their ability to execute the University's mission and sustain financial performance. This preplanning process affirmed that the housing stock does not offer choices that provide the unit types and amenities that these older students desire, particularly in light of recent private developments very close to campus. It explored diverse strategies to meet demand within different segments of the campus housing market in light of facilities condition, impacts on the housing system's financial performance, universitywide land use considerations, and vision for the residential student experience. The study suggests a blend of renovation, redevelopment, and new construction in the near and midterm. Over the longterm, the strategy creates potential opportunities to convert some existing residence halls to other University uses.



Student experience workshop comments

KEY OPPORTUNITY AREAS

Smaller, distributed clusters of student space across campus and especially the Campus South Hub

Demand for graduate student housing and opportunity to increase flexibility within the existing inventory by adding apartment housing for graduate students

Parker and Teague residence halls on Stadium Drive - redevelopment opportunities in a central location can create more student space

Upper Quad residence halls, which may not be needed for housing over the long-term

The study also affirmed the critical need for additional student amenities, particularly in Campus South. Space metrics also suggest that there is a shortage of student-centered space on campus. Several feasibility studies reflect this deficit and a desire to elevate the student experience campuswide. Many of these projects envision adding collaboration and meeting space, lounge areas, and food service through large projects that may not be financially feasible in the near term. Many of these proposed facilities are located near the Pit in close proximity to one another. An initial workshop during the preplanning process reinforced that shared space may help offset the needs of each of these projects individually. It also set the stage for the Master Plan to identify locations across campus for smaller, strategic hubs of student space that meet needs and make the campus more vibrant.

Workplace

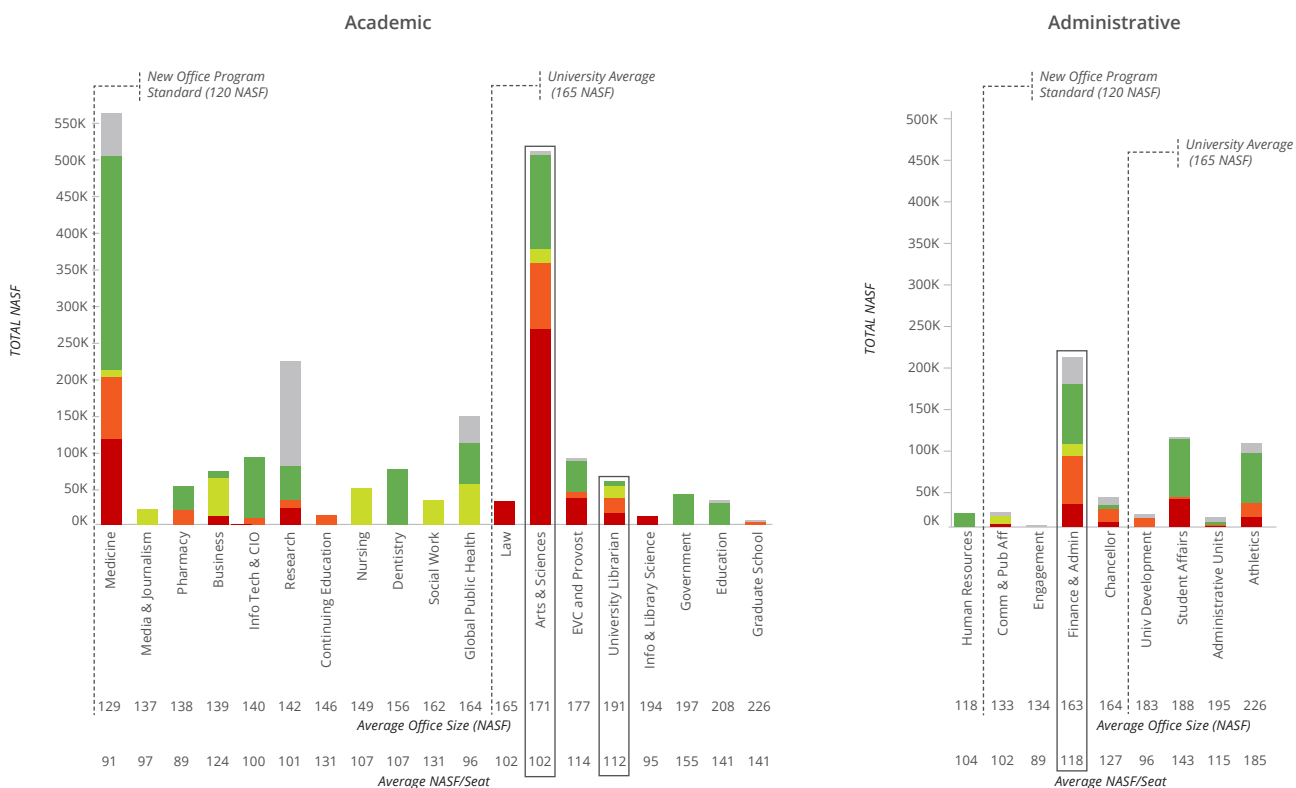
Modern work environments emphasize quality over quantity and shared over private space. They prioritize natural light, ergonomics, flexibility, technology, and access to shared amenities. By strategically incorporating these workplace design principles, UNC-Chapel Hill can achieve higher utilization and improved the quality of office space. This will be one component of the Strategic Framework's focus on providing improved experiences for University employees.

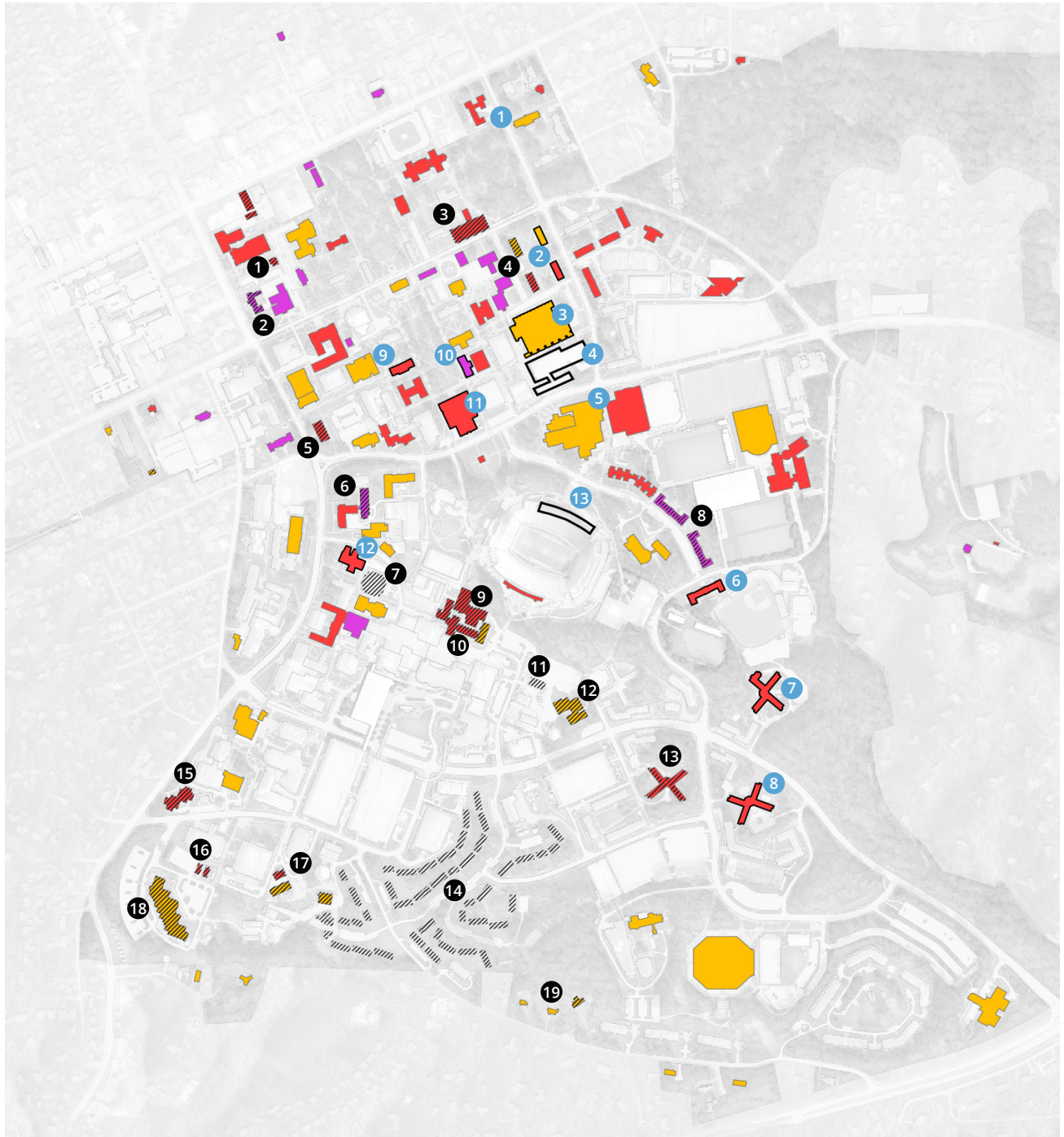
Pilot projects of modern work environments would explore a reduced ratio of private offices to open offices with increased access to collaboration spaces and other amenities. A combination of space metrics, facilities condition, and culture influence pilot project candidates.

KEY OPPORTUNITY AREAS

Administrative - The Giles F. Horney Building and the Administrative Office Building have high percentages of closed offices and could benefit from renovation.

Academic - Davis Library could integrate workplace pilot projects alongside implementation of their Space and Service Strategy. The College of Arts & Sciences is another potential pilot area due to quantity, condition, and age of existing office space inventory.





BUILDING CONDITION, RENOVATION, AND DEMOLITION

- Worst Condition (FCI > .7)
- Severe (FCI .3-.7)
- Poor (FCI .1-.3)
- Major Renovation with Programmatic Change Proposed
- Proposed Demolition

RENOVATION AND REDEVELOPMENT

The University consistently invests in facilities improvements across its extensive building portfolio to address deferred maintenance. The Master Plan affirms the critical importance of prioritizing these investments. As an outgrowth of the Space Assessment and the preplanning studies, the Master Plan specifically addresses demolition and major renovations that will involve significant programmatic changes.

The Master Plan identifies 1.2 million gross square feet of buildings for demolition on the main campus. Some buildings are nearing the end of their useful life or are not cost-effective to renovate. Buildings proposed for demolition are candidates for redevelopment due to the site's potential capacity and current underutilization of valuable land resources.

HIGHLIGHTED CANDIDATES FOR DEMOLITION

- 1 Evergreen House
- 2 Abernethy Hall
- 3 Davie Hall
- 4 Grimes and Ruffin Residence Halls
- 5 Naval Armory
- 6 Wilson Hall
- 7 Berryhill Hall
- 8 Parker and Teague Residence Halls
- 9 Taylor Campus Health
- 10 Medical School Wings B-F
- 11 UNC Hospitals Paint Shop
- 12 Public Safety Building
- 13 Craige Residence Hall
- 14 Odum Village
- 15 Molecular Biology Research Lab/Glaxo
- 16 Trailers 46,47,49
- 17 Grounds buildings
- 18 Ambulatory Care Center
- 19 1307 Mason Farm Road

CANDIDATES FOR MAJOR RENOVATION

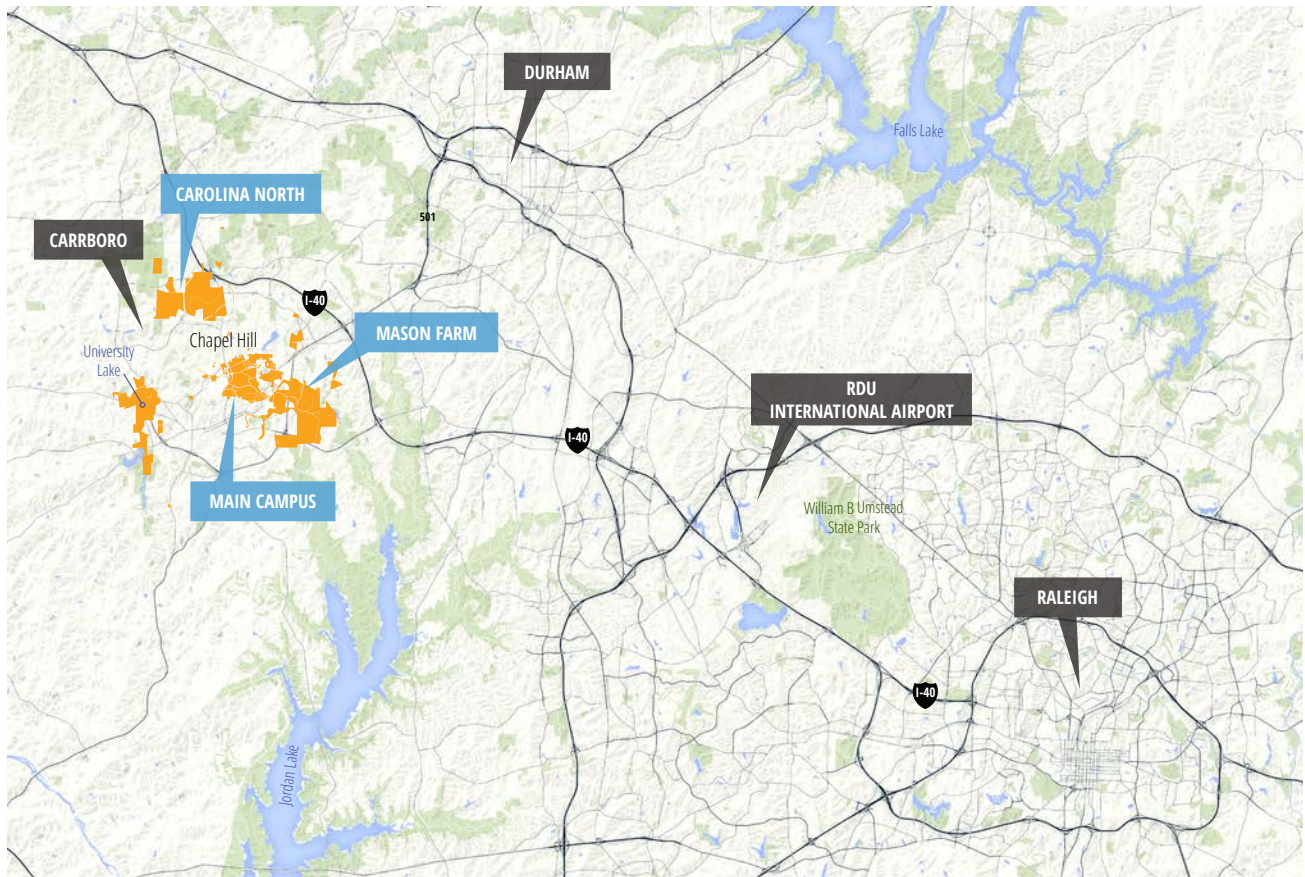
- 1 Spencer Residence Hall
- 2 Manly and Mangum Residence Halls
- 3 Davis Library
- 4 Graham Student Union
- 5 Student Recreation Center
- 6 Avery Residence Hall
- 7 Ehringhaus Residence Hall
- 8 Hinton James Residence Hall
- 9 Gardner Hall
- 10 Bingham Hall
- 11 Wilson Hall
- 12 Carrington Hall
- 13 Kenan North

PHYSICAL DRIVERS

REGIONAL CONTEXT

The University of North Carolina at Chapel Hill is in Orange County, in the Raleigh-Durham region of North Carolina. The region is located within the Research Triangle that is home to a significant cluster of research and development institutions and companies. The Town of Chapel Hill is west of the cities Raleigh and Durham, about 25 miles and 10 miles respectively, and is a dynamic community with nearly 60,000 residents. The University's Main Campus is bounded to the north and west by downtown Chapel Hill

and composed of two interconnected areas: Campus North and Campus South. In addition to its Main Campus, the University controls and manages outlying parcels including the Mason Farm Tract, the Rizzo-Lloyd properties, Carolina North, and property adjacent to University Lake. The Main Campus represents about 20 percent of the 4,295 total acres of land UNC-Chapel Hill controls and manages. Much of the remaining acreage is defined by natural features with opportunities for development in currently disturbed areas.



REGIONAL CONTEXT

University Property



EXISTING MAIN CAMPUS

CAMPUS AREAS

The development of the Main Campus over the University's history has progressed from north to south. That legacy continues to shape how most people come to understand the campus, a sort of "mental geography" that was consistently acknowledged by participants in planning work sessions. Thus, a Campus North zone between Franklin Street and South Road characterized by smaller, mostly red brick buildings anchored around the formal quads of McCorkle Place and Polk Place; a Campus South Zone of buildings often at a much larger scale, built with a greater diversity of materials, and with a significantly more informal set of open spaces that respond to the changes in topography; and a Center Zone that blends and mitigates between north and south. The vastly different characters of the major east-west streets—Franklin, South, Manning, and Mason Farm—distinguish the boundaries of the three zones.

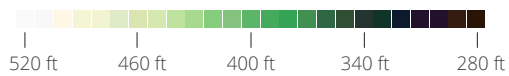


CAMPUS AREAS

- - Campus Area Boundary
- Existing Open Space Network
- Major Campus Road



TOPOGRAPHY AND HYDROLOGICAL FEATURES



Campus North

Campus North is the historic origin of the campus where the University was founded in 1789, broadly defined as areas north of Manning Drive and south of Franklin Street. Campus North traverses a ridge that is oriented generally east-west, a prominent feature of the local topography. Many buildings that are important to the University's character and history are located here such as South Building, Old East and Old West, as well as student amenity spaces such as the Frank Porter Graham Student Union, Robert B. House Undergraduate Library, and the Pit. Campus North is the primary interface between the campus and the Town of Chapel Hill.

There are numerous open space areas that link to the area's ecological and historical identity. These include McCorkle Place and the Old Well, Polk Place, Coker Arboretum, Battle Park and Forest Theatre, Kenan Woods, and the quads between residence halls and

other academic buildings. These places are both beautiful and important as natural areas where nature and people interact. There are also large facilities and developed areas in Campus North such as Hooker Fields, Kenan Stadium, Boshamer Stadium, and the Central Campus Athletic Complex, which have mature trees and open space adjacent to them.

Ecological Assets

Campus North is on a plateau at the head of several watersheds, including one to the north and the other to the east. Topography falls north and east with Kenan Stadium nestled within the head of the eastern watershed. Rams Head Recreation Center and Chase Dining Hall share the same relationship to the watershed. The size and beauty of Campus North's mature tree canopy are a commanding visual reminder of the ecological context of the campus.

Recently, the University has invested in a range of green infrastructure interventions

Views of spring on McCorkle Place around the Old Well



on Campus North that have focused on stormwater management and ecological restoration to help meet regional watershed treatment goals and permitting requirements. Examples include the Battle Grove regenerative stormwater conveyance system, rainwater cisterns at the FedEx Global Education Center and the Genome Central Park, and green roofs at the FedEx Global Education Center and Carrington Hall.

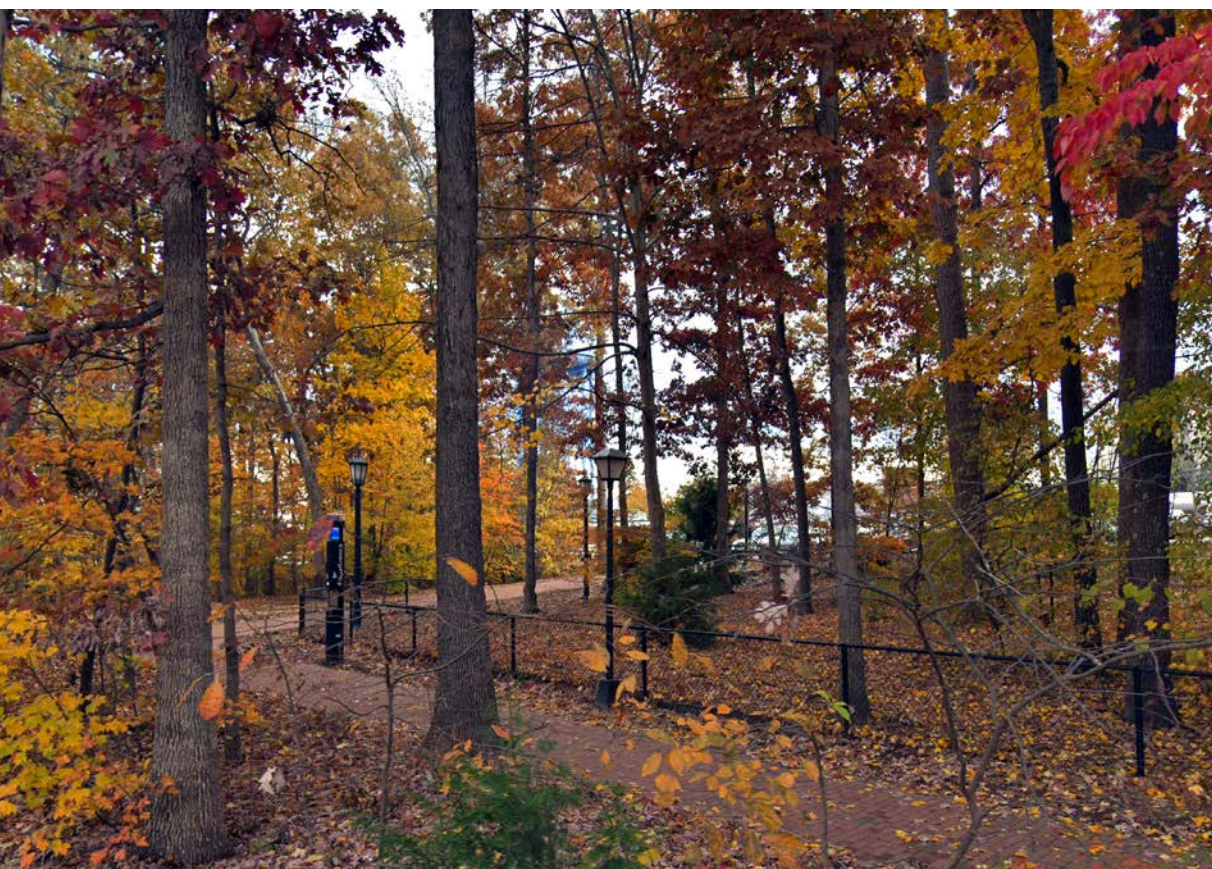
Trees are an integral ecological asset that define Campus North. Over 100 heritage trees—those with exceptional historical, cultural or aesthetic value—are located throughout Campus North. A mixture of mature primarily native tree species are a defining characteristic of McCorkle Place which includes trees that date back to the founding of the campus. A tree protection program and guidelines contribute to a long-term commitment to protect, preserve, and enhance the mature tree canopy on Campus North and campuswide.



Battle Grove regenerative stormwater conveyance system



Davie Poplar



Forested area adjacent to Kenan Stadium

Center Campus

In areas between South Road and Manning Drive, Center Campus is a transition zone with a blend of characteristics of Campus North and Campus South. It has similar topographic and ecological considerations to Campus South. The density and intensity of uses in this area—which include UNC Hospitals and a cluster of Athletics and Recreation facilities – have created mature, developed areas in this area that have shared characteristics to Campus North. South Road, the iconic Bell Tower and adjacent

Genome Sciences Building, Stone Cultural Center, and Coker academic buildings exhibit the scale and character of Campus North. Rams Head Center and residence halls to the east are influenced by the topography of Campus South and define open space and connectivity modeled after Campus North. Uses such as Kenan Stadium, UNC Hospitals, and recreation uses to the east exhibit the broader scale and larger open spaces of Campus South and represent a variety of architectural styles.

Campus South

Campus South refers to land on the Main Campus south of Manning Drive. Topography and slopes are defining features of Campus South that have informed its development. The University developed Campus South more recently than Campus North, and it includes a variety of large facilities such as UNC Hospitals and the medical research complex, the Dean E. Smith Center, and multiple large residence halls, whose construction on sites with moderate grades has molded the open space that exists today. The former Odum Village Graduate housing site occupies a significant swath of terraced, sloping land to the southeast of the hospital. Many of the parking resources for Main Campus are located within this area and are utilized for daily use, as well as for events and games at the Smith Center, Boshamer Stadium, and Kenan Stadium. Many campus utility infrastructure and facilities management functions are also located in Campus South.

Ecological Assets

Open spaces in Campus South may not be as iconic as locations on Campus North such as McCorkle Place, but they provide important ecological services and aesthetic appeal. Notable open space areas on Campus



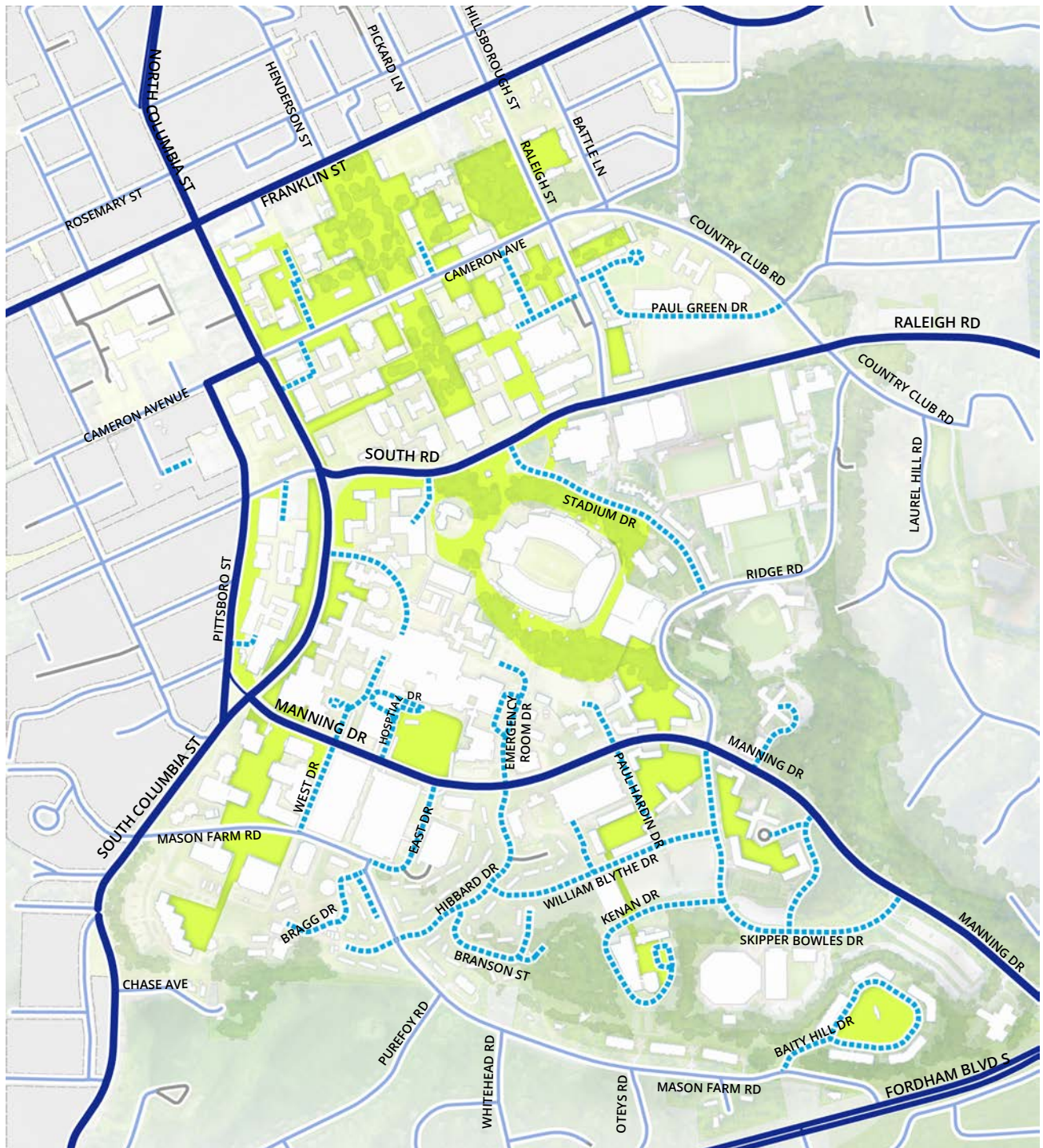
UNC Hospitals

South include the forested knoll west of the McColl Business School Building, the Pinetum, a forested area along Meeting of the Waters Creek northeast of Manning Drive, the forested area on Baity Hill, and various landscaped courtyards, entrances, and spaces between buildings and parking.

Campus South comprises a second tributary of Meeting of the Waters Creek, with UNC Hospitals on the north side and Cardinal and Dogwood parking decks on the south side. Existing development in the area largely predates today's more stringent water quality requirements.

Dean E. Smith Center





EXISTING STREET NETWORK

- NC DOT Maintained
- Town of Chapel Hill Maintained
- - - UNC Maintained
- Privately Maintained
- Primary Open Space



Pedestrian connection across Manning Drive

Main Campus Systems

Street Network

The main campus street network consists of streets owned by the North Carolina Department of Transportation (NCDOT), the Town of Chapel Hill, and the University. NCDOT owns and maintains the major roadways that provide regional access to the campus (NC 54, Fordham Boulevard, South Columbia Street, and Martin Luther King, Jr. Boulevard, South Road, Manning Drive), while the minor streets that provide access to and through the campus are owned by the Town and the University. Many of the intersections on campus are signalized. All of the signalized intersections on campus include amenities for pedestrians and many include detection for bicycles. Nearly all of the streets around campus carry public transit vehicles and bicycles as well as personal vehicles.

Pedestrian Network

The Main Campus has a well-established and robust pedestrian network. Intentional safety improvements to the network have been built since the early 2000s and continue to be built as opportunities arise. Paths connect major activity centers across the campus, with most major routes separated from vehicular traffic.

The landscape is well-maintained, providing a pleasant experience that defines the campus. Over time, the University has invested in bridges over major roadways and between buildings to better connect the north and south campuses.

Some locations on campus could benefit from an improved experience. Connections in Campus South can be confusing and the larger building blocks can be intimidating for pedestrians. Manning Drive is seen as a barrier by many; several pedestrian bridges span the road in densely developed areas but all are not well-integrated into the pedestrian network. Similarly, crossing South Road can be challenging at peak times, creating congestion for both pedestrians and drivers. Connections beyond the campus boundary are mixed with the quality of the pedestrian experience decreasing at several campus entrance points where the roads are more suburban in design. However, recent construction for the new Porthole Alley area, which focused on improvement of pedestrian and bicycle safety, demonstrate that there is a commitment to improving these connections.

Open Space Network

The University's landscape is irreplaceable and a defining feature of Carolina's campus and the institution itself. McCorkle Place and Polk Place, the University's iconic historic open spaces, form the backbone of an intricate network of quads and associated pedestrian pathway networks in Campus North. Refined and revised over numerous periods of campus growth, these quads maintain consistent use of materials and scale on the high point and plateau of Main Campus. Open space of varying character navigates more pronounced topography in Campus South and transitions to larger wooded landscapes that compose the eastern and southern boundaries of the Main Campus. The character of pedestrian connections through Campus South landscapes responds to broader context and topography. Collectively, the University's diverse network of open space holds both cultural and ecological significance that has persisted through generations of continued stewardship.



EXISTING OPEN SPACE NETWORK

- Primary Open Space
- Wooded Open Space Corridor
- Athletics/Recreation Field
- Primary Pedestrian Path
- Pedestrian Street Corridor

Bike Network

Bicycling has increased in popularity in recent years. In 2014, the University completed their first University Bicycle Master Plan and achieved a Silver Level “Bicycle Friendly University” status. The University implemented the Tar Heel Bikes bikeshare program in 2017 which includes 100 bikes that achieve over three rides per bike per day. Many campus streets have low speed limits, making them generally amenable for use by cyclists. Separated dedicated bicycle paths do not exist on campus, however many bicycle riders utilize internal campus shared use pathways. Painted on road bicycle lanes are located on South Columbia Street south of Medical Drive and Pittsboro Street from Cameron Avenue to South Columbia Street.

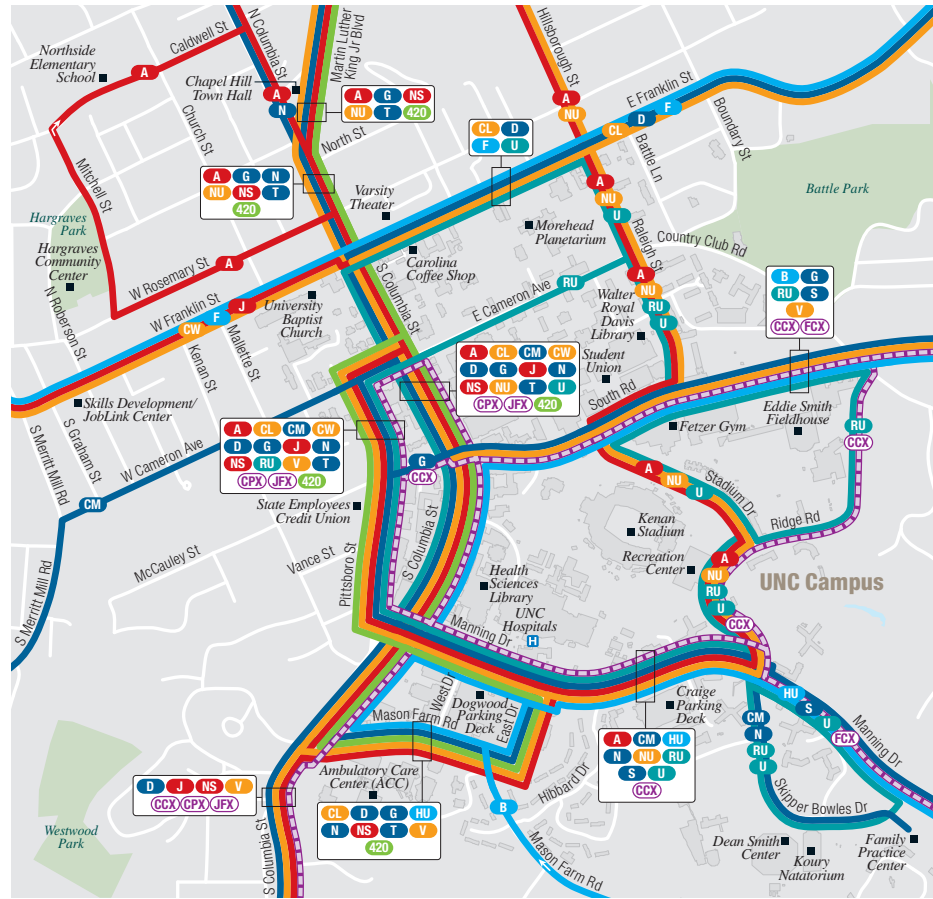


EXISTING BIKE NETWORK (Town of Chapel Hill Bike Map - 2018)

- Greenway/Sidepath - Paved
- - - Greenway/Sidepath - Unpaved
- == Bike Lane - Buffered
- == Bike Lane - Both sides of Street
- == Bike Lane - One side of Street
- • • Sharrow

Transit Network

For many students and employees, transit is an integral part of the campus experience. Chapel Hill Transit is fare-free and provides high-quality connections within Chapel Hill and Carrboro in addition to four express routes serving area park and ride locations. GoTriangle operates a number of regional transit routes connecting the campus to the entire Triangle region. The University has included a transit corridor alignment in its master plan since the 2001 plan. This corridor represents a commitment to regional transit and is flexible enough to address future needs.



CHAPEL HILL TRANSIT MAP



The University's Cogeneration Facility

Utilities

A combination of campus and public utility infrastructure provides efficient and reliable service. Steam is provided by the Cameron Ave. Cogeneration Facility and Manning Drive Steam Plant, while electrical power is produced by the Cameron Ave. Cogeneration Facility and purchased from Duke Energy through three 100 kV substations. Chilled Water is produced by four central chilled water plants (Cobb, North, Tomkins, and South). Water, wastewater, and reclaimed water are served by the Orange Water and Sewer Authority (OWASA), and Dominion Energy provides natural gas. Stormwater collection and management is accomplished through an extensive network of pipes and onsite engineered management solutions.

The University has made progress in reducing the intensity of energy and potable water consumption, as normalized by gross square footage. Overall energy use intensity (Btu per gross square foot) was reduced by 30% between FY03 and FY18. Additionally, improvements have been made in the plants and distribution systems to increase efficiency. The University's investment in reclaimed water and water efficiency projects resulted in a drop in potable water use intensity (gallons per gross square foot) of 50% between FY03 and FY18. Many opportunities to reduce the environmental impacts associated with utility production and consumption remain.

Stormwater

The Main Campus and outlying parcels discharge stormwater to the main watersheds in Chapel Hill, including Morgan Creek, Bolin Creek, and Booker Creek, all of which flow into B. Everett Jordan Lake, a drinking water reservoir for the region.

The University manages a comprehensive Stormwater Management Program driven by regulatory and sustainability factors. Like nearby towns, the campus holds a stormwater permit under the National Pollutant Discharge Elimination System (NPDES), which was first issued in 2007. In 2009, the Jordan Lake Nutrient Strategy became State law, prompting the University to adopt new stormwater requirements associated with development or redevelopment.

In 2014, UNC created a campus Stormwater Utility that helps to fund the maintenance of the extensive stormwater system that includes thousands of catch basins and manholes, over 50 miles of piping, and over 250 stormwater control measures (SCMs). The University's installations of innovative SCMs for high density development, such as rainwater harvesting, green roofs, and permeable pavement, serve as examples for stormwater professionals in North Carolina. The University completed a Stormwater Master Plan in 2014 that identifies additional stormwater projects needed to improve water quality, reduce flooding, or repair aging infrastructure.



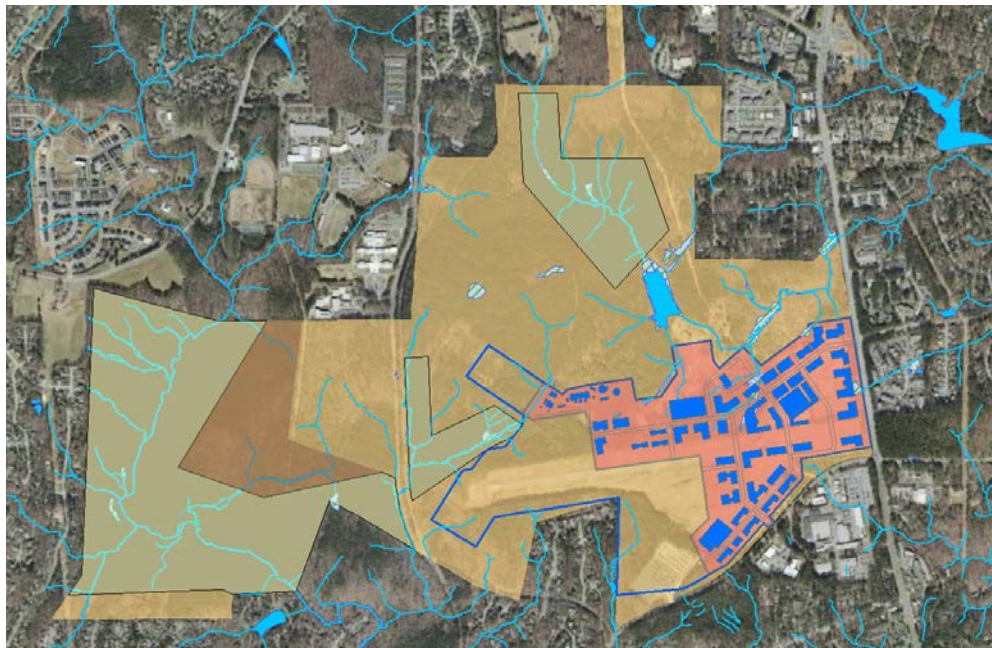
Examining water quality data at Meeting of Waters Creek at the North Carolina Botanical Garden

Outlying Parcels

This Master Plan also informs planning for several University satellite properties, including the Mason Farm Tract, and Carolina North. These properties support a wide range of natural resources and level of development that provide a variety of ecological services, such as carbon sequestration and wildlife habitat, and human services such as open space for recreation. Resources range in extent from University Lake (213 acres) to smaller ponds; larger regional streams such as Morgan Creek and Bolin Creek to smaller tributaries such as Crow Branch; wetlands of various sizes; large forested areas at Carolina North and Mason Farm and smaller forest patches interspersed throughout the entire campus; and a variety of areas that are less natural and more highly landscaped but still retain ecological benefits. It is the intent of this plan to conserve and expand the ecological services provided by these valuable natural resources for future generations.

Carolina North

Located about two miles north of main campus and west of Martin Luther King, Jr. Boulevard, the primary use of Carolina North was the Horace Williams Airport until its recent closure in 2018. Various facilities support functions are also located in the south-east quadrant of the site. A significant network of trails run through the site and provide recreational amenities for the town and University communities. "Respect the ecology of the site" was identified as an enduring theme of the 2007 Carolina North Master Plan, which concentrates future development on already disturbed land. Carolina North is approximately 1,000 acres and supports hundreds of acres of undeveloped open space.



2012 CAROLINA NORTH MASTER PLAN



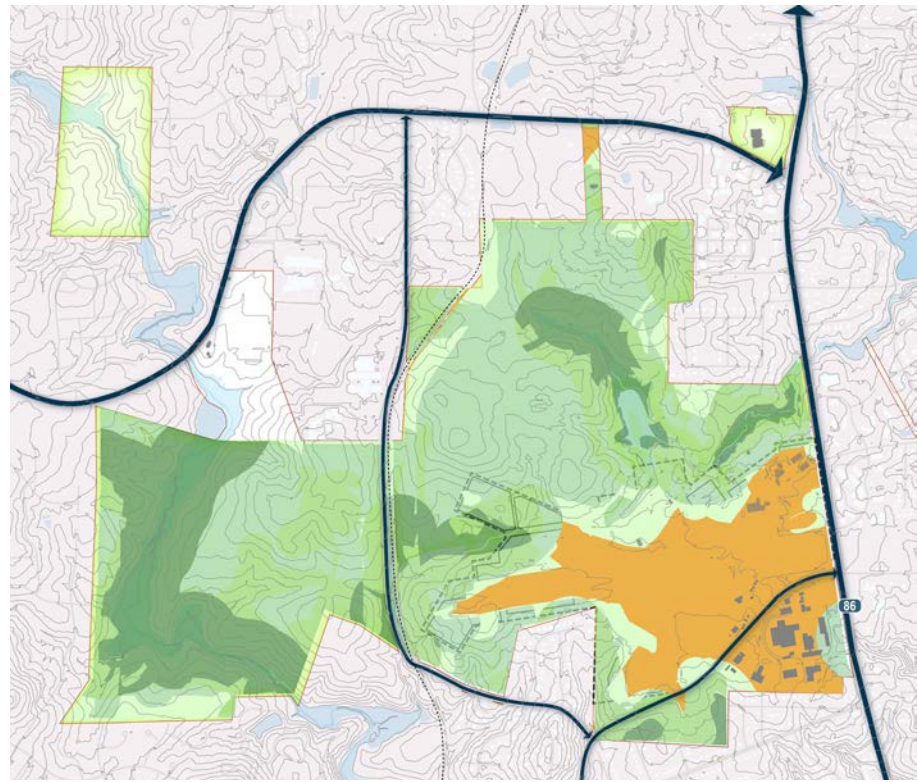
Environmental Assessment

As part of the 2009 20-year Development Agreement with the Town of Chapel Hill, the University agreed to permanently protect 258 acres of the tract in conservation easements, place 53 acres of the tract into the 100-Year Limited Development Area under conservation until 2109, and place 408 acres of the tract into the 50-Year Limited Development Areas under conservation until 2059.

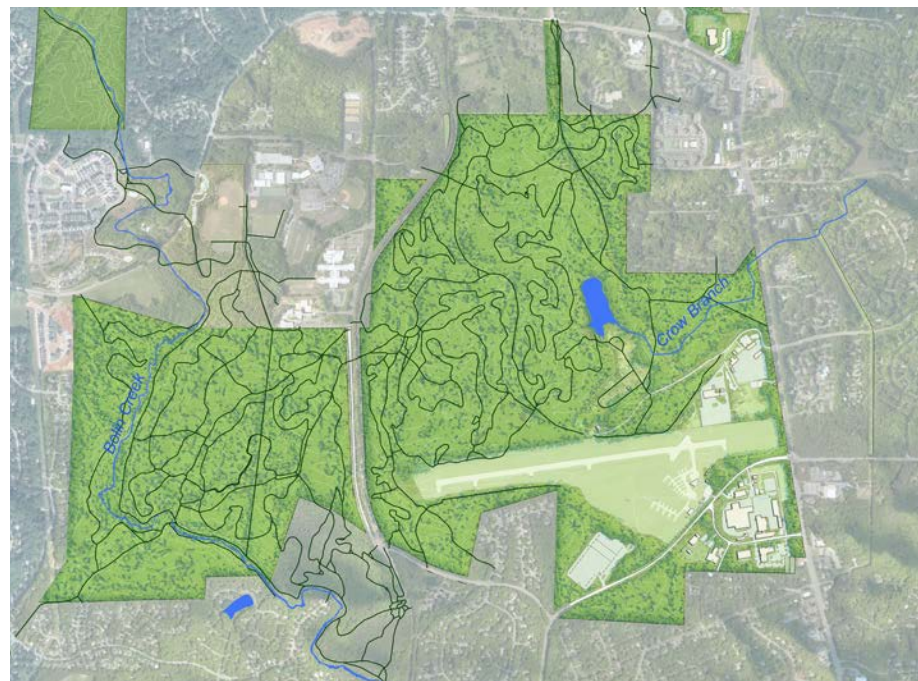
The predominant land cover type in the conservation easement and Protected Areas is forest, composed of a mix of pine and hardwood species. Bolin Creek flows through the western portion of Carolina North. There are wetlands, mostly forested, scattered throughout in low-lying areas and tributaries such as Crow Branch. These important natural resource areas provide a wide range of high value ecological functions. The Development Agreement, the Carolina North Land Stewardship Policy, the Carolina North Master Plan, the Carolina North Stormwater Master Plan, and the Army Corp Individual Permit are documents that provide specific guidance on the management of the natural resources at Carolina North, and ensure that careful consideration toward protection and conservation is given to all development activities at Carolina North in the future.

Transportation

Primary vehicular access to the Carolina North Forest is from Martin Luther King Jr. Boulevard, with secondary access into the former Horace Williams Airport area from Estes Drive Extension. There is a limited interior road network to serve the existing buildings used for various University purposes, and a vast hiking and biking trail system throughout the almost 1000 acre tract. A greenway segment was completed in 2014 to connect Homestead Road with the gravel Pumpkin Loop trail. Eventually this greenway will connect to Town of Chapel Hill trails on the north and south ends of Carolina North. Several transit routes provide service to and from the campus including the NU, which connects the RR parking lot to Main Campus.



CAROLINA NORTH ECOLOGICAL ANALYSIS



CAROLINA NORTH TRAIL NETWORK



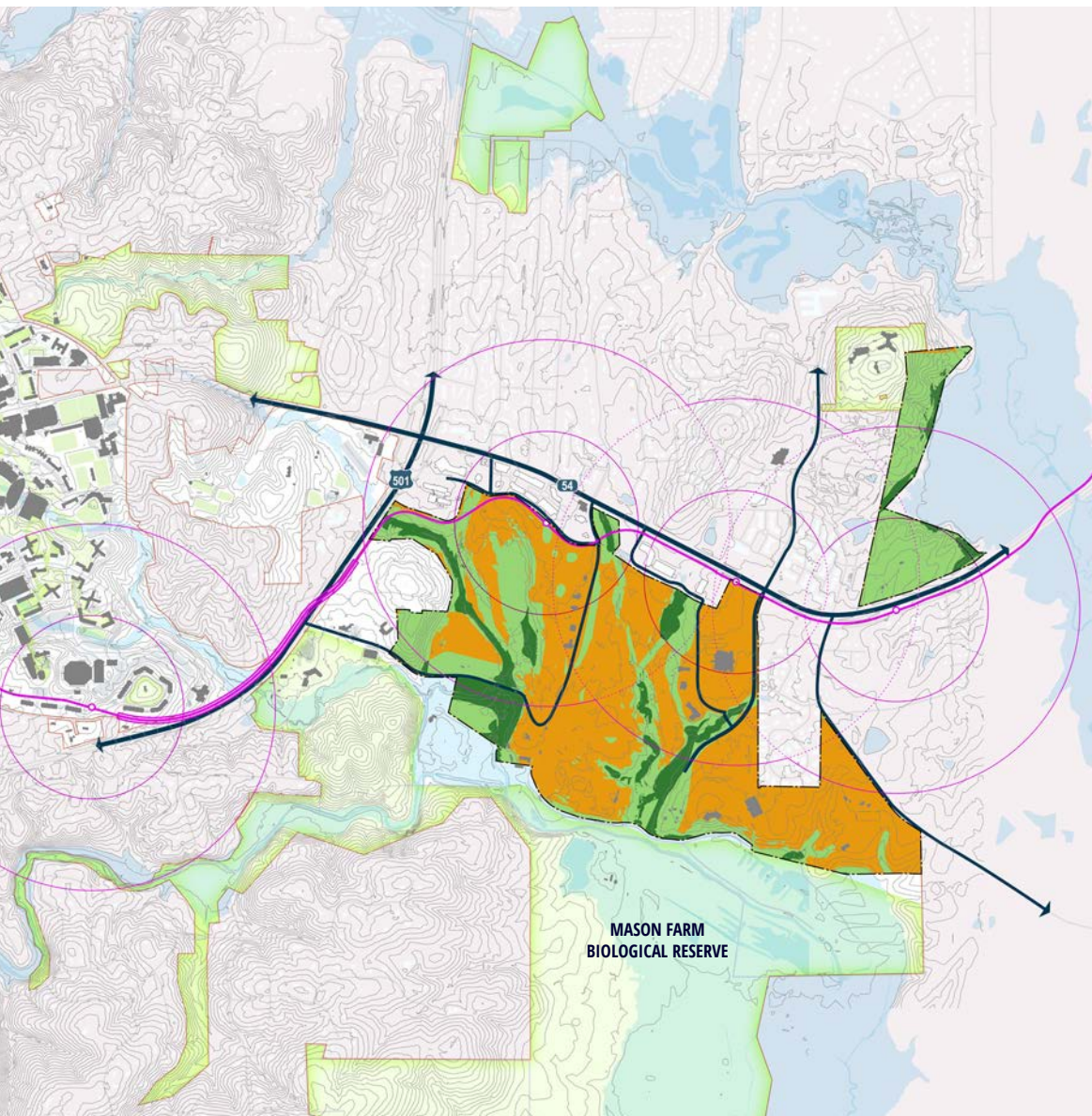
Mason Farm Tract

The Mason Farm Tract is located approximately one mile east of Campus South with primary access points from Fordham Boulevard and Raleigh Road. The Mason Farm Tract is the largest contiguous area of University-owned property and covers about 1,200 acres. Today, the Mason Farm Tract includes the Hedrick Building, the Friday Center, the University Child Care Center, park and ride facilities, the UNC Faculty-Staff Recreation Association, several Athletics facilities (the golf course, Finley Fields, and the Cone-Kenfield Tennis Center), and the North Carolina Botanical Garden. Mason Farm includes significant ecological and cultural assets including the Mason Farm Biological Reserve, North Carolina Botanical Garden, an Orange Water and Sewer Authority wastewater treatment plant, and others. The Mason Farm Biological Reserve is ranked as an “exceptional natural area” by the North Carolina Natural Heritage Program and is a valuable asset—containing intact landscapes continuously forested for thousands of years and used for University teaching and research.

Environmental Assessment

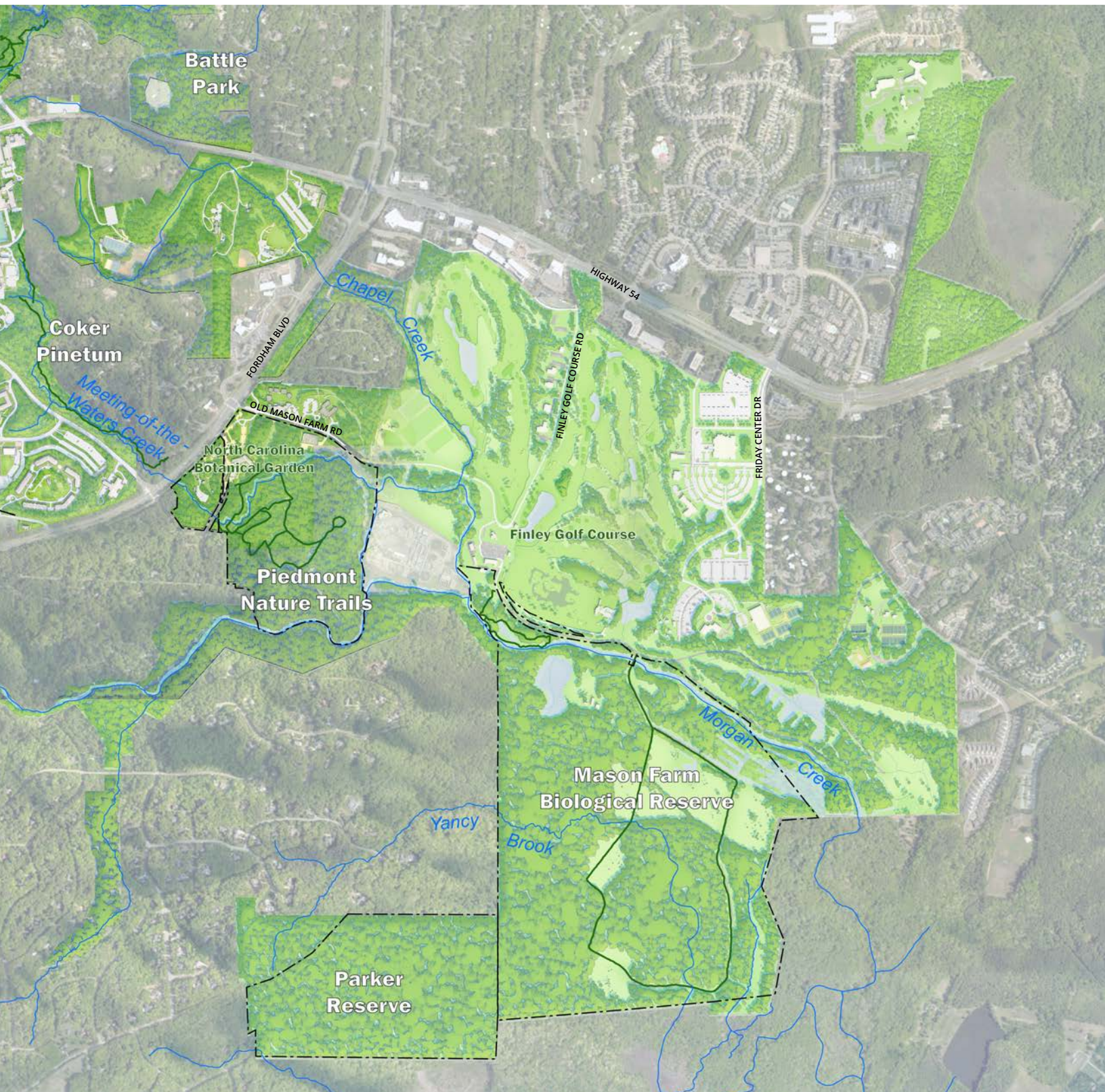
The Mason Farm Tract reflects a wide range of ecological value; from highly developed and built-upon areas such as the Friday Center to cultivated turf-dominated areas such as the athletic fields and golf course, to regionally important and valuable areas of biological diversity conservation areas of the North Carolina Botanical Garden, the Mason Farm Biological Reserve, and the Parker Preserve. About 546 acres have been dedicated for preservation or use by the North Carolina Botanical Garden, including 367 acres at the Mason Farm Biological Reserve. Another 258 acres are used for athletics and recreational activities, including the Finley Golf Course.

Morgan Creek, a prominent water resource for the Chapel Hill area, flows through this property, and its 100-year floodplain is an important feature of the Mason Farm Biological Reserve property from an ecological and development perspective. There are also many smaller tributaries to Morgan Creek that flow through the property, which provide additional aquatic habitat. Wetlands occur on the site, generally in low-lying areas near stream channels. The North Carolina Botanical Garden, Mason Farm Biological Reserve, and the Parker Preserve support hundreds of acres of diverse and mature forest. This area has been identified by the North Carolina Natural Heritage Program as a regionally important natural area, supporting increasingly rare and valuable flora, fauna, and wildlife habitat and the ecosystem services they provide. As such, these areas present important and irreplaceable research opportunities for University faculty, staff, and students.



MASON FARM TRACT ECOLOGICAL ANALYSIS

- | | |
|--|---|
| Avoid Impact | Primary Roads |
| Minimize Impact | Future Regional Transit Corridor |
| Developable Area | Future Regional Transit Corridor walking radius |



MASON FARM TRACT EXISTING CONDITIONS

Transportation

The Mason Farm Tract has several connections to the existing transportation network. The primary connection points are at NC 54, though a secondary access connects to Fordham Boulevard. These access points experience very high vehicle volume today and several are at near-failing levels of service. Internal connections are limited by the golf course, floodplains, and other natural resources. Most roads are narrow and lack pedestrian and bicycle accommodations, but vehicle speeds and volumes are low. A network of trails at the Botanical Garden and trail loops south of Finley Golf Course offer internal access to the area.

The HU and FCX bus routes provide direct transit connections from the Mason Farm Tract to Main Campus. These are supplemented by the S and V routes. Connection to Main Campus on foot or by bicycle is possible, though traffic can make the connection uncomfortable in sections where the route travels adjacent to Fordham Boulevard.



Carolina

FOR
ALL
KIND

the CAMPAIGN for CAROLINA

25 YEARS

UILDING

BIG IDEAS

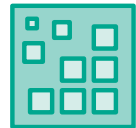
The 2019 Master Plan envisions three interrelated ideas that will drive transformative physical planning campuswide: welcome, connections, and hubs. These big ideas, closely aligned with the University's strategic framework, are the conceptual foundation for implementing individual projects. Participants in the planning process suggested many potential ways these ideas could influence the physical campus over time and meet goals set by the University's strategic initiatives.



WELCOME



CONNECTIONS



HUBS



WELCOME: ENHANCE THE VISITOR EXPERIENCE

PILLARS

Of the Public, For the Public

STRATEGIC INITIATIVES

The New Graduate

Culture of Innovation

Arts Everywhere

UNC-Chapel Hill is of and for the public. Its community encompasses students, faculty, staff, patients, partners, spectators, and guests engaging with the campus for a multitude of reasons including classes, health care, events, athletics, and admissions tours. While the Carolina community is warm and welcoming, the campus can be confusing for guests and challenging to navigate. A combination of wayfinding, transportation, and building strategies have the potential to improve the visitor experience and communicate the unique and enduring qualities of Carolina.



WELCOME

- Enhanced Arrival Points
- Future Transit Alignment to be preserved
- Major Vehicular Circulation
- Existing Visitor Touchpoint
- New/Enhanced Visitor Touchpoint

Visitor touch and arrival points facilitate a variety of high-quality visitor experiences.



Undergraduate Admissions Office at Jackson Hall

Entry and Arrival

Some components of improving the arrival sequence are explicit such as enhanced transportation options and improved wayfinding and signage. Multimodal transportation access to Main Campus including bus, vehicular, pedestrian, bike, and regional transit is important to ensuring all populations have access to campus resources.

The visitor experience is also defined by atmosphere and emotion in a sequence that begins before entering the University and involves three phases: approach, arrival, and then entry. The approach sequence is defined by the route a visitor travels through Chapel Hill. Arrival is defined by a series of thresholds signaling a transition to campus, and entry when a signature University landmark is reached. From each direction, a successful approach, arrival, and entry sequence for first time, returning, and daily visitors with different needs requires careful choreography.

Visitor Engagement

Opportunities exist to engage visitors with the physical campus and communicate a diverse array of academic, recreational, and creative activity. Projects of all sizes and scope can enhance the visitor experience by providing and improving spaces that people can see and engage with as they travel through campus. New building projects and major renovations should prioritize openness and transparency in public-facing portions of the building and cluster outward-facing functions in prominent, accessible locations. While all projects can contribute to the goal of a welcoming campus, buildings and landscapes in strategic edge locations of campus along major travel routes can have a more significant impact on visitor experience and welcome. The Porthole Alley Redevelopment project, for example, creates a place where the University can showcase programs and visitor resources at a major campus entry and builds upon recently completed landscape investments to make the area more welcoming.

Outlying parcels at Carolina North and Mason Farm Tract are important assets to provide convenient access to the Carolina experience for populations who may not want or need to engage with the Main Campus. Leveraging outlying parcels such as the Friday Center, with planned convenient multimodal access, can support an increasing nontraditional student population and a diverse visitor population.

What would it look like to have a more welcoming campus?

The following recommendations are based on stakeholder input throughout the planning process and will be realized through both campuswide planning and individual building projects.

- Improve wayfinding and signage on campus and at primary approach, arrival, and entry locations. Solutions may require partnership with the Town of Chapel Hill.
- Enhance east-west and north-south pedestrian and bicycle corridor connectivity and safety.
- Ensure convenient multimodal access to campus for visitors.
- Support an increasing nontraditional student population.
- Promote architecture for new buildings and major renovations that increases openness and transparency.
- Leverage outlying parcels such as the Friday Center with convenient multimodal access and future development potential.
- Reinforce and emphasize the character of Carolina through buildings, landscapes, and branding.
- Strive for convenient parking resources for visitors without compromising the campus pedestrian environment.
- Ensure that the Visitor Center and Admissions buildings fall logically into the arrival sequence.
- Cluster outward-facing and independent functions to create critical mass.



A PORTHOLE ALLEY REDEVELOPMENT

Located at the threshold between the Town and University, the Master Plan envisions Porthole Alley's Franklin Street location as a gateway to campus, Carolina arts, and innovation. Redevelopment could include multitenant office uses, innovation space, and retail. A new visitors center is in progress and nearly complete. The proposed redevelopment should preserve the scale of the block of 100 E. Franklin St. and enhance the existing alley as a part of a pedestrian corridor connecting Franklin Street and Cameron Avenue.

Feature Project: Upper Quad Redevelopment

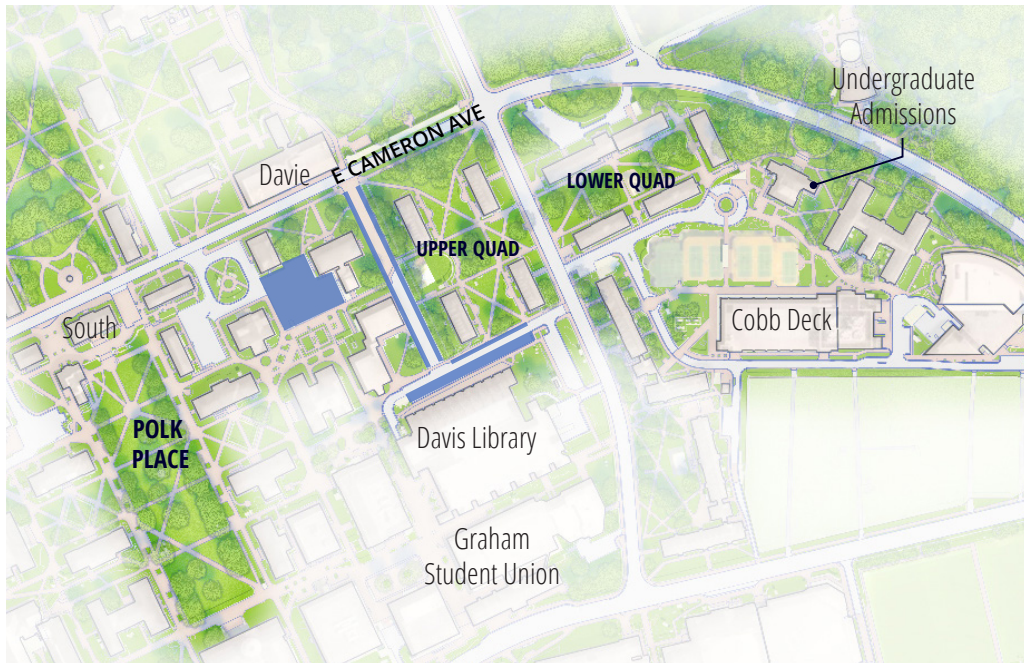
Upper Quad, defined by the residence hall complex of Grimes, Manly, Ruffin, and Mangum, is an exciting opportunity to reimagine the quad with a combination of new and renovated buildings that welcome the entire campus community. Over the long term, the existing traditional-style halls are not anticipated to be needed for housing. The plan proposes the long-term redevelopment of Grimes and Ruffin and renovation of Manly and Magnum to create new academic or administrative capacity in the core of campus. This will be a significant long-term opportunity to create a dynamic mix of campus spaces within the historic context of the campus center.

The plan also proposes landscape improvements that could be completed in the near term. Creating a direct, high-quality connection between Admissions and Polk Place could create an improved tour route for visitors. The campus tour is often the first impression on prospective students and parents; how the tour presents the campus is an important component of the visitor experience. By removing some parking along the service drive and in the surface lot, a clear path from Admissions to Polk Place could be created to strengthen east-west connections. Adding new parking spaces adjacent to Davis Library means this proposal could result in a net loss of only six parking spaces.

Upper Quad is also an opportunity to retrofit stormwater control and treatment measures in the quad, treating stormwater as a resource and a feature. The landscape could consist of both bioretention/wetland areas treating stormwater, lawn, and tree areas in the context with surrounding historic landscapes. The flow from treatment measures on Upper Quad could flow directly into the regenerative stormwater conveyance at Battle Grove, which effectively enhances stormwater management on Campus North. Incorporating bioretention/wetland areas will also help the University support the Three Zeros Environmental Initiative and provide an opportunity for a living classroom venue as part of the Battle Grove stormwater treatment complex.

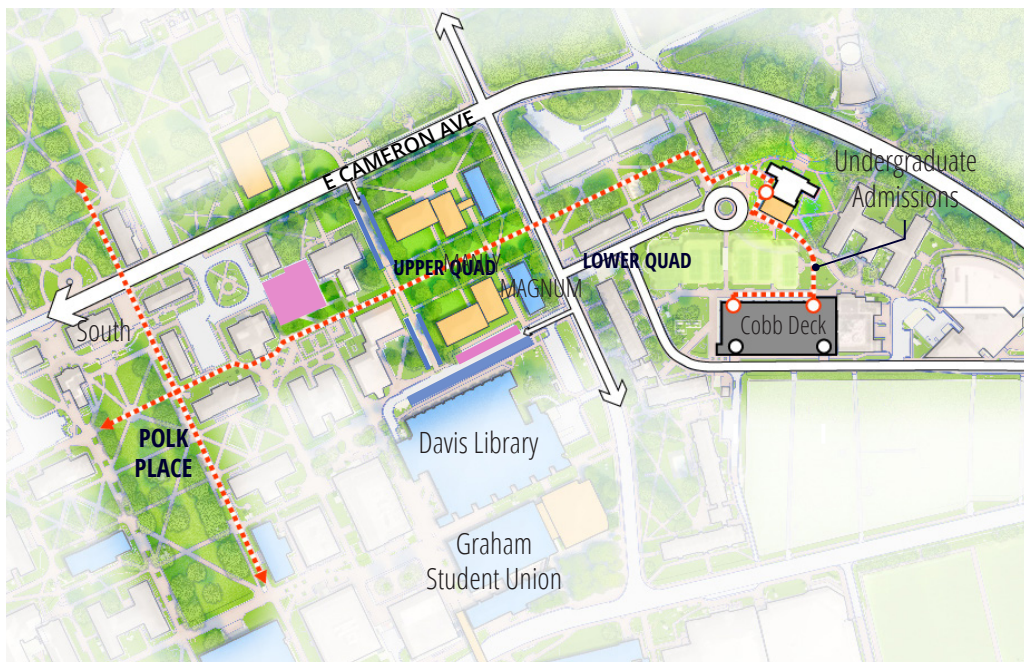


Ecological Landscape Feature | Emory University



UPPER QUAD EXISTING CONDITIONS

- Existing Surface Parking



UPPER QUAD CONCEPT: NET PARKING LOSS 6 SPACES

- Proposed Surface Parking
- Existing Surface Parking
- Renovated or Repurposed Building
- New Building
- Potential Visitor Corridor

PILLARS

Innovation Made Fundamental

STRATEGIC INITIATIVES

The Great Convergence

Modernizing Student Support

Culture of Innovation

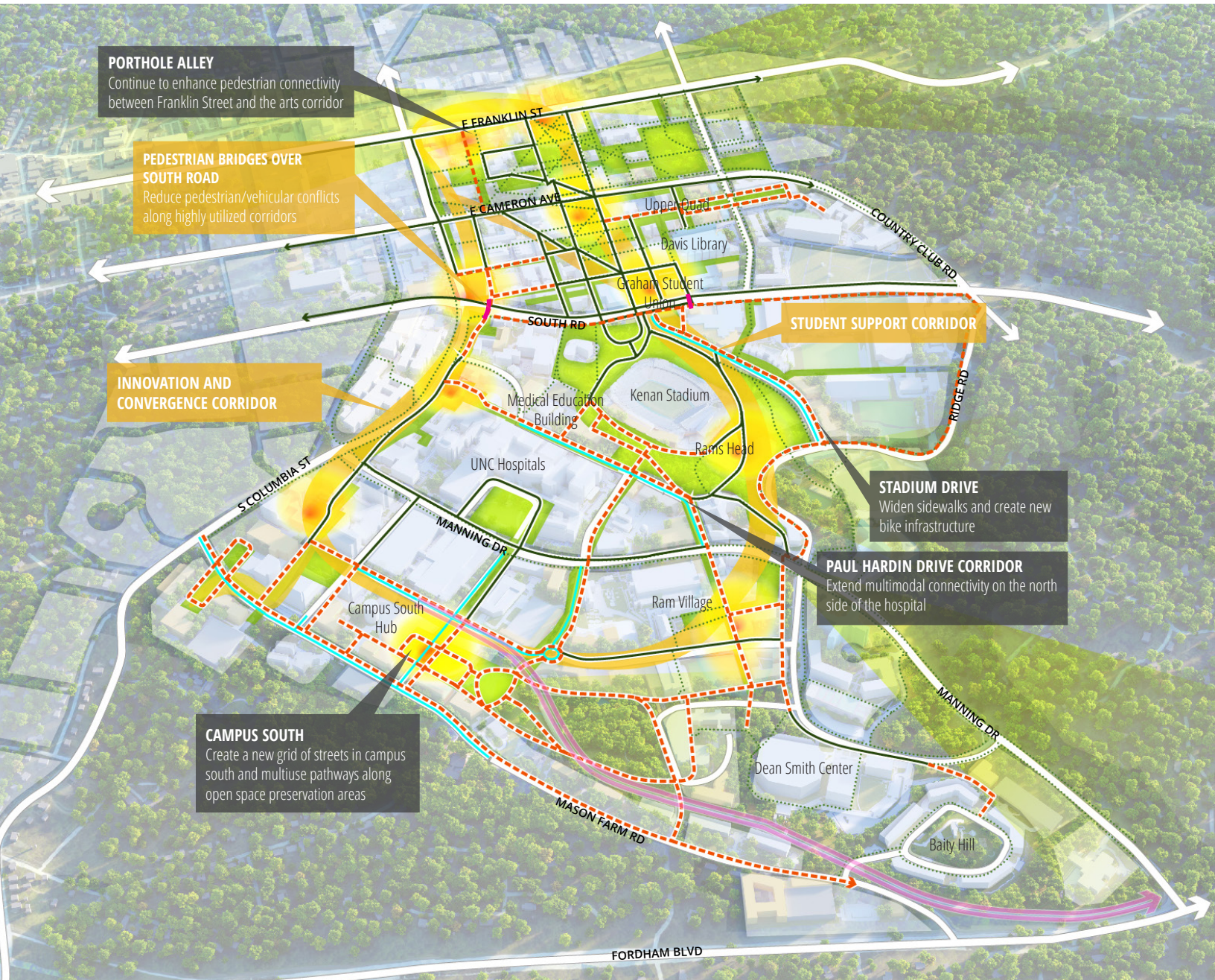
Arts Everywhere



CONNECTIONS: ENHANCE A COMPREHENSIVE NETWORK OF PEDESTRIAN, VEHICULAR, BIKE AND TRANSIT CONNECTIONS

The built environment is a powerful tool to connect people and place. The Master Plan enhances Carolina's unique interconnected campus network of landscapes, streets, and paths that facilitate pedestrian, vehicle, bike, and transit connections within campus and to the broader community. High-quality connections incorporate multiple components including lighting, materials, planting, art, signage, and wayfinding that contribute to overall comfort and safety.

The Master Plan identifies a mix of new connection opportunities that enhance existing connectivity along two thematic campus community corridors. A research corridor on the west edge of campus links the Campus North science complex and the Health Sciences buildings. A student experience corridor to the east encompasses multiple residence halls and student amenities including The Pit, Davis Library, the Student Union, and the Rams Head Center. There is already strong connectivity within these corridors that new projects can enhance in order to provide a quality pedestrian experience for large volumes. Outside of the corridors, the connectivity network must provide access to all key campus resources. Often, topography makes it challenging to create an intuitive connection, but the plan identifies several opportunities to introduce new connections.



CONNECTIONS

- | | |
|---|--|
| ■ Major Thematic Corridor | — Primary Pedestrian Connection |
| ● Activity Node | ... Secondary Pedestrian Connection |
| ■ Open Space Network | - - - Potential New or Enhanced Pedestrian Connection |
| — Proposed Pedestrian Bridge | — Potential New or Enhanced Street Connection |
| — Future Transit Alignment to be preserved | |

Proposed pedestrian and vehicular connection improvements enhance campus connectivity along thematic corridors through a series of open spaces.



A MEDICAL EDUCATION BUILDING

Replacing Berryhill Hall, the Medical Education Building is set to open in 2022 to deliver a modern, cutting-edge curriculum to accommodate a growing physician program. The building further integrates the UNC Health Care System with the School of Medicine and promotes translational education. This project will also improve the pedestrian experience crossing the site east-west from Medical Drive to South Columbia Street.

B S1 LOT GARAGE

The S1 Lot Garage will expand parking resources on the existing S1 surface parking lot east of the hospital. Design of the proposed garage will be closely coordinated with the adjacent Hospital Central Generator Plant utility infrastructure project and the Paul Hardin Drive Corridor project. This project will build one piece of the extended Paul Hardin Drive, better defining the travel route for both bicycles and pedestrians.

C HOSPITAL CENTRAL GENERATOR PLANT

The proposed backup generator sited on the S1 surface lot will provide required independent power redundancy to UNC Hospitals and the Surgical Tower project. Located adjacent to a major pedestrian corridor, the design of the facility should promote connectivity goals and prioritize the pedestrian experience. Both the central generator plant and the proposed S1 Lot Garage will contribute to building a part of the proposed Paul Hardin Drive Extension.

D KENAN-FLAGLER BUSINESS SCHOOL EXPANSION

An expansion to the Kenan-Flagler Business School is proposed to accommodate growth of the undergraduate program, meet space needs for faculty offices, and provide additional study space and amenities for students and faculty. Beyond meeting space needs, the expansion will improve the quality of facilities to compete with peer institutions and recruit top students and faculty. This facility will connect pedestrians directly to William Blythe Drive, giving the Business School a more public face and enhancing north-south connections for pedestrians, bus transit, and bicyclists.

What would it look like to have a more connected campus?

- Enhance the campus open space network with each new project
- Create a rich network with north-south and east-west connections that manage significant changes in topography across campus.
- Create a grid of multimodal streets in Campus South.
- Establish new connections to remote academic resources, such as the expanded Kenan-Flagler Business School.
- Improve pedestrian amenities and prioritize pedestrian access over other modes, where possible.
- Continue to improve accessibility for a diversity of users and create accessible pedestrian connections where physically feasible.
- Emphasize intuitive visual connections.
- Encourage a robust variety of transportation modes—bike, bus, pedestrian, and car—to facilitate connections within campus and to the broader community.

Feature Project: Paul Hardin Drive Corridor

The Master Plan proposes extending the Paul Hardin Drive corridor after relocating current occupants of Medical School Wings B, C, D, E, and F and demolishing these buildings. The proposed extension is an opportunity to improve connectivity between the academic campus, hospital, and health affairs campus; enhance the Kenan Woods on

the south side of Kenan Stadium; and allow for pedestrian, bike, bus, and service access through the area. The extension improves visual connections to the proposed Medical Education Building and enables multiple new building sites including the S1 Lot Garage, Hospital Central Generator Plant, and redevelopment of the Taylor Campus Health building. The proposed multimodal street would not be open to daily vehicular traffic.

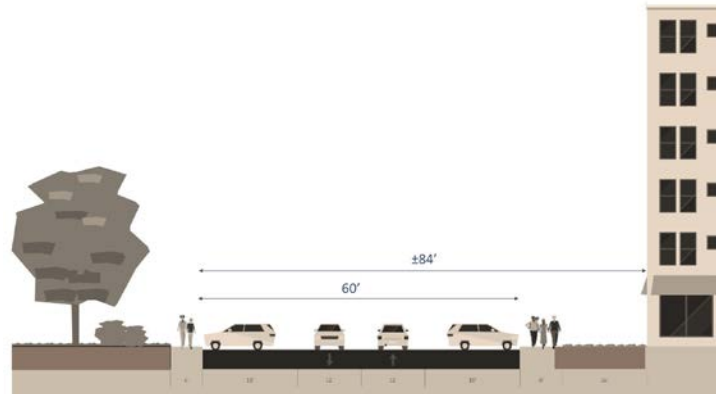


PAUL HARDIN DRIVE CORRIDOR CONCEPT

- Proposed New Construction
- Proposed Parking Garage
- Paul Hardin Drive Extension

Feature Project: Stadium Drive

Stadium Drive is a University-owned street that provides a critical travel route within the center of campus. Dense parking and limited sidewalks, however, are incongruous with the surrounding landscape and do not promote pedestrian and bicycle circulation. The Master Plan envisions a redesigned street with enhanced pedestrian and bicycle infrastructure, improved landscape, and a modest reduction in parking. The improvements will reinforce the quality and importance of this corridor connecting The Pit and Rams Head Center. This improved pedestrian environment along Stadium Drive will also complement reconstruction of the Parker and Teague residence halls with active ground floor uses. This project will also enhance the football game day experience for tailgating.



Stadium Drive Existing Section

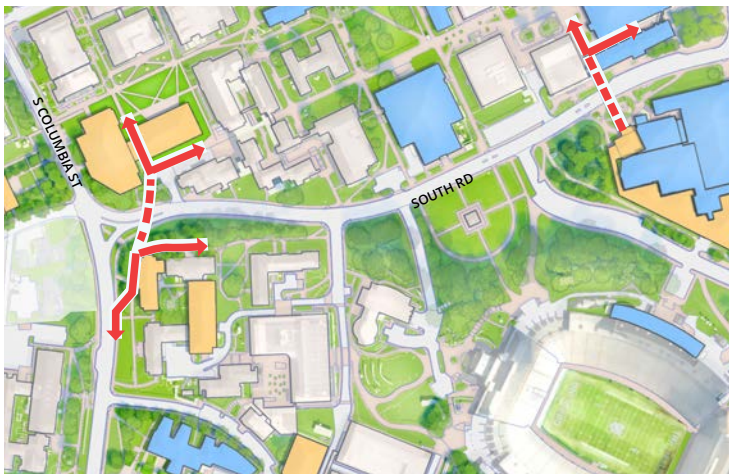


Feature Project: Pedestrian bridges over South Road

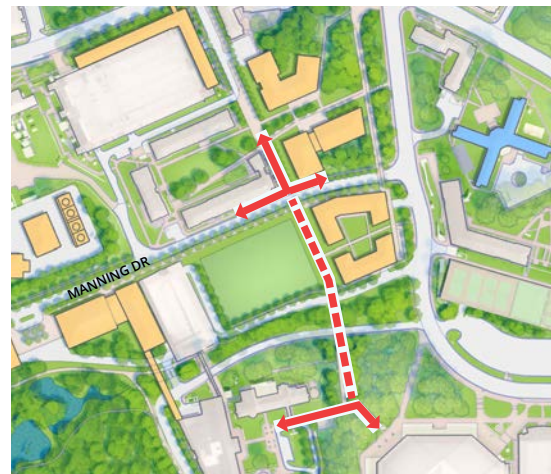
South Road is a key transportation corridor on the campus but is challenging for all who use it. Pedestrians face heavy vehicle volumes reducing the quality of their experience and overall safety; buses and vehicles are slowed by pedestrians and must remain alert to jaywalkers; pedestrians and cyclists traveling north-south must traverse stairs on the north side of the street. To reduce these conflicts and enhance the experience for all users, the Master Plan identifies locations for two bridges over South Road that were informed by previous studies. Additional studies are required to determine the final locations. These bridges will reinforce key north-south pedestrian corridors, helping to promote activity and exchange across the entire Carolina campus. Both take advantage of the terrain, allowing them to fit into the landscape, the proposed Student Recreation Center expansion, and the expansion of the Science Complex. In addition to enhancing connectivity, the bridges provide a visual cue for drivers marking their entry onto campus. Prior to or concurrently with the building of the bridges, the east-west pedestrian/bicycle corridors should also be improved.

Feature Project: Connections through the Skipper Bowles parking lot

The Skipper Bowles parking lot is an important parking resource in Campus South, but the area surrounding the lot has connectivity limitations that are exacerbated by topography. These make it particularly challenging to access the Kenan-Flagler Business School and its proposed expansion. In the near term, an elevated walkway could facilitate easier access to the Business School and reduce conflicts between pedestrians and vehicles during events at the Smith Center. Adjustments to the Business School parking deck could further enhance vehicular, bike, and pedestrian connections to the Business School. There are important utilities infrastructure and stormwater management concerns that will need to be resolved to redevelop the Skipper Bowles parking lot; however, the site could accommodate important additional capacity for a range of potential uses in the long term. By taking advantage of the site's topography, new facilities would further strengthen connections in this area.



Potential Pedestrian Bridges Over South Road



*Potential Connections Through the
Skipper Bowles Parking Lot*

- Potential Pedestrian Bridge
- Pedestrian Pathway

PILLARS

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The Great Convergence

Modernizing Student Support

Culture of Innovation

Arts Everywhere



HUBS:

ENCOURAGE A DYNAMIC MIX OF USES AND PROGRAMS IN EACH BUILDING AND WITHIN DISTRICTS AT KEY NODES ON CAMPUS

Proximity and a diversity of uses shape strong communities. Hubs are intentional, strategic mixes of uses that encourage creative collisions between faculty and students from different disciplines. They facilitate collaboration and vibrancy throughout the day as opposed to isolation and single-use patterns and reinforce the culture of innovation that the University aspires to have. Hubs have a variety of scales, from one thousand square feet of renovated space in an aging building to whole campus neighborhoods of over 1 million square feet in the proposed Campus South Hub. Hubs can include a range of programs including shared resources for collaboration that support innovation, entrepreneurship, and student success as well as recreation, food service, and other amenities.



HUBS

- Existing Innovation and Convergence Hubs
- ⊕ Potential Innovation and Convergence Hubs
- Existing Student Success Hub
- ⊕ Potential Locations Student Success Hubs
- Campus Engagement Hub
- ⊕ Potential Locations, Campus Engagement Hub
- Mixed-use Innovation Hub Cluster
- Future Transit Alignment to be preserved
- Millennial Campus Designation
- Open Space Network

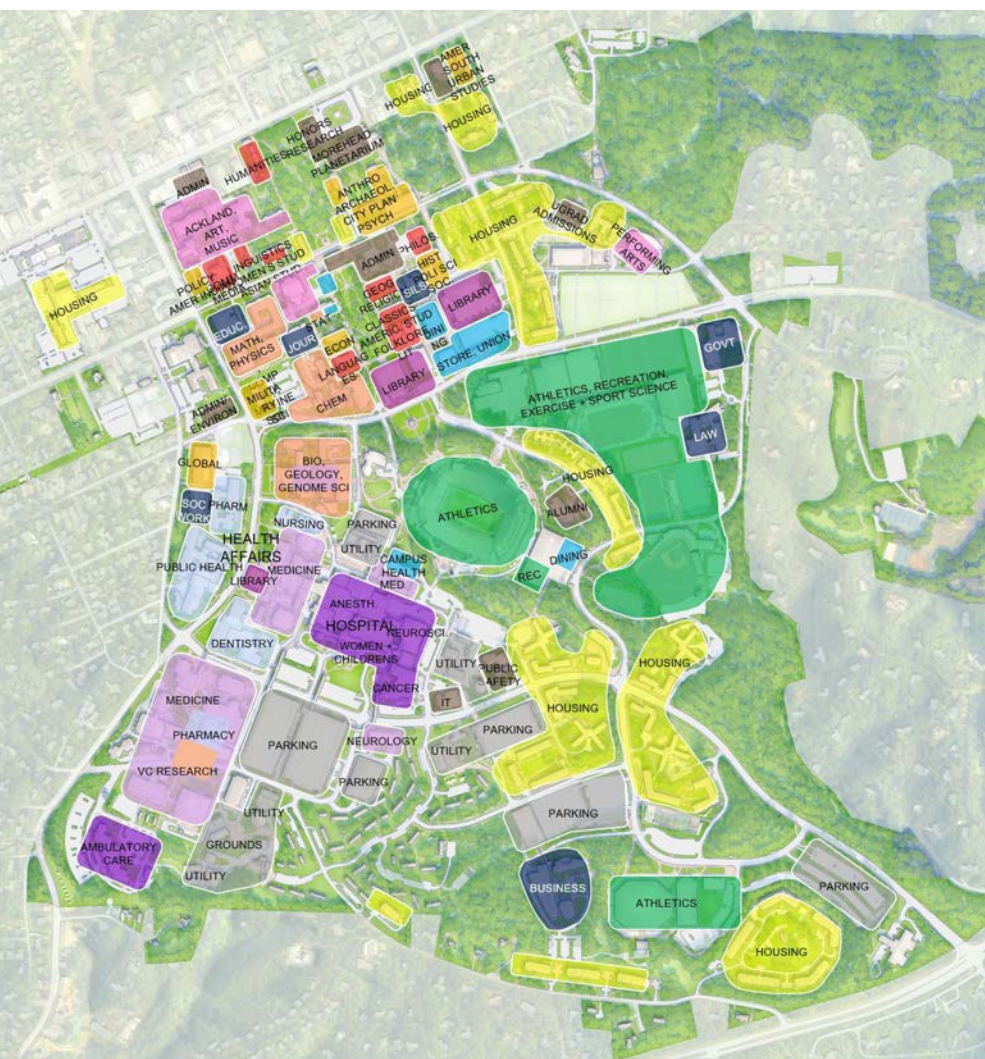
Potential hub locations and a coordinated housing strategy cluster mixed-use activity to support innovation and strategic initiatives.

Today, some areas of campus have a rich mix of different uses, while others are used predominantly for a single type of activity. Campus North contains a rich variety of proximate academic, administrative, housing, and student support uses built over time and connected by a mature network of open spaces. Infill projects in this area, like the proposed Institute for Convergent Science and Interdisciplinary Sciences Building, can serve to further diversify and activate the campus.

Campus South, in contrast, consists of larger areas of single uses such as UNC Hospitals, athletic venues, medical research facilities,

parking facilities, and housing clusters with limited connectivity due in part to challenging topography. Redeveloping Odum Village into the Campus South Hub will transform this area of Campus South, creating a new gathering destination on campus through a series of buildings for varying uses, landscape, and infrastructure projects. Incorporating graduate student housing into this area creates greater diversity of users and supports planned recreation uses and amenities.

Student support hubs of varying scale are also envisioned as a modern approach to student experience that distributes counseling and



EXISTING CAMPUS USES

- Administration, Special Facilities
- Athletics, Recreation
- Fine Arts
- Hospital
- Housing Student
- Humanities
- Library
- Medicine
- Natural Sciences and Mathematics
- Other Health Affairs
- Other Schools and Colleges
- Services
- Social Sciences

other support resources throughout campus. Various locations campuswide are suitable for such hubs in a combination of academic, administrative, and housing buildings.

Comprehensive realignment of the housing inventory through major renovations and replacement presents opportunities for student support hubs and other amenities. The plan calls for major renovations in Ehringhaus and Hinton James residence halls, replacement of Parker and Teague, and potential long-term replacement of Craige residence hall with academic and/or housing uses.

How can we create a diversity of hubs on campus?

- Identify opportunities to establish mixed-use spaces for gathering through building renovations and in new construction projects located along key campus corridors.
- Leverage the redevelopment of Odum Village to create a mixed-use, transit-oriented hub.
- Carefully program hub spaces to generate activity, enable creative collisions, foster community, and increase vibrancy. Potential hub program elements include:
 - Entrepreneurship and partnership space.
 - Collaboration space for faculty and students of different disciplines.
 - Resources to support innovation and convergence in key areas of academic inquiry.
 - Counseling and other student support services.
 - Holistic health and wellness resources including open space and outdoor recreation.
 - Amenities to enhance the residential experience.
 - Food service where demand supports it.



A INTERDISCIPLINARY SCIENCES BUILDING

The proposed Interdisciplinary Sciences Building, to be sited adjacent to the Institute for Convergent Science, will house strategically aligned College of Arts and Sciences departments, such as psychology and physics. It will allow for improvements to Davie Hall, including possible redevelopment. Preliminary development of building programs and requirements is ongoing.

B INSTITUTE FOR CONVERGENT SCIENCE

A new building at the site of the current Naval Armory (NROTC) building will bring together medicine, engineering, and physical and life science disciplines to foster collaboration and improve Carolina's competitive advantage for multidisciplinary research funding. The facility will house Biomedical Engineering (BME) and Applied Physical Sciences (APS) departments and allocate a dedicated floor for innovation programming. Space in the new facility will enable opportunities for strategic backfill and space for industry partners, particularly in Kenan Labs.

C TRANSLATIONAL RESEARCH BUILDING (TRB)

Open labs, space for industry partners, and a consolidated vivarium are proposed for a new facility located in Campus South adjacent to the hospital and innovation center uses.

D COMMERCIALIZATION WET LAB BUILDING

This facility will house wet lab space for maturing companies and corporate partners focused on commercialization of ideas.

Feature Project: Campus South Hub

Campus South presents an opportunity for a large mixed-use hub replacing the former Odum Village apartments. The University Master Plan envisions a transformation of the area with redevelopment capacity for new buildings focused on research and entrepreneurship—like the Translational Research Building (TRB) and the Biotechnology Collaboration Building (BCB)—as well as graduate student housing. Amenities such as retail, recreation, and other strategic uses organized within an enhanced landscape and road network will activate the hub. The Master Plan reserves land for a future regional transit corridor with a stop adjacent to the mixed-use hub.

The objectives of the Campus South Hub redevelopment are to:

- Create a vibrant activity hub at all times of day.
- Attract a broad mix of people and provide reasons to linger.
- Advance the Three Zeros Environmental Initiative.
- Promote health, wellness, and the arts.
- Enhance connectivity and capitalize on planned transit.
- Establish a welcoming arrival sequence.



(Left to Right)

Penn Park, Philadelphia, PA | Image Credit: Michael Van Valkenburgh Associates

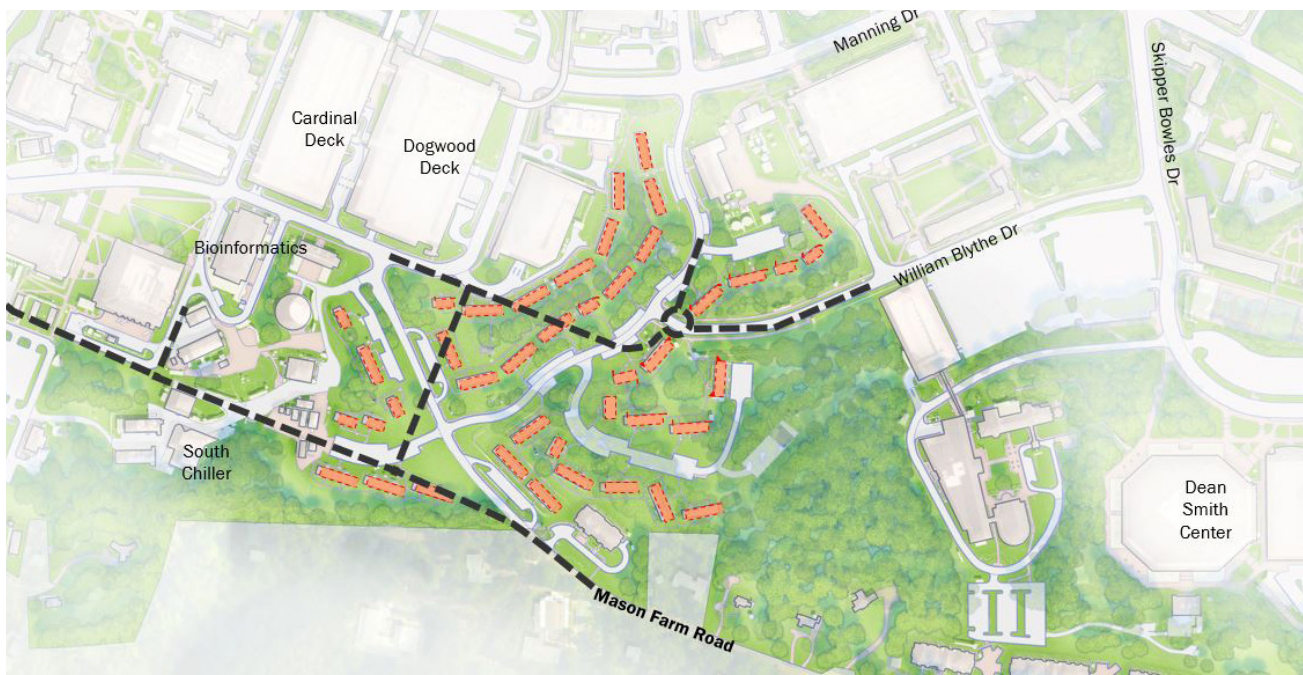
St. Vital Park Pavilion, Winnipeg, Canada | Image Credit: 1x1 Architecture

Lower Sproul Plaza, UC Berkeley, Berkeley, CA | Image Credit: CMD Landscape Architecture



CAMPUS SOUTH HUB

- Future Transit Alignment to be preserved
- New Construction
- Proposed Parking Garage
- Proposed Campus South Grove Preservation Area



PROPOSED DEMOLITION AND STREET NETWORK

- Scheduled Demolition
- Street Network



PROPOSED CAMPUS SOUTH HUB AERIAL VIEW



Central to the Campus South Hub is a proposed urban plaza surrounded by a mix of research and entrepreneurship buildings activated with ground floor retail and amenities. A new network of streets will define an urban block structure and support transit transfers to bus and vehicular modes. Pedestrian paths will take users through a series of public spaces within the urban plaza. Existing underutilized forested areas to the east will become a managed passive recreation place.

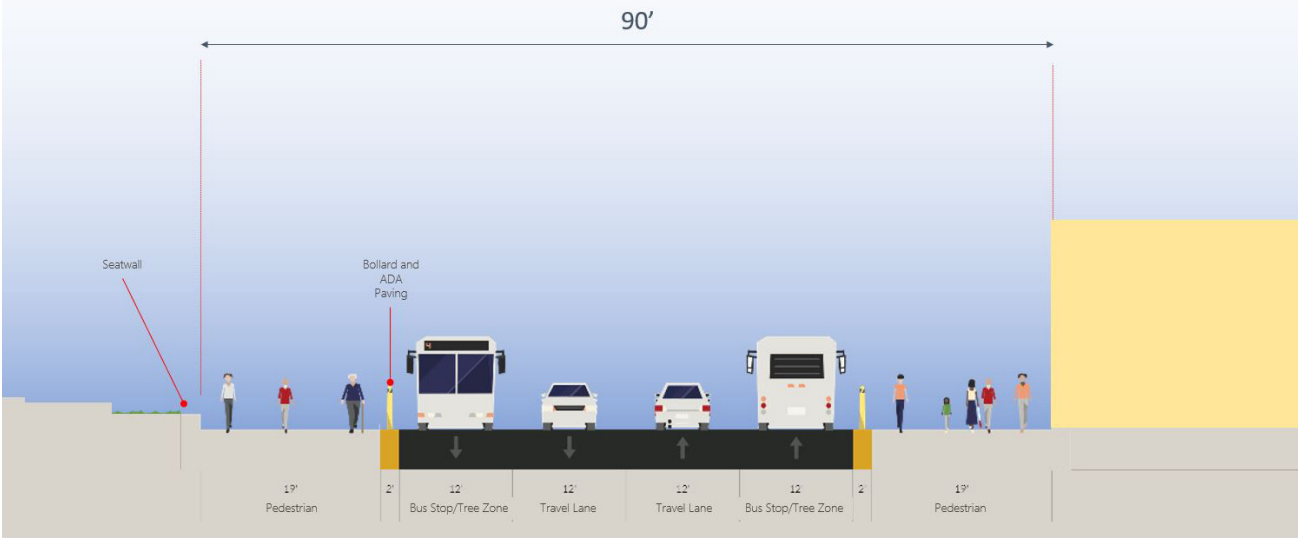
Moving from northwest to southeast, the Campus South Hub transitions gradually from urban to natural as the topography falls from a high point in the landscape to a low point in a heavily wooded bowl. The 60-foot topography change in the west to east direction and the 40-foot change in the north to south direction will require terraces that define unique amenity spaces. Trees and turf could occupy the lower terrace, which slopes to create an amphitheater with recreation

and outdoor programming opportunities. Tree cover defining the edges of the amphitheater thicken as the topography drops another 40 feet toward the low point of the site. Proposed stormwater devices include cascades, weirs, and pools to create an attractive amenity, control the flow of stormwater, and “daylight” a tributary of Meeting of the Waters Creek.

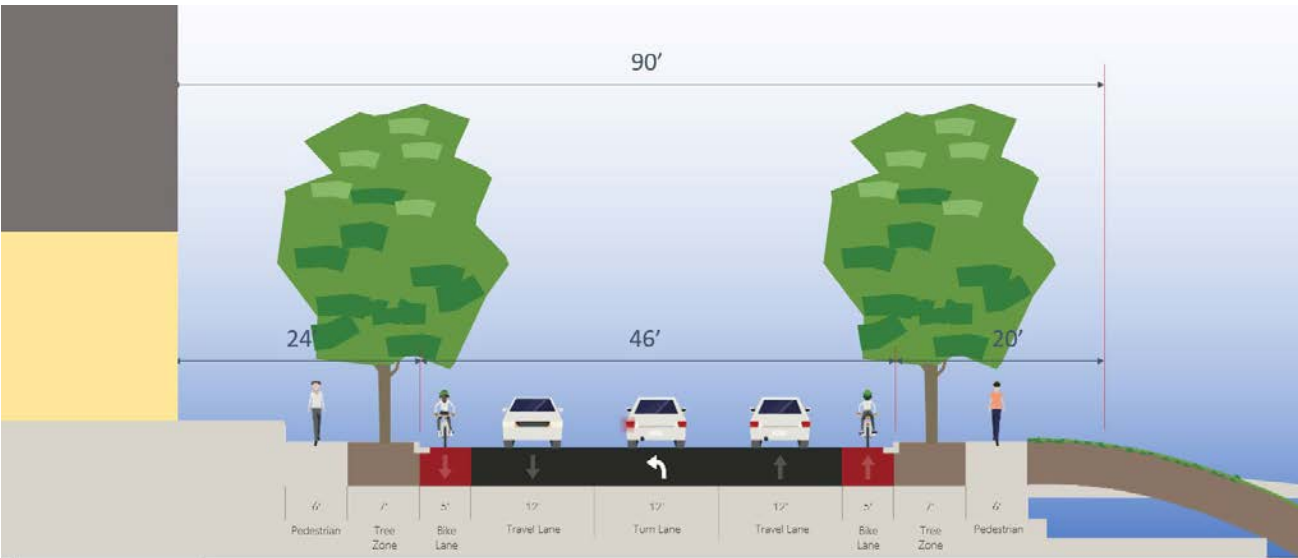
Millennial Campus Designation

The Millennial Campus designation allows North Carolina state universities regulatory flexibility to finance projects and to partner with industry and the private sector on innovative ventures. To receive approval from the Board of Governors, a Millennial Campus must enhance an institution's research and teaching missions and drive economic development in the area. The Campus South Hub area is an opportunity to implement the Millennial Campus designation to progress the vision of a mixed-use research hub in collaboration with industry partners.

PROPOSED CAMPUS SOUTH ROAD SECTIONS



Section A: Proposed East Road






Section B: Proposed Mason Farm Road

Phasing

The Master Plan envisions a phased build-out from west to east that prioritizes place making in early phases. Phasing of the Campus South Hub should be closely coordinated with proposed roadway improvements. Significant grade changes also influence the phasing strategy where site work, road infrastructure, and open spaces may need to extend beyond the building site boundary. A phased implementation will also require decommissioning a portion of the South Chilled Water plant. Each project should contribute to the proposed open space and infrastructure framework central to the success of the Campus South Hub.



CAMPUS SOUTH HUB PHASING

- | | |
|---|--|
|  Near-Term Proposed Building | A. Translational Research Building |
|  Mid-Term Proposed Building | B. Biotechnology Collaboration Building
& Other Research and Entrepreneurship Growth |
|  Long-Term Proposed Building | C. Graduate Housing and parking deck |
| | D. Business School Expansion |

Ecology

Long-term planning for Campus South establishes a framework to protect and enhance environmental assets as infrastructure changes occur during planned redevelopment in the area. Natural open spaces provide aesthetic, recreational, and environmental value. By prioritizing natural ecologies and stormwater management through the planning and design process, the University can realize the full impact of the vision. Stormwater features to the southeast of the Campus South Hub “daylight” a stream, replacing a portion of the stormwater drainage system that runs underground through the former Odum Village with approximately 1,200 feet of open channel on the surface. This landscape facility could consist of a series of cobble riffle/pool complexes, like the existing Battle Grove regenerative stormwater conveyance behind McIver residence hall. This design provides a combination of aesthetic, ecological, and regulatory benefits, and contributes to the Three Zeros Environmental Initiative by providing a potential living classroom opportunity.



Example of stream channel restoration with improved sediment and pollutant processing of stormwater runoff





MASTER PLAN PROPOSALS

The Master Plan responds to the physical implications of the University's strategic framework and future drivers of growth and with a coordinated, comprehensive vision for physical development. Proposed new construction, renovation, and demolition is aligned with improvements to campus systems and phased to inform implementation over the Master Plan's 15-year horizon.

DRIVERS OF FUTURE CAMPUS GROWTH

The 2019 University Master Plan identifies more development capacity than required to meet the anticipated near- and mid-term needs over a 15-year planning horizon. Understanding the responsible capacity of the campus ensures that long-term building sites are reserved to accommodate future campus investment. Over the life of the plan, new building construction and renovation will be supported by enhancements to campus landscapes, connectivity, and transportation systems. Four future drivers of investment are anticipated:

1 | Modernizing and renovating poor condition space.

Accommodate classroom renovations for active learning, address shortages in classrooms of specific sizes, shift the ratio of closed to open offices, and modernize student support to make the student the center of our focus.

2 | Growth as outlined in the University's strategic framework.

Goals to double research activity and to increase innovation and entrepreneurship activities will be significant drivers for future investment. Additional administrative space and targeted facilities will be needed to support an increasing nontraditional student population. Expansion of arts facilities across campus will also drive future need.

3 | Alleviating current space shortages.

Address shortages in student space, meeting and conference rooms, and indoor and outdoor recreation space identified through a space metrics assessment.

4 | Aligning housing inventory with market demand.

Continue to diversify housing unit type and amenity offerings for undergraduates, meet demand for graduate beds, and address deferred maintenance.

MASTER PLAN ILLUSTRATIVE AERIAL

- New Construction
- Major Renovation (Significant changes to building program or function)





E FRANKLIN ST

E CAMERON AVE

SOUTH RD

S COLUMBIA ST

MANNING DR

MASON FARM RD

FORDHAM BLVD





NEW BUILDINGS AND MAJOR RENOVATION

New Buildings

The Master Plan identifies 5.3 million gross square feet (GSF) of capacity on Main Campus. 1.2 million gross square feet is identified for demolition. Accounting for the replacement of demolished space on redevelopment sites, the Master Plan identifies 4.1 million of net new development. Within a 15-year horizon, the Master Plan anticipates up to 3.3 million GSF of net new development. This consists of currently identified near-term projects planned for the next seven years and proposals without a defined timeline, but which are anticipated to be developed in the next seven to 15 years. The plan also identifies 2 million GSF of long-term development opportunities beyond the 15-year planning horizon.

MAIN CAMPUS AND OUTLYING PARCELS ILLUSTRATIVE PLAN

- Proposed Building
- Proposed Parking Garage
- Major Renovation (Significant changes to building program or function)
- Potential Field for Athletics and/or Recreation
- Future Transit Alignment to be preserved

Renovation opportunities

6.4 million gross square feet—30% of campus space—is located in buildings rated as worst, severe, or poor condition. The Master Plan addresses the quality of existing spaces in three ways: proposed major renovation, deferred maintenance repairs, and demolition. The plan proposes over 1.9 million square feet of major renovation to facilities and spaces, infusing fresh energy into buildings where major programmatic changes are proposed. These renovations are opportunities to modernize facilities to accommodate today's teaching, research, and workplace needs. The plan also recognizes the substantial need to address deferred maintenance and ensure buildings stay in good condition. The University will execute those projects as funding becomes available, and the Master Plan does not itemize deferred maintenance specifically.

PROPOSED MAJOR RENOVATION

BUILDING ID	BUILDING #	SITE NAME	TOTAL (GSF)
R1	129	Spencer Res Hall	44,577
R2	112	Manly Res Hall	26,490
R3	111	Mangum Res Hall	26,631
R4	80	Davis Library	430,141
R5	17	Gardner Hall	41,380
R6	7	Bingham Hall	25,943
R7	24	Wilson Library	316,694
R8	65	Graham Student Union	152,022
R9	541	Student Recreation Center	38,556
R10	468	Fetzer Hall	169,913
R11	566	Kenan Stadium Guest Box	38,480
R12	214	Carrington Hall	152,285
R13	101	Avery Res Hall	64,309
R14	105	Ehringhaus Res Hall	156,315
R15	109	Hinton James Res Hall	220,478

PROPOSED DEMOLITION

BUILDING ID	PHASE	BUILDING #	SITE NAME	TOTAL (GSF)
D1	near	165	134 E. Franklin Street	13,060
D2	near	na	128 E. Franklin Street	13,485
D3	near	426	Hill Commercial	6,785
D4	near	148	Porthole Building	4,462
D5	near	51	Evergreen House	3,763
D6	long	161	Abernethy Hall and Annex	17,188
D7	mid	13	Davie Hall	80,508
D8	long	108	Grimes Res Hall	23,991
D9	long	117	Ruffin Res Hall	23,991
D10	long	302B	218 Wilson St	1,517
D11	mid	130	Whitehead Res Hall	19,333
D12	near	31	Naval Armory (ROTC)	18,519
D13	mid	65	Student Center Addition	27,501
D14	long	46	Wilson Hall Addition	57,000
D15	near	219	Berryhill Hall	126,198
D16	near	119	Teague Residence Hall	51,013
D17	near	116	Parker Residence Hall	46,008
D18	mid	469	Taylor Campus Health	61,425
D19	mid	207	Medical School Wing B	21,339
D20	mid	221	Medical School Wing C	20,829
D21	mid	208	Medical School Wing D	23,611
D22	mid	222	Medical School Wings E & F	19,143
D23	near	296	UNC Hospitals Paint Shop	0
D24	mid	430	Public Safety Bldg	23,447
D25	long	104	Craige Residence Hall	154,307
D26	long	236	Molecular Biology Research Lab/Glaxo	26,927
D27	long	552	Medical School Building 52	4,131
D28	long	241	Ambulatory Care Center	137,470
D29	mid	510-523	Trailers 46-49	4,575
D30	mid	327	Medical Research Bldg B	5,155
D31	near	multiple	Grounds Shop (13 structures)	17,402
D32	near	multiple	Odum Village (44 structures)	223,271
D33	long	428	1301 Mason Farm Road	3,255
D34	long	668	1303 Mason Farm Road	3,352
D35	long	611	1307 Mason Farm Road	3,010
D36	long	396A	1404 Mason Farm Road	2,599
D37	long	397	1450 Mason Farm Place (2 structures)	3,196
D38	long	398	1500 Mason Farm Road	2,434
D39	long	395	1506 Mason Farm Road	3,683



PROPOSED MAJOR RENOVATION AND DEMOLITION

- Proposed Major Renovation
- Proposed Demolition



CAMPUS NORTH AND CENTRAL PROPOSED PROJECTS

- Proposed Building
- Proposed Development Site Boundary
- Proposed Parking
- Proposed Major Renovation

SITE ID	PHASE	SITE NAME	GROUND FLOOR FOOTPRINT (GSF)	FLOORS	TOTAL (GSF)	TOTAL PARKING SPACES
N1	long	Granville Towers Infill	12,200	4	48,800	
N2	near	Porthole Alley Redevelopment	38,000	4-5	190,000	
N3	long	Ackland Expansion	7,200	3	21,600	
N4	long	Morehead Addition	4,666	3	14,000	
N5	long	Abernethy Replacement	21,500	4	86,000	
N6	long	Smith Addition	3,400	3	10,200	
N7	mid	Davie Replacement	16,500	4	66,000	
N8	long	Wilson St Redevelopment	15,900	4	63,600	
N9	long	Wilson St Parking Garage	49,500	4	198,000	710
N10	long	Upper Quad North	12,500	4	50,000	
N11	long	Upper Quad South	12,500	4	50,000	
N12	long	Jackson Addition	3,300	2	6,600	
N13	mid	Whitehead Redevelopment	19,200	4	76,800	
N14	near	Institute for Convergent Sciences	48,300	4	193,200	
N15	mid	Carolina Union Renovation and Expansion	18,500	4	74,000	
C1	long	Wilson Addition	9,600	3	28,800	
C2	long	Wilson Annex Redevelopment	16,500	4	66,000	
C3	mid	Student Recreation Center Expansion	32,000	4	128,000	
C4	mid	Medical Drive Building	16,700	8	133,600	
C5	near	Medical Education Building	21,300	9	171,000	
C6	mid	Campus Health and Wings Replacement	30,300	5	151,500	
C7	mid	Kenan Stadium Expansion	30,100	5	150,500	
C8	near	Parker and Teague Redevelopment	40,250	7, 1 story pavillion	242,000	
C9	long	Hill Alumni Center Addition	4,000	3	12,000	
C10	near	Hospital Central Generator	12,700	2	25,400	
C11	near	Parking Garage	32,400	6	194,400	650
C12	long	Hospital Parking	63,900	4	255,600	730
C13	mid	Public Safety Replacement	31,600	4	126,400	



CAMPUS SOUTH PROPOSED PROJECTS

- Proposed Building
- Proposed Development Site Boundary
- Proposed Parking
- Proposed Major Renovation

SITE ID	PHASE	SITE NAME	GROUND FLOOR FOOTPRINT (GSF)	FLOORS	TOTAL (GSF)	TOTAL PARKING SPACES
S1	long	Glaxo Redevelopment	40,500	5	202,500	
S2	mid	POB Expansion	15,900	4	63,600	
S3	mid	Craige Deck Expansion	23,000	4	92,000	
S4	long	ACC Redevelopment	24,200	5	121,000	
S5	mid	ACC Redevelopment	21,900	5	109,500	
S6	long	ACC Redevelopment	24,800	5	124,000	
S7	long	ACC Redevelopment - Parking	64,900	6	389,400	1,300
S8	near	Translational Research Building	26,000	8	160,000	
S9	near	Biotechnology Collaboration Building	39,900	3-6	190,300	
S10	long	Research/Entrepreneurship Buildings	20,200	5-6	115,800	
S11	long	Community Building	4,800	2	9,600	
S12	mid	Research and Entrepreneurship Buildings	26,800	5-7	166,200	
S13	mid	Research and Entrepreneurship Buildings	23,900	6-7	160,400	
S14	mid	Graduate Housing	14,500	6	87,000	
S15	long	Parking Garage	28,800	7	230,400	660
S16	near	Parking Garage	55,900	5	279,500	960
S17	near	Graduate Housing	21,400	5	107,000	
S18	mid	Physical Plant Expansion	32,100	1	32,100	
S19	long	Craige Redevelopment North	22,800	5	114,000	
S20	long	Craige Redevelopment South	23,400	5	117,000	
S21	mid	Graduate Housing	19,900	5-7	120,500	
S22	near	Business School Expansion Site	37,700	5	188,500	
S23	long	Skipper Bowles Recreation Field and Parking	76,800	1	76,800	220
S24	long	Skipper Bowles Redevelopment	31,500	5	157,500	
S25	long	Skipper Bowles Redevelopment Parking	47,500	1	47,500	135
S26	long	Parking Garage with Recreation Courts	46,000	2	92,000	260
S27	long	Manning Lot Redevelopment	15,600	5	78,000	
S28	long	Manning Lot Redevelopment Parking Garage	49,700	5	248,500	850
S29	long	Future Housing	17,800	4	71,200	
S30	long	Academic Building Site	21,900	5	109,500	
S31	long	Fordham Blvd Mixed-use Redevelopment	55,700	5	278,500	
S32	long	Fordham Blvd Redevelopment Parking Garage	48,500	5	291,000	830
S33	long	Fordham Blvd Mixed-use Redevelopment	7,400	4	29,600	



PHASING - NEAR-TERM (0-7 YEARS)

- Proposed Building
- Proposed Multi-Modal Connection-Construction Area
- Proposed Parking

- | | |
|--|--|
| 1. Porthole Alley Redevelopment | 7. Graduate Housing and parking deck |
| 2. Institute for Convergent Science | 8. Translational Research Building |
| 3. Medical Education Building | 9. Biotechnology Collaboration Building + other research and entrepreneurship growth |
| 4. Parker + Teague Redevelopment | 10. Business School Expansion |
| 5. Stadium Drive Improvements | |
| 6. Central Generator Plant + S1 Garage | |



PHASING - MID-TERM (7-15 YEARS)

- Proposed Building
- Proposed Building — Prior Phase
- Proposed Parking



PHASING - LONG-TERM

- Proposed Building
- Proposed Building — Prior Phase
- Proposed Parking

Campus Systems

Individual projects that advance the big ideas can significantly impact campus systems but also present opportunities for coordination and optimization consistent with well-established planning principles. The Three Zeros Environmental Initiative and decades of planning have established the importance of investing in the campus landscape and

pedestrian environment, understanding that landscapes, utilities and buildings must work together, promoting alternate modes of transportation to manage congestion and parking needs, and maintaining a commitment to an integrated approach to infrastructure planning.



- Potential New or Enhanced Open Space
- Proposed Development Parcel
- Future Transit Alignment to be preserved
- Primary Pedestrian Connection
- ... Secondary Pedestrian Connection
- - - Potential New or Enhanced Pedestrian Connection

Open Space and Environmental Management

Open space is a central organizing element of campus that connects people to place. It is an essential part of the Carolina brand and supports a variety of academic and residential life activities. Open spaces can also provide valuable ecological functions such as stormwater management, animal habitat, food production, and clean air. Maintaining a diverse, connected network of passive unprogrammed spaces, active programmed spaces, and natural preservation areas is a core strategic component of the plan. A highly connected open space network requires coordination with environmental management efforts, transportation infrastructure, utility infrastructure, and service infrastructure.

Open Space

The Master Plan proposes a variety of campus landscape types and scales that will contribute to a rich and cohesive open space network. Each building project should be seen as an opportunity to make landscape and campus systems investments to create a more connected and cohesive campus environment. Wayfinding will be addressed holistically for the entire campus as well as at the individual project level. New transformative open spaces, such as the Campus South Hub, will feature a variety of formalized landscapes that interface with larger existing and proposed natural areas. Mature open spaces in Campus North will continue to be refined with small, intentional initiatives such as screening of service areas, adjustments to pathways, and the addition of landscape features to strengthen the character of the area. The Master Plan continues to improve the landscape character of roadways throughout campus; for example, Stadium Drive is treated as both an open space corridor as well as a multimodal path of travel.

Environmental Management

The University has a long history of utilizing management strategies that embody environmental awareness and stewardship. Recently developed environmental strategies that inform the Master Plan include the 2016 Three Zeros Environmental Initiative, which charges future University actions with creating a Carolina that contributes to the resilience, restoration, and sustainability of natural resources. These are comprehensive, challenging tasks that the master planning process has striven at every turn to incorporate.

Open Space and Environmental Management Campuswide Strategies

- Ensure that every project contributes to enhancing open space networks, environmental management, and sustainability initiatives.
- Continue to comply with all environmental regulations.
- Balance capacity and programmatic needs with potential open space opportunities.
- Minimize the impacts of campus development on natural resources such as the campus tree canopy and waterways.
- Work with existing topography and natural features.
- Integrate research, teaching, and practice with campus environmental and resource issues.
- Continue to develop student, faculty, and staff stewardship of the campus through initiatives such as the Carolina Campus Community Garden, Edible Campus, and the Botanical Garden volunteer program.

Transportation

Effective transportation strategies allow the University to address limited capacity on the main campus, fully realize the capacity of redevelopment sites, and address the multi-modal transportation needs of a growing community. Investments should prioritize open space and the pedestrian environment and promote alternate modes including transit and bike. Transportation planning must continue to take into consideration local, community, and regional connections and develop policies for emerging forms of travel such as electric scooters and driverless vehicles.

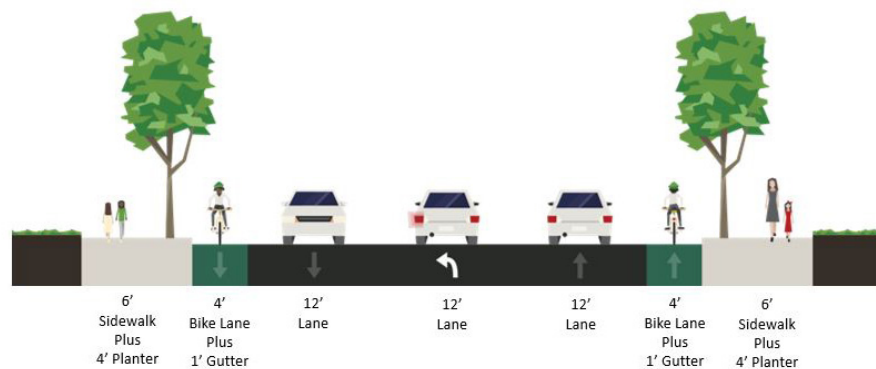
Pedestrian Network

The Master Plan builds on a comprehensive pedestrian network. It identifies a series of key pedestrian corridors with the goal of connecting the entirety of the campus along

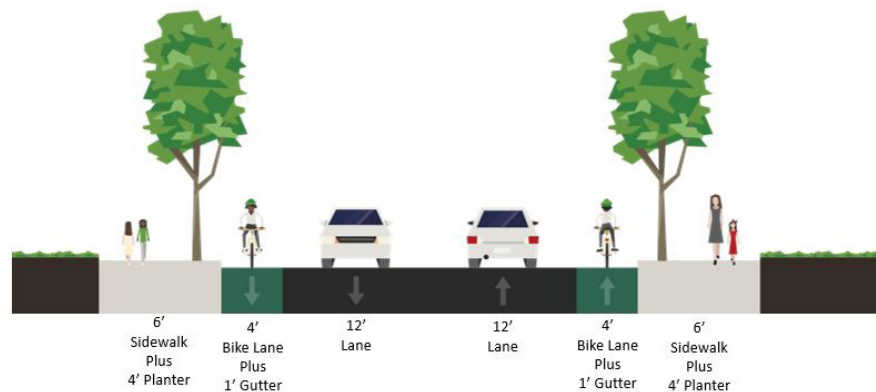
high-quality paths. This includes paths along the western edge of the campus parallel to Columbia Street and through the core from the Kenan-Flagler Business School to Craige Residence Hall to Rams Head Plaza and beyond. These will be complemented by several key improvements, including enhancements to Paul Hardin Drive, Stadium Drive, and pedestrian bridges across South Road.

In the short term, the Porthole Alley plan will enhance connections between the University and Franklin Street. Over time, the transformation of Campus South will improve the pedestrian environment through the creation of an urban street grid and the implementation of plazas, open space, and enhanced streetscape.

TYPICAL ROAD SECTION
WITH TURN LANES



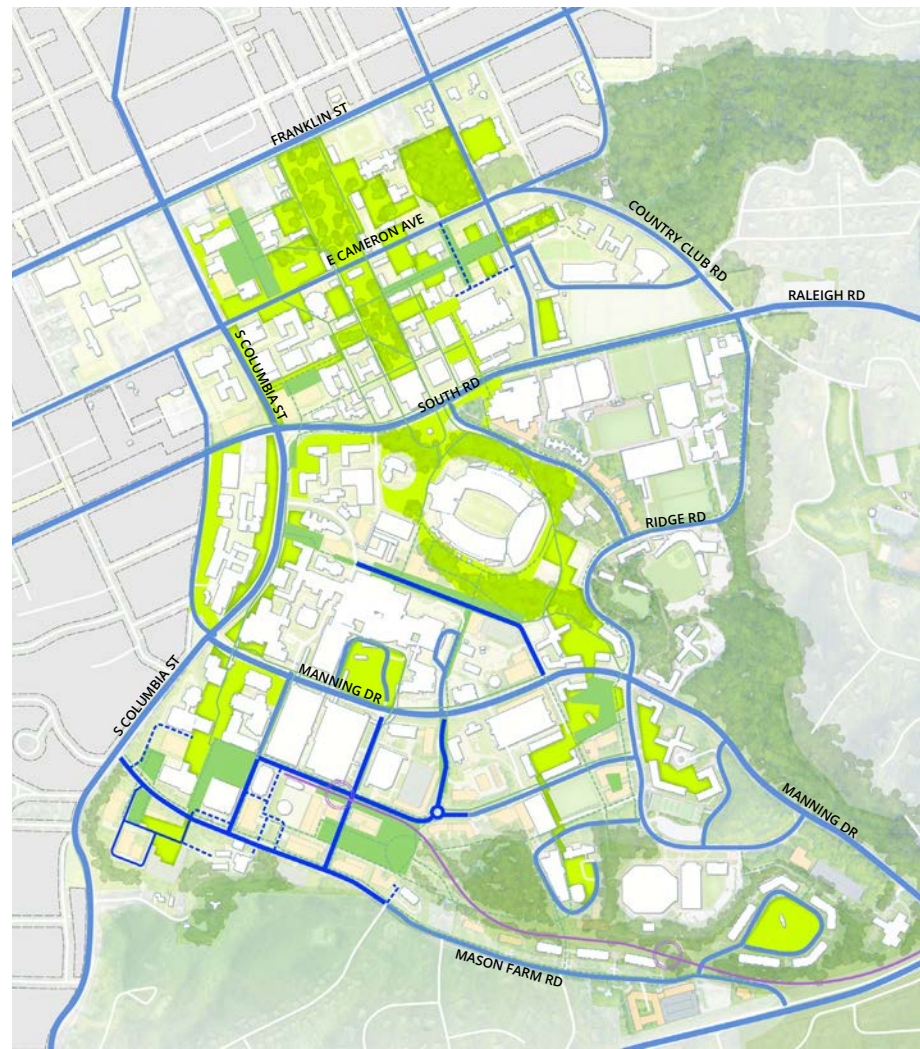
TYPICAL ROAD SECTION
WITHOUT TURN LANES



Street Network

The vision for future campus streets embraces and enhances the existing network. Recognizing that vehicle capacity on adjacent roadways is limited, the Master Plan identifies a series of street realignments to allow better circulation and access in Campus South as that area is transformed in years to come. Potential improvements include:

- Realignment and extension of William Blythe Drive to East Drive through present day Odum Village, which is slated for demolition.
- Realignment of Mason Farm Road to run parallel to William Blythe Drive and connect with West Drive at the southwest corner of the proposed Translational Research Building. In the long term, the new Mason Farm Road alignment could be extended to South Columbia Street.
- East Drive could be extended south from the Jackson Parking Deck to meet the realigned Mason Farm Road.
- Over time, in conjunction with improvements planned by the Town of Chapel Hill and the NCDOT, Oteys Road could be widened to allow a turn lane and better connection with the proposed signal along Fordham Boulevard.



PROPOSED STREET NETWORK

- Existing Street
- Potential New or Enhanced Street Connection
- Existing Open Space
- Potential New or Enhanced Open Space
- Future Transit Alignment to be preserved

Bike Network

The Master Plan reinforces the vision for the bicycle network laid out by the Bicycle Master Plans for the University and for the Town of Chapel Hill. The plan will develop a comprehensive system of on- and off-road bicycle facilities which will allow easy and safe navigation of the campus by bicycle. These will connect to improved facilities within the Town offering easy connections to surrounding neighborhoods as well as further destinations, including Carolina North and Mason Farm. The plan recognizes that some streets may be best served with shared streets, encouraging slow speeds and mixed flows by all users.

Transit Network

The Town of Chapel Hill and the Town of Carrboro, supported by the University, have embarked on plans to introduce high-capacity transit to the Town and campus. Bus Rapid Transit (BRT) is planned to connect the Southern Village Park and Ride via South Columbia Street and Martin Luther King Jr. Boulevard to the Eubanks Park and Ride near I-40. The service would provide a direct connection to Carolina North and currently plans to enter campus via Mason Farm Road and Manning Drive with additional stops near South Road and Cameron Avenue.

Following the recent discontinuation of light rail planning in Orange and Durham counties, the University continues to identify opportunities for a regional transit hub in Campus South and will maintain a corridor for a future transit alignment. Future transit stops along NC 54 could provide enhanced access and connections between Campus South and Mason Farm.



PROPOSED BIKE INFRASTRUCTURE

- | | |
|-------------------------------------|---------------------------------------|
| — Existing Sharrow | --- Proposed Sharrow |
| — Existing Bike Lane | --- Proposed Bike Lane |
| — Existing Greenway/Shared Use Path | --- Proposed Greenway/Shared Use Path |



PROPOSED LONG TERM NET PARKING SPACES BY CAMPUS AREA

Parking

The Master Plan attempts to strike a balance between limited development capacity on the main campus and parking demand. For many, travel via car is the only option to reach campus. At the same time, the plan recognizes that the addition of vehicles to the campus is at odds with the goal of an improved pedestrian experience, sustainability objectives, and redevelopment. For the historic core in Campus North, the 15-year plan emphasizes maintaining existing parking supply. The long-term plan identifies opportunities to provide additional parking capacity in combination with other connectivity enhancements.

Most of the growth on campus will occur in Campus South, with the development of the Campus South Hub. The parking strategy reflects this with the planned addition of multiple parking garages in this area of campus. The Master Plan recognizes that for the innovation partnerships to be successful and attract tenants, parking may need to be provided at more suburban levels, at least initially. The plan provides long-term flexibility, offering additional locations for new parking

facilities should they be needed. The vision, however, includes increased use of transit, and other non-auto modes reducing the long-term parking demand on campus.

Transportation Campuswide Strategies

- Utilize transportation infrastructure enhancements to fully realize the capacity of campus redevelopment sites.
- Coordinate building and open space projects to realize long-term connectivity improvements identified in the Master Plan.
- Ensure a welcoming experience for visitors by leveraging multimodal transportation systems, improved wayfinding, and parking resources.
- Work with the Town of Chapel Hill and other partners to coordinate city and regional transportation opportunities.
- Identify and implement opportunities for new parking resources that support proposed redevelopment in areas such as Campus South.
- Embed flexibility in transportation infrastructure to respond to emerging technologies.

Infrastructure

Infrastructure decisions impact reliability, environmental footprint, and development costs. The planning and design processes will continue to identify strategies to locate buildings where conflicts with major utility corridors are minimized, plan for future utility distribution, reduce energy and water use intensity, and continue to incorporate stormwater management techniques into every project involving campus landscapes.

Utilities

The Master Plan encourages continued collaboration with facilities management and utility infrastructure. In addition to lowering costs and risk by carefully siting new buildings away from utility infrastructure conflicts, continual coordination can minimize the construction of additional utility infrastructure and optimize efficiencies. The plan has identified utility impacts for each parcel under consideration for development [see appendix].

Stormwater

To fulfill regulatory requirements and sustainability goals, the University incorporates stormwater control measures into all campus construction projects. As part of the previous Stormwater Master Plan, projects to improve water quality and reduce flooding were identified.

Infrastructure Campuswide Strategies

- Locate buildings to minimize conflicts with major utility corridors.
- Plan for new and expanded energy systems based on the principles of reliability and life-cycle cost efficiency.
- Incorporate stormwater management techniques into every project involving campus landscapes. Improve the quality of water that flows from campus through innovative stormwater management.
- Plan for future utility distribution to new hubs and to outlying parcel development.
- Design building systems to reduce energy and water use intensity to meet the Three Zeros Environmental Initiative goals.
- Identify independent priority projects, projects that are conceived expressly for the improvement of the University's stormwater system's performance such as the recently completed Battle Grove project, and projects that may involve multiple project sites such as the proposed Campus South Hub.



POTENTIAL STORMWATER INFRASTRUCTURE PROJECTS

- Stormwater Opportunity - Proposed Building
- Stormwater Opportunity - Development Site Open Space

Outlying Parcels

UNC-Chapel Hill controls large amounts of real estate outside the Main Campus. The Mason Farm Tract and Carolina North properties present redevelopment capacity that plays an important role in meeting long-term University needs. Capacity on the Main Campus is finite, and with many remaining sites constrained, some uses may be more appropriate for Mason Farm or Carolina North. Intentional clusters of development, avoiding disturbance of environmentally sensitive areas, showcasing commitment to the Three Zeros Environmental Initiative, enhancing connectivity, and building on existing assets to define places that are uniquely Carolina should guide decisions about future development opportunities at outlying parcels.

A detailed assessment of existing assets at Mason Farm highlight stewardship of environmental resources and preservation of recreation amenities as long-term priorities. The Master Plan supports past environmental assessments and recommends intentional clustered development that avoids disturbance to environmentally sensitive areas. Recent mixed-use development along Route 54 and existing University assets at the Friday Center present opportunities for leveraging future development.



MASON FARM PROPOSED PLAN

■ New Construction



- The Master Plan affirms the 2007 Carolina North Plan which provides a framework for conservation and potential development. Athletic fields, sport venues, and faculty housing are potential uses identified in the 2019 University Master Plan that may be suitable for Carolina North. Further study of potential uses within the framework established by the 2007 plan will be necessary as future programmatic needs emerge.

CONCLUSION

The 2019 University Master Plan, guided by The University's strategic framework, is a strong collective vision for the next chapter of the University's continual evolution. This forward-looking Master Plan will drive future campus investments that support strategic change and innovation to address today's complex challenges.

Developed through an inclusive five-phase process, this collective vision will guide implementation of over 3.3 million gross square feet of new construction in a 15-year planning horizon and 1.9 million gross square feet of major renovation. The Master Plan identifies long-term development sites that allow future flexibility and informs broad improvements to campus systems identified in the plan.

The Master Plan is guided by three big ideas that will drive transformative physical planning campuswide: welcome, connections, and hubs. The three big ideas and physical planning strategies can and should be realized in projects of all sizes to strengthen what is enduringly Carolina.







THE UNIVERSITY
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at CHAPEL HILL